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 individuals operating under his authority (*i.e.*, Navy), are authorized to take marine mammals incidental to Navy operation of Surveillance Towed Array Sensor System Low Frequency Active (SURTASS LFA) sonar in accordance with 50 CFR Part 218, Subpart X– 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 15, 2016, through August 14, 2017.

2. This Authorization is valid only for the unintentional taking of the species of marine mammals identified in 50 CFR § 218.230(b) and Condition 5 of this Authorization governing the taking of these animals incidental to the activity specified in Condition 3. This authorization shall be valid only for takes consistent with the provisions in 50 CFR § 218.232 and the terms of this Authorization as specified herein.

3. This Authorization is valid only for activities associated with the routine training, testing, and military operations of SURTASS LFA sonar onboard the United States Naval Ship (USNS) ABLE (T-AGOS 20). The sound 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 of no more than 215 decibels (dB) re: 1 micro Pascal (μPa) at 1 meter (m) (root mean square (rms) and a maximum duty cycle of 20 percent.

4. This Authorization, combined with Authorizations for the USNS VICTORIOUS (T-AGOS 19), USNS EFFECTIVE (T-AGOS 21), and USNS IMPECCABLE (T-AGOS 23), is valid for an estimated total of 20 nominal active sonar missions among the four SURTASS LFA sonar vessels (or equivalent number of shorter missions but shall not exceed a total of 432 hours of sonar transmit time per vessel during the period of this Authorization's effectiveness) within the following areas:

   (a) Up to 16 nominal missions in the western North Pacific Ocean, which includes the following mission areas: east of Japan; the north Philippine Sea; the west Philippine Sea; offshore Guam; the Sea of Japan; the East China Sea; the South China Sea; offshore Japan (25° to 40° N and 10° to 25° N), and northeast of Japan.

   (b) Up to two nominal missions in the central North Pacific Ocean that include the Hawaii North and Hawaii South mission areas.

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(c) Up to two nominal missions in the Indian Ocean that include the Arabian Sea, the Andaman Sea, and northwest of Australia mission areas.

SPECIES AUTHORIZED AND LEVEL OF TAKE

5. The incidental take of marine mammals under the activity identified in Conditions 3 and 4 of this Authorization is limited to the following species:

   (a) **Mysticetes**: blue whale (*Balaenoptera musculus*), Bryde's whale (*Balaenoptera edeni*), fin whale (*Balaenoptera physalus*), humpback whale (*Megaptera novaeangliae*), common minke whale (*Balaenoptera acutorostrata*), north Pacific right whale (*Eubalena japonica*), sei whale (*Balaenoptera borealis*), and Omura's whale (*Balaenoptera omurai*).

   (b) **Odontocetes**: Baird's beaked whale (*Berardius bairdii*), Blainville's beaked whale (*Mesoplodon densirostris*), common bottlenose dolphin (*Tursiops truncatus*), Cuvier's beaked whale (*Ziphius cavirostris*), Dall's porpoise (*Phocoenoides dalli*), Deraniyagaia's beaked whale (*Mesoplodon hotaula*), dwarf sperm (*Kogia simus*), false killer whale (*Pseudorca crassidens*), Fraser's dolphin (*Lagenodelphis hosei*), ginkgo-toothed beaked whale (*Mesoplodon ginkgodens*), harbor porpoise (*Phocoena phocoena*), Hubbs' beaked whale (*Mesoplodon carhubbsi*), Indo-Pacific bottlenose dolphin (*Tursiops abuncus*), killer whale (*Orca orcinus*), *Kogia* spp., Longman's beaked whale (*Indopacetus pacificus*), melon-headed whale (*Peponocephala electra*), *Mesoplodon* spp., Northern right whale dolphin (*Lissodelphis borealis*), Pacific white- sided dolphin (*Lagenorhynchus obliquidens*), pantropical spotted dolphin (*Stenella attenuata*), pygmy killer whale (*Feresa attenuata*), pygmy sperm whales (*K. breviceps*), Risso's dolphin (*Grampus griseus*), rough-toothed dolphin (*Steno bredanensis*), short-beaked common dolphin (*Delphinus delphis*), short-finned pilot whale (*Globicephala macrorhynchus*), southern bottlenose whale (*Hyperodon planifrons*), sperm whale (*Physeter macrocephalus*), spinner dolphin (*Stenella longirostris*), Stejneger's beaked whale (*Mesoplodon stejnegeri*), and striped dolphin (*Stenella coeruleoalba*).

   (c) **Pinnipeds**: Hawaiian monk seal (*Monachus shauinslandi*), northern fur seal (*Callorhinus ursinus*), ribbon seal (*Histriophoca fasciata*), spotted seal (*Phoca largha*), and Steller sea lion (*Eumetopia jubatus*).

6. The taking of marine mammals by the Holder of this Authorization is limited to the incidental taking of marine mammal species identified in Condition 5 by Level A and Level B harassment (as defined in the MMPA and 50 CFR § 216.3) within those areas authorized under Condition 4. The take, by Level B harassment, that occurs during the year covered by this Authorization may not exceed 12 percent of any marine mammal stock listed in Condition 5 (see Condition 8j and Tables 2 – 12of Attachment 2). The take by Level A harassment may not exceed the numbers specified for each category in Table 1 of Attachment 2 for the total effective period of the regulations at 50 CFR Part 218, Subpart X.

7. Taking of marine mammal species not listed under Condition 5 by harassment, injury, or mortality or the taking by mortality of any marine mammal species listed under Condition 5 is prohibited.

MITIGATION

8. The Holder of this Authorization, and any individuals operating under his authority, must conduct the activity identified in 50 CFR § 218.230 and Condition 3 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 uses.

   When conducting operations identified in 50 CFR § 218.230, the following mitigation measures must be implemented:

   (a) The Holder of this Authorization, and any individuals operating under his authority, must not transmit the SURTASS LFA sonar signal at a frequency greater than 500 Hz.

   (b) Through mitigation described under 50 CFR § 218.234 and Condition 9 (Mitigation Monitoring) 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.

   (c) **LFA Sonar Mitigation Zone**: Prior to commencing and during SURTASS LFA sonar transmissions, the Holder of this Authorization will use near real-time environmental data and underwater acoustic prediction models to determine the propagation of the SURTASS LFA sonar signals in the mission area. The Holder of this Authorization must determine the distance from the SURTASS LFA sonar source to the 180-dB re: 1 μPa (rms) isopleth (*i.e.*, the LFA sonar mitigation zone) to comply with Condition 8(b).

      (i) The Holder of this Authorization will update these sound field estimates every 12 hours or more frequently depending upon changing meteorological or oceanographic conditions.

   (d) **Additional 1-Kilometer (km) Buffer Zone**: The Holder of this Authorization will establish a 1-km buffer zone around the LFA sonar mitigation zone.

   (e) **Ramp-Up Procedures for the HF/M3 System**: The Holder of this Authorization and any individuals operating under his authority, will ramp up the High Frequency / Marine Mammal Monitoring (HF/M3) active sonar referenced in 50 CFR § 218.234 from a power level beginning at a maximum source sound pressure level of 180 dB re: 1 μPa @ 1 m (rms) in 10-dB increments to operating levels over a period of no less than five minutes:

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

      (ii) Prior to any SURTASS LFA sonar calibrations or testing that are not part of regular SURTASS LFA sonar transmissions described in 50 CFR § 218.230; and

      (iii) Anytime after individuals have powered down the HF/M3 active sonar source for more than two minutes.

      Once HF/M3 operators detect a marine mammal, they will not increase the HF/M3 active sonar system's sound pressure level. Resumption of the ramp-up of HF/M3

sonar system would not occur until marine mammals are no longer detected by the HF/M3 active sonar system, passive acoustic monitoring, or visual monitoring described in Condition 9.

(f) **Suspension/Delay for SURTASS LFA Sonar Transmissions**: If the Holder of this Authorization, and any individuals operating under his authority, detects a marine mammal through monitoring required under 50 CFR § 218.235 and Condition 9 within either the LFA sonar mitigation zone or the 1-km buffer zone, the Holder of this Authorization will immediately suspend or delay SURTASS LFA sonar transmissions.

(g) **Resumption of SURTASS LFA Sonar Transmissions**: The Holder of this Authorization and any individuals operating under his authority may resume/commence SURTASS LFA sonar transmissions 15 minutes after:

(i) All marine mammals have left the area of the LFA sonar mitigation zone and the 1-km buffer zone; and/or

(ii) There is no further detection of any marine mammal within the LFA sonar mitigation zone plus the 1-km buffer zone as determined by the passive or active acoustic or visual monitoring protocols described in 50 CFR § 218.235 and Condition 9.

(h) **Geographic Restrictions**: The Holder of this Authorization and any individuals operating under his authority will not operate SURTASS LFA sonar such that the SURTASS LFA sonar sound field exceeds 180 dB re: 1 μPa (rms):

(i) At a distance of less than or equal to 22 km (14 miles (mi); 12 nautical miles (nmi)) from any coastline, including offshore islands.

(ii) At a distance of less than 1 km (0.62 mi; 0.54 nmi) seaward of the outer perimeter of any Offshore Biologically Important Area (OBIA) for marine mammals designated in 50 CFR § 218.234(f)(2) and described in Condition 8(h)(iii) during the period specified.

(iii) The OBIAs for marine mammals (with specified periods of effectiveness) for SURTASS LFA sonar routine training, testing, and military operations are:

OBIA	**Period of Effectiveness**
Georges Bank	Year-round
Roseway Basin Right Whale Conservation Area	June through December, annually
Great South Channel, U.S. Gulf of Maine, and Stellwagen Bank National Marine Sanctuary (NMS)	January 1 to November 14, annually
Southeastern U.S. Right Whale Seasonal Habitat	November 15 to April 15, annually
North Pacific Right Whale Critical Habitat	March through August, annually
Silver Bank and Navidad Bank	December through April, annually
Coastal waters of Gabon, Congo, and Equatorial Guinea	June through October, annually

Patagonian Shelf Break	Year-round
Southern Right Whale Seasonal Habitat	May through December, annually
Central California NMSs	June through November, annually
Antarctic Convergence Zone	October through March, annually
Piltun and Chayvo offshore feeding grounds in the Sea of Okhotsk	June through November, annually
Coastal waters off Madagascar	July through September, annually for humpback whale breeding and November through December, annually for migrating blue whales.
Madagascar Plateau, Madagascar Ridge, and Walters Shoal	November through December, annually
Ligurian-Corsican-Provencal Basin and Western Pelagos Sanctuary in the Mediterranean Sea	July to August, annually
Hawaiian Islands Humpback Whale NMS and Penguin Bank	November through April, annually
Costa Rica Dome	Year-round
Great Barrier Reef Between 16° S and 21° S	May through September, annually
Bonney Upwelling on the southern coast of Australia	December through May, annually
Northern Bay of Bengal and Head of Swatch-of-No-Ground	Year-round
Olympic Coast NMS and Prairie, Barkley Canyon, and Nitnat Canyon	Olympic NMS: December, January, March, and May, annually The Prairie, Barkley Canyon, and Nitnat Canyon: June through September, annually
Abrolhos Bank	August through November

Note: See § 218.234(f)(2) and Attachment 1 for geographic coordinate information.

(i) **Operational Exception for SURTASS LFA Sound Field in OBIAs**: During military operations, SURTASS LFA sonar transmissions may exceed 180 dB re: 1 μPa (rms) within the boundaries of an OBIA, including operating within an OBIA, when the Holder of this Authorization determines that it is: 1) operationally necessary to continue tracking an existing underwater contact; or 2) operationally necessary to detect a new underwater contact within the OBIA. This exception does not apply to routine training and testing with the SURTASS LFA sonar systems.

(j) **Mission Planning**: The Holder of this Authorization must maintain a running calculation/estimation of takes of each species and stocks over the effective period of these regulations. The Holder of this Authorization will plan all SURTASS LFA sonar missions to ensure that no more than 12 percent of any marine mammal stock listed in 50 CFR § 218.230(b)(1) through (3) would be taken by Level B harassment annually. This annual per-stock cap of 12 percent applies regardless of the number of SURTASS LFA sonar vessels operating. The Holder of this Authorization must coordinate with the Holders of the Authorizations issued to the USNS VICTORIOUS, USNS EFFECTIVE, and the USNS IMPECCABLE, to ensure that this condition is met for all vessels combined.

MITIGATION MONITORING

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

   (a) Perform the following for visual mitigation monitoring:

      (i) Marine mammal biologists qualified in conducting at-sea marine mammal visual monitoring from surface vessels will train and qualify designated ship personnel as lookouts to conduct at-sea visual monitoring.

      (ii) Marine mammal biologists will train the lookouts in the most effective means to ensure quick and effective communication within the ship's command structure to facilitate implementation of protective measures if they observe marine mammals.

      (iii) Conduct visual monitoring from the ship's bridge during daylight hours (30 minutes before sunrise until 30 minutes after sunset) during operations that employ SURTASS LFA sonar in the active mode. Maintain a topside watch with standard binoculars (7x) and with the naked eye.

   (b) Perform the following for passive acoustic mitigation monitoring:

      (i) Use the low frequency, passive SURTASS sonar system to listen for vocalizing marine mammals.

   (c) Perform the following for active acoustic mitigation monitoring:

      (i) Use the HF/M3 active 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, subject to the ramp-up requirements in § 218.234(e) and Condition 8(e).

10. Mitigation monitoring under Conditions 9(a), (b), and (c) must:

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

   (b) Continue between sonar transmissions (pings); and

   (c) Continue either at least 15 minutes after completion of SURTASS LFA sonar transmission operations (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.

MONITORING

11. The Holder of this Authorization and any individuals operating under his authority for activities described in 50 CFR § 218.230 must:

   (a) Cooperate with NMFS and any other federal agency for monitoring the impacts of the activity on marine mammals; and

(b) Designate qualified on-site individuals to conduct the mitigation, monitoring, and reporting activities specified in this Letter of Authorization.

12. The Holder of this Authorization and any individuals operating under his authority will conduct all monitoring required under the Letter of Authorization to increase knowledge of the affected marine mammal species. The Holder of this Authorization must:

(a) Consider recommendations on the different types of monitoring/research that could increase the understanding of the potential effects of SURTASS LFA sonar transmissions on beaked whales and/or harbor porpoises.

(b) Continue to assess data from the Navy Marine Mammal Monitoring (M3) program and work toward making some portion of that data, after appropriate security reviews, available to scientists with appropriate clearances. Any portions of the analyses conducted by these scientists based on these data that are determined to be unclassified after appropriate security reviews should be made publicly available.

(c) Continue to explore the feasibility of coordinating with other Navy fleet assets and/or range monitoring programs to include the use of SURTASS passive sonar (towed horizontal line array) to augment the collection of marine mammal vocalizations before, during, and after designated exercises.

(d) Continue to collect ambient noise data and explore the feasibility of declassifying and archiving the ambient noise data for incorporation into appropriate ocean noise research efforts.

REPORTING

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

(a) Draft a plan of action outlining a strategy for implementing recommendations on beaked whales and/or harbor porpoise research; or describe in writing why such research is not feasible/or is unlikely to increase the understanding of the potential effects of SURTASS LFA sonar transmissions on beaked whales and/or harbor porpoises, to be followed by a meeting with NMFS to discuss any other potential options.

(b) Provide a status update to NMFS when the Holder of this Authorization submits the next annual application for Authorizations on efforts to assess the data collected by the Marine Mammal Monitoring (M3) program and progress toward making some portion of that data, after appropriate security reviews, available to scientists with appropriate clearances.

(c) Systematically observe SURTASS LFA sonar operations for injured or disabled marine mammals and monitor the principal marine mammal stranding networks and other media to correlate analysis of any whale strandings that could potentially be associated with SURTASS LFA sonar operations. The Holder of this Authorization and any individuals operating under his authority shall:

(i) Ensure that NMFS is notified immediately, or as soon as clearance procedures allow, if an injured, stranded, or dead marine mammal is observed during or shortly after and in the vicinity of any SURTASS LFA sonar operations. The

Holder of this Authorization will report the incident to the Chief, Permits and Conservation Division, Office of Protected Resources, NMFS, at 301-427-8401 and/or by email to Jolie.Harrison@noaa.gov and Dale.Youngkin@noaa.gov.

(ii) Provide NMFS with species or description of the animal(s), the condition of the animal(s) (including carcass condition if the animal is dead), location, time of first discovery, observed behaviors (if alive), and photo or video (if available).

(iii) In the event that an injured, stranded, or dead marine mammal is observed by the Holder of this Authorization and any individuals operating under his authority not in conjunction with SURTASS LFA sonar operations, the Holder of this Authorization and any individuals operating under his authority, will report the same information to NMFS as listed above as soon as operationally feasible and clearance procedures allow.

(d) In the event of a ship strike by the SURTASS LFA sonar vessel, at any time or place, the Holder of this Authorization and any individuals operating under his authority, must:

(i) Immediately, or as soon as clearance procedures allow, report to NMFS the species identification (if known), the size and length of the animal, location (lat/long) of the animal (or the strike if the animal has disappeared), whether the animal is alive or dead (or unknown), including an estimate of its injury status if alive (injured but alive, injured and moving, unknown, etc.).

(ii) Report the incident to the Chief, Permits and Conservation Division, Office of Protected Resources, NMFS, at 301-427-8401 and/or by email to Jolie.Harrison@noaa.gov and Dale.Youngkin@noaa.gov.

(iii) Report as soon as feasible to the NMFS the vessel's name, class/type, and length, as well as operational status, speed and vessel heading.

(iv) Provide NMFS a photo or video of the struck animal, if equipment is available.

(e) Submit classified and unclassified quarterly mission reports to the Director, Office of Protected Resources, NMFS no later than 30 days after the end of each quarter, beginning on the date of effectiveness of a Letter of Authorization. Each quarterly mission report will include summaries of all active-mode sonar missions completed during that quarter. At a minimum, each classified mission report must contain the following information:

(i) Dates, times, and location of each vessel during each mission.

(ii) Information on sonar transmissions during each mission and records of any delays or suspensions.

(iii) Location of the SURTASS LFA sonar mitigation and buffer zones in relation to the LFA sonar array.

(iv) Marine mammal observations including 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).

(v) 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 Authorization) by SURTASS LFA sonar operations (both within and outside the LFA sonar mitigation and buffer zones), using predictive modeling based on mission locations, dates/times of operations, system characteristics, LFA sonar transmission durations, oceanographic environmental conditions, and animal demographics.

(vi) If no SURTASS LFA sonar missions are completed during a quarter, a report of negative activity will be provided.

(f) Submit an annual, unclassified report to the Director, Office of Protected Resources, NMFS, no later than 45 days after expiration of this Authorization. At a minimum, the annual report will contain the following:

(i) An unclassified summary of the year's quarterly reports.

(ii) The Navy's estimates of the percentages of marine mammal stocks affected by SURTASS LFA sonar operations (both within and outside the LFA sonar mitigation and buffer zones), using predictive modeling based on mission locations, dates/times of operations, system characteristics, LFA sonar transmission durations, oceanographic environmental conditions, and animal demographics.

(iii) An analysis of the effectiveness of the mitigation measures with recommendations for improvements, where applicable.

(iv) An assessment of any long-term effects from SURTASS LFA sonar operations.

(v) Any discernible or estimated cumulative impacts from SURTASS LFA sonar operations.

14. The Holder of this Authorization must comply with the Terms and Conditions of the Incidental Take Statement corresponding to the Endangered Species Act Biological Opinion issued to the Navy and the National Marine Fisheries Service's Office of Protected Resources, Permits and Conservation Division.

15. A copy of this Authorization must be in the possession of the Officer in Charge of the Military Crew (MILCREW) onboard the USNS ABLE to conduct the activity under the authority of this Letter of Authorization and Incidental Take Statement.

For

Donna S. Wieting, Director
Office of Protected Resources
National Marine Fisheries Service

8/12/16
Date

Attachment 1 – Table 1. OBIA Coordinates and Periods of Effectiveness.

Name of Area	Location of Area	Months of Importance/ Periods of Effectiveness
Georges Bank	40°00'N, 72°30'W 39°37 N, 72°09'W 39°54'N, 71°43'W 40°02 N, 71°20'W 40°08'N, 71°01'W 40°04'N, 70°44'W 40°00'N, 69°24'W 40°16'N, 68°27'W 40°34'N, 67°13'W 41°00'N, 66°24'W 41°52'N, 65°47'W 42°20'N, 66°06'W 42°18'N, 67°23'W	Year-round
Roseway Basin Right Whale Conservation Area	43°05'N, 65°40'W 43°05'N, 65°03'W 42°45'N, 65°40'W 42°45'N, 65°03'W	June through December, annually
Great South Channel, U.S. Gulf of Maine, and Stellwagen Bank National Marine Sanctuary (NMS)	41°00.000'N, 69°05.000'W 42°09.000'N, 67°08.400'W 42°53.436'N, 67°43.873'W 44°12.541'N, 67°16.847'W 44°14.911'N, 67°08.936'W 44°21.538'N, 67°03.663'W 44°26.736'N, 67°09.596'W 44°16.805'N, 67°27.394'W 44°11.118'N, 67°56.398'W 43°59.240'N, 68°08.263'W 43°36.800'N, 68°46.496'W 43°33.925'N, 69°19.455'W 43°32.008'N, 69°44.504'W 43°21.922'N, 70°06.257'W 43°04.084'N, 70°21.418'W 42°51.982'N, 70°31.965'W 42°45.187'N, 70°23.396'W 42°39.068'N, 70°30.188'W 42°32.892'N, 70°35.873'W 42°07.748'N, 70°28.257'W 42°05.592'N, 70°02.136'W 42°03.664'N, 69°44.000'W 41°40.000'N, 69°45.000'W	January 1 to November 14, annually
Southeastern U.S. Right Whale Seasonal Habitat	Critical Habitat Boundaries are coastal waters between 31°15' N and 30°15'N from the coast out 15 nautical miles (nmi); and the coastal waters between 30°15' N and 28°00"N from the coast out 5 nmi (50 CFR §226.13(c)). OBIA Boundaries are coastal waters between 31°15"N and 30°15"N from 12 to 15 nmi.	November 15 to April 15, annually
North Pacific Right Whale Critical Habitat	57°03'N, 153°00'W 57°18'N, 151°30'W 57°00'N, 151°30'W 56°45'N, 153°00'W (50 CFR §226.215)	March through August, annually

Name of Area	Location of Area	Months of Importance/ Periods of Effectiveness
Silver Bank and Navidad Bank	Silver Bank: 20° 38.899'N, 69° 23.640'W 20° 55.706'N, 69° 57.984'W 20° 25.221'N, 70° 00.387'W 20° 12.833'N, 69° 40.604'W 20° 13.918'N, 69° 31.518'W 20° 28.680'N, 69° 31.900'W Navidad Bank: 20° 15.596'N, 68° 47.967'W 20° 11.971'N, 68° 54.810'W 19° 52.514'N, 69° 00.443'W 19° 54.957'N, 68° 51.430'W 19° 51.513'N, 68° 41.399'W	December through April, annually
Coastal waters of Gabon, Congo and Equatorial Guinea	An exclusion zone following the 500-m isobath extending from 3°31.055'N, 9°12.226'E in the north offshore of Malabo southward to 8°57.470'S, 12°55.873'E offshore of Luanda.	June through October, annually
Patagonian Shelf Break	Between 200- and 2,000-m isobaths and the following latitudes: 35°00'S, 39°00'S, 40°40'S, 42°30'S, 46°00'S, 48°50'S.	Year-round
Southern Right Whale Seasonal Habitat	Coastal waters between 42°00'S and 43°00'S from 12 to 15 nmi including the enclosed bays of Golfo Nuevo, Golfo San Jose, and San Matias. Golfos San Jose and San Nuevo are within 22 km (14 mi; 12 nmi) coastal exclusion zone.	May through December, annually
Central California National Marine Sanctuaries	Single stratum boundary created from the Cordell Bank (15 CFR 922.10), Gulf of the Farallones (15 CFR 922.80), and Monterey Bay (15 CFR 922.30) NMS legal boundaries. Monterey Bay NMS includes the Davidson Seamount Management Zone.	June through November, annually
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, annually

