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**DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
AGENDA FOR PRESS BRIEFING ON  
WATER QUALITY STANDARDS AND MIXING ZONES  
10/17/05**

**Introductions**

State representatives  
Media representatives

**Purpose of Briefing**

**Explanation of Mixing Zones**

**Background on Regulations Proposal**

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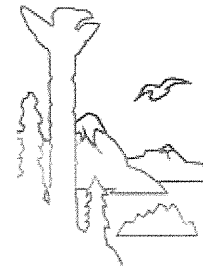
# Water Quality Standards

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

## 2003-2005 Triennial Review

Section Manager, Nancy Sonafrank  
(907) 451-2726

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## Mixing Zones Fact Sheet

### ***What is a mixing zone?***

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, lakes, streams, or rivers. The area where treated wastewater is authorized by DEC to mix with a water body is called a mixing zone.

### ***How do they work?***

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. If the circumstances surrounding a proposed mixing zone do not meet the State's standards, a mixing zone cannot be authorized. Requiring an authorization for mixing zones ensures that they are carefully designed using waterbody-specific information, water quality is monitored, and that water quality standards are met outside the mixing zone boundary so as not to create long-term impacts to people or the environment.

### ***Who uses mixing zones?***

Most mixing zones are authorized for sewage treatment plants run by local governments, as well as seafood processors, fish hatcheries, oil and gas facilities, mining operations and other industrial facilities.

### ***Why are mixing zones used?***

Mixing zones are an important tool regulators use to control water pollution. They allow Alaska to have very high standards for water quality. Without the authority to issue mixing zones, the State would have to use other methods to adjust for current limitations in treatment technologies, which could result in lowering the overall standards. Without mixing zones, sewage treatment plants would have to treat raw sewage to a level that could serve as a source of drinking water before being discharged into a water body. Although this goal may be technically achievable by NASA standards, it is not yet an economically feasible option for most communities or industries. There are no sewage treatment plants or seafood processors in Alaska that discharge wastewater to a surface water body (and the vast majority do) that could operate without a mixing zone.

### ***What does the law say about mixing zones?***

States have authority to allow mixing zones under the Clean Water Act; the Environmental Protection Agency has published mixing zone guidance; and all other states use them in addition to Alaska. Mixing zones have been included in the Alaska water quality standards regulations since 1973.

By State statute, the department must designate specific uses of water and establish standards for quality and purity to protect those uses. The water quality standards, which include mixing zone provisions, must protect the growth and propagation of aquatic life, the public health of those who consume the water or the aquatic organisms, and other water uses such as industrial, agricultural and recreational use. State statute also directs the Departments of Natural Resources and Fish and Game to protect salmon and resident fish habitat quality and establishes requirements for construction in, or use of waters (for example, as a mixing zone) that are important to fish.

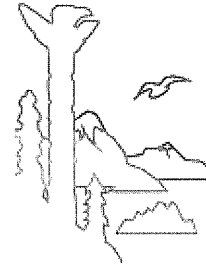
Division of Water

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## Examples of Mixing Zones in Alaska Today

Nearly every wastewater discharge to Alaska's surface waters has a permit that includes provisions for a mixing zone. The most common are for municipal wastewater treatment systems. Under current regulations mixing zones may be authorized in streams and rivers that contain salmon, but may not be authorized in spawning areas for salmon and specified resident fish in these waters. Mixing zones are also commonly authorized in marine waters. Below are some examples of mixing zones authorized in Alaska today.

### ***General Permit for Shore-based Seafood Processing Facilities***

The large majority of seafood processing facilities operate under a general permit. The mixing zone is for residues, dissolved gas, oil and grease, pH, color, turbidity, fecal coliform, total residual chlorine and temperature. The mixing zone is defined as a cylindrical volume with a horizontal radius of 100 feet from the diffuser and the full depth of the waterbody.

