Superintendent by keeping him or her informed about issues of concern throughout the Sanctuary, offering recommendations on specific issues, and aiding the Superintendent in achieving the goals of the National Marine Sanctuary Program. Specifically, the Council's objectives are to provide advice on: (1) Protecting natural and cultural resources and identifying and evaluating emergent or critical issues involving Sanctuary use or resources; (2) Identifying and realizing the Sanctuary's research objectives; (3) Identifying and realizing educational opportunities to increase the public knowledge and stewardship of the Sanctuary environment; and (4) Assisting to develop an informed constituency to increase awareness and understanding of the purpose and value of the Sanctuary and the National Marine Sanctuary Program.

Authority: 16 U.S.C. 1431, *et seq.* (Federal Domestic Assistance Catalog Number 11.429 Marine Sanctuary Program)

Dated: April 26, 2012.

Daniel J. Basta,

Director, Office of National Marine Sanctuaries, National Ocean Service, National Oceanic and Atmospheric Administration.

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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648–XA961

Takes of Marine Mammals Incidental to Specified Activities; Low-Energy Marine Geophysical Survey in the South-Eastern Pacific Ocean, May, 2012

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Notice; issuance of an Incidental Take Authorization.

SUMMARY: In accordance with the Marine Mammal Protection Act (MMPA) regulation, notification is hereby given that NMFS has issued an Incidental Harassment Authorization (IHA) to the Scripps Institution of Oceanography (SIO) to take marine mammals, by Level B harassment, incidental to conducting a low-energy marine geophysical (*i.e.,* seismic) survey in the south-eastern Pacific Ocean, May, 2012.

DATES: Effective May 4, 2012 through June 29, 2012.

ADDRESSES: A copy of the final IHA and application are available by writing to Tammy Adams, Acting Chief, Permits and Conservation Division, Office of Protected Resources, National Marine Fisheries Service, 1315 East-West Highway, Silver Spring, MD 20910 or by telephoning the contacts listed here.

A copy of the IHA application containing a list of the references used in this document may be obtained by writing to the above address, telephoning the contact listed here (see **FOR FURTHER INFORMATION CONTACT**) or visiting the Internet at: *http://www.nmfs.noaa.gov/pr/permits/incidental.htm#applications*.

FOR FURTHER INFORMATION CONTACT: Howard Goldstein or Jolie Harrison, Office of Protected Resources, NMFS, 301–427–8401.

SUPPLEMENTARY INFORMATION:

Background

Section 101(a)(5)(D) of the MMPA (16 U.S.C. 1371 (a)(5)(D)) directs the Secretary of Commerce (Secretary) to authorize, upon request, the incidental, but not intentional, taking of small numbers of marine mammals of a species or population stock, by United States citizens who engage in a specified activity (other than commercial fishing) within a specified geographical region if certain findings are made and, if the taking is limited to harassment, a notice of a proposed authorization is provided to the public for review.

Authorization for the incidental taking of small numbers of marine mammals shall be granted if NMFS finds that the taking will have a negligible impact on the species or stock(s), and will not have an unmitigable adverse impact on the availability of the species or stock(s) for subsistence uses (where relevant). The authorization must set forth the permissible methods of taking, other means of effecting the least practicable impact on the species or stock and its habitat, and requirements pertaining to the mitigation, monitoring and reporting of such takings. NMFS has defined ''negligible impact'' in 50 CFR 216.103 as ''* * * an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival.''

Section 101(a)(5)(D) of the MMPA established an expedited process by which citizens of the United States can apply for an authorization to incidentally take small numbers of marine mammals by harassment. Section 101(a)(5)(D) of the MMPA establishes a 45-day time limit for NMFS's review of an application followed by a 30-day public notice and comment period on any proposed authorizations for the incidental harassment of small numbers of marine mammals. Within 45 days of the close of the public comment period, NMFS must either issue or deny the authorization.

Except with respect to certain activities not pertinent here, the MMPA defines ''harassment'' as: any act of pursuit, torment, or annoyance which (i) has the potential to injure a marine mammal or marine mammal stock in the wild [Level A harassment]; or (ii) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering [Level B harassment].

