



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

National Marine Fisheries Service

P.O. Box 21668

Juneau, Alaska 99802-1668

October 10, 2007

Guy R. McConnell
Chief, Environmental Resources Section
U.S. Army Corps of Engineers
P.O. Box 6898
Elmendorf AFB, Alaska 99506-0898

Re: Big Level Island, Scoping
Comments/Dock Improvements

Attn: Ms. Lizette Boyer

Dear Mr. McConnell:

The National Marine Fisheries Service (NMFS) reviewed your September 20, 2007, letter requesting assistance in identifying potential environmental impacts for proposed dock improvements at Big Level Island in Southeast Alaska. The proposed work includes installing ten galvanized steel piles along a floating dock, adding a rock log barrier, replacing a wooden dock section and ramp, adding a transition ramp, adding a wooden dock, and expanding a platform at the end of the dock to accommodate vehicle traffic. The log barrier would be a 54-foot-long breakwater placed to the immediate north of the dock constructed with approximately 480 cubic yards of rock. The new ramp would be built of steel reinforced timber construction. The entire project area is approximately 2.6 acres.

We offer the following comments specific to the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA), the Marine Mammal Protection Act (MMPA) and the Endangered Species Act (ESA).

Essential Fish Habitat

Section 305(b) of the MSFCMA requires federal agencies to consult with NMFS on all actions that may adversely affect Essential Fish Habitat (EFH). NMFS is required to make EFH Conservation Recommendations, which may include measures to avoid, minimize, mitigate or otherwise offset adverse effects.

The Alaska Department of Fish and Game (ADF&G) anadromous waters catalogue lists two catalogued anadromous fish streams in the vicinity of Level Island. These streams are: 106-42-10060 (coho salmon and Dolly Varden char) and 106-42-10040 (coho and pink salmon). Nearshore habitats are particularly important to juvenile salmon migrating as fry or smolts from fresh water to salt water in the spring and summer. Juvenile salmon use nearshore marine habitats in spring and early summer for feeding and predator avoidance prior to migration out to sea.



The inshore area of the project location may provide important habitat for several marine species including the following groundfish species: Pacific cod; Pacific Ocean perch; walleye pollock; dusky, shorttraker, yelloweye, and rougheyeye rockfish; sablefish; arrowtooth flounder; flathead and rex sole; skates, sculpins, and various forage fish. More information on EFH species can be found at: <http://www.fakr.noaa.gov/habitat/efh.htm>.

NMFS has no site specific data on fish and marine vegetation at Big Level Island, however information is available for species sampled in nearshore marine waters in Kah Sheets Bay just north of Big Level Island. The following list of species were sampled in locations with eelgrass and kelp vegetation: Pacific sand lance, shiner perch, threespine stickleback, crescent gunnel, bay pipefish, snake prickleback, coho salmon, tubesnout, northern sculpin, silverspot sculpin, tubenose poacher, Pacific staghorn sculpin, great sculpin, surf smelt, rock sole, buffalo sculpin, kelp greenling, and starry flounder (Johnson et. al., 2005). This information can also be found at: <http://www.fakr.noaa.gov/habitat/fishatlas/>.

Marine species within the project area may be adversely affected by increased sedimentation and turbidity created during construction, underwater sound pressure waves generated by pile driving, exposure to toxic materials, and loss of habitat.

The project, as proposed, would adversely affect EFH. We offer the following EFH Conservation Recommendations pursuant to Section 305(b)(4)(A) of the Magnuson-Stevens Act:

1. The Clean Water Act Section 404(b)(1) guidelines at 40 CFR 230.10(a) prohibit the discharge of fill material into waters of the U.S. if a practicable alternative exists that would have less impact on the aquatic environment. An alternative is considered practicable if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes. We recommend you demonstrate that you have evaluated practical alternatives to the proposed tideland fill, minimized the amount of fill, and mitigated adverse impacts.
2. Drive piles with a vibratory hammer. Pile-driving can disrupt migration and can generate intense underwater sound pressure waves that can injure or kill fish (Longmuir and Lively 2001, Stotz and Colby 2001). Vibratory hammers produce less intense sounds than impact hammers (NMFS 2005). Fish have been observed to avoid sounds similar to those produced by vibratory hammers and to remain within the field of harmful sound associated with an impact hammer (Dolat 1997). If an impact hammer is required because of substrate type or the need for seismic stability, piles should be driven as deep as possible with a vibratory hammer before the impact hammer is used.
3. All work below the high tide line should be limited to low tidal stages to reduce turbidity. Potentially harmful sound pressure waves are attenuated more rapidly in shallow water than in deep water (Rogers and Cox 1988).

