

## WSR 24-23-037

## PERMANENT RULES

## DEPARTMENT OF ECOLOGY

[Order 22-05—Filed November 14, 2024, 7:32 a.m., effective December 15, 2024]

Effective Date of Rule: Thirty-one days after filing.

Purpose: The Washington state department of ecology (ecology) is adopting amendments to chapter 173-201A WAC, Water quality standards for surface waters of the state of Washington. We are adopting revisions to natural conditions provisions in our surface water quality standards to provide water quality protection for aquatic life organisms and to establish possible methods for deriving those protective values.

The state's water quality standards set limits on pollution in our lakes, rivers, and marine water in order to protect beneficial uses, such as swimming and fishing. The water quality standards are implemented through discharge permits and other regulatory mechanisms under the federal Clean Water Act (CWA). They are also used to identify polluted waters and set levels for water cleanup.

We adopted the following revisions in the rule making:

WAC 173-201A-020 Definitions, adding a definition for a performance-based approach method and a definition for local and regional sources of human-caused pollution.

WAC 173-201A-200 (1)(c)(i), aquatic life temperature criteria, updating the allowable insignificant changes to freshwater temperature criteria when natural conditions are the applicable criteria.

WAC 173-201A-200 (1)(d)(i), aquatic life dissolved oxygen (D.O.) criteria, updating the allowable insignificant changes to freshwater D.O. criteria when natural conditions are the applicable criteria.

WAC 173-201A-210 (1)(c)(i), aquatic life temperature criteria, updating the allowable insignificant changes to marine water temperature when natural conditions are the applicable criteria.

WAC 173-201A-210 (1)(d)(i), aquatic life D.O., updating the allowable insignificant changes to marine water D.O. when natural conditions are the applicable criteria.

WAC 173-201A-260(1), natural and irreversible human conditions, updating the natural conditions criteria language and describing methods for determining natural conditions criteria values.

WAC 173-201A-430 Site-specific criteria, updating how analyses must be conducted and document references.

WAC 173-201A-470 Performance-based approach, adding this new section to describe and reference the methodology to determine natural conditions criteria values.

We evaluated the latest scientific data, methods, modeling tools, and approaches to update the natural conditions provisions necessary for refining aquatic life protection in Washington's surface waters. As part of this process, we considered the Environmental Protection Agency's (EPA) recommended approaches for natural conditions in water quality standards. This includes developing a performance-based approach for site-specific criteria, a methodology document titled "A Performance-Based Approach for Developing Site-Specific Natural Conditions Criteria for Aquatic Life in Washington" referenced in the rule that sufficiently details a process that ensures predictable, repeatable outcomes that could be used to develop criteria that would protect the designated uses for a specific waterbody.

After rule adoption, we will submit the final rule language to EPA for review and approval. After we submit the final rule to EPA,

they have 60 days to approve or 90 days to disapprove the updated water quality standards. EPA must also consult with the United States Fish and Wildlife Service and National Marine Fisheries Service to determine if the rule adequately protects endangered species. The rule goes into effect for CWA purposes, such as for the water quality assessment and water quality permits, after it has been approved by EPA.

We are not including a final performance-based approach document with this rule adoption. We will continue to revise the performance-based approach based on public comment. As of now, our approach is to narrow the scope of this document to marine D.O. Our goal is to share our progress early next year and go back out for public comment in spring 2025. We will carefully consider comments received and publish a final version of the publication alongside our response to comments in summer 2025. After we finalize the performance-based approach document next year, the office of the attorney general will certify that the document is legally binding, then we will send the performance-based approach document to EPA for review and approval.

Because the performance-based approach document is only referenced, and not part of the water quality standards regulations at WAC 173-201A-470 and revisions to the document would not change the adopted rule language, we are not required nor will be conducting a separate formal rule making for this document. However, we feel it is important to provide another opportunity for public and tribal input on a revised draft. Further, this document, which governs how ecology will use the performance-based approach for site-specific criteria development, must meet CWA requirements, which includes a public review process and EPA review and approval before use in CWA actions.

Until we publish a final version of this document and receive EPA approval following their review, we will not be able to use the performance-based approach document for site-specific criteria under CWA, such as for water clean up plans (alternate restoration plans and total maximum daily loads).

Citation of Rules Affected by this Order: Amending chapter 173-201A WAC.

Statutory Authority for Adoption: Water pollution control, chapter 90.48 RCW, provides clear and direct authority to ecology to revise the surface water quality standards (RCW 90.48.035).

Other Authority: State review and revision of water quality standards, 40 C.F.R. § 131.20, requires states to periodically review and update the water quality standards.

Adopted under notice filed as WSR 24-15-036 on July 11, 2024.

Changes Other than Editing from Proposed to Adopted Version:

**Changes to WAC 173-201A-020 Definitions:** Edits were made to the definition of a performance-based approach (WAC 173-201A-020) for clarity and to remove references to federal regulations which were not applicable.

"Performance-based approach" means a water quality standard that is a transparent process (i.e., methodology) which is sufficiently detailed and has suitable safeguards that ensures predictable and repeatable outcomes, rather than a specific outcome. The outcomes from the performance-based approach are site-specific criteria (i.e., concentration limit for a pollutant) consistent with 40 C.F.R. 131.11 and 40 C.F.R. 131.13.

**Changes to WAC 173-201A-200 Freshwater designated uses and criteria, and 173-201A-210 Marine water designated uses and criteria:** We clarified in the human-use allowance for D.O. in fresh (WAC 173-201A-200 (1)(d)(i)) and marine (WAC 173-201A-210 (1)(d)(i)) waters

that D.O. refers to the D.O. concentration and the criteria in the applicable tables are numeric criteria. This was done to make clear that the human-use allowances apply to numeric criteria and not saturation state-based criteria.

(i) When a water body's D.O. concentration is lower than the numeric criteria in Table 200 (1)(d) (or within 0.2 mg/L of the criteria) and that condition is due to natural conditions, then ((human actions)) local and regional sources of human-caused pollution considered cumulatively may not cause the D.O. concentration of that water body to decrease more than 10 percent or 0.2 mg/L below natural conditions, whichever decrease is smaller.

**Changes to WAC 173-201A-260 Natural conditions and other water quality criteria and applications:** We revised the general natural conditions provision at WAC 173-201A-260 (1)(a) to make it clearer the required processes when ecology pursues natural conditions criteria development for a site.

(a) It is recognized that portions of many water bodies cannot meet the assigned aquatic life criteria due to the natural conditions of the water body. When a water body does not meet its assigned aquatic life criteria due to natural climatic or landscape attributes, the following will be used to determine site-specific numeric aquatic life criteria representing conditions unique to a water body: natural conditions constitute the water quality criteria.

(i) Aquatic life criteria based on natural conditions for temperature or dissolved oxygen for fresh or marine waters, or pH for fresh waters, will be derived by following either the site-specific criteria approach pursuant to WAC 173-201A-430 or the performance-based approach pursuant to WAC 173-201A-470.