### ***Mendenhall Wastewater Treatment Plant – Juneau***

A mixing zone for municipal wastewater is allowed in the Mendenhall River for fecal coliform bacteria, dissolved oxygen, pH, metals, nutrients, and whole effluent toxicity (WET). The mixing zone for this discharge is defined as the area within a rectangle centered over the diffuser with a width of 30 meters and extending both upstream and downstream from the diffuser a distance of 150 meters, and to the full depth of the river. The mixing zone size is based on a 10-year, 7-day low river flow. The mixing zone provides a dilution of 10:1.

### ***Soldotna Wastewater Treatment Facility – Soldotna***

A mixing zone for municipal wastewater is allowed in the Kenai River for fecal coliform bacteria, dissolved oxygen, temperature, total chlorine residual, pH, metals, nutrients, and whole effluent toxicity (WET). The mixing zone for this discharge is defined as the area extending downstream from the diffuser a distance of 47 meters and having a width of 5 meters. The mixing zone provides a dilution of 30:1.

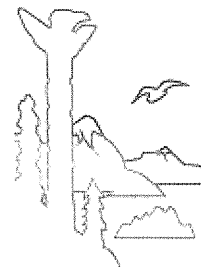
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## 2003-2005 Triennial Review

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## Differences Between the 2004 Mixing Zone Regulations Proposal and the New 2005 Mixing Zone Regulations Proposal

### **Background**

In July 2004, the Department of Environmental Conservation (DEC) proposed amendments to the mixing zone provision of its water quality standards regulations. The department received over 600 comments from across the nation, many of which focused on the proposal to remove the existing all-out prohibition against mixing zones in grayling, whitefish, northern pike, salmon and other fish spawning areas. Concerns centered on potential effects on fish and fish marketing.

DEC and the other resource agencies – the Alaska Departments of Fish and Game (DFG) and Natural Resources (DNR) -- spent a great deal of time considering public comment and working on a new proposal. The aim was an improved provision, responsive to public concern and comprising a protective, workable policy for protecting water quality and aquatic resources. Following are the key differences between the original and this new proposal.

### **Mixing zones in spawning areas**

The 2004 proposal removed the current prohibition on mixing zones in areas of anadromous fish spawning or resident fish spawning for specific species in streams, rivers, or other flowing fresh waters. It allowed mixing zones in spawning areas where there would be no effect on the capability of the area to support spawning, incubation or rearing.

The new proposal retains the existing general prohibition on mixing zones in spawning areas. At the same time, the new proposal allows for limited exceptions to the spawning area prohibition. To qualify for an exception, a mixing zone application would have to pass a 19-part test that applies to all mixing zones. In addition, the applicant would have to demonstrate that the proposed mixing zone can meet a narrow range of conditions that protect spawning, i.e. the timing of the discharge or the types of pollutants will not affect present and future spawning, incubation and rearing, or discharge effects will be mitigated subject to approval by DNR or DFG.

### **Consultation with resource agencies**

The 2004 proposal had no requirements for DEC to consult with the other state resource agencies when considering mixing zones in spawning areas. The new 2005 proposal mandates consultation with the biologists at DNR or DFG before authorizing a mixing zone in a spawning

area and requires DNR or DFG approval for any mitigation plans associated with spawning areas.

The new proposal's approach reflects the policy established by the Legislature that anadromous fish receive special protections under Titles 16 and 41 of the Alaska Statutes.

### ***Mixing zones in lakes***

As a result of consultation with DFG, the new proposal extends the special protections afforded spawning areas in rivers, streams and other flowing fresh waters to lakes. This change recognizes the importance of lakes as spawning areas.

### ***Protections for fish and shellfish***

The 2004 proposal included a provision for protection of fish populations and a limitation on permanent displacement of indigenous organisms that only applied in flowing fresh waters. The new 2005 proposal expands to all waters the protections for fish and shellfish populations and the limitation on permanent displacement of indigenous organisms.

