

# Chapter 173-201A WAC

## WATER QUALITY STANDARDS FOR SURFACE WATERS OF THE STATE OF WASHINGTON

**WAC**

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**WAC 173-201A-010 Introduction.** (1) The purpose of this chapter is to establish water quality standards for surface waters of the state of Washington consistent with public health and public enjoyment thereof, and the propagation and protection of fish, shellfish, and wildlife, pursuant to the provisions of chapter 90.48 RCW and the policies and purposes thereof.

(2) This chapter shall be reviewed periodically by the department and appropriate revisions shall be undertaken.

(3) The water use and quality criteria set forth in WAC 173-201A-030 through 173-201A-140 are established in conformance with present and potential water uses of the surface waters of the state of Washington and in consideration of the natural water quality potential and limitations of the same. Compliance with the surface water quality standards of the state of Washington require compliance with chapter 173-201A WAC, Water quality standards for surface waters of the state of Washington, and chapter 173-204 WAC, Sediment management standards.

[Statutory Authority: Chapter 90.48 RCW, 92-24-037 (Order 92-29), § 173-201A-010, filed 11/25/92, effective 12/26/92.]

**WAC 173-201A-020 Definitions.** The following definitions are intended to facilitate the use of chapter 173-201A WAC:

"Action value" means a total phosphorus (TP) value established at the upper limit of the trophic states in each ecoregion. Exceedance of an action value indicates that a problem is suspected. A lake-specific study may be needed to confirm if a nutrient problem exists.

"Acute 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 short-term exposure to the substance or detrimental environmental condition.

"AKART" is an acronym for "all known, available, and reasonable methods of prevention, control, and treatment."

(11/18/97)

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

"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 locations in an enforcement action would be up-gradient 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 up-gradient from each discharge. When assessing background conditions in the headwaters of a disturbed watershed it may be necessary to use the background conditions of a neighboring or similar watershed as the reference conditions.

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

"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.

"Bog" means those wetlands that are acidic, peat forming, and whose primary water source is precipitation, with little, if any, outflow.

"Carcinogen" means any substance or agent that produces or tends to produce cancer in humans. For implementation of this chapter, the term carcinogen will apply to substances on the 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 United States Environmental Protection Agency's Guidelines for Carcinogenic Risk Assessment as set forth in 51 FR 33992 et seq. as presently published or as subsequently amended or republished.

"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

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repeated or constant exposure over an extended period of time to a substance or detrimental environmental condition.

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

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

"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.

"Department" means the state of Washington department of ecology.

"Director" means the director of the state of Washington department of ecology.

"Drainage ditch" means that portion of a designed and constructed conveyance system that serves the purpose of transporting surplus water; this may include natural water courses or channels incorporated in the system design, but does not include the area adjacent to the water course or channel.

"Ecoregions" are defined using EPA's *Ecoregions of the Pacific Northwest* Document No. 600/3-86/033 July 1986 by Omernik and Gallant.

"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 hours at 44.5 plus or minus 0.2 degrees Celsius.

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

"Ground water exchange" means the discharge and recharge of ground water to a surface water. Discharge is inflow from an aquifer, seeps or springs that increases the available supply of surface water. Recharge is outflow down-gradient to an aquifer or downstream to surface water for base flow maintenance. Exchange may include ground water discharge in one season followed by recharge later in the year.

"Hardness" means a measure of the calcium and magnesium salts present in water. For purposes of this chapter, hardness is measured in milligrams per liter and expressed as calcium carbonate (CaCO<sub>3</sub>).

"Irrigation ditch" means that portion of a designed and constructed conveyance system that serves the purpose of transporting irrigation water from its supply source to its place of use; this may include natural water courses or chan-

nels incorporated in the system design, but does not include the area adjacent to the water course or channel.

"Lakes" shall be distinguished from riverine systems as being water bodies, including reservoirs, with a mean detention time of greater than fifteen days.

"Lake-specific study" means a study intended to quantify existing nutrient concentrations, determine existing characteristic uses for lake class waters, and potential lake uses. The study determines how to protect these uses and if any uses are lost or impaired because of nutrients, algae, or aquatic plants. An appropriate study must recommend a criterion for total phosphorus (TP), total nitrogen (TN) in µg/l, or other nutrient that impairs characteristic uses by causing excessive algae blooms or aquatic plant growth.

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

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

"Mixing zone" means that portion of 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 WAC 173-201A-100.

"Natural conditions" or "natural background levels" means surface water quality that was present before any human-caused pollution. When estimating natural conditions in the headwaters of a disturbed watershed it may be necessary to use the less disturbed conditions of a neighboring or similar watershed as a reference condition.

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

"Permit" means a document issued pursuant to RCW 90.48.160 et seq. or RCW 90.48.260 or both, specifying the waste treatment and control requirements and waste discharge conditions.

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

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

"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.

"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.

"Shoreline stabilization" means the anchoring of soil at the water's edge, or in shallow water, by fibrous plant root complexes; this may include long-term accretion of sediment or peat, along with shoreline progradation in such areas.

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

"Storm water attenuation" means the process by which peak flows from precipitation are reduced and runoff velocities are slowed as a result of passing through a surface water body.

"Surface waters of the state" includes lakes, rivers, ponds, streams, inland waters, saltwaters, wetlands and all other surface waters and water courses within the jurisdiction of the state of Washington.

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

"Treatment wetlands" means those wetlands intentionally constructed on nonwetland sites and managed for the primary purpose of wastewater or storm water treatment. Treatment wetlands are considered part of a collection and treatment system, and generally are not subject to the criteria of this chapter.

"Trophic state" means a classification of the productivity of a lake ecosystem. Lake productivity depends on the amount of biologically available nutrients in water and sediments and may be based on total phosphorus (TP). Secchi depth and chlorophyll-a measurements may be used to improve the trophic state classification of a lake. Trophic states used in this rule include, from least to most nutrient rich, ultra-oligotrophic, oligotrophic, lower mesotrophic, upper mesotrophic, and eutrophic.

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

"Upwelling" means the natural process along Washington's Pacific Coast where the summer prevailing northerly winds produce a seaward transport of surface water. Cold, deeper more saline waters rich in nutrients and low in dissolved oxygen, rise to replace the surface water. The cold oxygen deficient water enters Puget Sound and other coastal estuaries at depth where it displaces the existing deep water and eventually rises to replace the surface water. Such surface water replacement results in an overall increase in salinity and nutrients accompanied by a depression in dissolved oxygen. Localized upwelling of the deeper water of Puget Sound can occur year-round under influence of tidal currents, winds, and geomorphic features.

"USEPA" means the United States Environmental Protection Agency.

"Wetlands" means areas that are inundated or saturated by surface water or ground water at a frequency and duration sufficient to support, and that under normal circumstances do

support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands do not include those artificial wetlands intentionally created from nonwetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities, or those wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street, or highway. Wetlands may include those artificial wetlands intentionally created from nonwetland areas to mitigate the conversion of wetlands. (Waterbodies not included in the definition of wetlands as well as those mentioned in the definition are still waters of the state.)

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

[Statutory Authority: Chapter 90.48 RCW and 40 CFR 131.97-23-064 (Order 94-19), § 173-201A-020, filed 11/18/97, effective 12/19/97. Statutory Authority: Chapter 90.48 RCW, 92-24-037 (Order 92-29), § 173-201A-020, filed 11/25/92, effective 12/26/92.]

**WAC 173-201A-030 General water use and criteria classes.** The following criteria shall apply to the various classes of surface waters in the state of Washington:

**(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 and shellfish:

Salmonid migration, rearing, spawning, and harvesting.

Other fish migration, rearing, spawning, and harvesting.

Clam, oyster, and mussel rearing, spawning, and harvesting.

Crustaceans and other shellfish (crabs, shrimp, crayfish, scallops, etc.) rearing, spawning, and harvesting.

(iv) Wildlife habitat.

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

(vi) Commerce and navigation.

(c) Water quality criteria:

(i) Fecal coliform organisms:

(A) Freshwater - fecal coliform organism levels shall both not exceed a geometric mean value of 50 colonies/100 mL and not have more than 10 percent of all samples obtained for calculating the geometric mean value exceeding 100 colonies/100 mL.

(B) Marine water - fecal coliform organism levels shall both not exceed a geometric mean value of 14 colonies/100 mL, and not have more than 10 percent of all samples obtained for calculating the geometric mean value exceeding 43 colonies/100 mL.

(ii) Dissolved oxygen:

(A) Freshwater - dissolved oxygen shall exceed 9.5 mg/L.

(B) Marine water - dissolved oxygen shall exceed 7.0 mg/L. When natural conditions, such as upwelling, occur, causing the dissolved oxygen to be depressed near or below 7.0 mg/L, natural dissolved oxygen levels may be degraded by up to 0.2 mg/L by human-caused activities.

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

(iv) Temperature shall not exceed 16.0°C (freshwater) or 13.0°C (marine water) due to human activities. When natural conditions exceed 16.0°C (freshwater) and 13.0°C (marine water), no temperature increases 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  $t=23/(T+5)$  (freshwater) or  $t=8/(T-4)$  (marine water). 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 (freshwater) or 7.0 to 8.5 (marine water) with a human-caused variation within the above 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 (see WAC 173-201A-040 and 173-201A-050).