The National Science Foundation (NSF) has prepared a ''National Environmental Policy Act Analysis Pursuant to Executive Order 12114 of a Marine Geophysical Survey by the R/V *Melville* in the South-Eastern Pacific Ocean May 2012.'' The analysis incorporates an ''Final Environmental Analysis of a Marine Geophysical Survey by the R/V *Melville* in the South-Eastern Pacific Ocean off Chile, May 2012,'' prepared by LGL Ltd., Environmental Research Associates (LGL), on behalf of NSF and SIO, which is also available at the same internet address. To meet NMFS's NEPA requirements for the issuance of an IHA to SIO, NMFS prepared an ''Environmental Assessment on the Issuance of an Incidental Harassment Authorization to the Scripps Institution of Oceanography to Take Marine Mammals by Harassment Incidental to a Marine Geophysical Survey in the South-Eastern Pacific Ocean, May, 2012.'' NMFS also issued a Biological Opinion (BiOp) under section 7 of the Endangered Species Act (ESA) to evaluate the effects of the survey and IHA on marine species listed as threatened or endangered. The NMFS BiOp will be available online at: *http://www.nmfs.noaa.gov/pr/consultations/opinions.htm*. Documents cited in this notice may be viewed, by appointment, during regular business hours, at the aforementioned address.

Summary of Request

NMFS received an application on December 23, 2011, from SIO for the taking by harassment, of marine mammals, incidental to conducting a low-energy marine seismic survey in the

south-eastern Pacific Ocean. SIO, a part of the University of California San Diego, with research funding from the NSF, plans to conduct a low-energy seismic survey in the South-Eastern Pacific Ocean off the coast of Chile during May, 2012, for approximately five to 11 days. The survey will use a pair of Generator Injector (GI) airguns each with a discharge volume of 45 or 105 cubic inches (in^3) (maximum total volume of 210 in^3) . SIO plans to conduct the survey from approximately May 4 to 18, 2012. The seismic survey will be conducted in the Exclusive Economic Zone (EEZ) of Chile. On behalf of SIO, the U.S. State Department will seek authorization from Chile for clearance to work in its EEZ. On March 13, 2012, NMFS published a notice in the **Federal Register** (77 FR 14744) making preliminary determinations and proposing to issue an IHA. The notice initiated a 30 day public comment period.

SIO plans to use one source vessel, the R/V *Melville* (*Melville*) and a seismic airgun array to collect seismic reflection and refraction profiles to monitor the post-seismic response of the outer acretionary prism, the area where sediments are accreted onto the non-subducting tectonic plate at the convergent plate boundary off of the coast of Chile. In addition to the operations of the seismic airgun array, SIO intends to operate a multibeam echosounder (MBES) and a sub-bottom profiler (SBP) continuously throughout the survey.

Acoustic stimuli (*i.e.,* increased underwater sound) generated during the operation of the seismic airgun array may have the potential to cause a short-term behavioral disturbance for marine mammals in the survey area. This is the principal means of marine mammal taking associated with these activities and SIO has requested an authorization to take 20 species of marine mammals by Level B harassment. Take is not expected to result from the use of the MBES or SBP, for reasons discussed in this notice; nor is take expected to result from collision with the vessel because it is a single vessel moving at a relatively slow speed during seismic acquisition within the survey, for a relatively short period of time (approximately five to 11 days). It is likely that any marine mammal would be able to avoid the vessel.

Description of the Specified Activity

SIO's planned seismic survey in the south-eastern Pacific Ocean will take place for approximately 5 to 11 days in May, 2012 (see Figure 1 of the IHA application). The seismic survey will take place in water depths ranging from approximately 1,000 to 5,300 meters (m) (3,280.8 to 17,388.5 feet [ft]) and the program will consist of approximately 1,145 kilometers (km) (618.3 nautical miles [nmi]) of seismic survey tracklines (see Figure 1 of the IHA application). The survey will take place in the area approximately 34° to 36° South, 72° to 74° West, off the coast of Chile. The project is scheduled to occur from approximately May 4 to 18, 2012. Some minor deviation from these dates is possible, depending on logistics and weather.

