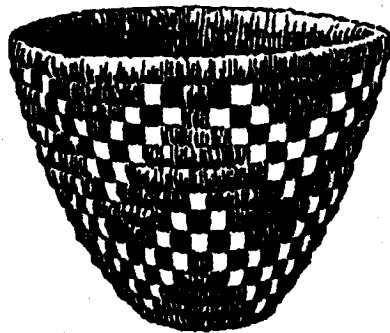


# **CONFEDERATED TRIBES OF THE CHEHALIS RESERVATION**



## **SURFACE WATER QUALITY STANDARDS**

Resolution 96-2  
Feb. 15, 1996

# CONFEDERATED TRIBES OF THE CHEHALIS RESERVATION SURFACE WATER QUALITY STANDARDS

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## **Section 1. Introduction.**

(1) The purpose of this Ordinance is to establish water quality standards for surface waters of the Confederated Tribes of the Chehalis Reservation consistent with public health and public enjoyment thereof, protection of treaty or Executive Order rights, and the propagation and protection of fish, wildlife, and for other purposes.

(2) The water use and quality criteria set forth in sections 3 through 11 are established in conformance with present and potential water uses of the surface waters of the Confederated Tribes of the Chehalis Reservation and in consideration of the natural water quality potential and limitations of the same.

## **Section 2. Definitions.**

(1) "Acute conditions" means changes in the physical, chemical, or biologic environment which are expected or demonstrated to result in injury or death to an organism as a result of short-term exposure to the substance or detrimental environmental condition.

(2) "AKART" is an acronym for "all known, available, and reasonable methods of prevention, control, and treatment." AKART shall represent the most current

methodology that can reasonably be required for preventing, controlling, or abating the pollutants associated with a discharge. The concept of AKART applies both to point and nonpoint sources of pollution. The term "best management practices," typically applied to nonpoint source pollution control is considered a subset of the AKART requirement. "The Stormwater Management Manual for the Puget Sound Basin" (1992) or Ecology approved manuals may be used as a guideline, to the extent appropriate, for developing best management practices to apply AKART for storm water discharges.

(3) "Background conditions" means the biological, chemical, and physical conditions of a water body, outside the area of influence of the discharge under consideration. Background sampling location in an enforcement action would be upgradient or outside the area of influence of the discharge. If several discharges to any water body exist, and enforcement action is being taken for possible violations to the standards, background sampling would be undertaken immediately upgradient from each discharge. This section only establishes background conditions for purposes of measuring the biological, chemical, and physical conditions of water upgradient from the discharge under consideration. The establishment of background conditions under this Ordinance shall not infer that background conditions are acceptable or desirable. The Chehalis Department of Natural Resources may establish policies and programs to improve background conditions identified under this section. This section does not establish nor shall it be construed as a waiver of any rights of the Tribe to natural background conditions or treaty-based background conditions.

(4) "Best management practices" ("BMP") means physical, structural, and/or managerial practices approved by the Chehalis Department of Natural Resources that, when used singularly or in combination, prevent or reduce pollutant discharges.

(5) "Biological assessment" is an evaluation of the biological condition of a water body using surveys of aquatic community structure and function and other direct measurements of resident biota in surface waters.

(6) "Carcinogen" means any substance or agent that produces or tends to produce cancer in humans. For implementation of this Ordinance, the term carcinogen will apply to substances on the United States Environmental Protection Agency lists of A (known human) and B (probable human) carcinogens, and any substance which causes a significant increased incidence of benign or malignant tumors in a single, well conducted animal bioassay, consistent with the weight of evidence approach specified in the Environmental Protection Agency's Guidelines for Carcinogenic Risk Assessment as set forth in 51 Federal Register 33992, as presently published or as subsequently amended or republished.

(7) "Ceremonial and Religious water use" means activities involving traditional Native American spiritual and cultural practices which involve primary (direct) and secondary contact with water.

(8) "Chehalis Indian Tribe" means the Confederated Tribes of the Chehalis Reservation.

(9) "Chronic conditions" are changes in the physical, chemical, or biologic environment which are expected or demonstrated to result in injury or death to an organism as a result of repeated or constant exposure over an extended period of time to a substance or environmental condition.

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

(11) "Damage to the ecosystem" means any demonstrated or predicted stress to aquatic or terrestrial organisms or communities of organisms which the Department reasonably concludes may interfere in the health or survival success or natural structure of such populations. This stress may be due to, but is not limited to, alteration in habitat or changes in water temperature, chemistry, or turbidity, and shall consider the potential build up of discharge constituents or temporal increases in habitat alteration which may create such stress in the long-term.

(12) "Department" means the Chehalis Department of Natural Resources.

(13) "Director" means the Chehalis Department of Natural Resources Director.

(14) "Fecal coliform" means that portion 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 (24) hours at 44.5 plus or minus 0.2 degrees Celsius.

(15) "Geometric mean" means either the  $n$ th root of a product of  $n$  factors, or the antilogarithm of the arithmetic mean of the logarithms of the individual sample values.

(16) "Hardness" means a measure of the calcium and magnesium salts present in water. For purposes of this Ordinance, hardness is measured in milligrams per liter and expressed as calcium carbonate ( $\text{CaCO}_3$ ).

(17) "Mean detention time" means the time obtained by dividing a reservoir's mean annual minimum total storage by the 30-day ten-year low-flow from the reservoir.

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

(19) "Mixing zone" means that portion of a water body adjacent to an effluent outfall where mixing results in the dilution of the effluent with the receiving water. Water quality criteria may be exceeded in a mixing zone as conditioned and provided for in Section 9 of this Ordinance.

(20) "Natural conditions" or "natural background levels" means surface water quality that was present before any human caused pollution.

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

(22) "Permit" means a document specifying the waste treatment and control requirements and waste discharge conditions.

(23) "Person" means any individual, partnership, corporation, association, or public or private organization, or entity of any character, and includes any governmental entity or agency.

