

TITLE 10 – NATURAL RESOURCES AND THE ENVIRONMENT

CHAPTER 10-1 WATER QUALITY STANDARDS

10-1-1 Purpose

The purpose of these Standards is to safeguard, maintain, and improve the quality of the Tribe's waters for domestic water supplies; to promote the habitation, growth, and propagation of desirable aquatic plant and animal life; to protect existing and future cultural, subsistence, agricultural, economic, recreational, and industrial uses; and to ensure that the Tribe's waters are suitable for any other existing and future beneficial uses. The CTCLUSI Department of Natural Resources is responsible for the development of these standards at the direction of Tribal Council, pursuant to Resolution No. 19-120.

Members of the Tribe and our ancestors have resided around the Tribe's waters since time immemorial, relying on the fish, plants, and wildlife of these waters for their physical, cultural, and spiritual survival. In turn, we have acted as stewards over these resources. The waters of the Tribe's Ancestral Territory are perhaps the most precious of such resources. The Tribe seeks to perpetuate identity through the sense of place by continuing the traditions of protecting, preserving, and enhancing our ancestral waters where its members once gathered and continue to gather and harvest.

Through these Standards, the Tribe continues to exercise their sacred stewardship of these waters. To carry out these purposes, these Standards:

- (1) Designate uses for which the Tribe's waters shall be protected;
- (2) Prescribe water quality criteria (narrative and numeric) sufficient to sustain such designated uses; and
- (3) Assure that degradation of the Tribe's waters shall be minimized while also allowing for economic growth that is consistent with the purpose of these Standards.

10-1-2 Applicability and Scope

(a) These Standards shall apply to all waters and activities within the boundaries of CTCLUSI reservation and trust land. The Department of Natural Resources may, following an amendment to the Standards approved by the EPA, designate uses and set use or site-specific criteria for water bodies within newly held trust lands.

(b) These Standards shall govern all existing and proposed point and nonpoint pollution discharges into surface waters, and to all activities which have the potential to affect cultural, ceremonial, religious, fishery, residential, economic, public health and safety, water quality, and other fundamental interests of the Tribe, including such

activities conducted by both members and non-members of the Tribe. Activities to be regulated under these Standards include, but are not limited to:

- (1) Landfills and open dumps;
- (2) Storage of animal waste;
- (3) Automobile graveyards and junkyards;
- (4) Landfilling of sludge or septic system waste;
- (5) Application of herbicide, insecticide, or other pesticide or toxic materials or fertilizer;
- (6) Individual, residential, industrial, commercial, fire protection, or agricultural water control devices including, but not limited to, treatment facilities or systems, dams, reservoirs, ponds, pools, tanks, wells, pipelines, flumes, canals, and intake or diversion systems;
- (7) Underground and above-ground liquid storage containers;
- (8) Surface and subsurface removal of mineral resources, overburden, rock or soil, including quarry operations (borrow pitting) for road surfacing or other uses;
- (9) All prospecting activities including removal of soil or rock materials, including operations involving the reopening of existing mine pits, tunnels, or quarries;
- (10) Sand and gravel operations;
- (11) Potential non-point source pollution problem areas including, but not limited to, agricultural, mining, construction, urban runoff, silviculture, salt water intrusion, hydrological modification, and residential activities; and
- (12) Identified point source pollution problem areas including, but not limited to, existing pollution sources on CTCLUSI land.

(c) These Standards shall become applicable and effective for purposes of the Clean Water Act ("CWA"), 33 U.S.C. §§ 1251-1387, as amended, if and to the extent they are approved by the Environmental Protection Agency pursuant to 33 U.S.C. § 1313(c), as amended.

10-1-3 Definitions

For purposes of these Standards, the following definitions shall apply:

- (a) “Acute Criteria”: A one-hour average concentration in ambient waters which should not be exceeded more than once every three years on average. In general, acute criteria thresholds are higher than those for chronic criteria.
- (b) “Acute Toxicity”: Toxicity that exerts short-term lethal impacts on representative sensitive organisms with a duration of exposure generally less than, or equal to, 96 hours. Acute toxicity may include other effects such as, but not limited to, behavioral changes or immobilization.
- (c) “Attainable Use”: At a minimum, uses are deemed attainable if they can be achieved by the imposition of effluent limits required under sections 301(b) and 306 of the Act and cost-effective and reasonable best management practices for nonpoint source control.
- (d) “Best Management Practices”: Methods, measures, or practices undertaken to prevent or reduce the pollution of the CTCLUSI waters, including to control, restrict, or diminish nonpoint sources of pollution, and that are consistent with these Standards.
- (e) “Bioaccumulation”: A process of a chemical accumulating in a biological food chain by being passed from one organism to another as the contaminated organism is consumed by another organism. Bioaccumulation takes place in a single organism over the span of its life, resulting in a higher concentration in older individuals.
- (f) “Biomagnification”: Biomagnification takes place as chemicals transfer from lower trophic levels to higher trophic levels within a food web, resulting in a higher concentration in apex predators.
- (g) “Criteria”: Elements of these Standards expressed as numeric concentrations or levels or narrative statements that represent a quality of water that supports a particular use.
- (h) “Critical Habitat”: The specific geographic areas that contain features essential to the conservation of an endangered or threatened species, which may require special management and protection. Critical habitat may also include areas that are not currently occupied by the species but will be needed for its recovery.
- (i) “Chronic Criteria”: The four-day average concentration of a pollutant in ambient water which should not be exceeded more than once every three years on average. Generally, chronic criteria thresholds are lower than those for acute criteria.
- (j) “Chronic Toxicity”: Toxicity that exerts sub-lethal negative effects such as growth or reproductive impairment, or which becomes lethal after long-term exposure, generally measured by a 28-day test on representative sensitive organisms.

- (k) "Clean Water Act" or "CWA": The federal Clean Water Act, codified at 33 U.S.C. § 1251-1387, as amended.
- (l) "Conductivity": A measure of a water's ability to conduct electrical current, which is determined by the quantity of dissolved ions in the water.
- (m) "CTCLUSI" or "Tribe": The Confederated Tribes of Coos, Lower Umpqua and Siuslaw Indians.
- (n) "Designated Use": A use of water that is to be protected under these Standards.
- (o) "Dissolved Oxygen" or "DO": The amount of oxygen that is present in water.
- (p) "Department Natural Resources" or "DNR" or "CNR": The Confederated Tribes of Coos, Lower Umpqua and Siuslaw Indians' Department of Natural Resources. This term may refer to either the Director of the DNR or any of the Director's employees.
- (q) "Department of Environmental Quality" or "Oregon" or "ODEQ": The State of Oregon Department of Environmental Quality.
- (r) "Environmental Protection Agency" or "EPA" or "USEPA": The United States Environmental Protection Agency.
- (s) "Effluent": A discharge into a water body from an anthropogenic source, including wastewater.
- (t) "Emergency": An unforeseeable threat which requires sudden or extreme measures to avert greater harm. For the purpose of this document, a state of emergency exists not before, and only when, declared by the Tribal Council.
- (u) "Ephemeral": A water body that flows temporarily in direct response to precipitation or snowmelt and with a channel that is always above the water table.
- (v) "Existing Uses": Those uses actually attained in a water body on or after November 28, 1975, whether or not those specific uses are referred to in these Standards.
- (w) "Fecal coliform": An indicator bacteria used to identify potential fecal contamination near shellfish beds. Fecal Coliform are the subgroup of the coliform group which is present in the intestinal tracts and feces of warm-blooded animals as detected by the product of acid or gas from lactose in a suitable culture medium within twenty-four hours at 44.5 °C plus or minus 0.2 °C.
- (x) "Fee Land": Land that is owned outright by CTCLUSI, but not held in trust by the United States government.

- (y) “Geometric Mean”: A mean calculated by converting all values to logarithms, averaging the logarithms, and determining the antilogarithm of that average.
- (z) “Human Use”: Activities or behaviors conducted by individuals, groups, businesses, organizations, and governments, and includes domesticated plants and animals.
- (aa) “Hypoxic”: Low or depleted oxygen in a water body.
- (bb) “Intermittent”: A water body that flows only at certain times of the year when receiving flow from springs, melting snow, or localized precipitation. It also means a stream or reach that does not flow continuously when water losses from evaporation or seepage exceed available stream flow.
- (cc) “Lentic”: Systems such as lakes and ponds, characterized by largely standing water.
- (dd) “Lotic”: Systems such as rivers and streams, characterized by flowing water.
- (ee) “Mixing Zone”: The portion of a water body adjacent to an effluent outfall where mixing results in the dilution of the effluent with the receiving water.
- (ff) “Natural Conditions”: Natural conditions mean background water quality conditions free from anthropogenic sources of pollutants, as established in an appropriate reference water body as determined by the CTCLUSI Department of Natural Resources. Neighboring or similar systems maybe used as a refernce, as deemed appropriate by the Department.
- (gg) “Nonpoint Source”: A source of pollution that is not a discernible, confined, and discrete conveyance (for example, surface runoff).
- (hh) “Oil”: Oil in any form including, but not limited to, petroleum, crude oil, gasoline, diesel oil, lubricating oil, oil refuse, sludge, vegetable oil, animal oil, and oil mixed with waste.
- (ii) “Person”: Any individual, partnership, private, public, or municipal corporation, county, state, local, federal, or tribal governmental entity or association of individuals of whatever nature.
- (jj) “pH”: A figure expressing the degree of acidity of a solution on a logarithmic scale on which 7 is neutral, lower values are more acidic and higher values more alkaline. The pH is equal to $-\log_{10} c$, where c is the hydrogen ion concentration in moles per liter.
- (kk) “Point Source”: Any discernible, confined, and discrete conveyance including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure,

landfill leachate collection system, container, or concentrated animal feeding operation, from which pollutants are or may be discharged into a water body. The term does not include agricultural storm water discharges or return flows from irrigated agriculture.

(ll) "Pollutant": Any type of contaminant including, but not limited to, toxic substances, hazardous substances, dredge spoil, solid waste, sewage, chemicals, pesticides, herbicides, fungicides, rodenticides, fertilizers, incinerator residue, discarded equipment, rock, sand, dirt, sewage, and oil, regardless of whether in liquid, solid, or gaseous form.

(mm) "Pollution": Any human-made or human-induced alteration of the chemical, physical, biological, or radiological integrity of a water body.

(nn) "Receiving Waters": Any water body that receives discharges of treated or untreated wastewater.

(oo) "Reservation": All lands reserved in trust by the United States for the use and benefit of the CTCLUSI.

(pp) "Resident Aquatic Community": Native aquatic life expected to exist in a particular habitat under conditions where water quality is not altered by anthropogenic influences.

(qq) "Salinity": The concentration of salts dissolved in a body of water.

(rr) "Saturation level or saturation state": Notated as Ω . When seawater is supersaturated with respect to aragonite and calcite, saturation levels are greater than 1. Low saturation states dissolve shells and other aragonite structures. The saturation

state of carbonate minerals is defined by
$$\Omega = \frac{[\text{Ca}^{2+}] \times [\text{CO}_3^{2-}]}{K'_{sp}}$$

(ss) "Shore-hugging plumes": Shore-hugging plumes occur when changes in the conditions of a water body occur within part of a water body near or adjacent to land, wetlands, coast, or partially submerged sand or earth. Shore areas are often the most biologically productive and sensitive areas of a water body, and they are often used for recreation. Shore-hugging plumes generally do not mix as well with receiving waters and, thus, do not dilute as well as mixing zones with other shapes that do not hug shorelines. Because shore-hugging plumes tend to keep unmixed water over the benthic area or in the recreational area, they are more likely to adversely affect the designated uses of the water body.