The survey will involve one source vessel, the *Melville.* For the seismic component of the research program, the *Melville* will deploy an array of two low-energy Sercel Generator Injector (GI) airguns as an energy source (each with a discharge volume of 45 or 105 in^3, maximum total volume 210 in^3) at a tow depth of 2 m (6.6 ft). The acoustic receiving system will consist of a 200 to 800 m (656.2 to 2,624.7 ft) hydrophone streamer with up to 48 channels with 12.5 m (41 ft) channel spacing, and broadband Ocean Bottom Seismometers (OBSs). The energy to the airguns is compressed air supplied by compressors on board the source vessel. As the airgun is towed along the survey lines, the hydrophone streamer will receive the returning acoustic signals and transfer the data to the on-board processing system. The OBSs acquire the signal, process the data, and log it internally until the instrument is retrieved and the data is recovered.

SIO plans to use conventional low-energy seismic methodology to monitor the post-seismic response of the outer accretionary prism, the area where sediments are accreted onto the non-subducting tectonic plate at the convergent plate boundary. To provide constraints on the fault structure and seismic stratigraphy in the accretionary wedge, high resolution seismic data will be acquired using two GI airguns shot simultaneously. Simultaneous shots from both airguns will provide penetration to basement in the trench and clearly define fault structures and folds in the slop basin sediments that overlie the accretionary complex. The primary tracklines, approximately 569 km (307.2 nmi), identified in Figure 1 of the IHA application, will be surveyed first. Depending on the weather, quality and at sea conditions, efforts will be made to survey the secondary tracklines, approximately 576 km (311 nmi), identified in Figure 1 of the IHA application. During the survey OBSs will be deployed and survey profiles will be taken along the tracklines that extend from the trench across the accretionary complex to the region of greatest slip. These data will be processed onboard the vessel and will be used to optimize the location of remaining profiles to be collected within the survey site area. In addition to the operations of the airgun array, a MBES and SBP will also be operated from the *Melville* continuously throughout the cruise. There will be additional seismic operations associated with equipment testing, start-up, and possible line changes or repeat coverage of any areas where initial data quality is sub-standard. In SIO's calculations, 25% has been added for those contingency operations.

All planned geophysical data acquisition activities will be conducted by technicians provided by SIO, with on-board assistance by the scientists who have planned the study. The Principal Investigator (PI) is Dr. Anne Trehu of Oregon State University. The vessel will be self-contained, and the crew will live aboard the vessel for the entire cruise.

Description of the Dates, Duration, and Specified Geographic Region

The *Melville* is expected to depart and return to Bahia de Valparaiso, Chile. The cruise is scheduled to occur for approximately 5 to 11 days from May 4 to 18, 2012. Of the approximately 15 day cruise, approximately five days will be spent collecting seismic data along the primary tracklines, with potential for an additional six days of seismic data acquisition along the secondary tracklines, barring weather or instrument related issues. Remaining cruise time will be spent transiting to and from port. Some minor deviation from this schedule is possible, depending on logistics and weather. The survey will occur in the area approximately 34° to 35° South, approximately 72° to 74° West (see Figure 1 of the IHA application). Water depths in the survey area generally range from approximately 1,000 to 5,300 m (3,280.8 to 17,388.5 ft). The seismic survey will be conducted in the EEZ of Chile, approximately 50 km (27 nmi) off the coast of Chile.

NMFS outlined the purpose of the program in a previous notice for the proposed IHA (77 FR 14744, March 13, 2012). The activities to be conducted have not changed between the proposed IHA notice and this final notice announcing the issuance of the IHA. For a more detailed description of the authorized action, including vessel and acoustic source specifications, the reader should refer to the proposed IHA notice (77 FR 14744, March 13, 2012), the IHA application, EA, and associated

documents referenced above this section.

Comments and Responses

A notice of proposed IHA for the SIO seismic survey was published in the **Federal Register** on March 13, 2012 (77 FR 14744). During the 30 day public comment period, NMFS received comments from the Marine Mammal Commission (Commission). The Commission's comments are online at: *http://www.nmfs.noaa.gov/pr/permits/incidental.htm.* Following are their substantive comments and NMFS's response:

Comment 1: The Commission recommends that NMFS require SIO to re-estimate exclusion zones (EZ) and buffer zones for the two airgun array and associated number of marine mammal takes using operational and site-specific environmental parameters—if the EZs and buffer zones and number of takes are not re-estimated; and require SIO to provide a detailed justification for basing the EZs and buffer zones for the proposed survey in the south-eastern Pacific Ocean on modeling that relies on measurements from the Gulf of Mexico (GOM). The Commission would like an opportunity to evaluate the detailed justification prior to issuance of the authorization.

