

# Alaska Water Quality Standards

## 2003-2005 Triennial Review

Keeping Alaska's waters Swimmable, Fishable, Drinkable and Workable



State of Alaska > DEC > Water > Water Quality Assessment and Monitoring > Water Quality Standards > Triennial Review

### Mixing Zone Regulations Public Notice

Contact: Nancy Sonafrank  
(907) 451-2726.

\* The comment period for this proposal has been extended until **5 PM on November 1, 2004**. Please make comments during this time.

DEC is proposing several changes to the current Mixing Zone regulations. These changes are being recommended for review and consideration. DEC is currently seeking public comments on the proposed changes. Public hearings at the following locations and times. Comments will be accepted from **July 26 through September 10, 2004**.

Fairbanks , August 24 from 4-6 p.m. - 119 N Cushman Street, Suite 101 .

Anchorage , August 25 from 4-6 p.m. - 716 W. 4 th Ave, Suite 200 .

Juneau , August 26 from 4-6 p.m.- Terry Miller Building , Suite 111

For more information, contact Nancy Sonafrank in the Fairbanks DEC office, at the number listed above.

Click on the titles below to learn more about the proposed changes.

Public Notice	<i>Frequently Asked Questions: Proposed Mixing Zone Revisions and Permitting Examples</i>
Letter to Stakeholders	Mixing Zone Revision Summary
Introduction to Mixing Zones	Mixing Zone Guidance
Link to Proposed Regulation Changes	Current and Proposed Mixing Zone Comparison
How to make comments on a public notice	Briefing Presentation for Public Hearings

**DIVISION OF WATER**  
**WATER QUALITY ASSESSMENT AND MONITORING PROGRAM**

610 University Ave  
Fairbanks, AK 99709  
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July 27, 2004

Dear Interested Alaskan:

The Department of Environmental Conservation (DEC) is seeking comments on proposed revisions to the Mixing Zones sections of the Alaska Water Quality Standards in 18 AAC 70. The Water Quality Standards serve as the basis for decisions which are made to protect and restore water quality in Alaska. Every three years DEC is required to review the Alaska Water Quality Standards. This process is called the *Triennial Review*. The selected topics are thoroughly and rigorously researched for the most recent information and technology; then goes through a public comment period for proposed regulation revisions. One of the topics chosen for review is Mixing Zones.

DEC is proposing several changes to the Mixing Zones sections of the Water Quality Standards in 18 AAC 70.240 through .270 to:

- Improve clarity and reduce redundancy.
- Allow mixing zones in certain fish spawning areas where there will be no adverse effect on the capability of an area to support fish spawning, rearing, or incubation. The proposed regulations provide for consideration of measures that would offset the potential adverse effects of mixing zones on aquatic resources.
- Simplify some technical provisions including ones dealing with risk assessment, flow calculations, and mixing zone models.

Visit our website for more information about these proposals at:

<http://www.state.ak.us/dec/water/wqsar/trireview/mixingzones.htm>

If you would like to submit comments on these proposals, you may submit them in writing to:

Nancy Sonafrank  
610 University Drive  
Fairbanks, Alaska 99709  
Email: [nancy\\_sonafrank@dec.state.ak.us](mailto:nancy_sonafrank@dec.state.ak.us)

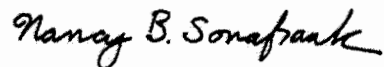
Or, you may attend a public hearing to submit your testimony in person. The meeting locations and times are listed below. **All comments must be submitted by September 10, 2004.** If you are a person who requires special assistance to access documents or the hearings, please contact: Brenda Duty, Project Coordinator at (907) 451-2141 or email [brenda\\_duty@dec.state.ak.us](mailto:brenda_duty@dec.state.ak.us) by August 23, 2004

**Hearing Schedule:**

August 24, 2004	4:00 p.m. – 6:00 p.m.	Legislative Information Office	119 N Cushman Street, Suite 101 Fairbanks, Alaska
August 25, 2004	4:00 p.m. – 6:00 p.m.	Legislative Information Office	716 W. 4 <sup>th</sup> Ave, Suite 200 Anchorage, Alaska
August 26, 2004	4:00 p.m. – 6:00 p.m.	Legislative Information Office	Terry Miller Building, Suite 111. Juneau, Alaska

Thank you for your interest in the health of Alaska's waters.

Sincerely,



Nancy Sonafrank  
Water Quality Standards Section Manager

Enclosure (s)

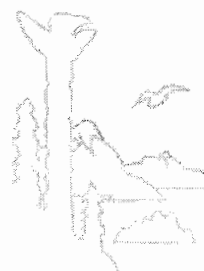
cc: Dan Easton, DEC/Juneau  
Ernesta Ballard, DEC/Juneau

# Water Quality Standards

<http://www.state.ak.us/dec/water/wqsar/trireview/trireview.htm>

## 2003-2005 Triennial Review

Section Manager, Nancy Sonafrank  
(907) 451-2726



## Introduction to Mixing Zones

### What is a Mixing Zone and why do we need them?

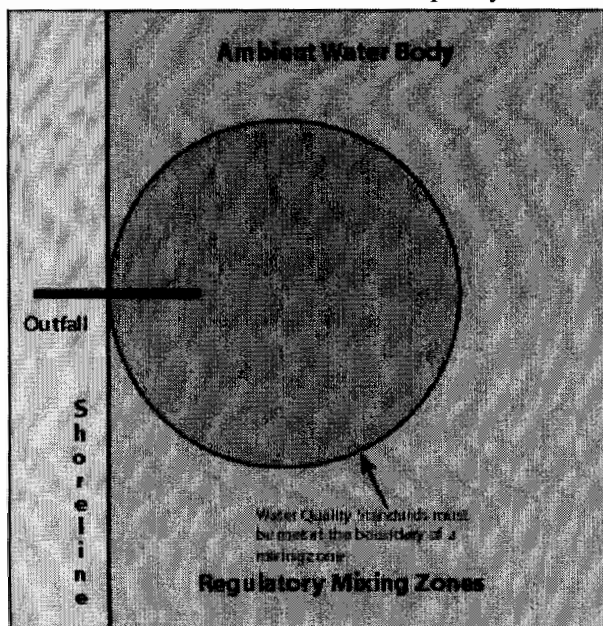
Even with the best treatment technology, wastewater discharges from sewage treatment and industrial facilities (i.e. mining, seafood processing, oil exploration or production, etc.) sometimes have low levels of pollutants. Most wastewater discharges permitted in Alaska are to surface waters such as the ocean, streams, or rivers. The area where treated wastewater mixes with a water body is called a mixing zone.

All wastewater discharges into surface water require a permit that may contain authorization for a mixing zone. Mixing zone authorizations take into consideration habitat and aquatic life, water flow, water quantity, natural currents, and the quantity and quality of the wastewater that's being discharged. Requiring a permit for mixing zones ensures that they are carefully designed, water quality is monitored, and that water quality standards are met outside the mixing zone boundary so as not to harm people or the environment.

All states have mixing zone provisions to ensure that pollutants in wastewater discharges are monitored and quickly diluted before they can negatively impact people or the environment.