4. The use of any wood that has been surface or pressure-treated with creosote or treated with pentachlorophenol should be prohibited. Creosote contains numerous constituents that are toxic to aquatic organisms including polycyclic aromatic hydrocarbons (PAHs), phenolic compounds, and nitrogen, sulfur, or oxygenated heterocyclics (Poston, 2001). Leaching of these constituents continues throughout the life of the wood and has been associated with the development of tumors, immune system suppression, decreased fecundity and abnormal embryonic development. If treated wood must be used, any wood that comes in contact with marine or aquatic environments should be treated with waterborne preservatives approved for use in aquatic and/or marine environments. These include, but are not limited to: Chromated Copper Arsenic (CCA) Type C, Ammoniacal Copper Zinc Arsenate (ACZA), Alkaline Copper Quat (ACQ), Copper Boron Azole (CBA) or Copper Azole (CA). The applicant should only use wood that has been treated in accordance with best management practices developed by the Western Wood Preservers Institute. Treated wood should be inspected before installation to ensure that no superficial deposits of preservative material occur on the wood.
5. We recommend construction activities not be conducted during periods of peak use by juvenile salmonids and herring. No in-water work should be permitted from March 15 through June 15 to protect salmon smolts and to reduce the potential impact to schooling and spawning herring.
6. Reasonable precautions should be taken to prevent incidental and accidental discharge of petroleum products and other contaminants. A dock-side emergency oil spill response kit or other appropriate equipment should be made available to allow fast response to any accidental discharge of petroleum hydrocarbons and other contaminants.

Under section 305(b)(4) of the Magnuson-Stevens Act, the Corps is required to respond to NMFS EFH Conservation Recommendations in writing within 30 days. If the Corps will not make a decision within 30 days of receiving NMFS EFH Conservation Recommendations, the Corps should provide NMFS with a letter within 30 days to that effect, and indicate when a full response will be provided.

Threatened and Endangered Species/Marine Mammals

Section 7(a)(2) of the Endangered Species Act (ESA) directs Federal interagency cooperation “to insure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any endangered species or threatened species” or result in the destruction or adverse modification of critical habitat. NMFS is responsible for the administration of the ESA as it applies to listed cetaceans, pinnipeds, fish, and reptiles (sea turtles). In southeast Alaska, endangered marine mammal species include the Steller sea lion (western stock, west of 144 degrees West longitude), fin whales and humpback whales. The endangered leatherback turtle has also been documented in Southeast Alaska. The threatened eastern population of Steller sea lion (eastern stock, east of 144 degrees West longitude) is also present in southeast Alaska. Fish from several ESA-listed Evolutionarily Significant Units (ESUs) may occur in Alaska waters. These ESUs are listed on Table 1 (attached).

Marine mammal species that are not listed under the ESA are afforded protection by Marine Mammal Protection Act (MMPA). In southeast Alaska, these species include harbor seals, harbor porpoise, Dall's porpoise, minke and killer whales.

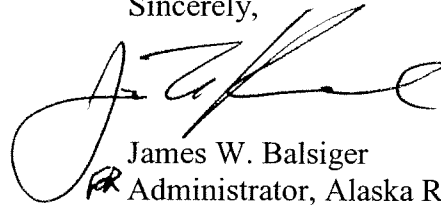
All of the aforementioned species may occur in the marine waters near Big Level Island at any time of year on an opportunistic basis. We do not have detailed information on the frequency or magnitude of occurrence of ESA or MMPA-protected species within the proposed project area. However, humpback whales have been observed in the vicinity of Big Level Island. Steller sea lions and humpback whales are present in Sumner Strait. Harbor seals are known to haul out on rocks and reefs along the northern shore of Big Level Island. No haulouts are documented at the project site, but animals may swim and forage in the project area. The closest designated critical habitat is the Steller sea lion haulout at Coronation Island, approximately 60 miles southwest of the Level Islands. Additional information on ESA species and MMPA species under NMFS jurisdiction can be found at: <http://www.fakr.noaa.gov/protectedresources>.

The MMPA and the ESA prohibit the injury, harm or harassment of marine mammals. Pile driving introduces high levels of impulsive noise into the water column, with the potential to harass or injure marine mammals. Sound pressure levels (SPLs) in the range of 130-135 dB re: 1 μ Pa have been measured up to one kilometer from an active pile driver (Johnson et. al., 1986). Humpback whales have been observed to react to SPLs greater than 115-129 dB re: 1 μ Pa within 200 meters of a sound source. Reyff (2003) measured SPLs of 159 dB re: 1 μ Pa about 200 meters from a pile driver driving 14-inch diameter hollow steel piles. NMFS normally considers harassment takes to begin at received levels of 160 dB.

NMFS recommends that pile driving not occur if any marine mammals are observed within 200 meters of the platform to reduce the possibility for harassment or injury to marine mammals. The operator should scan the area for the presence of marine mammals. If marine mammals are sighted within 200 meters of the sound source or are observed to be disturbed by the activity at any distance, pile driving should cease until the animals leave the immediate area.

If you have any questions regarding our habitat recommendations for this project, please contact Cindy Hartmann at 907-586-7585. Please direct any questions regarding marine mammals and endangered species to Erika Phillips at (907) 586-7312.

