

Application of Water Quality Criteria in Brackish Waters

Background

Chapter 173-201A of the Washington Administrative Code (WAC), the Surface Water Quality Standards (standards) contains the description of the designated uses associated with each waterbody in the state. General use category designations are assigned in accordance with the general use descriptions in sections 600 and 610 of the standards. In addition, the standards contain specific use category designations for some waterbodies which are listed in Tables 602 (freshwater) and 612 (marine). Each use category designation, either general or waterbody-specific, corresponds to assigned numeric criteria. Special circumstances that require further instructions to determine which numeric criteria apply to a designated use category are guided by the rules in subsection 260(3), *Procedures for applying water quality criteria*.

Purpose

The purpose of this document is to provide guidance on applicable criteria for brackish waters defined by subsection 260(3)(e) and listed in the waterbody-specific use designations in Tables 602 and 610. The specific question this document intends to address is which numeric criteria apply to waters that are listed in these tables when a salinity-based determination of marine versus freshwater is incongruent with the table (freshwater or marine) in which the use category designation is assigned. For example, a use category designation may be assigned within the freshwater use designation Table 602, but the salinity conditions, in accordance with subsection 260(3)(e)(ii), require that marine water quality criteria be applied to that waterbody. The Washington State Department of Ecology (Ecology) is aware of waterbodies in common with this example, and this document provides guidance for these waters. At this time, Ecology has not identified any waterbodies in Table 610 marine use designations that are also determined to be freshwater in accordance with subsection 260(3)(e)(i). However, if this inverse situation is identified in the future, the same reasoning in this guidance will apply.

Discussion

Section 600 sets rules for assigning use designation for the state's freshwaters and Table 602 assigns additional waterbody-specific use designations. Some waterbody descriptions listed in Table 602 include portions of brackish waters that are designated as marine water for the purposes of assigning numeric criteria for the designated use. For the brackish portions of these waterbody-specific designations, the use category in Table 602 is the applicable basis for applying criteria. However, the salinity provision in subsection 260(3)(e) directs the assignment of criteria in the brackish portions of the waterbody, such that the marine criteria associated with the use designation in the freshwater table is applied.

Table 1 below describes how the corresponding use categories can be applied.

Application of Water Quality Criteria in Brackish Waters

Table 1. Use category equivalencies for assigning criteria in brackish waters.

| Use Type | Freshwater Use Category | Marine Use Category |
|----------------------|-------------------------------------------|------------------------------|
| Aquatic Life Uses | Char spawning and rearing | Extraordinary quality |
| | Core summer salmonid habitat | |
| | Salmonid spawning, rearing, and migration | Excellent quality |
| | Salmonid rearing and migration only | Good quality |
| | n/a | Fair quality |
| | Non-anadromous interior redband trout | n/a |
| | Indigenous warm water species | n/a |
| Recreational Uses | Extraordinary primary contact recreation | Primary contact recreation* |
| | Primary contact recreation | Primary contact recreation |
| | Secondary contact recreation | Secondary contact recreation |
| Shellfish Harvesting | n/a | Shellfish harvesting |
| Water Supply Uses | Domestic | n/a |
| | Agricultural | n/a |
| | Industrial | n/a |
| | Stock watering | n/a |
| Miscellaneous Uses | Wildlife habitat | Wildlife habitat |
| | Harvesting | Harvesting |
| | Commerce and navigation | Commerce and navigation |
| | Boating | Boating |
| | Aesthetics | Aesthetics |

*Note that the term 'Extraordinary primary contact recreation' is not applied to marine waters in Table 610. This term is implied for those waters for use designations of extraordinary aquatic life use provided by subsection 600(1)(A)(iv) which states that all fresh surface waters that are tributaries to extraordinary aquatic life marine waters are to be protected for extraordinary primary contact recreation.

In some estuarine areas the adjacent downstream marine use designation in Table 610 may be different than the upstream use designations in Table 602. In these waters the spatial delineation of designated use categories are applicable as listed in the tables. However, the associated criteria for the assigned designated use category is determined by the salinity conditions of the waterbody in accordance with subsection 260(3)(e). Diagram 1 illustrates this situation and shows which criteria apply when different designated use categories exist for adjacent waters between Tables 602 and 610. The example here shows a designated use (such as Aquatic Life Use or Recreation Use) and different theoretical categories within that designated use, noted here as "X" and "Y". For the purpose of this illustration an example of use designation categories could be those within recreational criteria such as secondary contact (X) and primary contact (Y).

Application of Water Quality Criteria in Brackish Waters

Diagram 1. Assignment of appropriate marine or freshwater criteria in brackish surface waters.

