

Citation/Title
WAC 173-201A-100, 173-201A-100. Mixing zones.

*12748 WAC 173-201A-100

**WASHINGTON ADMINISTRATIVE CODE
TITLE 173. ECOLOGY, DEPARTMENT OF
CHAPTER 173-201A. WATER QUALITY STANDARDS FOR SURFACE WATERS OF THE
STATE OF WASHINGTON--SURFACE WATERS**

Current with amendments adopted through September 5, 2001.

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

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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.

***12749** (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);

***12750** (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.

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(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.

*12751 (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.

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(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.

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