### ***Other changes***

The current regulations and the 2004 proposal allowed mixing zones to be authorized in an "order" which is not subject to the same public notice and comment process as are mixing zones authorized as part of a permit. The new proposal eliminates the provision allowing mixing zones to be specified by an "order." The 2004 proposal moved some technical aspects of the regulation dealing with the flows to be used in mixing zone calculations to a guidance document. The new proposal retains the flow provision in the proposed regulation. The new proposal includes a new definition of "shellfish" suggested by DFG which is consistent with the DFG definition in statute.

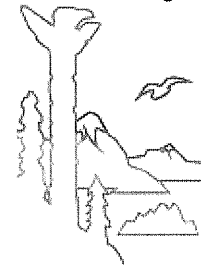
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**Department of Environmental Conservation  
Water Quality Standards Revisions for Mixing Zones  
Comparison of the Existing Regulations, the 2004 Proposed Regulations, and the 2005  
Proposed Regulations**

Existing Regulations	2004 Proposed Regulations	2005 Proposed Regulations
<p>Contain an absolute general prohibition on mixing zones in areas of anadromous fish spawning or resident fish spawning for specific species in streams, rivers, or other flowing fresh waters.</p>	<p>Removed the current prohibition on mixing zones in areas of anadromous fish spawning or resident fish spawning for specific species in streams, rivers, or other flowing fresh waters.</p>	<p>Retains the existing general prohibition on mixing zones in areas of anadromous fish spawning or resident fish spawning for specific species in streams, rivers, or other flowing fresh waters. Expands the prohibition on mixing zones to explicitly include areas in lakes where anadromous fish spawning or resident fish spawning for certain species occurs.</p>
<p>No provisions for exceptions to the prohibition on mixing zones in spawning areas.</p>	<p>Allowed mixing zones in spawning areas where there will be no effect on the capability of an area to support spawning, incubation or rearing of anadromous or certain resident fish.</p>	<p>Allows for exemptions from the prohibition on mixing zones in fish spawning habitat in certain specific situations if a discharger complies with all other provisions of the mixing zone regulations and makes one of three specific demonstrations:</p> <ul style="list-style-type: none"> <li>• wastewater discharges are timed to avoid spawning and will not adversely affect the capability of the area to support future spawning, incubation, and rearing;</li> <li>• discharges do not contain substances that adversely affect present and future spawning, incubation, and rearing; or</li> <li>• a mitigation plan has been approved by DNR or F&amp;G.</li> </ul>

<p>No requirements for DEC to consult with DNR or F&amp;G when making mixing zone decisions.</p>	<p>Not required to consult with DNR and F&amp;G regarding spawning areas, although consultation recommended in guidance.</p>	<p>Requires DEC to consult with F&amp;G and DNR when an exemption for discharge in a spawning area is considered. When a discharger requests authorization of a mixing zone in a spawning area and is required to submit a mitigation plan, that plan must be approved by DNR or F&amp;G.</p>
<p>Protection of <u>fish and shellfish</u> populations and a limitation on permanent displacement of indigenous organisms are applied only to streams, rivers, or other flowing fresh waters.</p>	<p>Protection of <u>fish</u> populations and a limitation on permanent displacement of indigenous organisms were applied only to flowing fresh waters, similar to current regulations.</p>	<p>Expands to all waters the protections for <u>fish and shellfish</u> populations and the limitation on permanent displacement of indigenous organisms.</p>
<p>Include technical provisions such as a description of human health risk assessment prohibiting “a risk” to human health, without defining risk; and includes specific flow calculations.</p>	<p>Simplified some technical provisions or moved them to a draft guidance document, including provisions dealing with risk assessment, flow calculations, and mixing zone models.</p>	<p>Reinserts/introduces some specific technical provisions in the regulation, such as flow calculations and references existing human health risk level.</p>
<p>Mixing zone provisions are poorly organized, spread throughout six separate sections of the regulations, and include redundancies.</p>	<p>Reorganized the mixing zone regulations to improve clarity and reduce redundancy.</p>	<p>Reorganized the mixing zone regulations to improve clarity and reduce redundancy. Organization remains the same as the 2004 proposal.</p>