### Who needs a Mixing Zone?

Any facility that discharges treated wastewater into surface water in Alaska must have a permit. If pollutants in the wastewater exceed the water quality standards, the permit will include a mixing zone authorization. The permit is subject to public notice and review.



### What does a Mixing Zone look like?

Wastewater is discharged into a water body from a pipe that usually enters the water well below the water's surface to ensure rapid mixing. The discharge is usually made downstream from any direct contact with people. Signs are posted to inform people of mixing zones in particular areas. The diagram shows what a typical mixing zone design looks like.

### Where do I find the current Mixing Zone regulations?

You can find the regulations on the State's website at <http://www.state.ak.us/dec/regulations/>. The regulations that pertain to mixing zones can be found in 18 AAC 70 *Water Quality Standards*.

**18 AAC 70 is amended by adding a new section to read:**

**18 AAC 70.240. Mixing zones.** (a) Upon application, the department may authorize in a discharge permit, certification, or order, a mixing zone or multiple mixing zones in which the water quality criteria and any limit set by or under this chapter may be exceeded. The applicant shall provide to the department all available evidence reasonably necessary to demonstrate that a mixing zone will satisfy this section and shall provide information in a form and using methods approved by the department. The department may approve, approve with conditions, or deny a mixing zone application.

(b) In determining whether to authorize a mixing zone under this section, the department will consider

(1) the characteristics of the receiving water, including biological, chemical, and physical characteristics such as volume, flow rate, flushing and mixing characteristics;

(2) the characteristics of the effluent, including volume, flow rate, dispersion, and quality after treatment;

(3) the effects, if any, including cumulative effects of multiple discharges and diffuse, nonpoint source inputs, that the discharge will have on the uses of the receiving water;

(4) any additional measures that would offset potential adverse effects to the aquatic resources present; and

(5) any other factors the department finds must be considered to determine whether a mixing zone will comply with this section.

(c) The department will approve a mixing zone, as proposed or with conditions, only if it finds that available evidence reasonably demonstrates that

(1) an effluent or substance will be treated to remove, reduce, and disperse pollutants, using methods found by the department to be the most effective and technologically and economically feasible, consistent with the highest statutory and regulatory treatment requirements;

(2) existing uses of the waterbody outside the mixing zone will be maintained and protected;

and (3) the overall biological integrity of the waterbody will not be impaired;

(4) the mixing zone will not

(A) result in a toxic effect in the water column, sediments, or biota outside the boundaries of the mixing zone;

(B) create a public health hazard through encroachment on existing uses of the waterbody for water supply or contact recreation;

(C) preclude or limit established processing activities or commercial, sport, personal-use, or subsistence fish and shellfish harvesting;

(D) in streams, rivers, or other flowing fresh waters, result in a reduction in fish population levels;

(E) in streams, rivers, or other flowing fresh waters, adversely affect the capability of an area to support spawning, incubation or rearing of anadromous or resident fish;

(F) in streams, rivers, or other flowing fresh waters, result in permanent or irreparable displacement of indigenous organisms;

(G) adversely affect threatened or endangered species under the Endangered Species Act (16 U.S.C. 1531-1544); or

(H) form a barrier to migratory species or fish passage.

(d) The department will approve a mixing zone, as proposed or with conditions, only if the department finds that available evidence reasonably demonstrates that within the mixing zone the pollutants discharged will not

(1) bioaccumulate, bioconcentrate, or persist above natural levels in sediments, water, or biota to significantly adverse levels, based on consideration of bioaccumulation and bioconcentration factors, toxicity, and exposure;

(2) present an unacceptable risk to human health from carcinogenic, mutagenic, teratogenic, or other effects;

(3) settle to form objectionable deposits, except as authorized under 18 AAC 70.210;

(4) produce floating debris, oil, scum and other material in concentrations that form nuisances;

(5) result in undesirable or nuisance aquatic life;

(6) produce objectionable color, taste, or odor in aquatic resources harvested for human consumption;

(7) cause lethality to passing organisms;

(8) exceed acute aquatic life criteria at and beyond the boundaries of a smaller initial mixing zone surrounding the outfall, the size of which shall be determined using methods approved by the department.

(e) The department will approve a mixing zone, as proposed or with conditions, only if it finds that the mixing zone is as small as practicable and will comply with the following size restrictions, unless the department finds that evidence is sufficient to reasonably demonstrate that these size limitations can be safely increased:

(1) for estuarine and marine waters, measured at mean lower low water,

(A) the cumulative linear length of all mixing zones intersected on any given cross section of an estuary, inlet, cove, channel, or other marine water may not exceed 10 percent of the total length of that cross section; and

(B) the total horizontal area allocated to mixing zones may not exceed 10 percent of the surface area;

(2) for lakes, the total horizontal area allocated to all mixing zones may not exceed 10 percent of the lake's surface area;

(3) for streams, rivers, or other flowing fresh waters, the length of a mixing zone may not extend beyond the computed point of complete mixing, as determined using a standard river flow mixing model or other methods accepted by the department;

(4) for streams, rivers, or other flowing fresh waters, the length of a mixing zone may not extend downstream beyond the location where the department determines that a public health hazard will occur.

(f) For streams, rivers, or other flowing fresh waters, in calculating the maximum pollutant discharge limitation, the volume of flow available for dilution must be determined using the actual flow data collected concurrent with the discharge or using other methods approved by the department.

(g) If the department finds that available evidence reasonably demonstrates that a mixing zone authorized by the department has had or is having a significant unforeseen adverse environmental effect, the department will terminate, modify, or deny renewal of the permit, certification, or order authorizing the mixing zone. (Eff. 11/1/97, Register 143; am \_\_\_/\_\_\_/\_\_\_, Register \_\_\_)

Authority:	AS 46.03.010	AS 46.03.080	AS 46.03.110
	AS 46.03.020	AS 46.03.090	AS 46.03.710
	AS 46.03.050	AS 46.03.100	AS 46.03.720
	AS 46.03.070		

18 AAC 70.245 is repealed:

**18 AAC 70.245. Mixing zones: appropriateness and size determination.**  
Repealed. (Eff. 11/1/97, Register 143; repealed \_\_\_/\_\_\_/\_\_\_, Register \_\_\_)

18 AAC 70.250 is repealed:

**18 AAC 70.250. Mixing zones: general conditions.** Repealed. (Eff. 11/1/97, Register 143; repealed \_\_\_/\_\_\_/\_\_\_, Register \_\_\_)

18 AAC 70.255 is repealed:

**18 AAC 70.255. Mixing zones: in-zone quality and size specifications.**  
Repealed. (Eff. 11/1/97, Register 143; repealed \_\_\_/\_\_\_/\_\_\_, Register \_\_\_)

18 AAC 70.260 is repealed:

**18 AAC 70.260. Mixing zones: application requirements.** Repealed. (Eff. 11/1/97, Register 143; repealed \_\_\_/\_\_\_/\_\_\_, Register \_\_\_)



Register \_\_\_\_, \_\_\_\_\_ 200\_\_ ENVIRONMENTAL CONSERVATION

18 AAC 70.270 is repealed:

**18 AAC 70.270. Mixing zones: termination, modification, or denial of renewal.** Repealed. (Eff. 11/1/97, Register 143; repealed \_\_/\_\_/\_\_\_\_, Register \_\_)

# Water Quality Standards

<http://www.state.ak.us/dec/water/wqsar/trireview/trireview.htm>

**2003-2005 Triennial Review**

Section Manager, Nancy Sonafrank



## Frequently Asked Questions: 2004 Proposed Mixing Zones Revisions and Permitting Examples

**What is a Mixing Zone?** In introducing the concept of mixing zones, EPA guidance (the *Water Quality Standards Handbook*) states that, "It is not always necessary to meet all water quality criteria within the discharge pipe to protect the integrity of the water body as a whole. Sometimes, it is appropriate to allow for ambient concentrations above the criteria in small areas near outfalls. These areas are called mixing zones." The Handbook goes on to define mixing zones as "an area where an effluent discharge undergoes initial dilution and is extended to cover the secondary mixing in the ambient water body. A mixing zone is an allocated impact zone where water quality criteria can be exceeded as long as acutely toxic conditions are prevented." DEC's mixing zone provision complies with these federal guidelines and has been approved by EPA.