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

(25) "Pollution" means such contamination, or other alteration of the physical, chemical or biologic properties, of any waters of the Chehalis Indian Tribe, including change in temperature, taste, color, turbidity, or odor of the waters, or such discharge of any liquid, gaseous, solid, radioactive, or other substance into any surface waters of the Chehalis Indian Tribe that will or is likely to create a nuisance or render such waters harmful, detrimental or injurious to public health or safety, or to domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial uses, or to livestock, wild animals, birds, fish or other aquatic life.

(26) "Primary contact recreation" means activities where a person would have direct contact with water to the point of complete submergence, including, but not limited to, skin diving, swimming, and water skiing.

(27) "Secondary contact recreation" means activities where a person's water contact would be limited (wading or fishing) to the extent that bacterial infections of eyes, ears, respiratory or digestive systems, or urogenital areas would normally be avoided.

(28) "Storm water" means that portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flows, interflow, pipes, and other features of a storm water drainage system into a defined surface water body, or a constructed infiltration facility.

(29) "Surface waters of the Chehalis Indian Tribe" includes rivers, ponds, tributaries, creeks, streams, inland waters, wetlands and all other surface waters and water courses on land within the Chehalis Reservation.

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

(31) "Treaty and Executive Order rights" means those rights protected by and incidental to use and enjoyment of all Treaties and Executive Orders between the Chehalis Indian Tribe and the United States of America.

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

(33) "USEPA" means the United States Environmental Protection Agency.

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

### **Section 3. General Considerations.**

The following general guidelines shall apply to the water quality criteria and classifications set forth in sections 4 through 11 hereof:

(1) At the boundary between waters of different classifications, the water quality criteria for the higher classification shall prevail.

(2) In determining compliance with fecal coliform criteria in Section 4 of this Ordinance, averaging of data collected beyond a thirty-day period, or beyond a specific discharge event under investigation, shall not be permitted when such averaging would skew the data set so as to mask noncompliance periods.

(3) Waste discharge permits, whether issued pursuant to the National Pollutant Discharge Elimination System or otherwise, shall be conditioned in such manner as to authorize discharges which meet the water quality standards.

(a) However, persons discharging wastes in compliance with the terms and conditions of permits shall not be subject to civil and criminal penalties on the basis that the discharge violates water quality standards.

(b) Permits shall be subject to modification whenever it appears to the Department the discharge violates water quality standards. Modification of permits, as provided herein, shall be subject to review in the same manner as originally issued permits.

(5) Due consideration will be given to the precision and accuracy of the sampling and analytical methods used as well as existing conditions at the time, in the application of the criteria.

(6) The analytical testing methods for these criteria shall be in accordance with the Guidelines Establishing Test Procedures for the Analysis of Pollutants, 40 C.F.R. Part 136, and other or superseding methods published and/or approved by the Department and with the concurrence of the USEPA.

(7) Nothing in this Ordinance shall be interpreted to prohibit the establishment of effluent limitations for the control of the thermal component of any discharge in accordance with Section 316 of the Federal Clean Water Act, 33 U.S.C. § 1326.

**Section 4. General Water Use and Criteria Classes.**

The following criteria shall apply to the various classes of surface waters of the Chehalis Indian Tribe:

**(1) Class AA (extraordinary).**

(a) *General characteristic.* Water quality of this class shall markedly and uniformly exceed the requirements for all or substantially all uses.

(b) *Characteristic uses.* Characteristic uses shall include, but not be limited to, the following:

- (i) Water supply (domestic, industrial, agricultural).
- (ii) Stock watering.
- (iii) Fish (Salmonid migration, rearing, spawning, and harvesting. Other fish migration, rearing, spawning, and harvesting).
- (iv) Wildlife habitat.
- (v) Ceremonial and Religious water use.
- (vi) Recreation (primary contact recreation, sport fishing, boating, and aesthetic enjoyment).
- (vii) Commerce and navigation.

(c) *Water quality criteria.* Water quality criteria shall include, but not be limited to, the following:

- (i) Fecal coliform organisms.
  - (A) Freshwater - fecal coliform organism levels shall both not exceed a geometric mean value of 50 colonies/100mL and not have more than 10 percent of the samples obtained for calculating the geometric mean value exceeding 100 colonies/100 mL.
- (ii) Dissolved oxygen.
  - (A) Freshwater dissolved oxygen shall exceed 9.5 mg/L.

(iii) Total dissolved gas shall not exceed 110 percent (110%) of saturation at any point of sample collection.

(iv) Temperature shall not exceed 16.0°C due to human activities. When natural conditions exceed 16.0°C, no temperature increase will be allowed which will raise the receiving water temperature by greater than 0.3°C.

Incremental temperature increases resulting from point source activities shall not, at any time, exceed  $t=23/(T+5)$ . Incremental temperature increases resulting from nonpoint source activities shall not exceed 2.8°C.

For purposes hereof, "t" represents the maximum permissible temperature increase measured at a mixing zone boundary; and "T" represents the background temperature as measured at a point or points unaffected by the discharge and representative of the highest ambient water temperature in the vicinity of the discharge.

(v) pH shall be within the range of 6.5 to 8.5 with a human-caused variation within a range of less than 0.2 units.

(vi) Turbidity shall not exceed 5 NTU over background turbidity when the background turbidity is 50 NTU or less, or have more than a 10 percent increase in turbidity when the background turbidity is more than 50 NTU.

(vii) Toxic, radioactive, or deleterious material concentrations shall be below those which have the potential either singularly or cumulatively to adversely affect characteristic water uses, cause acute or chronic conditions to the most sensitive biota dependent upon those waters, or adversely affect public health, as determined by the Department.

(viii) Aesthetic values shall not be impaired by the presence of materials or their effects, excluding those of natural origin, which offend the senses of sight, smell, touch, or taste.

## **(2) Class A (excellent).**

(a) *General characteristic.* Water quality of this class shall meet or exceed the requirements for all or substantially all uses.

(b) *Characteristic uses.* Characteristic uses shall include, but not be limited to, the following:

(i) Water supply (domestic, industrial, agricultural).