(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 and shellfish:

Salmonid migration, rearing, spawning, and harvesting.

Other fish migration, rearing, spawning, and harvesting.

Clam, oyster, and mussel rearing, spawning, and harvesting.

Crustaceans and other shellfish (crabs, shrimp, crayfish, scallops, etc.) rearing, spawning, and harvesting.

(iv) Wildlife habitat.

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

(vi) Commerce and navigation.

(c) Water quality criteria:

(i) Fecal coliform organisms:

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

(B) Marine water - fecal coliform organism levels shall both not exceed a geometric mean value of 14 colonies/100 mL, and not have more than 10 percent of all samples obtained for calculating the geometric mean value exceeding 43 colonies/100 mL.

(ii) Dissolved oxygen:

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

(B) Marine water - dissolved oxygen shall exceed 6.0 mg/L. When natural conditions, such as upwelling, occur, causing the dissolved oxygen to be depressed near or below 6.0 mg/L, natural dissolved oxygen levels may be degraded by up to 0.2 mg/L by human-caused activities.

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

(iv) Temperature shall not exceed 18.0°C (freshwater) or 16.0°C (marine water) due to human activities. When natural conditions exceed 18.0°C (freshwater) and 16.0°C (marine water), no temperature increases 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  $t=28/(T+7)$  (freshwater) or  $t=12/(T-2)$  (marine water). 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 (freshwater) or 7.0 to 8.5 (marine water) with a human-caused variation within the above 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 (see WAC 173-201A-040 and 173-201A-050).

(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 and shellfish:

Salmonid migration, rearing, and harvesting.

Other fish migration, rearing, spawning, and harvesting.

Clam, oyster, and mussel rearing and spawning.

Crustaceans and other shellfish (crabs, shrimp, crayfish, scallops, etc.) 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:

(i) Fecal coliform organisms:

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

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

(ii) Dissolved oxygen:

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

(B) Marine water - dissolved oxygen shall exceed 5.0 mg/L. When natural conditions, such as upwelling, occur, causing the dissolved oxygen to be depressed near or below 5.0 mg/L, natural dissolved oxygen levels may be degraded by up to 0.2 mg/L by human-caused activities.

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

(iv) Temperature shall not exceed 21.0°C (freshwater) or 19.0°C (marine water) due to human activities. When natural conditions exceed 21.0°C (freshwater) and 19.0°C (marine water), no temperature increases 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  $t=34/(T+9)$  (freshwater) or  $t=16/(T)$  (marine water). 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 (freshwater) and 7.0 to 8.5 (marine water) with a human-caused variation within the above 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 (see WAC 173-201A-040 and 173-201A-050).

(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).

(a) General characteristic. Water quality of this class shall meet or exceed the requirements of selected and essential uses.

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

(i) Water supply (industrial).

(ii) Fish (salmonid and other fish migration).

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

(iv) Commerce and navigation.

(c) Water quality criteria - marine water:

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

(ii) Dissolved oxygen shall exceed 4.0 mg/L. When natural conditions, such as upwelling, occur, causing the dissolved oxygen to be depressed near or below 4.0 mg/L, natural dissolved oxygen levels may be degraded by up to 0.2 mg/L by human-caused activities.

(iii) Temperature shall not exceed 22.0°C due to human activities. When natural conditions exceed 22.0°C, no temperature increases will be allowed which will raise the receiving water temperature by greater than 0.3°C.

Incremental temperature increases shall not, at any time, exceed  $t=20/(T+2)$ .

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.

(iv) pH shall be within the range of 6.5 to 9.0 with a human-caused variation within a range of less than 0.5 units.

(v) 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.

(vi) 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 (see WAC 173-201A-040 and 173-201A-050).

(vii) Aesthetic values shall not be interfered with by the presence of obnoxious wastes, slimes, aquatic growths, or materials which will taint the flesh of edible species.

**(5) Lake class.**

(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 and shellfish:

Salmonid migration, rearing, spawning, and harvesting.

Other fish migration, rearing, spawning, and harvesting.

Clam and mussel rearing, spawning, and harvesting.

Crayfish rearing, spawning, and harvesting.

(iv) Wildlife habitat.

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

(vi) Commerce and navigation.

(c) Water quality criteria:

(i) Fecal coliform organism levels shall both not exceed a geometric mean value of 50 colonies/100 mL, and not have

more than 10 percent of all samples obtained for calculating the geometric mean value exceeding 100 colonies/100 mL.

(ii) Dissolved oxygen - no measurable decrease from natural conditions.

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

(iv) Temperature - no measurable change from natural conditions.

(v) pH - no measurable change from natural conditions.

(vi) Turbidity shall not exceed 5 NTU over background conditions.

(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 (see WAC 173-201A-040 and 173-201A-050).

(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.

**(6) Establishing lake nutrient criteria.**

(a) The following table shall be used to aid in establishing nutrient criteria:

(WAC 173-201A-030, Table 1) See table on following page.

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Coast Range, Puget Lowlands, and Northern Rockies Ecoregions:		
Trophic State	If Ambient TP (µg/l) Range of Lake is:	Then criteria should be set at:
Ultra-oligotrophic	0-4	4 or less
Oligotrophic	>4-10	10 or less
Lower mesotrophic	>10-20	20 or less
	<u>Action Value</u>	
	>20	lake specific study may be initiated
Cascades Ecoregion:		
Trophic State	If Ambient TP (µg/l) Range of Lake is:	Then criteria should be set at:
Ultra-oligotrophic	0-4	4 or less
Oligotrophic	>4-10	10 or less
	<u>Action Value</u>	
	>10	lake specific study may be initiated
Columbia Basin Ecoregion:		
Trophic State	If Ambient TP (µg/l) Range of Lake is:	Then criteria should be set at:
Ultra-oligotrophic	0-4	4 or less
Oligotrophic	>4-10	10 or less
Lower mesotrophic	>10-20	20 or less
Upper mesotrophic	>20-35	35 or less
	<u>Action Value</u>	
	>35	lake specific study may be initiated.

Lakes in the Willamette, East Cascade Foothills, or Blue Mountain ecoregions do not have recommended values and need to have lake-specific studies in order to receive criteria as described in (c)(i) of this subsection.

(b) The following actions are recommended if ambient monitoring of a lake shows the epilimnetic total phosphorus concentration, as shown in Table 1 of this section, is below the action value for an ecoregion:

(i) Determine trophic status from existing or newly gathered data. The recommended minimum sampling to determine trophic status is calculated as the mean of four or more samples collected from the epilimnion between June through September in one or more consecutive years. Sampling must be spread throughout the season.

(ii) Propose criteria at or below the upper limit of the trophic state; or

(iii) Conduct lake-specific study to determine and propose to adopt appropriate criteria as described in (c) of this subsection.

(c) The following actions are recommended if ambient monitoring of a lake shows total phosphorus to exceed the action value for an ecoregion shown in Table 1 of this section or where recommended ecoregional action values do not exist:

(i) Conduct a lake-specific study to evaluate the characteristic uses of the lake. A lake-specific study may vary depending on the source or threat of impairment. Phytoplankton blooms, toxic phytoplankton, or excessive aquatic plants, are examples of various sources of impairment. The following are examples of quantitative measures that a study may describe: Total phosphorus, total nitrogen, chlorophyll-a, dissolved oxygen in the hypolimnion if thermally stratified, pH, hardness, or other measures of existing conditions and potential changes in any one of these parameters.

(ii) Determine appropriate total phosphorus concentrations or other nutrient criteria to protect characteristic lake uses. If the existing total phosphorus concentration is protective of characteristic lake uses, then set criteria at existing total phosphorus concentration. If the existing total phosphorus concentration is not protective of the existing characteristic lake uses, then set criteria at a protective concentration. Proposals to adopt appropriate total phosphorus criteria to protect characteristic uses must be developed by considering technical information and stakeholder input as part of a public involvement process equivalent to the Administrative Procedure Act (chapter 34.05 RCW).

(iii) Determine if the proposed total phosphorus criteria necessary to protect characteristic uses is achievable. If the recommended criterion is not achievable and if the characteristic use the criterion is intended to protect is not an existing use, then a higher criterion may be proposed in conformance with 40 CFR part 131.10.

(d) The department will consider proposed lake-specific nutrient criteria during any water quality standards rule making that follows development of a proposal. Adoption by rule formally establishes the criteria for that lake.

(e) Prioritization and investigation of lakes by the department will be initiated by listing problem lakes in a watershed needs assessment, and scheduled as part of the water quality program's watershed approach to pollution control. This pri-

oritization will apply to lakes identified as warranting a criteria based on the results of a lake-specific study, to lakes warranting a lake-specific study for establishing criteria, and to lakes requiring restoration and pollution control measures due to exceedance of an established criterion. The adoption of nutrient criteria are generally not intended to apply to lakes or ponds with a surface area smaller than five acres; or to ponds wholly contained on private property owned and surrounded by a single landowner; and nutrients do not drain or leach from these lakes or private ponds to the detriment of other property owners or other water bodies; and do not impact designated uses in the lake. However, if the landowner proposes criteria the department may consider adoption.

