

DEPARTMENT OF COMMERCE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

NATIONAL MARINE FISHERIES SERVICE

Letter of Authorization

The Chief of Naval Operations (N774), Department of the Navy, 2000 Navy Pentagon, Washington, D.C. 20350-2000, and persons operating under his authority, are authorized to conduct the activity specified below pursuant to 50 CFR Part 216, Subpart Q--Taking of Marine Mammals Incidental to Navy Operations of Surveillance Towed Array Sensor System Low Frequency Active (SURTASS LFA) sonar subject to the provisions of the Marine Mammal Protection Act (16 U.S.C. 1361 et seq.; MMPA), the Regulations Governing Small Takes of Marine Mammals Incidental to Specified Activities (50 CFR Part 216, Subpart I)(the Regulations) and the following conditions:

1. This Authorization is valid for the period August 16, 2002, through August 15, 2003.

2. This Authorization is valid only for the unintentional taking of the species of marine mammals identified in 50 CFR 216.180(b) and Condition 3(c) of this Authorization governing the taking of these animals incidental to the activity specified in Condition 3(a) within those biogeographic areas specified in Condition 3(b) and shall be valid only for takings consistent with the terms and conditions set out in 50 CFR 216.182 and the terms of this Authorization as specified below.

3. (a) This Authorization is valid only for activities associated with the operation of the SURTASS LFA Sonar onboard the research vessel *R/V Cory Chouest*. The signals transmitted by the SURTASS LFA source must be between 100 and 330 Hertz (Hz) with a source level for each of the 18 projectors no more than 215 dB (re: 1 micro Pascal (μ Pa) at 1 meter (m)) and a maximum duty cycle of 20 percent.

(b) This Authorization is valid for an estimated 6 active sonar missions (or equivalent shorter missions not to exceed 432 hours of transmit time during the period of effectiveness stated in Condition 1 of this Authorization) in the Archipelagic Deep Basins Province, North Pacific Tropical Gyre (West) Province, and North Pacific Tropical Gyre (East) Province in the Pacific Trade Wind Biome and in the Kuroshio Current Province, and Pacific Subarctic Gyres (West) Province in the Pacific Westerly Winds Biome, as identified in 50 CFR 216.180(a).

(c) The incidental take of marine mammals under the activity identified in Condition 3(a) is limited to the following species:

(i) Mysticete whales--blue whale (*Balaenoptera musculus*), fin whale (*Balaenoptera physalus*), minke whale (*Balaenoptera acutorostrata*), Bryde's whale (*Balaenoptera edeni*), sei whale (*Balaenoptera borealis*), humpback whale (*Megaptera*

novaeangliae), northern right whale (*Eubalaena glacialis*), and gray whale (*Eschrichtius robustus*).

(ii) Odontocete whales--Risso's dolphin (*Grampus griseus*), rough-toothed dolphin (*Steno bredanensis*), Fraser's dolphin (*Lagenodelphis hosei*), right-whale dolphins (*Lissodelphis spp.*), bottlenose dolphin (*Tursiops truncatus*), common dolphin (*Delphinus delphis*), Dall's porpoise (*Phocoenoides dalli*), harbor porpoise (*Phocoena phocoena*), *Stenella spp.*, *Lagenorhynchus spp.*, melon-headed whale (*Peponocephala spp.*), beaked whales (*Berardius spp.*, *Mesoplodon spp.*), Cuvier's beaked whale (*Ziphius cavirostris*), Longman's beaked whale (*Indopacetus pacificus*), killer whale (*Orcinus orca*), false killer whale (*Pseudorca crassidens*), pygmy killer whale (*Feresa attenuata*), sperm whale (*Physeter macrocephalus*), dwarf and pygmy sperm whales (*Kogia simus* and *K. breviceps*), and short-finned pilot whale (*Globicephala macrorhynchus*).

(iii) Pinniped--harbor seal (*Phoca vitulina*), Hawaiian monk seal (*Monachus schauinslandi*), northern fur seal (*Callorhinus ursinus*), and Steller sea lion (*Eumetopias jubatus*).

(d) The taking of marine mammals by the Holder of this Authorization is limited to the incidental taking of marine mammal species identified in Condition 3(c) by Level A and Level B harassment (as defined in the Marine Mammal Protection Act and 50 CFR § 216.3) within those areas authorized under Condition 3(b). Taking of marine mammal species not listed under Condition 3(c) by harassment, injury, or mortality, or the taking by mortality of any marine mammal species listed under Condition 3(c) is prohibited.