**Why amend the mixing zone provisions?** The regulations have been added to and modified in a piecemeal fashion over the years. The result is a much longer than necessary, duplicative and poorly organized regulation. One reason to amend the regulations is simply to overhaul them to improve organization and eliminate duplication without changing content. The amendments also include a substantive change to the current all-out ban on mixing zones in freshwater spawning areas. The department, along with the other state resource agencies, has come across permitting situations where the current ban on mixing zones in spawning areas is unnecessary to protect spawning success or fish populations. (More on that later.)

**Do other States have mixing zone provisions?** All states have provision for mixing and dilution of discharges in receiving waters either through regulation (46 states) or through agency policies and procedures (four states). (C-SAW Mixing Zone Survey)

**Do other states ban mixing zones in spawning areas?** As part of developing proposed amendments, DEC polled all other states to find out how they deal with mixing zones in spawning areas. Of the 21 states that responded to our survey, we found only one state (Minnesota) that has the flat out prohibition on mixing zones in spawning areas similar to our current regulation. State mixing zone regulations vary widely, but nine states allowed mixing zones in spawning areas under certain circumstances, similar to Alaska's proposed regulations. Eleven of the 21 states did not afford spawning any specific consideration under their mixing zone provisions.

**Will DEC be making mixing zone decisions alone, or will other agencies be consulted?**

DEC has proposed guidance which calls for consultation with the Department of Natural Resources, Office of Habitat Management and Permitting and the Department of Fish and Game, Division of Sport Fish whenever it is considering designating a mixing zone in a spawning area. As the primary wastewater discharge permitting authority in Alaska, the Environmental Protection Agency also participates in most mixing zone decisions.

**How would the proposed changes protect fish and spawning habitat?** We envision three situations where a mixing zone could be designated in a spawning area.

- Some pollutants that affect water quality do not necessarily impact fish or fish spawning. For example, discharges that affect the color of receiving waters or bacteria concentrations usually have no effect on spawning and a mixing zone might be designated. On the other hand, there are pollutants such as sediments or chlorine which can adversely affect fish and fish spawning. The regulation would not allow mixing zones for those substances in spawning areas.
- Since fish do not all spawn at all times of year, discharges may be timed to avoid impacts to fish spawning and to protect eggs, juvenile fish and spawning habitat.
- There may be situations where adverse effects can be offset by habitat improvements or other measures that would maintain area spawning success, and fish populations and health.

**Will the water quality affect the quality of fish products?** The proposed regulation does not change any of the current water quality standards that protect fish from exposure to contaminants outside of mixing zones. The amendments also retain all of the current protections within mixing zones to guard against exposure to toxic and persistent pollutants or concentration of pollutants through food chain.

**Are there real examples where the current ban on mixing zones in spawning areas is not working?**

- In 1976, the City of Valdez constructed a ditch to carry treated municipal wastewater from their sewage lagoon to the nearby ocean. When the City of Valdez recently applied for a new permit, a mixing zone was not allowed because salmon had begun spawning in the treated effluent. The alternative would be expensive and unneeded treatment or a \$1 million pipe to convey the effluent to the ocean.
- Golden Heart Utilities in Fairbanks (GHU) is another example. GHU applied to renew a discharge permit for backwash water from its drinking water facility when it was discovered that grayling spawn in the mixing zone area. The discharge contains lime sludge, a water softening by-product that has been shown to have no effect on grayling spawning. Nevertheless, the current ban prohibits designating a mixing zone and any discharge. As a result, GHU has spent well over \$1 million to redesign its operation and is shipping lime to the Fairbanks landfill adding significant operating costs and shortening the life of the landfill.

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
DIVISION OF WATER  
PROGRAM GUIDANCE



**DRAFT GUIDANCE FOR PROPOSED MIXING ZONE REGULATIONS**

**Purpose:** This DRAFT guidance to Department wastewater discharge staff reflects proposed changes to 18 AAC 70.240 regarding mixing zones

**Mixing zones in fish spawning areas:** **Consultation with other state resource agencies**

In rivers, streams and flowing waters, a mixing zone may not cause adverse effects on the capability of an area to support spawning, incubation or rearing of anadromous or resident fish. The Alaska Department of Natural Resources, Office of Habitat Management and Permitting (OHMP) will be contacted by DEC to determine if a proposed mixing zone is in a spawning area. If the mixing zone is in a spawning area, the department will consult with OHMP and the Alaska Department of Fish and Game's, Division of Sport Fish about potential adverse effects on spawning, incubation or rearing and any additional measures that would offset potential adverse effects.

**Computer models:**

Mixing Zone models are tools used to predict how substances mix upon discharge to a receiving water. Department staff primarily use two mixing zone models, CORMIX and PLUMES, however other models, if approved by the department, may be used to determine mixing zone characteristics. The CORMIX and PLUMES models are most accurate for near field dilution determinations, but are also capable of providing estimates of farfield dilution.

1. CORMIX This is a modular, empirically based modeling software designed to model single port discharges, multiple port discharges, and surface discharges.
2. PLUMES This model uses algorithms and has an interface called VISUAL PLUMES.

Both CORMIX and PLUMES provide graphic representation of the plume size and associated dilutions. Care must be exercised when using the models for far field determinations, e.g. when a plume reaches a boundary such as a river bank.

- Initial Mixing/Acute Zone:** Compliance with proposed 18 AAC 70.240(d)(8) of the Water Quality regulations is assured if:
1. The initial discharge velocity is 3 m/s or greater and the mixing zone is no larger than 50 times the discharge length scale (the square-root of the cross-sectional area).
  2. Acute water quality criteria, or the Criteria Maximum Concentration (CMC) is met within 10% of the chronic mixing zone size, within a distance of 50 times the discharge length scale and within a distance of 5 times the local water depth.
  3. A drifting organism reaches the CMC boundary in 15 minutes or less.

See *Technical Support Document for Water Quality-Based Toxics Control*. 1991. EPA/505/2-90-001.

**Human Health:** Proposed 18 AAC 70.240(d)(2) prohibits mixing zones that would present an unacceptable risk to human health. To determine health risk, the Department may require an applicant to perform a site-specific analysis based on exposure pathways, including exposure duration of affected aquatic organisms in the proposed mixing zone, patterns of fisheries use, and consumption of water, fish, or shellfish in the area.