Name of Area	Location of Area	Months of Importance/ Periods of Effectiveness
Piltun and Chayvo offshore feeding grounds in the Sea of Okhotsk	54°09.436'N, 143°47.408'E 54°09.436'N, 143°17.354'E 54°01.161'N, 143°17.354'E 53°53.580'N, 143°13.398'E 53°26.963'N, 143°28.230'E 53°07.013'N, 143°35.481'E 52°48.705'N, 143°38.447'E 52°32.077'N, 143°37.788'E 52°21.605'N, 143°34.163'E 52°09.470'N, 143°26.582'E 51°57.686'N, 143°30.208'E 51°36.033'N, 143°42.794'E 51°08.082'N, 143°51.301'E 51°08.082'N, 144°16.742'E 51°24.514'N, 144°11.139'E 51°48.116'N, 144°10.809'E 52°03.194'N, 144°20.363'E 52°23.235'N, 144°10.150'E 52°28.674'N, 144°12.787'E 52°42.523'N, 144°10.150'E 53°12.972'N, 143°55.648'E 53°18.505'N, 143°56.637'E 53°23.041'N, 143°53.011'E 53°28.250'N, 143°53.341'E 53°44.039'N, 143°49.056'E 53°53.207'N, 143°50.045'E 53°59.819'N, 143°48.067'E	June through November, annually
Coastal waters off Madagascar	16°03'55.04"S, 50°27'12.59"E 16°12'23.03"S, 51°03'37.38"E 24°30'45.06"S, 48°26'00.94"E 24°15'28.07"S, 47°46'51.16"E 22°18'00.74"S, 48°14'13.52"E 20°52'24.12"S, 48°43'13.49"E 19°22'33.24"S, 49°15'45.47"E 18°29'46.08"S, 49°37'32.25"E 17°38'27.89"S, 49°44'27.17"E 17°24'39.12"S, 49°39'17.03"E 17°19'35.34"S, 49°54'23.82"E 16°45'41.71"S, 50°15'56.35"E	July through September, annually for humpback whale breeding and November through December, annually for migrating blue whales.
Madagascar Plateau, Madagascar Ridge, and Walters Shoal	25°55'20.00"S, 44°05'15.45"E 25°46'31.36"S, 47°22'35.90"E 27°02'37.71"S, 48°03'31.08"E 35°13'51.37"S, 46°26'19.98"E 35°14'28.59"S, 42°35'49.20"E 31°36'57.96"S, 42°37'49.35"E 27°41'11.21"S, 44°30'11.01"E	November through December, annually

Name of Area	Location of Area	Months of Importance/ Periods of Effectiveness
Ligurian-Corsican-Provencal Basin and Western Pelagos Sanctuary in the Mediterranean Sea	42°50.271'N, 06°31.883'E 42°55.603'N, 06°43.418'E 43°04.374'N, 06°52.165'E 43°12.600'N, 07°10.440'E 43°21.720'N, 07°19.380'E 43°30.600'N, 07°32.220'E 43°33.900'N, 07°49.920'E 43°36.420'N, 08°05.580'E 43°42.600'N, 08°22.140'E 43°50.880'N, 08°34.500'E 43°58.560'N, 08°47.700'E 43°59.040'N, 08°56.040'E 43°57.047'N, 09°03.540'E 43°52.260'N, 09°08.520'E 43°47.580'N, 09°13.500'E 43°36.060'N, 09°16.620'E 43°28.440'N, 09°05.820'E 43°21.360'N, 09°02.100'E 43°16.020'N, 08°57.240'E 43°04.440'N, 08°47.580'E 42°54.900'N, 08°35.400'E 42°45.900'N, 08°27.540'E 42°36.060'N, 08°22.020'E 42°22.620'N, 08°15.849'E 42°07.202'N, 08°17.174'E 41°52.800'N, 08°15.720'E 41°39.780'N, 08°05.280'E 41°28.200'N, 08°51.600'E 42°57.060'N, 06°19.860'E	July to August, annually
Hawaiian Islands Humpback Whale NMS and Penguin Bank	21°10'02.179"N, 157°30'58.217"W 21°09'46.815"N, 157°30'22.367"W 21°06'39.882"N, 157°31'00.778"W 21°02'51.976"N, 157°30'30.049"W 20°59'52.725"N, 157°29'28.591"W 20°58'05.174"N, 157°27'35.919"W 20°55'49.456"N, 157°30'58.217"W 20°50'44.729"N, 157°42'42.418"W 20°51'02.654"N, 157°44'45.333"W 20°53'56.784"N, 157°46'04.716"W 20°56'32.988"N, 157°45'33.987"W 21°01'27.472"N, 157°43'10.586"W 21°05'20.499"N, 157°39'27.802"W 21°10'02.179"N, 157°30'58.217"W	November through April, annually
Costa Rica Dome	Centered at 9°N and 88°W	Year-round

Name of Area	Location of Area	Months of Importance/ Periods of Effectiveness
Great Barrier Reef Between 16° S and 21° S	16°01.829'S, 145°38.783'E 15°52.215'S, 146°20.936'E 17°28.354'S, 146°59.392'E 20°16.228'S, 151°39.674'E 20°58.381'S, 150°30.897'E 20°17.007'S, 149°38.247'E 20°10.941'S, 149°18.247'E 20°02.403'S, 149°12.623'E 19°53.287'S, 149°03.986'E 19°49.866'S, 148°52.135'E 19°53.287'S, 148°44.302'E 19°47.965'S, 148°36.870'E 19°47.205'S, 148°26.024'E 19°19.978'S, 147°39.626'E 19°14.065'S, 147°37.014'E 19°08.913'S, 147°31.993'E 19°05.667'S, 147°24.160'E 19°07.576'S, 147°18.134'E 18°51.718'S, 146°51.219'E 18°44.258'S, 146°54.031'E 18°37.175'S, 146°51.420'E 18°31.620'S, 146°43.385'E 18°27.595'S, 146°40.573'E 17°36.676'S, 146°20.488'E 17°20.484'S, 146°16.671'E 17°07.745'S, 146°13.056'E 16°49.769'S, 146°11.047'E 16°41.835'S, 146°03.817'E 16°39.706'S, 145°54.979'E	May through September, annually
Bonney Upwelling on the west coast of Australia	37°12'20.036"S, 139°31'17.703"E 37°37'33.815"S, 139°42'42.508"E 38°10'36.144"S, 140°22'57.345"E 38°44'50.558"S, 141°33'50.342"E 39°07'04.125"S, 141°11'00.733"E 37°28'33.179"S, 139°10'52.263"E	December through May, annually
Northern Bay of Bengal and Head of Swatch-of-No-Ground	20°59.735'N, 89°07.675'E 20°55.494'N, 89°09.484'E 20°52.883'N, 89°12.704'E 20°55.275'N, 89°18.133'E 21°04.558'N, 89°25.294'E 21°12.655'N, 89°25.354'E 21°13.279'N, 89°16.833'E 21°06.347'N, 89°15.011'E	Year-round
Olympic Coast NMS and Prairie, Barkley Canyon, and Nitnat Canyon	Boundaries within 23 nmi (26.5 m; 42.6 km) of the coast from 47°07′ N to 48°30′ N latitude 48°30'01.995"N, 125°58'38.786"W 48°16'55.605"N, 125°38'52.052"W 48°23'07.353"N, 125°17'10.935"W 48°12'38.241"N, 125°16'42.339"W 47°58'20.361"N, 125°31'14.517"W 47°58'20.361"N, 126°06'16.322"W 48°09'46.665"N, 126°25'48.758"W	Olympic NMS: December, January, March, and May, annually The Prairie, Barkley Canyon, and Nitnat Canyon: June through September, annually

Name of Area	Location of Area	Months of Importance/ Periods of Effectiveness
Abrolhos Bank	16°35'34.909"S, 38°52'30.455"W 16°35'31.619"S, 38°43'41.069"W 16°40'00.131"S, 37°23'52.492"W 19°30'59.069"S, 37°23'52.446"W 19°30'59.974"S, 39°33'38.351"W 19°20'24.752"S, 39°30'33.03"W 18°52'16.884"S, 39°32'31.789"W 18°45'09.937"S, 39°32'27.709"W 18°30'59.345"S, 39°30'59.669"W 18°27'28.985"S, 39°30'13.453"W 18°17'30.429"S, 39°26'21.073"W 18°07'43.518"S, 39°19'52.924"W 18°09'24.931"S, 39°16'24.913"W 18°10'04.585"S, 39°12'30.425"W 18°10'20.682"S, 38°39'06.185"W 18°08'50.404"S, 38°35'00.059"W 18°06'05.466"S, 38°31'41.385"W 18°02'09.399"S, 38°29'26.179"W 17°58'01.372"S, 38°28'45.409"W 17°53'58.883"S, 38°29'34.612"W 16°48'58.768"S, 38°55'23.768"W 16°43'15.682"S, 38°53'40.007"W	August through November, annually

Attachment 2 – Authorized Take Estimates by Mission Area

The Holder of this Authorization must maintain a running calculation/estimation of takes of each species/stock over the effective period of this Authorization. The take, by Level B harassment, that occurs during the year covered by this Authorization may not exceed 12 percent of any marine mammal stock listed in the following tables.

The Holder of this Authorization must also coordinate with the Holders of the Authorizations issued to the USNS EFFECTIVE, the USNS VICTORIOUS, and the USNS IMPECCABLE, to ensure that these conditions are met for all vessels combined.

Table 1. Number of cetaceans and pinnipeds authorized to be taken by Level A harassment for all SURTASS LFA sonar operations over the 5-year rulemaking period.

Category	Requested Take Authorization Level A harassment
Mysticetes	No more than 6 over the course of the regulations.
Odontocetes	No more than 25 over the course of the regulations.
Pinnipeds	No more than 25 over the course of the regulations.

Tables 2-12. Number of marine mammals estimated to be taken by Level B harassment for all SURTASS LFA sonar operations during the annual LOA effective period in each of the Navy's requested mission areas.

The number of marine mammals authorized to be taken is based on the estimated percentage of the species' stock affected by a nominal number of SURTASS LFA sonar missions per mission area.

Table 2. Mission Area 1 - East of Japan

Animal	Estimated Number of Animals Estimated Take by Level B Harassment
Blue whale	2
Bryde's whale	17
Common minke whale	63
Fin whale	3
Humpback whale	6
North Pacific right whale	1
Sei whale	17
Baird's beaked whale	47
Common bottlenose dolphin	237
Cuvier's beaked whale	65
False killer whale	60
Ginkgo-toothed beaked whale	11
Harbor porpoise	338
Hubbs' beaked whale	11
Killer whale	2
Kogia spp.	67
Pacific white-sided dolphin	74
Pantropical spotted dolphin	117
Pygmy killer whale	35
Risso's dolphin	207
Rough-toothed dolphin	118
Short-beaked common dolphin	1,617
Short-finned pilot whale	210
Sperm whale	20
Spinner dolphin	4

Stejneger's beaked whale	11
Striped dolphin	84

Table 3. Mission Area 2 – North Philippine Sea	
Animal	**Estimated Number of Animals Estimated Take by Level B Harassment**
Blue whale	2
Bryde's whale	46
Common minke whale	321
Fin whale	11
Humpback whale	45
North Pacific right whale	2
Blainville's beaked whale	22
Common bottlenose dolphin	662
Cuvier's beaked whale	221
False killer whale	135
Fraser's dolphin	305
Ginkgo-toothed beaked whale	22
Killer whale	6
Kogia spp.	146
Long-beaked common dolphin	4,962
Longman's beaked whale	11
Melon-headed whale	198
Pacific white-sided dolphin	358
Pantropical spotted dolphin	569
Pygmy killer whale	98
Risso's dolphin	491
Rough-toothed dolphin	274
Short-beaked common dolphin	2,409
Short-finned pilot whale	692
Sperm whale	48
Spinner dolphin	36
Striped dolphin	1,366

Table 4. Mission Area 3 – West Philippine Sea	
Animal	**Estimated Number of Animals Estimated Take by Level B Harassment**
Blue whale	3
Bryde's whale	44
Common minke whale	234
Fin whale	11
Humpback whale	67
Blainville's beaked whale	20
Common bottlenose dolphin	652
Cuvier's beaked whale	12
Deraniyagala's beaked whale	20
False killer whale	131
Fraser's dolphin	293
Ginkgo-toothed beaked whale	20
Killer whale	6
Kogia spp.	83
Long-beaked common dolphin	4,559

Longman's beaked whale	11
Melon-headed whale	193
Omura's whale	6
Pantropical spotted dolphin	498
Pygmy killer whale	95
Risso's dolphin	504
Rough-toothed dolphin	269
Short-finned pilot whale	329
Sperm whale	46
Spinner dolphin	31
Striped dolphin	597

Table 5. Mission Area 4 - Offshore Guam	
Animal	**Estimated Number of Animals Estimated Take by Level B Harassment**
Blue whale	2
Bryde's whale	12
Common minke whale	5
Fin whale	2
Humpback whale	11
Sei whale	6
Blainville's beaked whale	39
Common bottlenose dolphin	53
Cuvier's beaked whale	31
Deraniyagala beaked whale	37
Dwarf sperm whale	226
False killer whale	25
Fraser's dolphin	167
Ginkgo-toothed beaked whale	37
Killer whale	5
Longman's beaked whale	73
Melon-headed whale	96
Omura's whale	3
Pantropical spotted dolphin	289
Pygmy killer whale	5
Pygmy sperm whale	93
Risso's dolphin	100
Rough-toothed dolphin	82
Short-finned pilot whale	122
Sperm whale	36
Spinner dolphin	11
Striped dolphin	80

Table 6. Mission Area 5 - Sea of Japan	
Animal	**Estimated Number of Animals Estimated Take by Level B Harassment**
Bryde's whale	3
Common minke whale	8
Fin whale	31
North Pacific right whale	-
Western North Pacific gray whale	1

Baird's beaked whale	6
Common bottlenose dolphin	9
Cuvier's beaked whale	54
Dall's porpoise	597
False killer whale	33
Harbor porpoise	63
Killer whale	2
Kogia spp.	21
Long-beaked common dolphin	1,531
Omura's whale	1
Pacific white-sided dolphin	-
Risso's dolphin	84
Rough-toothed dolphin	30
Short-beaked common dolphin	1,137
Short-finned pilot whale	19
Sperm whale	31
Spinner dolphin	5
Stejneger's beaked whale	9
Striped dolphin	31
Spotted seal	1

Table 7. Mission Area 6 - East China Sea

Animal	Estimated Number of Animals Estimated Take by Level B Harassment
Bryde's whale	8
Common minke whale	92
Fin whale	4
North Pacific right whale	1
Western North Pacific gray whale	1
Omura's whale	1
Blainville's beaked whale	8
Common bottlenose dolphin	32
Cuvier's beaked whale	5
False killer whale	19
Fraser's dolphin	133
Ginkgo-toothed beaked whale	8
Killer whale	2
Kogia spp.	29
Long-beaked common dolphin	1,749
Longman's beaked whale	4
Melon-headed whale	72
Pacific white-sided dolphin	39
Pantropical spotted dolphin	198
Pygmy killer whale	3
Risso's dolphin	176
Rough-toothed dolphin	45
Short-beaked common dolphin	697
Short-finned pilot whale	25
Sperm whale	15
Spinner dolphin	12
Striped dolphin	84
Spotted seal	1

Table 8. Mission Area 7 - South China Sea	
Animal	**Estimated Number of Animals Estimated Take by Level B Harassment**
Bryde's whale	10
Common minke whale	53
Fin whale	4
Humpback whale	6
North Pacific right whale	1
Western North Pacific gray whale	1
Omura's whale	1
Blainville's beaked whale	5
Common bottlenose dolphin	7
Cuvier's beaked whale	3
Deraniyagala beaked whale	5
False killer whale	11
Fraser's dolphin	60
Ginkgo-toothed beaked whale	5
Killer whale	1
Kogia spp.	21
Long-beaked common dolphin	1,135
Longman's beaked whale	3
Melon-headed whale	39
Pantropical spotted dolphin	74
Pygmy killer whale	2
Risso's dolphin	116
Rough-toothed dolphin	14
Short-finned pilot whale	14
Sperm whale	11
Spinner dolphin	5
Striped dolphin	32

Table 9. Mission Area 8 - Offshore Japan (25-40° N)	
Animal	**Estimated Number of Animals Estimated Take by Level B Harassment**
Blue whale	1
Bryde's whale	9
Common minke whale	2
Fin whale	1
Humpback whale	2
Sei whale	7
Baird's beaked whale	2
Blainville's beaked whale	12
Common bottlenose dolphin	9
Cuvier's beaked whale	60
Dwarf sperm whale	80
False killer whale	48
Hubbs' beaked whale	8
Killer whale	2
Longman's beaked whale	5
Melon-headed whale	36
Mesoplodon spp.	8
Pacific white-sided dolphin	13

Pantropical spotted dolphin	33
Pygmy killer whale	2
Pygmy sperm whale	34
Risso's dolphin	10
Rough-toothed dolphin	34
Short-beaked common dolphin	869
Short-finned pilot whale	23
Sperm whale	26
Spinner dolphin	6
Stejneger's beaked whales	8
Striped dolphin	17
Hawaiian monk seal	4
Northern fur seal	-

Table 10. Mission Area 9 - Offshore Japan (10-25° N)	
Animal	**Estimated Number of Animals Estimated Take by Level B Harassment**
Blue whale	1
Bryde's whale	8
Fin whale	1
Humpback whale	9
Sei whale	69
Omura's whale	1
Blainville's beaked whale	7
Common bottlenose dolphin	11
Cuvier's beaked whale	35
Deraniyagala beaked whale	9
Dwarf sperm whale	56
False killer whale	8
Fraser's dolphin	33
Ginkgo-toothed beaked whale	9
Killer whale	2
Longman's beaked whale	3
Melon-headed whale	36
Pantropical spotted dolphin	144
Pygmy killer whale	1
Pygmy sperm whale	23
Risso's dolphin	6
Rough-toothed dolphin	26
Short-finned pilot whale	27
Sperm whale	24
Spinner dolphin	24
Striped dolphin	74

Table 11. Mission Area 10 - Hawaii North	
Animal	**Estimated Number of Animals Estimated Take by Level B Harassment**
Blue whale	1
Bryde's whale	7
Common minke whale	6
Fin whale	1
Humpback whale	13
Sei whale	3
Blainville's beaked whale	12
Common bottlenose dolphin-Inshore Archipelago	30
Common bottlenose dolphin-Hawaii Pelagic	1
Common bottlenose dolphin-Kauai/Nihau	1
Common bottlenose dolphin-Oahu	1
Common bottlenose dolphin-4 Islands	1
Cuvier's beaked whale	10
Dwarf sperm whale	108
False killer whale-Hawaii Pelagic	9
False killer whale-Main Hawaiian Islands Insular	2
False killer whale-Northwestern Hawaiian Islands	3
Fraser's dolphin	115
Killer whale	1
Longman's beaked whale	23
Melon-headed whale-Northern Mariana Islands	1
Melon-headed whale-Kohala Resident	18
Pantropical spotted dolphin-Western North Pacific	61
Pantropical spotted dolphin- Hawaii Pelagic	4
Pantropical spotted dolphin- Hawaii Island	5
Pantropical spotted dolphin- Oahu	7
Pygmy killer whale	21
Pygmy sperm whale	10
Risso's dolphin	46
Rough-toothed dolphin	47
Short-finned pilot whale	72
Sperm whale	17
Spinner dolphin-Western North Pacific Stock	8
Spinner dolphin- Hawaii Pelagic	1
Spinner dolphin- Hawaii Island	12
Spinner dolphin- Oahu/4-Islands	1
Spinner dolphin- Kauai/Niihau	1
Spinner dolphin- Kure/Midway Atoll	1
Striped dolphin	76
Hawaiian monk seal	2

Table 12. Mission Area 11 - Hawaii South	
Animal	**Estimated Number of Animals Estimated Take by Level B Harassment**
Blue whale	1
Bryde's whale	5
Common minke whale	4
Fin whale	1
Humpback whale	14
Sei whale	2
Blainville's beaked whale	12
Common bottlenose dolphin-Inshore Archipelago	28
Common bottlenose dolphin-Hawaii Pelagic	1
Common bottlenose dolphin-Kauai/Nihau	1
Common bottlenose dolphin-Oahu	1
Common bottlenose dolphin-4-Islands	1
Cuvier's beaked whale	9
Deraniyagala beaked whale	11
Dwarf sperm whale	92
Ginkgo-toothed beaked whale	22
False killer whale-Hawaii Pelagic	8
False killer whale-Main Hawaiian Island Insular	1
Fraser's dolphin	86
Killer whale	1
Longman's beaked whale	22
Melon-headed whale-Mariana Islands	1
Melon-headed whale-Kohala Resident	15
Pantropical spotted dolphin-Western North Pacific	68
Pantropical spotted dolphin- Hawaii Pelagic	1
Pantropical spotted dolphin- Hawaii Island	1
Pantropical spotted dolphin- Oahu	1
Pygmy killer whale	18
Pygmy sperm whale	38
Risso's dolphin	36
Rough-toothed dolphin	31
Short-finned pilot whale	57
Sperm whale	15
Spinner dolphin-Western North Pacific	9
Spinner dolphin- Hawaii Pelagic	1
Spinner dolphin- Hawaii Island	1
Spinner dolphin- Oahu/4-Islands	1
Striped dolphin	85
Hawaiian monk seal	2

Table 13. Mission Area 12 – Arabian Sea	
Animal	**Estimated Number of Animals Estimated Take by Level B Harassment**
Blue whale	1
Bryde's whale	2
Common minke whale	24
Fin whale	2
Humpback whale	1

Blainville's beaked whale	5
Common bottlenose dolphin-Hawaiian Island	70
Cuvier's beaked whale	6
Deraniyagala beaked whale	6
False killer whale-Hawaiian Islands	1
Fraser's dolphin	4
Ginkgo-toothed beaked whale	6
Indo-Pacific bottlenose dolphin	1
Killer whale	16
Longman's beaked whale	22
Long-beaked common dolphin	1
Dwarf sperm whale	1
Melon-headed whale-Hawaiian Islands	15
Pantropical spotted dolphin-4-Islands	6
Pygmy killer whale	3
Pygmy sperm whale	1
Risso's dolphin	163
Rough-toothed dolphin	2
Short-finned pilot whale	43
Sperm whale	13
Spinner dolphin-Pearl and Hermes Reef	5
Striped dolphin	97

Table 14. Mission Area 13 – Andaman Sea

Animal	Estimated Number of Animals Estimated Take by Level B Harassment
Blue whale	1
Bryde's whale	5
Common minke whale	1
Fin whale	1
Omura's whale	5
Blainville's beaked whale	13
Common bottlenose dolphin-Hawaiian Islands	636
Cuvier's beaked whale	67
Deraniyagala beaked whale	13
Dwarf sperm whale	1
Ginkgo-toothed beaked whale	13
False killer whale-Northwestern Hawaiian Islands	3
Fraser's dolphin	25
Indo-Pacific bottlenose dolphin	7
Killer whale	24
Long-beaked common dolphin	2
Longman's beaked whale	60
Melon-headed whale-Hawaiian Islands	95
Pantropical spotted dolphin-4-Islands	49
Pygmy killer whale	13
Pygmy sperm whale	1
Risso's dolphin	1,183
Rough-toothed dolphin	10
Short-finned pilot whale	379
Sperm whale	12
Spinner dolphin-Pearl and Hermes reef	41
Striped dolphin	814

Table 15. Mission Area 14 – Northwest Australia	
Animal	**Estimated Number of Animals Estimated Take by Level B Harassment**
Blue whale	1
Bryde's whale	4
Common minke whale	207
Fin whale	13
Humpback whale	1
Omura's whale	4
Blainville's beaked whale	6
Common bottlenose dolphin-Hawaiian Islands	222
Cuvier's beaked whale	26
Dwarf sperm whale	1
False killer whale-Northwestern Hawaiian Islands	2
Fraser's dolphin	10
Killer whale	42
Longman's beaked whale	26
Melon-headed whale-Hawaiian Islands	39
Pantropical spotted dolphin-4-Islands	37
Pygmy killer whale	7
Risso's dolphin	496
Rough-toothed dolphin	5
Short-finned pilot whale	154
Southern bottlenose whale	7
Spade-toothed whale	6
Sperm whale	6
Spinner dolphin-Pearl and Hermes reef	29
Striped dolphin	590

Table 16. Mission Area 15 – Northeast of Japan	
Animal	**Estimated Number of Animals Estimated Take by Level B Harassment**
Fin whale - WNP	21
North Pacific right whale	2
Sei whale - NP	32
Western Pacific gray whale	1
Baird's whale	163
Dall's porpoise	2,539
Pacific white-sided dolphin	267
Short-beaked common dolphin	5,555
Sperm whale	72
Stejneger's beaked whale	19
Northern fur seal	641
Ribbon seal	1,808
Spotted seal	11,076
Steller sea lion	1

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 individuals operating under his authority (*i.e.*, Navy), are authorized to take marine mammals incidental to Navy operation of Surveillance Towed Array Sensor System Low Frequency Active (SURTASS LFA) sonar in accordance with 50 CFR Part 218, Subpart X– 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 15, 2016, through August 14, 2017.