(tt) "Surface Waters of the Tribe" or "Waters of the Tribe": Any lakes, rivers, ponds, streams, including both intermittent and ephemeral streams, wetlands, inland waters, estuarine waters, marine waters, and all other surface waters within the exterior boundaries of the CTCLUSI reservation or trust lands.

- (uu) “Temperature”: Water temperature expressed in degrees Celsius (°C).
- (vv) “Threatened or Endangered Species”: Any species of fish, wildlife, or plant that has been determined to be endangered or threatened under Section 4 of the federal Endangered Species Act.
- (ww) “Toxicity”: Acute and/or chronic toxicity.
- (xx) “Toxic Pollutant”: Those pollutants or combinations of pollutants which after discharge and upon exposure, ingestion, inhalation, or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will, on the basis of information available to the DNR or the EPA, cause death, harm, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions, reproduction malfunctions, or physical deformations in organisms or their offspring.
- (yy) “Tribal Council” or “Council”: The governing body of the CTCLUSI exercising the authority codified in the CTCLUSI Constitution and Tribal Code.
- (zz) “Trust Lands”: Land the title to which is held in trust by the United States for the CTCLUSI or its members.
- (aaa) “Turbidity”: The clarity of water expressed as nephelometric turbidity units (“NTU”) and measured with a calibrated turbidimeter.
- (bbb) “Wastes”: Sewage, industrial wastes, 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.
- (ccc) “Water Column”: The vertical expanse of water lying between an area on the surface of a body of water and the floor directly below it but excluding the surface and the floor, used in these Standards for calculating toxic pollutant criteria.
- (ddd) “Water Quality”: The chemical, physical, biological, and cultural characteristics of a water body.
- (eee) “Wetland”: Any area that is inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

10-1-4 Authorities and Responsibilities

- (a) Pursuant to its status as a sovereign nation, being federally recognized pursuant to the Coos, Lower Umpqua, and Siuslaw Restoration Act, Pub. L. No. 98-481, 98

Stat. 2250, 25 U.S.C. § 714-714f (omitted for editorial reclassification), and as codified in Article I and Article VI of the CTCLUSI Constitution, the CTCLUSI Tribal Council has authority to enact, administer, and enforce these Standards.

(b) The Tribal Council has delegated to the DNR the authority and duty to administer these Standards. The day-to-day operations required to uphold these standards are delegated to the DNR. Such day-to-day operations include, but are not limited to, sampling and monitoring water quality, preparing mandatory reviews of the Standards, and issuing tribal permits necessary to maintain water quality consistent with the Standards. The DNR is also authorized to develop related water quality management programs including, but not limited to a nonpoint source pollution control program authorized by 33 U.S.C. § 1329, a water quality certification program authorized by 33 U.S.C. § 1342, and a groundwater quality management program.

10-1-5 Implementation and Enforcement

(a) These Standards shall be enforced through all methods available to the DNR including, but not limited to: issuance of permits; regulatory orders; court actions; review and approval plans and specifications; evaluations of compliance with best management practices and all reasonable methods of prevention, control, and treatment of wastes prior to discharge; and coordination with other tribal, federal, state, and local departments and regulatory agencies.

(b) The requirements of these water quality standards shall be met for all waters of the Tribe. No person shall engage in any activity that violates or causes the violation of these standards. All discharges from point sources, all instream activities, and all activities which generate nonpoint source pollution shall be conducted so as to comply with these Standards. Compliance shall be determined by the DNR.

(c) All permits issued or reissued, and all activities undertaken by the Tribe, the U.S. Environmental Protection Agency, the Bureau of Indian Affairs, the U.S. Army Corps of Engineers, state agencies, or any other government agencies shall be conditioned in such a manner as to authorize only activities that will not cause violations of these Standards. Permits may be subject to modification whenever it appears to the DNR that the activity violates water quality standards.

(d) Sample collection, preservation, and analytical procedures to determine compliance with these standards shall conform to the guidelines of 40 C.F.R. Part 136. If guidance does not exist, procedures shall conform with other methods accepted by the scientific community and deemed appropriate by the DNR.

10-1-6 Triennial Review

The CTCLUSI shall, consistent with 33 U.S.C. § 1313(c), as amended, hold public hearings at least once every three years for the purpose of reviewing and, if necessary, revising these water quality standards.

The DNR shall issue public notice of such hearings and provide opportunity for public comment. Public hearings will be held in accordance with CTCLUSI Tribal Law (CTCLUSI Code Title 2, Ch. 2-1) and EPA regulations at 40 C.F.R. § 25.5.

Any revisions shall incorporate relevant advances in science and engineering with respect to water quality and waste treatment. Whenever the CTCLUSI revises these standards, such revisions will be sent to the EPA for review and approval.

10-1-7 Severability

If any provision of these Standards or the application of any provision of these Standards to any person, action, or circumstance is held to be invalid by a court of competent jurisdiction, the remainder of these Standards and the application of any provisions of these Standards to other persons, actions, or circumstances shall remain valid and unaffected.

10-1-8 Water Rights

Nothing in these Standards shall supersede, abrogate, or otherwise impair the water rights of the Tribe or the authority of the Tribe to allocate quantities of water and administer water rights within Tribal jurisdiction.

10-1-9 Sovereign Immunity Preserved

Nothing in this Chapter is intended to, nor should be interpreted as a waiver of the Tribe's sovereign immunity from unconsented lawsuit, or as authorization for a claim for monetary damages from the Tribe.

10-1-10 Collaboration with Federal, State, Tribal, and Local Agencies

The Tribe may, as appropriate, collaborate with federal, state, tribal, and local agencies to prevent, reduce, and eliminate water pollution with programs for managing water resources.

10-1-11 General Policy

The following criteria apply to all surface waters of the Tribe:

(a) All surface waters of the Tribe shall be free from pollutants in concentrations or combinations that do not protect the most sensitive use of the water body.

(b) Criteria will be established based on accrued data compiled from DNR water quality measurements, EPA recommended criteria, and other scientifically defensible methods, with consideration given to state criteria as applicable.

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

(d) The DNR or Council may revise criteria on a Reservation-wide specific basis as needed to protect aquatic life and human health and other existing and designated uses and to increase the technical accuracy of the criteria being applied. The Council shall formally adopt any revised criteria after an opportunity for the EPA and the public to review and comment. The revised criteria will then be submitted to EPA for action under the Clean Water Act.

10-1-12 Variance

(a) Degradation of water quality or aquatic habitat will not be allowed if the degradation could interfere with or becomes injurious to designated uses or cause harm to the environment, biota, or cultural resources, all of which impact community health. No variance may be issued where it could adversely impact threatened or endangered species or their critical habitat.

(b) A WQS variance is a water quality standard subject to EPA review and approval or disapproval, pursuant to 40 C.F.R. § 131.14.

(c) Applicability.

- (1) A WQS variance may be adopted for a permittee or water body segment, but only applies to the permittee or water body segment specified in the WQS variance.
- (2) Where the Tribe adopts a WQS variance, the Tribe will retain, in its standards, the underlying designated use and criterion addressed by the WQS variance, unless the Tribe adopts and EPA approves a revision to the underlying designated use and criterion. All other applicable standards not specifically addressed by the WQS variance remain applicable.
- (3) A WQS variance, once adopted by the Tribe and approved by EPA, shall be the applicable standard for the following limited purposes. An approved WQS variance applies for the purposes of developing NPDES permit limits and requirements under Section 301(b)(1)(C) of the Clean Water Act, where appropriate, consistent with § 10-1-12(c) (1) of these Standards. The Tribe may also use an approved WQS variance when issuing certifications under Section 401 of the Clean Water Act.
- (4) The Tribe may not adopt WQS variances if the designated use and criterion addressed by the WQS variance can be achieved by implementing technology-based effluent limits required under Sections 301(b) and 306 of the Clean Water Act.

(d) Requirements for Adoption. A WQS variance must include:

- (1) Identification of the pollutant(s) or water quality parameter(s), and the water body segment(s) to which the WQS variance applies. Discharger-specific WQS variances must also identify the permittee subject to the WQS variance.
- (2) The requirements that apply throughout the term of the WQS variance. The requirements shall represent the highest attainable condition of the water body segment applicable throughout the term of the WQS variance based on the supporting documentation required. The requirements shall not result in any lowering of the currently attained ambient water quality, unless a WQS variance is necessary for restoration activities. The Tribe must specify the highest attainable condition of the water body segment as a quantifiable expression that is one of the following:
 - (A) For discharger-specific WQS variances:
 - a. The highest attainable interim criterion; or
 - b. The interim effluent condition that reflects the greatest pollutant reduction achievable; or
 - c. 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 the Tribe adopts the WQS variance, and the adoption and implementation of a Pollutant Minimization Program.
 - (B) For WQS variances applicable to a water body segment:
 - a. The highest attainable interim use and interim criterion; or
 - b. 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 the Tribe adopts the WQS variance, and the adoption and implementation of a Pollutant Minimization Program.
- (3) A statement providing that the requirements of the WQS variance are either the highest attainable condition identified at the time of the adoption of the WQS variance, or the highest attainable condition

later identified during any reevaluation consistent with § 10-1-12(d) (5) of these Standards, whichever is more stringent.

- (4) The term of the WQS variance, expressed as an interval of time from the date of EPA approval or a specific date. The term of the WQS variance must only be if necessary to achieve the highest attainable condition and consistent with the supporting documentation provided. The Tribe may adopt a subsequent WQS variance consistent with this section.
 - (5) For a WQS variance with a term greater than five years, a specified frequency to reevaluate the highest attainable condition using all existing and readily available information and a provision specifying how the Tribe intends to obtain public input on the reevaluation. Such reevaluations must occur no less frequently than every five years after EPA approval of the WQS variance and the results of such reevaluation must be submitted to EPA within 30 days of completion of the reevaluation.
 - (6) A provision that the WQS variance will no longer be the applicable water quality standard for purposes of the Clean Water Act if the Tribe does not conduct a reevaluation consistent with the frequency specified in the WQS variance or the results are not submitted to EPA as required.
- (e) The supporting documentation for a WQS variance for submission to the EPA must include:
- (1) Documentation demonstrating the need for a WQS variance.
 - (A) For a WQS variance to a use specified in Section 101(a)(2) of the Clean Water Act or a sub-category of such a use, the Tribe must demonstrate that attaining the designated use and criterion is not feasible throughout the term of the WQS variance because:
 - a. One of the factors listed in 40 C.F.R. § 131.10(g) is met, 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.