4. The Holder of this Authorization, and any individuals operating under his authority, must not broadcast the SURTASS LFA sonar signal at a frequency greater than 330 Hz.

5. The Holder of this Authorization, and any individuals operating under his authority, are required to cooperate with the National Marine Fisheries Service (NOAA Fisheries) and any other Federal agency with jurisdiction in the monitoring of impacts of the activity on marine mammals.

6. Mitigation

The Holder of this Authorization, and any individuals operating under his authority, must conduct the activity identified in 50 CFR § 216.180 and Condition 3(a) of this Authorization in a manner that minimizes, to the greatest extent practicable, adverse impacts on marine mammals, their habitats, and the availability of marine mammals for subsistence. When conducting operations identified in 50 CFR § 216.180, the following mitigation measures must be implemented:

(a) Through monitoring described under 50 CFR § 216.185 and Condition 7 of this Authorization, the Holder of this Authorization (and any individuals operating under his authority) must ensure, to the greatest extent practicable, that no marine mammal is subjected to a sound pressure level of 180 dB (re 1 $\mu\text{Pa}_{\text{rms}}$) or greater.

(b) If a marine mammal is detected within the area subjected to a sound pressure level of 180-dB (re 1 $\mu\text{Pa}_{\text{rms}}$) or greater (safety zone) or within the 1 km (0.5 nm) buffer zone extending beyond the 180-dB (re 1 $\mu\text{Pa}_{\text{rms}}$) safety zone, SURTASS LFA sonar transmissions will be immediately delayed or suspended. Transmissions will not resume earlier than 15 minutes after:

(i) All marine mammals have left the area of the safety and buffer zones; and

(ii) There is no further detection of any marine mammal within the safety and buffer zones as determined by the visual, passive or active acoustic monitoring described in 50 CFR § 216.185 and Condition 7.

(c) The High Frequency Marine Mammal Monitoring (HF/M3) sonar source described in 50 CFR § 216.185 will be ramped-up slowly to operating levels over a period of no less than 5 minutes. The HF/M3 source level will not be increased if a marine mammal is detected during ramp-up. Ramp-up may continue once marine mammals are no longer detected by any of the three monitoring programs. HF/M3 sonar will be ramped-up:

(i) At least 30 minutes prior to any SURTASS LFA sonar transmissions;

(ii) Prior to any SURTASS LFA sonar calibrations or testing that are not part of regular SURTASS LFA sonar transmissions described in Condition 6(c)(i); and

(iii) Anytime after the HF/M3 source has been powered down for more than 2 minutes.

(d) The SURTASS LFA sonar will not be operated such that the SURTASS LFA sonar sound field exceeds 180 dB (re 1 $\mu\text{Pa}_{\text{rms}}$):

(i) At a distance of 12 nautical miles (nm) (22 kilometers (km)) from any coastline, including offshore islands; and

(ii) Within any offshore area that has been designated as biologically important for marine mammals under 50 CFR § 216.184(f) and described in Condition 6(e), that exists outside the 12 nm (22 km) zone;

(e) The following areas have been designated by NOAA Fisheries as offshore areas of critical biological importance for marine mammals (by season if appropriate):

	<u>Name of Area</u>	<u>Location of Area</u>	<u>Months of Importance</u>
(i)	200-m isobath North American East Coast	From 28° N to 50° N west of 40° W	Year-Round
(ii)	Antarctic	30° E to 80° E:45° S	October through

	Convergence Zone	80° E to 150° E:55° S 150° E to 50° W:60° S 50° W to 30° E:50° S	March
(iii)	Costa Rica Dome	Centered at 9° N and 88° W	Year-Round
(iv)	Penguin Bank	Centered at 21° N and 157° 30' W	November 1 through May 1

(f) In order to meet the sound pressure criteria in Conditions 6(b), 6(d), and 6(e), the SURTASS LFA sonar sound field (distance to the 180-dB (re 1 $\mu\text{Pa}_{\text{rms}}$) isopleth) will be estimated prior to and during operations using near-real-time environmental data and underwater acoustic prediction models. These sound field estimates will be updated every 12 hours, or more frequently, when meteorological or oceanographic conditions change.

