UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, WA 98101

Reply To
Attn Of: OWW-131

AUG 1 4 2006

Luki Akelkok, Sr., President
Ekwok Village Council
Native Village of Ekwok
P.O. Box 70
Ekwok, AK 99580

Re: Answers to questions raised during July 19-21, 2006, government-to-government consultation on mixing zones

Dear President Akelkok:

This is a follow-up to our July 19-21, 2006, government-to-government consultation on mixing zones in Ekwok. As noted in my earlier letter, several questions were posed to us during our discussions which we were unable to answer at the time. These questions related to mixing zones as well as other aspects of water quality and aquatic resource protection. I have asked my staff to research these questions, and would like to provide you with the enclosed responses. I hope that these responses are helpful to you and others who participated in the July meeting.

If you have any questions on the material enclosed, please contact Lisa McGuire of my staff at (206) 553-0226 or any of the other individuals mentioned in the enclosed notes. If you have other questions or concerns, please contact me at (206) 553-7151.

Sincerely,

Michael F. Gearheard, Director
Office of Water and Watersheds

Enclosure

cc: Richard King, Ekwok Village Council
Lucy Weedman, New Stuyahok Village Council
Charlotte Balluta, Nondalton Village Council
Frances Nelson, Koliganek Village Council
Dixie Tunguing, Koliganek Village Council
Harry Wassily Sr., Clark's Point Village Council
Louie Jones, Ekuk Village Council
Charlie Johnson, Portage Creek Village Council

cc. Bobby Andrew, Aleknagik Native Corporation
Kim Williams, Curyung Tribal Council
Bill T. Maines, Curyung Tribal Council

Attachment 1

1) Is an Environmental Impact Statement (EIS) required for water quality standards actions?

An EIS is not required for EPA's action to approve or disapprove a revised water quality standard such as the mixing zone regulation. The National Environmental Policy Act (NEPA) requires an EIS for any major Federal action significantly affecting the quality of the human environment. The Clean Water Act authorizes States to develop water quality standards and assigns EPA the responsibility to review and take action on the State's new or revised water quality standards. Section 511(c) of the Clean Water Act establishes that certain EPA actions under the Clean Water Act, including EPA's review and action on new or revised State water quality standards, are not considered major Federal actions significantly affecting the quality of the human environment within the meaning of NEPA and therefore an EIS is not required.

2) Is there any thought to protecting the population of freshwater seals in Lake Iliamna? Is it known whether pollutant contamination led to the extinction of other freshwater seal populations?

The National Oceanic and Atmospheric Administration (NOAA) is the federal agency that provides oversight on conservation measures for marine mammals and endangered species. According to scientists at NOAA, the Lake Iliamna seals are not known to be a "Distinct Population Segment" which might support actions to protect them under the Endangered Species Act, and there are no specific activities at this time to evaluate the Lake Iliamna seals for further protection. It is EPA's understanding that the Iliamna seals are harbor seals (*Phoca vitulina*) that may be permanent year-round residents of the lake. However, since the seals have access to Bristol Bay, it is possible that it is not an entirely closed freshwater population. Some of the seals could also be spotted seals (*Phoca largha*).

On-going studies of harbor seal populations may identify distinctions in the future. NOAA is currently conducting surveys of seal populations in Chignik Lake and will have results from those studies later this year.

In addition, Lori Quakenbush, Program Leader, Arctic Marine Mammal Program, Alaska Department of Fish and Game, stated that if any individual wishes to donate a small (raisin-sized) piece of skin, muscle, or organ tissue from as many different seals as possible harvested or found dead from Lake Iliamna, she will have them analyzed for genetics. Please contact Ms. Quakenbush for more information on how to do this.

For more information on this work, please contact:

- Dave Withrow, Alaska Harbor Seal Task Force, NOAA, (206) 526-4019, dave.withrow@noaa.gov
- Lori Quakenbush, Alaska Department of Fish and Game, (907) 459-7214, lori_quakenbush@fishgame.state.ak.us

- Brad Smith, Protected Resources Division, NOAA, (907) 271-3023, brad.smith@noaa.gov

3) Under the State's regulations, could discharge limits change with the season?

Even without the revisions to the existing mixing zone regulation, it is always possible to establish seasonal discharge limits in a permit. For example, some discharge limits are based on streamflow available, and if there are significant differences between the amount of streamflow in different seasons, then the discharge limits can be adjusted accordingly.

The mixing zone regulation as revised by the State would also allow for discharge limits to change seasonally in Pacific salmon spawning areas. For example, a mixing zone which allows for higher discharge limits may be authorized in a Pacific salmon spawning area during times that spawning is not occurring, but not during times of spawning. However, the revised regulation would prohibit mixing zones from adversely affecting the present and future capability of an area to support spawning, incubation, or rearing of Pacific salmon. Please see the revised regulation at 240(f), (g), and (j) for more detail.

