UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Silver Spring, MD 20910

DEPARTMENT OF COMMERCE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

NATIONAL MARINE FISHERIES SERVICE

Letter of Authorization

The Chief of Naval Operations, Department of the Navy, 2000 Navy Pentagon, Washington, D.C. 20350-2000, and persons operating under his authority (i.e., Navy), are authorized to take marine mammals incidental to Navy operations of Surveillance Towed Array Sensor System Low Frequency Active (SURTASS LFA) sonar in accordance with 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 and the following conditions:

1. This Authorization is valid for the period August 16, 2011, through August 15, 2012.

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 provisions 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 USNS EFFECTIVE (T-AGOS 21). The signals transmitted by the SURTASS LFA sonar source must be between 100 and 500 Hertz (Hz) with a source level for each of the 18 projectors no more than 215 dB (re: 1 micro Pascal (μPa) at 1 meter (m)) and a maximum duty cycle of 20 percent.

(b) This Authorization, combined with an Authorizations for the USNS VICTORIOUS (T-AGOS 19), ABLE (T-AGOS 20), and IMPECCABLE (T-AGOS 23), is valid for an estimated total of 20 nominal active sonar missions (16 combined missions in the Northwestern Pacific Ocean and four combined missions in the Hawaii Range Complex) between the four SURTASS LFA sonar vessels (or equivalent shorter missions but not to exceed a total of 432 hours of transmit time per vessel during the period of effectiveness of this Authorization). These SURTASS LFA sonar operating areas are contained within the Archipelagic Deep Basins Province, the Western Pacific Warm Pool Province, the North Pacific Tropical Gyre West Province, and the North Pacific Tropical Gyre East Province all within the

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Pacific Trade Wind Biome; the Kuroshio Current Province and the Northern Pacific Transition Zone Province within the Pacific Westerly Winds Biome; the North Pacific Epicontinental Sea Province within the Pacific Polar Biome; and the China Sea Coastal Province within the Pacific Coastal 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 Pacific right whale (*Eubalaena japonica*), southern right whale (*Eubalaena australis*), pygmy right whale (*Caperea marginata*), and gray whale (*Eschrichtius robustus*).

(ii) Odontocete whales-sperm whale (*Physeter macrocephalus*), dwarf and pygmy sperm whales (*Kogia simus* and *K. breviceps*), short-finned pilot whale (*Globicephala macrorhynchus*), Risso's dolphin (*Grampus griseus*), rough-toothed dolphin (*Steno bredanensis*), Fraser's dolphin (*Lagenodelphis hosei*), bottlenose dolphin (*Tursiops truncatus*), common dolphin (*Delphinus delphis*), Dall's porpoise (*Phocoenoides dalli*), spinner dolphin (*Stenella longirostris*), pantropical spotted dolphin (*S. attenuata*), striped dophin (*S. coeruleoalba*), Pacific white-sided dolphin (*Lagenorhynchus obliquidens*), melon-headed whale (*Peponocephala spp.*), Baird's beaked whale (*Berardius bairdii*), *Mesoplodon* spp. [including Stejneger's (*Mesoplodon stejnegeri*)], Hubbs' (*M. carlhubbsi*), Blaineville's (*M. densirostris*) beaked whales, ginko-toothed beaked whale (*M. ginkgodens*), Cuvier's beaked whale (*Ziphius cavirostris*), killer whale (*Orcinus orca*), false killer whale (*Pseudorca crassidens*), and pygmy killer whale (*Feresa attenuata*).

(iii) Pinnipeds-Hawaiian monk seal (*Monachus shauinslandi*)

(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 MMPA 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 500 Hz.

5. The Holder of this Authorization, and any individuals operating under his authority, are required to cooperate with the National Marine Fisheries Service (NMFS) 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 μPa_{rms}) or greater.

(b) If a marine mammal is detected within the area subjected to a sound pressure level of 180-dB (re 1 μ Pa_{rms}) or greater (safety zone) or within the 1 kilometer (km) (0.5 nautical mile (nm)) buffer zone extending beyond the 180-dB (re 1 μ Pa_{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 referenced 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 μ Pa_{rms}):

(i) At a distance of 12 nm (22 km) or less from any coastline, including offshore islands;

(ii) At a distance of 1 km (0.5 nm) seaward of the outer perimeter of any offshore biologically important area designated for marine mammals under 50 CFR § 216.184(f) and described in Condition 6(e), during biologically important period specified.