Sincerely,

A handwritten signature in black ink, appearing to read 'J. Balsiger', with a stylized flourish at the end.

James W. Balsiger
Administrator, Alaska Region

cc: COE, Anchorage, Lizette Boyer, lizette.p.boyer@poa02.usace.army.mil*
EPA Juneau, Chris Meade*
ADNR, Petersburg, Jim Cariello*
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ADNR Juneau, Joe Donohue and, Jackie Timothy*
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NMFS, Protected Resources Division, Juneau, Kaja Brix, Aleria Jensen, and Erika Phillips*
NMFS, Habitat Conservation Division, Juneau, Cindy Hartmann*

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Literature cited

Dolat, S.W. 1997. Acoustic measurements during the Baldwin Bridge Demolition (final, dated March 14, 1997). Prepared for White Oak Construction by Sonalysts, Inc., Waterford, CT/34 pp + appendices.

Johnson, S.R., C.R. Greene, R.A. Davis, and W.J. Richardson. 1986. Bowhead whales and underwater noise near the Sandpiper Island drillsite, Alaskan Beaufort Sea, autumn 1985, Reprinted by LGL Limited Environmental Research Associates, King City, Ontario, and Greeneridge Sciences, Inc., Santa Barbara, CA, for Shell Western Exploration & Production Inc., Anchorage, AK. 130p.

Johnson, S.W., A.D. Neff, and J. F. Thedinga. 2005. An Atlas on the Distribution and Habitat of Common Fishes in Shallow Nearshore Waters of Southeastern Alaska, 89 p. U.S. Department of Commerce, NOAA Technical Memorandum NMFS-AFSC-157.

Longmuir, C. and T. Lively. 2001. Bubble curtain systems for use during marine pile driving. Report by Fraser River Pile & Dredge Ltd., New Westminster, British Columbia. 9 pp.

National Marine Fisheries Service. 2005. Final Environmental Impact Statement, Essential Fish Habitat Identification and Conservation in Alaska, Vol. 2, Appendix G; National Marine Fisheries Service, Department of Commerce. April, 2005.

Poston, Ted. 2001. *Treated Wood Issues Associated with Overwater Structures in Marine and Freshwater Environments*. White Paper, Washington Department of Fish and Wildlife. <http://wdfw.wa.gov/hab/ahg/overwatr.htm>

Reyff, J.A. 2003. Underwater sound levels associated with seismic retrofit construction of the Richmond-San Rafael Bridge. Document in support of Biological Assessment for the Richmond-San Rafael Bridge Seismic Safety Project. January 31, 2003. 18pp.

Rogers, P.H. and M. Cox. 1988. Underwater sound as a biological stimulus. pp. 131-149. *In* Sensory biology of aquatic animals. Atema, J, R.R. Fay, A.N. Popper, and W.N. Tavolga, eds. Springer-Verlag. New York.

Stotz, T. and J. Colby. 2001. January 2001 dive report for Mukilteo wingwall replacement project. Washington State Ferries Memorandum. 5 pp. + appendices.

Table 1. The following species¹ and critical habitat for which NMFS bears responsibility occur in Alaska waters and have been provided protection under the Endangered Species Act of 1973 (16 U.S.C. 1531 *et seq.*):

Listed Species	Stock	Latin Name	Status
Blue whale		<i>Balaenoptera musculus</i>	Endangered
Bowhead whale		<i>Balaena mysticetus</i>	Endangered
Fin whale		<i>Balaenoptera physalus</i>	Endangered
Humpback whale		<i>Megaptera novaeangliae</i>	Endangered
Northern right whale		<i>Eubalaena glacialis</i>	Endangered
Sei whale		<i>Balaenoptera borealis</i>	Endangered
Sperm whale		<i>Physeter macrocephalus</i>	Endangered
Steller sea lion	Western population	<i>Eumetopias jubatus</i>	Endangered
Steller sea lion	Eastern population	<i>Eumetopias jubatus</i>	Threatened
Chinook salmon*	Puget sound	<i>Oncorhynchus tshawytscha</i>	Threatened
	Lower Columbia River		Threatened
	Upper Columbia River Spring		Endangered
	Upper Willamette River		Threatened
	Snake River Spring/Summer		Threatened
	Snake River Fall		Threatened
Sockeye salmon*	Snake River	<i>Oncorhynchus nerka</i>	Endangered
Steelhead*	Upper Columbia River	<i>Oncorhynchus mykiss</i>	Endangered
	Middle Columbia River		Threatened
	Lower Columbia River		Threatened
	Upper Willamette River		Threatened
	Snake River Basin		Threatened
Leatherback sea turtle		<i>Dermochelys coriacea</i>	Endangered

¹ In this definition of species, the Endangered Species Act of 1973, as amended, includes the traditional biological species concept of the biological sciences and "any subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature" (16 USC 1532). NMFS uses the term *evolutionary significant unit* as synonymous with *distinct population segments* and lists Pacific salmon accordingly. For purposes of section 7 consultations, these are all "species."