(f) The department may not need to set a lake-specific criteria or further investigate a lake if existing water quality conditions are naturally poorer (higher TP) than the action value and uses have not been lost or degraded, per WAC 173-201A-070(2).

[Statutory Authority: Chapter 90.48 RCW and 40 CFR 131.97-23-064 (Order 94-19), § 173-201A-030, filed 11/18/97, effective 12/19/97. Statutory Authority: Chapter 90.48 RCW, 92-24-037 (Order 92-29), § 173-201A-030, filed 11/25/92, effective 12/26/92.]

**WAC 173-201A-040 Toxic substances.** (1) Toxic substances shall not be introduced above natural background levels in waters of the state which have the potential either singularly or cumulatively to adversely affect characteristic water uses, cause acute or chronic toxicity to the most sensitive biota dependent upon those waters, or adversely affect public health, as determined by the department.

(2) The department shall employ or require chemical testing, acute and chronic toxicity testing, and biological assessments, as appropriate, to evaluate compliance with subsection (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 state of Washington for the protection of aquatic life. The department may revise the following criteria on a state-wide or waterbody-specific basis as needed to protect aquatic life occurring in waters of the state and to increase the technical accuracy of the criteria being applied. The department shall formally adopt any appropriate revised criteria as part of this chapter in accordance with the provisions established in chapter 34.05 RCW, the Administrative Procedure Act. The department shall ensure there are early opportunities for public review and comment on proposals to develop revised criteria. Values are µg/L for all substances except Ammonia and Chloride which are mg/L:

Substance	Freshwater		Marine Water	
	Acute	Chronic	Acute	Chronic
Aldrin/Dieldrin	2.5a	0.0019b	0.71a	0.0019b
Ammonia (un-ionized NH <sub>3</sub> ) hh	f,c	g,d	0.233h,c	0.035h,d
Arsenic dd	360.0c	190.0d	69.0c,II	36.0d, cc,II
Cadmium dd	i,c	j,d	42.0c	9.3d
Chlordane	2.4a	0.0043b	0.09a	0.004b

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Substance	Freshwater		Marine Water	
	Acute	Chronic	Acute	Chronic
Chloride (Dissolved) k	860.0h.c	230.0h.d	-	-
Chlorine (Total Residual)	19.0c	11.0d	13.0c	7.5d
Chlorpyrifos	0.083c	0.041d	0.011c	0.0056d
Chromium (Hex) dd	15.0c.l.ii	10.0d.jj	1.100.0c.l.II	50.0d.II
Chromium (Tri) gg	m.c	n.d	-	-
Copper dd	o.c	p.d	4.8c.II	3.1d.II
Cyanide ee	22.0c	5.2d	1.0c,mm	-
DDT (and metabolites)	1.1a	0.001b	0.13a	0.001b
Dieldrin/Aldrin e	2.5a	0.0019b	0.71a	0.0019b
Endosulfan	0.22a	0.056b	0.034a	0.0087b
Endrin	0.18a	0.0023b	0.037a	0.0023b
Heptachlor	0.52a	0.0038b	0.053a	0.0036b
Hexachlorocyclohexane (Lindane)	2.0a	0.08b	0.16a	-
Lead dd	q.c	r.d	210.0c.II	8.1d.II
Mercury s	2.1c.kk.dd	0.012d.ff	1.8c.II.dd	0.025d.ff
Nickel dd	t.c	u.d	74.0c.II	8.2d.II
Parathion	0.065c	0.013d	-	-
Pentachlorophenol (PCP) Polychlorinated	w.c	v.d	13.0c	7.9d
Biphenyls (PCBs)	2.0b	0.014b	10.0b	0.030b
Selenium	20.0c,ff	5.0d,ff	290c.II.dd	71.0d, x.II.dd
Silver dd	y,a	-	1.9a,II	-
Toxaphene	0.73c,z	0.0002d	0.21c,z	0.0002d
Zinc dd	aa,c	bb,d	90.0c.II	81.0d.II

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:

$$0.52 + (FT)(FPH)(2)$$

where:  $FT = 10^{(0.03(20-TCAP))}$ ;  $TCAP \leq T \leq 30$

$FT = 10^{(0.03(20-T))}$ ;  $0 \leq T \leq TCAP$

$FPH = 1$ ;  $8 \leq pH \leq 9$

$FPH = (1 + 10^{(7.4-pH)}) + 1.25$ ;  $6.5 \leq pH \leq 8.0$

TCAP= 20°C: Salmonids present.

TCAP= 25°C: Salmonids absent.

- g. Shall not exceed the numerical value given by:

$$0.80 + (FT)(FPH)(RATIO)$$

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

$RATIO =$

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

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

TCAP= 15°C: Salmonids present.

TCAP= 20°C: Salmonids absent.

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

i.  $\leq (0.944)(e^{(1.128[\ln(\text{hardness})]-3.828)})$  at hardness= 100. Conversion factor (CF) of 0.944 is hardness dependent. CF is calculated for other hardnesses as follows:  $CF = 1.136672 - \{(\ln \text{hardness})(0.041838)\}$ .

j.  $\leq (0.909)(e^{(0.7852[\ln(\text{hardness})]-3.490)})$  at hardness= 100. Conversion factor (CF) of 0.909 is hardness dependent. CF is calculated for other hardnesses as follows:  $CF = 1.101672 - \{(\ln \text{hardness})(0.041838)\}$ .

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 1-hour average may not be sufficiently protective.

m.  $\leq (0.316)(e^{(0.8190[\ln(\text{hardness})]+3.688)})$

n.  $\leq (0.860)(e^{(0.8190[\ln(\text{hardness})]+1.561)})$

o.  $\leq (0.960)(e^{(0.9422[\ln(\text{hardness})]-1.464)})$

p.  $\leq (0.960)(e^{(0.8545[\ln(\text{hardness})]-1.465)})$

q.  $\leq (0.791)(e^{(1.273[\ln(\text{hardness})]-1.460)})$  at hardness= 100. Conversion factor (CF) of 0.791 is hardness dependent. CF is calculated for other hardnesses as follows:  $CF = 1.46203 - \{(\ln \text{hardness})(0.145712)\}$ .

r.  $\leq (0.791)(e^{(1.273[\ln(\text{hardness})]-4.705)})$  at hardness= 100. Conversion factor (CF) of 0.791 is hardness dependent. CF is calculated for other hardnesses as follows:  $CF = 1.46203 - \{(\ln \text{hardness})(0.145712)\}$ .

s. If the four-day average chronic concentration is exceeded more than once in a three-year period, the edible portion of the consumed species should be analyzed. Said edible tissue concentrations shall not be allowed to exceed 1.0 mg/kg of methylmercury.

t.  $\leq (0.998)(e^{(0.8460[\ln(\text{hardness})]+3.3612)})$

u.  $\leq (0.997)(e^{(0.8460[\ln(\text{hardness})]+1.1645)})$

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

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

x. The status of the fish community should be monitored whenever the concentration of selenium exceeds 5.0 ug/l in salt water.

y.  $\leq (0.85)(e^{(1.72[\ln(\text{hardness})]-6.52)})$

z. Channel Catfish may be more acutely sensitive.

aa.  $\leq (0.978)(e^{(0.8473[\ln(\text{hardness})]+0.8604)})$

bb.  $\leq (0.986)(e^{(0.8473[\ln(\text{hardness})]+0.7614)})$

cc. Nonlethal effects (growth, C-14 uptake, and chlorophyll production) to diatoms (Thalassiosira aestivalis and Skeletonema costatum) which are common to Washington's waters have been noted at levels below the established criteria. The importance of these effects to the diatom populations and the aquatic system is sufficiently in question to persuade the state to adopt the USEPA National Criteria value (36 ug/L) as the state threshold criteria, however, wherever practical the ambient concentrations should not be allowed to exceed a chronic marine concentration of 21 ug/L.

dd. These ambient criteria in the table are for the dissolved fraction. The cyanide criteria are based on the weak acid dissociable method. The metals criteria may not be used to calculate total recoverable effluent limits unless the seasonal partitioning of the dissolved to total metals in the ambient water are known. When this information is absent, these metals criteria shall be applied as total recoverable values, determined by back-calculation, using the conversion factors incorporated in the criterion equations. Metals criteria may be adjusted on a site-specific basis when data are 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, December 1983, 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 in the permit fact sheet developed pursuant to WAC 173-220-060 or 173-226-110, as appropriate.

ate, and shall be made available for the public comment period required pursuant to WAC 173-220-050 or 173-226-130(3), as appropriate.

- ee. 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-CN 1, and as revised (see footnote dd. above).
- ff. These criteria are based on the total-recoverable fraction of the metal.
- gg. Where methods to measure trivalent chromium are unavailable, these criteria are to be represented by total-recoverable chromium.
- hh. 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. Criteria concentrations based on total ammonia for marine water can be found in USEPA Ambient Water Quality Criteria for Ammonia (Saltwater)-1989, EPA440/5-88-004, April 1989.
- ii. Conversion factor to calculate dissolved metal concentration is 0.982.
- jj. Conversion factor to calculate dissolved metal concentration is 0.962.
- kk. Conversion factor to calculate dissolved metal concentration is 0.85.
- ll. Marine conversion factors (CF) used for calculating dissolved metals concentrations. Conversion factors are applicable to both acute and chronic criteria for all metals except mercury. CF for mercury is applicable to the acute criterion only. Conversion factors are already incorporated into the criteria in the table. Dissolved criterion = criterion x CF

Metal	CF
Arsenic	1.000
Cadmium	0.994
Chromium (VI)	0.993
Copper	0.83
Lead	0.951
Mercury	0.85
Nickel	0.990
Selenium	0.998
Silver	0.85
Zinc	0.946

mm. The cyanide criteria are: 9.1µg/l chronic and 2.8µg/l acute and are applicable only to waters which are east of a line from Point Roberts to Lawrence Point, to Green Point to Deception Pass; and south from Deception Pass and of a line from Partridge Point to Point Wilson.