(ii) For all aquatic life parameters other than those listed in WAC 173-201A-260 (1)(a)(i), aquatic life criteria based on natural conditions will be derived by following the site-specific criteria approach pursuant to WAC 173-201A-430.

~~When natural conditions constitute the aquatic life water quality criteria, criteria values may be established using site-specific criteria (see WAC 173-201A-430), use attainability analysis (see WAC 173-201A-440), or the performance-based approach (see WAC 173-201A-470).~~

**Changes to WAC 173-201A-430 Site-specific criteria:** We made minor edits to WAC 173-201A-430 that remove language regarding the attainable conditions of a water body, as site-specific criteria protect existing and designated uses. We also removed the reference and associated citation to designated uses in WAC 173-201A-430 (1)(a), as this process is for development of criteria to protect uses, not designating new uses.

(1) ~~Where the attainable condition of existing and designated uses for the water body would be fully protected using an alternative criterion, site-specific criteria may be adopted.~~

(a) The site-specific criterion must be consistent with the federal regulations on ~~designating and protecting~~ uses (currently 40 C.F.R. ~~131.10 and 131.11~~); and

(3) The decision to approve the site-specific criterion must be based on a demonstration that it will protect the existing and ~~attainable~~ designated uses of the water body.

**Changes to WAC 173-201A-470 Performance-based approach:** In the new section for the performance-based approach at WAC 173-201A-470, we made changes to clarify for what purpose and water quality constituents, and under what circumstances the performance-based approach may

be used. This includes simplifying language in WAC 173-201A-470 and removing the "as revised" qualifier in WAC 173-201A-470(1), as any updates to this document must go through a public process and EPA review and approval before use for state and CWA actions.

**WAC 173-201A-470 Performance-based approach.** ~~Where the natural water quality of a water body constitutes the aquatic life water quality criteria, a~~ The performance-based approach may be used by the Department to establish numeric criteria based on natural conditions that are fully protective of existing and designated aquatic life uses.

(1) Aquatic life water quality criteria must be derived using the procedures referenced in ecology publication 24-10-017, "A Performance-Based Approach for Developing Site-Specific Natural Conditions Criteria for Aquatic Life in Washington," ~~as revised.~~

(2) ~~Use~~ Application of the performance-based approach for establishing aquatic life water quality criteria is limited to the following listed water quality constituents:

- (a) Aquatic life temperature criteria in fresh water;
- (b) Aquatic life dissolved oxygen criteria in fresh water;
- (c) Aquatic life pH criteria in fresh water;
- (d) Aquatic life temperature criteria in marine water;
- (e) Aquatic life dissolved oxygen criteria in marine water.

(4) ~~If the requirements set forth in the development of aquatic life criteria using the performance-based approach cannot be met, then site-specific criteria can be established by following the alternatives listed at the requirements set forth in these procedures, then alternatives specified in the paragraph following WAC 173-201A-260~~

(1) (a) ~~(i)~~ may be used.

A final cost-benefit analysis is available by contacting Marla Koberstein, Department of Ecology, Water Quality Program, P.O. Box 47696, Olympia, WA 98504-7696, phone 360-407-6600, for Washington relay service or TTY call 711 or 877-833-6341, email swgs@ecy.wa.gov, website <https://apps.ecology.wa.gov/publications/summarypages/2410053.html>.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, Amended 0, Repealed 0; Federal Rules or Standards: New 0, Amended 1, Repealed 0; or Recently Enacted State Statutes: New 0, Amended 0, Repealed 0.

Number of Sections Adopted at the Request of a Nongovernmental Entity: New 0, Amended 0, Repealed 0.

Number of Sections Adopted on the Agency's own Initiative: New 1, Amended 5, Repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 1, Amended 2, Repealed 0.

Number of Sections Adopted using Negotiated Rule Making: New 0, Amended 0, Repealed 0; Pilot Rule Making: New 0, Amended 0, Repealed 0; or Other Alternative Rule Making: New 0, Amended 0, Repealed 0.

Date Adopted: November 14, 2024.

Laura Watson  
Director

OTS-5282.3

AMENDATORY SECTION (Amending WSR 24-01-088, filed 12/18/23, effective 1/18/24)

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

**"1-DMax" or "1-day maximum temperature"** is the highest water temperature reached on any given day. This measure can be obtained using calibrated maximum/minimum thermometers or continuous monitoring probes having sampling intervals of 30 minutes or less.

**"7-DADMax" or "7-day average of the daily maximum temperatures"** is the arithmetic average of seven consecutive measures of daily maximum temperatures. The 7-DADMax for any individual day is calculated by averaging that day's daily maximum temperature with the daily maximum temperatures of the three days prior and the three days after that date.

**"Action value"** means a total phosphorus (TP) value established at the upper limit of the trophic states in each ecoregion (see Table 230(1)). 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.

**"Actions"** refers broadly to any human projects or activities.

**"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." 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.

**"Ambient water quality"** refers to the conditions and properties of a surface water of the state as determined by the results of water samples, measurements, or observations.

**"Background"** 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.

**"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 Environ-

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

**"Combined sewer overflow (CSO) treatment plant"** is a facility that provides at-site treatment as provided for in chapter 173-245 WAC. A CSO treatment plant is a specific facility identified in a department-approved CSO reduction plan (long-term control plan) that is designed, operated and controlled by a municipal utility to capture and treat excess combined sanitary sewage and stormwater from a combined sewer system.

**"Compliance schedule"** or **"schedule of compliance"** is a schedule of remedial measures included in a permit or an order, including an enforceable sequence of interim requirements (for example, actions, operations, or milestone events) leading to compliance with an effluent limit, other prohibition, or standard.

**"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 designated 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.

**"Designated uses"** are those uses specified in this chapter for each water body or segment, regardless of whether or not the uses are currently attained.

**"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.

**"Enterococci"** refers to a subgroup of fecal streptococci that includes *S. faecalis*, *S. faecium*, *S. gallinarum*, and *S. avium*. The enterococci are differentiated from other streptococci by their ability to grow in 6.5% sodium chloride, at pH 9.6, and at 10°C and 45°C.

**"E. coli"** is a bacterium in the family Enterobacteriaceae named *Escherichia coli* and is a common inhabitant of the intestinal tract of warm-blooded animals, and its presence in water samples is an indication of fecal pollution and the possible presence of enteric pathogens.

**"Existing uses"** means those uses actually attained in fresh or marine waters on or after November 28, 1975, whether or not they are designated uses. Introduced species that are not native to Washington, and put-and-take fisheries comprised of nonself-replicating introduced native species, do not need to receive full support as an existing use.

**"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 24 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 downgradient 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>).

**"Intake credit"** is a procedure for establishing effluent limits that takes into account the amount of a pollutant that is present in waters of the state, at the time water is removed from the same body of water by the discharger or other facility supplying the discharger with intake water.

**"Intragravel dissolved oxygen"** means the concentration of dissolved oxygen in the spaces between sediment particles in a streambed.

**"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 channels 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 15 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.