- (B) For a WQS variance to a non-101(a)(2) use, the Tribe must submit documentation justifying how its consideration of the use and value of the water for those uses listed in 40 C.F.R. § 131.10(a) appropriately supports the WQS variance and term. A demonstration consistent with § 10-1-12(e) (1)(A) of these Standards may be used to satisfy this requirement.
- (2) Documentation demonstrating that the term of the WQS variance is only if necessary to achieve the highest attainable condition. Such documentation must justify the term of the WQS variance by describing the pollutant control activities to achieve the highest attainable condition, including those activities identified through a Pollutant Minimization Program, which serve as milestones for the WQS variance.
- (3) In addition to other requirements, for a WQS variance that applies to a water body segment:
- (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 segment(s) specified in the WQS variance that could be implemented to make progress towards attaining the underlying designated use and criterion. The Tribe must provide public notice and comment for any such documentation.
- (B) Any subsequent WQS variance for a water body segment 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 WQS variance and the water quality progress achieved.
- (C) Implementing WQS variances in NPDES permits. A WQS variance serves as the applicable water quality standard for implementing NPDES permitting requirements for the term of the WQS variance. Any limitations and requirements necessary to implement the WQS variance shall be included as enforceable conditions of the NPDES permit for the permittee(s) subject to the WQS variance.

10-1-13 Mixing Zones

A mixing zone is a defined and limited part of a water body adjacent to a point source of pollution in which initial dilution of effluent occurs and in which certain numeric water quality standards may be exceeded provided that certain requirements are met. The

Tribe authorizes the use of mixing zones on a case-by-case basis, in accordance with the following provisions:

(a) Mixing zones shall not be authorized for a pollutant when the receiving water does not meet water quality criteria for that pollutant, except where (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.

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

(c) A mixing zone may be established by the DNR, Tribal Council, or by the applicable federal authority, through conditions on a permit. The allowable size and location of any mixing zone shall be precisely determined in such permits.

(d) 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 in flowing waters shall not:

(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 percent of the critical low flow; nor

(D) Occupy greater than 25 percent of the width of the water body.

(2) Mixing zones in non-flowing waters shall not:

(A) Exceed 10 percent of the volume of the water body;

(B) Exceed 10 percent 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 percent of the width of the water body.

(3) The following elements shall be considered when designing an outfall:

(A) Promote rapid mixing to the extent practicable through careful location and outfall design;

(B) Diffusers shall be used; and

(C) Outfalls that result in shore-hugging plumes shall not be authorized.

(e) Water quality within an authorized mixing zone is allowed to exceed chronic water quality criteria for those parameters approved by the DNR. 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 apply within the mixing zone.

(f) Water quality criteria shall not be violated outside of the boundary of a mixing zone as a result of the discharge for which the mixing zone was authorized.

(g) The DNR may, as appropriate, require mixing zone monitoring studies, and/or bioassays and biological surveys to be conducted at the expense of the water quality certification applicant to evaluate water quality or biological status within and outside a mixing zone boundary.

(h) The DNR or Council may require revision, revocation, or denial of water quality certification authorizing mixing zones upon expiration of the discharge permit, or prior to expiration if information suggests that the nature and impacts of the mixing zone are different than the conditions used to determine mixing zone criteria.

(i) No mixing zone shall be established unless the water quality certification applicant provides supporting information which clearly indicates the mixing zone would not have a reasonable potential to:

- (1) Cause a loss of or impair recovery of aquatic life, wildlife, or sensitive or important habitat or cultural resources;
- (2) Create a barrier to the migration path of migratory species;
- (3) Substantially interfere with the existing or characteristic uses of the water body;
- (4) Result in damage to the ecosystem; or
- (5) Adversely affect threatened or endangered species or public safety or health as determined by the DNR.

(j) Mixing zones will not be established for discharges into Outstanding Tribal Waters, wetlands, or ephemeral or intermittent streams.

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

- (1) Where discharges could create or foster conditions in sediments within and outside of the mixing zone that have the reasonable potential to cause damage to the ecosystem;
- (2) For known or suspected carcinogens, mutagens, teratogens, or bioaccumulative or persistent pollutants;
- (3) Where aquatic life could be attracted to the plume and harmed, or cause lethality to aquatic life passing through the mixing zone;
- (4) Where heat in the discharge may cause thermal shock, lethality, or loss of cold water habitat;
- (5) Where the mixing zone could allow pollutant concentrations that exceed maximum contaminant levels at drinking water intakes, recreation sites, cultural areas, and biologically important sites such as fish spawning/nursery areas and shellfish harvesting; and
- (6) Where the discharge could adversely impact threatened and endangered species.

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

(m) Except as prescribed in the narrative water quality standards, the criteria set out in these Standards may be exceeded within mixing zones as provided for in a NPDES permit and water quality certification. Determination of the dilution available and size of mixing zones will consider the following:

- (1) Critical conditions;
- (2) Mixing characteristics of the receiving water;
- (3) Characteristics of the effluent; and
- (4) Impacts to use designations of the receiving water.

(n) In estuaries or waters influenced by tides, mixing zone determinations will be made considering possible effects due to tidal flux.

(o) Mixing zones shall not overlap.

10-1-14 Antidegradation Policy

The purpose of the Antidegradation Policy is to guide decisions that affect water quality such that unnecessary degradation from point and non-point sources of pollution is prevented, and to protect, maintain, and enhance existing surface water quality to protect all existing beneficial uses. The Tribe's Antidegradation Policy is stated as follows:

(a) Tier 1 Minimum Existing Uses Tribal Waters.

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

(b) Tier 2 Tribal Waters Exceeding Levels Necessary to Support Existing Uses.

Where the actual water quality of a surface water of the Tribe exceeds levels necessary to support existing uses on a parameter-by-parameter basis, including but not limited to, the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water, that water quality shall be maintained and protected unless the Tribe finds, after the Tribe's obligations for intergovernmental coordination and public participation have been met, that:

- (1) Allowing lower water quality is necessary to accommodate important habitat restoration or economic or social development in the area in which the waters are located, and such restoration or development is in the Tribe's best interest. This determination that a lowering of water quality is necessary must include an evaluation of a range of practicable alternatives that would prevent or lessen the proposed degradation. This analysis of alternatives must be conducted according to the Implementation Plan found within these Standards. When the analysis of alternatives identifies one or more practicable alternatives as defined at 40 C.F.R. § 131.3 (n), the Tribe shall only find that a lowering of water quality is necessary if one such alternative is selected for implementation;
- (2) Lowering the water quality will not violate applicable criteria;
- (3) Lowering the water quality standard will not injure existing and designated uses;
- (4) Lowering water quality will not adversely affect threatened or endangered species, or species proposed or eligible for listing;

- (5) Lowering the water quality for economic or social development purposes shall not authorize other users to increase their discharges; and
- (6) All wastes, pollution, and substances discharged will be treated and controlled to achieve:
 - (A) The highest statutory and regulatory requirements for all new and existing point sources; and
 - (B) All cost effective and reasonable best management practices for non-point sources.

(c) Tier 3 Outstanding Tribal Waters.

Where high quality waters constitute an outstanding recreational, cultural, or ecological resource of the Tribe, those waters may be designated as Outstanding Tribal Waters. The existing water quality of Outstanding Tribal Waters shall be fully maintained and protected and no permanent degradation of such water quality shall be permitted for any reason. To achieve this, the DNR may require water quality controls, maintenance of natural flow regimes, protection of instream habitats, and land use practices protective of the water body. These requirements are outlined in the CTCLUSI Antidegradation Implementation Plan.

- (1) Classification of a water as a Tier 3 Outstanding Tribal Water shall be by resolution of the Council.
- (2) The Department of Natural Resources will accept nominations from any interested party for a specific reservation water to be classified as a Tier 3 Outstanding Tribal Water. Such nomination shall include written documentation of the qualifications of the reservation water that warrant Outstanding Tribal Water protection and, if approved by DNR, will be presented to the Council for final approval.

(d) In those cases where potential water quality impairments associated with thermal discharge are involved, the Antidegradation Policy and implementation methods shall be consistent with 33 U.S.C. § 1326, as amended.

10-1-15 Antidegradation Implementation Plan

(a) The DNR shall implement these Standards, including the Antidegradation Policy, by establishing and maintaining controls on the introduction of pollution into the waters of the Tribe and by taking the actions listed below in coordination with tribal, federal, state, and local agencies, as appropriate:

- (1) Review the adequacy of existing data on the Tribe's waters, as well as data and information on any activities that may detrimentally impact those waters and uses, and obtain additional data where necessary;
- (2) Monitor water quality to assess the effectiveness of pollution controls and to determine whether designated uses are being supported and water quality standards are being attained;
- (3) Obtain and assess information on the impact of effluents on receiving waters, including the capability of receiving waters to support designated uses and achieve these Standards;
- (4) Advise prospective dischargers of discharge requirements and coordinate with the appropriate permitting agencies as to the same;
- (5) Require the highest and best degree of wastewater treatment practicable, consistent with protecting and maintaining designated uses and existing water quality;
- (6) Develop, review, and certify 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 33 U.S.C. § 1342, as amended;
- (7) Require that effluent limitations or other appropriate limitations be applicable to activities with the potential to discharge into CTCLUSI waters be included in any permit as a condition for certification by the Tribe pursuant to 33 U.S.C. § 1341, 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 the U.S. Environmental Protection Agency and/or the U.S. Army Corps of Engineers;
- (10) Provide technical assistance to wastewater treatment facility operators;
- (11) Publish results of water quality investigations and interpretations of those results;

- (12) Examine existing and future CTCLUSI policies pertaining to septic systems, solid waste disposal, and other relevant activities to ensure that those policies are consistent with meeting these Standards;
- (13) Determine whether in-stream flows and water levels are adequate to support designated uses and to meet these Standards;
- (14) Implement specific policies and procedures to protect designated Tier 3 Outstanding Tribal Waters;
- (15) Conduct an antidegradation analysis for regulated actions that may impair water quality.

(b) Guidance for Implementing the Antidegradation Policy for Tier 3 Outstanding Tribal Waters.

- (1) Direct Point Sources. No new direct point sources of pollution shall be permitted for Tier 3 Outstanding Tribal Waters except as provided in § 10-1-15(b) (3) of these Standards. Expansion of existing sources, including discharges that maintain current pollutant loads and current treatment of pollutants, shall also be prohibited except as provided in § 10-1-15(b) (3) of these Standards.
- (2) Upstream Point Sources. No new upstream point sources of pollution shall be permitted for Tier 3 Outstanding Tribal Waters except where such source would have no effect on the existing quality of the downstream waters and except as provided in § 10-1-15(b)(3). Such effect on water quality shall be determined by the Tribe.
- (3) Temporary and Limited Effects Exception. In cases where the Tribe determines that the effects of a proposed activity on Tier 3 Outstanding Tribal Waters are deemed to be only temporary and limited in nature, the Tribe may permit the activity. Determination of "temporary and limited effects" will entail a case-by-case evaluation by the Tribe, through the DNR, of ambient conditions and potential effects of the proposed activity. Temporary is generally considered to be weeks and months, not years. Factors that may influence such decisions include: duration of lowering of water quality; percent change in ambient concentrations; specific parameters affected; potential for long-term benefits to the Tier 3 Outstanding Tribal Waters; potential for water quality standards violations; and short-term and long-term effects on existing uses or water quality goals. Water quality may not be degraded below the water quality criteria to protect designated uses or below levels necessary to protect existing uses.

- (4) Non-Point Sources of Pollution to Tier 3 Outstanding Tribal Waters. Water quality shall be maintained at current levels or improved for all parameters in Tier 3 Outstanding Tribal Waters. Non-point source pollution activities that will increase pollutant loads, and/or create and/or increase pollutant levels shall be prohibited, except where those pollutants would have no effect on existing water quality. Such effects on water quality shall be determined by the Tribe.

(c) Guidance for Implementing the Antidegradation Policy for Tier 2 High Quality Waters.