# STATE OF ALASKA

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(2 pages)

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**DEPARTMENT OF ENVIRONMENTAL CONSERVATION**  
**OFFICE OF THE COMMISSIONER**

October 17, 2005

Dear Alaskan:

Last year you commented on proposed changes to the mixing zone provision of the Alaska water quality standards regulation (18 AAC 70). During the public review, we received many comments concerning the potential effects of the proposed changes on Alaska's fish resources. In response to those comments, the Department of Environmental Conservation (DEC) has drafted a new proposal. Given the significant interest in these regulations, it is important to share the new proposal with the public for further review. The enclosed water quality mixing zone regulations will be available for public review and comment for sixty days.

The Legislature sets public policy by enacting statutes and it is the responsibility of the Executive Branch of government to faithfully execute those laws by developing and implementing regulations. These new proposed mixing zone regulations better reflect the Department of Environmental Conservation's duty to adopt and enforce water quality standards that protect all uses of Alaska's waters, including the growth and propagation of fish.

In addition to DEC's authority to enforce water quality standards for all state waters (AS 46.03), Alaska's legislature established additional protections for rivers, lakes, and streams that are important to spawning, rearing, or migration of anadromous fish (AS 16.20 and AS 41.14). Specifically, State laws currently direct the Department of Natural Resources (DNR), and the Department of Fish and Game (DFG) under AS 41.14 and AS 16.20 respectively, to approve proposed construction in, or use of, anadromous waters if approval of the activity will ensure the proper protection of spawning, rearing and migration. While anadromous waters must be protected, there is no absolute prohibition in state statute on the use of, or construction in, rivers, lakes, and streams important to spawning, rearing, or migration of anadromous fish.

Following this legislative direction, the proposed regulations generally prohibit mixing zones in fish spawning areas while allowing a narrow range of exceptions. Specifically, DEC may authorize a mixing zone in a spawning area if a permit applicant can demonstrate that the timing of the discharge or the types of pollutants will not affect present and future spawning, incubation and rearing, or

October 17, 2005

submits a mitigation plan which demonstrates that discharge effects will be mitigated subject to approval by DNR or DFG. These two state agencies have the statutory authority and regulatory expertise to mitigate adverse impacts on fish and fish habitat.

The regulated community and the public have a right to regulations that are clearly written and consistent with legislative policy. DEC has drafted this proposed mixing zone regulation with these principles in mind. Thank you for your interest. I welcome your review and comment.

Sincerely,



Kurt Fredriksson  
Commissioner

NOTICE OF PROPOSED  
CHANGES IN THE REGULATIONS OF THE  
ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION

The Department of Environmental Conservation (DEC) proposes to adopt regulation changes in Title 18 of the Alaska Administrative Code, dealing with Chapter 70, Water Quality Standards, including the following:

DEC is proposing to repeal and adopt revisions that would: 1) expand the prohibition on mixing zones to include lakes; 2) create exemptions to the prohibition on mixing zones in fish spawning habitat; 3) reorganize the mixing zone regulations to improve clarity and reduce redundancy; 4) simplify some technical provisions including ones dealing with risk assessment, flow calculations, and mixing zone models; and 5) update a reference to federal technology-based effluent limitations. The proposal includes a new definition for shellfish and provides for consideration of measures that would mitigate the potential adverse effects of mixing zones on aquatic resources.

In 2004, the Department of Environmental Conservation (DEC) proposed changes to the mixing zone regulations and received numerous comments regarding the proposal. DEC consulted with the other state resource agencies to jointly consider the comments. As a result, the State has drafted a new proposal and is opening a new public comment period. While some changes in the new proposal are based on previous comments, the comments received in 2004 will not be revisited as part of this new proposal. Please do not rely on comments submitted on the 2004 proposal, as this new proposal is substantially different. Please comment if your interests would be affected by the proposed 2005 regulations.