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

(5) Concentrations of toxic, and other substances with toxic propensities not listed in subsection (3) of this section shall be determined in consideration of USEPA Quality Criteria for Water, 1986, and as revised, and other relevant information as appropriate. Human health-based water quality criteria used by the state are contained in 40 CFR 131.36 (known as the National Toxics Rule).

(6) 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.

[Statutory Authority: Chapter 90.48 RCW and 40 CFR 131. 97-23-064 (Order 94-19), § 173-201A-040, filed 11/18/97, effective 12/19/97. Statutory Authority: Chapter 90.48 RCW. 92-24-037 (Order 92-29), § 173-201A-040, filed 11/25/92, effective 12/26/92.]

Reviser's note: The brackets and enclosed material in the text of the above section occurred in the copy filed by the agency.

(11/18/97)

**WAC 173-201A-050 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) 1/12.5 of the values listed in WAC 246-221-290 (Column 2, Table II, effluent concentrations, rules and regulations 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 chapter shall be interpreted to be applicable to those aspects of governmental regulation of radioactive waters which have been preempted from state regulation by the Atomic Energy Act of 1954, as amended, as interpreted by the United States Supreme Court in the cases of *Northern States Power Co. v. Minnesota* 405 U.S. 1035 (1972) and *Train v. Colorado Public Interest Research Group*, 426 U.S. 1 (1976).

[Statutory Authority: Chapter 90.48 RCW and 40 CFR 131. 97-23-064 (Order 94-19), § 173-201A-050, filed 11/18/97, effective 12/19/97. Statutory Authority: Chapter 90.48 RCW. 92-24-037 (Order 92-29), § 173-201A-050, filed 11/25/92, effective 12/26/92.]

**WAC 173-201A-060 General considerations.** The following general guidelines shall apply to the water quality criteria and classifications set forth in WAC 173-201A-030 through 173-201A-140 hereof:

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

(2) In brackish waters of estuaries, where the fresh and marine water quality criteria differ within the same classification, the criteria shall be applied on the basis of vertically averaged salinity. The freshwater criteria shall be applied at any point where ninety-five percent of the vertically averaged daily maximum salinity values are less than or equal to one part per thousand. Marine criteria shall apply at all other locations; except that the marine water quality criteria shall apply for dissolved oxygen when the salinity is one part per thousand or greater and for fecal coliform organisms when the salinity is ten parts per thousand or greater.

(3) In determining compliance with the fecal coliform criteria in WAC 173-201A-030, 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.

(4)(a) The water quality criteria herein established for total dissolved gas shall not apply when the stream flow exceeds the seven-day, ten-year frequency flood.

(b) The total dissolved gas criteria may be adjusted to aid fish passage over hydroelectric dams when consistent with a department approved gas abatement plan. This gas abatement plan must be accompanied by fisheries management and physical and biological monitoring plans. The elevated total dissolved gas levels are intended to allow increased fish passage without causing more harm to fish populations than caused by turbine fish passage. The specific allowances for total dissolved gas exceedances are listed as special conditions for sections of the Snake and Columbia rivers in WAC 173-201A-130 and as shown in the following exemption:

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**Special fish passage exemption for sections of the Snake and Columbia rivers:** When spilling water at dams is necessary to aid fish passage, total dissolved gas must not exceed an average of one hundred fifteen percent as measured at Camas/Washougal below Bonneville dam or as measured in the forebays of the next downstream dams. Total dissolved gas must also not exceed an average of one hundred twenty percent as measured in the tailraces of each dam. These averages are based on the twelve highest hourly readings in any one day of total dissolved gas. In addition, there is a maximum total dissolved gas one hour average of one hundred twenty-five percent, relative to atmospheric pressure, during spillage for fish passage. These special conditions for total dissolved gas in the Snake and Columbia rivers are viewed as temporary and are to be reviewed by the year 2003.

(c) Nothing in these special conditions allows an impact to existing and characteristic uses.

(5) Waste discharge permits, whether issued pursuant to the National Pollutant Discharge Elimination System or otherwise, shall be conditioned so the discharges authorized will 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 by the department 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.

(6) No waste discharge permit shall be issued which results in a violation of established water quality criteria, except as provided for under WAC 173-201A-100 or 173-201A-110.

(7) 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.

(8) 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 following consultation with adjacent states and concurrence of the USEPA.

(9) Nothing in this chapter 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. 1251 et seq.).

(10) The primary means for protecting water quality in wetlands is through implementing the antidegradation procedures section (WAC 173-201A-070).

(a) In addition to designated uses, wetlands may have existing beneficial uses that are to be protected that include ground water exchange, shoreline stabilization, and storm water attenuation.

(b) Water quality in wetlands is maintained and protected by maintaining the hydrologic conditions, hydrophytic vegetation, and substrate characteristics necessary to support existing and designated uses.

(c) Wetlands shall be delineated using the Washington State Wetlands Identification and Delineation Manual, in accordance with WAC 173-22-035.

[Statutory Authority: Chapter 90.48 RCW and 40 CFR 131. 97-23-064 (Order 94-19), § 173-201A-060, filed 11/18/97, effective 12/19/97. Statutory Authority: Chapter 90.48 RCW, 92-24-037 (Order 92-29), § 173-201A-060, filed 11/25/92, effective 12/26/92.]

**WAC 173-201A-070 Antidegradation.** The antidegradation policy of the state of Washington, as generally guided by chapter 90.48 RCW, Water Pollution Control Act, and chapter 90.54 RCW, Water Resources Act of 1971, 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 said waters are of a lower quality than the criteria assigned, the natural conditions shall constitute the water quality criteria.

(3) Water quality shall be maintained and protected in waters designated as outstanding resource waters in WAC 173-201A-080.

(4) Whenever waters are of a higher quality than the criteria assigned for said waters, the existing water quality shall be protected and pollution of said waters which will reduce the existing quality shall not be allowed, 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 all known, available, and reasonable best management practices; and

(c) When the lowering of water quality in high quality waters is authorized, the lower water quality shall still be of high enough quality to fully support all existing beneficial uses.

(5) Short-term modification of water quality may be permitted as conditioned by WAC 173-201A-110.

[Statutory Authority: Chapter 90.48 RCW, 92-24-037 (Order 92-29), § 173-201A-070, filed 11/25/92, effective 12/26/92.]

**WAC 173-201A-080 Outstanding resource waters.** Waters meeting one or more of the following criteria shall be considered for outstanding resource water designation. Designations shall be adopted in accordance with the provisions of chapter 34.05 RCW, Administrative Procedure Act.

(1) Waters in national parks, national monuments, national preserves, national wildlife refuges, national wilderness areas, federal wild and scenic rivers, national seashores, national marine sanctuaries, national recreation areas, national scenic areas, and national estuarine research reserves;

(2) Waters in state parks, state natural areas, state wildlife management areas, and state scenic rivers;

(3) Documented aquatic habitat of priority species as determined by the department of wildlife;

(4) Documented critical habitat for populations of threatened or endangered species of native anadromous fish;

(5) Waters of exceptional recreational or ecological significance.

[Statutory Authority: Chapter 90.48 RCW. 92-24-037 (Order 92-29), § 173-201A-080, filed 11/25/92, effective 12/26/92.]

**WAC 173-201A-100 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 cause 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 (this size limitation may be applied to estuaries having flow characteristics that resemble rivers):

(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.

(b) In estuaries, mixing zones, singularly or in combination with other mixing zones, shall:

(i) Not extend in any horizontal direction from the discharge port(s) for a distance greater than two hundred feet plus the depth of water over the discharge port(s) as measured during mean lower low water; and

(ii) Not occupy greater than twenty-five percent of the width of the water body as measured during mean lower low water. For the purpose of this section, areas to the east of a line from Green Point (Fidalgo Island) to Lawrence Point (Orcas Island) are considered estuarine, as are all of the Strait of Georgia and the San Juan Islands north of Orcas Island. To the east of Deception Pass, and to the south and east of Admiralty Head, and south of Point Wilson on the Quimper Peninsula, is Puget Sound proper, which is considered to be entirely estuarine. All waters existing within bays from Point

Wilson westward to Cape Flattery and south to the North Jetty of the Columbia River shall also be categorized as estuarine.

(c) In oceanic waters, mixing zones, singularly or in combination with other mixing zones, shall not extend in any horizontal direction from the discharge port(s) for a distance greater than three hundred feet plus the depth of water over the discharge port(s) as measured during mean lower low water. For the purpose of this section, all marine waters not classified as estuarine in (b)(ii) of this subsection shall be categorized as oceanic.