2. This Authorization is valid only for the unintentional taking of the species of marine mammals identified in 50 CFR § 218.230(b) and Condition 5 of this Authorization governing the taking of these animals incidental to the activity specified in Condition 3. This authorization shall be valid only for takes consistent with the provisions in 50 CFR § 218.232 and the terms of this Authorization as specified herein.

3. This Authorization is valid only for activities associated with the routine training, testing, and military operations of SURTASS LFA sonar onboard the United States Naval Ship (USNS) EFFECTIVE (T-AGOS 21). The sound 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 of no more than 215 decibels (dB) re: 1 micro Pascal (μPa) at 1 meter (m) (root mean square (rms) and a maximum duty cycle of 20 percent.

4. This Authorization, combined with Authorizations for the USNS VICTORIOUS (T-AGOS 19), ABLE (T-AGOS 20), and USNS IMPECCABLE (T-AGOS 23), is valid for an estimated total of 20 nominal active sonar missions among the four SURTASS LFA sonar vessels (or equivalent number of shorter missions but shall not exceed a total of 432 hours of sonar transmit time per vessel during the period of this Authorization's effectiveness) within the following areas:

   (a) Up to 16 nominal missions in the western North Pacific Ocean, which includes the following mission areas: east of Japan; the north Philippine Sea; the west Philippine Sea; offshore Guam; the Sea of Japan; the East China Sea; the South China Sea; offshore Japan (25° to 40° N and 10° to 25° N), and northeast of Japan.

   (b) Up to two nominal missions in the central North Pacific Ocean that include the Hawaii North and Hawaii South mission areas.

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(c) Up to two nominal missions in the Indian Ocean that include the Arabian Sea, the Andaman Sea, and northwest of Australia mission areas.

SPECIES AUTHORIZED AND LEVEL OF TAKE

5. The incidental take of marine mammals under the activity identified in Conditions 3 and 4 of this Authorization is limited to the following species:

   (a) **Mysticetes**: blue whale (*Balaenoptera musculus*), Bryde's whale (*Balaenoptera edeni*), fin whale (*Balaenoptera physalus*), humpback whale (*Megaptera novaeangliae*), common minke whale (*Balaenoptera acutorostrata*), north Pacific right whale (*Eubalena japonica*), sei whale (*Balaenoptera borealis*), and Omura's whale (*Balaenoptera omurai*).

   (b) **Odontocetes**: Baird's beaked whale (*Berardius bairdii*), Blainville's beaked whale (*Mesoplodon densirostris*), common bottlenose dolphin (*Tursiops truncatus*), Cuvier's beaked whale (*Ziphius cavirostris*), Dall's porpoise (*Phocoenoides dalli*), Deraniyagaia's beaked whale (*Mesoplodon hotaula*), dwarf sperm (*Kogia simus*), false killer whale (*Pseudorca crassidens*), Fraser's dolphin (*Lagenodelphis hosei*), ginkgo-toothed beaked whale (*Mesoplodon ginkgodens*), harbor porpoise (*Phocoena phocoena*), Hubbs' beaked whale (*Mesoplodon carhubbsi*), Indo-Pacific bottlenose dolphin (*Tursiops abuncus*), killer whale (*Orca orcinus*), *Kogia* spp., Longman's beaked whale (*Indopacetus pacificus*), melon-headed whale (*Peponocephala electra*), *Mesoplodon* spp., Northern right whale dolphin (*Lissodelphis borealis*), Pacific white- sided dolphin (*Lagenorhynchus obliquidens*), pantropical spotted dolphin (*Stenella attenuata*), pygmy killer whale (*Feresa attenuata*), pygmy sperm whales (*K. breviceps*), Risso's dolphin (*Grampus griseus*), rough-toothed dolphin (*Steno bredanensis*), short-beaked common dolphin (*Delphinus delphis*), short-finned pilot whale (*Globicephala macrorhynchus*), southern bottlenose whale (*Hyperodon planifrons*), sperm whale (*Physeter macrocephalus*), spinner dolphin (*Stenella longirostris*), Stejneger's beaked whale (*Mesoplodon stejnegeri*), and striped dolphin (*Stenella coeruleoalba*).

   (c) **Pinnipeds**: Hawaiian monk seal (*Monachus shauinslandi*), northern fur seal (*Callorhinus ursinus*), ribbon seal (*Histriophoca fasciata*), spotted seal (*Phoca largha*), and Steller sea lion (*Eumetopia jubatus*).

6. The taking of marine mammals by the Holder of this Authorization is limited to the incidental taking of marine mammal species identified in Condition 5 by Level A and Level B harassment (as defined in the MMPA and 50 CFR § 216.3) within those areas authorized under Condition 4. The take, by Level B harassment, that occurs during the year covered by this Authorization may not exceed 12 percent of any marine mammal stock listed in Condition 5 (see Condition 8j and Tables 2 – 12of Attachment 2). The take by Level A harassment may not exceed the numbers specified for each category in Table 1 of Attachment 2 for the total effective period of the regulations at 50 CFR Part 218, Subpart X.

7. Taking of marine mammal species not listed under Condition 5 by harassment, injury, or mortality or the taking by mortality of any marine mammal species listed under Condition 5 is prohibited.

MITIGATION

8. The Holder of this Authorization, and any individuals operating under his authority, must conduct the activity identified in 50 CFR § 218.230 and Condition 3 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 uses.

   When conducting operations identified in 50 CFR § 218.230, the following mitigation measures must be implemented:

   (a) The Holder of this Authorization, and any individuals operating under his authority, must not transmit the SURTASS LFA sonar signal at a frequency greater than 500 Hz.

   (b) Through mitigation described under 50 CFR § 218.234 and Condition 9 (Mitigation Monitoring) 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.

   (c) **LFA Sonar Mitigation Zone**: Prior to commencing and during SURTASS LFA sonar transmissions, the Holder of this Authorization will use near real-time environmental data and underwater acoustic prediction models to determine the propagation of the SURTASS LFA sonar signals in the mission area. The Holder of this Authorization must determine the distance from the SURTASS LFA sonar source to the 180-dB re: 1 μPa (rms) isopleth (*i.e.*, the LFA sonar mitigation zone) to comply with Condition 8(b).

      (i) The Holder of this Authorization will update these sound field estimates every 12 hours or more frequently depending upon changing meteorological or oceanographic conditions.

   (d) **Additional 1-Kilometer (km) Buffer Zone**: The Holder of this Authorization will establish a 1-km buffer zone around the LFA sonar mitigation zone.

   (e) **Ramp-Up Procedures for the HF/M3 System**: The Holder of this Authorization and any individuals operating under his authority, will ramp up the High Frequency / Marine Mammal Monitoring (HF/M3) active sonar referenced in 50 CFR § 218.234 from a power level beginning at a maximum source sound pressure level of 180 dB re: 1 μPa @ 1 m (rms) in 10-dB increments to operating levels over a period of no less than five minutes:

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

      (ii) Prior to any SURTASS LFA sonar calibrations or testing that are not part of regular SURTASS LFA sonar transmissions described in 50 CFR § 218.230; and

      (iii) Anytime after individuals have powered down the HF/M3 active sonar source for more than two minutes.

      Once HF/M3 operators detect a marine mammal, they will not increase the HF/M3 active sonar system's sound pressure level. Resumption of the ramp-up of HF/M3

sonar system would not occur until marine mammals are no longer detected by the HF/M3 active sonar system, passive acoustic monitoring, or visual monitoring described in Condition 9.

(f) **Suspension/Delay for SURTASS LFA Sonar Transmissions**: If the Holder of this Authorization, and any individuals operating under his authority, detects a marine mammal through monitoring required under 50 CFR § 218.235 and Condition 9 within either the LFA sonar mitigation zone or the 1-km buffer zone, the Holder of this Authorization will immediately suspend or delay SURTASS LFA sonar transmissions.

(g) **Resumption of SURTASS LFA Sonar Transmissions**: The Holder of this Authorization and any individuals operating under his authority may resume/commence SURTASS LFA sonar transmissions 15 minutes after:

(i) All marine mammals have left the area of the LFA sonar mitigation zone and the 1-km buffer zone; and/or

(ii) There is no further detection of any marine mammal within the LFA sonar mitigation zone plus the 1-km buffer zone as determined by the passive or active acoustic or visual monitoring protocols described in 50 CFR § 218.235 and Condition 9.

(h) **Geographic Restrictions**: The Holder of this Authorization and any individuals operating under his authority will not operate SURTASS LFA sonar such that the SURTASS LFA sonar sound field exceeds 180 dB re: 1 μPa (rms):

(i) At a distance of less than or equal to 22 km (14 miles (mi); 12 nautical miles (nmi)) from any coastline, including offshore islands.

(ii) At a distance of less than 1 km (0.62 mi; 0.54 nmi) seaward of the outer perimeter of any Offshore Biologically Important Area (OBIA) for marine mammals designated in 50 CFR § 218.234(f)(2) and described in Condition 8(h)(iii) during the period specified.

(iii) The OBIAs for marine mammals (with specified periods of effectiveness) for SURTASS LFA sonar routine training, testing, and military operations are:

OBIA	**Period of Effectiveness**
Georges Bank	Year-round
Roseway Basin Right Whale Conservation Area	June through December, annually
Great South Channel, U.S. Gulf of Maine, and Stellwagen Bank National Marine Sanctuary (NMS)	January 1 to November 14, annually
Southeastern U.S. Right Whale Seasonal Habitat	November 15 to April 15, annually
North Pacific Right Whale Critical Habitat	March through August, annually
Silver Bank and Navidad Bank	December through April, annually
Coastal waters of Gabon, Congo, and Equatorial Guinea	June through October, annually

Patagonian Shelf Break	Year-round
Southern Right Whale Seasonal Habitat	May through December, annually
Central California NMSs	June through November, annually
Antarctic Convergence Zone	October through March, annually
Piltun and Chayvo offshore feeding grounds in the Sea of Okhotsk	June through November, annually
Coastal waters off Madagascar	July through September, annually for humpback whale breeding and November through December, annually for migrating blue whales.
Madagascar Plateau, Madagascar Ridge, and Walters Shoal	November through December, annually
Ligurian-Corsican-Provencal Basin and Western Pelagos Sanctuary in the Mediterranean Sea	July to August, annually
Hawaiian Islands Humpback Whale NMS and Penguin Bank	November through April, annually
Costa Rica Dome	Year-round
Great Barrier Reef Between 16° S and 21° S	May through September, annually
Bonney Upwelling on the southern coast of Australia	December through May, annually
Northern Bay of Bengal and Head of Swatch-of-No-Ground	Year-round
Olympic Coast NMS and Prairie, Barkley Canyon, and Nitnat Canyon	Olympic NMS: December, January, March, and May, annually The Prairie, Barkley Canyon, and Nitnat Canyon: June through September, annually
Abrolhos Bank	August through November

Note: See § 218.234(f)(2) and Attachment 1 for geographic coordinate information.

(i) **Operational Exception for SURTASS LFA Sound Field in OBIAs**: During military operations, SURTASS LFA sonar transmissions may exceed 180 dB re: 1 μPa (rms) within the boundaries of an OBIA, including operating within an OBIA, when the Holder of this Authorization determines that it is: 1) operationally necessary to continue tracking an existing underwater contact; or 2) operationally necessary to detect a new underwater contact within the OBIA. This exception does not apply to routine training and testing with the SURTASS LFA sonar systems.

(j) **Mission Planning**: The Holder of this Authorization must maintain a running calculation/estimation of takes of each species and stocks over the effective period of these regulations. The Holder of this Authorization will plan all SURTASS LFA sonar missions to ensure that no more than 12 percent of any marine mammal stock listed in 50 CFR § 218.230(b)(1) through (3) would be taken by Level B harassment annually. This annual per-stock cap of 12 percent applies regardless of the number of SURTASS LFA sonar vessels operating. The Holder of this Authorization must coordinate with the Holders of the Authorizations issued to the USNS ABLE, USNS VICTORIOUS, and the USNS IMPECCABLE, to ensure that this condition is met for all vessels combined.

MITIGATION MONITORING

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

   (a) Perform the following for visual mitigation monitoring:

      (i) Marine mammal biologists qualified in conducting at-sea marine mammal visual monitoring from surface vessels will train and qualify designated ship personnel as lookouts to conduct at-sea visual monitoring.

      (ii) Marine mammal biologists will train the lookouts in the most effective means to ensure quick and effective communication within the ship's command structure to facilitate implementation of protective measures if they observe marine mammals.

      (iii) Conduct visual monitoring from the ship's bridge during daylight hours (30 minutes before sunrise until 30 minutes after sunset) during operations that employ SURTASS LFA sonar in the active mode. Maintain a topside watch with standard binoculars (7x) and with the naked eye.

   (b) Perform the following for passive acoustic mitigation monitoring:

      (i) Use the low frequency, passive SURTASS sonar system to listen for vocalizing marine mammals.

   (c) Perform the following for active acoustic mitigation monitoring:

      (i) Use the HF/M3 active 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, subject to the ramp-up requirements in § 218.234(e) and Condition 8(e).

10. Mitigation monitoring under Conditions 9(a), (b), and (c) must:

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

   (b) Continue between sonar transmissions (pings); and

   (c) Continue either at least 15 minutes after completion of SURTASS LFA sonar transmission operations (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.

MONITORING

11. The Holder of this Authorization and any individuals operating under his authority for activities described in 50 CFR § 218.230 must:

   (a) Cooperate with NMFS and any other federal agency for monitoring the impacts of the activity on marine mammals; and

(b) Designate qualified on-site individuals to conduct the mitigation, monitoring, and reporting activities specified in this Letter of Authorization.

12. The Holder of this Authorization and any individuals operating under his authority will conduct all monitoring required under the Letter of Authorization to increase knowledge of the affected marine mammal species. The Holder of this Authorization must:

(a) Consider recommendations on the different types of monitoring/research that could increase the understanding of the potential effects of SURTASS LFA sonar transmissions on beaked whales and/or harbor porpoises.

(b) Continue to assess data from the Navy Marine Mammal Monitoring (M3) program and work toward making some portion of that data, after appropriate security reviews, available to scientists with appropriate clearances. Any portions of the analyses conducted by these scientists based on these data that are determined to be unclassified after appropriate security reviews should be made publicly available.

(c) Continue to explore the feasibility of coordinating with other Navy fleet assets and/or range monitoring programs to include the use of SURTASS passive sonar (towed horizontal line array) to augment the collection of marine mammal vocalizations before, during, and after designated exercises.

(d) Continue to collect ambient noise data and explore the feasibility of declassifying and archiving the ambient noise data for incorporation into appropriate ocean noise research efforts.

REPORTING

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

(a) Draft a plan of action outlining a strategy for implementing recommendations on beaked whales and/or harbor porpoise research; or describe in writing why such research is not feasible/or is unlikely to increase the understanding of the potential effects of SURTASS LFA sonar transmissions on beaked whales and/or harbor porpoises, to be followed by a meeting with NMFS to discuss any other potential options.

(b) Provide a status update to NMFS when the Holder of this Authorization submits the next annual application for Authorizations on efforts to assess the data collected by the Marine Mammal Monitoring (M3) program and progress toward making some portion of that data, after appropriate security reviews, available to scientists with appropriate clearances.

(c) Systematically observe SURTASS LFA sonar operations for injured or disabled marine mammals and monitor the principal marine mammal stranding networks and other media to correlate analysis of any whale strandings that could potentially be associated with SURTASS LFA sonar operations. The Holder of this Authorization and any individuals operating under his authority shall:

(i) Ensure that NMFS is notified immediately, or as soon as clearance procedures allow, if an injured, stranded, or dead marine mammal is observed during or shortly after and in the vicinity of any SURTASS LFA sonar operations. The

Holder of this Authorization will report the incident to the Chief, Permits and Conservation Division, Office of Protected Resources, NMFS, at 301-427-8401 and/or by email to Jolie.Harrison@noaa.gov and Dale.Youngkin@noaa.gov.

(ii) Provide NMFS with species or description of the animal(s), the condition of the animal(s) (including carcass condition if the animal is dead), location, time of first discovery, observed behaviors (if alive), and photo or video (if available).

(iii) In the event that an injured, stranded, or dead marine mammal is observed by the Holder of this Authorization and any individuals operating under his authority not in conjunction with SURTASS LFA sonar operations, the Holder of this Authorization and any individuals operating under his authority, will report the same information to NMFS as listed above as soon as operationally feasible and clearance procedures allow.

(d) In the event of a ship strike by the SURTASS LFA sonar vessel, at any time or place, the Holder of this Authorization and any individuals operating under his authority, must:

(i) Immediately, or as soon as clearance procedures allow, report to NMFS the species identification (if known), the size and length of the animal, location (lat/long) of the animal (or the strike if the animal has disappeared), whether the animal is alive or dead (or unknown), including an estimate of its injury status if alive (injured but alive, injured and moving, unknown, etc.).

(ii) Report the incident to the Chief, Permits and Conservation Division, Office of Protected Resources, NMFS, at 301-427-8401 and/or by email to Jolie.Harrison@noaa.gov and Dale.Youngkin@noaa.gov.

(iii) Report as soon as feasible to the NMFS the vessel's name, class/type, and length, as well as operational status, speed and vessel heading.

(iv) Provide NMFS a photo or video of the struck animal, if equipment is available.

(e) Submit classified and unclassified quarterly mission reports to the Director, Office of Protected Resources, NMFS no later than 30 days after the end of each quarter, beginning on the date of effectiveness of a Letter of Authorization. Each quarterly mission report will include summaries of all active-mode sonar missions completed during that quarter. At a minimum, each classified mission report must contain the following information:

(i) Dates, times, and location of each vessel during each mission.

(ii) Information on sonar transmissions during each mission and records of any delays or suspensions.

(iii) Location of the SURTASS LFA sonar mitigation and buffer zones in relation to the LFA sonar array.

(iv) Marine mammal observations including 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).

(v) 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 Authorization) by SURTASS LFA sonar operations (both within and outside the LFA sonar mitigation and buffer zones), using predictive modeling based on mission locations, dates/times of operations, system characteristics, LFA sonar transmission durations, oceanographic environmental conditions, and animal demographics.

(vi) If no SURTASS LFA sonar missions are completed during a quarter, a report of negative activity will be provided.

(f) Submit an annual, unclassified report to the Director, Office of Protected Resources, NMFS, no later than 45 days after expiration of this Authorization. At a minimum, the annual report will contain the following:

(i) An unclassified summary of the year's quarterly reports.

(ii) The Navy's estimates of the percentages of marine mammal stocks affected by SURTASS LFA sonar operations (both within and outside the LFA sonar mitigation and buffer zones), using predictive modeling based on mission locations, dates/times of operations, system characteristics, LFA sonar transmission durations, oceanographic environmental conditions, and animal demographics.

(iii) An analysis of the effectiveness of the mitigation measures with recommendations for improvements, where applicable.

(iv) An assessment of any long-term effects from SURTASS LFA sonar operations.

(v) Any discernible or estimated cumulative impacts from SURTASS LFA sonar operations.

14. The Holder of this Authorization must comply with the Terms and Conditions of the Incidental Take Statement corresponding to the Endangered Species Act Biological Opinion issued to the Navy and the National Marine Fisheries Service's Office of Protected Resources, Permits and Conservation Division.

15. A copy of this Authorization must be in the possession of the Officer in Charge of the Military Crew (MILCREW) onboard the USNS EFFECTIVE to conduct the activity under the authority of this Letter of Authorization and Incidental Take Statement.

For

Donna S. Wieting, Director
Office of Protected Resources
National Marine Fisheries Service

8/18/16
Date

Attachment 1 – Table 1. OBIA Coordinates and Periods of Effectiveness.

Name of Area	Location of Area	Months of Importance/ Periods of Effectiveness
Georges Bank	40°00'N, 72°30'W 39°37 N, 72°09'W 39°54'N, 71°43'W 40°02 N, 71°20'W 40°08'N, 71°01'W 40°04'N, 70°44'W 40°00'N, 69°24'W 40°16'N, 68°27'W 40°34'N, 67°13'W 41°00'N, 66°24'W 41°52'N, 65°47'W 42°20'N, 66°06'W 42°18'N, 67°23'W	Year-round
Roseway Basin Right Whale Conservation Area	43°05'N, 65°40'W 43°05'N, 65°03'W 42°45'N, 65°40'W 42°45'N, 65°03'W	June through December, annually
Great South Channel, U.S. Gulf of Maine, and Stellwagen Bank National Marine Sanctuary (NMS)	41°00.000'N, 69°05.000'W 42°09.000'N, 67°08.400'W 42°53.436'N, 67°43.873'W 44°12.541'N, 67°16.847'W 44°14.911'N, 67°08.936'W 44°21.538'N, 67°03.663'W 44°26.736'N, 67°09.596'W 44°16.805'N, 67°27.394'W 44°11.118'N, 67°56.398'W 43°59.240'N, 68°08.263'W 43°36.800'N, 68°46.496'W 43°33.925'N, 69°19.455'W 43°32.008'N, 69°44.504'W 43°21.922'N, 70°06.257'W 43°04.084'N, 70°21.418'W 42°51.982'N, 70°31.965'W 42°45.187'N, 70°23.396'W 42°39.068'N, 70°30.188'W 42°32.892'N, 70°35.873'W 42°07.748'N, 70°28.257'W 42°05.592'N, 70°02.136'W 42°03.664'N, 69°44.000'W 41°40.000'N, 69°45.000'W	January 1 to November 14, annually
Southeastern U.S. Right Whale Seasonal Habitat	Critical Habitat Boundaries are coastal waters between 31°15' N and 30°15'N from the coast out 15 nautical miles (nmi); and the coastal waters between 30°15' N and 28°00"N from the coast out 5 nmi (50 CFR §226.13(c)). OBIA Boundaries are coastal waters between 31°15"N and 30°15"N from 12 to 15 nmi.	November 15 to April 15, annually
North Pacific Right Whale Critical Habitat	57°03'N, 153°00'W 57°18'N, 151°30'W 57°00'N, 151°30'W 56°45'N, 153°00'W (50 CFR §226.215)	March through August, annually

Name of Area	Location of Area	Months of Importance/ Periods of Effectiveness
Silver Bank and Navidad Bank	Silver Bank: 20° 38.899'N, 69° 23.640'W 20° 55.706'N, 69° 57.984'W 20° 25.221'N, 70° 00.387'W 20° 12.833'N, 69° 40.604'W 20° 13.918'N, 69° 31.518'W 20° 28.680'N, 69° 31.900'W Navidad Bank: 20° 15.596'N, 68° 47.967'W 20° 11.971'N, 68° 54.810'W 19° 52.514'N, 69° 00.443'W 19° 54.957'N, 68° 51.430'W 19° 51.513'N, 68° 41.399'W	December through April, annually
Coastal waters of Gabon, Congo and Equatorial Guinea	An exclusion zone following the 500-m isobath extending from 3°31.055'N, 9°12.226'E in the north offshore of Malabo southward to 8°57.470'S, 12°55.873'E offshore of Luanda.	June through October, annually
Patagonian Shelf Break	Between 200- and 2,000-m isobaths and the following latitudes: 35°00'S, 39°00'S, 40°40'S, 42°30'S, 46°00'S, 48°50'S.	Year-round
Southern Right Whale Seasonal Habitat	Coastal waters between 42°00'S and 43°00'S from 12 to 15 nmi including the enclosed bays of Golfo Nuevo, Golfo San Jose, and San Matias. Golfos San Jose and San Nuevo are within 22 km (14 mi; 12 nmi) coastal exclusion zone.	May through December, annually
Central California National Marine Sanctuaries	Single stratum boundary created from the Cordell Bank (15 CFR 922.10), Gulf of the Farallones (15 CFR 922.80), and Monterey Bay (15 CFR 922.30) NMS legal boundaries. Monterey Bay NMS includes the Davidson Seamount Management Zone.	June through November, annually
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, annually