(ii) Stock watering.



- (iii) Fish (Salmonid migration, rearing, spawning, and harvesting. Other fish migration, rearing, spawning, and harvesting).
- (iv) Wildlife habitat.
- (v) Ceremonial and Religious water use.
- (vi) Recreation (primary contact recreation, sport fishing, boating, and aesthetic enjoyment).
- (vii) Commerce and navigation.

(c) *Water quality criteria.* Water quality criteria shall include, but not be limited to, the following:

- (i) Fecal coliform organisms.

(A) Freshwater - fecal coliform organism levels shall both not exceed a geometric mean value of 100 colonies/100mL and not have more than 10 percent of the samples obtained for calculating the geometric mean value exceeding 200 colonies/100 mL.

- (ii) Dissolved oxygen.

(A) Freshwater dissolved oxygen shall exceed 8.0 mg/L.

(iii) Total dissolved gas shall not exceed 110 percent (110%) of saturation at any point of sample collection.

(iv) Temperature shall not exceed 18.0°C due to human activities. When natural conditions exceed 18.0°C, no temperature increase will be allowed which will raise the receiving water temperature by greater than 0.3°C.

Incremental temperature increases resulting from point source activities shall not, at any time, exceed  $t=28/(T+7)$ . Incremental temperature increases resulting from nonpoint source activities shall not exceed 2.8°C.

For purposes hereof, "t" represents the maximum permissible temperature increase measured at a mixing zone boundary; and "T" represents the background temperature as measured at a point or points unaffected by the discharge and representative of the highest ambient water temperature in the vicinity of the discharge.

(v) pH shall be within the range of 6.5 to 8.5 with a human-caused variation within a range of less than 0.5 units.

(vi) Turbidity shall not exceed 5 NTU over background turbidity when the background turbidity is 50 NTU or less, or have more than a 10 percent increase in turbidity when the background turbidity is more than 50 NTU.

(vii) Toxic, radioactive, or deleterious material concentrations shall be below those which have the potential either singularly or cumulatively to adversely affect characteristic water uses, cause acute or chronic conditions to the most sensitive biota dependent upon those waters, or adversely affect public health as determined by the Department.

(viii) Aesthetic values shall not be impaired by the presence of materials or their effects, excluding those of natural origin, which offend the senses of sight, smell, touch, or taste.

### **(3) Class B (good).**

(a) *General characteristic.* Water quality of this class shall meet or exceed the requirements for most uses.

(b) *Characteristic uses.* Characteristic uses shall include, but not be limited to, the following:

(i) Water supply (industrial and agricultural).

(ii) Stock watering.

(iii) Fish (Salmonid migration, rearing, and harvesting. Other fish migration, rearing, spawning, and harvesting).

(iv) Wildlife habitat.

(v) Recreation (secondary contact recreation, sport fishing, boating, and aesthetic enjoyment).

(vi) Commerce and navigation.

(c) *Water quality criteria.* Water quality criteria shall include, but not be limited to, the following:

(i) Fecal coliform organisms.

(A) Freshwater - fecal coliform organism levels shall both not exceed a geometric mean value of 200 colonies/100mL and not have more than 10 percent of the samples obtained for calculating the geometric mean value exceeding 400 colonies/100 mL.

(ii) Dissolved oxygen.

(A) Freshwater dissolved oxygen shall exceed 6.5 mg/L.

(iii) Total dissolved gas shall not exceed 110 percent (110%) of saturation at any point of sample collection.

(iv) Temperature shall not exceed 21.0°C due to human activities. When natural conditions exceed 21.0°C, no temperature increase will be allowed which will raise the receiving water temperature by greater than 0.3°C.

Incremental temperature increases resulting from point source activities shall not, at any time, exceed  $t=34/(T+9)$ . Incremental temperature increases resulting from nonpoint source activities shall not exceed 2.8°C.

For purposes hereof, "t" represents the maximum permissible temperature increase measured at a mixing zone boundary; and "T" represents the background temperature as measured at a point or points unaffected by the discharge and representative of the highest ambient water temperature in the vicinity of the discharge.

(v) pH shall be within the range of 6.5 to 8.5 with a human-caused variation within a range of less than 0.5 units.

(vi) Turbidity shall not exceed 10 NTU over background turbidity when the background turbidity is 50 NTU or less, or have more than a 20 percent increase in turbidity when the background turbidity is more than 50 NTU.

(vii) Toxic, radioactive, or deleterious material concentrations shall be below those which have the potential either singularly or cumulatively to adversely affect characteristic water uses, cause acute or chronic conditions to the most sensitive biota dependent upon those waters, or adversely affect public health, as determined by the Department.

(viii) Aesthetic values shall not be reduced by dissolved, suspended, floating, or submerged matter not attributed to natural causes, so as to affect water use or taint the flesh of edible species.

**(4) Class C (fair).**

[reserved]

## Section 5. Toxic Substances.

(1) Toxic substances shall not be introduced above natural background levels in surface waters of the Chehalis Indian Tribe which have the potential either singularly or cumulatively to adversely affect characteristic water uses, cause acute or chronic conditions to the most sensitive biota dependent upon those waters, or adversely affect public health, as determined by the Department.