- Flow Calculations for Rivers:** In calculating mixing zones for rivers, modeling should reflect the following flow conditions:
- Conventional & non-toxic substances (BOD, TSS, fecal coliform & pH): 7Q10 low flow.
  - Toxic substances: Acute or Criteria Maximum Concentration (CMC) uses the 1Q10 flow. Chronic or Criteria Continuous Concentration (CCC) uses the 7Q10 flow.
  - Human Health or Agricultural Carcinogenic criteria uses the harmonic mean flow.
  - Human Health or Agricultural Non-Carcinogenic criteria uses the 30Q5 flow.

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Dan Easton, Director  
Division of Water

Date

# Water Quality Standards

<http://www.state.ak.us/dec/water/wqsar/trireview/trireview.htm>

## 2003-2005 Triennial Review

Section Manager, Nancy Sonafrank  
(907) 451-2726



## Proposed Water Quality Standards Revision Summary Mixing Zones

### What is a mixing zone?

A mixing zone is a permitted area in which discharged substances mix with, and are diluted by receiving waters. Some water quality criteria may be exceeded in a mixing zone. Mixing zone rules are found in the Water Quality Standards regulations at 18 AAC 70.240-270.

### *What changes are being proposed and why?*

**1. Mixing zones in spawning areas may be permitted when they do not adversely affect the capability of the area to support fish spawning, incubation and rearing in rivers and streams.** The current regulations contain an absolute prohibition on mixing zones in fish spawning areas in rivers and streams ignoring whether the mixing zone would have any effect on spawning. For example, current regulations do not allow DEC to permit a mixing zone for bacteria in a discharge from a community wastewater treatment plant, despite the fact that bacteria do not affect fish spawning.

By focusing the regulation on preventing adverse effects from mixing zones, DEC envisions three situations in which mixing zones could be allowed while continuing to protect the capability of an area to support fish spawning. First, a mixing zone may be permitted for specific pollutants that do not harm fish, as in the bacteria example. Second, discharges may be timed to avoid the spawning season. Third, project designs may include habitat improvements such that positive effects offset adverse effects, with no net change, or perhaps even improvement, to an area's ability to support spawning.

**2. Mixing zone regulations are being reorganized to make them easier to work with.** The current mixing zone standards are spread over six sections of the Water Quality Standards regulation. The proposed amendments consolidate all mixing zone rules into a single section. This reduces the need for cross referencing and the

duplication of very similar requirements in different sections. The reorganization is intended to make the regulations clearer, more concise and generally easier to use.

**3. *Technical specifications for designing a mixing zone are being moved into technical guidance for permit writers.*** Mixing zone standards currently contain technical provisions that go beyond what would normally be found in regulation. The current regulation has very specific provisions dealing with risk assessment procedures, acceptable mixing and flow models, and low flow calculations. The proposed amendments remove these very technical provisions from the regulations relegating them to agency guidance. This will allow DEC staff to exercise some judgment in making complex technical decisions about which mixing zone models, risk assessment procedures, or flow calculations might work best for a particular situation.

### **Who is affected?**

Most wastewater discharge permits include a designated mixing zone. Permitted facilities include sewage treatment plants, as well as industrial facilities such as seafood processors and mining operations. Mixing zone standards also affect receiving water users such as drinking water users; commercial, sport and subsistence fish and seafood users; and water recreation users.

### **What's Next?**

The public comment period ends on September 10. These proposed changes will be the topic of a public hearing. If you have questions about the changes, please contact Nancy Sonafrank at 907-451-2726 or e-mail [Nancy\\_Sonafrank@dec.state.ak.us](mailto:Nancy_Sonafrank@dec.state.ak.us). The public hearing will present an opportunity for the public to comment orally or in writing. The hearing dates and locations will be published on our website at

<http://www.state.ak.us/dec/water/wqsar/wqs/triennialreview/mixingzones.htm>

and in the Anchorage Daily News, Juneau Empire and Fairbanks Daily News Miner.

**Alaska Water Quality Standards  
Current and Proposed Mixing Zone Revision Comparison Table**

<b>Current 18 AAC 70 18 AAC 70.240. Mixing zones: department authorization.</b>	<b>Proposed 18 AAC 70 18 AAC 70.240. Mixing zones.</b>	<b>Changes</b>
<p>(a) The water quality criteria and limits set by or under this chapter may be exceeded within a mixing zone authorized by the department. In applying the water quality criteria and limits set by or under this chapter the department will, in its discretion, upon application, authorize a mixing zone in a discharge permit, certification, or order. The department will authorize a mixing zone only if the department finds that available evidence reasonably demonstrates that</p> <p>(1) the applicable requirements of this chapter will be met;</p> <p>(2) the mixing zone will be as small as practicable; and</p> <p>(3) an effluent or substance will be treated to remove, reduce, and disperse pollutants, using methods found by the department to be the most effective and technologically and economically feasible, consistent with the highest statutory and regulatory treatment requirements.</p>	<p>(a) Upon application, the department may authorize in a discharge permit, certification, or order, a mixing zone or multiple mixing zones in which the water quality criteria and any limit set by or under this chapter may be exceeded. The applicant shall provide to the department all available evidence reasonably necessary to demonstrate that a mixing zone will satisfy this section and shall provide information in a form and using methods approved by the department. The department may approve, approve with conditions, or deny a mixing zone application.</p> <p>(c) The department will approve a mixing zone, as proposed or with conditions, only if it finds that available evidence reasonably demonstrates that</p> <p>(1) an effluent or substance will be treated to remove, reduce, and disperse pollutants, using methods found by the department to be the most effective and technologically and economically feasible, consistent with the highest statutory and regulatory treatment requirements;</p> <p>(e) The department will permit a mixing zone to be as small as practicable ....</p>	<p>240(a)(1) deleted. Unnecessary and confusing statement. 240(a)(2) moved to proposed 240(e). 240(a)(3) moved to proposed 240(c)(1).</p>
<p>(b) Ongoing compliance with 18 AAC 70.240 - 18 AAC 70.270 is a condition of any permit, certification, or order of the department authorizing a mixing zone.</p>		<p>Deleted. Unnecessary due to consolidation of mixing zone regulations into one section. Authority covered in proposed 240(a).</p>