Name of Area	Location of Area	Months of Importance/ Periods of Effectiveness
Piltun and Chayvo offshore feeding grounds in the Sea of Okhotsk	54°09.436'N, 143°47.408'E 54°09.436'N, 143°17.354'E 54°01.161'N, 143°17.354'E 53°53.580'N, 143°13.398'E 53°26.963'N, 143°28.230'E 53°07.013'N, 143°35.481'E 52°48.705'N, 143°38.447'E 52°32.077'N, 143°37.788'E 52°21.605'N, 143°34.163'E 52°09.470'N, 143°26.582'E 51°57.686'N, 143°30.208'E 51°36.033'N, 143°42.794'E 51°08.082'N, 143°51.301'E 51°08.082'N, 144°16.742'E 51°24.514'N, 144°11.139'E 51°48.116'N, 144°10.809'E 52°03.194'N, 144°20.363'E 52°23.235'N, 144°10.150'E 52°28.674'N, 144°12.787'E 52°42.523'N, 144°10.150'E 53°12.972'N, 143°55.648'E 53°18.505'N, 143°56.637'E 53°23.041'N, 143°53.011'E 53°28.250'N, 143°53.341'E 53°44.039'N, 143°49.056'E 53°53.207'N, 143°50.045'E 53°59.819'N, 143°48.067'E	June through November, annually
Coastal waters off Madagascar	16°03'55.04"S, 50°27'12.59"E 16°12'23.03"S, 51°03'37.38"E 24°30'45.06"S, 48°26'00.94"E 24°15'28.07"S, 47°46'51.16"E 22°18'00.74"S, 48°14'13.52"E 20°52'24.12"S, 48°43'13.49"E 19°22'33.24"S, 49°15'45.47"E 18°29'46.08"S, 49°37'32.25"E 17°38'27.89"S, 49°44'27.17"E 17°24'39.12"S, 49°39'17.03"E 17°19'35.34"S, 49°54'23.82"E 16°45'41.71"S, 50°15'56.35"E	July through September, annually for humpback whale breeding and November through December, annually for migrating blue whales.
Madagascar Plateau, Madagascar Ridge, and Walters Shoal	25°55'20.00"S, 44°05'15.45"E 25°46'31.36"S, 47°22'35.90"E 27°02'37.71"S, 48°03'31.08"E 35°13'51.37"S, 46°26'19.98"E 35°14'28.59"S, 42°35'49.20"E 31°36'57.96"S, 42°37'49.35"E 27°41'11.21"S, 44°30'11.01"E	November through December, annually

Name of Area	Location of Area	Months of Importance/ Periods of Effectiveness
Ligurian-Corsican-Provencal Basin and Western Pelagos Sanctuary in the Mediterranean Sea	42°50.271'N, 06°31.883'E 42°55.603'N, 06°43.418'E 43°04.374'N, 06°52.165'E 43°12.600'N, 07°10.440'E 43°21.720'N, 07°19.380'E 43°30.600'N, 07°32.220'E 43°33.900'N, 07°49.920'E 43°36.420'N, 08°05.580'E 43°42.600'N, 08°22.140'E 43°50.880'N, 08°34.500'E 43°58.560'N, 08°47.700'E 43°59.040'N, 08°56.040'E 43°57.047'N, 09°03.540'E 43°52.260'N, 09°08.520'E 43°47.580'N, 09°13.500'E 43°36.060'N, 09°16.620'E 43°28.440'N, 09°05.820'E 43°21.360'N, 09°02.100'E 43°16.020'N, 08°57.240'E 43°04.440'N, 08°47.580'E 42°54.900'N, 08°35.400'E 42°45.900'N, 08°27.540'E 42°36.060'N, 08°22.020'E 42°22.620'N, 08°15.849'E 42°07.202'N, 08°17.174'E 41°52.800'N, 08°15.720'E 41°39.780'N, 08°05.280'E 41°28.200'N, 08°51.600'E 42°57.060'N, 06°19.860'E	July to August, annually
Hawaiian Islands Humpback Whale NMS and Penguin Bank	21°10'02.179"N, 157°30'58.217"W 21°09'46.815"N, 157°30'22.367"W 21°06'39.882"N, 157°31'00.778"W 21°02'51.976"N, 157°30'30.049"W 20°59'52.725"N, 157°29'28.591"W 20°58'05.174"N, 157°27'35.919"W 20°55'49.456"N, 157°30'58.217"W 20°50'44.729"N, 157°42'42.418"W 20°51'02.654"N, 157°44'45.333"W 20°53'56.784"N, 157°46'04.716"W 20°56'32.988"N, 157°45'33.987"W 21°01'27.472"N, 157°43'10.586"W 21°05'20.499"N, 157°39'27.802"W 21°10'02.179"N, 157°30'58.217"W	November through April, annually
Costa Rica Dome	Centered at 9°N and 88°W	Year-round

Name of Area	Location of Area	Months of Importance/ Periods of Effectiveness
Great Barrier Reef Between 16° S and 21° S	16°01.829'S, 145°38.783'E 15°52.215'S, 146°20.936'E 17°28.354'S, 146°59.392'E 20°16.228'S, 151°39.674'E 20°58.381'S, 150°30.897'E 20°17.007'S, 149°38.247'E 20°10.941'S, 149°18.247'E 20°02.403'S, 149°12.623'E 19°53.287'S, 149°03.986'E 19°49.866'S, 148°52.135'E 19°53.287'S, 148°44.302'E 19°47.965'S, 148°36.870'E 19°47.205'S, 148°26.024'E 19°19.978'S, 147°39.626'E 19°14.065'S, 147°37.014'E 19°08.913'S, 147°31.993'E 19°05.667'S, 147°24.160'E 19°07.576'S, 147°18.134'E 18°51.718'S, 146°51.219'E 18°44.258'S, 146°54.031'E 18°37.175'S, 146°51.420'E 18°31.620'S, 146°43.385'E 18°27.595'S, 146°40.573'E 17°36.676'S, 146°20.488'E 17°20.484'S, 146°16.671'E 17°07.745'S, 146°13.056'E 16°49.769'S, 146°11.047'E 16°41.835'S, 146°03.817'E 16°39.706'S, 145°54.979'E	May through September, annually
Bonney Upwelling on the west coast of Australia	37°12'20.036"S, 139°31'17.703"E 37°37'33.815"S, 139°42'42.508"E 38°10'36.144"S, 140°22'57.345"E 38°44'50.558"S, 141°33'50.342"E 39°07'04.125"S, 141°11'00.733"E 37°28'33.179"S, 139°10'52.263"E	December through May, annually
Northern Bay of Bengal and Head of Swatch-of-No-Ground	20°59.735'N, 89°07.675'E 20°55.494'N, 89°09.484'E 20°52.883'N, 89°12.704'E 20°55.275'N, 89°18.133'E 21°04.558'N, 89°25.294'E 21°12.655'N, 89°25.354'E 21°13.279'N, 89°16.833'E 21°06.347'N, 89°15.011'E	Year-round
Olympic Coast NMS and Prairie, Barkley Canyon, and Nitnat Canyon	Boundaries within 23 nmi (26.5 m; 42.6 km) of the coast from 47°07′ N to 48°30′ N latitude 48°30'01.995"N, 125°58'38.786"W 48°16'55.605"N, 125°38'52.052"W 48°23'07.353"N, 125°17'10.935"W 48°12'38.241"N, 125°16'42.339"W 47°58'20.361"N, 125°31'14.517"W 47°58'20.361"N, 126°06'16.322"W 48°09'46.665"N, 126°25'48.758"W	Olympic NMS: December, January, March, and May, annually The Prairie, Barkley Canyon, and Nitnat Canyon: June through September, annually

Name of Area	Location of Area	Months of Importance/ Periods of Effectiveness
Abrolhos Bank	16°35'34.909"S, 38°52'30.455"W 16°35'31.619"S, 38°43'41.069"W 16°40'00.131"S, 37°23'52.492"W 19°30'59.069"S, 37°23'52.446"W 19°30'59.974"S, 39°33'38.351"W 19°20'24.752"S, 39°30'33.03"W 18°52'16.884"S, 39°32'31.789"W 18°45'09.937"S, 39°32'27.709"W 18°30'59.345"S, 39°30'59.669"W 18°27'28.985"S, 39°30'13.453"W 18°17'30.429"S, 39°26'21.073"W 18°07'43.518"S, 39°19'52.924"W 18°09'24.931"S, 39°16'24.913"W 18°10'04.585"S, 39°12'30.425"W 18°10'20.682"S, 38°39'06.185"W 18°08'50.404"S, 38°35'00.059"W 18°06'05.466"S, 38°31'41.385"W 18°02'09.399"S, 38°29'26.179"W 17°58'01.372"S, 38°28'45.409"W 17°53'58.883"S, 38°29'34.612"W 16°48'58.768"S, 38°55'23.768"W 16°43'15.682"S, 38°53'40.007"W	August through November, annually

Attachment 2 – Authorized Take Estimates by Mission Area

The Holder of this Authorization must maintain a running calculation/estimation of takes of each species/stock over the effective period of this Authorization. The take, by Level B harassment, that occurs during the year covered by this Authorization may not exceed 12 percent of any marine mammal stock listed in the following tables.

The Holder of this Authorization must also coordinate with the Holders of the Authorizations issued to the USNS ABLE, the USNS VICTORIOUS, and the USNS IMPECCABLE, to ensure that these conditions are met for all vessels combined.

Table 1. Number of cetaceans and pinnipeds authorized to be taken by Level A harassment for all SURTASS LFA sonar operations over the 5-year rulemaking period.	
Category	**Requested Take Authorization Level A harassment**
Mysticetes	No more than 6 over the course of the regulations.
Odontocetes	No more than 25 over the course of the regulations.
Pinnipeds	No more than 25 over the course of the regulations.

Tables 2-12. Number of marine mammals estimated to be taken by Level B harassment for all SURTASS LFA sonar operations during the annual LOA effective period in each of the Navy's requested mission areas.

The number of marine mammals authorized to be taken is based on the estimated percentage of the species' stock affected by a nominal number of SURTASS LFA sonar missions per mission area.

Table 2. Mission Area 1 - East of Japan	
Animal	**Estimated Number of Animals Estimated Take by Level B Harassment**
Blue whale	2
Bryde's whale	17
Common minke whale	63
Fin whale	3
Humpback whale	6
North Pacific right whale	1
Sei whale	17
Baird's beaked whale	47
Common bottlenose dolphin	237
Cuvier's beaked whale	65
False killer whale	60
Ginkgo-toothed beaked whale	11
Harbor porpoise	338
Hubbs' beaked whale	11
Killer whale	2
Kogia spp.	67
Pacific white-sided dolphin	74
Pantropical spotted dolphin	117
Pygmy killer whale	35
Risso's dolphin	207
Rough-toothed dolphin	118
Short-beaked common dolphin	1,617
Short-finned pilot whale	210
Sperm whale	20
Spinner dolphin	4

Stejneger's beaked whale	11
Striped dolphin	84

Table 3. Mission Area 2 – North Philippine Sea	
Animal	**Estimated Number of Animals Estimated Take by Level B Harassment**
Blue whale	2
Bryde's whale	46
Common minke whale	321
Fin whale	11
Humpback whale	45
North Pacific right whale	2
Blainville's beaked whale	22
Common bottlenose dolphin	662
Cuvier's beaked whale	221
False killer whale	135
Fraser's dolphin	305
Ginkgo-toothed beaked whale	22
Killer whale	6
Kogia spp.	146
Long-beaked common dolphin	4,962
Longman's beaked whale	11
Melon-headed whale	198
Pacific white-sided dolphin	358
Pantropical spotted dolphin	569
Pygmy killer whale	98
Risso's dolphin	491
Rough-toothed dolphin	274
Short-beaked common dolphin	2,409
Short-finned pilot whale	692
Sperm whale	48
Spinner dolphin	36
Striped dolphin	1,366

Table 4. Mission Area 3 – West Philippine Sea	
Animal	**Estimated Number of Animals Estimated Take by Level B Harassment**
Blue whale	3
Bryde's whale	44
Common minke whale	234
Fin whale	11
Humpback whale	67
Blainville's beaked whale	20
Common bottlenose dolphin	652
Cuvier's beaked whale	12
Deraniyagala's beaked whale	20
False killer whale	131
Fraser's dolphin	293
Ginkgo-toothed beaked whale	20
Killer whale	6
Kogia spp.	83
Long-beaked common dolphin	4,559

Longman's beaked whale	11
Melon-headed whale	193
Omura's whale	6
Pantropical spotted dolphin	498
Pygmy killer whale	95
Risso's dolphin	504
Rough-toothed dolphin	269
Short-finned pilot whale	329
Sperm whale	46
Spinner dolphin	31
Striped dolphin	597

Table 5. Mission Area 4 - Offshore Guam	
Animal	**Estimated Number of Animals Estimated Take by Level B Harassment**
Blue whale	2
Bryde's whale	12
Common minke whale	5
Fin whale	2
Humpback whale	11
Sei whale	6
Blainville's beaked whale	39
Common bottlenose dolphin	53
Cuvier's beaked whale	31
Deraniyagala beaked whale	37
Dwarf sperm whale	226
False killer whale	25
Fraser's dolphin	167
Ginkgo-toothed beaked whale	37
Killer whale	5
Longman's beaked whale	73
Melon-headed whale	96
Omura's whale	3
Pantropical spotted dolphin	289
Pygmy killer whale	5
Pygmy sperm whale	93
Risso's dolphin	100
Rough-toothed dolphin	82
Short-finned pilot whale	122
Sperm whale	36
Spinner dolphin	11
Striped dolphin	80

Table 6. Mission Area 5 - Sea of Japan	
Animal	**Estimated Number of Animals Estimated Take by Level B Harassment**
Bryde's whale	3
Common minke whale	8
Fin whale	31
North Pacific right whale	-
Western North Pacific gray whale	1

Baird's beaked whale	6
Common bottlenose dolphin	9
Cuvier's beaked whale	54
Dall's porpoise	597
False killer whale	33
Harbor porpoise	63
Killer whale	2
Kogia spp.	21
Long-beaked common dolphin	1,531
Omura's whale	1
Pacific white-sided dolphin	-
Risso's dolphin	84
Rough-toothed dolphin	30
Short-beaked common dolphin	1,137
Short-finned pilot whale	19
Sperm whale	31
Spinner dolphin	5
Stejneger's beaked whale	9
Striped dolphin	31
Spotted seal	1

Table 7. Mission Area 6 - East China Sea

Animal	Estimated Number of Animals Estimated Take by Level B Harassment
Bryde's whale	8
Common minke whale	92
Fin whale	4
North Pacific right whale	1
Western North Pacific gray whale	1
Omura's whale	1
Blainville's beaked whale	8
Common bottlenose dolphin	32
Cuvier's beaked whale	5
False killer whale	19
Fraser's dolphin	133
Ginkgo-toothed beaked whale	8
Killer whale	2
Kogia spp.	29
Long-beaked common dolphin	1,749
Longman's beaked whale	4
Melon-headed whale	72
Pacific white-sided dolphin	39
Pantropical spotted dolphin	198
Pygmy killer whale	3
Risso's dolphin	176
Rough-toothed dolphin	45
Short-beaked common dolphin	697
Short-finned pilot whale	25
Sperm whale	15
Spinner dolphin	12
Striped dolphin	84
Spotted seal	1

Table 8. Mission Area 7 - South China Sea	
Animal	**Estimated Number of Animals Estimated Take by Level B Harassment**
Bryde's whale	10
Common minke whale	53
Fin whale	4
Humpback whale	6
North Pacific right whale	1
Western North Pacific gray whale	1
Omura's whale	1
Blainville's beaked whale	5
Common bottlenose dolphin	7
Cuvier's beaked whale	3
Deraniyagala beaked whale	5
False killer whale	11
Fraser's dolphin	60
Ginkgo-toothed beaked whale	5
Killer whale	1
Kogia spp.	21
Long-beaked common dolphin	1,135
Longman's beaked whale	3
Melon-headed whale	39
Pantropical spotted dolphin	74
Pygmy killer whale	2
Risso's dolphin	116
Rough-toothed dolphin	14
Short-finned pilot whale	14
Sperm whale	11
Spinner dolphin	5
Striped dolphin	32

Table 9. Mission Area 8 - Offshore Japan (25-40° N)	
Animal	**Estimated Number of Animals Estimated Take by Level B Harassment**
Blue whale	1
Bryde's whale	9
Common minke whale	2
Fin whale	1
Humpback whale	2
Sei whale	7
Baird's beaked whale	2
Blainville's beaked whale	12
Common bottlenose dolphin	9
Cuvier's beaked whale	60
Dwarf sperm whale	80
False killer whale	48
Hubbs' beaked whale	8
Killer whale	2
Longman's beaked whale	5
Melon-headed whale	36
Mesoplodon spp.	8
Pacific white-sided dolphin	13

Pantropical spotted dolphin	33
Pygmy killer whale	2
Pygmy sperm whale	34
Risso's dolphin	10
Rough-toothed dolphin	34
Short-beaked common dolphin	869
Short-finned pilot whale	23
Sperm whale	26
Spinner dolphin	6
Stejneger's beaked whales	8
Striped dolphin	17
Hawaiian monk seal	4
Northern fur seal	-

Table 10. Mission Area 9 - Offshore Japan (10-25° N)	
Animal	**Estimated Number of Animals Estimated Take by Level B Harassment**
Blue whale	1
Bryde's whale	8
Fin whale	1
Humpback whale	9
Sei whale	69
Omura's whale	1
Blainville's beaked whale	7
Common bottlenose dolphin	11
Cuvier's beaked whale	35
Deraniyagala beaked whale	9
Dwarf sperm whale	56
False killer whale	8
Fraser's dolphin	33
Ginkgo-toothed beaked whale	9
Killer whale	2
Longman's beaked whale	3
Melon-headed whale	36
Pantropical spotted dolphin	144
Pygmy killer whale	1
Pygmy sperm whale	23
Risso's dolphin	6
Rough-toothed dolphin	26
Short-finned pilot whale	27
Sperm whale	24
Spinner dolphin	24
Striped dolphin	74

Table 11. Mission Area 10 - Hawaii North	
Animal	**Estimated Number of Animals Estimated Take by Level B Harassment**
Blue whale	1
Bryde's whale	7
Common minke whale	6
Fin whale	1
Humpback whale	13
Sei whale	3
Blainville's beaked whale	12
Common bottlenose dolphin-Inshore Archipelago	30
Common bottlenose dolphin-Hawaii Pelagic	1
Common bottlenose dolphin-Kauai/Nihau	1
Common bottlenose dolphin-Oahu	1
Common bottlenose dolphin-4 Islands	1
Cuvier's beaked whale	10
Dwarf sperm whale	108
False killer whale-Hawaii Pelagic	9
False killer whale-Main Hawaiian Islands Insular	2
False killer whale-Northwestern Hawaiian Islands	3
Fraser's dolphin	115
Killer whale	1
Longman's beaked whale	23
Melon-headed whale-Northern Mariana Islands	1
Melon-headed whale-Kohala Resident	18
Pantropical spotted dolphin-Western North Pacific	61
Pantropical spotted dolphin- Hawaii Pelagic	4
Pantropical spotted dolphin- Hawaii Island	5
Pantropical spotted dolphin- Oahu	7
Pygmy killer whale	21
Pygmy sperm whale	10
Risso's dolphin	46
Rough-toothed dolphin	47
Short-finned pilot whale	72
Sperm whale	17
Spinner dolphin-Western North Pacific Stock	8
Spinner dolphin- Hawaii Pelagic	1
Spinner dolphin- Hawaii Island	12
Spinner dolphin- Oahu/4-Islands	1
Spinner dolphin- Kauai/Niihau	1
Spinner dolphin- Kure/Midway Atoll	1
Striped dolphin	76
Hawaiian monk seal	2

Table 12. Mission Area 11 - Hawaii South	
Animal	**Estimated Number of Animals Estimated Take by Level B Harassment**
Blue whale	1
Bryde's whale	5
Common minke whale	4
Fin whale	1
Humpback whale	14
Sei whale	2
Blainville's beaked whale	12
Common bottlenose dolphin-Inshore Archipelago	28
Common bottlenose dolphin-Hawaii Pelagic	1
Common bottlenose dolphin-Kauai/Nihau	1
Common bottlenose dolphin-Oahu	1
Common bottlenose dolphin-4-Islands	1
Cuvier's beaked whale	9
Deraniyagala beaked whale	11
Dwarf sperm whale	92
Ginkgo-toothed beaked whale	22
False killer whale-Hawaii Pelagic	8
False killer whale-Main Hawaiian Island Insular	1
Fraser's dolphin	86
Killer whale	1
Longman's beaked whale	22
Melon-headed whale-Mariana Islands	1
Melon-headed whale-Kohala Resident	15
Pantropical spotted dolphin-Western North Pacific	68
Pantropical spotted dolphin- Hawaii Pelagic	1
Pantropical spotted dolphin- Hawaii Island	1
Pantropical spotted dolphin- Oahu	1
Pygmy killer whale	18
Pygmy sperm whale	38
Risso's dolphin	36
Rough-toothed dolphin	31
Short-finned pilot whale	57
Sperm whale	15
Spinner dolphin-Western North Pacific	9
Spinner dolphin- Hawaii Pelagic	1
Spinner dolphin- Hawaii Island	1
Spinner dolphin- Oahu/4-Islands	1
Striped dolphin	85
Hawaiian monk seal	2

Table 13. Mission Area 12 – Arabian Sea	
Animal	**Estimated Number of Animals Estimated Take by Level B Harassment**
Blue whale	1
Bryde's whale	2
Common minke whale	24
Fin whale	2
Humpback whale	1

Blainville's beaked whale	5
Common bottlenose dolphin-Hawaiian Island	70
Cuvier's beaked whale	6
Deraniyagala beaked whale	6
False killer whale-Hawaiian Islands	1
Fraser's dolphin	4
Ginkgo-toothed beaked whale	6
Indo-Pacific bottlenose dolphin	1
Killer whale	16
Longman's beaked whale	22
Long-beaked common dolphin	1
Dwarf sperm whale	1
Melon-headed whale-Hawaiian Islands	15
Pantropical spotted dolphin-4-Islands	6
Pygmy killer whale	3
Pygmy sperm whale	1
Risso's dolphin	163
Rough-toothed dolphin	2
Short-finned pilot whale	43
Sperm whale	13
Spinner dolphin-Pearl and Hermes Reef	5
Striped dolphin	97

Table 14. Mission Area 13 – Andaman Sea

Animal	Estimated Number of Animals Estimated Take by Level B Harassment
Blue whale	1
Bryde's whale	5
Common minke whale	1
Fin whale	1
Omura's whale	5
Blainville's beaked whale	13
Common bottlenose dolphin-Hawaiian Islands	636
Cuvier's beaked whale	67
Deraniyagala beaked whale	13
Dwarf sperm whale	1
Ginkgo-toothed beaked whale	13
False killer whale-Northwestern Hawaiian Islands	3
Fraser's dolphin	25
Indo-Pacific bottlenose dolphin	7
Killer whale	24
Long-beaked common dolphin	2
Longman's beaked whale	60
Melon-headed whale-Hawaiian Islands	95
Pantropical spotted dolphin-4-Islands	49
Pygmy killer whale	13
Pygmy sperm whale	1
Risso's dolphin	1,183
Rough-toothed dolphin	10
Short-finned pilot whale	379
Sperm whale	12
Spinner dolphin-Pearl and Hermes reef	41
Striped dolphin	814

Table 15. Mission Area 14 – Northwest Australia	
Animal	**Estimated Number of Animals Estimated Take by Level B Harassment**
Blue whale	1
Bryde's whale	4
Common minke whale	207
Fin whale	13
Humpback whale	1
Omura's whale	4
Blainville's beaked whale	6
Common bottlenose dolphin-Hawaiian Islands	222
Cuvier's beaked whale	26
Dwarf sperm whale	1
False killer whale-Northwestern Hawaiian Islands	2
Fraser's dolphin	10
Killer whale	42
Longman's beaked whale	26
Melon-headed whale-Hawaiian Islands	39
Pantropical spotted dolphin-4-Islands	37
Pygmy killer whale	7
Risso's dolphin	496
Rough-toothed dolphin	5
Short-finned pilot whale	154
Southern bottlenose whale	7
Spade-toothed whale	6
Sperm whale	6
Spinner dolphin-Pearl and Hermes reef	29
Striped dolphin	590

Table 16. Mission Area 15 – Northeast of Japan	
Animal	**Estimated Number of Animals Estimated Take by Level B Harassment**
Fin whale - WNP	21
North Pacific right whale	2
Sei whale - NP	32
Western Pacific gray whale	1
Baird's whale	163
Dall's porpoise	2,539
Pacific white-sided dolphin	267
Short-beaked common dolphin	5,555
Sperm whale	72
Stejneger's beaked whale	19
Northern fur seal	641
Ribbon seal	1,808
Spotted seal	11,076
Steller sea lion	1

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 individuals operating under his authority (*i.e.*, Navy), are authorized to take marine mammals incidental to Navy operation of Surveillance Towed Array Sensor System Low Frequency Active (SURTASS LFA) sonar in accordance with 50 CFR Part 218, Subpart X– 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 15, 2016, through August 14, 2017.