Response: With respect to the Commission's first point, based upon the best available information and NMFS' analysis of the likely effects of the specified activity on marine mammals and their habitat, NMFS is satisfied that the data supplied by SIO are sufficient for NMFS to conduct its analysis and support the determinations under the MMPA, Endangered Species Act of 1973 (ESA; 16 U.S.C. 1531 *et seq.*), and the National Environmental Policy Act (NEPA). The identified zones are appropriate for the survey and additional field measurements are not necessary at this time. Thus, for this survey, NMFS will not require SIO to re-estimate the proposed exclusion zones (EZs) and buffer zones and associated number of marine mammal takes using operational and site-specific environmental parameters.

With respect to the Commission's second point, SIO has modeled the EZ and buffer zones in the action area based on L–DEO's 2003 (Tolstoy *et al.,* 2004) and 2007–2008 (Tolstoy *et al.,* 2009) peer-reviewed, calibration studies in the northern Gulf of Mexico. Received levels have been modeled by L–DEO for a number of airgun configurations, including two 105 in^3 GI airguns, in relation to distance and direction from the airguns (see Figure 2a and 2b of the IHA application). NSF's environmental analysis (see Appendix A) includes detailed information on the study, their modeling process, and a comparison of SIO's modeled results with results of the 2007 to 2008 *Marcus G. Langseth* calibration experiment in shallow, intermediate, and deep water. The conclusions in Appendix A show that SIO's model represents the actual produced sound levels, particularly within the first few kms, where the predicted zone (*i.e.,* EZ) lie. At greater distances, local oceanographic variations begin to take effect, and the model tends to over predict.

Because the modeling matches the observed measurement data, the authors concluded that those using the models to predict zones can continue to do so, including predicting EZs and buffer zones around the vessel for various tow depths. At present, L–DEO's model does not account for site-specific environmental conditions and the calibration study analysis of the model predicted that using site-specific information may actually estimate less conservative EZs at greater distances.

While it is difficult to estimate exposures of marine mammals to acoustic stimuli, NMFS is confident that SIO's approach to quantifying the EZs and buffer zones uses the best available scientific information and estimation methodologies. After considering this commend and evaluating the respective approaches for establishing EZs and buffer zones, NMFS had determined that SIO's approach and corresponding monitoring and mitigation measures will effect the least practicable impact on affected marine mammal species or stocks.

Comment 2: The Commission recommends that NMFS, before issuing the requested IHA, (1) use species-specific maximum densities derived by multiplying the best density estimates by a precautionary correction factor and (2) re-estimate the anticipated number of takes using that precautionary approach.

Response: For purposes of this IHA, NMFS is using the estimated densities provided in the applicant's application to estimate the number of authorized takes for SIO's seismic survey in the south-eastern Pacific Ocean as NMFS is confident in the assumptions and calculations used to estimate density for this survey area. SIO used reported densities from five sources (*i.e.,* Read *et al.,* 2009; Ferguson and Barlow, 2003; Shiavini *et al.,* 1999; Heinrich, 2006; and Galletti-Vernazzani and Cabrera, 2009) that included habitat modeling for estimating cetacean densities based on numerous surveys in the eastern tropical Pacific for 11 cetacean species as well as a correction factor (0.5) for estimated densities from regional aerial and/or vessel surveys near the action area for dusky and Chilean dolphins as well as blue whales. Estimated densities that were obtained or assigned to each cetacean species have been corrected for both detectability and availability bias by the authors. SIO's use of these peer-reviewed, model-based, density estimates are the best available information to estimate density for the survey area and to estimate the number of authorized takes for the seismic survey in the south-eastern Pacific Ocean. The results of the associated monitoring reports show that the past use of the best estimates was appropriate and has not refuted NMFS's past determinations.

Comment 3: The Commission recommends that, before issuing the requested IHA, NMFS prohibit the use of a 15 minute pause (*i.e.,* extended shut-down) following the sighting of a mysticete or large odontocete in the exclusion zone and extend that pause to cover the maximum dive times of the species likely to be encountered prior to initiating ramp-up procedures.