- (1) Alternatives Analysis. All entities that propose a degradation of Tier 2 protected waters must submit proposed alternatives that would prevent or lessen the water quality degradation associated with the proposed activity. The Tribe shall evaluate whether the alternatives proposed by the applicant are comprehensive and reflect a range of practicable alternatives that would prevent or lessen the degradation associated with the proposed activity. If the Tribe determines that alternatives exist that would result in less water quality degradation, the Tribe may assist the applicant in its own alternatives assessment to promote the broadest understanding of alternatives to be submitted in the permit application. Further alternatives may include, but are not limited to, additional pollution prevention measures; reduction in scale of project; water reuse or recycle; industrial process changes; various treatment technology; seasonal stipulations; operational or maintenance changes; or alternative discharge locations. When the alternatives analysis identifies one or more practicable alternatives, the Tribe shall only find that a lowering of water quality is necessary if one such alternative is selected for implementation.
- (2) Socioeconomic, Spiritual, and Cultural Value Assessment. An evaluation of the socioeconomic, spiritual, and cultural consequences of the proposed activity shall be performed during the permitting process. The applicant shall provide such information in its application. The Tribe shall consider at least the following factors, but may consider others: spiritual and cultural opportunities; employment opportunities; increased production for greater Tribal economic gain; housing; and correction of environmental or public health concerns. If no socioeconomic value can be attributed to the proposed activity, it shall not be permitted. If the Tribe deems that the socio-economic value is not of sufficient value to warrant a degradation of water quality, it shall not be permitted. If, after review and response to public comments regarding the proposed activity, the level of degradation of water quality is not considered significant enough to

the Tribe to overrule the proposed activity's socioeconomic value, then a permit may be granted for the proposed activity, with specifications to protect water quality at the most-achievable level.

- (3) Public Participation. The Tribe shall conduct a public review of the application, proposed activities, and the Tribe's draft antidegradation review. Public notice shall be made using the Tribe's newsletter, Tribal website, and a list of interested parties. Comments shall be sought to guide a final review decision. Following an appropriate public review period as required by applicable law, the review period will close. Response to each comment shall occur prior to the approval or disapproval of a permit or license application to discharge, and these responses shall be documented within the final antidegradation review. In addition, the Tribe shall coordinate as needed with federal agencies such as the National Marine Fisheries Service, U.S. Fish and Wildlife Service, and U.S. Environmental Protection Agency.

(d) 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 CWA and consistent with the EPA regulations at 40 C.F.R. § 131.10(g), as may be revised from time to time.

10-1-16 General Narrative Standards

- (a) All waters of the Tribe, including those within established mixing zones, shall be free from substances or conditions attributable to point source discharges, nonpoint sources, or instream activities in accordance with the following:
 - (1) Floating solids, oil, and grease. All waters shall be free from visible oils, scum, foam, grease, and other floating materials and suspended substances of a persistent nature resulting from other than natural causes.
 - (2) Color. True color-producing substances or materials resulting from other than natural causes shall not create an aesthetically undesirable condition; nor should color inhibit photosynthesis or otherwise impair the existing and designated uses of the water.
 - (3) Odor and taste. Water contaminants shall be limited to concentrations that will not impart unpalatable flavor to fish, including shellfish, or result in offensive odor or taste arising from the water, or otherwise interfere with the existing and designated uses of the water.
 - (4) Nuisance conditions. Nutrients or other substances from anthropogenic causes shall not be present in concentrations which will produce

objectionable algal densities or nuisance aquatic vegetation, result in a dominance of nuisance species, result in acute toxicity to any aquatic biota or wildlife, adversely affect public health or safety, or otherwise cause nuisance conditions.

- (5) Bottom deposits. All surface waters of the Tribe shall be free from anthropogenic contaminants that may settle and have a deleterious effect on the aquatic biota or that will significantly alter the physical or chemical properties of the water or the bottom sediments.
- (6) Erosion. All waters of the Tribe shall be free from deleterious levels of soil particles resulting from erosion of land involved in earthwork, such as construction of public works, highways, infrastructure, or commercial or industrial developments, or the cultivation and management of agricultural or forested lands.
- (7) Dissolved Oxygen. Waters of the Tribe shall have dissolved oxygen sufficient to support all designated uses of the Tribe and shall be free from anthropogenic sources that cause hypoxia. Causes of hypoxia include but are not limited to effluents and algal growth.

(b) All waters of the Tribe shall be free from pathogens at levels that impair human health, aquatic life, water-dependent wildlife, or livestock and pets that are exposed to the waters.

(c) Toxic pollutants from other than natural sources shall not be present in the waters of the Tribe in quantities, concentrations, or combinations that are harmful or toxic to human, wildlife, animal, plant or aquatic life; that interfere with the normal propagation, growth, and survival of sensitive 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 impair the health of these organisms or result in unpalatable tastes, offensive odors, or risks to human health. This includes but is not limited to toxins resulting from the growth of algae caused by pollution, toxic chemicals and substances associated with petroleum and petroleum byproducts, and toxic chemicals and substances associated with chemical weapons and crowd control munitions. There shall be no acute toxicity and no significant chronic toxicity in any waters of the Tribe. For toxic substances lacking EPA-published criteria or if required to accommodate site-specific conditions or to protect an important sensitive species, any scientifically defensible method can be used to establish protective criteria or benchmarks.

(d) No person shall place into the Tribe's waters, or onto the banks of the Tribe's waters in such a way as to allow the materials to enter the waters, any refuse, rubbish, demolition or construction debris, trash, garbage, motor vehicles, motor vehicle parts, batteries, appliances, tires, other non-ceremonial waste, or fill, sand, or similar material except when used for the purpose of nonpoint source pollution control such as bank stabilization or as authorized by a permit issued under 33 U.S.C. § 1344, as amended.

10-1-17 Narrative Standards for Minerals

The existing mineral content of the Tribe's waters shall not be altered by municipal, industrial, or in-stream activities or other waste discharges so as to interfere with their designated uses.

10-1-18 Narrative Standards for Radioactive Materials

Concentrations of radioactive constituents from anthropogenic sources shall not exceed Safe Drinking Water Act ("SDWA") standards. Site-specific criteria may be developed if it is found that the SDWA levels are not sufficiently stringent to protect any designated use.

10-1-19 Narrative Standards for Biological Criteria

- (a) All surface waters of the Tribe shall be of sufficient quality to support resident biological communities.
- (b) All waters of the Tribe shall be free from substances, whether attributable to point source discharges, nonpoint sources, or instream activities, in concentrations or combinations which would impair the structure or limit the function of the resident aquatic community as it naturally occurs.
- (c) Determination of impairment or limitation of the resident aquatic community may be based on a comparison with the aquatic community found at an appropriate reference site or region as determined by the DNR. "Appropriate reference site or region" means a site on the same water body or within the same basin or eco-region that has similar habitat conditions and which is expected to represent the water quality and biological community attainable within the area(s) of concern.
- (d) Waters shall be free from algae in concentrations causing a nuisance condition or causing gastrointestinal or skin disorders or other adverse health effects.
- (e) All waters of the Tribe shall be free from non-native forms of aquatic organisms in concentrations which would alter the habitat, impair the structure, or limit the function of the resident aquatic community as it naturally occurs, which would be detrimental to the health or safety of the Tribe, or which would jeopardize the wildlife that depends upon said waters for food or other support.
- (f) Naturally occurring aquatic organisms shall not occur in densities which would alter the habitat, impair the structure, or limit the function of the resident aquatic community as it naturally occurs, which would be detrimental to the health or safety of the Tribe, or which would jeopardize the wildlife that depends upon said waters for food or other support.

10-1-20 Narrative Standards for Wildlife Criteria

All waters of the Tribe shall be of sufficient quality to protect and support all life stages of resident and/or migratory wildlife species, excluding invasive species, which live in, on, or near the waters of the Tribe.

10-1-21 Narrative Standards for Instream Flow

Those flows and levels, including tributary surface and ground waters, necessary to sustain the physical, chemical, biological, and cultural integrity of the Tribe's waters shall be restored and maintained to the fullest extent practicable in order to accommodate existing and designated uses. The DNR may set habitat-specific flows and levels for existing and restored anadromous fish habitat in the Tribe's waters.

10-1-22 Narrative Standards for Wetlands

(a) All wetlands within CTCLUSI jurisdiction are waters of the Tribe. It shall be a goal of the Tribe to maintain the water quality of wetlands at natural levels, within the natural range of variation for the particular wetland. The existing water quality of unimpaired wetlands and wetland functions and values shall be protected. The Department recognizes that the water quality of wetlands may differ from that of associated/adjacent streams, when applicable. 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 Tribe's narrative water quality criteria, or appropriate criteria issued by the EPA. Wetlands shall not be considered as repositories or treatment systems for wastes from human sources.

(b) Designated uses. For all wetlands, the uses to be protected include but are not limited to: baseflow discharge, cultural opportunities, flood flow attenuation, groundwater recharge, indigenous floral and faunal diversity and abundance, nutrient cycling, organic carbon export/cycling, protection of downstream water quality, recreation, resilience against climatic effects, sediment/shoreline stabilization, surface water storage, and water-dependent wildlife to the extent that such uses, functions, and values occur as represented by least human-altered reference wetlands.

(c) Criteria. All wetlands shall maintain natural biological, physical, chemical, and hydrological conditions - as determined by the stricter of either least-impacted wetlands or reference wetlands - including, but not limited to: base flow, flow regime, wetland hydroperiod; chemical, nutrient, dissolved oxygen regime of the wetland; conditions favorable to protection and propagation of threatened, endangered, and at-risk species; conductivity; floristic quality; integrity of species diversity, abundance, zonation; normal movement of fauna; pH of wetland waters; salinity; size shape; soil type horizon structure; water currents, erosion, or sedimentation patterns; water levels or elevations; and water temperature variations. Native wetland and riparian plants shall not be removed without authorization by the Tribe, unless they are being gathered by individual tribal members for cultural or ceremonial use. Wetlands shall be presumed to provide habitat capable of supporting aquatic biota (e.g., fish, macroinvertebrates, amphibians, or hydrophytic vegetation) on a regular or periodic basis. CTCLUSI may, through the use of multi-metric indices of benthic

macroinvertebrates, fish, periphyton, or other appropriate wetland indicators, ensure that the biological integrity of wetlands is maintained.

(d) Antidegradation Policy for Wetlands:

- (1) Tier 1. For all wetlands, the water quality and conditions necessary to protect existing uses shall be maintained.
- (2) Tier 2. There shall be no net loss to the water quality, functions, values, area, or ecological integrity of high-quality wetlands, unless, after satisfying applicable antidegradation provisions including avoidance, minimization, and mitigation/replacement requirements, the Tribe determines that allowing degradation is necessary to accommodate important social or economic development in the area in which the wetlands are located. This determination shall be made in accordance with the requirements of the Implementation Plan of these Standards.
- (3) Tier 3. There shall be no loss to the water quality, functions, values, area, or ecological integrity of wetlands designated as Tier 3 Outstanding Tribal Waters.

10-1-23 Narrative Standards for Lakes and Ponds

All lakes and ponds within CTCLUSI jurisdiction are waters of the Tribe and are subject to these Standards.

All water bodies identified as either lakes or ponds in these Standards must be free from anthropogenically induced algal blooms that impair their use and enjoyment.

In addition to these narrative criteria, numeric criteria shall apply to waterbodies identified as lakes or ponds.