2. This Authorization is valid only for the unintentional taking of the species of marine mammals identified in 50 CFR § 218.230(b) and Condition 5 of this Authorization governing the taking of these animals incidental to the activity specified in Condition 3. This authorization shall be valid only for takes consistent with the provisions in 50 CFR § 218.232 and the terms of this Authorization as specified herein.

3. This Authorization is valid only for activities associated with the routine training, testing, and military operations of SURTASS LFA sonar onboard the United States Naval Ship (USNS) IMPECCABLE (T-AGOS 23). The sound 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 of no more than 215 decibels (dB) re: 1 micro Pascal (μPa) at 1 meter (m) (root mean square (rms) and a maximum duty cycle of 20 percent.

4. This Authorization, combined with Authorizations for the USNS VICTORIOUS (T-AGOS 19), USNS ABLE (T-AGOS 20), and USNS EFFECTIVE (T-AGOS 21), is valid for an estimated total of 20 nominal active sonar missions among the four SURTASS LFA sonar vessels (or equivalent number of shorter missions but shall not exceed a total of 432 hours of sonar transmit time per vessel during the period of this Authorization's effectiveness) within the following areas:

   (a) Up to 16 nominal missions in the western North Pacific Ocean, which includes the following mission areas: east of Japan; the north Philippine Sea; the west Philippine Sea; offshore Guam; the Sea of Japan; the East China Sea; the South China Sea; offshore Japan (25° to 40° N and 10° to 25° N), and northeast of Japan.

   (b) Up to two nominal missions in the central North Pacific Ocean that include the Hawaii North and Hawaii South mission areas.

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(c) Up to two nominal missions in the Indian Ocean that include the Arabian Sea, the Andaman Sea, and northwest of Australia mission areas.

SPECIES AUTHORIZED AND LEVEL OF TAKE

5. The incidental take of marine mammals under the activity identified in Conditions 3 and 4 of this Authorization is limited to the following species:

   (a) **Mysticetes**: blue whale (*Balaenoptera musculus*), Bryde's whale (*Balaenoptera edeni*), fin whale (*Balaenoptera physalus*), humpback whale (*Megaptera novaeangliae*), common minke whale (*Balaenoptera acutorostrata*), north Pacific right whale (*Eubalena japonica*), sei whale (*Balaenoptera borealis*), and Omura's whale (*Balaenoptera omurai*).

   (b) **Odontocetes**: Baird's beaked whale (*Berardius bairdii*), Blainville's beaked whale (*Mesoplodon densirostris*), common bottlenose dolphin (*Tursiops truncatus*), Cuvier's beaked whale (*Ziphius cavirostris*), Dall's porpoise (*Phocoenoides dalli*), Deraniyagaia's beaked whale (*Mesoplodon hotaula*), dwarf sperm (*Kogia simus*), false killer whale (*Pseudorca crassidens*), Fraser's dolphin (*Lagenodelphis hosei*), ginkgo-toothed beaked whale (*Mesoplodon ginkgodens*), harbor porpoise (*Phocoena phocoena*), Hubbs' beaked whale (*Mesoplodon carhubbsi*), Indo-Pacific bottlenose dolphin (*Tursiops abuncus*), killer whale (*Orca orcinus*), *Kogia* spp., Longman's beaked whale (*Indopacetus pacificus*), melon-headed whale (*Peponocephala electra*), *Mesoplodon* spp., Northern right whale dolphin (*Lissodelphis borealis*), Pacific white- sided dolphin (*Lagenorhynchus obliquidens*), pantropical spotted dolphin (*Stenella attenuata*), pygmy killer whale (*Feresa attenuata*), pygmy sperm whales (*K. breviceps*), Risso's dolphin (*Grampus griseus*), rough-toothed dolphin (*Steno bredanensis*), short-beaked common dolphin (*Delphinus delphis*), short-finned pilot whale (*Globicephala macrorhynchus*), southern bottlenose whale (*Hyperodon planifrons*), sperm whale (*Physeter macrocephalus*), spinner dolphin (*Stenella longirostris*), Stejneger's beaked whale (*Mesoplodon stejnegeri*), and striped dolphin (*Stenella coeruleoalba*).

   (c) **Pinnipeds**: Hawaiian monk seal (*Monachus shauinslandi*), northern fur seal (*Callorhinus ursinus*), ribbon seal (*Histriophoca fasciata*), spotted seal (*Phoca largha*), and Steller sea lion (*Eumetopia jubatus*).

6. The taking of marine mammals by the Holder of this Authorization is limited to the incidental taking of marine mammal species identified in Condition 5 by Level A and Level B harassment (as defined in the MMPA and 50 CFR § 216.3) within those areas authorized under Condition 4. The take, by Level B harassment, that occurs during the year covered by this Authorization may not exceed 12 percent of any marine mammal stock listed in Condition 5 (see Condition 8j and Tables 2 – 12of Attachment 2). The take by Level A harassment may not exceed the numbers specified for each category in Table 1 of Attachment 2 for the total effective period of the regulations at 50 CFR Part 218, Subpart X.

7. Taking of marine mammal species not listed under Condition 5 by harassment, injury, or mortality or the taking by mortality of any marine mammal species listed under Condition 5 is prohibited.

MITIGATION

8. The Holder of this Authorization, and any individuals operating under his authority, must conduct the activity identified in 50 CFR § 218.230 and Condition 3 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 uses.

   When conducting operations identified in 50 CFR § 218.230, the following mitigation measures must be implemented:

   (a) The Holder of this Authorization, and any individuals operating under his authority, must not transmit the SURTASS LFA sonar signal at a frequency greater than 500 Hz.

   (b) Through mitigation described under 50 CFR § 218.234 and Condition 9 (Mitigation Monitoring) 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.

   (c) **LFA Sonar Mitigation Zone**: Prior to commencing and during SURTASS LFA sonar transmissions, the Holder of this Authorization will use near real-time environmental data and underwater acoustic prediction models to determine the propagation of the SURTASS LFA sonar signals in the mission area. The Holder of this Authorization must determine the distance from the SURTASS LFA sonar source to the 180-dB re: 1 μPa (rms) isopleth (*i.e.*, the LFA sonar mitigation zone) to comply with Condition 8(b).

      (i) The Holder of this Authorization will update these sound field estimates every 12 hours or more frequently depending upon changing meteorological or oceanographic conditions.

   (d) **Additional 1-Kilometer (km) Buffer Zone**: The Holder of this Authorization will establish a 1-km buffer zone around the LFA sonar mitigation zone.

   (e) **Ramp-Up Procedures for the HF/M3 System**: The Holder of this Authorization and any individuals operating under his authority, will ramp up the High Frequency / Marine Mammal Monitoring (HF/M3) active sonar referenced in 50 CFR § 218.234 from a power level beginning at a maximum source sound pressure level of 180 dB re: 1 μPa @ 1 m (rms) in 10-dB increments to operating levels over a period of no less than five minutes:

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

      (ii) Prior to any SURTASS LFA sonar calibrations or testing that are not part of regular SURTASS LFA sonar transmissions described in 50 CFR § 218.230; and

      (iii) Anytime after individuals have powered down the HF/M3 active sonar source for more than two minutes.

      Once HF/M3 operators detect a marine mammal, they will not increase the HF/M3 active sonar system's sound pressure level. Resumption of the ramp-up of HF/M3 sonar system would not occur until marine mammals are no longer detected by the

HF/M3 active sonar system, passive acoustic monitoring, or visual monitoring described in Condition 9.

(f) **Suspension/Delay for SURTASS LFA Sonar Transmissions**: If the Holder of this Authorization, and any individuals operating under his authority, detects a marine mammal through monitoring required under 50 CFR § 218.235 and Condition 9 within either the LFA sonar mitigation zone or the 1-km buffer zone, the Holder of this Authorization will immediately suspend or delay SURTASS LFA sonar transmissions.

(g) **Resumption of SURTASS LFA Sonar Transmissions**: The Holder of this Authorization and any individuals operating under his authority may resume/commence SURTASS LFA sonar transmissions 15 minutes after:

(i) All marine mammals have left the area of the LFA sonar mitigation zone and the 1-km buffer zone; and/or

(ii) There is no further detection of any marine mammal within the LFA sonar mitigation zone plus the 1-km buffer zone as determined by the passive or active acoustic or visual monitoring protocols described in 50 CFR § 218.235 and Condition 9.

(h) **Geographic Restrictions**: The Holder of this Authorization and any individuals operating under his authority will not operate SURTASS LFA sonar such that the SURTASS LFA sonar sound field exceeds 180 dB re: 1 μPa (rms):

(i) At a distance of less than or equal to 22 km (14 miles (mi); 12 nautical miles (nmi)) from any coastline, including offshore islands.

(ii) At a distance of less than 1 km (0.62 mi; 0.54 nmi) seaward of the outer perimeter of any Offshore Biologically Important Area (OBIA) for marine mammals designated in 50 CFR § 218.234(f)(2) and described in Condition 8(h)(iii) during the period specified.

(iii) The OBIAs for marine mammals (with specified periods of effectiveness) for SURTASS LFA sonar routine training, testing, and military operations are:

OBIA	**Period of Effectiveness**
Georges Bank	Year-round
Roseway Basin Right Whale Conservation Area	June through December, annually
Great South Channel, U.S. Gulf of Maine, and Stellwagen Bank National Marine Sanctuary (NMS)	January 1 to November 14, annually
Southeastern U.S. Right Whale Seasonal Habitat	November 15 to April 15, annually
North Pacific Right Whale Critical Habitat	March through August, annually
Silver Bank and Navidad Bank	December through April, annually
Coastal waters of Gabon, Congo, and Equatorial Guinea	June through October, annually
Patagonian Shelf Break	Year-round

Southern Right Whale Seasonal Habitat	May through December, annually
Central California NMSs	June through November, annually
Antarctic Convergence Zone	October through March, annually
Piltun and Chayvo offshore feeding grounds in the Sea of Okhotsk	June through November, annually
Coastal waters off Madagascar	July through September, annually for humpback whale breeding and November through December, annually for migrating blue whales.
Madagascar Plateau, Madagascar Ridge, and Walters Shoal	November through December, annually
Ligurian-Corsican-Provencal Basin and Western Pelagos Sanctuary in the Mediterranean Sea	July to August, annually
Hawaiian Islands Humpback Whale NMS and Penguin Bank	November through April, annually
Costa Rica Dome	Year-round
Great Barrier Reef Between 16° S and 21° S	May through September, annually
Bonney Upwelling on the southern coast of Australia	December through May, annually
Northern Bay of Bengal and Head of Swatch-of-No-Ground	Year-round
Olympic Coast NMS and Prairie, Barkley Canyon, and Nitnat Canyon	Olympic NMS: December, January, March, and May, annually The Prairie, Barkley Canyon, and Nitnat Canyon: June through September, annually
Abrolhos Bank	August through November

Note: See § 218.234(f)(2) and Attachment 1 for geographic coordinate information.

(i) **Operational Exception for SURTASS LFA Sound Field in OBIAs**: During military operations, SURTASS LFA sonar transmissions may exceed 180 dB re: 1 μPa (rms) within the boundaries of an OBIA, including operating within an OBIA, when the Holder of this Authorization determines that it is: 1) operationally necessary to continue tracking an existing underwater contact; or 2) operationally necessary to detect a new underwater contact within the OBIA. This exception does not apply to routine training and testing with the SURTASS LFA sonar systems.

(j) **Mission Planning**: The Holder of this Authorization must maintain a running calculation/estimation of takes of each species and stocks over the effective period of these regulations. The Holder of this Authorization will plan all SURTASS LFA sonar missions to ensure that no more than 12 percent of any marine mammal stock listed in 50 CFR § 218.230(b)(1) through (3) would be taken by Level B harassment annually. This annual per-stock cap of 12 percent applies regardless of the number of SURTASS LFA sonar vessels operating. The Holder of this Authorization must coordinate with the Holders of the Authorizations issued to the USNS ABLE, USNS EFFECTIVE, and the USNS VICTORIOUS, to ensure that this condition is met for all vessels combined.

MITIGATION MONITORING

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

   (a) Perform the following for visual mitigation monitoring:

      (i) Marine mammal biologists qualified in conducting at-sea marine mammal visual monitoring from surface vessels will train and qualify designated ship personnel as lookouts to conduct at-sea visual monitoring.

      (ii) Marine mammal biologists will train the lookouts in the most effective means to ensure quick and effective communication within the ship's command structure to facilitate implementation of protective measures if they observe marine mammals.

      (iii) Conduct visual monitoring from the ship's bridge during daylight hours (30 minutes before sunrise until 30 minutes after sunset) during operations that employ SURTASS LFA sonar in the active mode. Maintain a topside watch with standard binoculars (7x) and with the naked eye.

   (b) Perform the following for passive acoustic mitigation monitoring:

      (i) Use the low frequency, passive SURTASS sonar system to listen for vocalizing marine mammals.

   (c) Perform the following for active acoustic mitigation monitoring:

      (i) Use the HF/M3 active 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, subject to the ramp-up requirements in § 218.234(e) and Condition 8(e).

10. Mitigation monitoring under Conditions 9(a), (b), and (c) must:

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

   (b) Continue between sonar transmissions (pings); and

   (c) Continue either at least 15 minutes after completion of SURTASS LFA sonar transmission operations (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.

MONITORING

11. The Holder of this Authorization and any individuals operating under his authority for activities described in 50 CFR § 218.230 must:

   (a) Cooperate with NMFS and any other federal agency for monitoring the impacts of the activity on marine mammals; and

   (b) Designate qualified on-site individuals to conduct the mitigation, monitoring, and

reporting activities specified in this Letter of Authorization.

12. The Holder of this Authorization and any individuals operating under his authority will conduct all monitoring required under the Letter of Authorization to increase knowledge of the affected marine mammal species. The Holder of this Authorization must:

    (a) Consider recommendations on the different types of monitoring/research that could increase the understanding of the potential effects of SURTASS LFA sonar transmissions on beaked whales and/or harbor porpoises.

    (b) Continue to assess data from the Navy Marine Mammal Monitoring (M3) program and work toward making some portion of that data, after appropriate security reviews, available to scientists with appropriate clearances. Any portions of the analyses conducted by these scientists based on these data that are determined to be unclassified after appropriate security reviews should be made publicly available.

    (c) Continue to explore the feasibility of coordinating with other Navy fleet assets and/or range monitoring programs to include the use of SURTASS passive sonar (towed horizontal line array) to augment the collection of marine mammal vocalizations before, during, and after designated exercises.

    (d) Continue to collect ambient noise data and explore the feasibility of declassifying and archiving the ambient noise data for incorporation into appropriate ocean noise research efforts.

REPORTING

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

    (a) Draft a plan of action outlining a strategy for implementing recommendations on beaked whales and/or harbor porpoise research; or describe in writing why such research is not feasible/or is unlikely to increase the understanding of the potential effects of SURTASS LFA sonar transmissions on beaked whales and/or harbor porpoises, to be followed by a meeting with NMFS to discuss any other potential options.

    (b) Provide a status update to NMFS when the Holder of this Authorization submits the next annual application for Authorizations on efforts to assess the data collected by the Marine Mammal Monitoring (M3) program and progress toward making some portion of that data, after appropriate security reviews, available to scientists with appropriate clearances.

    (c) Systematically observe SURTASS LFA sonar operations for injured or disabled marine mammals and monitor the principal marine mammal stranding networks and other media to correlate analysis of any whale strandings that could potentially be associated with SURTASS LFA sonar operations. The Holder of this Authorization and any individuals operating under his authority shall:

        (i) Ensure that NMFS is notified immediately, or as soon as clearance procedures allow, if an injured, stranded, or dead marine mammal is observed during or shortly after and in the vicinity of any SURTASS LFA sonar operations. The Holder of this Authorization will report the incident to the Chief, Permits and

Conservation Division, Office of Protected Resources, NMFS, at 301-427-8401 and/or by email to Jolie.Harrison@noaa.gov and Dale.Youngkin@noaa.gov.

(ii) Provide NMFS with species or description of the animal(s), the condition of the animal(s) (including carcass condition if the animal is dead), location, time of first discovery, observed behaviors (if alive), and photo or video (if available).

(iii) In the event that an injured, stranded, or dead marine mammal is observed by the Holder of this Authorization and any individuals operating under his authority not in conjunction with SURTASS LFA sonar operations, the Holder of this Authorization and any individuals operating under his authority, will report the same information to NMFS as listed above as soon as operationally feasible and clearance procedures allow.

(d) In the event of a ship strike by the SURTASS LFA sonar vessel, at any time or place, the Holder of this Authorization and any individuals operating under his authority, must:

(i) Immediately, or as soon as clearance procedures allow, report to NMFS the species identification (if known), the size and length of the animal, location (lat/long) of the animal (or the strike if the animal has disappeared), whether the animal is alive or dead (or unknown), including an estimate of its injury status if alive (injured but alive, injured and moving, unknown, etc.).

(ii) Report the incident to the Chief, Permits and Conservation Division, Office of Protected Resources, NMFS, at 301-427-8401 and/or by email to Jolie.Harrison@noaa.gov and Dale.Youngkin@noaa.gov.

(iii) Report as soon as feasible to the NMFS the vessel's name, class/type, and length, as well as operational status, speed and vessel heading.

(iv) Provide NMFS a photo or video of the struck animal, if equipment is available.

(e) Submit classified and unclassified quarterly mission reports to the Director, Office of Protected Resources, NMFS no later than 30 days after the end of each quarter, beginning on the date of effectiveness of a Letter of Authorization. Each quarterly mission report will include summaries of all active-mode sonar missions completed during that quarter. At a minimum, each classified mission report must contain the following information:

(i) Dates, times, and location of each vessel during each mission.

(ii) Information on sonar transmissions during each mission and records of any delays or suspensions.

(iii) Location of the SURTASS LFA sonar mitigation and buffer zones in relation to the LFA sonar array.

(iv) Marine mammal observations including 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).

(v) 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 Authorization) by SURTASS LFA sonar operations (both within and outside the LFA sonar mitigation and buffer zones), using predictive modeling based on mission locations, dates/times of operations, system characteristics, LFA sonar transmission durations, oceanographic environmental conditions, and animal demographics.

(vi) If no SURTASS LFA sonar missions are completed during a quarter, a report of negative activity will be provided.

(f) Submit an annual, unclassified report to the Director, Office of Protected Resources, NMFS, no later than 45 days after expiration of this Authorization. At a minimum, the annual report will contain the following:

(i) An unclassified summary of the year's quarterly reports.

(ii) The Navy's estimates of the percentages of marine mammal stocks affected by SURTASS LFA sonar operations (both within and outside the LFA sonar mitigation and buffer zones), using predictive modeling based on mission locations, dates/times of operations, system characteristics, LFA sonar transmission durations, oceanographic environmental conditions, and animal demographics.

(iii) An analysis of the effectiveness of the mitigation measures with recommendations for improvements, where applicable.

(iv) An assessment of any long-term effects from SURTASS LFA sonar operations.

(v) Any discernible or estimated cumulative impacts from SURTASS LFA sonar operations.

14. The Holder of this Authorization must comply with the Terms and Conditions of the Incidental Take Statement corresponding to the Endangered Species Act Biological Opinion issued to the Navy and the National Marine Fisheries Service's Office of Protected Resources, Permits and Conservation Division.

15. A copy of this Authorization must be in the possession of the Officer in Charge of the Military Crew (MILCREW) onboard the USNS IMPECCABLE to conduct the activity under the authority of this Letter of Authorization and Incidental Take Statement.

For _____ 8/12/16

Donna S. Wieting, Director
Office of Protected Resources
National Marine Fisheries Service

Date

Attachment 1 – Table 1. OBIA Coordinates and Periods of Effectiveness.

Name of Area	Location of Area	Months of Importance/ Periods of Effectiveness
Georges Bank	40°00'N, 72°30'W 39°37 N, 72°09'W 39°54'N, 71°43'W 40°02 N, 71°20'W 40°08'N, 71°01'W 40°04'N, 70°44'W 40°00'N, 69°24'W 40°16'N, 68°27'W 40°34'N, 67°13'W 41°00'N, 66°24'W 41°52'N, 65°47'W 42°20'N, 66°06'W 42°18'N, 67°23'W	Year-round
Roseway Basin Right Whale Conservation Area	43°05'N, 65°40'W 43°05'N, 65°03'W 42°45'N, 65°40'W 42°45'N, 65°03'W	June through December, annually
Great South Channel, U.S. Gulf of Maine, and Stellwagen Bank National Marine Sanctuary (NMS)	41°00.000'N, 69°05.000'W 42°09.000'N, 67°08.400'W 42°53.436'N, 67°43.873'W 44°12.541'N, 67°16.847'W 44°14.911'N, 67°08.936'W 44°21.538'N, 67°03.663'W 44°26.736'N, 67°09.596'W 44°16.805'N, 67°27.394'W 44°11.118'N, 67°56.398'W 43°59.240'N, 68°08.263'W 43°36.800'N, 68°46.496'W 43°33.925'N, 69°19.455'W 43°32.008'N, 69°44.504'W 43°21.922'N, 70°06.257'W 43°04.084'N, 70°21.418'W 42°51.982'N, 70°31.965'W 42°45.187'N, 70°23.396'W 42°39.068'N, 70°30.188'W 42°32.892'N, 70°35.873'W 42°07.748'N, 70°28.257'W 42°05.592'N, 70°02.136'W 42°03.664'N, 69°44.000'W 41°40.000'N, 69°45.000'W	January 1 to November 14, annually
Southeastern U.S. Right Whale Seasonal Habitat	Critical Habitat Boundaries are coastal waters between 31°15' N and 30°15'N from the coast out 15 nautical miles (nmi); and the coastal waters between 30°15' N and 28°00"N from the coast out 5 nmi (50 CFR §226.13(c)). OBIA Boundaries are coastal waters between 31°15"N and 30°15"N from 12 to 15 nmi.	November 15 to April 15, annually
North Pacific Right Whale Critical Habitat	57°03'N, 153°00'W 57°18'N, 151°30'W 57°00'N, 151°30'W 56°45'N, 153°00'W (50 CFR §226.215)	March through August, annually

Name of Area	Location of Area	Months of Importance/ Periods of Effectiveness
Silver Bank and Navidad Bank	Silver Bank: 20° 38.899'N, 69° 23.640'W 20° 55.706'N, 69° 57.984'W 20° 25.221'N, 70° 00.387'W 20° 12.833'N, 69° 40.604'W 20° 13.918'N, 69° 31.518'W 20° 28.680'N, 69° 31.900'W Navidad Bank: 20° 15.596'N, 68° 47.967'W 20° 11.971'N, 68° 54.810'W 19° 52.514'N, 69° 00.443'W 19° 54.957'N, 68° 51.430'W 19° 51.513'N, 68° 41.399'W	December through April, annually
Coastal waters of Gabon, Congo and Equatorial Guinea	An exclusion zone following the 500-m isobath extending from 3°31.055'N, 9°12.226'E in the north offshore of Malabo southward to 8°57.470'S, 12°55.873'E offshore of Luanda.	June through October, annually
Patagonian Shelf Break	Between 200- and 2,000-m isobaths and the following latitudes: 35°00'S, 39°00'S, 40°40'S, 42°30'S, 46°00'S, 48°50'S.	Year-round
Southern Right Whale Seasonal Habitat	Coastal waters between 42°00'S and 43°00'S from 12 to 15 nmi including the enclosed bays of Golfo Nuevo, Golfo San Jose, and San Matias. Golfos San Jose and San Nuevo are within 22 km (14 mi; 12 nmi) coastal exclusion zone.	May through December, annually
Central California National Marine Sanctuaries	Single stratum boundary created from the Cordell Bank (15 CFR 922.10), Gulf of the Farallones (15 CFR 922.80), and Monterey Bay (15 CFR 922.30) NMS legal boundaries. Monterey Bay NMS includes the Davidson Seamount Management Zone.	June through November, annually
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, annually