Response: NMFS would like to clarify the Commission's understanding of two conditions within the IHA—one related to turning on the airguns (ramp-up) after a shut-down due to a marine mammal sighting about to enter or within the EZ, and the other related to a ramp-up after an extended shut-down (*i.e.,* the 15 minute pause due to equipment failure or routine maintenance).

To clarify, the IHA requires the *Melville* to shut-down the airguns when a Protected Species Observer (PSO) sees a marine mammal within, approaching, or entering the relevant EZs for cetaceans or for pinnipeds. Following a shut-down, the *Melville* would only ramp-up the airguns if a marine mammal had exited the EZ or if the PSO had not seen the animals within the relevant EZ for 15 minutes for species with shorter dive times (*i.e.,* small odontocetes and pinnipeds) or 30 minutes for species with longer dive durations (*i.e.,* mysticetes and large odontocetes, including sperm, pygmy sperm, dwarf sperm, killer, and beaked whales).

NMFS believes that 30 minutes is an adequate length for the monitoring period prior to the ramp-up of the airgun array after sighting a mysticete or large odontocete for the following reasons:

- The *Melville* can transit roughly 5 knots; the ship would move 2.3 km (1.25 nmi) in 15 minutes or 4.6 km (2.5 nmi) in 30 minutes. At this distance, the

vessel will have moved 65.7 times (4.6 km/0.07 km) away from the distance of the original 180 dB EZ (70 m [229.7 ft] for two 105 in^3 airguns) from the initial sighting. The vessel will have moved 115 times (4.6 km/0.04 km) away from the distance of the 180 dB EZ (40 m [131.2 ft] for the two 45 in^3 GI airguns) from the initial sighting.

• The relevant EZs for cetaceans and pinnipeds are relatively small (*i.e.,* 70 m for cetaceans and 20 m [65.6 ft] for pinnipeds for the two 105 in^3 GI airguns, and 40 m for cetaceans and 10 m [32.8 ft] for pinnipeds for the two 45 in^3 GI airguns). Extending the monitoring period for a relatively small EZ would not meaningfully increase the effectiveness of observing marine mammals approaching or entering the EZ for the full source level and would not further minimize the potential for take.

• Because a significant part of their movement is vertical (deep-diving), it is unlikely that a submerged mysticete or large odontocete would move in the same direction and speed (roughly 5 knots) with the vessel for 30 minutes. If a mysticete or large odontocete's maximum underwater dive time is 45 minutes, then there is only a one in three chance that the last random surfacing could occur within the 70 or 40 m EZ.

• The PSOs are constantly monitoring the horizon and the EZs during the 30 minute period. On average, PSOs can observe to the horizon (10 km; 5.4 nmi) from the height of the *Melville's* observation deck and should be able to say with a reasonable degree of confidence whether a marine mammal would be encountered within this distance before resuming the two GI airgun operations at full power.

Next, NMFS intends to clarify the monitoring period associated with an extended shut-down (*i.e.,* the 15 minute pause due to equipment failure or routine maintenance). During active seismic operations, there are occasions when the *Melville* crew will need to temporarily shut-down the airguns due to equipment failure or for maintenance. Thus, an extended shut-down is not related to PSO detecting a marine mammal within, approaching, or entering the relevant EZs. However, the PSOs are still actively monitoring the relevant EZs for cetaceans and pinnipeds.

In conclusion, NMFS has designed monitoring and mitigation measures to comply with the requirement that incidental take authorizations must include means of effecting the least practicable impact on marine mammal species and their habitat. The effectiveness of monitoring is science-based, and monitoring and mitigation measures must be ''practicable.'' NMFS believes that the framework for visual monitoring will: (1) Be effective at spotting almost all species for which SIO has requested take, and (2) that imposing additional requirements, such as those suggested by the Commission, would not meaningfully increase the effectiveness of observing marine mammals approaching or entering the EZs and thus further minimize the potential for take.

In the case of an extended shut-down, due to equipment failure or routine maintenance, the *Melville's* crew will turn on the airguns and follow the mitigation and monitoring procedures for a ramp-up after a period of 15 minutes. Again, the PSOs will monitor the full EZs for marine mammals and will implement a shut-down, if necessary. After considering this comment and evaluating the monitoring and mitigation requirements to be included in the IHA, NMFS has determined that SIO's approach and corresponding monitoring and mitigation measures will effect the least practicable impact on affected marine mammal species or stocks.