10-1-24 Water Types

- (a) Water types offer distinct habitats and conditions that reflect specific parameters, thereby influencing designated uses. These waters are categorized as fresh, estuarine, and marine.
- (b) Freshwater criteria apply to waters in which the salinity is equal to or less than 1 part per thousand 95 percent or more of the time.
- (c) Marine criteria apply for waters in which the salinity is equal to or greater than 10 parts per thousand 95 percent or more of the time. The term "marine" is interchangeable with the phrase "saltwater" or "salt water."
- (d) Estuarine waters are defined as waters in which the salinity is between 1 and 10 parts per thousand, and bodies of water that do not meet the 95 percent time constraint for fresh and marine water. When estuarine specific criteria are not

articulated, the applicable criteria are the more stringent of the freshwater or marine criteria.

10-1-25 Designated Use Categories

Waterbodies are assigned designated uses based on historical use, Clean Water Act requirements, and uses of value to the Tribes. Waters designated for any of these uses shall not contain any substance at concentrations that would be deleterious to native plants and wildlife or that could bioaccumulate or biomagnify to deleterious levels.

(a) Cultural and Ceremonial Uses Including Primary Contact and Human Health.

Cultural and Ceremonial Uses Including Primary Contact and Human Health is the designation given to waters used for fish consumption, play, recreation, relaxation, amusement, enjoyment, cultural practices, physical exercise, ceremonial use, or any other activity involving contact with the water. Examples of these uses include, but are not limited to boating, fishing, wading, swimming, scenic value, gathering materials and weaving. The water body is used for activities that may cause the human body to come into direct contact with the water, including ingestion and the inhalation of vapor.

Numeric Criteria Applicable to the Cultural and Ceremonial Uses Including Primary Contact and Human Health Use:

Turbidity
Conductivity
Total Phosphorus, Total Nitrogen, and Chlorophyll-a
Escherichia coli
Enterococci
Harmful Algal Blooms (HABs)
Human Health Toxic Substance Criteria
Aquatic Life Toxic Substance Criteria

(b) Resident Fish and Aquatic Life.

General aquatic life use that applies to all waterbodies. These waterbodies provide habitat for the indigenous aquatic communities that are naturally present in the waters. The water is used for foraging, habitat, cover, and/or propagation, and the aquatic ecosystem supports healthy aquatic life, including sensitive indigenous species in all of their life stages naturally present in each water.

Numeric Criteria Applicable to the Resident and Aquatic Life Use:

Dissolved Oxygen
pH
Turbidity
Temperature
Conductivity
Total Phosphorus, Total Nitrogen, and Chlorophyll-a
Ocean Acidification

Aquatic Life Toxic Substance Criteria

(c) Anadromous Fish Passage.

Waterbodies designated for Anadromous Fish Passage are used by native fish species for migratory purposes.

Numeric Criteria Applicable to the Anadromous Fish Passage Use:

Dissolved Oxygen

pH

Turbidity

Temperature

Conductivity

Total Phosphorus, Total Nitrogen, and Chlorophyll-a

Aquatic Life Toxic Substance Criteria

(d) Salmonid Rearing.

This designation applies to waterbodies that are thermally and environmentally suitable rearing habitat for salmonids. It also applies to waterbodies that, in their natural state, are suitable rearing habitat for salmonids. This designated use and the associated criteria are to be applied year-round.

Numeric Criteria Applicable to the Salmonid Rearing Use:

Dissolved Oxygen

pH

Turbidity

Temperature

Conductivity

Total Phosphorus, Total Nitrogen, and Chlorophyll-a

Aquatic Life Toxic Substance Criteria

(e) Salmonid Spawning.

This designation applies to waterbodies that are or could be used for salmonid spawning, egg incubation, and fry emergence. This designated use and the associated criteria are to be applied seasonally, from September 1 – June 15.

Numeric Criteria Applicable to the Salmonid Spawning Use:

Dissolved Oxygen

pH

Turbidity

Temperature

Conductivity

Total Phosphorus, Total Nitrogen, and Chlorophyll-a

Aquatic Life Toxic Substance Criteria

- (f) Shellfish Growing and Harvesting.

The Shellfish Growing and Harvesting designation applies to waterbodies used as a habitat for shellfish, which may be harvested and consumed by humans. This designated use applies on all waters of the Tribe.

Numeric Criteria Applicable to the Shellfish Growing and Harvesting Use:

Dissolved Oxygen

pH

Turbidity

Temperature

Conductivity

Total Phosphorus, Total Nitrogen, and Chlorophyll-a

Organisms commonly associated with fecal sources

Ocean Acidification

Aquatic Life Toxic Substance Criteria

- (g) Aquatic and Aquatic Dependent Wildlife.

This designation provides for the protection and propagation of wildlife. The Aquatic and Aquatic Dependent Wildlife designated use applies to all waters of the Tribe.

Numeric Criteria Applicable to the Aquatic and Aquatic Dependent Wildlife Use:

Dissolved Oxygen

pH

Conductivity

Total Phosphorus, Total Nitrogen, and Chlorophyll-a

Ocean Acidification

Aquatic Life Toxic Substance Criteria

10-1-26 Designated Use Modifications

- (a) Modifications to designated uses, including the addition or removal of a designated use or establishment of a use subcategory, may be made pursuant to the provisions of this section and consistent with the requirements of 40 C.F.R. §131.10.

- (b) Designated use modifications must be approved by Council, consistent with the requirements of 40 C.F.R. § 131.10. Whenever the CTCLUSI revises these standards, such revisions will be sent to the EPA for review and approval.

10-1-27 Designated Use Locations

(a) Designated Uses of the Waters of the Tribe

This table lists the surface waters within the boundaries of the Tribal Reservation and trust land and the designated uses associated with each water body.

Table 1: Designated Uses of the Waters of the Tribe

Tract	Location	Surface Water	Cultural and Ceremonial Uses Including Primary	Resident Fish and Aquatic Life	Anadromous Fish Passage	Salmonid Rearing	Salmonid Spawning	Shellfish Growing and Harvesting	Aquatic Dependent Wildlife
Freshwater									
Sixes	Curry County	Sixes River	X	X	X	X	X		X
Sixes	Curry County	Wetlands associated with Sixes River	X	X	X	X	X		X
Talbot	Coos County	Big Creek	X	X					X
Talbot	Coos County	Streams and wetlands immediately adjacent to Big Tributary	X	X					X
Macy	Douglas County	Streams and wetlands immediately adjacent to the Umpqua River	X	X					X
Pkiitii (Upper Lake Creek)	Lane County	Lake Creek	X	X	X	X	X		X
Pkiitii (Upper Lake Creek)	Lane County	Pucker Creek	X	X	X	X	X		X
Lower Smith	Douglas County	Spencer Creek	X	X	X	X	X		X
Lower Smith	Douglas County	Bear Creek	X	X	X	X	X		X
Lower Smith	Douglas County	Coon Creek	X	X	X	X	X		X

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Tract	Location	Surface Water	Cultural and Ceremonial Uses Including Primary	Resident Fish and Aquatic Life	Anadromous Fish Passage	Salmonid Rearing	Salmonid Spawning	Shellfish Growing and Harvesting	Aquatic Dependent Wildlife
Lower Smith	Douglas County	Cedar Creek	X	X	X	X	X		X
Lower Smith	Douglas County	Johnson Creek	X	X	X	X	X		X
Lower Smith	Douglas County	Rachel Creek	X	X	X	X	X		X
Tioga	Coos County	Tioga Creek	X	X	X	X	X		X
Tioga	Coos County	Gooseberry Creek	X	X	X	X	X		X
Tioga	Coos County	Wilson's Folly Creek	X	X	X	X			X
Tioga	Coos County	Bear Gulch	X	X	X	X			X
Tioga	Coos County	Burnt Tributary	X	X	X	X			X
Estuarine									
Hatch	Lane County	North Fork Siuslaw River	X	X	X	X		X	X
Hatch	Lane County	Wetlands immediately adjacent to NF Siuslaw	X	X	X	X		X	X
Umpqua Eden	Douglas County	Umpqua River	X	X	X	X		X	X
Umpqua Eden	Douglas County	Streams and wetlands immediately adjacent to the Umpqua River	X	X	X	X		X	X
Wu'a'lach	Coos County	Coos River, Coos Bay	X	X	X	X		X	X
Fossil Point Unit 1 & 3	Coos County	Coos River, Coos Bay	X	X	X	X		X	X
Kentuck Slough	Coos County	Kentuck Slough	X	X	X	X		X	X

Tract	Location	Surface Water	Cultural and Ceremonial Uses Including Primary	Resident Fish and Aquatic Life	Anadromous Fish Passage	Salmonid Rearing	Salmonid Spawning	Shellfish Growing and Harvesting	Aquatic Dependent Wildlife
Marine								X	X
Gregory Point	Coos County	Pacific Ocean	X	X	X			X	X
Gregory Point	Coos County	Wetlands immediately adjacent to the Pacific Ocean	X	X	X			X	X
Coos Head	Coos County	Pacific Ocean	X	X	X			X	X
Coos Head	Coos County	Wetlands immediately adjacent to the Pacific Ocean	X	X	X			X	X

10-1-28 Numeric Criteria

(a) Dissolved Oxygen.

- (1) Dissolved Oxygen Criteria for: Resident Fish and Aquatic Life, Anadromous Fish Passage; Salmonid Rearing; Aquatic and Aquatic Dependent Wildlife

(A) In fresh water, dissolved oxygen may not be less than 8.0 mg/L as an absolute minimum. Where natural conditions of barometric pressure, altitude, and temperature preclude attainment of the 8.0 mg/l, dissolved oxygen may not be less than 90 percent of saturation.

(B) In estuarine water, dissolved oxygen may not be less than 6.5 mg/L.

- (2) Dissolved Oxygen Criteria for: Salmonid Spawning

(A) For waterbodies identified as active or potentially active spawning sites, the dissolved oxygen must not be less than 11.0 mg/L as an absolute minimum. However, if the minimum

intergravel dissolved oxygen, measured as a spatial median, is 8.0 mg/l or greater, then the DO criterion is 9.0 mg/L as an absolute minimum; Where natural conditions of barometric pressure, altitude, and temperature preclude attainment of the 11.0 mg/L or 9.0 mg/L criteria, dissolved oxygen levels must not be less than 95 percent of saturation; The spatial median intergravel dissolved oxygen concentration must not fall below 8.0 mg/L.

(3) Dissolved Oxygen Criteria for: Shellfish Growing and Harvesting

(A) In fresh water and estuarine water, dissolved oxygen may not be less than 8.0 mg/l as an absolute minimum. Where natural conditions of barometric pressure, altitude, and temperature preclude attainment of the 8.0 mg/l, dissolved oxygen may not be less than 90 percent of saturation.

(b) pH.

(1) pH Criteria for: Resident Fish and Aquatic Life; Anadromous Fish Passage; Salmonid Rearing; Salmonid Spawning; Shellfish Growing and Harvesting; Aquatic and Aquatic Dependent Wildlife

(A) For fresh and estuarine waters, pH must remain 6.5-8.5.

(B) For marine, pH must remain 7.8-8.5.

(C) Human caused variation within these ranges must be less than 0.2 units.

(D) To account for the influence of coastal upwelling on natural variability in pH levels in marine and estuarine waters, site specific criteria may be adopted based on the best available science.