**"Local and regional sources of human-caused pollution"** means sources of pollution caused by human actions, and the pollution originates from: (1) Within the boundaries of the state; or (2) Within the boundaries of a U.S. jurisdiction abutting to the state that impacts surface waters of the state.

**"Mean detention time"** means the time obtained by dividing a reservoir's mean annual minimum total storage by the 30-day 10-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.

**"Migration for naturally limited waters"** is a subcategory of the aquatic life use of salmonid rearing and migration that is limited by the natural physical, chemical, or biological characteristics of the water body.

**"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-400.

**"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. (See also WAC 173-201A-260(1).)

**"New or expanded actions"** mean human actions that occur or are regulated for the first time, or human actions expanded such that they result in an increase in pollution, after July 1, 2003, for the purpose of applying this chapter only.

**"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.

**"Outstanding resource waters"** are high quality waters designated by the state due to their exceptional water quality, ecological or recreational significance, unique habitat, or cold water refuge. Outstanding resource waters are given the highest level of protection under the state antidegradation policy.

**"Performance-based approach"** means a water quality standard that is a transparent process (i.e., methodology) which is sufficiently detailed and has suitable safeguards that ensures predictable and repeatable outcomes, rather than a specific outcome. The outcomes from the performance-based approach are site-specific criteria.

**"Permit"** means a document issued pursuant to chapter 90.48 RCW 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, det-



rimental, 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.

**"Salmonid spawning, rearing, and migration for naturally limited waters"** is a subcategory of the aquatic life use of salmonid spawning, rearing, and migration that is limited by the natural physical, chemical, or biological characteristics of the water body.

**"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.

**"Spatial median"** is the middle value of multiple ranked measurements taken within the sampling area.

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

**"Stormwater 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 stormwater 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.

**"Variance"** is a time-limited designated use and criterion as defined in 40 C.F.R. 131.3, and must be adopted by rule.

**"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. (Water bodies 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.

AMENDATORY SECTION (Amending WSR 22-07-095, filed 3/22/22, effective 4/22/22)

**WAC 173-201A-200 Fresh water designated uses and criteria.** The following uses are designated for protection in fresh surface waters of the state. Use designations for water bodies are listed in WAC 173-201A-600 and 173-201A-602.

(1) **Aquatic life uses.** Aquatic life uses are designated based on the presence of, or the intent to provide protection for, the key uses identified in (a) of this subsection. It is required that all indigenous fish and nonfish aquatic species be protected in waters of the state in addition to the key species described below.

(a) The categories for aquatic life uses are:

(i) **Char spawning and rearing.** The key identifying characteristics of this use are spawning or early juvenile rearing by native char (bull trout and Dolly Varden), or use by other aquatic species similarly dependent on such cold water. Other common characteristic aquatic life uses for waters in this category include summer foraging and migration of native char; and spawning, rearing, and migration by other salmonid species.

(ii) **Core summer salmonid habitat.** The key identifying characteristics of this use are summer (June 15 - September 15) salmonid spawning or emergence, or adult holding; use as important summer rearing habitat by one or more salmonids; or foraging by adult and subadult native char. Other common characteristic aquatic life uses for waters in this category include spawning outside of the summer season, rearing, and migration by salmonids.

(iii) **Salmonid spawning, rearing, and migration.** The key identifying characteristic of this use is salmon or trout spawning and emergence that only occurs outside of the summer season (September 16 -

June 14). Other common characteristic aquatic life uses for waters in this category include rearing and migration by salmonids.

(iv) **Salmonid rearing and migration only.** The key identifying characteristic of this use is use only for rearing or migration by salmonids (not used for spawning).

(v) **Nonanadromous interior redband trout.** For the protection of waters where the only trout species is a nonanadromous form of self-reproducing interior redband trout (*O. mykiss*), and other associated aquatic life.

(vi) **Indigenous warm water species.** For the protection of waters where the dominant species under natural conditions would be temperature tolerant indigenous nonsalmonid species. Examples include dace, redband shiner, chiselmouth, sucker, and northern pikeminnow.

(b) **General criteria.** General criteria that apply to all aquatic life fresh water uses are described in WAC 173-201A-260 (2)(a) and (b), and are for:

- (i) Toxic, radioactive, and deleterious materials; and
- (ii) Aesthetic values.

(c) **Aquatic life temperature criteria.** Except where noted, water temperature is measured by the 7-day average of the daily maximum temperatures (7-DADMax). Table 200 (1)(c) lists the temperature criteria for each of the aquatic life use categories.

**Table 200 (1)(c)  
Aquatic Life Temperature Criteria in Fresh  
Water**

Category	Highest 7-DADMax
Char Spawning and Rearing*	12°C (53.6°F)
Core Summer Salmonid Habitat*	16°C (60.8°F)
Salmonid Spawning, Rearing, and Migration*	17.5°C (63.5°F)
Salmonid Rearing and Migration <b>Only</b>	17.5°C (63.5°F)
Nonanadromous Interior Redband Trout	18°C (64.4°F)
Indigenous Warm Water Species	20°C (68°F)

\*Note: Some streams have a more stringent temperature criterion that is applied seasonally to further protect salmonid spawning and egg incubation. See (c)(iv) of this subsection.

(i) When a water body's temperature is warmer than the criteria in Table 200 (1)(c) (or within 0.3°C (0.54°F) of the criteria) and that condition is due to natural conditions, then ~~((human actions))~~ local and regional sources of human-caused pollution considered cumulatively may not cause the 7-DADMax temperature of that water body to increase more than 0.3°C (0.54°F) above natural conditions.

(ii) When the background condition of the water is cooler than the criteria in Table 200 (1)(c), incremental temperature increases resulting from individual point source activities must not exceed the numeric criteria and must not, at any time, exceed 28/(T+7) as measured at the edge of a mixing zone boundary (where "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).

(iii) Temperatures are not to exceed the criteria at a probability frequency of more than once every 10 years on average.

(iv) Spawning and incubation protection. The department has identified waterbodies, or portions thereof, which require special protection for spawning and incubation in ecology publication 06-10-038 (also available on ecology's website at [www.ecology.wa.gov](http://www.ecology.wa.gov)). This publication indicates where and when the following criteria are to be applied to protect the reproduction of native char, salmon, and trout:

- Maximum 7-DADMax temperatures of 9°C (48.2°F) at the initiation of spawning and at fry emergence for char; and
- Maximum 7-DADMax temperatures of 13°C (55.4°F) at the initiation of spawning for salmon and at fry emergence for salmon and trout.

The two criteria above are protective of incubation as long as human actions do not significantly disrupt the normal patterns of fall cooling and spring warming that provide significantly colder temperatures over the majority of the incubation period.

(v) For lakes, human actions considered cumulatively may not increase the 7-DADMax temperature more than 0.3°C (0.54°F) above natural conditions.

(vi) Temperature measurements should be taken to represent the dominant aquatic habitat of the monitoring site. This typically means samples should:

- (A) Be taken from well mixed portions of rivers and streams; and
- (B) Not be taken from shallow stagnant backwater areas, within isolated thermal refuges, at the surface, or at the water's edge.