Name of Area	Location of Area	Months of Importance/ Periods of Effectiveness
Piltun and Chayvo offshore feeding grounds in the Sea of Okhotsk	54°09.436'N, 143°47.408'E 54°09.436'N, 143°17.354'E 54°01.161'N, 143°17.354'E 53°53.580'N, 143°13.398'E 53°26.963'N, 143°28.230'E 53°07.013'N, 143°35.481'E 52°48.705'N, 143°38.447'E 52°32.077'N, 143°37.788'E 52°21.605'N, 143°34.163'E 52°09.470'N, 143°26.582'E 51°57.686'N, 143°30.208'E 51°36.033'N, 143°42.794'E 51°08.082'N, 143°51.301'E 51°08.082'N, 144°16.742'E 51°24.514'N, 144°11.139'E 51°48.116'N, 144°10.809'E 52°03.194'N, 144°20.363'E 52°23.235'N, 144°10.150'E 52°28.674'N, 144°12.787'E 52°42.523'N, 144°10.150'E 53°12.972'N, 143°55.648'E 53°18.505'N, 143°56.637'E 53°23.041'N, 143°53.011'E 53°28.250'N, 143°53.341'E 53°44.039'N, 143°49.056'E 53°53.207'N, 143°50.045'E 53°59.819'N, 143°48.067'E	June through November, annually
Coastal waters off Madagascar	16°03'55.04"S, 50°27'12.59"E 16°12'23.03"S, 51°03'37.38"E 24°30'45.06"S, 48°26'00.94"E 24°15'28.07"S, 47°46'51.16"E 22°18'00.74"S, 48°14'13.52"E 20°52'24.12"S, 48°43'13.49"E 19°22'33.24"S, 49°15'45.47"E 18°29'46.08"S, 49°37'32.25"E 17°38'27.89"S, 49°44'27.17"E 17°24'39.12"S, 49°39'17.03"E 17°19'35.34"S, 49°54'23.82"E 16°45'41.71"S, 50°15'56.35"E	July through September, annually for humpback whale breeding and November through December, annually for migrating blue whales.
Madagascar Plateau, Madagascar Ridge, and Walters Shoal	25°55'20.00"S, 44°05'15.45"E 25°46'31.36"S, 47°22'35.90"E 27°02'37.71"S, 48°03'31.08"E 35°13'51.37"S, 46°26'19.98"E 35°14'28.59"S, 42°35'49.20"E 31°36'57.96"S, 42°37'49.35"E 27°41'11.21"S, 44°30'11.01"E	November through December, annually

Name of Area	Location of Area	Months of Importance/ Periods of Effectiveness
Ligurian-Corsican-Provencal Basin and Western Pelagos Sanctuary in the Mediterranean Sea	42°50.271'N, 06°31.883'E 42°55.603'N, 06°43.418'E 43°04.374'N, 06°52.165'E 43°12.600'N, 07°10.440'E 43°21.720'N, 07°19.380'E 43°30.600'N, 07°32.220'E 43°33.900'N, 07°49.920'E 43°36.420'N, 08°05.580'E 43°42.600'N, 08°22.140'E 43°50.880'N, 08°34.500'E 43°58.560'N, 08°47.700'E 43°59.040'N, 08°56.040'E 43°57.047'N, 09°03.540'E 43°52.260'N, 09°08.520'E 43°47.580'N, 09°13.500'E 43°36.060'N, 09°16.620'E 43°28.440'N, 09°05.820'E 43°21.360'N, 09°02.100'E 43°16.020'N, 08°57.240'E 43°04.440'N, 08°47.580'E 42°54.900'N, 08°35.400'E 42°45.900'N, 08°27.540'E 42°36.060'N, 08°22.020'E 42°22.620'N, 08°15.849'E 42°07.202'N, 08°17.174'E 41°52.800'N, 08°15.720'E 41°39.780'N, 08°05.280'E 41°28.200'N, 08°51.600'E 42°57.060'N, 06°19.860'E	July to August, annually
Hawaiian Islands Humpback Whale NMS and Penguin Bank	21°10'02.179"N, 157°30'58.217"W 21°09'46.815"N, 157°30'22.367"W 21°06'39.882"N, 157°31'00.778"W 21°02'51.976"N, 157°30'30.049"W 20°59'52.725"N, 157°29'28.591"W 20°58'05.174"N, 157°27'35.919"W 20°55'49.456"N, 157°30'58.217"W 20°50'44.729"N, 157°42'42.418"W 20°51'02.654"N, 157°44'45.333"W 20°53'56.784"N, 157°46'04.716"W 20°56'32.988"N, 157°45'33.987"W 21°01'27.472"N, 157°43'10.586"W 21°05'20.499"N, 157°39'27.802"W 21°10'02.179"N, 157°30'58.217"W	November through April, annually
Costa Rica Dome	Centered at 9°N and 88°W	Year-round

Name of Area	Location of Area	Months of Importance/ Periods of Effectiveness
Great Barrier Reef Between 16° S and 21° S	16°01.829'S, 145°38.783'E 15°52.215'S, 146°20.936'E 17°28.354'S, 146°59.392'E 20°16.228'S, 151°39.674'E 20°58.381'S, 150°30.897'E 20°17.007'S, 149°38.247'E 20°10.941'S, 149°18.247'E 20°02.403'S, 149°12.623'E 19°53.287'S, 149°03.986'E 19°49.866'S, 148°52.135'E 19°53.287'S, 148°44.302'E 19°47.965'S, 148°36.870'E 19°47.205'S, 148°26.024'E 19°19.978'S, 147°39.626'E 19°14.065'S, 147°37.014'E 19°08.913'S, 147°31.993'E 19°05.667'S, 147°24.160'E 19°07.576'S, 147°18.134'E 18°51.718'S, 146°51.219'E 18°44.258'S, 146°54.031'E 18°37.175'S, 146°51.420'E 18°31.620'S, 146°43.385'E 18°27.595'S, 146°40.573'E 17°36.676'S, 146°20.488'E 17°20.484'S, 146°16.671'E 17°07.745'S, 146°13.056'E 16°49.769'S, 146°11.047'E 16°41.835'S, 146°03.817'E 16°39.706'S, 145°54.979'E	May through September, annually
Bonney Upwelling on the west coast of Australia	37°12'20.036"S, 139°31'17.703"E 37°37'33.815"S, 139°42'42.508"E 38°10'36.144"S, 140°22'57.345"E 38°44'50.558"S, 141°33'50.342"E 39°07'04.125"S, 141°11'00.733"E 37°28'33.179"S, 139°10'52.263"E	December through May, annually
Northern Bay of Bengal and Head of Swatch-of-No-Ground	20°59.735'N, 89°07.675'E 20°55.494'N, 89°09.484'E 20°52.883'N, 89°12.704'E 20°55.275'N, 89°18.133'E 21°04.558'N, 89°25.294'E 21°12.655'N, 89°25.354'E 21°13.279'N, 89°16.833'E 21°06.347'N, 89°15.011'E	Year-round
Olympic Coast NMS and Prairie, Barkley Canyon, and Nitnat Canyon	Boundaries within 23 nmi (26.5 m; 42.6 km) of the coast from 47°07′ N to 48°30′ N latitude 48°30'01.995"N, 125°58'38.786"W 48°16'55.605"N, 125°38'52.052"W 48°23'07.353"N, 125°17'10.935"W 48°12'38.241"N, 125°16'42.339"W 47°58'20.361"N, 125°31'14.517"W 47°58'20.361"N, 126°06'16.322"W 48°09'46.665"N, 126°25'48.758"W	Olympic NMS: December, January, March, and May, annually The Prairie, Barkley Canyon, and Nitnat Canyon: June through September, annually

Name of Area	Location of Area	Months of Importance/ Periods of Effectiveness
Abrolhos Bank	16°35'34.909"S, 38°52'30.455"W 16°35'31.619"S, 38°43'41.069"W 16°40'00.131"S, 37°23'52.492"W 19°30'59.069"S, 37°23'52.446"W 19°30'59.974"S, 39°33'38.351"W 19°20'24.752"S, 39°30'33.03"W 18°52'16.884"S, 39°32'31.789"W 18°45'09.937"S, 39°32'27.709"W 18°30'59.345"S, 39°30'59.669"W 18°27'28.985"S, 39°30'13.453"W 18°17'30.429"S, 39°26'21.073"W 18°07'43.518"S, 39°19'52.924"W 18°09'24.931"S, 39°16'24.913"W 18°10'04.585"S, 39°12'30.425"W 18°10'20.682"S, 38°39'06.185"W 18°08'50.404"S, 38°35'00.059"W 18°06'05.466"S, 38°31'41.385"W 18°02'09.399"S, 38°29'26.179"W 17°58'01.372"S, 38°28'45.409"W 17°53'58.883"S, 38°29'34.612"W 16°48'58.768"S, 38°55'23.768"W 16°43'15.682"S, 38°53'40.007"W	August through November, annually

Attachment 2 – Authorized Take Estimates by Mission Area

The Holder of this Authorization must maintain a running calculation/estimation of takes of each species/stock over the effective period of this Authorization. The take, by Level B harassment, that occurs during the year covered by this Authorization may not exceed 12 percent of any marine mammal stock listed in the following tables.

The Holder of this Authorization must also coordinate with the Holders of the Authorizations issued to the USNS ABLE, the USNS EFFECTIVE, and the USNS VICTORIOUS, to ensure that these conditions are met for all vessels combined.

Table 1. Number of cetaceans and pinnipeds authorized to be taken by Level A harassment for all SURTASS LFA sonar operations over the 5-year rulemaking period.

Category	Requested Take Authorization Level A harassment
Mysticetes	No more than 6 over the course of the regulations.
Odontocetes	No more than 25 over the course of the regulations.
Pinnipeds	No more than 25 over the course of the regulations.

Tables 2-12. Number of marine mammals estimated to be taken by Level B harassment for all SURTASS LFA sonar operations during the annual LOA effective period in each of the Navy's requested mission areas.

The number of marine mammals authorized to be taken is based on the estimated percentage of the species' stock affected by a nominal number of SURTASS LFA sonar missions per mission area.

Table 2. Mission Area 1 - East of Japan

Animal	Estimated Number of Animals Estimated Take by Level B Harassment
Blue whale	2
Bryde's whale	17
Common minke whale	63
Fin whale	3
Humpback whale	6
North Pacific right whale	1
Sei whale	17
Baird's beaked whale	47
Common bottlenose dolphin	237
Cuvier's beaked whale	65
False killer whale	60
Ginkgo-toothed beaked whale	11
Harbor porpoise	338
Hubbs' beaked whale	11
Killer whale	2
Kogia spp.	67
Pacific white-sided dolphin	74
Pantropical spotted dolphin	117
Pygmy killer whale	35
Risso's dolphin	207
Rough-toothed dolphin	118
Short-beaked common dolphin	1,617
Short-finned pilot whale	210
Sperm whale	20
Spinner dolphin	4

Stejneger's beaked whale	11
Striped dolphin	84

Table 3. Mission Area 2 – North Philippine Sea	
Animal	**Estimated Number of Animals Estimated Take by Level B Harassment**
Blue whale	2
Bryde's whale	46
Common minke whale	321
Fin whale	11
Humpback whale	45
North Pacific right whale	2
Blainville's beaked whale	22
Common bottlenose dolphin	662
Cuvier's beaked whale	221
False killer whale	135
Fraser's dolphin	305
Ginkgo-toothed beaked whale	22
Killer whale	6
Kogia spp.	146
Long-beaked common dolphin	4,962
Longman's beaked whale	11
Melon-headed whale	198
Pacific white-sided dolphin	358
Pantropical spotted dolphin	569
Pygmy killer whale	98
Risso's dolphin	491
Rough-toothed dolphin	274
Short-beaked common dolphin	2,409
Short-finned pilot whale	692
Sperm whale	48
Spinner dolphin	36
Striped dolphin	1,366

Table 4. Mission Area 3 – West Philippine Sea	
Animal	**Estimated Number of Animals Estimated Take by Level B Harassment**
Blue whale	3
Bryde's whale	44
Common minke whale	234
Fin whale	11
Humpback whale	67
Blainville's beaked whale	20
Common bottlenose dolphin	652
Cuvier's beaked whale	12
Deraniyagala's beaked whale	20
False killer whale	131
Fraser's dolphin	293
Ginkgo-toothed beaked whale	20
Killer whale	6
Kogia spp.	83
Long-beaked common dolphin	4,559

Longman's beaked whale	11
Melon-headed whale	193
Omura's whale	6
Pantropical spotted dolphin	498
Pygmy killer whale	95
Risso's dolphin	504
Rough-toothed dolphin	269
Short-finned pilot whale	329
Sperm whale	46
Spinner dolphin	31
Striped dolphin	597

Table 5. Mission Area 4 - Offshore Guam	
Animal	**Estimated Number of Animals Estimated Take by Level B Harassment**
Blue whale	2
Bryde's whale	12
Common minke whale	5
Fin whale	2
Humpback whale	11
Sei whale	6
Blainville's beaked whale	39
Common bottlenose dolphin	53
Cuvier's beaked whale	31
Deraniyagala beaked whale	37
Dwarf sperm whale	226
False killer whale	25
Fraser's dolphin	167
Ginkgo-toothed beaked whale	37
Killer whale	5
Longman's beaked whale	73
Melon-headed whale	96
Omura's whale	3
Pantropical spotted dolphin	289
Pygmy killer whale	5
Pygmy sperm whale	93
Risso's dolphin	100
Rough-toothed dolphin	82
Short-finned pilot whale	122
Sperm whale	36
Spinner dolphin	11
Striped dolphin	80

Table 6. Mission Area 5 - Sea of Japan	
Animal	**Estimated Number of Animals Estimated Take by Level B Harassment**
Bryde's whale	3
Common minke whale	8
Fin whale	31
North Pacific right whale	-
Western North Pacific gray whale	1

Baird's beaked whale	6
Common bottlenose dolphin	9
Cuvier's beaked whale	54
Dall's porpoise	597
False killer whale	33
Harbor porpoise	63
Killer whale	2
Kogia spp.	21
Long-beaked common dolphin	1,531
Omura's whale	1
Pacific white-sided dolphin	-
Risso's dolphin	84
Rough-toothed dolphin	30
Short-beaked common dolphin	1,137
Short-finned pilot whale	19
Sperm whale	31
Spinner dolphin	5
Stejneger's beaked whale	9
Striped dolphin	31
Spotted seal	1

Table 7. Mission Area 6 - East China Sea

Animal	Estimated Number of Animals Estimated Take by Level B Harassment
Bryde's whale	8
Common minke whale	92
Fin whale	4
North Pacific right whale	1
Western North Pacific gray whale	1
Omura's whale	1
Blainville's beaked whale	8
Common bottlenose dolphin	32
Cuvier's beaked whale	5
False killer whale	19
Fraser's dolphin	133
Ginkgo-toothed beaked whale	8
Killer whale	2
Kogia spp.	29
Long-beaked common dolphin	1,749
Longman's beaked whale	4
Melon-headed whale	72
Pacific white-sided dolphin	39
Pantropical spotted dolphin	198
Pygmy killer whale	3
Risso's dolphin	176
Rough-toothed dolphin	45
Short-beaked common dolphin	697
Short-finned pilot whale	25
Sperm whale	15
Spinner dolphin	12
Striped dolphin	84
Spotted seal	1

Table 8. Mission Area 7 - South China Sea	
Animal	**Estimated Number of Animals Estimated Take by Level B Harassment**
Bryde's whale	10
Common minke whale	53
Fin whale	4
Humpback whale	6
North Pacific right whale	1
Western North Pacific gray whale	1
Omura's whale	1
Blainville's beaked whale	5
Common bottlenose dolphin	7
Cuvier's beaked whale	3
Deraniyagala beaked whale	5
False killer whale	11
Fraser's dolphin	60
Ginkgo-toothed beaked whale	5
Killer whale	1
Kogia spp.	21
Long-beaked common dolphin	1,135
Longman's beaked whale	3
Melon-headed whale	39
Pantropical spotted dolphin	74
Pygmy killer whale	2
Risso's dolphin	116
Rough-toothed dolphin	14
Short-finned pilot whale	14
Sperm whale	11
Spinner dolphin	5
Striped dolphin	32

Table 9. Mission Area 8 - Offshore Japan (25-40° N)	
Animal	**Estimated Number of Animals Estimated Take by Level B Harassment**
Blue whale	1
Bryde's whale	9
Common minke whale	2
Fin whale	1
Humpback whale	2
Sei whale	7
Baird's beaked whale	2
Blainville's beaked whale	12
Common bottlenose dolphin	9
Cuvier's beaked whale	60
Dwarf sperm whale	80
False killer whale	48
Hubbs' beaked whale	8
Killer whale	2
Longman's beaked whale	5
Melon-headed whale	36
Mesoplodon spp.	8
Pacific white-sided dolphin	13

Pantropical spotted dolphin	33
Pygmy killer whale	2
Pygmy sperm whale	34
Risso's dolphin	10
Rough-toothed dolphin	34
Short-beaked common dolphin	869
Short-finned pilot whale	23
Sperm whale	26
Spinner dolphin	6
Stejneger's beaked whales	8
Striped dolphin	17
Hawaiian monk seal	4
Northern fur seal	-

Table 10. Mission Area 9 - Offshore Japan (10-25° N)	
Animal	**Estimated Number of Animals Estimated Take by Level B Harassment**
Blue whale	1
Bryde's whale	8
Fin whale	1
Humpback whale	9
Sei whale	69
Omura's whale	1
Blainville's beaked whale	7
Common bottlenose dolphin	11
Cuvier's beaked whale	35
Deraniyagala beaked whale	9
Dwarf sperm whale	56
False killer whale	8
Fraser's dolphin	33
Ginkgo-toothed beaked whale	9
Killer whale	2
Longman's beaked whale	3
Melon-headed whale	36
Pantropical spotted dolphin	144
Pygmy killer whale	1
Pygmy sperm whale	23
Risso's dolphin	6
Rough-toothed dolphin	26
Short-finned pilot whale	27
Sperm whale	24
Spinner dolphin	24
Striped dolphin	74

Table 11. Mission Area 10 - Hawaii North	
Animal	**Estimated Number of Animals Estimated Take by Level B Harassment**
Blue whale	1
Bryde's whale	7
Common minke whale	6
Fin whale	1
Humpback whale	13
Sei whale	3
Blainville's beaked whale	12
Common bottlenose dolphin-Inshore Archipelago	30
Common bottlenose dolphin-Hawaii Pelagic	1
Common bottlenose dolphin-Kauai/Nihau	1
Common bottlenose dolphin-Oahu	1
Common bottlenose dolphin-4 Islands	1
Cuvier's beaked whale	10
Dwarf sperm whale	108
False killer whale-Hawaii Pelagic	9
False killer whale-Main Hawaiian Islands Insular	2
False killer whale-Northwestern Hawaiian Islands	3
Fraser's dolphin	115
Killer whale	1
Longman's beaked whale	23
Melon-headed whale-Northern Mariana Islands	1
Melon-headed whale-Kohala Resident	18
Pantropical spotted dolphin-Western North Pacific	61
Pantropical spotted dolphin- Hawaii Pelagic	4
Pantropical spotted dolphin- Hawaii Island	5
Pantropical spotted dolphin- Oahu	7
Pygmy killer whale	21
Pygmy sperm whale	10
Risso's dolphin	46
Rough-toothed dolphin	47
Short-finned pilot whale	72
Sperm whale	17
Spinner dolphin-Western North Pacific Stock	8
Spinner dolphin- Hawaii Pelagic	1
Spinner dolphin- Hawaii Island	12
Spinner dolphin- Oahu/4-Islands	1
Spinner dolphin- Kauai/Niihau	1
Spinner dolphin- Kure/Midway Atoll	1
Striped dolphin	76
Hawaiian monk seal	2

Table 12. Mission Area 11 - Hawaii South	
Animal	**Estimated Number of Animals Estimated Take by Level B Harassment**
Blue whale	1
Bryde's whale	5
Common minke whale	4
Fin whale	1
Humpback whale	14
Sei whale	2
Blainville's beaked whale	12
Common bottlenose dolphin-Inshore Archipelago	28
Common bottlenose dolphin-Hawaii Pelagic	1
Common bottlenose dolphin-Kauai/Nihau	1
Common bottlenose dolphin-Oahu	1
Common bottlenose dolphin-4-Islands	1
Cuvier's beaked whale	9
Deraniyagala beaked whale	11
Dwarf sperm whale	92
Ginkgo-toothed beaked whale	22
False killer whale-Hawaii Pelagic	8
False killer whale-Main Hawaiian Island Insular	1
Fraser's dolphin	86
Killer whale	1
Longman's beaked whale	22
Melon-headed whale-Mariana Islands	1
Melon-headed whale-Kohala Resident	15
Pantropical spotted dolphin-Western North Pacific	68
Pantropical spotted dolphin- Hawaii Pelagic	1
Pantropical spotted dolphin- Hawaii Island	1
Pantropical spotted dolphin- Oahu	1
Pygmy killer whale	18
Pygmy sperm whale	38
Risso's dolphin	36
Rough-toothed dolphin	31
Short-finned pilot whale	57
Sperm whale	15
Spinner dolphin-Western North Pacific	9
Spinner dolphin- Hawaii Pelagic	1
Spinner dolphin- Hawaii Island	1
Spinner dolphin- Oahu/4-Islands	1
Striped dolphin	85
Hawaiian monk seal	2

Table 13. Mission Area 12 – Arabian Sea	
Animal	**Estimated Number of Animals Estimated Take by Level B Harassment**
Blue whale	1
Bryde's whale	2
Common minke whale	24
Fin whale	2
Humpback whale	1

Blainville's beaked whale	5
Common bottlenose dolphin-Hawaiian Island	70
Cuvier's beaked whale	6
Deraniyagala beaked whale	6
False killer whale-Hawaiian Islands	1
Fraser's dolphin	4
Ginkgo-toothed beaked whale	6
Indo-Pacific bottlenose dolphin	1
Killer whale	16
Longman's beaked whale	22
Long-beaked common dolphin	1
Dwarf sperm whale	1
Melon-headed whale-Hawaiian Islands	15
Pantropical spotted dolphin-4-Islands	6
Pygmy killer whale	3
Pygmy sperm whale	1
Risso's dolphin	163
Rough-toothed dolphin	2
Short-finned pilot whale	43
Sperm whale	13
Spinner dolphin-Pearl and Hermes Reef	5
Striped dolphin	97

Table 14. Mission Area 13 – Andaman Sea

Animal	Estimated Number of Animals Estimated Take by Level B Harassment
Blue whale	1
Bryde's whale	5
Common minke whale	1
Fin whale	1
Omura's whale	5
Blainville's beaked whale	13
Common bottlenose dolphin-Hawaiian Islands	636
Cuvier's beaked whale	67
Deraniyagala beaked whale	13
Dwarf sperm whale	1
Ginkgo-toothed beaked whale	13
False killer whale-Northwestern Hawaiian Islands	3
Fraser's dolphin	25
Indo-Pacific bottlenose dolphin	7
Killer whale	24
Long-beaked common dolphin	2
Longman's beaked whale	60
Melon-headed whale-Hawaiian Islands	95
Pantropical spotted dolphin-4-Islands	49
Pygmy killer whale	13
Pygmy sperm whale	1
Risso's dolphin	1,183
Rough-toothed dolphin	10
Short-finned pilot whale	379
Sperm whale	12
Spinner dolphin-Pearl and Hermes reef	41
Striped dolphin	814

Table 15. Mission Area 14 – Northwest Australia	
Animal	**Estimated Number of Animals Estimated Take by Level B Harassment**
Blue whale	1
Bryde's whale	4
Common minke whale	207
Fin whale	13
Humpback whale	1
Omura's whale	4
Blainville's beaked whale	6
Common bottlenose dolphin-Hawaiian Islands	222
Cuvier's beaked whale	26
Dwarf sperm whale	1
False killer whale-Northwestern Hawaiian Islands	2
Fraser's dolphin	10
Killer whale	42
Longman's beaked whale	26
Melon-headed whale-Hawaiian Islands	39
Pantropical spotted dolphin-4-Islands	37
Pygmy killer whale	7
Risso's dolphin	496
Rough-toothed dolphin	5
Short-finned pilot whale	154
Southern bottlenose whale	7
Spade-toothed whale	6
Sperm whale	6
Spinner dolphin-Pearl and Hermes reef	29
Striped dolphin	590

Table 16. Mission Area 15 – Northeast of Japan	
Animal	**Estimated Number of Animals Estimated Take by Level B Harassment**
Fin whale - WNP	21
North Pacific right whale	2
Sei whale - NP	32
Western Pacific gray whale	1
Baird's whale	163
Dall's porpoise	2,539
Pacific white-sided dolphin	267
Short-beaked common dolphin	5,555
Sperm whale	72
Stejneger's beaked whale	19
Northern fur seal	641
Ribbon seal	1,808
Spotted seal	11,076
Steller sea lion	1

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 individuals operating under his authority (*i.e.*, Navy), are authorized to take marine mammals incidental to Navy operation of Surveillance Towed Array Sensor System Low Frequency Active (SURTASS LFA) sonar in accordance with 50 CFR Part 218, Subpart X– 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 15, 2016, through August 14, 2017.