These mixing zone regulations have been revised to better reflect the State's existing statutory protections for all state waters important to the growth and propagation of fish and other aquatic life (AS 46.03), and the special protections afforded to lakes, streams and rivers that are important to spawning, rearing, or migration of anadromous fish (AS 16.20 and AS 41.14). The regulated community and the public have a right to regulations that are clearly written and consistent with legislative policy. DEC has proposed changes to the mixing zone regulations with these principles in mind.

You may comment on the proposed regulation changes, including the potential costs to private persons of complying with the proposed changes, by submitting written comments addressed to Nancy Sonafrank, Alaska Department of Environmental Conservation, 610 University Drive, Fairbanks, Alaska 99709 or by e-mail addressed to [Nancy\\_Sonafrank@dec.state.ak.us](mailto:Nancy_Sonafrank@dec.state.ak.us). The comments must be received no later than 5:00 p.m. on December 19, 2005.

Oral or written comments may also be submitted at a hearing to be held on December 5, 2005 from 5:30 p.m. to 7:00 p.m. at:

Legislative Information Office  
716 W. 4<sup>th</sup> Ave, Suite 200  
Anchorage, Alaska.

Those in outlying areas who wish to provide testimony may do so telephonically by calling 1-800-395-5073. Please call-in by 5:30 p.m. to register your intent to testify at the hearing. The hearing might be extended to accommodate those present before 6:30 p.m. who did not have an opportunity to comment.

DEC will hold three workshops to discuss these changes at the following Legislative Information Offices:

Juneau, November 30 from 4-6 p.m. - Terry Miller Building, Suite 111.  
Fairbanks, December 1 from 4-6 p.m. - 119 Cushman St., Suite 101  
Anchorage, December 5 from 4-5:30 p.m. - 716 W. 4<sup>th</sup> Ave, Suite 200.

Those in other areas who wish to participate may do so telephonically by calling 1-800-395-5073 on December 5, 2005 only. Please call-in by 4:00 p.m. to register your intent to participate at the workshop.

If you are a person with a disability who needs a special accommodation in order to participate in this process, please contact Brenda Duty at (907) 451-2141 no later than November 21, 2005 to ensure that any necessary accommodations can be provided.

For a copy of the proposed regulation changes, contact Nancy Sonafrank at 610 University Drive, Fairbanks, Alaska 99709 or (907) 451-2726 or go to DEC's Notices of Proposed Regulations section on the state's Online Public Notice Website at <http://notes.state.ak.us/pn/pubnotic.nsf>. Background information and fact sheets explaining the proposed regulation can be found at <http://www.dec.state.ak.us/water/wqsar/trireview/mixingzones.htm>.

After the public comment period ends on December 19, 2005, the Department of Environmental Conservation will either adopt these or other provisions dealing with the same subject, without further notice, or decide to take no action on them. The language of the final regulations may be different from that of the proposed regulations. **YOU SHOULD COMMENT DURING THE TIME ALLOWED IF YOUR INTERESTS COULD BE AFFECTED.** Written comments received are public records and subject to public inspection.

**Statutory Authority:** AS 46.03.010; AS 46.03.020; AS 46.03.050; AS 46.03.070; AS 46.03.080; AS 46.03.710.

**Statutes Being Implemented, Interpreted, or Made Specific:** AS 46.03.070; AS 46.03.080; AS 46.03.100; AS 46.03.110; AS 46.03.710; AS 46.03.720.

**Fiscal Information:** The proposed regulation changes are not expected to require an increased appropriation.



DATE: October 17, 2005

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Kurt Fredriksson, Commissioner

ADDITIONAL REGULATIONS NOTICE INFORMATION  
(AS 44.62.190(d))

1. Adopting agency: Dept. of Environmental Conservation
2. General subject of regulation: Water Quality Standards, mixing zone regulations
3. Citation of regulation (may be grouped): 18 AAC 70
4. Reason for the proposed action: Development of program standards
5. RDU/component affected: Division of Water/Water Quality
  
6. Cost of implementation to the state agency and available funding (in thousands of dollars):  
There will be no implementation costs
7. The name of the contact person for the regulations:

