



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

*National Marine Fisheries Service  
P.O. Box 21668  
Juneau, Alaska 99802-1668*

January 30, 2004

Colonel Timothy J. Gallagher  
District Engineer, Alaska District  
Corps of Engineers  
P.O. Box 898  
Anchorage, AK 99506-0898

RE: Auke Nu Cove 1  
M-1999-1426

Attn: Mike E. Hanley

Dear Colonel Gallagher:

The National Marine Fisheries Service has reviewed the Alaska Glacier Seafood Company's (AGS) Public Notice of Application for Permit dated 12/31/03. The applicant proposes to add an 80' x 110' timber dock to an already permitted project constructed on intertidal fill near the head of Auke Nu Cove in Juneau, Alaska. The proposed dock would be built on tidelands conveyed to the City and Borough of Juneau from the Alaska Department of Natural Resources and leased to AGS. The dock would be constructed on 95 timber piles. Review of the plans indicates that the dock face will intersect the - 15' MLLW depth contour at the southwest corner of the dock sloping upward to a depth of about - 12' MLLW along most of the dock face. AGS also proposes installation of a 4-inch diameter saltwater intake line from the facility to a location 350' south at a depth of -60' MLLW.

NMFS continues to be concerned that this proposed project expansion will further degrade the nearby eelgrass beds of Auke Nu Cove. In a memorandum to the City and Borough of Juneau (CBJ) dated October 1, 2002 (attached), NMFS assessed the potential effects of this project on the eelgrass beds of Auke Nu Cove and concluded that construction and use of this facility would result in continued loss of eelgrass habitat by changing current flows and increasing sedimentation. NMFS also provided the Corps with a copy of a letter (Dec. 23, 2003) to CBJ assessing the negative effects of the proposed dock expansion project on the Auke Nu Cove eelgrass bed.

Chronic siltation from prop wash, increased turbulence from increased boat traffic at all tidal ranges; siltation during project construction; chronic input of hydrocarbons from fishing vessels' bilge waters; changes in water flow and sedimentation into and out of the cove; and discharge of sewage effluent into the waters of Auke Nu Cove are likely to damage one of the last eelgrass beds to be found in Auke Bay. Prop wash results in sedimentation that can bury and kill eelgrass and negatively effect the eelgrass's natural ability to decrease subtidal erosion by reducing current velocity, trapping fine sediment and binding sediment particles together (Thayer et al. 1975; Kenworthy et al. 1980; Fonseca et al. 1983). The resulting habitat loss will have negative effects on fish and invertebrate species dependant upon it.



## Ecological Importance of Eelgrass

The ecological importance of the Auke Nu eelgrass bed has been substantially documented as described in our earlier report. Eelgrass is a highly valued habitat because it is an abundant primary producer, it stabilizes soils in transitional wetlands and provides food, attachment substrate and shelter for many marine fish, birds, epiphytic algae and invertebrates. Seagrass beds are well documented nursery areas for fish (reviewed by Kenworthy et al. 1988). As nurseries, these habitats provide food and refuge from predators for sub-adult fish. Both numbers of fish and fish biomass can be considerably higher in seagrass beds than in unvegetated areas (Kemp et al. 1984; Fonseca et al. 1990). Eelgrass habitat protects juvenile herring, flatfish, salmon, and crabs during critical periods of their early life history.

Eelgrass is a living marine substrate and constitutes Essential Fish Habitat (EFH) for several species of federally managed fish and in addition is a Habitat Area of Particular Concern (HAPC) because of its ecological importance, sensitivity to disturbance, and rarity. Eelgrass beds are also considered "special aquatic sites" under section 404 (b) (1) Guidelines of the Clean Water Act due to their ecological importance.

Beach seining of the Auke Nu Cove eelgrass bed during April, May, June and July of 1999 yielded sixteen species of fish, three shrimp and one crab species. Juvenile chum, pink and coho salmon were sampled along with many species of sculpins, flatfish and juvenile Pacific herring (Pat Harris, NMFS Auke Bay Lab, personal communication).

## Essential Fish Habitat

Section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA; 16 USC 1855(b)) requires federal agencies to consult with NMFS when any activity proposed to be permitted, funded, or undertaken by a federal agency may have an adverse effect on designated EFH. The U.S. Army Corps of Engineers has determined that this proposed activity will not adversely affect EFH, including anadromous fish and Federally managed species. NMFS disagrees with this determination and finds that the proposed project will adversely effect EFH. The presence of EFH in Auke Nu Cove has been exhaustively documented by state and federal agencies in review of similar projects since 1981.

## Assessment of Project Effects

Project plans and on-site boat and SCUBA investigations indicate that the dock face will intersect the -15' MLLW depth contour at the southwest corner of the dock, and most of the dock will allow access to water of -12' MLLW to -15' MLLW. Docked fishing vessels with a typical draft of four to six feet will be within six to eight feet of the sea floor at a zero tide, and within zero to two feet in an extreme minus tide. Prop wash will disturb the site's soft sediments at these depths and will result in sediment being suspended in the water column. Turbulance from

propeller wash and from vessel wakes can dislodge sediments and uproot seagrass (Lockwood 1990). Prop wash from vessels approaching, docking, and departing from the seafood processing plant will result in increased turbidity and decreased light penetration in Auke Nu Cove. Tidal action is likely to carry suspended sediments into the eelgrass bed where they will settle, burying the eelgrass. Increased turbidity will decrease the amount of light reaching the sea floor, decreasing the growth rate of eelgrass. The resulting increased turbidity and sedimentation are likely to cause decreased growth of eelgrass and further reductions in the size of the eelgrass bed of Auke Nu Cove.