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

(3) The following criteria shall be applied to all surface waters of the Chehalis Indian Tribe for the protection of aquatic life. The Department may revise the following criteria, subject to approval by the Chehalis Business Committee, as needed, to protect aquatic life occurring in surface waters of the Chehalis Indian Tribe and to increase the technical accuracy of the criteria being applied. Rules may be adopted to change these criteria. Such rules shall be adopted in accordance with provisions of the Chehalis Indian Tribe's Administrative Procedure Act. Values are  $\mu\text{g/L}$  for all substances except Ammonia and Chloride which are  $\text{mg/L}$ :

SUBSTANCE	ACUTE	CHRONIC
Aldrin/Dieldrin	2.5a	0.0019b
Ammonia (un-ionized NH <sub>3</sub> ) ff	f,c	g,d
Arsenic dd	360.0c	190.0d
Cadmium bb	i,c	j,d
Chlordane	2.4a	0.0043b
Chloride (Dissolved) k	860.0h,c	230.0h,d
Chlorine (Total Residual)	19.0c	11.0d
Chloropyrifos	0.083c	0.041d
Chromium (Hex)	16.0c,1	11.0d
Chromium (Tri) ee	m,c	n,d
Copper bb	o,c	p,d
Cyanide cc	22.0c	5.2d
DDT (and metabolites)	1.1a	0.001b
Dieldrin/Aldrin e	2.5a	0.0019b
Endosulfan	0.22a	0.056b
Endrin	0.18a	0.0023b

SUBSTANCE	ACUTE	CHRONIC
Heptachlor	0.52a	0.0038b
Hexachlorocyclohexane (Lindane)	2.0a	0.08b
Lead bb	q,c	r,d
Mercury s, dd	2.4c	0.012d
Nickel bb	t,c	u,d
Parathion	0.065c	0.013d
Pentachlorophenol (PCP)	w,c	v,d
Polychlorinated Biphenyls (PCBs)	2.0b	0.014b
Selenium dd	20.0c	5.0d
Silver bb	x,a	---
Toxaphene	0.73c, y	0.0002d
Zinc bb	z,c	aa,d

Notes to Table:

- a. An instantaneous concentration not to be exceeded at any time.
- b. A 24-hour average not to be exceeded.
- c. A 1-hour average concentration not to be exceeded more than once every three years on the average.
- d. A 4-day average concentration not to be exceeded more than once every three years on the average.
- e. Aldrin is metabolically converted to Dieldrin. Therefore, the sum of the Aldrin and Dieldrin concentrations are compared with the Dieldrin criteria.
- f. Shall not exceed the numerical value given by:

$$\frac{0.52}{(FT) (FPH) (2)}$$

where:  $FT = 10^{[0.03(20-TCAP)]}$ ;  $TCAP \leq T \leq 30$   
 $FT = 10^{[0.03(20-T)]}$ ;  $0 \leq T \leq TCAP$   
 $FPH = 1$ ;  $8 \leq pH \leq 9$   
 $FPH = \frac{1+10^{(7.4-pH)}}{1.25}$ ;  $6.5 \leq pH \leq 8.0$

TCAP = 20°C; Salmonids or other cold water species present.

TCAP = 25°C; Salmonids and other cold water species absent.

g. Shall not exceed the numerical value given by:  $\frac{0.80}{(FT) (FPH) (RATIO)}$

where:  $RATIO = 13.5$ ;  $7.7 \leq pH \leq 9$

$$RATIO = 20.25 \times \frac{10^{(7.7-pH)}}{1+10^{(7.4-pH)}}; 6.5 \leq pH \leq 7.7$$

where: FT and FPH are as shown in (f) above except:

TCAP = 15°C; Salmonids or other cold water species present.

TCAP = 20°C; Salmonids and other cold water species absent.

h. Measured in milligrams per liter rather than micrograms per liter.

i.  $\leq (0.865) (e^{(1.128(\ln(\text{hardness}))-3.828)})$

j.  $\leq (0.865) (e^{(0.7852(\ln(\text{hardness}))-3.490)})$

k. Criterion based on dissolved chloride in association with sodium. This criterion probably will not be adequately protective when the chloride is associated with potassium, calcium, or magnesium, rather than sodium.

l. Salinity dependent effects. At low salinity the l-hour average may not be sufficiently protective.

m.  $\leq e^{(0.8190(\ln(\text{hardness}))+3.688)}$

n.  $\leq e^{(0.8190(\ln(\text{hardness}))+1.561)}$

o.  $\leq (0.862) (e^{(0.9422(\ln(\text{hardness}))-1.464)})$

p.  $\leq (0.862) (e^{(0.8545(\ln(\text{hardness}))-1.465)})$

q.  $\leq (0.687) (e^{(1.273(\ln(\text{hardness}))-1.460)})$

r.  $\leq (0.687) (e^{(1.273(\ln(\text{hardness}))-4.705)})$

s. If (4) days average total mercury exceeds 0.012  $\mu\text{g/L}$  more than once in a 3-year period in the ambient water, the edible portion of aquatic species of concern must be analyzed to determine whether the concentration of methyl mercury exceeds the U.S. Food and Drug Administration ("FDA") action level (1.0 mg/kg). If the FDA action level is exceeded, the Department shall notify the EPA Regional Administrator, initiate a revision of its mercury criterion in its water quality standards so as to protect designated uses, and take other appropriate action such as issuance of a fish consumption advisory for the affected area.

t.  $\leq (0.95) (e^{(0.8460(\ln(\text{hardness}))+3.3612)})$

u.  $\leq (0.95) (e^{(0.8460(\ln(\text{hardness}))+1.1645)})$

v.  $\leq e^{(1.005(\text{pH}))-5.290}$

w.  $\leq e^{(1.005(\text{pH}))-4.830}$

x.  $\leq (0.531) (e^{(1.72(\ln(\text{hardness}))-6.52)})$

- y. Channel Catfish may be more acutely sensitive.
- z.  $\leq (0.891) (e^{(0.8473(\ln(\text{hardness}))+0.8604)})$
- aa.  $\leq (0.891) (e^{(0.8473(\ln(\text{hardness}))+0.7614)})$
- bb. These ambient criteria are based on the dissolved fraction (for cyanide criteria using the weak and dissociable method) of the metal. The Department shall apply the criteria as total recoverable values to calculate effluent limits unless data is made available to the Department clearly demonstrating the seasonal partitioning of the dissolved metal in the ambient water in relation to an effluent discharge. Metals criteria may be adjusted on a site-specific basis when data is made available to the Department clearly demonstrating the effective use of the water effects ratio approach established by USEPA as generally guided by the procedures in USEPA *Water Quality Standards Handbook*, 2nd Ed., Aug. 1994 (appendix L), as supplemented or replaced. Information which is used to develop effluent limits based on applying metals partitioning studies or the water effects ratio approach shall be identified and shall be available for public comment as appropriate.
- cc. The criteria for cyanide is based on the weak and dissociable method in the 17th Ed. *Standard Methods for the Examination of Water and Wastewater*, 4500-CNI, and as revised (See, footnote bb, above).
- dd. These criteria are based on the total-recoverable fraction of the metal.
- ee. Where methods to measure trivalent chromium are unavailable, these criteria are to be represented by total-recoverable chromium.
- ff. Tables for the conversion of total ammonia to un-ionized ammonia for freshwater can be found in the USEPA's *Quality Criteria for Water*, 1986, and "Revised Tables for Determining Average Freshwater Ammonia Concentrations," (Memorandum from USEPA of Jul. 30, 1992) .