Name Nancy Sonafrank  
Title Environmental Program Specialist  
Address 610 University Ave.  
Fairbanks, AK 99709  
Telephone (907) 451-2726  
E-mail address Nancy\_Sonafrank@dec.state.ak.us

8. The origin of the proposed action: staff of state agency

9. Date: 10/13/2005

Prepared by:

*Nancy B. Sonafrank*  
[signature]

Name (typed) Nancy Sonafrank  
Title (typed) Environmental Specialist  
Telephone: (907) 451-2726

Register \_\_\_\_, \_\_\_\_\_ 2006 ENVIRONMENTAL CONSERVATION

18 AAC 70.240 is repealed and readopted to read:

**18 AAC 70.240. Mixing zones.** (a) Upon application, the department may authorize in a discharge permit or certification, 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 mitigate 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 including

(A) any federal technology-based effluent limitation identified in 40 C.F.R. 125.3 and 40 C.F.R. 122.29, as amended through July 1, 2005 and adopted by reference;

(B) minimum treatment standards in 18 AAC 72.050; and

(C) any treatment requirement imposed under another state law that is more stringent than a requirement of this chapter;

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

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

(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 that would preclude or limit existing uses of the waterbody for water supply or contact recreation;

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

(D) result in a reduction in fish or shellfish population levels;

(E) result in permanent or irreparable displacement of indigenous organisms;

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

(G) 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 using risk assessment methods approved by the department and consistent with 18 AAC 70.025;

(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; or

(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) In lakes, streams, rivers, or other flowing fresh waters, except as authorized in (f) of this subsection, a mixing zone will not be located in a spawning area of

(1) anadromous fish; or

(2) 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.

(f) Notwithstanding subsection (e), the Department may authorize a mixing zone in a spawning area of a lake, stream, river or other flowing fresh water if, after consultation with the Department of Natural Resources, Office of Habitat Management and Permitting, or the Department of Fish and Game if within a legislatively designated special area under AS 16.20, the department finds that the applicant has

(1) demonstrated that spawning fish, fish eggs, or alevins are not physically present within the mixing zone when the discharge will occur and the discharge will not adversely affect the capability of the area to support future spawning, incubation, and rearing activities;

(2) demonstrated the discharge does not contain pollutants that will adversely affect the capability of the area to support present and future spawning, incubation, and rearing;

(3) submitted a mitigation plan approved by the Department of Fish and Game under 5 AAC 95.900 if within a legislatively designated special area under AS 16.20; or

(4) submitted a mitigation plan approved by the Department of Natural Resources, Office of Habitat Management and Permitting, and incorporated as part of the Department of Environmental Conservation permit, that includes one or more of the following mitigation actions:

(A) avoid the impact altogether by not taking a certain action or parts of an action;

(B) minimize the impact by limiting the degree or magnitude of the action and its implementation;

(C) rectify the impact by repairing, rehabilitating, or restoring the impacted environment;

(D) reduce or eliminate the impact over time by preservation and maintenance operations during the life of the proposed use or activity;

(E) compensate for the impact by replacing or providing substitute resources or environments.

(g) 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 restrictions 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 all mixing zones at any depth may not exceed 10 percent of the surface area;

(2) for lakes, the total horizontal area allocated to all mixing zones at any depth 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 reasonably could be expected to occur.

(h) 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

(1) the actual flow data collected concurrent with the discharge; or

(2) for conventional and nontoxic substances, the 10-year, 7-day low flow (7Q10) as the criteria design flow; for the protection of aquatic life, the 7Q10 as the chronic criteria design flow and the 10-year, 1-day (1Q10) as the acute criteria design flow; and for the protection of human health, the 5-year, 30-day (30Q5) as the noncarcinogenic criteria design flow and the harmonic mean flow as the carcinogenic criteria design flow; these low flows must be calculated using methods approved by the department.

