



**UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration**

National Marine Fisheries Service

P.O. Box 21668

Juneau, Alaska 99802-1668

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Janine Jennings
Water Quality Standards Unit
U.S. Environmental Protection Agency
Region 10
1200 Sixth Avenue
Seattle, WA 98101

Attn: Lisa McGuire - Mcguire.Lisa@epamail.epa.gov

Dear Ms. Jennings:

The Alaska Department of Environmental Conservation (ADEC) is proposing several changes to the mixing zones sections of the State of Alaska's Water Quality Standards in 18 AAC 70.240 through 18 AAC 70.270 (mixing zones). The National Marine Fisheries Service (NMFS) has reviewed the U.S. Environmental Protection Agency's (EPA) Essential Fish Habitat (EFH) Assessment regarding EPA's proposed approval of the State of Alaska's revised Mixing Zone Policy. EPA has determined that the proposed action may adversely affect EFH.

PROJECT DESCRIPTION

By definition, a mixing zone is a limited area or volume of water where initial dilution of a discharge takes place, and where numeric water quality criteria can be exceeded but acutely toxic conditions are prevented. EPA guidance states that the area or volume of an individual mixing zone or group of mixing zones must be limited to an area or volume as small as practicable that will not interfere with the designated uses or with the established community of aquatic life in the segment for which the uses are designated. EPA guidance explains that since mixing zones, if disproportionately large, could potentially adversely impact the productivity of the water body and have unanticipated ecological consequences, they should be appropriately limited in size, and State standards should describe the State's methodology for determining the size and other characteristics of mixing zones. EPA's proposed approval of the mixing zone policy will result in the policy taking effect for Clean Water Act purposes. That is, the State may then authorize mixing zones consistent with this policy.

EFH AFFECTED

EFH has been designated in waters of Alaska for anadromous fish and certain life stages of marine fish under NMFS' jurisdiction. EFH for Fishery Management Plans in Alaska is described in Appendix D of the Final Environmental Impact Statement for EFH Identification and Conservation in Alaska, April 2005 (<http://www.fakr.noaa.gov/habitat/seis/efheis.htm>).

In summary, EFH encompasses estuarine, nearshore, and offshore habitats for over 50 species of groundfish and crab to include pelagic, epipelagic, and meso-pelagic waters and the benthos



(substrate and living bio-structure within and attached to the bottom). EFH for salmon fisheries consists of the aquatic habitat, freshwater and marine, necessary to allow for salmon production needed to support a long-term sustainable salmon fishery and salmon contributions to healthy ecosystems. For the purpose of identifying EFH, the distribution of salmon in a watershed can be assumed based on access to salt water, with the upstream limits determined by presence of migration blockages.

EFFECTS OF THE PROPOSED ACTION (as indicated in the EFH Assessment)

In theory, mixing zones may adversely affect EFH because authorized mixing zones allow for concentrations of contaminants that may exceed numeric standards designed to protect aquatic life. Pollutants for which mixing zones may be authorized include those with known adverse effects on fish and other organisms, including petroleum hydrocarbons and bioaccumulative substances such as mercury. Information on previously authorized mixing zones indicate that, mixing zones in marine or estuarine waters range in size from $r = \leq 10$ m to mixing zones with radii up to several thousands of meters. Mixing zones have been authorized for metals, hydrocarbons, turbidity, and other parameters. Within these mixing zones, concentrations of certain pollutants (e.g., metals) may be many times higher than the applicable water quality criteria for aquatic life.

In general, elevated pollution levels are of concern to the habitat of aquatic life for several reasons. One of the primary concerns is exposure of aquatic biota – particularly sensitive life stages – to toxic pollutants at concentrations that could lead to adverse effects. While available technology is used by many industries to limit the concentration of chemicals released in the effluent, even exposure to low concentrations of some chemicals can lead to adverse effects in sensitive species and/or life stages. For example, some contaminants may accumulate in prey organisms (e.g., mollusks and other bivalves). Mixing zones permitted in coastal foraging areas could lead to increased concentration of toxic pollutants and adverse effects in the FMP-managed species.