(vii) The department will incorporate the following guidelines on preventing acute lethality and barriers to migration of salmonids into determinations of compliance with the narrative requirements for use protection established in this chapter (e.g., WAC 173-201A-310(1), 173-201A-400(4), and 173-201A-410 (1)(c)). The following site-level considerations do not, however, override the temperature criteria established for waters in subsection (1)(c) of this section or WAC 173-201A-600 through 173-201A-602:

(A) Moderately acclimated (16-20°C, or 60.8-68°F) adult and juvenile salmonids will generally be protected from acute lethality by discrete human actions maintaining the 7-DADMax temperature at or below 22°C (71.6°F) and the 1-day maximum (1-DMax) temperature at or below 23°C (73.4°F).

(B) Lethality to developing fish embryos can be expected to occur at a 1-DMax temperature greater than 17.5°C (63.5°F).

(C) To protect aquatic organisms, discharge plume temperatures must be maintained such that fish could not be entrained (based on plume time of travel) for more than two seconds at temperatures above 33°C (91.4°F) to avoid creating areas that will cause near instantaneous lethality.

(D) Barriers to adult salmonid migration are assumed to exist any time the 1-DMax temperature is greater than 22°C (71.6°F) and the adjacent downstream water temperatures are 3°C (5.4°F) or more cooler.

(viii) 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 33 U.S.C. 1326 (commonly known as section 316 of the Clean Water Act).

(d) **Aquatic life dissolved oxygen (D.O.) criteria.** The D.O. criteria are measured in milligrams per liter (mg/L) or percent oxygen saturation. Table 200 (1)(d) lists the D.O. criteria for each of the aquatic life use categories. Compliance may be demonstrated through either the water column or intragravel criteria in Table 200 (1)(d).

**Table 200 (1)(d)**

**Aquatic Life Dissolved Oxygen Criteria in Fresh Water**

Category	Water Column (1-Day Minimum)
Char Spawning and Rearing*	10 mg/L or 90% saturation
Core Summer Salmonid Habitat*	10 mg/L or 95% saturation
Salmonid Spawning, Rearing, and Migration*	10 mg/L or 90% saturation
Salmonid Rearing and Migration <b>Only</b>	6.5 mg/L
Nonanadromous Interior Redband Trout*	10 mg/L or 90% saturation
Indigenous Warm Water Species	6.5 mg/L

\* Intragravel D.O. criteria for these aquatic life use categories may be used for compliance purposes. When intragravel D.O. is used for compliance, the intragravel D.O. (1-day minimum) concentration must be 8.0 mg/L or greater, and the D.O. water column (1-day minimum) concentration must be 9.0 mg/L or greater. Intragravel D.O. must be measured as a spatial median within the same habitat area.

(i) When a water body's D.O. concentration is lower than the numeric criteria in Table 200 (1) (d) (or within 0.2 mg/L of the criteria) and that condition is due to natural conditions, then (~~human actions~~) local and regional sources of human-caused pollution considered cumulatively may not cause the D.O. concentration of that water body to decrease more than 10 percent or 0.2 mg/L below natural conditions, whichever decrease is smaller.

(ii) For lakes, human actions considered cumulatively may not decrease the dissolved oxygen concentration more than 0.2 mg/L below natural conditions.

(iii) Concentrations of D.O. are not to fall below the criteria in the table at a probability frequency of more than once every 10 years on average.

(iv) D.O. measurements should be taken to represent the dominant aquatic habitat of the monitoring site. This typically means samples should:

(A) Be taken from well mixed portions of rivers and streams; and

(B) Not be taken from shallow stagnant backwater areas, within isolated thermal refuges, at the surface, or at the water's edge.

(e) **Aquatic life turbidity criteria.** Turbidity is measured in "nephelometric turbidity units" or "NTUs." Table 200 (1) (e) lists the maximum turbidity criteria for each of the aquatic life use categories.

**Table 200 (1) (e)  
Aquatic Life Turbidity Criteria in Fresh Water**

Category	NTUs
Char Spawning and Rearing	Turbidity shall not exceed:  • 5 NTU over background when the background is 50 NTU or less; or  • A 10 percent increase in turbidity when the background turbidity is more than 50 NTU.

Category	NTUs
Core Summer Salmonid Habitat	Same as above.
Salmonid Spawning, Rearing, and Migration Salmonid Rearing and Migration <b>Only</b>	Same as above.  Turbidity shall not exceed: <ul style="list-style-type: none"> <li>• 10 NTU over background when the background is 50 NTU or less; or</li> <li>• A 20 percent increase in turbidity when the background turbidity is more than 50 NTU.</li> </ul>
Nonanadromous Interior Redband Trout	Turbidity shall not exceed: <ul style="list-style-type: none"> <li>• 5 NTU over background when the background is 50 NTU or less; or</li> <li>• A 10 percent increase in turbidity when the background turbidity is more than 50 NTU.</li> </ul>
Indigenous Warm Water Species	Turbidity shall not exceed: <ul style="list-style-type: none"> <li>• 10 NTU over background when the background is 50 NTU or less; or</li> <li>• A 20 percent increase in turbidity when the background turbidity is more than 50 NTU.</li> </ul>

The turbidity criteria established under WAC 173-201A-200 (1)(e) shall be modified, without specific written authorization from the department, to allow a temporary area of mixing during and immediately after necessary in-water construction activities that result in the disturbance of in-place sediments. This temporary area of mixing is subject to the constraints of WAC 173-201A-400 (4) and (6) and can occur 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 area of mixing shall be as follows:

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

(ii) For waters above 10 cfs up to 100 cfs flow at the time of construction, the point of compliance shall be 200 feet downstream of the activity causing the turbidity exceedance.

(iii) For waters above 100 cfs flow at the time of construction, the point of compliance shall be 300 feet downstream of the activity causing the turbidity exceedance.

(iv) For projects working within or along lakes, ponds, wetlands, or other nonflowing waters, the point of compliance shall be at a radius of 150 feet from the activity causing the turbidity exceedance.

(f) **Aquatic life total dissolved gas (TDG) criteria.** TDG is measured in percent saturation. Table 200 (1)(f) lists the maximum TDG criteria for each of the aquatic life use categories.

**Table 200 (1) (f)**  
**Aquatic Life Total Dissolved Gas Criteria**  
**in Fresh Water**

<b>Category</b>	<b>Percent Saturation</b>
Char Spawning and Rearing	Total dissolved gas shall not exceed 110 percent of saturation at any point of sample collection.
Core Summer Salmonid Habitat	Same as above.
Salmonid Spawning, Rearing, and Migration	Same as above.
Salmonid Rearing and Migration <b>Only</b>	Same as above.
Nonanadromous Interior Redband Trout	Same as above.
Indigenous Warm Water Species	Same as above.

(i) The water quality criteria established in this chapter for TDG shall not apply when the stream flow exceeds the seven-day, 10-year frequency flood.