(c) Turbidity.

(1) Turbidity Criteria for: Cultural and Ceremonial Uses Including Primary Contact and Human Health; Resident Fish and Aquatic Life; Anadromous Fish Passage; Salmonid Rearing; Salmonid Spawning; Shellfish Growing and Harvesting; Aquatic and Aquatic Dependent Wildlife

(A) Turbidity must not exceed 5 NTU above natural conditions when the natural turbidity is 50 NTU or less and must not have more than 10% increase in turbidity above the natural

condition when the natural turbidity is more than 50 NTU, not to exceed a maximum increase of 25 NTU.

(d) Temperature.

(1) Temperature Criteria Implementation

(A) Air Temperature Exclusion. A water body that only exceeds the criteria when the exceedance is attributed to daily maximum air temperatures that exceed the 90th percentile value of annual maximum seven-day average maximum air temperatures calculated using at least 10 years of air temperature data, will not be listed on the Section 303(d) list of impaired waters and sources will not be considered in violation.

(2) Temperature Criteria for: Resident Fish and Aquatic Life; Aquatic and Aquatic Dependent Wildlife

(A) The seven-day-average maximum temperature of a water body identified in Table 1 as having Resident Fish and Aquatic Life or Aquatic and Aquatic Dependent Wildlife habitat may not exceed 16.0 degrees Celsius.

(3) Temperature Criteria for: Anadromous Fish Passage

(A) For waters identified in Table 1 as having an anadromous fish passage use, the seven-day average maximum temperature shall not exceed 18.0 degrees Celsius. In addition, these water bodies must have cold water refugia that are sufficiently distributed so as to allow salmon and steelhead migration without significant adverse effects from higher water temperatures elsewhere in the water body.

(4) Temperature Criteria for: Salmonid Rearing

(A) For waters identified in Table 1 as having salmonid rearing and migration use, the seven-day average maximum temperature must not exceed 18.0 degrees Celsius.

(5) Temperature Criteria for: Salmonid Spawning

(A) For waters identified in Table 1 as having salmonid spawning use, the seven-day average maximum temperature must not exceed 13.0 Celsius from September 1 through June 15.

- (6) Temperature Criteria for: Shellfish Growing and Harvesting
 - (A) Temperatures in waters with shellfish growing and harvesting may not rise more than 0.3 degrees Celsius above the natural condition.

- (e) Total Phosphorus.
 - (1) Phosphorus Criteria for: Cultural and Ceremonial Uses Including Primary Contact and Human Health; Resident Fish and Aquatic Life; Anadromous Fish Passage; Salmonid Rearing; Salmonid Spawning; Shellfish Growing and Harvesting; Aquatic and Aquatic Dependent Wildlife.
 - (A) Site-specific criteria may be established for total phosphorus that reflect the physical, chemical, and/or biological conditions of a specific water body or water body segment. These criteria should reflect the natural condition in waterbodies where natural conditions are possible to determine. Otherwise, they may be developed by incorporating site-specific water quality data into the most recent phosphorus models developed by the EPA, or by another method that is based on sound scientific rationale.
 - (B) When site-specific criteria have not been adopted for rivers and streams, the total phosphorus criterion shall be 10 µg/L as a seasonal geometric mean over the growing season (March – September).
 - (C) When site-specific criteria have not been adopted for lakes and reservoirs, the total phosphorus criterion shall be 13 µg/L as a seasonal geometric mean over the growing season (March – September).
 - (D) When site-specific criteria have not been adopted for marine waters, the phosphate criteria shall be 76 µg/L as a seasonal mean, and shall not be exceeded more than once every four years.

- (f) Total Nitrogen.

- (1) Nitrogen Criteria for: Cultural and Ceremonial Uses Including Primary Contact and Human Health; Resident Fish and Aquatic Life; Anadromous Fish Passage; Salmonid Rearing; Salmonid Spawning; Shellfish Growing and Harvesting; Aquatic and Aquatic Dependent Wildlife.
 - (A) Site specific criteria may be established for total nitrogen that reflect the physical, chemical, and/or biological conditions of a specific water body or water body segment. These criteria should reflect natural conditions in waterbodies where natural conditions are possible to determine. Otherwise, they may be developed or by incorporating site-specific water quality data into the most recent nitrogen models developed by the EPA, or by another method that is based on sound scientific rationale.
 - (B) When site-specific criteria have not been adopted for rivers and streams, the total nitrogen criterion shall be 120 µg/L as a seasonal geometric mean over the growing season (March – September).
 - (C) When site-specific criteria have not been adopted for lakes and reservoirs, the total nitrogen criterion shall be 69 µg/L as a seasonal geometric mean as a seasonal geometric mean over the growing season (March – September).
 - (D) When site-specific criteria have not been adopted for marine waters, the nitrogen (dissolved inorganic nitrogen) criterion shall be 424 µg/L as a seasonal mean, and shall not be exceeded more than once every four years.
- (g) Chlorophyll-a.
 - (1) Chlorophyll-a Criteria for: Cultural and Ceremonial Uses Including Primary Contact and Human Health; Resident Fish and Aquatic Life; Anadromous Fish Passage; Salmonid Rearing; Salmonid Spawning; Shellfish Growing and Harvesting; Aquatic and Aquatic Dependent Wildlife.
 - (A) Site-specific criteria may be established for chlorophyll-a that reflect the physical, chemical, and/or biological conditions of a specific water body or water body segment. These criteria should reflect the natural conditions in waterbodies where natural conditions are possible to determine. Otherwise, they may be developed by incorporating site-specific water quality data into the most recent chlorophyll-a models developed by

the EPA, or by another method that is based on sound scientific rationale.

- (B) When site-specific criteria have not been adopted for rivers and streams, chlorophyll-a, expressed as the 1-day maximum ("1-DMax"), the criterion shall be 1.08 µg/L as a seasonal geometric mean over the growing season (March – September).
- (C) When site-specific criteria have not been adopted for lakes and reservoirs, the chlorophyll-a criterion expressed as a seasonal geometric mean shall be 3 µg/L as a seasonal geometric mean over the growing season (March – September).
- (D) When site-specific criteria have not been adopted for marine waters, the chlorophyll-a criterion shall be 5.0 ug/L as a seasonal mean, and shall not be exceeded more than once every four years.

(h) *Escherichia coli*.

- (1) *E. coli*. Criteria for: Cultural and Ceremonial Uses Including Primary Contact and Human Health in fresh, estuarine, and marine waters.

For fresh waters, either *E. coli* or enterococci may be used as the indicator to assess fecal contamination.

- (A) *E. coli* organism levels must not exceed a geometric mean (GM) value of 100 colonies/100mL over a 30-day rolling average period, with a statistical threshold value ("STV") of 320 colonies/100mL being exceeded no more than 10 percent of the time within the same 30-day rolling period. The water body GM should not be greater than the selected GM magnitude in any 30-day interval.
- (B) In addition, a Beach Action Value ("BAV") based on the 75th percentile value that corresponds to the indicator and illness rate in these Standards is adopted. The BAV is 190 colonies/100 mL.

(i) Enterococci.

- (1) Enterococci Criteria for: Cultural and Ceremonial Uses Including Primary Contact and Human Health in fresh, estuarine, and marine waters.

For fresh waters, either *E. coli* or enterococci may be used as the indicator to assess fecal contamination.

- (A) Enterococci organism levels must not exceed a geometric mean ("GM") contact value of 30 colonies/100mL over a 30 day rolling average period, with the statistical threshold value ("STV") of 110 colonies/100mL being exceeded no more than 10 percent of the time within the same 30-day period. The water body GM should not be greater than the selected GM magnitude in any 30-day interval.
 - (B) In addition, a Beach Action Value ("BAV") based on the 75th percentile value that corresponds to the indicator and illness rate in these Standards is adopted. The BAV is 60 colonies/100 mL.
- (j) Organisms commonly associated with fecal sources.
 - (1) Fecal Source Organisms Criteria for: Shellfish Growing and Harvesting.
 - (A) Total coliform organism levels must not exceed a geometric mean value of 70 colonies/100mL, with not more than 10 percent of all samples (or any single sample when less than ten samples points exist) obtained for calculating the geometric mean value exceeding 230 colonies/100mL for a five-tube decimal dilution test or other National Shellfish Sanitation Program ("NSSP") test, fecal coliform organism levels must not exceed a geometric mean value of 14 colonies/100mL, with not more than 10 percent of all samples (or any single sample when less than ten samples points exist) obtained for calculating the geometric mean value exceeding 43 colonies/100mL for a five-tube decimal dilution test or other NSSP test.
 - (k) Harmful Algal Blooms ("HABs").
 - (1) Harmful Algal Bloom Criteria for: Cultural and Ceremonial Uses Including Primary Contact and Human Health.

The maximum allowances not to be exceeded on any single day are as follows:

- (A) Anatoxin-A (15 µg/L);
- (B) Total microcystins (8 µg/L);
- (C) Cylindrospermopsin (15 µg/L);
- (D) Saxitoxin (8 µg/L).

(l) Ocean Acidification Criteria.

(1) Ocean Acidification Criteria for: Resident Fish and Aquatic Life, Shellfish Growing and Harvesting, Aquatic and Aquatic Dependent Wildlife.

- (A) For marine waters, aragonite saturation state (“ Ω_{ar} ”) shall never fall below 1.0;
- (B) For marine waters, the average of the aragonite saturation state shall not fall below 1.5 for any 48-hour period; and
- (C) For all waters, aragonite saturation state shall be sufficient to fully support calcification of marine organisms, including shellfish.

10-1-29 Toxic Substance Criteria

(a) Toxic substances shall not be introduced through human caused or related means to surface waters of the CTCLUSI that have the potential either singularly or cumulatively to adversely affect existing or designated water uses, cause acute or chronic toxicity to the most sensitive biota dependent upon those waters, or adversely affect public health, except as authorized by this document. CTCLUSI adopts these criteria to apply to all surface waters of the Tribe.

(b) Criteria for toxic and other substances not listed will be determined with consideration of the most recent published version of EPA National Recommended Water Quality Criteria, and other relevant information as appropriate.

(c) The Department shall employ or require chemical testing, acute and/or chronic toxicity testing, biological assessments, and/or other assessment methods as

appropriate to evaluate compliance with these Standards. Where necessary, DNR shall establish controls to ensure that aquatic communities and the existing and designated beneficial uses of the waters of the Tribe are fully protected.

10-1-30 Fish Consumption Rate

CTCLUSI Human Health toxic substance criteria assume a fish consumption rate of 175 grams per day and a cancer risk of 10^{-6} .