Comment 4: The Commission recommends that NMFS work with the NSF to analyze the data collected during ramp-up procedures to help determine the effectiveness of those procedures as a mitigation measure for geophysical surveys.

Response: NMFS acknowledges the Commission's request for an analysis of ramp-ups and will work with NSF and SIO to help identify the effectiveness of the mitigation measure for seismic surveys. The IHA requires that PSOs on the *Melville* make observations for 30 minutes prior to ramp-up, during all ramp-ups, and during all daytime seismic operations and record the following information when a marine mammal is sighted:

(i) Species, group size, age/size/sex categories (if determinable), behavior when first sighted and after initial sighting, heading (if consistent), bearing and distance from the seismic vessel, sighting cue, apparent reaction of the airguns or vessel (*e.g.,* none, avoidance, approach, paralleling, etc., and including responses to ramp-up), and behavioral pace; and

(ii) Time, location, heading, speed, activity of the vessel (including number of airguns operating and whether in state of ramp-up or shut-down), Beaufort wind force and sea state, visibility, and sun glare.

One of the primary purposes of monitoring is to result in ''increased knowledge of the species'' and the effectiveness of required monitoring and mitigation measures; the effectiveness of ramp-up as a mitigation measure and marine mammal reaction to ramp-up would be useful information in this regard. NMFS requires NSF and SIO to gather all data that could potentially provide information regarding the effectiveness of ramp-up as a mitigation measure in its monitoring report. However, considering the low numbers of marine mammal sightings and low number of ramp-ups it is unlikely that the information will result in any statistically robust conclusions for this particular seismic survey. Over the long term, these requirements may provide information regarding the effectiveness of ramp-up as a mitigation measure, provided PSOs detect animals during ramp-up.

Description of the Marine Mammals in the Specified Geographic Area of the Specified Activity

Thirty-two marine mammal species could occur in the south-eastern Pacific Ocean survey area. Twenty-eight cetacean species (22 odontocetes and 6 mysticetes) and four pinniped species could occur in the south-eastern Pacific Ocean study area. Several of these species are listed as endangered under the U.S. Endangered Species Act of 1973 (ESA; 16 U.S.C. 1531 *et seq.*), including the humpback (*Megaptera novaeangliae*), sei (*Balaenoptera borealis*), fin (*Balaenoptera physalus*), blue (*Balaenoptera musculus*), and sperm (*Physeter macrocephalus*) whale.

An additional 12 cetacean species, although present in the wider south-eastern Pacific Ocean, likely would not be found in the proposed seismic survey area because their ranges in the survey area are extralimital, or they are typically found in coastal water. Southern right whales (*Eubalaena australis*) are listed as endangered under the ESA. Sightings are seen on rare occasions off the coasts of Peru and Chile (Aguayo *et al.,* 1992; Santillan *et al.,* 2004), although females with calves have been observed between June and October. Given the size of this population, estimated at 50 individuals, in Chile and Peru (IWC, 2007; ICW, 2007b) and the rarity of the species in the survey area, it is unlikely that individuals from this subpopulation will be encountered. Pygmy right whales (*Caperea marginata*) are rarely seen at sea, but are known from stranding records off Chile (Cabrera *et al.,* 2005). Little is known about Arnoux's beaked whale (*Berardius arnuxii*) as they are rarely seen, but typically they are found between the Antarctic continent and 34° South. The

northernmost limit of their range overlaps with the survey area, but no records of their occurrence exist within the survey area. The spade toothed beaked whale (*Mesoplodon traversii*) and Shepherd's beaked whale (*Tasmacetus shepherdi*) are uncommon species, but individuals have been described from stranding records in the Juan Fernandez Archipelago in Chile (Reyes *et al.,* 1996) approximately 700 km (378 nmi) west of the survey site. The ginkgo-toothed beaked whale (*Mesoplodon ginkgodens*), pygmy beaked whale (*Mesoplodon peruvianus*), and the long-beaked common dolphin (*Delphinus capensis*) are likely extralimital with distributions mostly north of the survey area. The Commerson's dolphin (*Cephalorhynchus commersonii*), hourglass dolphin (*Lagenorhynchus cruciger*), and southern bottlenose whale (*Hyperoodon planifrons*) are also extralimital in the survey area, but have a northernmost extent that is south of the survey area.