**Alaska Water Quality Standards  
Current and Proposed Mixing Zone Revision Comparison Table**

<b>Current 18 AAC 70 18 AAC 70.245. Mixing zones: appropriateness and size determination.</b>	<b>Proposed 18 AAC 70</b>	<b>Changes</b>
<p>(a) In determining the appropriateness and size of a mixing zone, the department will ensure that existing uses of the waterbody outside the mixing zone are maintained and fully protected so that any discharge will</p> <p>(1) neither partially nor completely eliminate an existing use of the waterbody outside the mixing zone; and</p> <p>(2) not impair the overall biological integrity of the waterbody.</p>	<p>(c) The department will approve a mixing zone, as proposed or with conditions, only if it finds that available evidence reasonably demonstrates that...</p> <p>(2) existing uses of the waterbody outside the mixing zone will be maintained and protected;</p> <p>(3) the overall biological integrity of the waterbody will not be impaired;</p>	<p>245(a) moved to proposed 240(c)(2) and (c)(3).</p>
<p>(b) In making a determination under this section, the department will consider</p> <p>(1) the physical, biological, and chemical characteristics of the receiving water, including volume and flow rate;</p> <p>(2) the effects that the discharge might have on the uses of the receiving water;</p> <p>(3) the flushing and mixing characteristics of the receiving water;</p> <p>(4) effluent treatment technology requirements under federal or state law;</p> <p>(5) the characteristics of the effluent, including volume, flow rate, dispersion, and quality after treatment;</p> <p>(6) methods to analyze and model near-field and far-field mixing; and</p> <p>(7) the cumulative effects of multiple mixing zones and diffuse, nonpoint source inputs located within, or affecting, the receiving water.</p>	<p>(b) In determining whether to authorize a mixing zone under this section, the department will consider</p> <p>(1) the characteristics of the receiving water, including biological, chemical, and physical characteristics such as volume, flow rate, flushing and mixing characteristics;</p> <p>(2) the characteristics of the effluent, including volume, flow rate, dispersion, and quality after treatment;</p> <p>(3) the effects, if any, including cumulative effects of multiple discharges and diffuse, nonpoint source inputs, that the discharge will have on the uses of the receiving water;...</p> <p>(4) any additional measures that would offset potential adverse effects to the aquatic resources present; and</p> <p>(5) any other factors the department finds must be considered to determine whether a mixing zone will comply with this section.</p>	<p>245(b)(6) deleted. Covered under authority in proposed 240(a) by "using methods approved by the department".</p> <p>245(b)(1) and (b)(3) moved to proposed 240(b)(1).</p> <p>245(b)(2) and 245(b)(7) moved to proposed 240(b)(3).</p> <p>245(b)(4) moved to proposed 240(c)(1).</p> <p>245(b)(5) moved to proposed 240(b)(2).</p>

**Alaska Water Quality Standards  
Current and Proposed Mixing Zone Revision Comparison Table**

<b>Current 18 AAC 70</b>	<b>Proposed 18 AAC 70</b>	<b>Changes</b>
<p><b>18 AAC 70.250. Mixing zones: general conditions.</b></p> <p>(a) The department will not authorize a mixing zone if the department finds that available evidence reasonably demonstrates that</p> <p style="padding-left: 40px;">(1) the pollutants discharged could</p> <p style="padding-left: 80px;">(A) bioaccumulate,</p> <p style="padding-left: 40px;">bioconcentrate, or persist above natural levels in sediments, water, or biota to significantly adverse levels, based on consideration of bioaccumulation and bioconcentration factors, toxicity, and exposure;</p> <p style="padding-left: 80px;">(B) be expected to cause carcinogenic, mutagenic, or teratogenic effects on, or otherwise present a risk to, human health; when evaluating a discharge under this paragraph, the department will, in its discretion, require the applicant to perform a department-approved, site-specific analysis based on exposure pathways, including exposure duration of affected aquatic organisms in the proposed mixing zone and patterns of fisheries use and consumption of water, fish, or shellfish in the area, in the</p>	<p>(c) The department will approve a mixing zone, as proposed or with conditions, only if it finds that available evidence reasonably demonstrates that</p> <p style="padding-left: 40px;">(1) an effluent or substance will be treated to remove, reduce, and disperse pollutants, using methods found by the department to be the most effective and technologically and economically feasible, consistent with the highest statutory and regulatory treatment requirements;</p>	
<p>(a) The department will not authorize a mixing zone if the department finds that available evidence reasonably demonstrates that</p> <p style="padding-left: 40px;">(1) the pollutants discharged could</p> <p style="padding-left: 80px;">(A) bioaccumulate,</p> <p style="padding-left: 40px;">bioconcentrate, or persist above natural levels in sediments, water, or biota to significantly adverse levels, based on consideration of bioaccumulation and bioconcentration factors, toxicity, and exposure;</p> <p style="padding-left: 80px;">(B) be expected to cause carcinogenic, mutagenic, or teratogenic effects on, or otherwise present a risk to, human health; when evaluating a discharge under this paragraph, the department will, in its discretion, require the applicant to perform a department-approved, site-specific analysis based on exposure pathways, including exposure duration of affected aquatic organisms in the proposed mixing zone and patterns of fisheries use and consumption of water, fish, or shellfish in the area, in the</p>	<p>(d) The department will approve a mixing zone, as proposed or with conditions, only if the department finds that available evidence reasonably demonstrates that within the mixing zone the pollutants discharged will not</p> <p style="padding-left: 40px;">(1) bioaccumulate, bioconcentrate, or persist above natural levels in sediments, water, or biota to significantly adverse levels, based on consideration of bioaccumulation and bioconcentration factors, toxicity, and exposure;</p> <p style="padding-left: 80px;">(2) present an unacceptable risk to human health from carcinogenic, mutagenic, teratogenic, or other effects;</p> <p>(c) The department will approve a mixing zone, as proposed or with conditions, only if it finds that available evidence reasonably demonstrates that....</p> <p style="padding-left: 40px;">(4) the mixing zone will not....</p> <p style="padding-left: 80px;">(B) create a public health hazard through encroachment on existing uses of the waterbody for water supply or contact recreation;</p>	<p>250(a)(1)(A) moved to proposed 240(d)(1). 250(a)(1)(B) moved to proposed 240(d)(2). 250(a)(1)(C) moved to proposed 240(c)(4)(B) and determined using departmental guidance.</p>

**Alaska Water Quality Standards  
Current and Proposed Mixing Zone Revision Comparison Table**

Current 18 AAC 70	Proposed 18 AAC 70	Changes
<p>absence of a site-specific analysis, the evaluation of a discharge under this paragraph will be based on the most protective assumptions, as determined by the department, regarding exposure pathways, including exposure duration of affected aquatic organisms in the proposed mixing zone and patterns of fisheries use and consumption of water, fish, or shellfish in the area; or</p> <p>(C) otherwise create a public health hazard through encroachment on water supply or contact recreation uses of the waterbody;</p>		
<p>(2) there could be</p> <p>(A) an adverse impact on anadromous or resident fish or shellfish spawning or rearing;</p> <p>(B) a barrier formed to migratory species;</p> <p>(C) failure to provide a zone of passage; or</p> <p>(D) an adverse effect on threatened or endangered species;</p>	<p>(c) The department will approve a mixing zone, as proposed or with conditions, only if it finds that available evidence reasonably demonstrates that....</p> <p>(4) the mixing zone will not....</p> <p>(E) in streams, rivers, or other flowing fresh waters, adversely affect the capability of an area to support spawning, incubation or rearing of anadromous or resident fish;...</p> <p>(G) adversely affect threatened or endangered species under the Endangered Species Act (16 U.S.C. 1531-1544); or</p> <p>(H) form a barrier to migratory species or fish passage.</p>	<p>250(a)(2)(A) moved to proposed 240(c)(4)(E). 250(a)(2)(B) and (2)(C) consolidated and moved to proposed 240(c)(4)(H). 250(a)(2)(D) moved to proposed 240(c)(4)(G).</p>
<p>(3) flushing or mixing of the waterbody is not adequate to ensure full protection of uses of the waterbody outside the proposed mixing zone; or</p>	<p>(b) In determining whether to authorize a mixing zone under this section, the department will consider</p> <p>(1) the characteristics of the receiving water, including biological, chemical, and physical</p>	<p>250(a)(3) deleted. Covered in proposed 240(b)(1).</p>