(4) The following criteria shall be applied to surface waters of the Chehalis Indian Tribe for protection of human health. The Department may revise these criteria, subject to approval by the Chehalis Business Committee, as needed, to protect human health and to increase the technical accuracy of the criteria being applied. Rules may be adopted to change these criteria in accordance with provisions of the Chehalis Indian Tribe's Administrative Procedure Act. Values are  $\mu\text{g/L}$  for all substances:

Substance	CAS Number	For AA and A Class Uses	For B Class Uses
Antimony	7440360	14 a	4300 a
Arsenic	7440382	0.018 a,b,c	0.14 a,b,c
Beryllium	7440417	f	f
Cadmium	7440439	f	f
Chromium (III)	16065831	f	f
Chromium (VI)	18540299	f	f
Copper	7440508		

Substance	CAS Number	For AA and A Class Uses	For B Class Uses
Lead	7439921	f	f
Mercury	7439976	0.14	0.15
Nickel	7440020	610 a	4600 a
Selenium	7782492	f	f
Silver	7440224		
Thallium	7440280	1.7 a	6.3 a
Zinc	7440666		
Cyanide	57125	700 a	220000 a,d
Asbestos	1332214	7,000,000 fibers/L e	
2, 3, 7, 8 - TCDD (Dioxin)	1746016	0.000000013 c	0.000000014 c
Acrolein	107028	320	780
Acrylonitrile	107131	0.059 a,c	0.66 a,c
Benzene	71432	1.2 a,c	71 a,c
Bromoform	75252	4.3 a,c	360 a,c
Carbon Tetrachloride	56235	0.25 a,c	4.4 a,c
Chlorobenzene	108907	680 a	21000 a,d
Chlorodibromomethane	124481	0.41 a,c	34 a,c
Chloroethane	75003		
2 - Chloroethylvinyl Ether	110758		
Chloroform	67663	5.7 a,c	470 a,c
Dichlorobromomethane	75274	0.27 a,c	22 a,c
1, 1 - Dichloroethane	75343		
1, 2 - Dichloroethane	107062	0.38 a,c	99 a,c
1, 1 - Dichloroethylene	75354	0.057 a,c	3.2 a,c
1, 2 - Dichloropropane	78875		
1, 3 - Dichloropropylene	542756	10 a	1700 a
Ethylbenzene	100414	3100 a	29000 a
Methyl Bromide	74839	48 a	4000 a
Methyl Chloride	74873	f	f
Methylene Chloride	75092	4.7 a,c	1600 a,c
1, 1, 2, 2 - Tetrachloroethane	79345	0.17 a,c	11 a,c



Substance	CAS Number	For AA and A Class Uses	For B Class Uses
Tetrachloroethylene	127184	0.8 c	8.85 c
Toluene	108883	6800 a	200000 a
1, 2 - Trans-Dichloroethylene	156605		
1, 1, 1 - Trichloroethane	71556	f	f
1, 1, 2 - Trichloroethane	79005	0.60 a,c	42 a,c
Trichloroethylene	79016	2.7 c	81 c
Vinyl Chloride	75014	2 c	525 c
2 - Chlorophenol	95578		
2, 4 - Dichlorophenol	120832	93 a	790 a,d
2, 4 - Dimethylphenol	105679		
2 - Methyl -4, 6 - Dinitrophenol	534521	13.4	765
2, 4 - Dinitrophenol	51285	70 a	14000 a
2 - Nitrophenol	88755		
4 - Nitrophenol	100027		
3 - Methyl - 4 - Chlorophenol	59507		
Pentachlorophenol	87865	0.28 a,c	8.2 a,c,d
Phenol	108952	21000 a	4600000 a,d
2, 4, 6 - Trichlorophenol	88062	2.1 a,c	6.5 a,c
Acenaphthene	83329		
Acenaphthylene	108968		
Anthracene	120127	9600 a	110000 a
Benzidine	92875	0.00012 a,c	0.00054 a,c
Benzo (a) Anthracene	56553	0.0028 c	0.031 c
Benzo (a) Pyrene	50328	0.0028 c	0.031 c
Benzo (b) Fluoranthene	205992	0.0028 c	0.031 c
Benzo (ghi) Perylene	191242		
Benzo (k) Fluoranthene	207089	0.0028 c	0.031 c
Bis (2-Chloroethoxy) Methane	111911		
Bis (2-Chloroethyl) Ether	111444	0.031 a,c	1.4 a,c
Bis (2-Chloroisopropyl) Ether	108601	1400 a	170000 a
Bis (2-Ethylhexyl) Phthalate	117817	1.8 a,c	5.9 a,c