No cetacean distribution and abundance studies have been conducted in the survey area. The closest distribution studies have been in the Eastern Tropical Pacific (ETP) and Patagonia, in southern Chile. Several other studies of marine mammal distribution and abundance have been conducted in the wider ETP. The most extensive regional distribution and abundance data come primarily from multi-year vessel surveys conducted by NMFS's Southwest Fisheries Science Center (SWFSC). The surveys were conducted during July to December in an area generally extending from 30° North to 18° South from the coastline to 153° West (Wade and Gerrodette, 1993; Ferguson and Barlow, 2001; Gerrodette *et al.,* 2008; and Jackson *et al.,* 2008).

The marine mammals that occur in the survey area belong to three taxonomic groups: odontocetes (toothed whales and dolphins), mysticetes (baleen whales), and pinnipeds (seals, sea lions, and walrus). Cetaceans and pinnipeds are the subject of the IHA application to NMFS.

Table 1 (below) presents information on the abundance, distribution, population status, conservation status, and density of the marine mammals that may occur in the survey area during May, 2012.

TABLE 1—THE HABITAT, REGIONAL ABUNDANCE, AND CONSERVATION STATUS OF MARINE MAMMALS THAT MAY OCCUR IN OR NEAR THE SEISMIC SURVEY AREA IN THE SOUTH-EASTERN PACIFIC OCEAN

[See text and Tables 2 to 3 in SIO's application for further details]

Species	Habitat	Abundance	ESA [1]	MMPA [2]	Density (#/1,000 km^2) [3]
Mysticetes					
Humpback whale (*Megaptera novaeangliae*).	Mainly nearshore waters and banks.	[6] 2,900 (SE Pacific)	EN	D	[4] 0.8
Minke whale (*Balaenoptera acutorostrata*).	Coastal	[7] 338,000	NL	NC	[4] 0.8
Bryde's whale (*Balaenoptera edeni*)	Pelagic and coastal.	130,008	NL	NC	0.96
Sei whale (*Balaenoptera borealis*)	Mostly pelagic	[8] 11,000	EN	D	[5] 0.01
Fin whale (*Balaenoptera physalus*)	Slope, mostly pelagic.	[9] 15,178	EN	D	[5] 0.01
Blue whale (*Balaenoptera musculus*)	Pelagic and coastal.	[10] 1,415	EN	D	2.44
Odontocetes					
Sperm whale (*Physeter macrocephalus*).	Usually deep pelagic, steep topography.	[11] 26,053	EN	D	3.95
Pygmy sperm whale (*Kogia breviceps*).	Deep waters off shelf.	[12] 150,000	NL	NC	0.03
Dwarf sperm whale (*Kogia sima*)	Deep waters off shelf.	[12] 150,000	NL	NC	0.03
Cuvier's beaked whale (*Ziphius cavirostris*).	Slope and pelagic	[13] 20,000	NL	NC	0.80
Blainville's beaked whale (*Mesoplodon densirostris*).	Slope and pelagic	[14] 25,300	NL	NC	0.80
Gray's beaked whale (*Mesoplodon grayi*).	Slope and pelagic	NA	NL	NC	NA
Hector's beaked whale (*Mesoplodon hectori*).	Slope and pelagic	NA	NL	NC	NA
Strap-toothed beaked whale (*Mesoplodon layardii*).	Slope and pelagic	NA	NL	NC	NA
Unidentified Mesoplodon spp.	Slope and pelagic	NA	NL	NC	0.36
Rough-toothed dolphin (*Steno bredanensis*).	Mainly pelagic	107,633	NL	NC	4.19
Bottlenose dolphin (*Tursiops truncatus*).	Coastal, shelf, pelagic.	335,834	NL	NC; D—Western North Atlantic coastal.	17.06
Spinner dolphin (*Stenella longirostris*)	Coastal and pelagic.	1,797,716	NL	NC	35.70
Striped dolphin (*Stenella coeruleoalba*).	Off continental shelf.	964,362	NL	NC; D—Eastern	67.80

TABLE 1—THE HABITAT, REGIONAL ABUNDANCE, AND CONSERVATION STATUS OF MARINE MAMMALS THAT MAY OCCUR IN OR NEAR THE SEISMIC SURVEY AREA IN THE SOUTH-EASTERN PACIFIC OCEAN—Continued