(ii) The TDG criteria may be adjusted to aid fish passage over hydroelectric dams that spill for anadromous juvenile fish as of the 2020 spill season. The elevated TDG levels are intended to allow increased fish passage without causing more harm to fish populations than caused by turbine fish passage. The following special fish passage exemptions for the Snake and Columbia rivers apply when spilling water at dams is necessary to aid fish passage:

(A) TDG must not exceed:

- An average of 115 percent as measured in the forebays of the next downstream dams and must not exceed an average of 120 percent as measured in the tailraces of each dam (these averages are calculated as an average of the 12 highest hourly readings in a calendar day, relative to atmospheric pressure); and

- A maximum TDG saturation level of 125 percent calculated as an average of the two highest hourly TDG measures in a calendar day during spillage for fish passage.

(B) To further aid fish passage during the spring spill season (generally from April through June), spill may be increased up to the following levels as measured at the tailrace fixed site monitoring location:

- A maximum TDG saturation level of 125 percent calculated as an average of the 12 highest hourly TDG measures in a calendar day; and

- A maximum TDG saturation level of 126 percent calculated as an average of any two consecutive hourly TDG measures.

These TDG criteria may be applied in place of (f)(ii)(A) of this subsection during spring spill operations when applied in accordance with the following conditions:

(I) In addition to complying with the requirements of this chapter, the tailrace maximum TDG criteria at hydropower dams shall be applied in accordance with Endangered Species Act consultation documents associated with spill operations on the Snake and Columbia rivers, including operations for fish passage. The Endangered Species Act consultation documents are those by which dams may legally operate during the time that the adjusted criteria in (f)(ii)(B) of this subsection are in use.

(II) Application of the tailrace maximum TDG criteria must be accompanied by a department approved biological monitoring plan designed to measure impacts of fish exposed to increased TDG conditions throughout the spring spill season. Beginning in the year 2021, plans must include monitoring for nonsalmonid fish species and must continue for a minimum of five years, and thereafter as determined by the department.

(III) TDG must be reduced to allowances specified in (f) (ii) (A) of this subsection if the calculated incidence of gas bubble trauma in salmonids (with a minimum sample size of 50 fish required weekly) or nonsalmonids (with a minimum sample size of 50 fish required weekly) exceeds:

- Gas bubble trauma in nonpaired fins of 15 percent; or
- Gas bubble trauma in nonpaired fins of five percent and gas bubbles occlude more than 25 percent of the surface area of the fin.

If gas bubble trauma exceeds these biological thresholds, additional monitoring must demonstrate the incidence of gas bubble trauma below biological thresholds before TDG can be adjusted to allowances specified in this subsection. Gas bubble trauma monitoring data shall be excluded from comparison to biological thresholds when higher than normal river flow contributes to excess spill above the ability to meet (f) (ii) (B) of this subsection. This monitoring data exclusion shall apply for one full calendar day after reduced river flow allows attainment of (f) (ii) (B) of this subsection.

(g) **Aquatic life pH criteria.** Measurement of pH is expressed as the negative logarithm of the hydrogen ion concentration. Table 200 (1) (g) lists the pH levels for each of the aquatic life use categories.

**Table 200 (1) (g)  
Aquatic Life pH Criteria in Fresh Water**

Use Category	pH Units
Char Spawning and Rearing	pH shall be within the range of 6.5 to 8.5, with a human-caused variation within the above range of less than 0.2 units.
Core Summer Salmonid Habitat	Same as above.
Salmonid Spawning, Rearing, and Migration	pH shall be within the range of 6.5 to 8.5 with a human-caused variation within the above range of less than 0.5 units.
Salmonid Rearing and Migration <b>Only</b>	Same as above.
Nonanadromous Interior Redband Trout	Same as above.
Indigenous Warm Water Species	Same as above.

(h) **Aquatic life fine sediment criteria.** The following narrative criteria apply to all existing and designated uses for fresh water:

(i) Water bodies shall not contain excess fine sediment (<2 mm) from human-caused sources that impair designated uses.

(ii) When reference values are used to demonstrate compliance with the fine sediment criteria, measured conditions shall be compared to those from reference sites or regional data that represent least



disturbed site conditions of a comparable water body or ecoregion. Reference locations should be comparable in hydrography, geology, ecology, and habitat to that of the water body evaluated.

(2) **Recreational uses.** The recreational use is primary contact recreation.

(a) **General criteria.** General criteria that apply to fresh water recreational uses are described in WAC 173-201A-260 (2) (a) and (b), and are for:

- (i) Toxic, radioactive, and deleterious materials; and
- (ii) Aesthetic values.

(b) **Water contact recreation bacteria criteria.** Table 200 (2) (b) lists the bacteria criteria to protect water contact recreation in fresh waters. These criteria are based on *Escherichia coli* (*E. coli*) and fecal coliform organism levels, and expressed as colony forming units (CFU) or most probable number (MPN). The use of fecal coliform organism levels to determine compliance will expire December 31, 2020.

**Table 200 (2) (b)  
Primary Contact Recreation Bacteria Crite-  
ria in Fresh Water**

<b>Bacterial Indicator</b>	<b>Criteria</b>
<i>E. coli</i>	<i>E. coli</i> organism levels within an averaging period must not exceed a geometric mean value of 100 CFU or MPN per 100 mL, with not more than 10 percent of all samples (or any single sample when less than 10 sample points exist) obtained within the averaging period exceeding 320 CFU or MPN per 100 mL.
Fecal coliform (expires 12/31/2020)	Fecal coliform organism levels within an averaging period must not exceed a geometric mean value of 100 CFU or MPN per 100 mL, with not more than 10 percent of all samples (or any single sample when less than 10 sample points exist) obtained within an averaging period exceeding 200 CFU or MPN per 100 mL.

(i) A minimum of three samples is required to calculate a geometric mean for comparison to the geometric mean criteria. Sample collection dates shall be well distributed throughout the averaging period so as not to mask noncompliance periods.

(A) **Effluent bacteria samples:** When averaging effluent bacteria sample values for comparison to the geometric mean criteria, or for determining permit compliance, the averaging period shall be 30 days or less.

(B) **Ambient water quality samples:** When averaging bacteria sample values for comparison to the geometric mean criteria, it is preferable to average by season. The averaging period of bacteria sample data shall be 90 days or less.

(ii) When determining compliance with the bacteria criteria in or around small sensitive areas, such as swimming beaches, it is recommended that multiple samples are taken throughout the area during each visit. Such multiple samples should be arithmetically averaged together (to reduce concerns with low bias when the data is later used in

calculating a geometric mean) to reduce sample variability and to create a single representative data point.

(iii) As determined necessary by the department, more stringent bacteria criteria may be established for rivers and streams that cause, or significantly contribute to, the decertification or conditional certification of commercial or recreational shellfish harvest areas, even when the preassigned bacteria criteria for the river or stream are being met.