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

Name of Area	Location of Area	Months of Importance
(1) 200-m isobath North American East Coast[1]	From 28°N, to 50° N., west of 40° W.	Year-round
(2) Costa Rica Dome	Centered at 9° N. and 88° W.	Year-round
(3) Antarctic Convergence Zone	30° E. to 80° E.: 45° S. 80° E. to 150° E.: 55° S. 150° E. to 50° W.: 60° S. 50° W. to 30° E.: 50° S.	October through March
(4) Hawaiian Island Humpback Whale NMS-Penguin Bank[2]	Centered at 21° N. and 157° 30'W	November 1 through May 1
(5) Cordell Bank NMS[2]	Boundaries IAW 15 CFR 922.110	Year-round
(6) Gulf of the Farallones NMS[2]	Boundaries IAW 15 CFR 922.80	Year-round
(7) Monterey Bay NMS[2]	Boundaries IAW 15 CFR 922.130	Year-round
(8) Olympic Coast NMS[2]	Within 23 nm of coast from 47 07'N to 48 30'N latitude	December, January, March, and May
(9) Flower Garden Banks NMS[2]	Boundaries IAW 15 CFR 922.120	Year-round
(10) The Gully	44° 13'N., 59° 06'W. to 43° 47'N.; 58° 35' W. to 43° 35' N.; 58° 35' W. to 43° 35' N.; 59° 08' W. to 44° 06'N.; 59° 20' W.	Year-round

Note: 1. OBIA boundaries encompass Northern Right Whale Critical Habitat, Stellwagen Bank NMS, Monitor NMS, and Gray's Reef NMS.
2. Office of National Marine Sanctuaries, National Ocean Service, NOAA, letter dated 15 May 2001.

(f) In order to meet the sound pressure level criteria in Conditions 6(b) and 6(d), the SURTASS LFA sonar safety zone (distance to the 180-dB (re 1 μ Pa_{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) All SURTASS LFA sonar missions will be planned to ensure that no greater than 12 percent of any marine mammal stock is incidentally harassed by SURTASS LFA sonar operations during the effective period of this Authorization. The Holder of this Authorization

must coordinate with the Holder of the Letter of Authorization issued to the USNS VICTORIOUS, ABLE, and the IMPECCABLE, to ensure that this condition is met for all vessels combined.

7. Monitoring

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 the 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 to supplement monitoring and increase knowledge of the affected marine mammal species. Under this Authorization, NMFS recommends at least one of the following: (1) systematically observe SURTASS LFA sonar training exercises for injured or disabled marine mammals; (2) compare the effectiveness of the three forms of mitigation (visual, passive acoustic, HF/M3 sonar); (3) conduct research on the responses of deep-diving odontocete whales to LF sonar signals; (4) conduct research on the habitat preferences of beaked whales; (5) conduct passive acoustic monitoring using bottom-mounted hydrophones before, during, and after LF sonar operations for the possible silencing of calls of large whales ; (6) continue to evaluate the HF/M3 mitigation sonar; and (7) continue to evaluate improvements in passive

sonar capabilities. In consultation with NMFS, the Holder of this Authorization will determine which of these listed research items should be conducted during the period of this Authorization.

8. Reporting

The Holder of this Authorization must:

(a) Submit quarterly, classified mission reports to the Director, Office of Protected Resources, NMFS no later than 30 days after the end of the quarter beginning on August 16, 2011. Each quarterly, classified mission report will include all active-mode missions during the quarter. Specifically, these reports will include dates/times of exercises, location of vessel, biogeographic province, location of the safety and buffer zones in relation to the LFA sonar 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). The report will include the Navy's estimates of the percentages of marine mammal stocks affected (both for the quarter and cumulatively for the year covered by the LOA) 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. 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, NMFS, no later than 45 days after expiration of this Authorization. This report will provide NMFS with an unclassified summary of the year's quarterly reports and will include the Navy's estimates of the percentages 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 USNS EFFECTIVE (T-AGOS 21) in order to conduct the activity under the authority of this Letter of Authorization.

AUG 12 2011

James H. Lecky, Director
Office of Protected Resources
National Marine Fisheries Service

Date