**Alaska Water Quality Standards  
Current and Proposed Mixing Zone Revision Comparison Table**

<b>Current 18 AAC 70</b>	<b>Proposed 18 AAC 70</b>	<b>Changes</b>
<p>(4) there could be an environmental effect, or damage to the ecosystem that the department considers to be so adverse that a mixing zone is not appropriate.</p>	<p>characteristics such as volume, flow rate, flushing and mixing characteristics;</p> <p>(a)..... If the department finds that available evidence reasonably demonstrates that a mixing zone authorized by the department has had or is having a significant unforeseen adverse environmental effect, the department will terminate, modify, or deny renewal of the permit, certification, or order authorizing the mixing zone.</p>	<p>250(a)(4) deleted. Implicit in discretion described in proposed 240(a).</p>
<p>(b) The department will reduce in size or deny a mixing zone if the department finds that available evidence reasonably demonstrates that the pollutants discharged could</p> <p>(1) result in undesirable or nuisance aquatic life;</p> <p>(2) produce objectionable color, taste, or odor in aquatic resources harvested for human consumption; or</p> <p>(3) preclude or limit established processing activities or commercial, sport, personal-use, or subsistence fish and shellfish harvesting.</p>	<p>(c) The department will approve a mixing zone, as proposed or with conditions, only if it finds that available evidence reasonably demonstrates that...</p> <p>(4) the mixing zone will not...</p> <p>(C) preclude or limit established processing activities or commercial, sport, personal-use, or subsistence fish and shellfish harvesting;</p> <p>(d) The department will approve a mixing zone, as proposed or with conditions, only if it finds that available evidence reasonably demonstrates that within the mixing zone the pollutants discharged will not...</p> <p>(5) result in undesirable or nuisance aquatic life;</p> <p>(6) produce objectionable color, taste, or odor in aquatic resources harvested for human consumption;</p>	<p>250(b)(1) moved to proposed 240(d)(5). 250(b)(2) moved to proposed 240(d)(6). 250(b)(3) moved to proposed 240(c)(4)(C).</p>
<p>(c) For purposes of this section, the department will find that something "could" happen if the department determines that it is reasonably expected to occur.</p>		<p>Deleted. Proposed 240 uses "is reasonable expect to" in place of "could" so this subsection is unnecessary.</p>

**Alaska Water Quality Standards  
Current and Proposed Mixing Zone Revision Comparison Table**

<b>Current 18 AAC 70 18 AAC 70.255. Mixing zones: in-zone quality and size specifications.</b>	<b>Proposed 18 AAC 70</b>	<b>Changes</b>
<p>(a) The size, location, or other limits of a mixing zone set by or under this chapter will be established in a discharge permit, certification, or order issued by the department under the appropriate chapter in this title.</p>	<p>(a) Upon application, the department may authorize in a discharge permit, certification, or order, a mixing zone or multiple mixing zones in which the water quality criteria and any limit set by or under this chapter may be exceeded. The applicant shall provide to the department all available evidence reasonably necessary to demonstrate that a mixing zone will satisfy this section and shall provide information in a form and using methods approved by the department. The department may approve, approve with conditions, or deny a mixing zone application.</p>	<p>255(a) covered by proposed 240(a)</p>
<p>(b) Water quality criteria must be met at the boundary of the mixing zone. A discharge may not cause or reasonably be expected to cause</p> <p>(1) lethality to passing organisms in the mixing zone; or</p> <p>(2) a toxic effect in the water column, sediments, or biota outside the boundaries of the mixing zone.</p>	<p>(c) The department will approve a mixing zone, as proposed or with conditions, only if it finds that available evidence reasonably demonstrates that...</p> <p>(4) the mixing zone will not</p> <p>(A) result in a toxic effect in the water column, sediments, or biota outside the boundaries of the mixing zone;</p> <p>(d) The department will approve a mixing zone, as proposed or with conditions, only if it finds that available evidence reasonably demonstrates that within the mixing zone the pollutants discharged will not...</p> <p>(7) cause lethality to passing organisms;</p>	<p>255(b)(1) moved to proposed 240(d)(7). 255(b)(2) moved to proposed 240(c)(4)(A).</p>
<p>(c) Human health and chronic aquatic life criteria apply at and beyond the boundaries of the mixing zone.</p>	<p>(a) Upon application, the department may authorize in a discharge permit, certification, or order, a mixing zone or multiple mixing zones in which the water quality criteria and any limit set by or under this chapter may be exceeded. The</p>	<p>255(c) deleted. Implicit in proposed 240(a).</p>

**Alaska Water Quality Standards  
Current and Proposed Mixing Zone Revision Comparison Table**

<b>Current 18 AAC 70</b>	<b>Proposed 18 AAC 70</b>	<b>Changes</b>
<p>(d) Acute aquatic life criteria apply at and beyond the boundaries of a smaller initial mixing zone surrounding the outfall. The smaller initial mixing zone for application of acute criteria must be sized to prevent lethality to passing organisms. Methods for calculating the boundaries of the smaller initial mixing zone for application of acute criteria, unless otherwise specified by the department, must follow procedures under Alternatives 2, 3, or 4 in Section 5.1.2 of the United States Environmental Protection Agency's Water Quality Standards Handbook, Second Edition, August 1994, EPA-823-B-94-005a.</p>	<p>applicant shall provide to the department all available evidence reasonably necessary to demonstrate that a mixing zone will satisfy this section and shall provide information in a form and using methods approved by the department. The department may approve, approve with conditions, or deny a mixing zone application.</p> <p>(d) The department will approve a mixing zone, as proposed or with conditions, only if it finds that available evidence reasonably demonstrates that within the mixing zone the pollutants discharged will not</p> <p>(8) exceed acute aquatic life criteria at and beyond the boundaries of a smaller initial mixing zone surrounding the outfall, the size of which shall be determined using methods approved by the department.</p>	<p>244(d) moved to 240(d)(8) and determined using departmental guidance.</p>
<p>(e) Unless the department finds that evidence is sufficient to reasonably demonstrate, in accordance with this section, that the size limitations of a mixing zone can be safely increased, a mixing zone must comply with the following size restrictions:</p> <p>(1) for estuarine and marine waters, measured at mean lower low water,</p> <p>(A) the cumulative linear length of all mixing zones intersected on any given cross section of an estuary, inlet, cove, channel, or other marine water may not exceed</p>	<p>(e) The department will approve a mixing zone, as proposed or with conditions, only if it finds that the mixing zone is as small as practicable and will comply with the following size restrictions, unless the department finds that evidence is sufficient to reasonably demonstrate that these size limitations can be safely increased:</p> <p>(1) for estuarine and marine waters, measured at mean lower low water,</p> <p>(A) the cumulative linear length of all mixing zones intersected on any given cross section of an estuary, inlet, cove, channel, or other</p>	<p>255(e)(1) moved to proposed 240(e)(1).</p>