4) What happens to fish spawning that occurs outside of the mixing zone?

Outside the mixing zone, all water quality criteria must be met. Water quality criteria are established by the State and approved by EPA to protect designated aquatic life uses of waters. Thus, the water quality that occurs outside of the mixing zone should be protective of a majority of aquatic life, including spawning.

5) Do changes in water quality affect the ability of salmon to return to their home streams ("imprinting")?

Changes in water quality are not expected to affect the ability of salmon to return to their home, or natal, streams. However, numerous studies indicate that elevated copper concentrations in water can damage the olfactory sense in fish and prevent their sensing environmental cues, including returning to their natal streams. Studies also indicate that this damage is reversible at lower concentrations and that most salmonids will, if possible, avoid water with levels of copper at which effects on the olfactory system occur. Thus, adverse effects are not expected to occur in water that meets Alaska's aquatic life water quality criteria for copper. Research into the effects of copper on salmon behavior and physiology are ongoing.

If you would like more detailed information on this topic, please contact Dr. Jean Zodrow, a toxicologist in EPA Region 10's Office of Environmental Assessment, at (zodrow.jean@epa.gov, (206) 553-0226).

6) What is the current schedule of Pebble Mine development?

EPA has not received any permit applications for Pebble, and does not expect to receive any applications from the company, Northern Dynasty, before 2007. Therefore, there is no NPDES permit schedule for this project at this time. The EPA project manager for Pebble is Diane Soderlund and EPA's Regional Mining Coordinator is Patty McGrath. For questions about the Pebble Mine development, please either contact Diane at (907) 271-3425 or Patty at (206) 553-0979.

7) What cumulative or interactive effects would discharges on the Nushagak have?

EPA is not aware of studies on potential cumulative or interactive effects of discharges on the Nushagak River. According to EPA records, there are few permitted discharges to the Nushagak River. These include several facilities in the Dillingham area (e.g., the City of Dillingham wastewater treatment plant) and further upstream on the Nushagak (e.g., the Village of Koliganek's sewerage system). Several placer mining operations may also have been permitted on the Nushagak or its tributaries.

For any future mixing zones that might be authorized on the Nushagak, the revised mixing zone regulation as adopted by the State would require ADEC to consider cumulative effects of discharges on the uses of the receiving water. Specifically, paragraph 240(b)(3) states that "[i]n determining whether to authorize a mixing zone under this section, the department will consider 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."

8) How long a time horizon is needed for determining water flows?

Alaska's revised mixing zone regulation does not specify how many years of data are required for determining water flows; EPA will contact ADEC to confirm this. In practice, EPA permit writers prefer to have 10 years of flow data to characterize the streamflow at a given site and to determine the quantity of water that is typically available for dilution at the site.

9) Where can we get more information on the project in Washington that involved Washington Tribes' assistance in identifying spawning grounds?

The project in Washington involved EPA's review of certain of the State of Washington's July 2003 revised water quality standards. During EPA's review, several Tribes informed EPA that Washington's identification of fish uses in some streams was incorrect and provided examples of such instances. The Tribes provided EPA with information, some of which formed a sufficient basis to help EPA determine which fish use designations in streams were correct and which were not correct.

For more information about this project, please contact Ms. Fran Wilshusen of the Northwest Indian Fisheries Commission (NWIFC)[1], fwilshus@nwifc.wa.gov; John

[1] The NWIFC serves treaty tribes in western Washington and was established by tribes following a court decision in 1974 (the "Boldt Decision") which reaffirmed their treaty-protected fishing rights and established the tribes as co-

Palmer, Office of Water and Watersheds, EPA Region 10, palmer.john@epa.gov, (206) 553-6521, or Kathleen Collins, Water Quality Standards Coordinator, EPA Region 10, collins.kathleen@epa.gov, (206) 553-2108.

10) How can Tribes convene a conversation about watershed baseline assessment funding under IGAP?

If any of the Tribes that are participating in the government-to-government consultation with EPA regarding mixing zones wish to discuss the possibility of using watershed assessment funding under IGAP, please contact Michelle Davis, EPA Tribal Coordinator, or Tim Hamlin, manager of EPA's Tribal Trust and Assistance Unit. Michelle can be reached at davis.michellev@epa.gov or (907) 271-3434 and Tim can be reached at hamlin.tim@epa.gov or (206) 553-1563.

managers of the resource entitled to 50 percent of the harvestable number of salmon returning to Washington waters. Following the ruling, the tribes created the Commission to assist them in conducting orderly and biologically sound fisheries. Please see http://www.nwifc.wa.gov/ for more information on NWIFC.