2. This Authorization is valid only for the unintentional taking of the species of marine mammals identified in 50 CFR § 218.230(b) and Condition 5 of this Authorization governing the taking of these animals incidental to the activity specified in Condition 3. This authorization shall be valid only for takes consistent with the provisions in 50 CFR § 218.232 and the terms of this Authorization as specified herein.

3. This Authorization is valid only for activities associated with the routine training, testing, and military operations of SURTASS LFA sonar onboard the United States Naval Ship (USNS) VICTORIOUS (T-AGOS 19). The sound 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 of no more than 215 decibels (dB) re: 1 micro Pascal (μPa) at 1 meter (m) (root mean square (rms) and a maximum duty cycle of 20 percent.

4. This Authorization, combined with Authorizations for the USNS ABLE (T-AGOS 20), USNS EFFECTIVE (T-AGOS 21), and USNS IMPECCABLE (T-AGOS 23), is valid for an estimated total of 20 nominal active sonar missions among the four SURTASS LFA sonar vessels (or equivalent number of shorter missions but shall not exceed a total of 432 hours of sonar transmit time per vessel during the period of this Authorization's effectiveness) within the following areas:

   (a) Up to 16 nominal missions in the western North Pacific Ocean, which includes the following mission areas: east of Japan; the north Philippine Sea; the west Philippine Sea; offshore Guam; the Sea of Japan; the East China Sea; the South China Sea; offshore Japan (25° to 40° N and 10° to 25° N), and northeast of Japan.

   (b) Up to two nominal missions in the central North Pacific Ocean that include the Hawaii North and Hawaii South mission areas.

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(c) Up to two nominal missions in the Indian Ocean that include the Arabian Sea, the Andaman Sea, and northwest of Australia mission areas.

SPECIES AUTHORIZED AND LEVEL OF TAKE

5. The incidental take of marine mammals under the activity identified in Conditions 3 and 4 of this Authorization is limited to the following species:

   (a) **Mysticetes**: blue whale (*Balaenoptera musculus*), Bryde's whale (*Balaenoptera edeni*), fin whale (*Balaenoptera physalus*), humpback whale (*Megaptera novaeangliae*), common minke whale (*Balaenoptera acutorostrata*), north Pacific right whale (*Eubalena japonica*), sei whale (*Balaenoptera borealis*), and Omura's whale (*Balaenoptera omurai*).

   (b) **Odontocetes**: Baird's beaked whale (*Berardius bairdii*), Blainville's beaked whale (*Mesoplodon densirostris*), common bottlenose dolphin (*Tursiops truncatus*), Cuvier's beaked whale (*Ziphius cavirostris*), Dall's porpoise (*Phocoenoides dalli*), Deraniyagaia's beaked whale (*Mesoplodon hotaula*), dwarf sperm (*Kogia simus*), false killer whale (*Pseudorca crassidens*), Fraser's dolphin (*Lagenodelphis hosei*), ginkgo-toothed beaked whale (*Mesoplodon ginkgodens*), harbor porpoise (*Phocoena phocoena*), Hubbs' beaked whale (*Mesoplodon carhubbsi*), Indo-Pacific bottlenose dolphin (*Tursiops abuncus*), killer whale (*Orca orcinus*), *Kogia* spp., Longman's beaked whale (*Indopacetus pacificus*), melon-headed whale (*Peponocephala electra*), *Mesoplodon* spp., Northern right whale dolphin (*Lissodelphis borealis*), Pacific white- sided dolphin (*Lagenorhynchus obliquidens*), pantropical spotted dolphin (*Stenella attenuata*), pygmy killer whale (*Feresa attenuata*), pygmy sperm whales (*K. breviceps*), Risso's dolphin (*Grampus griseus*), rough-toothed dolphin (*Steno bredanensis*), short-beaked common dolphin (*Delphinus delphis*), short-finned pilot whale (*Globicephala macrorhynchus*), southern bottlenose whale (*Hyperodon planifrons*), sperm whale (*Physeter macrocephalus*), spinner dolphin (*Stenella longirostris*), Stejneger's beaked whale (*Mesoplodon stejnegeri*), and striped dolphin (*Stenella coeruleoalba*).

   (c) **Pinnipeds**: Hawaiian monk seal (*Monachus shauinslandi*), northern fur seal (*Callorhinus ursinus*), ribbon seal (*Histriophoca fasciata*), spotted seal (*Phoca largha*), and Steller sea lion (*Eumetopia jubatus*).

6. The taking of marine mammals by the Holder of this Authorization is limited to the incidental taking of marine mammal species identified in Condition 5 by Level A and Level B harassment (as defined in the MMPA and 50 CFR § 216.3) within those areas authorized under Condition 4. The take, by Level B harassment, that occurs during the year covered by this Authorization may not exceed 12 percent of any marine mammal stock listed in Condition 5 (see Condition 8j and Tables 2 – 12of Attachment 2). The take by Level A harassment may not exceed the numbers specified for each category in Table 1 of Attachment 2 for the total effective period of the regulations at 50 CFR Part 218, Subpart X.

7. Taking of marine mammal species not listed under Condition 5 by harassment, injury, or mortality or the taking by mortality of any marine mammal species listed under Condition 5 is prohibited.

MITIGATION

8. The Holder of this Authorization, and any individuals operating under his authority, must conduct the activity identified in 50 CFR § 218.230 and Condition 3 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 uses.

   When conducting operations identified in 50 CFR § 218.230, the following mitigation measures must be implemented:

   (a) The Holder of this Authorization, and any individuals operating under his authority, must not transmit the SURTASS LFA sonar signal at a frequency greater than 500 Hz.

   (b) Through mitigation described under 50 CFR § 218.234 and Condition 9 (Mitigation Monitoring) 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.

   (c) **LFA Sonar Mitigation Zone**: Prior to commencing and during SURTASS LFA sonar transmissions, the Holder of this Authorization will use near real-time environmental data and underwater acoustic prediction models to determine the propagation of the SURTASS LFA sonar signals in the mission area. The Holder of this Authorization must determine the distance from the SURTASS LFA sonar source to the 180-dB re: 1 μPa (rms) isopleth (*i.e.*, the LFA sonar mitigation zone) to comply with Condition 8(b).

      (i) The Holder of this Authorization will update these sound field estimates every 12 hours or more frequently depending upon changing meteorological or oceanographic conditions.

   (d) **Additional 1-Kilometer (km) Buffer Zone**: The Holder of this Authorization will establish a 1-km buffer zone around the LFA sonar mitigation zone.

   (e) **Ramp-Up Procedures for the HF/M3 System**: The Holder of this Authorization and any individuals operating under his authority, will ramp up the High Frequency / Marine Mammal Monitoring (HF/M3) active sonar referenced in 50 CFR § 218.234 from a power level beginning at a maximum source sound pressure level of 180 dB re: 1 μPa @ 1 m (rms) in 10-dB increments to operating levels over a period of no less than five minutes:

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

      (ii) Prior to any SURTASS LFA sonar calibrations or testing that are not part of regular SURTASS LFA sonar transmissions described in 50 CFR § 218.230; and

      (iii) Anytime after individuals have powered down the HF/M3 active sonar source for more than two minutes.

      Once HF/M3 operators detect a marine mammal, they will not increase the HF/M3 active sonar system's sound pressure level. Resumption of the ramp-up of HF/M3 sonar system would not occur until marine mammals are no longer detected by the

HF/M3 active sonar system, passive acoustic monitoring, or visual monitoring described in Condition 9.

(f) **Suspension/Delay for SURTASS LFA Sonar Transmissions**: If the Holder of this Authorization, and any individuals operating under his authority, detects a marine mammal through monitoring required under 50 CFR § 218.235 and Condition 9 within either the LFA sonar mitigation zone or the 1-km buffer zone, the Holder of this Authorization will immediately suspend or delay SURTASS LFA sonar transmissions.

(g) **Resumption of SURTASS LFA Sonar Transmissions**: The Holder of this Authorization and any individuals operating under his authority may resume/commence SURTASS LFA sonar transmissions 15 minutes after:

(i) All marine mammals have left the area of the LFA sonar mitigation zone and the 1-km buffer zone; and/or

(ii) There is no further detection of any marine mammal within the LFA sonar mitigation zone plus the 1-km buffer zone as determined by the passive or active acoustic or visual monitoring protocols described in 50 CFR § 218.235 and Condition 9.

(h) **Geographic Restrictions**: The Holder of this Authorization and any individuals operating under his authority will not operate SURTASS LFA sonar such that the SURTASS LFA sonar sound field exceeds 180 dB re: 1 μPa (rms):

(i) At a distance of less than or equal to 22 km (14 miles (mi); 12 nautical miles (nmi)) from any coastline, including offshore islands.

(ii) At a distance of less than 1 km (0.62 mi; 0.54 nmi) seaward of the outer perimeter of any Offshore Biologically Important Area (OBIA) for marine mammals designated in 50 CFR § 218.234(f)(2) and described in Condition 8(h)(iii) during the period specified.

(iii) The OBIAs for marine mammals (with specified periods of effectiveness) for SURTASS LFA sonar routine training, testing, and military operations are:

OBIA	**Period of Effectiveness**
Georges Bank	Year-round
Roseway Basin Right Whale Conservation Area	June through December, annually
Great South Channel, U.S. Gulf of Maine, and Stellwagen Bank National Marine Sanctuary (NMS)	January 1 to November 14, annually
Southeastern U.S. Right Whale Seasonal Habitat	November 15 to April 15, annually
North Pacific Right Whale Critical Habitat	March through August, annually
Silver Bank and Navidad Bank	December through April, annually
Coastal waters of Gabon, Congo, and Equatorial Guinea	June through October, annually
Patagonian Shelf Break	Year-round

Southern Right Whale Seasonal Habitat	May through December, annually
Central California NMSs	June through November, annually
Antarctic Convergence Zone	October through March, annually
Piltun and Chayvo offshore feeding grounds in the Sea of Okhotsk	June through November, annually
Coastal waters off Madagascar	July through September, annually for humpback whale breeding and November through December, annually for migrating blue whales.
Madagascar Plateau, Madagascar Ridge, and Walters Shoal	November through December, annually
Ligurian-Corsican-Provencal Basin and Western Pelagos Sanctuary in the Mediterranean Sea	July to August, annually
Hawaiian Islands Humpback Whale NMS and Penguin Bank	November through April, annually
Costa Rica Dome	Year-round
Great Barrier Reef Between 16° S and 21° S	May through September, annually
Bonney Upwelling on the southern coast of Australia	December through May, annually
Northern Bay of Bengal and Head of Swatch-of-No-Ground	Year-round
Olympic Coast NMS and Prairie, Barkley Canyon, and Nitnat Canyon	Olympic NMS: December, January, March, and May, annually The Prairie, Barkley Canyon, and Nitnat Canyon: June through September, annually
Abrolhos Bank	August through November

Note: See § 218.234(f)(2) and Attachment 1 for geographic coordinate information.

(i) **Operational Exception for SURTASS LFA Sound Field in OBIAs**: During military operations, SURTASS LFA sonar transmissions may exceed 180 dB re: 1 μPa (rms) within the boundaries of an OBIA, including operating within an OBIA, when the Holder of this Authorization determines that it is: 1) operationally necessary to continue tracking an existing underwater contact; or 2) operationally necessary to detect a new underwater contact within the OBIA. This exception does not apply to routine training and testing with the SURTASS LFA sonar systems.

(j) **Mission Planning**: The Holder of this Authorization must maintain a running calculation/estimation of takes of each species and stocks over the effective period of these regulations. The Holder of this Authorization will plan all SURTASS LFA sonar missions to ensure that no more than 12 percent of any marine mammal stock listed in 50 CFR § 218.230(b)(1) through (3) would be taken by Level B harassment annually. This annual per-stock cap of 12 percent applies regardless of the number of SURTASS LFA sonar vessels operating. The Holder of this Authorization must coordinate with the Holders of the Authorizations issued to the USNS ABLE, USNS EFFECTIVE, and the USNS IMPECCABLE, to ensure that this condition is met for all vessels combined.

MITIGATION MONITORING

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

   (a) Perform the following for visual mitigation monitoring:

      (i) Marine mammal biologists qualified in conducting at-sea marine mammal visual monitoring from surface vessels will train and qualify designated ship personnel as lookouts to conduct at-sea visual monitoring.

      (ii) Marine mammal biologists will train the lookouts in the most effective means to ensure quick and effective communication within the ship's command structure to facilitate implementation of protective measures if they observe marine mammals.

      (iii) Conduct visual monitoring from the ship's bridge during daylight hours (30 minutes before sunrise until 30 minutes after sunset) during operations that employ SURTASS LFA sonar in the active mode. Maintain a topside watch with standard binoculars (7x) and with the naked eye.

   (b) Perform the following for passive acoustic mitigation monitoring:

      (i) Use the low frequency, passive SURTASS sonar system to listen for vocalizing marine mammals.

   (c) Perform the following for active acoustic mitigation monitoring:

      (i) Use the HF/M3 active 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, subject to the ramp-up requirements in § 218.234(e) and Condition 8(e).

10. Mitigation monitoring under Conditions 9(a), (b), and (c) must:

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

   (b) Continue between sonar transmissions (pings); and

   (c) Continue either at least 15 minutes after completion of SURTASS LFA sonar transmission operations (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.

MONITORING

11. The Holder of this Authorization and any individuals operating under his authority for activities described in 50 CFR § 218.230 must:

   (a) Cooperate with NMFS and any other federal agency for monitoring the impacts of the activity on marine mammals; and

   (b) Designate qualified on-site individuals to conduct the mitigation, monitoring, and

reporting activities specified in this Letter of Authorization.

12. The Holder of this Authorization and any individuals operating under his authority will conduct all monitoring required under the Letter of Authorization to increase knowledge of the affected marine mammal species. The Holder of this Authorization must:

    (a) Consider recommendations on the different types of monitoring/research that could increase the understanding of the potential effects of SURTASS LFA sonar transmissions on beaked whales and/or harbor porpoises.

    (b) Continue to assess data from the Navy Marine Mammal Monitoring (M3) program and work toward making some portion of that data, after appropriate security reviews, available to scientists with appropriate clearances. Any portions of the analyses conducted by these scientists based on these data that are determined to be unclassified after appropriate security reviews should be made publicly available.

    (c) Continue to explore the feasibility of coordinating with other Navy fleet assets and/or range monitoring programs to include the use of SURTASS passive sonar (towed horizontal line array) to augment the collection of marine mammal vocalizations before, during, and after designated exercises.

    (d) Continue to collect ambient noise data and explore the feasibility of declassifying and archiving the ambient noise data for incorporation into appropriate ocean noise research efforts.

REPORTING

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

    (a) Draft a plan of action outlining a strategy for implementing recommendations on beaked whales and/or harbor porpoise research; or describe in writing why such research is not feasible/or is unlikely to increase the understanding of the potential effects of SURTASS LFA sonar transmissions on beaked whales and/or harbor porpoises, to be followed by a meeting with NMFS to discuss any other potential options.

    (b) Provide a status update to NMFS when the Holder of this Authorization submits the next annual application for Authorizations on efforts to assess the data collected by the Marine Mammal Monitoring (M3) program and progress toward making some portion of that data, after appropriate security reviews, available to scientists with appropriate clearances.

    (c) Systematically observe SURTASS LFA sonar operations for injured or disabled marine mammals and monitor the principal marine mammal stranding networks and other media to correlate analysis of any whale strandings that could potentially be associated with SURTASS LFA sonar operations. The Holder of this Authorization and any individuals operating under his authority shall:

        (i) Ensure that NMFS is notified immediately, or as soon as clearance procedures allow, if an injured, stranded, or dead marine mammal is observed during or shortly after and in the vicinity of any SURTASS LFA sonar operations. The Holder of this Authorization will report the incident to the Chief, Permits and

Conservation Division, Office of Protected Resources, NMFS, at 301-427-8401 and/or by email to Jolie.Harrison@noaa.gov and Dale.Youngkin@noaa.gov.

(ii) Provide NMFS with species or description of the animal(s), the condition of the animal(s) (including carcass condition if the animal is dead), location, time of first discovery, observed behaviors (if alive), and photo or video (if available).

(iii) In the event that an injured, stranded, or dead marine mammal is observed by the Holder of this Authorization and any individuals operating under his authority not in conjunction with SURTASS LFA sonar operations, the Holder of this Authorization and any individuals operating under his authority, will report the same information to NMFS as listed above as soon as operationally feasible and clearance procedures allow.

(d) In the event of a ship strike by the SURTASS LFA sonar vessel, at any time or place, the Holder of this Authorization and any individuals operating under his authority, must:

(i) Immediately, or as soon as clearance procedures allow, report to NMFS the species identification (if known), the size and length of the animal, location (lat/long) of the animal (or the strike if the animal has disappeared), whether the animal is alive or dead (or unknown), including an estimate of its injury status if alive (injured but alive, injured and moving, unknown, etc.).

(ii) Report the incident to the Chief, Permits and Conservation Division, Office of Protected Resources, NMFS, at 301-427-8401 and/or by email to Jolie.Harrison@noaa.gov and Dale.Youngkin@noaa.gov.

(iii) Report as soon as feasible to the NMFS the vessel's name, class/type, and length, as well as operational status, speed and vessel heading.

(iv) Provide NMFS a photo or video of the struck animal, if equipment is available.

(e) Submit classified and unclassified quarterly mission reports to the Director, Office of Protected Resources, NMFS no later than 30 days after the end of each quarter, beginning on the date of effectiveness of a Letter of Authorization. Each quarterly mission report will include summaries of all active-mode sonar missions completed during that quarter. At a minimum, each classified mission report must contain the following information:

(i) Dates, times, and location of each vessel during each mission.

(ii) Information on sonar transmissions during each mission and records of any delays or suspensions.

(iii) Location of the SURTASS LFA sonar mitigation and buffer zones in relation to the LFA sonar array.

(iv) Marine mammal observations including 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).

(v) 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 Authorization) by SURTASS LFA sonar operations (both within and outside the LFA sonar mitigation and buffer zones), using predictive modeling based on mission locations, dates/times of operations, system characteristics, LFA sonar transmission durations, oceanographic environmental conditions, and animal demographics.

(vi) If no SURTASS LFA sonar missions are completed during a quarter, a report of negative activity will be provided.

(f) Submit an annual, unclassified report to the Director, Office of Protected Resources, NMFS, no later than 45 days after expiration of this Authorization. At a minimum, the annual report will contain the following:

(i) An unclassified summary of the year's quarterly reports.

(ii) The Navy's estimates of the percentages of marine mammal stocks affected by SURTASS LFA sonar operations (both within and outside the LFA sonar mitigation and buffer zones), using predictive modeling based on mission locations, dates/times of operations, system characteristics, LFA sonar transmission durations, oceanographic environmental conditions, and animal demographics.

(iii) An analysis of the effectiveness of the mitigation measures with recommendations for improvements, where applicable.

(iv) An assessment of any long-term effects from SURTASS LFA sonar operations.

(v) Any discernible or estimated cumulative impacts from SURTASS LFA sonar operations.

14. The Holder of this Authorization must comply with the Terms and Conditions of the Incidental Take Statement corresponding to the Endangered Species Act Biological Opinion issued to the Navy and the National Marine Fisheries Service's Office of Protected Resources, Permits and Conservation Division.

15. A copy of this Authorization must be in the possession of the Officer in Charge of the Military Crew (MILCREW) onboard the USNS VICTORIOUS to conduct the activity under the authority of this Letter of Authorization and Incidental Take Statement.

Donna S. Wieting, Director
Office of Protected Resources
National Marine Fisheries Service

8/12/16
Date

Attachment 1 – Table 1. OBIA Coordinates and Periods of Effectiveness.

Name of Area	Location of Area	Months of Importance/ Periods of Effectiveness
Georges Bank	40°00'N, 72°30'W 39°37 N, 72°09'W 39°54'N, 71°43'W 40°02 N, 71°20'W 40°08'N, 71°01'W 40°04'N, 70°44'W 40°00'N, 69°24'W 40°16'N, 68°27'W 40°34'N, 67°13'W 41°00'N, 66°24'W 41°52'N, 65°47'W 42°20'N, 66°06'W 42°18'N, 67°23'W	Year-round
Roseway Basin Right Whale Conservation Area	43°05'N, 65°40'W 43°05'N, 65°03'W 42°45'N, 65°40'W 42°45'N, 65°03'W	June through December, annually
Great South Channel, U.S. Gulf of Maine, and Stellwagen Bank National Marine Sanctuary (NMS)	41°00.000'N, 69°05.000'W 42°09.000'N, 67°08.400'W 42°53.436'N, 67°43.873'W 44°12.541'N, 67°16.847'W 44°14.911'N, 67°08.936'W 44°21.538'N, 67°03.663'W 44°26.736'N, 67°09.596'W 44°16.805'N, 67°27.394'W 44°11.118'N, 67°56.398'W 43°59.240'N, 68°08.263'W 43°36.800'N, 68°46.496'W 43°33.925'N, 69°19.455'W 43°32.008'N, 69°44.504'W 43°21.922'N, 70°06.257'W 43°04.084'N, 70°21.418'W 42°51.982'N, 70°31.965'W 42°45.187'N, 70°23.396'W 42°39.068'N, 70°30.188'W 42°32.892'N, 70°35.873'W 42°07.748'N, 70°28.257'W 42°05.592'N, 70°02.136'W 42°03.664'N, 69°44.000'W 41°40.000'N, 69°45.000'W	January 1 to November 14, annually
Southeastern U.S. Right Whale Seasonal Habitat	Critical Habitat Boundaries are coastal waters between 31°15' N and 30°15'N from the coast out 15 nautical miles (nmi); and the coastal waters between 30°15' N and 28°00"N from the coast out 5 nmi (50 CFR §226.13(c)). OBIA Boundaries are coastal waters between 31°15"N and 30°15"N from 12 to 15 nmi.	November 15 to April 15, annually
North Pacific Right Whale Critical Habitat	57°03'N, 153°00'W 57°18'N, 151°30'W 57°00'N, 151°30'W 56°45'N, 153°00'W (50 CFR §226.215)	March through August, annually

Name of Area	Location of Area	Months of Importance/ Periods of Effectiveness
Silver Bank and Navidad Bank	Silver Bank: 20° 38.899'N, 69° 23.640'W 20° 55.706'N, 69° 57.984'W 20° 25.221'N, 70° 00.387'W 20° 12.833'N, 69° 40.604'W 20° 13.918'N, 69° 31.518'W 20° 28.680'N, 69° 31.900'W Navidad Bank: 20° 15.596'N, 68° 47.967'W 20° 11.971'N, 68° 54.810'W 19° 52.514'N, 69° 00.443'W 19° 54.957'N, 68° 51.430'W 19° 51.513'N, 68° 41.399'W	December through April, annually
Coastal waters of Gabon, Congo and Equatorial Guinea	An exclusion zone following the 500-m isobath extending from 3°31.055'N, 9°12.226'E in the north offshore of Malabo southward to 8°57.470'S, 12°55.873'E offshore of Luanda.	June through October, annually
Patagonian Shelf Break	Between 200- and 2,000-m isobaths and the following latitudes: 35°00'S, 39°00'S, 40°40'S, 42°30'S, 46°00'S, 48°50'S.	Year-round
Southern Right Whale Seasonal Habitat	Coastal waters between 42°00'S and 43°00'S from 12 to 15 nmi including the enclosed bays of Golfo Nuevo, Golfo San Jose, and San Matias. Golfos San Jose and San Nuevo are within 22 km (14 mi; 12 nmi) coastal exclusion zone.	May through December, annually
Central California National Marine Sanctuaries	Single stratum boundary created from the Cordell Bank (15 CFR 922.10), Gulf of the Farallones (15 CFR 922.80), and Monterey Bay (15 CFR 922.30) NMS legal boundaries. Monterey Bay NMS includes the Davidson Seamount Management Zone.	June through November, annually
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, annually