**Alaska Water Quality Standards  
Current and Proposed Mixing Zone Revision Comparison Table**

<b>Current 18 AAC 70</b>	<b>Proposed 18 AAC 70</b>	<b>Changes</b>
<p>10 percent of the total length of that cross section; and</p> <p>(B) the total horizontal area allocated to mixing zones may not exceed 10 percent of the surface area;</p>	<p>marine water may not exceed 10 percent of the total length of that cross section; and</p> <p>(B) the total horizontal area allocated to mixing zones may not exceed 10 percent of the surface area;</p>	
<p>(2) for lakes, the total horizontal area allocated to all mixing zones may not exceed 10 percent of the lake's surface area; and</p> <p>(3) for streams, rivers, or other flowing fresh waters, subject to (f), (g), and (h) of this section, the length of a mixing zone may not extend downstream beyond the limits described in (A) or (B) of this paragraph, whichever is closer to the point of discharge, as follows:</p> <p>(A) beyond the computed point where the variation in the concentration of a water quality parameter across a stream, river, or other flowing fresh water is predicted to be less than five percent, as determined using a standard river flow mixing model accepted by the department; or</p> <p>(B) beyond the location where the department determines that a public health hazard reasonably could be expected to occur.</p>	<p>(2) for lakes, the total horizontal area allocated to all mixing zones may not exceed 10 percent of the lake's surface area;</p> <p>(3) for streams, rivers, or other flowing fresh waters, the length of a mixing zone may not extend beyond the computed point of complete mixing, as determined using a standard river flow mixing model or other methods accepted by the department; and</p> <p>(4) for streams, rivers, or other flowing fresh waters, the length of a mixing zone may not extend downstream beyond the location where the department determines that a public health hazard will occur.</p>	<p>255(e)(2) moved to proposed 240(e)(2). 255(e)(3)(A) moved to proposed 240(e)(3). 255(e)(3)(B) moved to proposed 240(e)(4).</p>
<p>(f) For streams, rivers, or other flowing fresh waters subject to (e)(3) of this section, in calculating the maximum pollutant discharge limitations, the volume of flow available for dilution must be determined using</p> <p>(1) the actual flow as determined by gauging data collected concurrent with the discharge; or</p>	<p>(f) For streams, rivers, or other flowing fresh waters, in calculating the maximum pollutant discharge limitation, the volume of flow available for dilution must be determined using the actual flow data collected concurrent with the discharge or using other methods approved by the department.</p>	<p>255(f) moved to 240(f) and determined using departmental guidance.</p>

**Alaska Water Quality Standards  
Current and Proposed Mixing Zone Revision Comparison Table**

<b>Current 18 AAC 70</b>	<b>Proposed 18 AAC 70</b>	<b>Changes</b>
<p>(2) for conventional or nontoxic substances, the default 2-year, 3-day low flow (3Q2) appropriate to the period of discharge; for toxic substances, the 10-year, 7-day low flow (7Q10) as the chronic criteria design flow and the 10-year, 1-day (1Q10) as the acute criteria design flow for protection of aquatic life; for carcinogens, the harmonic mean flow as the design flow for the protection of human health; these low flows must be calculated using methods of Ashton and Carlson, <i>Determination of Seasonal, Frequency and Durational Aspects of Streamflow with Regard to Fish Passage Through Roadway Drainage Structures</i> (1984), Carlson, <i>Seasonal, Frequency and Durational Aspects of Streamflow in Southeast and Coastal Alaska</i> (1987), or another appropriate regional regression flow model approved by the department; numeric water quality criteria apply at all design flows that are equal to or greater than these critical low flows.</p>	<p>(c) The department will approve a mixing zone, as proposed or with conditions, only if it finds that available evidence reasonably demonstrates that...</p> <p>(4) the mixing zone will not...</p> <p>(D) in streams, rivers, or other flowing fresh waters, result in a reduction in fish population levels;...</p> <p>(F) in streams, rivers, or other flowing fresh waters, result in permanent or irreparable displacement of indigenous organisms;</p>	<p>255(g)(1) moved to proposed 240(c)(4)(F). 255(g)(2) moved to proposed 240(c)(4)(D).</p>



**Alaska Water Quality Standards  
Current and Proposed Mixing Zone Revision Comparison Table**

<b>Current 18 AAC 70</b>	<b>Proposed 18 AAC 70</b>	<b>Changes</b>
<p>(h) For streams, rivers, or other flowing fresh waters subject to (e)(3) of this section, a mixing zone will not be authorized in an area of</p> <p>(1) anadromous fish spawning; or</p> <p>(2) resident fish spawning redds for Arctic grayling, northern pike, rainbow trout, lake trout, brook trout, cutthroat trout, whitefish, sheefish, Arctic char (Dolly Varden), burbot, and landlocked coho, king, and sockeye salmon.</p>	<p>(c) The department will approve a mixing zone, as proposed or with conditions, only if it finds that available evidence reasonably demonstrates that</p> <p>(4) the mixing zone will not</p> <p>(E) in streams, rivers, or other flowing fresh waters, adversely affect the capability of an area to support spawning, incubation or rearing of anadromous or resident fish;</p>	<p>255(h) covered by proposed 240(c)(4)(E).</p>
<p><b>18 AAC 70.260. Mixing zones: application requirements.</b> An applicant requesting a mixing zone shall provide to the department all available evidence reasonably necessary for a decision, including the information and demonstrations required by 18 AAC 70.240 - 18 AAC 70.270 and other information the department determines is necessary to meet the requirements of 18 AAC 70.240 - 18 AAC 70.270. The burden of proof for justifying a mixing zone through demonstrating compliance with the requirements of 18 AAC 70.240 - 18 AAC 70.270 rests with the applicant. The department will, in a timely manner, request and review for completeness, information submitted under this section.</p>	<p>(a) ....The applicant shall provide to the department all available evidence reasonably necessary to demonstrate that a mixing zone will satisfy this section and shall provide information in a form and using methods approved by the department...</p>	<p>260 covered in proposed 240(a)</p>
<p><b>18 AAC 70.270. Mixing zones: termination, modification, or denial of renewal.</b> If the department finds that available evidence reasonably demonstrates that a mixing zone authorized by the department has a significant unforeseen adverse environmental effect, the</p>	<p>(g) If the department finds that available evidence reasonably demonstrates that a mixing zone authorized by the department has had or is having a significant unforeseen adverse environmental effect, the department will terminate, modify, or deny renewal of the permit, certification, or order</p>	<p>270 moved to proposed 240(g).</p>

**Alaska Water Quality Standards  
Current and Proposed Mixing Zone Revision Comparison Table**

<b>Current 18 AAC 70</b>	<b>Proposed 18 AAC 70</b>	<b>Changes</b>
<p>department will terminate, modify, or deny renewal of a permit, certification, or order authorizing the mixing zone.</p>	<p>authorizing the mixing zone.</p>	
	<p><b>New Provisions in Proposed 18 AAC 70.240</b></p> <p>(b) In determining whether to authorize a mixing zone under this section, the department will consider...</p> <p>(4) any additional measures that would offset potential adverse effects to the aquatic resources present;</p> <p>(d) The department will approve a mixing zone, as proposed or with conditions, only if the department finds that available evidence reasonably demonstrates that within the mixing zone the pollutants discharged will not...</p> <p>(3) settle to form objectionable deposits, except as authorized under 18 AAC 70.210;</p> <p>(4) produce floating debris, oil, scum and other material in concentrations that form nuisances;</p>	

# How to comment on regulations

Commenting on Proposed Government Regulations



## Water Division



Regulations affect nearly everyone. This guide is designed to outline the process and ensure YOUR voice is heard when new regulations are being written.