Substance	CAS Number	For AA and A Class Uses	For B Class Uses
4 - Bromophenyl Phenyl Ether	101553		
Butylbenzyl Phthalate	85687		
2 - Chloronaphthalene	91587		
4 - Chlorophenyl Phenyl Ether	7005723		
Chrysene	218019	0.0028 c	0.031 c
Dibenzo (a,h) Anthracene	53703	0.0028 c	0.031 c
1, 2 - Dichlorobenzene	95501	2700 a	17000 a
1, 3 - Dichlorobenzene	541731	400	2600
1, 4 - Dichlorobenzene	106467	400	2600
3, 3'- Dichlorobenzidine	91941	0.04 a,c	0.077 a,c
Diethyl Phthalate	84662	23000 a	120000 a
Dimethyl Phthalate	131113	313000	2900000
Di-n-Butyl Phthalate	84742	2700 a	12000 a
2, 4 - Dinitrotoluene	121142	0.11 c	9.1 c
2, 6 - Dinitrotoluene	606202		
Di-n-Octyl Phthalate	117840		
1, 2 - Diphenylhydrazine	122667	0.040 a,c	0.54 a,c
Fluoranthene	206440	300 a	370 a
Fluorene	86737	1300 a	14000 a
Hexachlorobenzene	118741	0.00075 a,c	0.00077 a,c
Hexachlorobutadiene	87683	0.44 a,c	50 a,c
Hexachlorocyclopentadiene	77474	240 a	17000 a,d
Hexachloroethane	67721	1.9 a,c	8.9 a,c
Indeno (1,2,3-cd) Pyrene	193395	0.0028 c	0.031 c
Isophorone	78591	8.4 a,c	600 a,c
Naphthalene	91203		
Nitrobenzene	98953	17 a	1900 a,d
N - Nitrosodimethylamine	62759	0.00069 a,c	8.1 a,c
N - Nitrosodi-n-Propylanline	621647		
N - Nitrosodiphenylamine	86306	5.0 a,c	16 a,c
Phenanthrene	85018		

Substance	CAS Number	For AA and A Class Uses	For B Class Uses
Pyrene	129000	960 a	11000 a
1, 2, 4 - Trichlorobenzene	120821		
Aldrin	309002	0.00013 a,c	0.00014 a,c
alpha - BHC	319846	0.0039 a,c	0.013 a,c
beta - BHC	319857	0.014 a,c	0.046 a,c
gamma - BHC	58899	0.019 c	0.063 c
delta - BHC	319868		
Chlordane	57749	0.00057 a,c	0.00059 a,c
4 -4' -DDI	50293	0.00059 a,c	0.00059 a,c
4 ,4' -DDE	72559	0.00059 a,c	0.00059 a,c
4 ,4' -DDD	72548	0.00083 a,c	0.00084 a,c
Dieldrin	60571	0.00014 a,c	0.00014 a,c
alpha -Endosulfan	959988	0.93 a	2.0 a
beta - Endosulfan	33213659	0.93 a	2.0 a
Endosulfan Sulfate	1031078	0.93 a	2.0 a
Endrin	72208	0.76 a	0.81 a,d
Endrin Aldehyde	7421934	0.76 a	0.81 a,d
Heptachlor	76448	0.00021 a,c	0.00021 a,c
Heptachlor Epoxide	1024573	0.00010 a,c	0.00011 a,c
PCB-1242	53469219	0.000044 a,c	0.000045 a,c
PCB-1254	11097691	0.000044 a,c	0.000045 a,c
PCB-1221	11104282	0.000044 a,c	0.000045 a,c
PCB-1232	11141165	0.000044 a,c	0.000045 a,c
PCB-1248	12672296	0.000044 a,c	0.000045 a,c
PCB-1260	11096825	0.000044 a,c	0.000045 a,c
PCB-1016	12674112	0.000044 a,c	0.000045 a,c
Toxaphene	8001352	0.00073 a,c	0.00075 a,c
Total No. of Criteria (h) =		91	90

Notes to Table:

- a. Criteria reflect EPA's cancer slope factor ("q1<sup>m</sup>") for carcinogenic toxics, reference dose ("RfD") for non-carcinogenic toxics, and bioconcentration factor ("BCF") as described in EPA's National Toxics Rule, 57 Fed. Reg. 60848 (1992) (codified at 40 C.F.R. pt. 131).

- b. The criteria refers to the inorganic form only.
- c. Criteria in the matrix based on carcinogenicity ( $10^{-6}$  risk).
- d. No criteria for protection of human health from consumption of aquatic organisms (excluding water) was presented in the 1980 criteria document or in the 1986 Quality Criteria for Water. Nevertheless, EPA has determined that sufficient information was presented in the 1980 document to allow a calculation of a criterion, even though the results of such a calculation were not shown in the document. See, EPA National Toxics Rule, 57 Fed. Reg. 60848, 60916 n."j" (1992) (codified at 40 C.F.R. pt. 131).
- e. The criterion for asbestos is the Maximum Contaminant Level ("MCL"). See, 56 Fed. Reg. 3562 (Jan. 30, 1991).
- f. EPA did not promulgate human health criteria for this contaminant. However, the Department may address this contaminant in permit actions using narrative criteria for toxics.

**General Note:**

- 1. This chart lists all of EPA's priority toxic pollutants whether or not criteria recommendations are available. Blank spaces indicate the absence of criteria recommendations by EPA. Because of variations in chemical nomenclature systems, this listing of toxic pollutants does not duplicate the listing in Appendix A of 40 C.F.R. Part 423. This chart includes the Chemical Abstracts Service ("CAS") registry numbers, which provide a unique identification for each chemical.

(5) USEPA, *Quality Criteria for Water*, 1986, shall be used in the use and interpretation of the values listed in paragraph (3) of this section.

(6) Concentrations of toxic, and other substances with toxic propensities not listed in paragraph (3) of this section shall be determined in consideration of USEPA's, *Quality Criteria for Water* (1986), and as revised, and other relevant information as appropriate.

(7) Risk-based criteria for carcinogenic substances shall be selected such that the upper-bound excess cancer risk is less than or equal to one in one million.

**Section 6. Radioactive Substances.**

(1) Deleterious concentrations of radioactive materials for all classes shall be as determined by the lowest practicable concentration attainable and in no case shall exceed:

(a) 1/100 of the values listed in WAC 246-221-290 (Column 2, Table II, Appendix A, rules and regulation for radiation protection); or

(b) USEPA Drinking Water Regulations for radionuclides, as published in the Federal Register of July 9, 1976, or subsequent revisions thereto.

(2) Nothing in this Ordinance shall be interpreted to be applicable to those aspects of governmental regulation of radioactive wastes which have been preempted from tribal regulation by the Atomic Energy Act of 1954, as amended.