(d) In lakes, and in reservoirs having a mean detention time greater than fifteen days, mixing zones shall not be allowed unless it can be demonstrated to the satisfaction of the department that:

(i) Other siting, technological, and managerial options that would avoid the need for a lake mixing zone are not reasonably achievable;

(ii) Overriding considerations of the public interest will be served; and

(iii) All technological and managerial methods available for pollution reduction and removal that are economically achievable would be implemented prior to discharge. Such methods may include, but not be limited to, advanced waste treatment techniques.

(e) In lakes, and in reservoirs having a mean detention time greater than fifteen days, mixing zones, singularly or in combination with other mixing zones, shall comply with the most restrictive combination of the following:

(i) Not exceed ten percent of the water body volume;

(ii) Not exceed ten percent of the water body surface area (maximum radial extent of the plume regardless of whether it reaches the surface); and

(iii) Not extend beyond fifteen 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 WAC 173-201A-040 (1) through (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 of 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 (this size limitation may also be applied to estuaries having flow characteristics resembling rivers):

(i) Not extend beyond ten percent of the distance towards 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.

(b) In oceanic and estuarine waters a zone where acute criteria may be exceeded shall not extend beyond ten percent of the distance established in subsection (7)(b) of this section as measured independently from the discharge port(s).

(9) Overlap of mixing zones.

(a) Where allowing the overlap of mixing zones would result in a combined area of water quality criteria nonattainment which does not exceed the numeric size limits established under subsection (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 subsection (7) of this section, the overlap may be allowed only where:

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

(ii) The overlap meets the requirements established in (a) of this subsection.

(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 subsections (7) and (8) of this section and the overlap criteria in subsection (9) of this section.

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

(i) All appropriate 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 uses 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 subsections (7) and (8) of this section and the overlap criteria in subsection (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 complying with the requirements of chapter 173-245 WAC, may be allowed an average once per year exemption to the numeric size criteria in subsections (7) and (8) of this section and the overlap criteria in subsection (9) of this section, provided the discharge complies with subsection (4) of this section.

(12) Exceedances from the numeric size criteria in subsections (7) and (8) of this section and the overlap criteria in subsection (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; or

(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 in subsections (7) and (8) of this section and the overlap criteria in subsection (9) of this section may be allowed under subsection (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 subsection (4) of this section.

(14) Any exemptions granted to the size criteria under subsection (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.

(16) Sediment impact zones authorized by the department pursuant to chapter 173-204 WAC, Sediment management standards, do not satisfy the requirements of this section.

[Statutory Authority: Chapter 90.48 RCW, 92-24-037 (Order 92-29), § 173-201A-100, filed 11/25/92, effective 12/26/92.]

**WAC 173-201A-110 Short-term modifications.** The criteria and special conditions established in WAC 173-201A-030 through 173-201A-140 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 and classifications established by this regulation. Such activities must be conditioned, timed, and restricted (i.e., hours or days rather than weeks or months) in a manner that will minimize water quality degradation to existing and characteristic uses. In no case will any degradation of water quality be allowed if this degradation significantly interferes with or becomes injurious to characteristic water uses or causes long-term harm to the environment.

(1) A short-term modification may be issued in writing by the director or his/her designee to an individual or entity proposing the aquatic application of pesticides, including but not limited to those used for control of federally or state listed noxious and invasive species, and excess populations of native aquatic plants, mosquitoes, burrowing shrimp, and fish, subject to the following terms and conditions:

(a) A short-term modification will in no way lessen or remove the project proponent's obligations and liabilities under other federal, state and local rules and regulations.

(b) A request for a short-term modification shall be made to the department on forms supplied by the department. Such request shall be made at least thirty days prior to initiation of the proposed activity, and after the project proponent has complied with the requirements of the State Environmental Policy Act (SEPA);

(c) A short-term modification shall be valid for the duration of the activity requiring modification of the criteria and special conditions in WAC 173-201A-030 through 173-201A-140, or for one year, whichever is less. Ecology may authorize a longer duration where the activity is part of an ongoing or long-term operation and maintenance plan, integrated pest or noxious weed management plan, waterbody or watershed management plan, or restoration plan. Such a plan must be developed through a public involvement process consistent with the Administrative Procedure Act (chapter 34.05 RCW) and be in compliance with SEPA, chapter 43.21C RCW, in which case the standards may be modified for the duration of the plan, or for five years, whichever is less;

(d) Appropriate public notice as determined and prescribed by the director or his/her designee shall be given, identifying the pesticide, applicator, location where the pesticide will be applied, proposed timing and method of application, and any water use restrictions specified in USEPA label provisions:

(e) The pesticide application shall be made at times so as to:

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

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

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

(2) A short-term modification may be issued for the control or eradication of noxious weeds identified as such in accordance with the state noxious weed control law, chapter 17.10 RCW, and Control of spartina and purple loosestrife, chapter 17.26 RCW. Short-term modifications for noxious weed control shall be included in a water quality permit

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issued in accordance with RCW 90.48.445, and the following requirements:

(a) Water quality permits for noxious weed control may be issued to the Washington state department of agriculture (WSDA) for the purposes of coordinating and conducting noxious weed control activities consistent with their responsibilities under chapter 17.10 and 17.26 RCW. Coordination may include noxious weed control activities identified in a WSDA integrated noxious weed management plan and conducted by individual landowners or land managers.

(b) Water quality permits may also be issued to individual landowners or land managers for noxious weed control activities where such activities are not covered by a WSDA integrated noxious weed management plan.

(3) The turbidity criteria established under WAC 173-201A-030 shall be modified to allow a temporary mixing zone during and immediately after necessary in-water or shoreline construction activities that result in the disturbance of in-place sediments. A temporary turbidity mixing zone is subject to the constraints of WAC 173-201A-100 (4) and (6) and is authorized only after the activity has received all other necessary local and state permits and approvals, and after the implementation of appropriate best management practices to avoid or minimize disturbance of in-place sediments and exceedances of the turbidity criteria. A temporary turbidity mixing zone shall be as follows:

(a) For waters up to 10 cfs flow at the time of construction, the point of compliance shall be one hundred feet downstream from activity causing the turbidity exceedance.

(b) For waters above 10 cfs up to 100 cfs flow at the time of construction, the point of compliance shall be two hundred feet downstream of activity causing the turbidity exceedance.

(c) For waters above 100 cfs flow at the time of construction, the point of compliance shall be three hundred feet downstream of activity causing the turbidity exceedance.

(d) For projects working within or along lakes, ponds, wetlands, estuaries, marine waters or other nonflowing waters, the point of compliance shall be at a radius of one hundred fifty feet from activity causing the turbidity exceedance.

[Statutory Authority: Chapter 90.48 RCW and 40 CFR 131.97-23-064 (Order 94-19), § 173-201A-110, filed 11/18/97, effective 12/19/97. Statutory Authority: Chapter 90.48 RCW, 92-24-037 (Order 92-29), § 173-201A-110, filed 11/25/92, effective 12/26/92.]

**WAC 173-201A-120 General classifications.** General classifications applying to various surface water bodies not specifically classified under WAC 173-201A-130 or 173-201A-140 are as follows:

(1) All surface waters lying within national parks, national forests, and/or wilderness areas are classified Class AA or Lake Class.

(2) All lakes and their feeder streams within the state are classified Lake Class and Class AA respectively, except for those feeder streams specifically classified otherwise.

(3) All reservoirs with a mean detention time of greater than 15 days are classified Lake Class.

(4) All reservoirs with a mean detention time of 15 days or less are classified the same as the river section in which they are located.

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(5) All reservoirs established on preexisting lakes are classified as Lake Class.

(6) All unclassified surface waters that are tributaries to Class AA waters are classified Class AA. All other unclassified surface waters within the state are hereby classified Class A.

[Statutory Authority: Chapter 90.48 RCW. 92-24-037 (Order 92-29), § 173-201A-120, filed 11/25/92, effective 12/26/92.]