Name of Area	Location of Area	Months of Importance/ Periods of Effectiveness
Piltun and Chayvo offshore feeding grounds in the Sea of Okhotsk	54°09.436'N, 143°47.408'E 54°09.436'N, 143°17.354'E 54°01.161'N, 143°17.354'E 53°53.580'N, 143°13.398'E 53°26.963'N, 143°28.230'E 53°07.013'N, 143°35.481'E 52°48.705'N, 143°38.447'E 52°32.077'N, 143°37.788'E 52°21.605'N, 143°34.163'E 52°09.470'N, 143°26.582'E 51°57.686'N, 143°30.208'E 51°36.033'N, 143°42.794'E 51°08.082'N, 143°51.301'E 51°08.082'N, 144°16.742'E 51°24.514'N, 144°11.139'E 51°48.116'N, 144°10.809'E 52°03.194'N, 144°20.363'E 52°23.235'N, 144°10.150'E 52°28.674'N, 144°12.787'E 52°42.523'N, 144°10.150'E 53°12.972'N, 143°55.648'E 53°18.505'N, 143°56.637'E 53°23.041'N, 143°53.011'E 53°28.250'N, 143°53.341'E 53°44.039'N, 143°49.056'E 53°53.207'N, 143°50.045'E 53°59.819'N, 143°48.067'E	June through November, annually
Coastal waters off Madagascar	16°03'55.04"S, 50°27'12.59"E 16°12'23.03"S, 51°03'37.38"E 24°30'45.06"S, 48°26'00.94"E 24°15'28.07"S, 47°46'51.16"E 22°18'00.74"S, 48°14'13.52"E 20°52'24.12"S, 48°43'13.49"E 19°22'33.24"S, 49°15'45.47"E 18°29'46.08"S, 49°37'32.25"E 17°38'27.89"S, 49°44'27.17"E 17°24'39.12"S, 49°39'17.03"E 17°19'35.34"S, 49°54'23.82"E 16°45'41.71"S, 50°15'56.35"E	July through September, annually for humpback whale breeding and November through December, annually for migrating blue whales.
Madagascar Plateau, Madagascar Ridge, and Walters Shoal	25°55'20.00"S, 44°05'15.45"E 25°46'31.36"S, 47°22'35.90"E 27°02'37.71"S, 48°03'31.08"E 35°13'51.37"S, 46°26'19.98"E 35°14'28.59"S, 42°35'49.20"E 31°36'57.96"S, 42°37'49.35"E 27°41'11.21"S, 44°30'11.01"E	November through December, annually

Name of Area	Location of Area	Months of Importance/ Periods of Effectiveness
Ligurian-Corsican-Provencal Basin and Western Pelagos Sanctuary in the Mediterranean Sea	42°50.271'N, 06°31.883'E 42°55.603'N, 06°43.418'E 43°04.374'N, 06°52.165'E 43°12.600'N, 07°10.440'E 43°21.720'N, 07°19.380'E 43°30.600'N, 07°32.220'E 43°33.900'N, 07°49.920'E 43°36.420'N, 08°05.580'E 43°42.600'N, 08°22.140'E 43°50.880'N, 08°34.500'E 43°58.560'N, 08°47.700'E 43°59.040'N, 08°56.040'E 43°57.047'N, 09°03.540'E 43°52.260'N, 09°08.520'E 43°47.580'N, 09°13.500'E 43°36.060'N, 09°16.620'E 43°28.440'N, 09°05.820'E 43°21.360'N, 09°02.100'E 43°16.020'N, 08°57.240'E 43°04.440'N, 08°47.580'E 42°54.900'N, 08°35.400'E 42°45.900'N, 08°27.540'E 42°36.060'N, 08°22.020'E 42°22.620'N, 08°15.849'E 42°07.202'N, 08°17.174'E 41°52.800'N, 08°15.720'E 41°39.780'N, 08°05.280'E 41°28.200'N, 08°51.600'E 42°57.060'N, 06°19.860'E	July to August, annually
Hawaiian Islands Humpback Whale NMS and Penguin Bank	21°10'02.179"N, 157°30'58.217"W 21°09'46.815"N, 157°30'22.367"W 21°06'39.882"N, 157°31'00.778"W 21°02'51.976"N, 157°30'30.049"W 20°59'52.725"N, 157°29'28.591"W 20°58'05.174"N, 157°27'35.919"W 20°55'49.456"N, 157°30'58.217"W 20°50'44.729"N, 157°42'42.418"W 20°51'02.654"N, 157°44'45.333"W 20°53'56.784"N, 157°46'04.716"W 20°56'32.988"N, 157°45'33.987"W 21°01'27.472"N, 157°43'10.586"W 21°05'20.499"N, 157°39'27.802"W 21°10'02.179"N, 157°30'58.217"W	November through April, annually
Costa Rica Dome	Centered at 9°N and 88°W	Year-round

Name of Area	Location of Area	Months of Importance/ Periods of Effectiveness
Great Barrier Reef Between 16° S and 21° S	16°01.829'S, 145°38.783'E 15°52.215'S, 146°20.936'E 17°28.354'S, 146°59.392'E 20°16.228'S, 151°39.674'E 20°58.381'S, 150°30.897'E 20°17.007'S, 149°38.247'E 20°10.941'S, 149°18.247'E 20°02.403'S, 149°12.623'E 19°53.287'S, 149°03.986'E 19°49.866'S, 148°52.135'E 19°53.287'S, 148°44.302'E 19°47.965'S, 148°36.870'E 19°47.205'S, 148°26.024'E 19°19.978'S, 147°39.626'E 19°14.065'S, 147°37.014'E 19°08.913'S, 147°31.993'E 19°05.667'S, 147°24.160'E 19°07.576'S, 147°18.134'E 18°51.718'S, 146°51.219'E 18°44.258'S, 146°54.031'E 18°37.175'S, 146°51.420'E 18°31.620'S, 146°43.385'E 18°27.595'S, 146°40.573'E 17°36.676'S, 146°20.488'E 17°20.484'S, 146°16.671'E 17°07.745'S, 146°13.056'E 16°49.769'S, 146°11.047'E 16°41.835'S, 146°03.817'E 16°39.706'S, 145°54.979'E	May through September, annually
Bonney Upwelling on the west coast of Australia	37°12'20.036"S, 139°31'17.703"E 37°37'33.815"S, 139°42'42.508"E 38°10'36.144"S, 140°22'57.345"E 38°44'50.558"S, 141°33'50.342"E 39°07'04.125"S, 141°11'00.733"E 37°28'33.179"S, 139°10'52.263"E	December through May, annually
Northern Bay of Bengal and Head of Swatch-of-No-Ground	20°59.735'N, 89°07.675'E 20°55.494'N, 89°09.484'E 20°52.883'N, 89°12.704'E 20°55.275'N, 89°18.133'E 21°04.558'N, 89°25.294'E 21°12.655'N, 89°25.354'E 21°13.279'N, 89°16.833'E 21°06.347'N, 89°15.011'E	Year-round
Olympic Coast NMS and Prairie, Barkley Canyon, and Nitnat Canyon	Boundaries within 23 nmi (26.5 m; 42.6 km) of the coast from 47°07′ N to 48°30′ N latitude 48°30'01.995"N, 125°58'38.786"W 48°16'55.605"N, 125°38'52.052"W 48°23'07.353"N, 125°17'10.935"W 48°12'38.241"N, 125°16'42.339"W 47°58'20.361"N, 125°31'14.517"W 47°58'20.361"N, 126°06'16.322"W 48°09'46.665"N, 126°25'48.758"W	Olympic NMS: December, January, March, and May, annually The Prairie, Barkley Canyon, and Nitnat Canyon: June through September, annually

Name of Area	Location of Area	Months of Importance/ Periods of Effectiveness
Abrolhos Bank	16°35'34.909"S, 38°52'30.455"W 16°35'31.619"S, 38°43'41.069"W 16°40'00.131"S, 37°23'52.492"W 19°30'59.069"S, 37°23'52.446"W 19°30'59.974"S, 39°33'38.351"W 19°20'24.752"S, 39°30'33.03"W 18°52'16.884"S, 39°32'31.789"W 18°45'09.937"S, 39°32'27.709"W 18°30'59.345"S, 39°30'59.669"W 18°27'28.985"S, 39°30'13.453"W 18°17'30.429"S, 39°26'21.073"W 18°07'43.518"S, 39°19'52.924"W 18°09'24.931"S, 39°16'24.913"W 18°10'04.585"S, 39°12'30.425"W 18°10'20.682"S, 38°39'06.185"W 18°08'50.404"S, 38°35'00.059"W 18°06'05.466"S, 38°31'41.385"W 18°02'09.399"S, 38°29'26.179"W 17°58'01.372"S, 38°28'45.409"W 17°53'58.883"S, 38°29'34.612"W 16°48'58.768"S, 38°55'23.768"W 16°43'15.682"S, 38°53'40.007"W	August through November, annually

Attachment 2 – Authorized Take Estimates by Mission Area

The Holder of this Authorization must maintain a running calculation/estimation of takes of each species/stock over the effective period of this Authorization. The take, by Level B harassment, that occurs during the year covered by this Authorization may not exceed 12 percent of any marine mammal stock listed in the following tables.

The Holder of this Authorization must also coordinate with the Holders of the Authorizations issued to the USNS ABLE, the USNS EFFECTIVE, and the USNS IMPECCABLE, to ensure that these conditions are met for all vessels combined.

Table 1. Number of cetaceans and pinnipeds authorized to be taken by Level A harassment for all SURTASS LFA sonar operations over the 5-year rulemaking period.

Category	Requested Take Authorization Level A harassment
Mysticetes	No more than 6 over the course of the regulations.
Odontocetes	No more than 25 over the course of the regulations.
Pinnipeds	No more than 25 over the course of the regulations.

Tables 2-12. Number of marine mammals estimated to be taken by Level B harassment for all SURTASS LFA sonar operations during the annual LOA effective period in each of the Navy's requested mission areas.

The number of marine mammals authorized to be taken is based on the estimated percentage of the species' stock affected by a nominal number of SURTASS LFA sonar missions per mission area.

Table 2. Mission Area 1 - East of Japan

Animal	Estimated Number of Animals Estimated Take by Level B Harassment
Blue whale	2
Bryde's whale	17
Common minke whale	63
Fin whale	3
Humpback whale	6
North Pacific right whale	1
Sei whale	17
Baird's beaked whale	47
Common bottlenose dolphin	237
Cuvier's beaked whale	65
False killer whale	60
Ginkgo-toothed beaked whale	11
Harbor porpoise	338
Hubbs' beaked whale	11
Killer whale	2
Kogia spp.	67
Pacific white-sided dolphin	74
Pantropical spotted dolphin	117
Pygmy killer whale	35
Risso's dolphin	207
Rough-toothed dolphin	118
Short-beaked common dolphin	1,617
Short-finned pilot whale	210
Sperm whale	20
Spinner dolphin	4

Stejneger's beaked whale	11
Striped dolphin	84

Table 3. Mission Area 2 – North Philippine Sea	
Animal	**Estimated Number of Animals Estimated Take by Level B Harassment**
Blue whale	2
Bryde's whale	46
Common minke whale	321
Fin whale	11
Humpback whale	45
North Pacific right whale	2
Blainville's beaked whale	22
Common bottlenose dolphin	662
Cuvier's beaked whale	221
False killer whale	135
Fraser's dolphin	305
Ginkgo-toothed beaked whale	22
Killer whale	6
Kogia spp.	146
Long-beaked common dolphin	4,962
Longman's beaked whale	11
Melon-headed whale	198
Pacific white-sided dolphin	358
Pantropical spotted dolphin	569
Pygmy killer whale	98
Risso's dolphin	491
Rough-toothed dolphin	274
Short-beaked common dolphin	2,409
Short-finned pilot whale	692
Sperm whale	48
Spinner dolphin	36
Striped dolphin	1,366

Table 4. Mission Area 3 – West Philippine Sea	
Animal	**Estimated Number of Animals Estimated Take by Level B Harassment**
Blue whale	3
Bryde's whale	44
Common minke whale	234
Fin whale	11
Humpback whale	67
Blainville's beaked whale	20
Common bottlenose dolphin	652
Cuvier's beaked whale	12
Deraniyagala's beaked whale	20
False killer whale	131
Fraser's dolphin	293
Ginkgo-toothed beaked whale	20
Killer whale	6
Kogia spp.	83
Long-beaked common dolphin	4,559

Longman's beaked whale	11
Melon-headed whale	193
Omura's whale	6
Pantropical spotted dolphin	498
Pygmy killer whale	95
Risso's dolphin	504
Rough-toothed dolphin	269
Short-finned pilot whale	329
Sperm whale	46
Spinner dolphin	31
Striped dolphin	597

Table 5. Mission Area 4 - Offshore Guam	
Animal	**Estimated Number of Animals Estimated Take by Level B Harassment**
Blue whale	2
Bryde's whale	12
Common minke whale	5
Fin whale	2
Humpback whale	11
Sei whale	6
Blainville's beaked whale	39
Common bottlenose dolphin	53
Cuvier's beaked whale	31
Deraniyagala beaked whale	37
Dwarf sperm whale	226
False killer whale	25
Fraser's dolphin	167
Ginkgo-toothed beaked whale	37
Killer whale	5
Longman's beaked whale	73
Melon-headed whale	96
Omura's whale	3
Pantropical spotted dolphin	289
Pygmy killer whale	5
Pygmy sperm whale	93
Risso's dolphin	100
Rough-toothed dolphin	82
Short-finned pilot whale	122
Sperm whale	36
Spinner dolphin	11
Striped dolphin	80

Table 6. Mission Area 5 - Sea of Japan	
Animal	**Estimated Number of Animals Estimated Take by Level B Harassment**
Bryde's whale	3
Common minke whale	8
Fin whale	31
North Pacific right whale	-
Western North Pacific gray whale	1

Baird's beaked whale	6
Common bottlenose dolphin	9
Cuvier's beaked whale	54
Dall's porpoise	597
False killer whale	33
Harbor porpoise	63
Killer whale	2
Kogia spp.	21
Long-beaked common dolphin	1,531
Omura's whale	1
Pacific white-sided dolphin	-
Risso's dolphin	84
Rough-toothed dolphin	30
Short-beaked common dolphin	1,137
Short-finned pilot whale	19
Sperm whale	31
Spinner dolphin	5
Stejneger's beaked whale	9
Striped dolphin	31
Spotted seal	1

Table 7. Mission Area 6 - East China Sea

Animal	Estimated Number of Animals Estimated Take by Level B Harassment
Bryde's whale	8
Common minke whale	92
Fin whale	4
North Pacific right whale	1
Western North Pacific gray whale	1
Omura's whale	1
Blainville's beaked whale	8
Common bottlenose dolphin	32
Cuvier's beaked whale	5
False killer whale	19
Fraser's dolphin	133
Ginkgo-toothed beaked whale	8
Killer whale	2
Kogia spp.	29
Long-beaked common dolphin	1,749
Longman's beaked whale	4
Melon-headed whale	72
Pacific white-sided dolphin	39
Pantropical spotted dolphin	198
Pygmy killer whale	3
Risso's dolphin	176
Rough-toothed dolphin	45
Short-beaked common dolphin	697
Short-finned pilot whale	25
Sperm whale	15
Spinner dolphin	12
Striped dolphin	84
Spotted seal	1

Table 8. Mission Area 7 - South China Sea	
Animal	**Estimated Number of Animals Estimated Take by Level B Harassment**
Bryde's whale	10
Common minke whale	53
Fin whale	4
Humpback whale	6
North Pacific right whale	1
Western North Pacific gray whale	1
Omura's whale	1
Blainville's beaked whale	5
Common bottlenose dolphin	7
Cuvier's beaked whale	3
Deraniyagala beaked whale	5
False killer whale	11
Fraser's dolphin	60
Ginkgo-toothed beaked whale	5
Killer whale	1
Kogia spp.	21
Long-beaked common dolphin	1,135
Longman's beaked whale	3
Melon-headed whale	39
Pantropical spotted dolphin	74
Pygmy killer whale	2
Risso's dolphin	116
Rough-toothed dolphin	14
Short-finned pilot whale	14
Sperm whale	11
Spinner dolphin	5
Striped dolphin	32

Table 9. Mission Area 8 - Offshore Japan (25-40° N)	
Animal	**Estimated Number of Animals Estimated Take by Level B Harassment**
Blue whale	1
Bryde's whale	9
Common minke whale	2
Fin whale	1
Humpback whale	2
Sei whale	7
Baird's beaked whale	2
Blainville's beaked whale	12
Common bottlenose dolphin	9
Cuvier's beaked whale	60
Dwarf sperm whale	80
False killer whale	48
Hubbs' beaked whale	8
Killer whale	2
Longman's beaked whale	5
Melon-headed whale	36
Mesoplodon spp.	8
Pacific white-sided dolphin	13

Pantropical spotted dolphin	33
Pygmy killer whale	2
Pygmy sperm whale	34
Risso's dolphin	10
Rough-toothed dolphin	34
Short-beaked common dolphin	869
Short-finned pilot whale	23
Sperm whale	26
Spinner dolphin	6
Stejneger's beaked whales	8
Striped dolphin	17
Hawaiian monk seal	4
Northern fur seal	-

Table 10. Mission Area 9 - Offshore Japan (10-25° N)	
Animal	**Estimated Number of Animals Estimated Take by Level B Harassment**
Blue whale	1
Bryde's whale	8
Fin whale	1
Humpback whale	9
Sei whale	69
Omura's whale	1
Blainville's beaked whale	7
Common bottlenose dolphin	11
Cuvier's beaked whale	35
Deraniyagala beaked whale	9
Dwarf sperm whale	56
False killer whale	8
Fraser's dolphin	33
Ginkgo-toothed beaked whale	9
Killer whale	2
Longman's beaked whale	3
Melon-headed whale	36
Pantropical spotted dolphin	144
Pygmy killer whale	1
Pygmy sperm whale	23
Risso's dolphin	6
Rough-toothed dolphin	26
Short-finned pilot whale	27
Sperm whale	24
Spinner dolphin	24
Striped dolphin	74

Table 11. Mission Area 10 - Hawaii North	
Animal	**Estimated Number of Animals Estimated Take by Level B Harassment**
Blue whale	1
Bryde's whale	7
Common minke whale	6
Fin whale	1
Humpback whale	13
Sei whale	3
Blainville's beaked whale	12
Common bottlenose dolphin-Inshore Archipelago	30
Common bottlenose dolphin-Hawaii Pelagic	1
Common bottlenose dolphin-Kauai/Nihau	1
Common bottlenose dolphin-Oahu	1
Common bottlenose dolphin-4 Islands	1
Cuvier's beaked whale	10
Dwarf sperm whale	108
False killer whale-Hawaii Pelagic	9
False killer whale-Main Hawaiian Islands Insular	2
False killer whale-Northwestern Hawaiian Islands	3
Fraser's dolphin	115
Killer whale	1
Longman's beaked whale	23
Melon-headed whale-Northern Mariana Islands	1
Melon-headed whale-Kohala Resident	18
Pantropical spotted dolphin-Western North Pacific	61
Pantropical spotted dolphin- Hawaii Pelagic	4
Pantropical spotted dolphin- Hawaii Island	5
Pantropical spotted dolphin- Oahu	7
Pygmy killer whale	21
Pygmy sperm whale	10
Risso's dolphin	46
Rough-toothed dolphin	47
Short-finned pilot whale	72
Sperm whale	17
Spinner dolphin-Western North Pacific Stock	8
Spinner dolphin- Hawaii Pelagic	1
Spinner dolphin- Hawaii Island	12
Spinner dolphin- Oahu/4-Islands	1
Spinner dolphin- Kauai/Niihau	1
Spinner dolphin- Kure/Midway Atoll	1
Striped dolphin	76
Hawaiian monk seal	2

Table 12. Mission Area 11 - Hawaii South	
Animal	**Estimated Number of Animals Estimated Take by Level B Harassment**
Blue whale	1
Bryde's whale	5
Common minke whale	4
Fin whale	1
Humpback whale	14
Sei whale	2
Blainville's beaked whale	12
Common bottlenose dolphin-Inshore Archipelago	28
Common bottlenose dolphin-Hawaii Pelagic	1
Common bottlenose dolphin-Kauai/Nihau	1
Common bottlenose dolphin-Oahu	1
Common bottlenose dolphin-4-Islands	1
Cuvier's beaked whale	9
Deraniyagala beaked whale	11
Dwarf sperm whale	92
Ginkgo-toothed beaked whale	22
False killer whale-Hawaii Pelagic	8
False killer whale-Main Hawaiian Island Insular	1
Fraser's dolphin	86
Killer whale	1
Longman's beaked whale	22
Melon-headed whale-Mariana Islands	1
Melon-headed whale-Kohala Resident	15
Pantropical spotted dolphin-Western North Pacific	68
Pantropical spotted dolphin- Hawaii Pelagic	1
Pantropical spotted dolphin- Hawaii Island	1
Pantropical spotted dolphin- Oahu	1
Pygmy killer whale	18
Pygmy sperm whale	38
Risso's dolphin	36
Rough-toothed dolphin	31
Short-finned pilot whale	57
Sperm whale	15
Spinner dolphin-Western North Pacific	9
Spinner dolphin- Hawaii Pelagic	1
Spinner dolphin- Hawaii Island	1
Spinner dolphin- Oahu/4-Islands	1
Striped dolphin	85
Hawaiian monk seal	2

Table 13. Mission Area 12 – Arabian Sea	
Animal	**Estimated Number of Animals Estimated Take by Level B Harassment**
Blue whale	1
Bryde's whale	2
Common minke whale	24
Fin whale	2
Humpback whale	1

Blainville's beaked whale	5
Common bottlenose dolphin-Hawaiian Island	70
Cuvier's beaked whale	6
Deraniyagala beaked whale	6
False killer whale-Hawaiian Islands	1
Fraser's dolphin	4
Ginkgo-toothed beaked whale	6
Indo-Pacific bottlenose dolphin	1
Killer whale	16
Longman's beaked whale	22
Long-beaked common dolphin	1
Dwarf sperm whale	1
Melon-headed whale-Hawaiian Islands	15
Pantropical spotted dolphin-4-Islands	6
Pygmy killer whale	3
Pygmy sperm whale	1
Risso's dolphin	163
Rough-toothed dolphin	2
Short-finned pilot whale	43
Sperm whale	13
Spinner dolphin-Pearl and Hermes Reef	5
Striped dolphin	97

Table 14. Mission Area 13 – Andaman Sea

Animal	Estimated Number of Animals Estimated Take by Level B Harassment
Blue whale	1
Bryde's whale	5
Common minke whale	1
Fin whale	1
Omura's whale	5
Blainville's beaked whale	13
Common bottlenose dolphin-Hawaiian Islands	636
Cuvier's beaked whale	67
Deraniyagala beaked whale	13
Dwarf sperm whale	1
Ginkgo-toothed beaked whale	13
False killer whale-Northwestern Hawaiian Islands	3
Fraser's dolphin	25
Indo-Pacific bottlenose dolphin	7
Killer whale	24
Long-beaked common dolphin	2
Longman's beaked whale	60
Melon-headed whale-Hawaiian Islands	95
Pantropical spotted dolphin-4-Islands	49
Pygmy killer whale	13
Pygmy sperm whale	1
Risso's dolphin	1,183
Rough-toothed dolphin	10
Short-finned pilot whale	379
Sperm whale	12
Spinner dolphin-Pearl and Hermes reef	41
Striped dolphin	814

Table 15. Mission Area 14 – Northwest Australia	
Animal	**Estimated Number of Animals Estimated Take by Level B Harassment**
Blue whale	1
Bryde's whale	4
Common minke whale	207
Fin whale	13
Humpback whale	1
Omura's whale	4
Blainville's beaked whale	6
Common bottlenose dolphin-Hawaiian Islands	222
Cuvier's beaked whale	26
Dwarf sperm whale	1
False killer whale-Northwestern Hawaiian Islands	2
Fraser's dolphin	10
Killer whale	42
Longman's beaked whale	26
Melon-headed whale-Hawaiian Islands	39
Pantropical spotted dolphin-4-Islands	37
Pygmy killer whale	7
Risso's dolphin	496
Rough-toothed dolphin	5
Short-finned pilot whale	154
Southern bottlenose whale	7
Spade-toothed whale	6
Sperm whale	6
Spinner dolphin-Pearl and Hermes reef	29
Striped dolphin	590

Table 16. Mission Area 15 – Northeast of Japan	
Animal	**Estimated Number of Animals Estimated Take by Level B Harassment**
Fin whale - WNP	21
North Pacific right whale	2
Sei whale - NP	32
Western Pacific gray whale	1
Baird's whale	163
Dall's porpoise	2,539
Pacific white-sided dolphin	267
Short-beaked common dolphin	5,555
Sperm whale	72
Stejneger's beaked whale	19
Northern fur seal	641
Ribbon seal	1,808
Spotted seal	11,076
Steller sea lion	1