(iv) Where information suggests that sample results are due primarily to sources other than warm-blooded animals (e.g., wood waste), alternative indicator criteria may be established on a site-specific basis as described in WAC 173-201A-430.

(3) **Water supply uses.** The water supply uses are domestic, agricultural, industrial, and stock watering.

**General criteria.** General criteria that apply to the water supply uses are described in WAC 173-201A-260 (2)(a) and (b), and are for:

- (a) Toxic, radioactive, and deleterious materials; and
- (b) Aesthetic values.

(4) **Miscellaneous uses.** The miscellaneous fresh water uses are wildlife habitat, harvesting, commerce and navigation, boating, and aesthetics.

**General criteria.** General criteria that apply to miscellaneous fresh water uses are described in WAC 173-201A-260 (2)(a) and (b), and are for:

- (a) Toxic, radioactive, and deleterious materials; and
- (b) Aesthetic values.

AMENDATORY SECTION (Amending WSR 20-02-091, filed 12/30/19, effective 1/30/20)

**WAC 173-201A-210 Marine water designated uses and criteria.** The following uses are designated for protection in marine surface waters of the state of Washington. Use designations for specific water bodies are listed in WAC 173-201A-612.

(1) **Aquatic life uses.** Aquatic life uses are designated using the following general categories. It is required that all indigenous fish and nonfish aquatic species be protected in waters of the state.

(a) **The categories for aquatic life uses are:**

(i) **Extraordinary quality.** Water quality of this use class shall markedly and uniformly exceed the requirements for all uses including, but not limited to, salmonid migration and rearing; other fish migration, rearing, and spawning; clam, oyster, and mussel rearing and spawning; crustaceans and other shellfish (crabs, shrimp, crayfish, scallops, etc.) rearing and spawning.

(ii) **Excellent quality.** Water quality of this use class shall meet or exceed the requirements for all uses including, but not limited to, salmonid migration and rearing; other fish migration, rearing, and spawning; clam, oyster, and mussel rearing and spawning; crustaceans and other shellfish (crabs, shrimp, crayfish, scallops, etc.) rearing and spawning.

(iii) **Good quality.** Water quality of this use class shall meet or exceed the requirements for most uses including, but not limited to, salmonid migration and rearing; other fish migration, rearing, and spawning; clam, oyster, and mussel rearing and spawning; crustaceans

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

(iv) **Fair quality.** Water quality of this use class shall meet or exceed the requirements for selected and essential uses including, but not limited to, salmonid and other fish migration.

(b) **General criteria.** General criteria that apply to aquatic life marine water uses are described in WAC 173-201A-260 (2) (a) and (b), and are for:

- (i) Toxic, radioactive, and deleterious materials; and
- (ii) Aesthetic values.

(c) **Aquatic life temperature criteria.** Except where noted, temperature is measured as a 1-day maximum temperature (1-DMax). Table 210 (1)(c) lists the temperature criteria for each of the aquatic life use categories.

**Table 210 (1) (c)**  
**Aquatic Life Temperature Criteria in Marine Water**

Category	Highest 1-DMax
<i>Extraordinary quality</i>	13°C (55.4°F)
<i>Excellent quality</i>	16°C (60.8°F)
<i>Good quality</i>	19°C (66.2°F)
<i>Fair quality</i>	22°C (71.6°F)

(i) When a water body's temperature is warmer than the criteria in Table 210 (1)(c) (or within 0.3°C (0.54°F) of the criteria) and that condition is due to natural conditions, then ~~((human actions))~~ local and regional sources of human-caused pollution considered cumulatively may not cause the 7-DADMax temperature of that water body to increase more than 0.3°C (0.54°F) above natural conditions.

(ii) When the natural condition of the water is cooler than the criteria in Table 210 (1)(c), incremental temperature increases resulting from individual point source activities must not exceed the numeric criteria and must not, at any time, exceed 12/(T-2) as measured at the edge of a mixing zone boundary (where "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).

(iii) Temperatures are not to exceed the criteria at a probability frequency of more than once every ~~((ten))~~ 10 years on average.

(iv) Temperature measurements should be taken to represent the dominant aquatic habitat of the monitoring site. This typically means samples should not be taken from shallow stagnant backwater areas, within isolated thermal refuges, at the surface, or at the water's edge.

(v) The department will incorporate the following guidelines on preventing acute lethality and barriers to migration of salmonids into determinations of compliance with the narrative requirements for use protection established in this chapter (e.g., WAC 173-201A-310(1), 173-201A-400(4), and 173-201A-410 (1)(c)). The following site-level considerations do not, however, override the temperature criteria established for waters in subsection (1)(c) of this subsection or WAC 173-201A-612:

(A) Moderately acclimated (16-20°C, or 60.8-68°F) adult and juvenile salmonids will generally be protected from acute lethality by discrete human actions maintaining the 7-DADMax temperature at or be-

low 22°C (71.6°F) and the 1-DMax temperature at or below 23°C (73.4°F).

(B) Lethality to developing fish embryos can be expected to occur at a 1-DMax temperature greater than 17.5°C (63.5°F).

(C) To protect aquatic organisms, discharge plume temperatures must be maintained such that fish could not be entrained (based on plume time of travel) for more than two seconds at temperatures above 33°C (91.4°F) to avoid creating areas that will cause near instantaneous lethality.

(D) Barriers to adult salmonid migration are assumed to exist any time the 1-DMax temperature is greater than 22°C (71.6°F) and the adjacent downstream water temperatures are 3°C (5.4°F) or more cooler.

(vi) 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 33 U.S.C. 1326 (commonly known as section 316 of the Clean Water Act).

(d) **Aquatic life dissolved oxygen (D.O.) criteria.** Except where noted, D.O. concentrations are measured as a 1-day minimum in milligrams per liter. Table 210 (1) (d) lists the D.O. criteria for each of the aquatic life use categories.

**Table 210 (1) (d)  
Aquatic Life Dissolved Oxygen Criteria in  
Marine Water**

Category	Lowest 1-Day Minimum
<i>Extraordinary quality</i>	7.0 mg/L
<i>Excellent quality</i>	6.0 mg/L
<i>Good quality</i>	5.0 mg/L
<i>Fair quality</i>	4.0 mg/L

(i) When a water body's D.O. concentration is lower than the numeric criteria in Table 210 (1) (d) (or within 0.2 mg/L of the criteria) and that condition is due to natural conditions, then (~~human actions~~) local and regional sources of human-caused pollution considered cumulatively may not cause the D.O. concentration of that water body to decrease more than 10 percent or 0.2 mg/L below natural conditions, whichever decrease is smaller.

(ii) Concentrations of D.O. are not to fall below the criteria in the table at a probability frequency of more than once every (~~ten~~) 10 years on average.

(iii) D.O. measurements should be taken to represent the dominant aquatic habitat of the monitoring site. This typically means samples should not be taken from shallow stagnant backwater areas, within isolated thermal refuges, at the surface, or at the water's edge.

(e) **Aquatic life turbidity criteria.** Turbidity is measured in "nephelometric turbidity units" or "NTUs." Table 210 (1) (e) lists the one-day maximum turbidity allowed as a result of human actions for each of the aquatic life use categories.