**WAC 173-201A-130 Specific classifications—Freshwater.** Specific fresh surface waters of the state of Washington are classified as follows:

- |  |          |   |          |
|--|----------|---|----------|
| (1) American River.  | Class AA | (21) Columbia River from Washington-Oregon border (river mile 309.3) to Grand Coulee Dam (river mile 596.6). Special condition from Washington-Oregon border (river mile 309.3) to Priest Rapids Dam (river mile 397.1). Temperature shall not exceed 20.0°C due to human activities. When natural conditions exceed 20.0°C, no temperature increase will be allowed which will raise the receiving water temperature by greater than 0.3°C; nor shall such temperature increases, at any time, exceed $t=34/(T+9)$ . Special condition - special fish passage exemption as described in WAC 173-201A-060 (4)(b). | Class A  |
| (2) Big Quilcene River and tributaries.  | Class AA | (22) Columbia River from Grand Coulee Dam (river mile 596.6) to Canadian border (river mile 745.0).   | Class AA |
| (3) Bumping River.   | Class AA | (23) Colville River.  | Class A  |
| (4) Burnt Bridge Creek.  | Class A  | (24) Coweeman River from mouth to Mulholland Creek (river mile 18.4).   | Class A  |
| (5) Cedar River from Lake Washington to the Maplewood Bridge (river mile 4.1).   | Class A  | (25) Coweeman River from Mulholland Creek (river mile 18.4) to headwaters.  | Class AA |
| (6) Cedar River and tributaries from the Maplewood Bridge (river mile 4.1) to Landsburg Dam (river mile 21.6).   | Class AA | (26) Cowlitz River from mouth to base of Riffe Lake Dam (river mile 52.0).  | Class A  |
| (7) Cedar River and tributaries from Landsburg Dam (river mile 21.6) to headwaters. Special condition - no waste discharge will be permitted.  | Class AA | (27) Cowlitz River from base of Riffe Lake Dam (river mile 52.0) to headwaters.   | Class AA |
| (8) Chehalis River from upper boundary of Grays Harbor at Cosmopolis (river mile 3.1, longitude 123°45'45" W) to Scammon Creek (river mile 65.8).  | Class A  | (28) Crab Creek and tributaries.  | Class B  |
| (9) Chehalis River from Scammon Creek (river mile 65.8) to Newaukum River (river mile 75.2). Special condition - dissolved oxygen shall exceed 5.0 mg/L from June 1 to September 15. For the remainder of the year, the dissolved oxygen shall meet Class A criteria.  | Class A  | (29) Decker Creek.  | Class AA |
| (10) Chehalis River from Newaukum River (river mile 75.2) to Rock Creek (river mile 106.7).  | Class A  | (30) Deschutes River from mouth to boundary of Snoqualmie National Forest (river mile 48.2).  | Class A  |
| (11) Chehalis River, from Rock Creek (river mile 106.7) to headwaters.   | Class AA | (31) Deschutes River from boundary of Snoqualmie National Forest (river mile 48.2) to headwaters.   | Class AA |
| (12) Chehalis River, south fork.   | Class A  | (32) Dickey River.  | Class A  |
| (13) Chewuch River.  | Class AA | (33) Dosewallips River and tributaries.   | Class AA |
| (14) Chiwawa River.  | Class AA | (34) Duckabush River and tributaries.   | Class AA |
| (15) Cispus River.   | Class AA | (35) Dungeness River from mouth to Canyon Creek (river mile 10.8).  | Class A  |
| (16) Clearwater River.   | Class A  | (36) Dungeness River and tributaries from Canyon Creek (river mile 10.8) to headwaters.   | Class AA |
| (17) Cle Elum River.   | Class AA | (37) Duwamish River from mouth south of a line bearing 254° true from the NW corner of berth 3, terminal No. 37 to the Black River (river mile 11.0) (Duwamish River continues as the Green River above the Black River).   | Class B  |
| (18) Cloquallum Creek.   | Class A  | (38) Elochoman River.   | Class A  |
| (19) Clover Creek from outlet of Lake Spanaway to inlet of Lake Steilacoom.  | Class A  | (39) Elwha River and tributaries.   | Class AA |
| (20) Columbia River from mouth to the Washington-Oregon border (river mile 309.3). Special conditions - temperature shall not exceed 20.0°C due to human activities. When natural conditions exceed 20.0°C, no temperature increase will be allowed which will raise the receiving water temperature by greater than 0.3°C; nor shall such temperature increases, at any time, exceed 0.3°C due to any single source or 1.1°C due to all such activities combined. Dissolved oxygen shall exceed 90 percent of saturation. Special condition - special fish passage exemption as described in WAC 173-201A-060 (4)(b). | Class A  | (40) Entiat River from Wenatchee National Forest boundary (river mile 20.5) to headwaters.  | Class AA |
|  |          | (41) Grande Ronde River from mouth to Oregon border (river mile 37). Special condition - temperature shall not exceed 20.0°C due to human activities. When natural conditions exceed 20.0°C, no temperature increase will be allowed which will raise the receiving water temperature by greater than 0.3°C; nor shall such temperature increases, at any time, exceed $t=34/(T+9)$ .   | Class A  |
|  |          | (42) Grays River from Grays River Falls (river mile 15.8) to headwaters.  | Class AA |
|  |          | (43) Green River (Cowlitz County).  | Class AA |
|  |          | (44) Green River (King County) from Black River (river mile 11.0 and point where Duwamish River continues as the Green River) to west boundary of Sec. 27-T21N-R6E (west boundary of Flaming Geyser State Park at river mile 42.3).   | Class A  |
|  |          | (45) Green River (King County) from west boundary of Sec. 27-T21N-R6E (west boundary of Flaming Geyser State Park, river mile 42.3) to west boundary of Sec. 13-T21N-R7E (river mile 59.1).   | Class AA |

(46) Green River and tributaries (King County) from west boundary of Sec. 13-T21N-R7E (river mile 59.1) to headwaters. Special condition - no waste discharge will be permitted.	Class AA	(73) Nooksack River, south fork, from mouth to Skookum Creek (river mile 14.3).	Class A
(47) Hama Hama River and tributaries.	Class AA	(74) Nooksack River, south fork, from Skookum Creek (river mile 14.3) to headwaters.	Class AA
(48) Hanaford Creek from mouth to east boundary of Sec. 25-T15N-R2W (river mile 4.1). Special condition - dissolved oxygen shall exceed 6.5 mg/L.	Class A	(75) Nooksack River, middle fork.	Class AA
(49) Hanaford Creek from east boundary of Sec. 25-T15N-R2W (river mile 4.1) to headwaters.	Class A	(76) Okanogan River.	Class A
(50) Hoh River and tributaries.	Class AA	(77) Palouse River from mouth to south fork (Colfax, river mile 89.6).	Class B
(51) Hoquiam River (continues as west fork above east fork) from mouth to river mile 9.3 (Dekay Road Bridge) (upper limit of tidal influence).	Class B	(78) Palouse River from south fork (Colfax, river mile 89.6) to Idaho border (river mile 123.4). Special condition - temperature shall not exceed 20.0°C due to human activities. When natural conditions exceed 20.0°C, no temperature increase will be allowed which will raise the receiving water temperature by greater than 0.3°C; nor shall such temperature increases, at any time, exceed $t=34/(T+9)$ .	Class A
(52) Humptulips River and tributaries from mouth to Olympic National Forest boundary on east fork (river mile 12.8) and west fork (river mile 40.4) (main stem continues as west fork).	Class A	(79) Pend Oreille River from Canadian border (river mile 16.0) to Idaho border (river mile 87.7). Special condition - temperature shall not exceed 20.0°C due to human activities. When natural conditions exceed 20.0°C, no temperature increase will be allowed which will raise the receiving water temperature by greater than 0.3°C; nor shall such temperature increases, at any time, exceed $t=34/(T+9)$ .	Class A
(53) Humptulips River, east fork from Olympic National Forest boundary (river mile 12.8) to headwaters.	Class AA	(80) Pilchuck River from city of Snohomish Waterworks Dam (river mile 26.8) to headwaters.	Class AA
(54) Humptulips River, west fork from Olympic National Forest boundary (river mile 40.4) to headwaters.	Class AA	(81) Puyallup River from mouth to river mile 1.0.	Class B
(55) Issaquah Creek.	Class A	(82) Puyallup River from river mile 1.0 to Kings Creek (river mile 31.6).	Class A
(56) Kalama River from lower Kalama River Falls (river mile 10.4) to headwaters.	Class AA	(83) Puyallup River from Kings Creek (river mile 31.6) to headwaters.	Class AA
(57) Klickitat River from Little Klickitat River (river mile 19.8) to boundary of Yakima Indian Reservation.	Class AA	(84) Queets River and tributaries.	Class AA
(58) Lake Washington Ship Canal from Government Locks (river mile 1.0) to Lake Washington (river mile 8.6). Special condition - salinity shall not exceed one part per thousand (1.0 ppt) at any point or depth along a line that transects the ship canal at the University Bridge (river mile 6.1).	Lake Class	(85) Quillayute River.	Class AA
(59) Lewis River, east fork, from Multon Falls (river mile 24.6) to headwaters.	Class AA	(86) Quinault River and tributaries.	Class AA
(60) Little Wenatchee River.	Class AA	(87) Salmon Creek (Clark County).	Class A
(61) Methow River from mouth to Chewuch River (river mile 50.1).	Class A	(88) Satsop River from mouth to west fork (river mile 6.4).	Class A
(62) Methow River from Chewuch River (river mile 50.1) to headwaters.	Class AA	(89) Satsop River, east fork.	Class AA
(63) Mill Creek from mouth to 13th Street Bridge in Walla Walla (river mile 6.4). Special condition - dissolved oxygen concentration shall exceed 5.0 mg/L.	Class B	(90) Satsop River, middle fork.	Class AA
(64) Mill Creek from 13th Street Bridge in Walla Walla (river mile 6.4) to Walla Walla Waterworks Dam (river mile 11.5).	Class A	(91) Satsop River, west fork.	Class AA
(65) Mill Creek and tributaries from city of Walla Walla Waterworks Dam (river mile 21.6) to headwaters. Special condition - no waste discharge will be permitted.	Class AA	(92) Skagit River from mouth to Skiyou Slough-lower end (river mile 25.6).	Class A
(66) Naches River from Snoqualmie National Forest boundary (river mile 35.7) to headwaters.	Class AA	(93) Skagit River and tributaries (includes Baker, Suak, Suiattle, and Cascade rivers) from Skiyou Slough-lower end, (river mile 25.6) to Canadian border (river mile 127.0). Special condition - Skagit River (Gorge by-pass reach) from Gorge Dam (river mile 96.6) to Gorge Powerhouse (river mile 94.2). Temperature shall not exceed 21°C due to human activities. When natural conditions exceed 21°C, no temperature increase will be allowed which will raise the receiving water temperature by greater than 0.3°C, nor shall such temperature increases, at any time, exceed $t=34/(T+9)$ .	Class AA
(67) Naselle River from Naselle "Falls" (cascade at river mile 18.6) to headwaters.	Class AA	(94) Skokomish River and tributaries.	Class AA
(68) Newaukum River.	Class A	(95) Skookumchuck River from Bloody Run Creek (river mile 21.4) to headwaters.	Class AA
(69) Nisqually River from mouth to Alder Dam (river mile 44.2).	Class A	(96) Skykomish River from mouth to May Creek (above Gold Bar at river mile 41.2).	Class A
(70) Nisqually River from Alder Dam (river mile 44.2) to headwaters.	Class AA	(97) Skykomish River from May Creek (above Gold Bar at river mile 41.2) to headwaters.	Class AA
(71) Nooksack River from mouth to Maple Creek (river mile 49.7).	Class A	(98) Snake River from mouth to Washington-Idaho-Oregon border (river mile 176.1). Special condition:	
(72) Nooksack River from Maple Creek (river mile 49.7) to headwaters.	Class AA		