**Section 7. General Classifications.**

General classifications applying to various surface water bodies not specifically classified under section 11 are as follows:

(1) All unclassified surface waters that are tributaries to Class AA waters are classified Class AA. All other unclassified surface waters are hereby classified Class A.

**Section 8. Antidegradation.**

The antidegradation policy of the Chehalis Indian Tribe is stated as follows:

(1) Existing beneficial uses shall be maintained and protected and no further degradation which would interfere with or become injurious to existing beneficial uses shall be allowed.

(2) Whenever the natural conditions of surface waters are of a lower quality than the criteria assigned, and uses are fully attained, the Department may determine that a site-specific criterion is appropriate. Such criterion shall be based on a determination of what constitutes the natural condition. If a natural condition varies with time, the natural condition will be determined as the highest quality prevailing natural condition measured during annual, seasonal, or shorter time period prior to influence of human-caused pollution. The Department may, at its discretion, determine a natural condition for one or more seasonal or shorter time periods to reflect variable ambient conditions. The Department shall formally adopt such revised criterion following public review and comment.

(3) Whenever waters are of a higher quality than the criteria assigned for said waters, the existing water quality shall be protected and waste and pollution of said waters which will reduce the existing quality shall not be allowed to enter such waters, except in those instances where:

(a) It is clear, after satisfactory public participation and intergovernmental coordination, that overriding considerations of the public interest will be served;

(b) All wastes and other materials and substances discharged into said waters shall be provided with all known, available, and reasonable methods of prevention, control, and treatment by new and existing point sources before discharge. All activities which result in the pollution of waters from nonpoint sources shall be provided with [AKART/BMP] all known, available, and reasonable best management practices, and;

(c) When the lowering of water quality in high quality waters is

authorized, the lower quality shall still be of high enough quality to fully support all existing beneficial uses.

(4) Short-term modification of water quality may be permitted as conditioned by Section 10.

(5) Whenever high quality waters constitute an outstanding National resource, such as waters of National or Tribal parks and wildlife refuges or waters of exceptional recreational and ecological significance, that water quality shall be maintained and protected.

(6) In those cases where potential water quality impairment associated with a thermal discharge is involved, the antidegradation policy and implementing method shall be consistent with section 316 of the Clean Water Act.

### **Section 9. Mixing Zones.**

(1) The allowable size and location of a mixing zone and the associated effluent limits shall be established in discharge permits, general permits, or orders, as appropriate.

(2) A discharger shall be required to fully apply AKART prior to being authorized a mixing zone.

(3) Mixing zone determinations shall consider critical discharge conditions.

(4) No mixing zone shall be granted unless the supporting information clearly indicates the mixing zone would not have a reasonable potential to result in a loss of sensitive or important habitat, substantially interfere with the existing or characteristic uses of the water body, result in damage to the ecosystem, or adversely affect public health as determined by the Department.

(5) 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.

(6) The size of a mixing zone and the concentrations of pollutants present shall be minimized.

(7) The maximum size of a mixing zone shall comply with the following:

(a) In rivers and streams, mixing zones, singularly or in combination with other mixing zones, shall comply with the most restrictive combination of the following:

(i) Not extend in a downstream direction for a distance from the discharge port(s) greater than three hundred feet plus the depth of water over the discharge port(s), or extend upstream for a distance of over one hundred feet;

- (ii) Not utilize greater than twenty-five percent of the flow; and
- (iii) Not occupy greater than twenty-five percent of the width of the water body.

(8) Acute criteria are based on numeric criteria and toxicity tests approved by the Department, as generally guided under Section 5, and shall be met as near to the point of discharge as practicably attainable. Compliance shall be determined by monitoring data or calibrated models approved by the Department utilizing representative dilution ratios. A zone where acute criteria may be exceeded is allowed only if it can be demonstrated to the Department's satisfaction the concentration of, and duration and frequency or exposure to the discharge, will not create a barrier to the migration or translocation of indigenous organisms to a degree that has the potential to cause damage to the ecosystem. A zone of acute criteria exceedance shall singularly or in combination with other such zones comply with the following maximum size requirements:

(a) In rivers and streams, a zone where acute criteria may be exceeded shall comply with the most restrictive combination of the following:

- (i) Not extend beyond ten percent of the distance to the upstream and downstream boundaries of an authorized mixing zone, as measured independently from the discharge port(s);
- (ii) Not utilize greater than two and one-half percent of the flow; and
- (iii) Not occupy greater than twenty-five percent of the width of the water body.

(9) Overlap of mixing zones:

(a) Where allowing the overlap of mixing zones would result in a combined area of water quality criteria non-attainment which does not exceed the numeric size limits established under paragraph (7) of this section, the overlap may be permitted if:

- (i) The separate and combined effects of the discharges can be reasonably determined; and
- (ii) The combined effects would not create a barrier to the migration or translocation of indigenous organisms to a degree that has the potential to cause damage to the ecosystem.

(b) Where allowing the overlap of mixing zones would result in exceedance of the numeric size limits established under paragraph (7) of this section, the overlap may be allowed only where:

(i) The overlap qualifies for exemption under paragraph (12) and (13) of this section; and

(ii) The overlap meets the requirements established in paragraph (9)(a) of this section.

(10) Storm water:

(a) Storm water discharge from any "point source" containing "process wastewater" as defined in 40 C.F.R. Part 122.2 shall fully conform to the numeric size criteria in paragraphs (7) and (8) of this section and the overlap criteria in paragraph (9) of this section.

(b) Storm water discharges not described by (a) of this paragraph may be granted an exemption to the numeric size criteria in paragraphs (7) and (8) of this section and the overlap criteria in paragraph (9) of this section, provided the discharger clearly demonstrates to the Department's satisfaction that:

(i) All appropriate [BMP] best management practices established for storm water pollutant control have been applied to the discharge;

(ii) The proposed mixing zone shall not have a reasonable potential to result in a loss of sensitive or important habitat, substantially interfere with the existing or characteristic use of the water body, result in damage to the ecosystem, or adversely affect public health as determined by the Department, and;

(iii) The proposed mixing zone shall not create a barrier to the migration or translocation of indigenous organisms to a degree that has the potential to cause damage to the ecosystem.