**Table 210 (1) (e)  
Aquatic Life Turbidity Criteria in Marine  
Water**

Category	NTUs
<i>Extraordinary quality</i>	Turbidity must not exceed: • 5 NTU over background when the background is 50 NTU or less; or • A 10 percent increase in turbidity when the background turbidity is more than 50 NTU.
<i>Excellent quality</i>	Same as above.
<i>Good quality</i>	Turbidity must not exceed: • 10 NTU over background when the background is 50 NTU or less; or • A 20 percent increase in turbidity when the background turbidity is more than 50 NTU.
<i>Fair quality</i>	Same as above.

(i) The turbidity criteria established under WAC 173-201A-210 (1)(e) shall be modified, without specific written authorization from the department, to allow a temporary area of mixing during and immediately after necessary in-water construction activities that result in the disturbance of in-place sediments. This temporary area of mixing is subject to the constraints of WAC 173-201A-400 (4) and (6) and can occur 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. For estuaries or marine waters, the point of compliance for a temporary area of mixing shall be at a radius of (~~one hundred fifty~~) 150 feet from the activity causing the turbidity exceedance.

(f) **Aquatic life pH criteria.** Measurement of pH is expressed as the negative logarithm of the hydrogen ion concentration. Table 210 (1)(f) lists the pH levels allowed as a result of human actions for each of the aquatic life use categories.

**Table 210 (1)(f)  
 Aquatic Life pH Criteria in Marine Water**

Use Category	pH Units
<i>Extraordinary quality</i>	pH must be within the range of 7.0 to 8.5 with a human-caused variation within the above range of less than 0.2 units.
<i>Excellent quality</i>	pH must be within the range of 7.0 to 8.5 with a human-caused variation within the above range of less than 0.5 units.
<i>Good quality</i>	Same as above.
<i>Fair quality</i>	pH must be within the range of 6.5 to 9.0 with a human-caused variation within the above range of less than 0.5 units.

(2) **Shellfish harvesting.**

(a) General criteria. General criteria that apply to shellfish harvesting uses for marine water are described in WAC 173-201A-260

(2)(a) and (b), and are for:

- (i) Toxic, radioactive, and deleterious materials; and
- (ii) Aesthetic values.

(b) **Shellfish harvesting bacteria criteria.** Fecal coliform organism levels are used to protect shellfish harvesting. Criteria are expressed as colony forming units (CFU) or most probable number (MPN). Fecal coliform must not exceed a geometric mean value of 14 CFU or MPN per 100 mL, and not have more than 10 percent of all samples (or any single sample when less than ~~((ten))~~ 10 sample points exist) obtained for calculating the geometric mean value exceeding 43 CFU or MPN per 100 mL.

(i) Shellfish growing areas approved for unconditional harvest by the state department of health are fully supporting the shellfish harvest goals of this chapter, even when comparison with the criteria contained in this chapter suggest otherwise.

(ii) When averaging bacteria sample data for comparison to the geometric mean criteria, it is preferable to average by season and include five or more data collection events within each period. Averaging of data collected beyond a ~~((thirty))~~ 30-day period, or beyond a specific discharge event under investigation, is not permitted when such averaging would skew the data set so as to mask noncompliance periods. The period of averaging should not exceed ~~((twelve))~~ 12 months, and should have sample collection dates well distributed throughout the reporting period.

(iii) When determining compliance with the bacteria criteria in or around small sensitive areas, it is recommended that multiple samples are taken throughout the area during each visit. Such multiple samples should be arithmetically averaged together (to reduce concerns with low bias when the data is later used in calculating a geometric mean) to reduce sample variability and to create a single representative data point.

(iv) As determined necessary by the department, more stringent bacteria criteria may be established for waters that cause, or significantly contribute to, the decertification or conditional certification of commercial or recreational shellfish harvest areas, even when the preassigned bacteria criteria for the water are being met.

(v) Where information suggests that sample results are due primarily to sources other than warm-blooded animals (e.g., wood waste), alternative indicator criteria may be established on a site-specific basis by the department.

(3) **Recreational uses.** The recreational use is primary contact recreation.

(a) **General criteria.** General criteria that apply to water contact uses for marine water are described in WAC 173-201A-260 (2)(a) and (b), and are for:

- (i) Toxic, radioactive, and deleterious materials; and
- (ii) Aesthetic values.

(b) **Water contact recreation bacteria criteria.** Table 210 (3)(b) lists the bacteria criteria to protect water contact recreation in marine waters. These criteria are based on enterococci and fecal coliform organism levels, and expressed as colony forming units (CFU) or most probable number (MPN). The use of fecal coliform levels to determine compliance will expire December 31, 2020.

**Table 210 (3)(b)**

Primary Contact Recreation Bacteria Criteria in Marine Water

Bacterial Indicator	Criteria
Enterococci	Enterococci organism levels within an averaging period must not exceed a geometric mean value of 30 CFU or MPN per 100 mL, with not more than 10 percent of all samples (or any single sample when less than <del>((ten))</del> 10 sample values exist) obtained within the averaging period exceeding 110 CFU or MPN per 100 mL.
Fecal coliform (expires 12/31/2020)	Fecal coliform organism levels within an averaging period must not exceed a geometric mean value of 14 CFU or MPN per 100 mL, with not more than 10 percent of all samples (or any single sample when less than <del>((ten))</del> 10 sample points exist) obtained within an averaging period exceeding 43 CFU or MPN per 100 mL.

(i) A minimum of three samples is required to calculate a geometric mean for comparison to the geometric mean criterion. Sample collection dates shall be well distributed throughout the averaging period so as not to mask noncompliance periods.

(A) Effluent bacteria samples: When averaging effluent bacteria sample values for comparison to the geometric mean criteria, or for determining permit compliance, the averaging period shall be ~~((thirty))~~ 30 days or less.

(B) Ambient water quality samples: When averaging ambient bacteria sample values for comparison to the geometric mean criteria, it is preferable to average by season. The averaging period of bacteria sample data shall be ~~((ninety))~~ 90 days or less.

(ii) When determining compliance with the bacteria criteria in or around small sensitive areas, such as swimming beaches, it is recommended that multiple samples are taken throughout the area during each visit. Such multiple samples should be arithmetically averaged together (to reduce concerns with low bias when the data is later used in calculating a geometric mean) to reduce sample variability and to create a single representative data point.

(iii) As determined necessary by the department, more stringent bacteria criteria may be established for waters that cause, or significantly contribute to, the decertification or conditional certification of commercial or recreational shellfish harvest areas, even when the preassigned bacteria criteria for the water are being met.

(iv) Where information suggests that sample results are due primarily to sources other than warm-blooded animals (e.g., wood waste), alternative indicator criteria may be established on a site-specific basis as described in WAC 173-201A-430.

(4) **Miscellaneous uses.** The miscellaneous marine water uses are wildlife habitat, harvesting, commerce and navigation, boating, and aesthetics.