Data from NMFS October 2003 GPS mapping and SCUBA investigations of the Auke Nu Cove eelgrass beds document an 8.6% decrease in the size of the Auke Nu eelgrass bed from 2002 measurements. These measurements further document the continuing decline of this important eelgrass habitat. NMFS report on the Auke Nu eelgrass bed will be completed in February, 2004 and a copy will be provided to the Corps and the CBJ.

### Cumulative Effects

The applicant plans to install a jet aeration sewage treatment plant with a marine effluent outfall in the vicinity of the project (Chris Crenshaw, R&M Engineering, personal communication). Additional input of sewage effluent to the waters of Auke Nu Cove is likely to produce algal blooms that can reduce the amount of light reaching eelgrass and decrease its growth. Auke Nu Cove currently receives sewage effluent from the waste treatment facilities of the Alaska Marine Ferry Terminal and the Auke Nu Condominiums, and possibly from private residences on either side of the cove. Documentation of total amount and location of sewage effluent entering Auke Nu Cove should be made and the location and depth of the outfalls should be recorded. This information should be of special interest to AGS in consideration of their planned seawater intake for live crab tanks and processing seafood. The depth of AGS' seawater intake line is the same as the depth of the Auke Nu Condominiums' marine outfall for sewage effluent (-60 feet MLLW).

### Conservation Recommendations

The goal of NMFS conservation recommendations is to avoid or minimize the adverse impacts of this project on the eelgrass bed of Auke Nu Cove for the protection of this EFH HAPC and the federally managed fish species it supports.

1) NMFS recommends redesigning the dock so that it allows vessels to dock in deeper waters. Dock access at a depth contour of -20 to -25 feet MLLW would result in less or no prop wash and would protect the Auke Nu Cove eelgrass bed from the effects of increased turbidity and sedimentation. While we are unable to recommend an exact depth where prop wash would not result in disturbance of bottom sediments, we would be able to calculate this depth if range of propeller sizes, including diameter, pitch, rate of revolutions and dock approach and departure speeds of vessels that will be using the proposed dock facility were provided for our analysis.

Based on current metering at the nearby Auke Bay Ferry Terminal, we are reasonably confident that prop wash deleterious to the nearby eelgrass bed would not occur if the dock extended to the recommended depths.

2) Pilings should not be constructed of creosote-treated timbers. Creosote is carcinogenic and highly toxic to all living organisms, especially juvenile fish, aquatic plants and invertebrates. NMFS recommends using steel and concrete pilings for dock construction.

3) Pile-driving can disrupt migration and cause physical damage to fish. Drive piles during low tide periods in intertidal and shallow subtidal areas to prevent injuries to fish. Use a vibratory hammer if driving hollow steel piles. If conditions require the use of impact hammers for seismic stability or due to substrate conditions, the pile should be driven as deep as possible with a vibratory hammer prior to use of the impact hammer. If peak sound pressure levels from deepwater pile driving exceed the 180 dB re  $\mu\text{Pa}$  threshold for injury to fish (which is unlikely if small diameter piles are used) implement measures to reduce sound pressure such as: surrounding the pile with an air bubble curtain, using a smaller hammer to reduce the sound pressure, or using a hydraulic hammer if impact driving cannot be avoided.

4) We recommend that construction activities not be conducted during periods of peak use by juvenile salmonids and herring. In-water construction activities should not be conducted from March 15 to June 15 to protect spawning and rearing herring, and migrating juvenile salmonids.

5) An dock-side emergency oil spill response kit should be purchased and made available to allow fast response to small oil spills and accidental discharge of hydrocarbon contaminated bilge waters. Typical kits are contained in a 55 gallon drum or similar container, contain oil boom, absorbent pads and personal protective gear. These kits are widely available from many retail sources. The kit should be of sufficient size to contain up to a 250 gallon spill.

6) Restrict vessels from motoring, mooring or anchoring in the immediate vicinity of the eelgrass beds. NMFS will provide the Corps, the applicant, and CBJ with the current coordinates of the eelgrass bed in our 2004 report. A floating breakwater, signs or other effective means of restricting access should be designed and constructed to ensure that fishing vessels to not directly impact the eelgrass bed.

7) Investigate options for improving spawning conditions for Pacific herring including the installation of artificial spawning substrates to the dock structure. NMFS offers assistance to the CBJ in developing and monitoring the success of an artificial Pacific herring substrate.

8) Paint the underside of decking materials white (or construct the deck out of white material) so that sunlight is reflected into the subtidal and intertidal lands.

Due to the significance of the resources at risk and the impacts likely to result from the project, we believe that approval of the current proposal may result in substantial and unacceptable impacts to aquatic resources of national importance. If our conservation recommendations become part of the permit, we would not object to issuance of the permit. However, if the project remains as proposed, we recommend that it be denied. These comments satisfy the procedural requirements of Part IV, paragraph 3(a) the 1992 404(q) Memorandum of Agreement between the Department of Commerce and the Department of the Army. If you choose not to follow these recommendations, please notify this office in accordance with the local procedures agreed to by our respective agencies.

NMFS is available to assist AGS and the Corps with any further information needs regarding this interesting site, and in developing an acceptable solution for the AGS project that will protect the valuable eelgrass bed of Auke Nu Cove. We will provide a copy of 2003 eelgrass report and are available for further scuba assessments of the area if more site-specific information is needed. Please contact Susan Walker (907-586-7646 or [susan.walker@noaa.gov](mailto:susan.walker@noaa.gov)) with any project related questions or concerns.

Sincerely,



(For) James W. Balsiger,  
Administrator, Alaska Region

cc:

ADF&G, Janet Schempf  
ADNR OHMP, Moira Engle  
M. Erickson  
USFWS, Richard Enriquez

## Literature Cited

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