UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
P.O. Box 21668
Juneau, Alaska 99802-1668

February 29, 2008

John Lang
Fishery Biologist
Region 10-Tongass National Forest
Ketchikan-Misty Fiords Ranger District
3031 Tongass Avenue
Ketchikan, Alaska 99901

Re: Marx Creek Rehabilitation Project
(Phase II) Essential Fish Habitat Assessment

Dear Mr. Lang:

The National Marine Fisheries Service (NMFS) has reviewed the Essential Fish Habitat Assessment for Phase II of the Marx Creek Rehabilitation Project near Hyder, Alaska. NMFS concurs with your determination that the rehabilitation project will adversely affect Essential Fish Habitat (EFH) and the anadromous fishery resources of Marx Creek.

The project proposes to reconfigure the upper portion of Marx Creek because the channel was developed too close to a porous flood control dike adjacent to the Salmon River that permits glacial silt to enter the streambed when flooding occurs. Spawning salmon are reluctant to use this habitat due to increased siltation, changes in chemical composition or changes in water temperature. Phase I of the project identified an alternate channel route but models indicated there was insufficient water availability to sustain two channels.

Phase II objectives will be to construct a new 2,000 foot channel approximately 500 feet east of the present channel which will be partially filled in with spoils generated from excavation excess to prevent chronic siltation from the Salmon River. Redwood weirs (similar to previous design) will be installed to maintain consistent flow patterns in the new channel while providing passage for adult and juvenile salmon. A 0.5 mile single lane road will be established for construction purposes and future access for weir maintenance and the existing access road will be decommissioned. Approximately 30 cottonwood trees will be felled for new channel development and placed in the Salmon River or used for local firewood consumption. In preparation for construction activities, all fish in the present channel to be backfilled will be captured and transplanted downstream; siltation curtains will be installed throughout the work area to prevent and reduce sedimentation; pollution and oil spill prevention controls will be in place; fueling of equipment will not occur within 150 feet of any waterbody and all equipment will be powerwashed prior to entry into Marx Creek. Post-project erosion measures will include revegetation with endemic seedling[s], silt fences and willow matting.

Marx Creek, identified in the Alaska Department of Fish and Game's (ADF&G) Anadromous Stream Catalog as number 101-15-10500-2036, was originally created in 1974 as a mile long

drainage channel to construct protective flood dikes along Fish Creek (101-15-10500-2028) and Hyder Road impacted from destructive Salmon River (101-15-10500) flooding. It 1985, 4,000 feet of this channel was developed into a fish bearing stream and populated with four brood years of chum salmon from Fish Creek (Denton, 1997) to provide additional spawning grounds the Salmon River watershed and to protect the integrity and genetic sustainability of this important species (Halupka et. al. 2000). According to Denton's 1997 report, in 1989 the channel was extended another 1,600 feet that has not proven attractive as spawning habitat since 1993 while the original lower portion of Marx Creek (1985 construction) is a self-sustaining chum salmon stream. Channel morphology has changed from an original consistent depth to now having exposed gravels and deeper pools, a more eutrophic aquatic habitat, and a more complex channel edge with grasses, shrubs and other deciduous tree species where it was once bare gravel. In addition, the report further reveals that coho salmon are increasingly colonizing the creek and that pink salmon and Dolly Varden trout were also counted in fish trap surveys.

The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson - Stevens Act) requires NMFS to make conservation recommendations regarding any federal action that would adversely affect EFH. We offer the following recommendations pursuant to section 305(b)(4)(A) of the Magnuson-Stevens Act to minimize the impacts of the proposed project.

Your EFH Assessment indicates that Marx Creek is located in a historical floodplain and was primarily developed for chum salmon and complex habitats were not a design criteria as chums spend relatively little time in the riverine environment. You also state that presently coho salmon, pink salmon, and Dolly Varden trout also use Marx Creek for spawning and rearing purposes which supports Ms. Denton's earlier results. This increased species diversity is most likely due to the change in the channel bottom and the complexity of shoreline edge that has developed over time. Channel construction design should follow natural contours where possible and leave as much undergrowth and overgrowth along the engineered stream corridor as possible. Unless the 30 trees proposed to be felled will be a safety issue during construction activity they should be left in place to provide additional habitat diversity.

Appendix G in NMFS' Final Environmental Impact Statement for Essential Fish Habitat Identification and Conservation in Alaska (2005) states:

> Avoid using hard engineering structures for shoreline stabilization and channelization when possible [as] channelization of rivers causes loss of floodplain connectivity and simplification of habitat. Use bioengineering approaches (i.e., applying vegetation approaches with principles of geomorphology, ecology, and hydrology) to [construct and] protect shorelines and riverbanks.
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> Riverine systems provide important habitat that serves multiple purposes for anadromous species such as salmon. These purposes include migration, feeding, spawning, nursery, and rearing functions. Protecting these functions is key to providing for a productive system and a healthy fishery. The riparian corridor is an important component of a river system... A healthy riparian area has vegetation harboring prey items (e.g., insects), contributes necessary nutrients, provides large woody debris (LWD) that creates channel structure and cover for fish, and provides shade, which controls stream temperatures (Bilby and Ward 1991). When vegetation is removed from riparian areas, waters are heated, and LWD is less common. This results in less refuge for fish, fundamental changes in channel structure (e.g., loss of pool habitats), instability of streambanks, and alteration of nutrient and prey sources within the river system (Murphy 1995, Koski 1993, Koski 1992).

The project should also include a plan for monitoring the success of siltation decrease, revegetation efforts, measuring channel morphology changes, and assessing improvements to EFH by conducting annual fish surveys and tabulating the amounts and diversity of fish species.

The positive, long-term effects of creating new, more diverse EFH should outweigh the negative, short-term adverse impacts of a one-time removal of juvenile salmon related to the project design. Adhering to the timing windows provided by previous fish count surveys and following Best Management Practices related to in-stream work as you propose will further reduce the adverse effects that this project will produce. The proposed work on Marx Creek provides a unique opportunity to enhance EFH along the Salmon River.

NMFS looks forward to working with you on this project. Thank you for the opportunity to comment on this proposal. If you have any questions please contact Tim Wilkins at (907) 586-7643 or Timothy.Wilkins@noaa.gov.

Sincerely,

Robert D. Mecum
Acting Administrator, Alaska Region

John Lang, jslang@fs.fed.us *

*email

Literature Cited:

Denton, C., 1997. Marx Creek Spawning Channel Evaluation, Final Report. Alaska Department of Fish and Game, CFMD Division, Ketchikan, AK. February, 1997. pps. 17.

Halupka, K.C., et. al., 2000. Biological Characteristics and Population Status of Anadromous Salmon in Southeast Alaska. U.S.D.A. Forest Service Pacific Northwest Research Station, General Technical Report PNW-GTR-468. January, 2000. pps. 260.

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.