(c) All mixing zones for storm water discharges shall be based on a volume of runoff corresponding to a design storm approved by the Department. Exceedances from the numeric size criteria in paragraphs (7) and (8) of this section and the overlap criteria in paragraph (9) of this section due to precipitation events greater than the approved design storm may be allowed by the Department, if it would not result in adverse impact to existing or characteristic uses of the water body or result in damage to the ecosystem, or adversely affect public health as determined by the Department.

(11) Combined sewer overflows may be allowed an average once per year exemption to the numeric size criteria in paragraphs (7) and (8) of this section and the overlap criteria in paragraph (9) of this section, provided the discharge complies with paragraph (4) of this section.



(12) Exceedances from the numeric size criteria in paragraphs (7) and (8) of this section and the overlap criteria in paragraph (9) of this section may be considered by the Department in the following cases:

(a) For discharges existing prior to November 24, 1992, (or for proposed discharges with engineering plans formally approved by the Department prior to November 24, 1992);

(b) Where altering the size configuration is expected to result in greater protection to existing and characteristic uses;

(c) Where the volume of water in the effluent is providing a greater benefit to the existing or characteristic uses of the water body due to flow augmentation than the benefit of removing the discharge, if such removal is the remaining feasible option; and

(d) Where the exceedance is clearly necessary to accommodate important economic or social development in the area in which the waters are located.

(13) Before an exceedance from the numeric size criteria may be allowed under paragraph (12) of this section, it must clearly be demonstrated to the Department's satisfaction that:

(a) AKART appropriate to the discharge is being fully applied;

(b) All siting, technological, and managerial options which would result in full or significantly closer compliance that are economically achievable are being utilized, and;

(c) The proposed mixing zone complies with paragraph (4) of this section.

(14) Any exemptions granted to the size criteria under paragraph (12) of this section shall be reexamined during each permit renewal period for changes in compliance capability. Any significant increase in capability to comply shall be reflected in the renewed discharge permit.

(15) The Department may establish permit limits and measures of compliance for human health based criteria (based on lifetime exposure levels), independent of this section.

## **Section 10. Short-Term Modifications.**

(1) The criteria and special conditions established in Section 3 through Section 12 may be modified for a specific water body on a short-term basis when necessary to accommodate essential activities, respond to emergencies, or to otherwise protect the public interest, even though such activities may result in a temporary reduction of water quality conditions below those criteria established by this Ordinance. Such modification

shall be issued in writing by the Director or his/her designee subject to such terms and conditions as he/she may prescribe, and such modification shall not exceed a twelve-month period.

(2) In no case will any degradation of water quality be allowed if this degradation significantly interferes with or becomes injurious to existing water uses or causes long-term harm to the environment.

(3) Notwithstanding the above, the aquatic application of herbicides which result in water use restrictions shall be considered an activity for which a short-term modification generally may be issued subject to the following conditions:

(a) A request for a short-term modification shall be made to the Department on forms supplied by the Department. Such request generally shall be made at least thirty days prior to herbicide application;

(b) Such herbicide application shall be in accordance with label provisions promulgated by USEPA under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended (*See*, 7 U.S.C. 136, *et seq.*);

(c) Notice, including identification of the herbicide, applicator, location where the herbicide will be applied, proposed timing and method of application, and water use restrictions shall be given according to the following requirements:

(i) Appropriate public notice as determined and prescribed by the Director or his/her designee shall be given of any water use restrictions specified in USEPA label provisions;

(ii) The Chehalis Indian Tribe's Department of Fisheries shall be notified twenty-four (24) hours prior to herbicide application; and

(iii) In the event of any fish kills, the Chehalis Indian Tribe's Departments of Natural Resources and fisheries shall be notified immediately;

(d) The herbicide application shall be made at times so as to:

(i) Minimize public water use restrictions during weekends; and

(ii) Completely avoid public water use restrictions during the opening week of fishing season, Memorial Day weekend, Independence Day weekend, and Labor Day weekend.

(e) Any additional conditions as may be prescribed by the Director or his/her designee.

**Section 11. Specific Classifications -- Freshwater.**

Specific fresh surface waters of the Chehalis Indian Tribe are classified as follows:

- (1) Class A - Chehalis River from around river mile 44.5 to around river mile 52.5 within the Chehalis Reservation.
  - (2) Class A - Black River from its confluence with the Chehalis River to around river mile 3.5 within the Chehalis Reservation.
  - (3) Class A - Willamette Creek from its confluence with the Black River to its headwaters within the Chehalis Reservation.
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### **Section 13. Implementation.**

#### *(4) Allowance for Compliance Schedules:*

(a) Permits, Orders, and Directives for existing discharges may include a schedule for achieving compliance with water quality criteria contained in this Ordinance. Such schedules of compliance shall be developed to ensure final compliance with all water quality-based effluent limits in the shortest practicable time. Decisions regarding whether to issue schedules of compliance will be made on a case-by-case basis by the Department. Schedules of compliance may not be issued for new discharges. Schedules of compliance may be issued to allow for: (1) construction of necessary treatment capability; (2) implementation of necessary BMP; (3) implementation of additional storm water BMP for discharges determined not to meet water quality criteria following implementation of an initial set of BMP; (4) completion of necessary water quality studies; or (5) resolution of a pending water quality standards' issued through rulemaking action.

(b) For the period of time during which compliance with water quality criteria is deferred, interim effluent limitations shall be formally established, based on the best professional judgement of the Department.

(c) Prior to establishing a schedule of compliance, the Department shall require the discharger to evaluate the possibility of achieving water quality criteria through non-construction changes (*e.g.*, facility operation, pollution prevention). Schedules of compliance may in no case exceed ten years, and shall generally not exceed the term of any permit.