(i) 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 or certification authorizing the mixing zone. (Eff. 11/1/97, Register 143; am \_\_\_/\_\_\_/\_\_\_, Register \_\_\_)

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

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 \_\_\_)

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 \_\_\_)

18 AAC 70.990 (30) is repealed:

Register \_\_\_\_, \_\_\_\_\_ 2006 ENVIRONMENTAL CONSERVATION

(30) repealed \_\_/\_\_/\_\_\_\_.

18 AAC 70.990 is amended by adding a new paragraph to read:

**(72) “shellfish” means any species of crustacean, mollusk, or other invertebrate, in any stage of its life cycle.**



## **DEC News Release**

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**FOR IMMEDIATE RELEASE**

### **DEC Seeks Comments on New Mixing Zone Proposal**

The Department of Environmental Conservation (DEC) is proposing a new mixing zone rule in response to comments received on mixing zone amendments first proposed in July 2004.

Mixing zones are set out in permits as areas within water bodies where treated wastewater does not have to meet strictest water quality standards. To qualify for a mixing zone, a discharge must first be treated to high standards, and then pass a multiple-part test to ensure that there are no significant impacts to fish, other aquatic life, humans, and other water uses.

According to DEC Water Division Director, Lynn Kent, “mixing zones are not granted as favors to industry as some have claimed. In fact, most mixing zones are specified in permits for community sewage treatment plants. They are provided for by the Clean Water Act and used by every state in the Nation. Without mixing zones, wastewater would have to be treated to the point where it could serve as a source of drinking water before being discharged and that just isn’t feasible here or anywhere else. Sewage treatment plants and seafood processors in Alaska could not operate without a mixing zone.”

DEC received over 600 comments on the July 2004 proposal. “Many of the comments opposed mixing zones in concept, suggesting that they were illegal, irresponsible, or both,” said Kent. “There seemed to be a fair degree of confusion. Alaska has had mixing zones since 1973. The proposal was to amend an existing mixing zone provision, not to create one.”

Of the other comments received, many were concerned with allowing mixing zones in fish spawning areas. One feature of the July 2004 proposal removed a prohibition against mixing zones in grayling, northern pike, whitefish, salmon, and other fish spawning

areas. Under that version of the regulation, mixing zones could be allowed in spawning areas as long as there would be no adverse effect on spawning.

Given the public comment, DEC worked with the Departments of Natural Resources (DNR) and Fish and Game (DFG) to come up with the new proposal. The new rule retains the existing general prohibition against mixing zones in spawning areas, but allows for exemptions under a narrow range of conditions. According to Water Director Kent, “this is an approach suggested in some of the comments on the earlier proposal. The exemptions that would allow mixing zones in spawning areas were crafted to be consistent with existing legislative policies on protection of anadromous fish streams as implemented by the biologists at DNR or DFG. A key part of the new approach is to bring DNR or DFG into any decision to allow mixing zones in spawning areas.”

DEC decided to close the original rule promulgation process and to start fresh with the new proposal. According to DEC Commissioner Kurt Fredriksson, “there is significant interest in these regulations, and it is important to share the new proposal with the public. Despite news reports that we had decided to ignore the public and proceed with the first proposal – that it was a ‘done deal’ to quote one report – it was clear to me that this new proposal would be different enough to warrant more public review.”

The mixing zone regulations will be available for public review and comment for sixty days. DEC will be holding three workshops to discuss the new proposed rule at the following Legislative Information Offices:

- Juneau, November 30 from 4-6 p.m. - Terry Miller Building, Suite 111
- Fairbanks, December 1 from 4-6 p.m. - 119 Cushman St., Suite 101
- Anchorage, December 5 from 4-5:30 p.m. - 716 W. 4th Ave, Suite 200 (with statewide call-in available)

A formal public hearing is also scheduled immediately following the Anchorage workshop. The public comment period will close December 19. Copies of the proposed rule, along with informational materials, are posted on the DEC web site:  
<http://www.dec.state.ak.us/water/wqsar/trireview/mixingzones.htm>