(a) Below Clearwater River (river mile 139.3). Temperature shall not exceed 20.0°C due to human activities. When natural conditions exceed 20.0°C, no temperature increase will be allowed which will raise the receiving water temperature by greater than 0.3°C; nor shall such temperature increases, at any time, exceed $t=34/(T+9)$ . Special condition - special fish passage exemption as described in WAC 173-201A-060 (4)(b).		(109) Stehekin River.	Class AA
(b) Above Clearwater River (river mile 139.3). Temperature shall not exceed 20.0°C due to human activities. When natural conditions exceed 20.0°C, no temperature increases will be allowed which will raise the receiving water temperature by greater than 0.3°C; nor shall such temperature increases, at any time, exceed 0.3°C due to any single source or 1.1°C due to all such activities combined.	Class A	(110) Stillaguamish River from mouth to north and south forks (river mile 17.8).	Class A
(99) Snohomish River from mouth and east of longitude 122°13'40"W upstream to latitude 47°56'30"N (southern tip of Ebey Island at river mile 8.1). Special condition - fecal coliform organism levels shall both not exceed a geometric mean value of 200 colonies/100 mL and not have more than 10 percent of the samples obtained for calculating the mean value exceeding 400 colonies/100 mL.	Class A	(111) Stillaguamish River, north fork, from mouth to Squire Creek (river mile 31.2).	Class A
(100) Snohomish River upstream from latitude 47°56'30"N (southern tip of Ebey Island river mile 8.1) to confluence with Skykomish and Snoqualmie River (river mile 20.5).	Class A	(112) Stillaguamish River, north fork, from Squire Creek (river mile 31.2) to headwaters.	Class AA
(101) Snoqualmie River and tributaries from mouth to west boundary of Twin Falls State Park on south fork (river mile 9.1).	Class A	(113) Stillaguamish River, south fork, from mouth to Canyon Creek (river mile 33.7).	Class A
(102) Snoqualmie River, middle fork.	Class AA	(114) Stillaguamish River, south fork, from Canyon Creek (river mile 33.7) to headwaters.	Class AA
(103) Snoqualmie River, north fork.	Class AA	(115) Sulphur Creek.	Class B
(104) Snoqualmie River, south fork, from west boundary of Twin Falls State Park (river mile 9.1) to headwaters.	Class AA	(116) Sultan River from mouth to Chaplain Creek (river mile 5.9).	Class A
(105) Soleduck River and tributaries.	Class AA	(117) Sultan River and tributaries from Chaplain Creek (river mile 5.9) to headwaters. Special condition - no waste discharge will be permitted above city of Everett Diversion Dam (river mile 9.4).	Class A-A
(106) Spokane River from mouth to Long Lake Dam (river mile 33.9). Special condition - temperature shall not exceed 20.0°C due to human activities. When natural conditions exceed 20.0°C, no temperature increase will be allowed which will raise the receiving water temperature by greater than 0.3°C; nor shall such temperature increases, at any time, exceed $t=34/(T+9)$ .	Class A	(118) Sumas River from Canadian border (river mile 12) to headwaters (river mile 23).	Class A
(107) Spokane River from Long Lake Dam (river mile 33.9) to Nine Mile Bridge (river mile 58.0). Special conditions:		(119) Tieton River.	Class AA
(a) The average euphotic zone concentration of total phosphorus (as P) shall not exceed 25µg/L during the period of June 1 to October 31.		(120) Tolt River, south fork and tributaries from mouth to west boundary of Sec. 31-T26N-R9E (river mile 6.9).	Class AA
(b) Temperature shall not exceed 20.0°C, due to human activities. When natural conditions exceed 20.0°C, no temperature increase will be allowed which will raise the receiving water temperature by greater than 0.3°C; nor shall such temperature increases, at any time exceed $t=34/(T+9)$ .	Lake Class	(121) Tolt River, south fork from west boundary of Sec. 31-T26N-R9E (river mile 6.9) to headwaters. Special condition - no waste discharge will be permitted.	Class AA
(108) Spokane River from Nine Mile Bridge (river mile 58.0) to the Idaho border (river mile 96.5). Temperature shall not exceed 20.0°C due to human activities. When natural conditions exceed 20.0°C no temperature increase will be allowed which will raise the receiving water temperature by greater than 0.3°C; nor shall such temperature increases, at any time exceed $t=34/(T+9)$ .	Class A	(122) Touchet River, north fork from Dayton water intake structure (river mile 3.0) to headwaters.	Class AA
		(123) Toutle River, north fork, from Green River to headwaters.	Class AA
		(124) Toutle River, south fork.	Class AA
		(125) Tucannon River from Umatilla National Forest boundary (river mile 38.1) to headwaters.	Class AA
		(126) Twisp River.	Class AA
		(127) Union River and tributaries from Bremerton Waterworks Dam (river mile 6.9) to headwaters. Special condition - no waste discharge will be permitted.	Class AA
		(128) Walla Walla River from mouth to Lowden (Dry Creek at river mile 27.2).	Class B
		(129) Walla Walla River from Lowden (Dry Creek at river mile 27.2) to Oregon border (river mile 40). Special condition - temperature shall not exceed 20.0°C due to human activities. When natural conditions exceed 20.0°C, no temperature increase will be allowed which will raise the receiving water temperature by greater than 0.3°C; nor shall such temperature increases, at any time, exceed $t=34/(T+9)$ .	Class A
		(130) Wenatchee River from Wenatchee National Forest boundary (river mile 27.1) to headwaters.	Class AA
		(131) White River (Pierce-King counties) from Mud Mountain Dam (river mile 27.1) to headwaters.	Class AA
		(132) White River (Chelan County).	Class AA
		(133) Wildcat Creek.	Class A
		(134) Willapa River upstream of a line bearing 70° true through Mailboat Slough light (river mile 1.8).	Class A
		(135) Wishkah River from mouth to river mile 6 (SW 1/4 SW 1/4 NE 1/4 Sec. 21-T18N-R9W).	Class B
		(136) Wishkah River from river mile 6 (SW 1/4 SW 1/4 NE 1/4 Sec. 21-T18N-R9W) to west fork (river mile 17.7).	Class A
		(137) Wishkah River from west fork of Wishkah River (river mile 17.7) to south boundary of Sec. 33-T21N-R8W (river mile 32.0).	Class AA

- (138) Wishkah River and tributaries from south boundary of Sec. 33-T21N-R8W (river mile 32.0) to headwaters. Special condition - no waste discharge will be permitted. Class AA
- (139) Wynoochee River from mouth to Olympic National Forest boundary (river mile 45.9). Class A
- (140) Wynoochee River from Olympic National Forest boundary (river mile 45.9) to headwaters. Class AA
- (141) Yakima River from mouth to Cle Elum River (river mile 185.6). Special condition - 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; nor shall such temperature increases, at any time, exceed  $t=34/(T+9)$ . Class A
- (142) Yakima River from Cle Elum River (river mile 185.6) to headwaters. Class AA

[Statutory Authority: Chapter 90.48 RCW and 40 CFR 131.97-23-064 (Order 94-19), § 173-201A-130, filed 11/18/97, effective 12/19/97. Statutory Authority: Chapter 90.48 RCW, 92-24-037 (Order 92-29), § 173-201A-130, filed 11/25/92, effective 12/26/92.]