Alterations to physical characteristics of EFH may also be larger within a mixing zone than outside a mixing zone, where State water quality standards must be met. Water discharges from industrial facilities and wastewater treatment facilities can add heat to rivers. Alaska's freshwater water quality standards include a temperature criterion for the growth and propagation of fish, shellfish, other aquatic life, and wildlife. As with other criteria, the temperature criterion may be exceeded within a mixing zone. Local exceedances of the aquatic life temperature criterion, may also affect essential fish habitat. In addition, turbidity may be elevated within mixing zones. Changes in turbidity can alter the depth of light penetration into the water column and visibility within the affected area. In summary, EPA has determined that the proposed approval of Alaska's revised mixing zone regulation may adversely affect groundfish, crab, and salmon federally managed species.

EFH CONSERVATION RECOMMENDATIONS

EPA proposes several factors serve to mitigate potential adverse effects of the proposed action on EFH. These factors include provisions in the revised mixing zone regulation that generally serve to limit the impact of a mixing zone on the environment. NMFS offers the following as

our EFH Conservation Recommendations pursuant to Section 305(b)(4)(A) of the Magnuson-Stevens Fishery Conservation and Management Act:

1) The mixing zone regulations approved by EPA should include the mitigative measures proposed by the State, including:

- a) 18 AAC 70.240(c)(1), which establishes that prior to approving a mixing zone, effluents will be treated to remove, reduce, and disperse pollutants using methods that meet certain minimum requirements,
- b) 18 AAC 70.240(e)-(g), which establish that in fresh waters, mixing zones will not be authorized in areas of Pacific salmon spawning during times of spawning; for other species, mixing zones may be authorized in spawning areas if the discharger has submitted an approved mitigation plan,
- c) 18 AAC 70.240(d)(1), which establishes that within mixing zones, “pollutants discharged will not 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) EPA should still complete site-specific EFH consultation on individual NPDES permit actions that may adversely affect EFH.

CONCLUSIONS

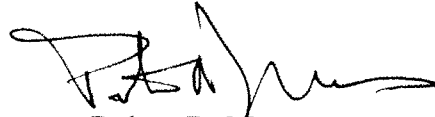
Based on our review of the information provided in the EFH Assessment of the EPA’s proposed approval of the State of Alaska’s revised Mixing Zone Policy, we concur with the EPA that there may be instances where the approval of a mixing zone by the State may adversely affect EFH. However, we also concur with the EPA, that several of the factors proposed for mitigation serve to moderate potential adverse effects of the proposed action on EFH.

EPA’s EFH Assessment also makes mention that as of 2006, the State of Alaska, is in the process of developing NPDES program elements for submittal to EPA for approval. EPA is currently the NPDES permitting authority in the State of Alaska. Once EPA approves the proposed program, authority to administer the NPDES program will be delegated to the State. EPA notes that the Magnuson-Stevens Act does not require State agencies to consult with NMFS regarding EFH.

We remind EPA that the approval of the State administering the NPDES program is a separate Federal action. As such that approval will require a separate consultation under the Magnuson-Stevens Act. Our EFH Conservation Recommendations for EPA’s approval of the State of Alaska’s Water Quality Standards for mixing zones recognizes that factors such as EPA’s administration of the NPDES program allows for site specific EFH consultation in order to determine the adverse effect (if any). Therefore, prior to EPA’s approval of the State administering the NPDES program, it will be necessary for EPA in coordination with NMFS and the State, to identify existing coordination procedures or establish new procedures to identify State actions that may adversely affect EFH and provide appropriate EFH Conservation Recommendations. NMFS is available to assist in this effort.

Our comments under the Endangered Species Act (ESA) will be provided under separate cover. Should you have questions regarding ESA, please contact Mr. Brad Smith at (907) 271-3023. Should you have questions regarding EFH, please contact Ms. Jeanne Hanson at 9907)271-3029.

Sincerely,

 for D/M
Robert D. Mecum
Acting Administrator, Alaska Region

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