### What are they?

Regulations are rules adopted by state agencies. Any government rule that affects the public or its rights must be adopted as a regulation. Regulations are different than statutes: statutes are laws passed by the legislature; regulations are laws adopted by a state agency to implement statutes.

### How does a regulation become law?

Before a regulation can become law, it must follow a careful process that is outlined in statute. The agency has to have the legal authority to adopt the regulation and it must decide if a regulation is "reasonably necessary" to carry out the purposes of a statute. The process then includes drafting the proposal, sending it out for public comment, redrafting the proposal based on those comments, Department of Law (DOL) review and approval, and finally filing by the Lt. Governor. The process is laid out in the Administrative Procedure Act statutes.



### How does the public comment work?

After drafting proposed regulations, the agency issues a public notice. In addition to printing the notice in local papers, the agency seeks out persons it believes will be interested in the proposal and notifies them directly by mail. The public notice begins the public comment period, which usually lasts at least 30 days. The agency may make changes to the proposal based on comments it receives.

### How can I tell the difference between current regulations and the proposed changes?

- If the proposal says the regulations are being amended, the new language will be underlined and the language that is proposed for deletion will be in [ALL CAPITAL LETTERS AND BRACKETED].
- If the proposal says the regulations are being "repealed and re-adopted", the entire section is being rewritten and the specific changes are not indicated.

*Make sure you're heard...*



### Why should I comment?

Public comment is always very important but especially when you don't like what's being proposed. Although the agency may not have a choice about adopting regulations (such as when the legislature passes a new law directing the agency to do so), your input can make the regulations better.

## How to comment effectively.

There is no required format for you to follow. Your comments, however, do need to be in writing, addressed to the person listed in the Public Notice as the contact. You don't need to type them, as long as they are legible. Comments may be mailed, faxed, e-mailed, or hand delivered -- but they must arrive before the comment period ends. You can find this date in the Public Notice.

1. **Be Brief.** You don't want the reviewer to miss the point of your concern. Brevity assures that it won't be lost.
2. **Be Specific.** Make it clear what you want. It is more effective to say "I am concerned about how this will affect small seafood processors because...", than "Don't do this."
3. **Know your subject.** If you are commenting on a document, make sure you have read it so that your comments make sense and are accurate. Refer to the section numbers in the proposal, preferably in the order they appear.



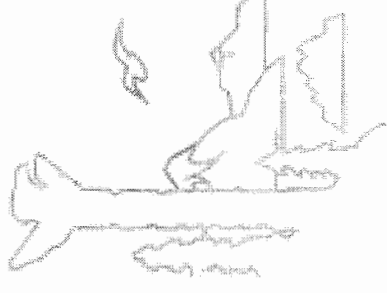
4. **Be Honest and Realistic.** Distortions of facts or misstatements may cause the reviewer to question the accuracy of your other statements. Requests that are not legal or feasible also reduce the credibility of your comments.
5. **Be Polite.** Reviewers are human, too. Even though you may be upset about a proposal, try to state your opinion objectively. Remember that agencies write regulations to help people comply with statutes. Communication is increased by extending the courtesies to agencies that you expect from them.

### Need more time to comment?

Do you feel the comment period is too short? Immediately contact the person named in the public notice in writing and request an extension. In some cases, the agency may be able to extend the public comment period.

Division of Water

# Water Quality Standards



<http://www.state.ak.us/dec/water/wqsar/trireview/trireview.htm>

## **2003-2005 Triennial Review**

Section Manager, Nancy Sonafrank  
(907) 451-2726

# 2004 Proposed Mixing Zone Regulation Revisions

Public Hearings, August 24-26, 2004

# What is a mixing zone?

- A mixing zone is a permitted area in which discharged substances mix with, and are diluted by receiving waters.
- All states allow mixing zones under CWA.
- Some water quality criteria may be exceeded in a mixing zone.
- Mixing zone rules are found in the Water Quality Standards regulations at 18 AAC 70.240-270.

# Who is affected?

Most wastewater discharge permits include a designated mixing zone.

- Permitted facilities include sewage treatment plants, as well as industrial facilities such as seafood processors and mining operations.
- Water users such as drinking water users; commercial, sport and subsistence fish and seafood harvesters; and water recreation users.

## What changes are being proposed?

- Mixing zones may be permitted in fish spawning area if and only if they do not adversely affect spawning, incubation or rearing in rivers and streams.
- Mixing zone regulations are being reorganized to make them easier to use.
- Technical specifications are being moved into technical guidance for permit writers.



# Mixing Zones in Spawning Areas

## Why change?

- Permitting decisions where the current ban on mixing zones is unnecessary to protect spawning success or fish populations.
  - In a survey of 21 other states, only 1 other state has a similar ban.
- Expensive with no environmental benefit.
  - City of Valdez Wastewater Lagoon
  - Golden Heart Utilities Drinking Water Treatment

## Mixing Zones in Spawning Areas

How would these changes protect fish?

- The applicant must demonstrate no adverse affect to the spawning area.
  - Some pollutants do not impact fish spawning, incubation or rearing.
  - Discharges may be timed to avoid impacts.
  - Some adverse effects may be offset by habitat improvements or other measures.

## Mixing Zones in Spawning Areas

Who would make the decision?

- DEC has proposed guidance that calls for consultation on spawning areas with
  - Department of Natural Resources, Office of Habitat Management and Permitting; and
  - Department of Fish and Game, Sport Fish Division
- Each and every permit with a mixing zone goes out to public notice.

# Reorganizing the Regulations

- Why?
  - Make the regulations easier to work with.
- How?
  - Consolidate all mixing zone regulations into one section;
  - Eliminate duplication; and
  - Clarify language.

# Technical Specifications

- Why?
  - Allows DEC staff to exercise best professional judgment in making complex technical decisions for a particular situation based on the most current science and technology.
- How?
  - Move technical specifications for mixing zone models, risk assessment procedures, or flow calculations into the proposed guidance.
  - The specifications in the current regulations will still be implemented in permits.

# What's Next?

- For more information
  - <http://www.state.ak.us/dec/water/wqsar/wqs/triennialreview/mixingzones.htm>
  - [Nancy Sonafrank@dec.state.ak.us](mailto:Nancy_Sonafrank@dec.state.ak.us)
  - (907) 451-2726

# What next?

Comment must be received by **September 10**

- Oral comments at public hearing
- Written comments

- [Nancy Sonafrank@dec.state.ak.us](mailto:Nancy_Sonafrank@dec.state.ak.us)

- Fax (907) 451-2187

- Mail: Nancy Sonafrank

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