**General criteria.** General criteria that apply in miscellaneous marine water uses are described in WAC 173-201A-260 (2)(a) and (b), and are for:

- (a) Toxic, radioactive, and deleterious materials; and

(b) Aesthetic values.

AMENDATORY SECTION (Amending WSR 11-09-090, filed 4/20/11, effective 5/21/11)

**WAC 173-201A-260 Natural conditions and other water quality criteria and applications.** (1) **Natural and irreversible human conditions.**

(a) It is recognized that portions of many water bodies cannot meet the assigned aquatic life criteria due to the natural conditions of the water body. When a water body does not meet its assigned aquatic life criteria due to natural climatic or landscape attributes, the ~~((natural conditions constitute the water quality criteria))~~ following will be used to determine site-specific numeric aquatic life criteria representing conditions unique to a water body:

(i) Aquatic life criteria based on natural conditions for temperature or dissolved oxygen for fresh or marine waters, or pH for fresh waters, will be derived by following either the site-specific criteria approach pursuant to WAC 173-201A-430 or the performance-based approach pursuant to WAC 173-201A-470.

(ii) For all aquatic life parameters other than those listed in (a)(i) of this subsection, aquatic life criteria based on natural conditions will be derived by following the site-specific criteria approach pursuant to WAC 173-201A-430.

(b) When a water body does not meet its assigned criteria due to human structural changes that cannot be effectively remedied (as determined consistent with the federal regulations at 40 C.F.R. 131.10), then alternative estimates of the attainable water quality conditions, plus any further allowances for human effects specified in this chapter for when natural conditions exceed the criteria, may be used to establish an alternative criteria for the water body (see WAC 173-201A-430 and 173-201A-440).

(2) **Toxics and aesthetics criteria.** The following narrative criteria apply to all existing and designated uses for fresh and marine water:

(a) Toxic, radioactive, or deleterious material concentrations must 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 (see WAC 173-201A-240, toxic substances, and 173-201A-250, radioactive substances).

(b) Aesthetic values must 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 (see WAC 173-201A-230 for guidance on establishing lake nutrient standards to protect aesthetics).

(3) **Procedures for applying water quality criteria.** In applying the appropriate water quality criteria for a water body, the department will use the following procedure:

(a) The department will establish water quality requirements for water bodies, in addition to those specifically listed in this chapter, on a case-specific basis where determined necessary to provide full support for designated and existing uses.

(b) Upstream actions must be conducted in manners that meet downstream water body criteria. Except where and to the extent described



otherwise in this chapter, the criteria associated with the most upstream uses designated for a water body are to be applied to headwaters to protect nonfish aquatic species and the designated downstream uses.

(c) Where multiple criteria for the same water quality parameter are assigned to a water body to protect different uses, the most stringent criterion for each parameter is to be applied.

(d) At the boundary between water bodies protected for different uses, the more stringent criteria apply.

(e) In brackish waters of estuaries, where different criteria for the same use occurs for fresh and marine waters, the decision to use the fresh water or the marine water criteria must be selected and applied on the basis of vertically averaged daily maximum salinity, referred to below as "salinity."

(i) The fresh water criteria must be applied at any point where (~~ninety-five~~) 95 percent of the salinity values are less than or equal to one part per thousand, except that the fresh water criteria for bacteria applies when the salinity is less than (~~ten~~) 10 parts per thousand; and

(ii) The marine water criteria must apply at all other locations where the salinity values are greater than one part per thousand, except that the marine criteria for bacteria applies when the salinity is (~~ten~~) 10 parts per thousand or greater.

(f) Numeric criteria established in this chapter are not intended for application to human created waters managed primarily for the removal or containment of pollution. This special provision also includes private farm ponds created from upland sites that did not incorporate natural water bodies.

(i) Waters covered under this provision must be managed so that:

(A) They do not create unreasonable risks to human health or uses of the water; and

(B) Discharges from these systems meet down gradient surface and ground water quality standards.

(ii) This provision does not apply to waterways designed and managed primarily to convey or transport water from one location to another, rather than to remove pollution en route.

(g) When applying the numeric criteria established in this chapter, the department will give consideration to the precision and accuracy of the sampling and analytical methods used, as well as the existing conditions at the time.

(h) The analytical testing methods for these numeric criteria must be in accordance with the "*Guidelines Establishing Test Procedures for the Analysis of Pollutants*" (40 C.F.R. Part 136) or superseding methods published. The department may also approve other methods following consultation with adjacent states and with the approval of the USEPA.

(i) The primary means for protecting water quality in wetlands is through implementing the antidegradation procedures described in Part III of this chapter.

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

(ii) 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.

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

AMENDATORY SECTION (Amending WSR 03-14-129, filed 7/1/03, effective 8/1/03)

**WAC 173-201A-430 Site-specific criteria.** (1) Where the (~~at-  
tainable condition of~~) existing and designated uses for the water body would be fully protected using an alternative criterion, site-specific criteria may be adopted.

(a) The site-specific criterion must be consistent with the federal regulations on (~~designating and~~) protecting uses (currently 40 C.F.R. (~~131.10 and~~) 131.11); and

(b) The decision to approve a site-specific criterion must be subject to a public involvement and intergovernmental coordination process.

(2) The site-specific analyses for the development of a new water quality criterion must be conducted in a manner that is scientifically justifiable and consistent with (~~the assumptions and rationale in "Guidelines for Deriving National Water Quality Criteria for the Protection of Aquatic Organisms and their Uses," EPA 1985~~) 40 C.F.R. 131.11; and conducted in accordance with the procedures established in the *"Water Quality Standards Handbook,"* EPA (~~1994~~) 2023, as revised.

(3) The decision to approve the site-specific criterion must be based on a demonstration that it will protect the existing and (~~at-  
tainable~~) designated uses of the water body.

(4) Site-specific criteria are not in effect until they have been incorporated into this chapter and approved by the USEPA.

NEW SECTION

**WAC 173-201A-470 Performance-based approach.** The performance-based approach may be used by the department to establish numeric criteria based on natural conditions that are fully protective of existing and designated aquatic life uses.

(1) Aquatic life water quality criteria must be derived using the procedures referenced in ecology publication 25-10-001, *"A Performance-Based Approach for Developing Site-Specific Natural Conditions Criteria for Aquatic Life in Washington"*.

(2) Application of the performance-based approach for establishing aquatic life water quality criteria is limited to the following listed water quality constituents:

- (a) Aquatic life temperature criteria in fresh water;
- (b) Aquatic life dissolved oxygen criteria in fresh water;
- (c) Aquatic life pH criteria in fresh water;
- (d) Aquatic life temperature criteria in marine water;
- (e) Aquatic life dissolved oxygen criteria in marine water.

(3) Aquatic life water quality criteria developed using this approach are applicable to the water body upon derivation.

(4) If the requirements set forth in the performance-based approach cannot be met, then site-specific criteria can be established by following the alternatives listed at WAC 173-201A-260 (1)(a)(i).