**WAC 173-201A-140 Specific classifications—Marine water.** Specific marine surface waters of the state of Washington are classified as follows:

- (1) Budd Inlet south of latitude 47°04'N (south of Priest Point Park). Class B
- (2) Coastal waters: Pacific Ocean from Ilwaco to Cape Flattery. Class AA
- (3) Commencement Bay south and east of a line bearing 258° true from "Brown's Point" and north and west of line bearing 225° true through the Hylebos waterway light. Class A
- (4) Commencement Bay, inner, south and east of a line bearing 225° true through Hylebos waterway light except the city waterway south and east of south 11th Street. Class B
- (5) Commencement Bay, city waterway south and east of south 11th Street. Class C
- (6) Drayton Harbor, south of entrance. Class A
- (7) Dyes and Sinclair Inlets west of longitude 122°37'W. Class A
- (8) Elliott Bay east of a line between Pier 91 and Duwamish head. Class A
- (9) Everett Harbor, inner, northeast of a line bearing 121° true from approximately 47°59'5"N and 122°13'44"W (southwest corner of the pier). Class B
- (10) Grays Harbor west of longitude 123°59'W. Class A
- (11) Grays Harbor east of longitude 123°59'W to longitude 123°45'45"W (Cosmopolis Chehalis River, river mile 3.1). Special condition - dissolved oxygen shall exceed 5.0 mg/L. Class B
- (12) Guemes Channel, Padilla, Samish and Bellingham Bays east of longitude 122°39'W and north of latitude 48°27'20"N. Class A
- (13) Hood Canal. Class AA
- (14) Mukilteo and all North Puget Sound west of longitude 122°39' W (Whidbey, Fidalgo, Guemes and Lummi islands and State Highway 20 Bridge at Deception Pass), except as otherwise noted. Class AA
- (15) Oakland Bay west of longitude 123°05'W (inner Shelton harbor). Class B

- (16) Port Angeles south and west of a line bearing 152° true from buoy "2" at the tip of Ediz Hook. Class A
- (17) Port Gamble south of latitude 47°51'20"N. Class A
- (18) Port Townsend west of a line between Point Hudson and Kala Point. Class A
- (19) Possession Sound, south of latitude 47°57'N. Class AA
- (20) Possession Sound, Port Susan, Saratoga Passage, and Skagit Bay east of Whidbey Island and State Highway 20 Bridge at Deception Pass between latitude 47°57'N (Mukilteo) and latitude 48°27'20"N (Similk Bay), except as otherwise noted. Class A
- (21) Puget Sound through Admiralty Inlet and South Puget Sound, south and west to longitude 122°52'30"W (Brisco Point) and longitude 122°51'W (northern tip of Hartstene Island). Class AA
- (22) Sequim Bay southward of entrance. Class AA
- (23) South Puget Sound west of longitude 122°52'30"W (Brisco Point) and longitude 122°51'W (northern tip of Hartstene Island, except as otherwise noted). Class A
- (24) Strait of Juan de Fuca. Class AA
- (25) Totten Inlet and Little Skookum Inlet, west of longitude 122°56'32" (west side of Steamboat Island). Class AA
- (26) Willapa Bay seaward of a line bearing 70° true through Mailboat Slough light (Willapa River, river mile 1.8). Class A

[Statutory Authority: Chapter 90.48 RCW and 40 CFR 131.97-23-064 (Order 94-19), § 173-201A-140, filed 11/18/97, effective 12/19/97. Statutory Authority: Chapter 90.48 RCW, 92-24-037 (Order 92-29), § 173-201A-140, filed 11/25/92, effective 12/26/92.]

**WAC 173-201A-150 Achievement considerations.** To fully achieve and maintain the foregoing water quality in the state of Washington, it is the intent of the department to apply the various implementation and enforcement authorities at its disposal, including participation in the programs of the federal Clean Water Act (33 U.S.C. 1251 et seq.) as appropriate. It is also the intent that cognizance will be taken of the need for participation in cooperative programs with other state agencies and private groups with respect to the management of related problems. The department's planned program for water pollution control will be defined and revised annually in accordance with section 106 of said federal act. Further, it shall be required that all activities which discharge wastes into waters within the state, or otherwise adversely affect the quality of said waters, be in compliance with the waste treatment and discharge provisions of state or federal law.

[Statutory Authority: Chapter 90.48 RCW, 92-24-037 (Order 92-29), § 173-201A-150, filed 11/25/92, effective 12/26/92.]

**WAC 173-201A-160 Implementation.** (1) **Discharges from municipal, commercial, and industrial operations.** The primary means to be used for controlling municipal, commercial, and industrial waste discharges shall be through the issuance of waste disposal permits, as provided for in RCW 90.48.160, 90.48.162, and 90.48.260.

(2) **Miscellaneous waste discharge or water quality effect sources.** The director shall, through the issuance of regulatory permits, directives, and orders, as are appropriate,

control miscellaneous waste discharges and water quality effect sources not covered by subsection (1) of this section.

**(3) Nonpoint source and storm water pollution.**

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

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

(c) Activities which contribute to nonpoint source pollution shall be conducted utilizing best management practices to prevent violation of water quality criteria. When applicable best management practices are not being implemented, the department may conclude individual activities are causing pollution in violation of RCW 90.48.080. In these situations, the department may pursue orders, directives, permits, or civil or criminal sanctions to gain compliance with the standards.

(d) Activities which cause pollution of storm water shall be conducted so as to comply with the water quality standards. The primary means to be used for requiring compliance with the standards shall be through best management practices required in waste discharge permits, rules, orders, and directives issued by the department for activities which generate storm water pollution. The consideration and control procedures in (b) and (c) of this subsection apply to the control of pollutants in storm water.

**(4) Allowance for compliance schedules.**

(a) Permits, orders, and directives of the department for existing discharges may include a schedule for achieving compliance with water quality criteria contained in this chapter. Such schedules of compliance shall be developed to ensure final compliance with all water quality-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: (i) construction of necessary treatment capability; (ii) implementation of necessary best management practices; (iii) implementation of additional storm water best management practices for discharges determined not to meet water quality criteria following implementation of an initial set of best management practices; (iv) completion of necessary water quality studies; or (v) resolution of a pending water quality standards' issue through rule-making 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 judgment of the department. Interim effluent limitations may be numeric or nonnumeric (e.g., construction of necessary facilities by a specified date as contained in an ecology order or permit).

(c) Prior to establishing a schedule of compliance, the department shall require the discharger to evaluate the possibility of achieving water quality criteria via nonconstruction 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.

[Statutory Authority: Chapter 90.48 RCW and 40 CFR 131.97-23-064 (Order 94-19), § 173-201A-160, filed 11/18/97, effective 12/19/97. Statutory Authority: Chapter 90.48 RCW, 92-24-037 (Order 92-29), § 173-201A-160, filed 11/25/92, effective 12/26/92.]

**WAC 173-201A-170 Surveillance.** A continuing surveillance program, to ascertain whether the regulations, waste disposal permits, orders, and directives promulgated and/or issued by the department are being complied with, will be conducted by the department staff as follows:

- (1) Inspecting treatment and control facilities.
- (2) Monitoring and reporting waste discharge characteristics.
- (3) Monitoring receiving water quality.

[Statutory Authority: Chapter 90.48 RCW, 92-24-037 (Order 92-29), § 173-201A-170, filed 11/25/92, effective 12/26/92.]

**WAC 173-201A-180 Enforcement.** To insure that the provisions of chapter 90.48 RCW, the standards for water quality promulgated herein, the terms of waste disposal permits, and other orders and directives of the department are fully complied with, the following enforcement tools will be relied upon by the department, in cooperation with the attorney general as it deems appropriate:

- (1) Issuance of notices of violation and regulatory orders as provided for in RCW 90.48.120.
- (2) Initiation of actions requesting injunctive or other appropriate relief in the various courts of the state as provided for in RCW 90.48.037.
- (3) Levying of civil penalties as provided for in RCW 90.48.144.
- (4) Initiation of a criminal proceeding by the appropriate county prosecutor as provided for in RCW 90.48.140.
- (5) Issuance of regulatory orders or directives as provided for in RCW 90.48.240.

[Statutory Authority: Chapter 90.48 RCW, 92-24-037 (Order 92-29), § 173-201A-180, filed 11/25/92, effective 12/26/92.]

**Carla Wallat**

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**From:** "Carla Wallat" <cwallat@yomreporting.com>  
**To:** <agrad@helsell.com>; <rparks@helsell.com>  
**Sent:** Wednesday, December 19, 2001 9:30 PM  
**Subject:** Exhibit list

Exhibit list to the Deposition of Pete Kmet taken on December 19, 2001.

<u>EXHIBIT NO.</u>	<u>DESCRIPTION</u>
30	8/24/2000, 5:16 PM e-mail from Yee to Fitzpatrick - 1 page
31	9/11/2000, 11:51 AM e-mail from Kmet to Fitzpatrick - 6 pages
32	9/11/2000, 3:32 PM e-mail from Yee to Fitzpatrick - 2 pages
33	9/11/2000, 3:44 PM e-mail from Kmet to Yee - 1 page
34	6/7/20001, 4:10 PM e-mail from Thompson to Kmet, Yee - 1 page
35	6/13/2001, 8:42 AM e-mail from Yee to Fitzpatrick - 1 page
36	6/27/2001, 4:01 PM e-mail to Kmet from Fitzpatrick - 3 pages
37	Guidance for the Use of Tables: PQLS, MDLS, and PQL Comparisons to Method B Cleanup Levels
38	MTCA Cleanup Regulation; WAC 173-340-740; February 12, 2001, Pages 167-175
39	Chapter 173-201A WAC; 11/18/97