10-1-31 Toxic Substance Criteria for the Protection of Human Health

Table 2: Human Health Toxic Substance Criteria

Pollutant	CAS Number	Criterion for Consumption of Water and Organisms (µg/L)	Criterion for Consumption of Organisms Only (µg/L)
1. Acenaphthene	83329	10	10
2. Acrolein	107028	0.88	0.93
3. Acrylonitrile	107131	0.018	0.025
4. Aldrin	309002	9.4e-8	9.4e-8
5. Anthracene	120127	40	40
6. Antimony	7440360	5.1	64
7. Arsenic	7440382	0.0045	0.0059
8. Asbestos	1332214	7,000,000 fibers/L	--
9. Barium	7440393	1000	--
10. Benzene	71432	0.44	1.4

Pollutant	CAS Number	Criterion for Consumption of Water and Organisms (µg/L)	Criterion for Consumption of Organisms Only (µg/L)
11. Benzidine	92875	0.000018	0.000020
12. Benz(a)anthracene	56553	0.00016	0.00016
13. Benzo(a)pyrene	50328	0.000016	0.000016
14. Benzo(b)fluoranthene	205992	0.00016	0.00016
15. Benzo(k)fluoranthene	207089	0.0013	0.0016
16. BHC Alpha	319846	0.000047	0.000047
17. BHC Beta	319857	0.0016	0.0017
18. BHC Gamma (Lindane)	58899	0.17	0.18
19. Bromoform	75252	3.3	14
20. Butylbenzyl Phthalate	85687	0.01	0.01
21. Carbon Tetrachloride	56235	0.10	0.16
22. Chlordane	57749	0.000038	0.000038
23. Chlorobenzene	108907	60	100
24. Chlorodibromomethane	124481	0.31	1.3
25. Chloroethyl Ether bis 2	111444	0.020	0.053
26. Chloroform	67663	50	300
27. (Chloro-1-Mehtylethyl) Ether, bis 2	108601	200	400
28. Chloromethyl ether, bis	542881	0.000024	0.000029

Pollutant	CAS Number	Criterion for Consumption of Water and Organisms (µg/L)	Criterion for Consumption of Organisms Only (µg/L)
29. Chloronaphthalene 2	91587	100	100
30. Chlorophenol 2	95578	14	15
31. Chlorophenoxy Herbicide (2,4,5,-TP)	93721	40	50
32. Chlorophenoxy Herbicide (2,4-D)	94757	720	1500
33. Chrysene	218019	0.0013	0.0018
34. Copper	7440508	1300	--
35. Cyanide The cyanide criterion is expressed as total cyanide (CN)/L.	57125	4	50
36. DDD 4,4'	72548	0.000015	0.000015
37. DDE 4,4'	72559	0.0000021	0.0000021
38. DDT 4,4'	50293	0.000004	0.000004
39. Dibenzo(a,h) Anthracene	53703	0.000016	0.000016
40. Dichlorobenzene(m) 1,3	541731	2	2
41. Dichlorobenzene(o) 1,2	95501	110	130
42. Dichlorobenzene(p) 1,4	106467	16	19
43. Dichlorobenzidine 3,3'	91941	0.0027	0.0028
44. Dichlorobromomethane	75274	0.42	1.7

Pollutant	CAS Number	Criterion for Consumption of Water and Organisms (µg/L)	Criterion for Consumption of Organisms Only (µg/L)
45. Dichloroethane 1,2	107062	0.35	3.7
46. Dichloroethylene 1,1	75354	230	710
47. Dichloroethylene trans 1,2	156605	100	500
48. Dichlorophenol 2,4	120832	5	7
49. Dichloropropane 1,2	78875	0.38	1.5
50. Dichloropropene 1,3	542756	0.23	1.4
51. Dieldrin	60571	1.5e-7	1.5e-7
52. Diethyl Phthalate	84662	80	80
53. Dimethyl Phthalate	131113	200	200
54. Dimethylphenol 2,4	105679	76	85
55. Di-n-butyl Phthalate	84742	3	3
56. Dinitrophenol 2,4	51285	10	40
57. Dintrophenols	25550587	10	100
58. Dinitrotoluene 2,4	121142	0.04	0.2
59. Dioxin (2,3,7,8-TCDD) Total Toxic Equivalent	1746016	0.00000000051	0.00000000051
60. Diphenylhydrazine 1,2	122667	0.014	0.020
61. Endosulfan Alpha	959988	3	3
62. Endosulfan Beta	33213659	5	5

Pollutant	CAS Number	Criterion for Consumption of Water and Organisms (µg/L)	Criterion for Consumption of Organisms Only (µg/L)
63. Endosulfan Sulfate	1031078	4	5
64. Endrin	72208	0.004	0.004
65. Endrin Aldehyde	7421934	0.030	0.030
66. Ethylbenzene	100414	14	15
67. Ethylhexyl Phthalate bis 2	117817	0.045	0.046
68. Fluoranthene	206440	2	2
69. Fluorene	86737	8	8
70. Heptachlor	76448	7.1e-7	7.1e-7
71. Heptachlor Epoxide	1024573	0.0000039	0.0000039
72. Hexachlorobenzene	118741	0.0000096	0.0000096
73. Hexachlorobutadiene	87683	0.001	0.001
74. Hexachlorocyclo-hexane-Technical	608731	0.0012	0.0012
75. Hexachlorocyclopentadiene	77474	0.5	0.5
76. Hexachloroethane	67721	0.02	0.02
77. Indeno(1,2,3-cd)pyrene	193395	0.00016	0.00016
78. Isophorone	78591	27	96
79. Manganese	7439965	50	100
80. Methoxychlor	72435	0.002	0.002

Pollutant	CAS Number	Criterion for Consumption of Water and Organisms (µg/L)	Criterion for Consumption of Organisms Only (µg/L)
81. Methyl Bromide	74839	37	150
82. Methyl-4-chlorophenol 3-	59507	200	300
83. Methyl-4,6-dinitrophenol 2	534521	1	3
84. Methylene Chloride	75092	4.3	59
85. Methylmercury (mg/kg) This value is expressed as the fish tissue concentration of methylmercury. Contaminated fish and shellfish is the primary human route of exposure to methylmercury.	22967926	0.03 mg/kg	0.03 mg/kg
86. Nickel	7440020	30	40
87. Nitrates 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.	14797558	10000	--
88. Nitrobenzene	98953	10	70
89. Nitrosamines	35576911	0.000756	0.046
90. Nitrosodibutylamine, N	924163	0.0049	0.022
91. Nitrosodiethylamine, N	55185	0.000756	0.046

Pollutant	CAS Number	Criterion for Consumption of Water and Organisms (µg/L)	Criterion for Consumption of Organisms Only (µg/L)
92. Nitrosodimethylamine, N	62759	0.00065	0.30
93. Nitrosodi-n propylamine, N	621647	0.0044	0.051
94. Nitrosodiphenylamine, N	86306	0.55	0.60
95. Nitrosopyrrolidine, N	930552	0.016	3.4
96. Pentachlorobenzene	608935	0.01	0.01
97. Pentachlorophenol	87865	0.004	0.004
98. Phenol	108952	4000	30000
99. Polychlorinated Biphenyls (PCBs)	1336363	0.0000064	0.0000064
100. Pyrene	129000	3	3
101. Selenium	7782492	20	100
102. Tetrachlorobenzene, 1,2,4,5-	95943	0.004	0.004
103. Tetrachloroethane 1,1,2,2	79345	0.1	0.3
104. Tetrachloroethylene	127184	0.24	0.33
105. Thallium	7440280	0.043	0.047
106. Toulene	108883	32	63
107. Toxaphene	8001352	0.000028	0.000028
108. Trichlorobenzene 1,2,4	120821	0.0092	0.0092

Pollutant	CAS Number	Criterion for Consumption of Water and Organisms (µg/L)	Criterion for Consumption of Organisms Only (µg/L)
109. Trichloroethane, 1,1,1	71556	8000	20000
110. Trichloroethane 1,1,2	79005	0.38	1.1
111. Trichloroethylene	79016	0.4	0.8
112. Trichlorophenol 2,4,6	88062	0.23	0.24
113. Trichlorophenol, 2, 4, 5-	95954	60	70
114. Vinyl Chloride	75014	0.02	0.2
115. Zinc	7440666	500	600

10-1-32 Toxic Substance Criteria for the Protection of Aquatic Life

Table 3: *Aquatic Life Toxic Substance Criteria*

Pollutant	CAS Number	Freshwater (µg/L)		Marine (µg/L)	
		Acute Criterion (CMC) ^A	Chronic Criterion (CCC) ^A	Acute Criterion (CMC) ^A	Chronic Criterion (CCC) ^A
1. Acrolein	107028	3	3	--	--
2. Aldrin	309002	1.5	--	0.65	--
3. Alkalinity	NA	See 10-1-33: Alkalinity			
4. Aluminum	7429905	See 10-1-34: Aluminum			

Pollutant	CAS Number	Freshwater (µg/L)		Marine (µg/L)	
		Acute Criterion (CMC) ^A	Chronic Criterion (CCC) ^A	Acute Criterion (CMC) ^A	Chronic Criterion (CCC) ^A
5. Ammonia	7664417	See 10-1-35: Ammonia			
6. Arsenic See 10-1-36: Arsenic	7440382	340	150	69	36
7. Cadmium	7440439	See 10-1-37: Hardness- Dependent Dissolved Metals		33	7.9
8. Carbaryl	63252	2.1	2.1	1.6	--
9. Chlordane	57749	1.2	0.0043	0.045	0.004
10. Chloride	16887006	860,000	230,000	--	--
11. Chlorine	7782505	19	11	13	7.5
12. Chromium III	16065831	See 10-1-37: Hardness- Dependent Dissolved Metals		--	--
13. Chromium VI Expressed in terms of "dissolved" concentrations in the water column.	18540299	16	11	1100	50
14. Copper	7440508	See 10-1-39: Copper			

Pollutant	CAS Number	Freshwater (µg/L)		Marine (µg/L)	
		Acute Criterion (CMC) ^A	Chronic Criterion (CCC) ^A	Acute Criterion (CMC) ^A	Chronic Criterion (CCC) ^A
15. Cyanide	57125	22	5.2	1	1
16. Sum of DDT, DDD, and DDE		0.55	0.001	0.065	0.001
17. Demeton	8065483	--	0.1	--	0.1
18. Diazinon	333415	0.17	0.17	0.82	0.82
19. Dieldrin	60571	0.24	0.056	0.355	0.0019
20. Sum of Endosulfan	115297, 959988, 33213659	0.11	0.056	0.017	0.0087
21. Endrin	72208	0.086	0.036	0.037	0.0023
22. Guthion	86500	--	0.01	--	0.01
23. Heptachlor	76448	0.26	0.0038	0.0265	0.0036
24. Heptachlor Epoxide	1024573	0.26	0.0038	0.0265	0.0036
25. Iron (total)	7439896	--	1000	--	--
26. Lead	7439921	See 10-1-37: Hardness- Dependent Dissolved Metals		210	8.1

Pollutant	CAS Number	Freshwater (µg/L)		Marine (µg/L)	
		Acute Criterion (CMC) ^A	Chronic Criterion (CCC) ^A	Acute Criterion (CMC) ^A	Chronic Criterion (CCC) ^A
27. Malathion	121755	--	0.1	--	0.1
28. Mercury See 10-1-38: Mercury	7439976	1.4	0.012	1.8	0.025
29. Methoxychlor	72435	--	0.03	--	0.03
30. Mirex	2385855	--	0.001	--	0.001
31. Nickel	7440020	See 10-1-37: Hardness- Dependent Dissolved Metals		74	8.2
32. Nonylphenol	84852153	28	6.6	7	1.7
33. Parathion	56382	0.065	0.013	--	--
34. Pentachlorophenol	87865	See 10-1-40: Pentachlorophenol		13	7.9
35. Polychlorinated Biphenyls (PCBs)	NA	--	0.014	--	0.03
36. Selenium	7782492	See 10-1-41: Selenium		290	71
37. Silver	7440224	See 10-1-37: Hardness- Dependent		0.95	--

Pollutant	CAS Number	Freshwater (µg/L)		Marine (µg/L)	
		Acute Criterion (CMC) ^A	Chronic Criterion (CCC) ^A	Acute Criterion (CMC) ^A	Chronic Criterion (CCC) ^A
		Dissolved Metals			
38. Sulfide Hydrogen Sulfide	7783064	--	2	--	2
39. Toxaphene	8001352	0.73	0.0002	0.21	0.0002
40. Tributyltin (TBT)	688733	0.46	0.072	0.42	0.0074
41. Zinc	7440666	See 10-1-37: Hardness-Dependent Dissolved Metals		90	81

Footnote A: Note on Acute and Chronic Criterion Application: Unless otherwise noted in the alphabetized footnotes within this table, the Acute Criterion is the Criterion Maximum Concentration (“CMC”) applied as a one-hour average concentration, and the chronic criterion is the Criterion Continuous Concentration (“CCC”) applied as a 96-hour (4 days) average concentration. The CMC and CCC criteria may not be exceeded more than once every three years.