(g) In order to ensure that the take authorized under the Authorization is at the lowest level practicable, missions will be planned to ensure that no greater than 12 percent of any marine mammal stock is incidentally harassed (as that term is defined in the MMPA) during the effective period of this Authorization.

7. The Holder of this Authorization, and any individuals operating under his authority, must:

(a) Perform the following monitoring mitigation:

(i) Visual monitoring from the ship's bridge during all daylight hours;

(ii) Passive acoustic monitoring using low frequency, passive SURTASS to listen for vocalizing marine mammals; and

(iii) Active acoustic monitoring using the HF/M3 sonar to locate and track marine mammals in relation to the SURTASS LFA sonar vessel and the sound field produced by the SURTASS LFA sonar source array.

(b) Perform monitoring under Condition 7(a) to:

(i) Commence at least 30 minutes before the first SURTASS LFA sonar transmission (30-minutes before sunrise for visual monitoring);

(ii) Continue between transmission pings; and

(iii) Continue for at least 15 minutes after completion of the SURTASS LFA sonar transmission exercise (30 minutes after sunset for visual monitoring), or if marine mammals are showing abnormal behavioral patterns, for a period of time until behavior patterns return to normal or conditions prevent continued observations.

(c) Designate qualified on-site individuals to conduct the mitigation, monitoring and reporting activities specified in this Authorization. The Holder of this Authorization will hire one or more qualified marine mammal biologists, highly experienced in marine mammal observation techniques, to train observers for conducting visual monitoring.

(d) Conduct research in accordance with the requirements of the 50 CFR § 216.185. Under this Authorization such research must include at least one of the following: (1) the behavioral reactions of whales to sound levels that were not tested during the research phase, specifically between 155 dB and 180 dB, (2) the responses of sperm and beaked whales to LF sonar signals, (3) the habitat preferences of beaked whales, (4) passive acoustic monitoring for the possible silencing of calls of large whales using bottom-mounted hydrophones, and (5) long term, cumulative effects on a stock of marine mammal that is expected to be regularly exposed to LFA and monitor it for population changes throughout the five-year period. A final determination on the means to increase knowledge of marine mammal species and the determination of levels of impacts from potential takes will be determined by NOAA Fisheries in consultation with the Holder of this Authorization.

8. Reporting

The Holder of this Authorization must:

(a) Submit quarterly, classified mission reports to the Director, Office of Protected Resources, NOAA Fisheries no later than 30 days after the end of the quarter beginning on August 16, 2002. Each quarterly, classified mission report will include all active-mode missions that have been completed during the quarter. Specifically, these reports will include dates/times of exercises, location of vessel, LOA province, location of the safety and buffer zones in relation to the LFA array, marine mammal observations, and records of any delays or suspensions of operations. Marine mammal observations will include animal type and/or species, number of animals sighted, date and time of observations, type of detection (visual, passive acoustic, HF/M3 sonar), bearing and range from vessel, abnormal behavior (if any), and remarks/narrative (as necessary). In the event that no SURTASS LFA missions are completed during a quarter, a report of negative activity will be provided.

(b) Submit an annual, unclassified report to the Director, Office of Protected Resources, NOAA Fisheries, no later than 90 days prior to expiration of this Authorization. This report will provide NOAA Fisheries with an unclassified summary of the year's quarterly reports and will include the Navy's assessment of whether any taking occurred within the SURTASS LFA mitigation and buffer zones and estimates of the percentage of marine mammal stocks affected by SURTASS LFA sonar operations (both within and outside the safety and buffer zones), using predictive modeling based on operating locations, dates/times of operations, system characteristics, oceanographic environmental conditions, and animal demographics. The annual report will also include:

(i) Analysis of the effectiveness of the mitigation measures with recommendations for improvements where applicable;

- (ii) Assessment of any long-term effects from SURTASS LFA sonar operations; and
- (iii) Any discernible or estimated cumulative impacts from SURTASS LFA sonar operations.

9. A copy of this Authorization and the attached Subpart Q of the regulations must be in the possession of the Officer in Charge of the Military Detachment (MILDET) on board the R/V *Cory Chouest* in order to conduct the activity under the authority of this Letter of Authorization.

Donald R. Knowles, Director
Office of Protected Resources
National Marine Fisheries Service

Date