10-1-33 Alkalinity

Alkalinity in fresh waters must exceed 20 mg/L and must not fall below 75% of the natural level. Where alkalinity is naturally less than 20 mg/L, alkalinity may not be reduced below natural levels. The result is reported as milligrams per liter as calcium carbonate (“mg/L CaCO₃”).

10-1-34 Aluminum

Aluminum varies as a function of a site's pH, total hardness, and dissolved organic carbon (“DOC”) entered into the EPA’s aluminum criteria calculator. Values will be different under differing water chemistry conditions. CMC applied as a one-hour, total recoverable aluminum concentration, and the CCC applied as a 96-hour (4 days) total recoverable aluminum concentration. The CMC and CCC criteria may not be

exceeded more than once every three years on average. Acute (CMC) and chronic (CCC) freshwater aluminum criteria values for a site shall be calculated using the 2018 Aluminum Criteria Calculator (Aluminum Criteria Calculator V.2.0.xlsx, or a calculator in R or other software package using the same 1985 Guidelines calculation approach and underlying model equations as in the Aluminum Criteria Calculator V.2.0.xlsx) as established in EPA's Final Aquatic Life Ambient Water Quality Criteria for Aluminum 2018 (EPA 822-R-18-001).

To apply the aluminum criteria for Clean Water Act purposes, criteria values based on ambient water chemistry conditions must protect the water body over the full range of variability, including during conditions when aluminum is most toxic.

10-1-35 Ammonia

(a) Acute Ammonia Aquatic Life Criteria for Fresh Waters.

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

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

Tables 5a of the EPA ammonia criteria document, *Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater, 2013* (EPA 822-R-13-001, April 2013) may be used to determine CMC values. When using these tables, measured temperature and pH values that fall between available table values shall be rounded up to yield protective criteria.

(b) Chronic Ammonia Aquatic Life Criteria for Fresh Waters.

The 30-day rolling average concentration of total ammonia nitrogen (in mg N/L) may not exceed, more than once every three years on the average, the CCC (chronic criterion) calculated using the following equation:

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

- (1) In addition, the highest four-day average within the 30-day period may not exceed 2.5 times the CCC more than once in three years on average.

- (2) Table 6 of the EPA ammonia criteria document, *Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater, 2013* (EPA 822-R-13-001, April 2013) may be used to determine CCC values. When using this table, measured temperature and pH values that fall between available table values shall be rounded up to yield protective criteria.

(c) Ammonia Aquatic Life Criteria for Marine Waters.

The one-hour average concentration of un-ionized ammonia may not exceed 0.233 mg/L more than once every three years on the average. The four-day average concentration of un-ionized ammonia may not exceed 0.035 mg/L more than once every three years on the average.

To develop total ammonia criteria, use *Ambient Water Quality Criteria for Ammonia (Saltwater) - 1989* (EPA 440/5-88-04). Ammonia criteria for saltwater are for un-ionized ammonia. Unionized ammonia is the most toxic form of ammonia to aquatic life. In saltwater, the fraction of the total ammonia that is un-ionized depends mainly on the pH, temperature, and salinity of the water. For implementation purposes, the un-ionized ammonia criteria are generally converted to total ammonia to be consistent with standard water quality monitoring methods.

10-1-36 Arsenic

Freshwater and marine water criteria for metals are expressed in terms of the dissolved metal in the water column, based on *Office of Water Policy and Technical Guidance on Interpretation and Implementation of Aquatic Life Metals Criteria*. Criterion is applied as total inorganic arsenic (i.e. arsenic (III) + arsenic (V)):

Freshwater Acute Criterion (CMC): 340 (µg/L)

Freshwater Chronic Criterion (CCC): 150 (µg/L)

Marine Acute Criterion (CMC): 69 (µg/L)

Marine Chronic Criterion (CCC): 36 (µg/L)

10-1-37 Aquatic Life Criteria for Hardness-Dependent Dissolved Metals

- (a) Freshwater and marine water criteria for metals are expressed in terms of the dissolved metal in the water column. Hardness dependent metals criteria may be calculated from the following:

Freshwater CMC (dissolved) = $\exp\{m_A * [\ln(\text{hardness})] + b_A\} * (\text{Conversion Factor for Dissolved Metal})$

Freshwater CCC (dissolved) = $\exp\{m_C * [\ln(\text{hardness})] + b_C\} * (\text{Conversion Factor for Dissolved Metal})$

Table 4: Aquatic Life Criteria Hardness Dependent Dissolved Metals in Fresh Water

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

Chemical	mA	bA	mC	bC	Freshwater Conversion Factors (CF)	
					CMC	CCC
Cadmium	0.9789	-3.866	0.7977	-3.909	$1.136672 - \{(\ln \text{hardness}) / (0.041838)\}$	$1.101672 - \{(\ln \text{hardness}) / (0.041838)\}$
Chromium III	0.8190	3.7256	0.8190	0.6848	0.316	0.860
Lead	1.273	-1.460	1.273	-4.705	$1.46203 - \{(\ln \text{hardness}) / (0.145712)\}$	$1.46203 - \{(\ln \text{hardness}) / (0.145712)\}$
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

Table 5: Freshwater and Marine CMC and CCC for Hardness Dependent Dissolved Metals

Metal	Freshwater CMC	Freshwater CCC	Saltwater CMC	Saltwater CCC
Arsenic	1.000	1.000	1.000	1.000
Cadmium	$1.136672 - \{(\ln \text{hardness}) / (0.041838)\}$	$1.101672 - \{(\ln \text{hardness}) / (0.041838)\}$	0.994	0.994
Chromium III	0.316	0.860	—	—
Chromium VI	0.982	0.962	0.993	0.993
Copper	0.960	0.960	0.83	0.83
Lead	$1.46203 - \{(\ln \text{hardness}) / (0.145712)\}$	$1.46203 - \{(\ln \text{hardness}) / (0.145712)\}$	0.951	0.951
Mercury	0.85	0.85	0.85	0.85
Nickel	0.998	0.997	0.990	0.990
Selenium	—	—	0.998	0.998
Silver	0.85	—	0.85	—
Zinc	0.978	0.986	0.946	0.946

10-1-38 Mercury

Freshwater and marine water criteria for metals are expressed in terms of the dissolved metal in the water column.

Freshwater Acute Criterion (CMC) (µg/L): 1.4

Freshwater Chronic Criterion (CCC) (µg/L): 0.012

Marine Acute Criterion (CMC) (µg/L): 1.8

Marine Chronic Criterion (CCC) (µg/L): 0.025

10-1-39 Copper

- (a) The freshwater criterion for copper is a function of the concentration of ions, alkalinity, organic carbon, pH and temperature in the water column. Acute (CMC) and chronic (CCC) freshwater copper criteria shall be developed using EPA's 2007 *Aquatic Life Ambient Freshwater Quality Criteria—Copper* (EPA-822-R-07-001), which incorporates the use of the copper Biotic Ligand Model (BLM).
- (b) The CMC is the highest allowable one-hour average instream concentration of dissolved copper. The CMC is not to be exceeded more than once every three years.
- (c) The CCC is the highest allowable four-day average instream concentration of dissolved copper. The CCC is not to be exceeded more than once every three years.
- (d) Where sufficiently representative ambient data for dissolved organic carbon (DOC), calcium, magnesium, sodium, potassium, sulfate, chloride, or alkalinity are not available, the Tribe shall determine an ecoregional default using 10th percentile values from the publicly available peer-reviewed datasets such as the US Geological Survey National Waters Information System (NWIS) and EPA's Storage and Retrieval Data Warehouse.
- (e) To apply the copper criteria for Clean Water Act purposes, criteria values based on ambient water chemistry conditions must protect the water body over the full range of variability, including during conditions when copper is most toxic. A minimum number of 24 samples over two years, reflecting intra-annual or seasonal flow and spatial variability related water quality variability, must be collected. If inter-annual variability in water quality occurs regularly, the monitoring plan shall reflect these characteristics.
- (f) All BLM criteria shall be made available on the Tribe's website.
- (g) Copper Aquatic Life Criteria for Marine Waters.

The value is expressed in terms of dissolved concentrations in the water column:

Marine Acute Criterion (CMC) (µg/L): 4.8

Marine Chronic Criterion (CCC) (µg/L): 3.1

10-1-40 Pentachlorophenol

Freshwater aquatic life values for pentachlorophenol are expressed as a function of pH, formulated below:

$$\text{CMC} = e^{1.005(\text{pH}) - 4.869}, \text{CCC} = e^{1.005(\text{pH}) - 5.134}$$

This is alternatively notated as: CMC=(exp(1.005(pH)-4.869); CCC=exp(1.005(pH)-5.134)

10-1-41 Selenium

(a) Selenium Aquatic Life Criteria for Fresh Waters

Selenium aquatic life criteria for fresh waters uses EPA recommended criteria, based on *Fact Sheet: Aquatic Life Ambient Water Quality Criterion for Selenium in Freshwater 2016* (EPA 822-F-16-005) and *Aquatic Life Ambient Water Quality Criterion for Selenium – Freshwater 2016* (EPA 822-R-16-006).

Table 6: Selenium Aquatic Life Criteria for Fresh Water

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 (Whole Body or Muscle) ^D	8.5 mg/kg dw or 11.3 mg/kg dw muscle (skinless, boneless filet)	Instantaneous measurement ^C	Not to be exceeded
Water Column ^E (Monthly Average Exposure)	1.5 µg/L in lentic aquatic systems 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}))	$WQC_{int} = \frac{WQC_{30-day} - C_{bkgnd}(1 - f_{int})}{f_{int}}$	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 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-day} is the water column monthly element, for either a lentic or lotic waters; C_{bkgnd} 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).

(b) Selenium Aquatic Life Criteria for Marine Waters.

Criterion is expressed in terms of dissolved concentrations in the water column, µg/L. Marine Acute Criterion (CMC): 290 (µg/L). Marine Chronic Criterion (CCC): 71 (µg/L).

APPENDIX A
LEGISLATIVE HISTORY AND EDITORIAL CHANGES

WATER QUALITY STANDARDS
LEGISLATIVE HISTORY AND EDITORIAL CHANGES

The Tribal Council of the Confederated Tribes of Coos, Lower Umpqua and Siuslaw Indians approved the Water Quality Standards by Resolution No. xx-xxx, for First Reading at a Regular Tribal Council meeting on March 12, 2023. Vote was x (for), x (against), and x (abstaining).