[See text and Tables 2 to 3 in SIO's application for further details]

Species	Habitat	Abundance	ESA [1]	MMPA [2]	Density (#/1,000 km^2) [3]
Short-beaked common dolphin (*Delphinus delphis*).	Shelf, pelagic, high relief.	3,127,203	NL	NC	110.90
Risso's dolphin (*Grampus griseus*)	Shelf, slope, seamounts.	110,457	NL	NC	10.21
False killer whale (*Pseudorca crassidens*).	Pelagic	398,009	NL; Proposed EN—insular Hawaiian.	NC	0.39
Killer whale (*Orcinus orca*)	Widely distributed	[15] 8,500	NL; EN—Southern resident.	NC; D—Southern resident, AT1 transient.	0.85
Long-finned pilot whale (*Globicephala melas*).	Shelf and pelagic	[16] 200,000	NL	NC	11.88
Peale's dolphin (*Lagenorhynchus australis*).	Coastal and shelf	NA	NL	NC	[4] 0.8
Dusky dolphin (*Lagenorhynchus obscures*).	Shelf and slope	[17] 7,252	NL	NC	37
Southern right whale dolphin (*Lissodelphis peronni*).	Pelagic	NA	NL	NC	[5] 0.01
Chilean dolphin (*Cephalorhynchus eutropia*).	Coastal and shelf	[18] < 10,000	NL	NC	11.11
Burmeister's porpoise (*Phocoena spinipinnis*).	Coastal	NA	NL	NC	[5] 0.01
Pinnipeds					
South American fur seal (*Otaria flavescens*).	Coastal and shelf	[19] 30,000	NL	NC	NA
Juan Fernandez fur seal (*Arctocephalus philippii*).	Coastal and shelf	[20] 12,000	NL	NC	NA
South American sea lion (*Arctocephalus australis*).	Coastal and shelf	[21] 150,000	NL	NC	NA
Southern elephant seal (*Mirounga leonina*).	Coastal and pelagic.	[22] 650,000	NL	NC	NA

N.A. = Not available or not assessed.
[1] U.S. Endangered Species Act: EN = Endangered, T = Threatened, NL = Not listed.
[2] U.S. Marine Mammal Protection Act: D = Depleted, NC = Not Classified.
[3] Densities of other species (*e.g.,* pinnipeds) presumably would b lower than the lowest density in Table 3 of the application.
[4] Densities assigned an arbitrary density similar to densities reported for species that are uncommon in the survey area.
[5] Densities assigned an arbitrarily low number for rare species with unconfirmed sightings in the survey area.
[6] Southeast Pacific (Felix *et al.,* 2005)
[7] Estimated from Antarctic and common minke whales in South Pacific (Reilly, 2011).
[8] Based on 2007 projection for southern hemisphere (IWC, 1996).
[9] Based on 2007 projection for southern hemisphere (Reilly, 2011).
[10] ETP (Wade and Gerrodette, 1993) excluded nursing area south of study area estimated at approximately 267 animals.
[11] Eastern temperate North Pacific (Whitehead, 2002).
[12] This abundance estimate is for *Kogia sima* and *Kogia breviceps* in ETP (Ferguson and Barlow, 2001).
[13] ETP (Wade and Gerrodette, 1993).
[14] This estimate includes all species of the genus *Mesoplodon* in the ETP (Ferguson and Barlow, 2001).
[15] ETP (Ford, 2002).
[16] Southern hemisphere population (Waring *et al.,* 1997).
[17] Patagonian coast population (Dans *et al.,* 1997).
[18] South-Eastern Pacific (Reeves *et al.,* 2008).
[19] Chile (Arias, Shreiber, and Rivas, 1998).
[20] Juan Fernandez Archipelago population (Aurioles and Trillmich, 2008).
[21] Peru and Chile (Campagna, 2008a).
[22] Southern hemisphere (Campagna, 2009).

Refer to Section III and IV of SIO's application for detailed information regarding the abundance and distribution, population status, and life history and behavior of these species and their occurrence in the project area. The application also presents how SIO calculated the estimated densities for the marine mammals in the survey area. NMFS has reviewed these data and determined them to be the best available scientific information for the purposes of the IHA.

Potential Effects on Marine Mammals

Acoustic stimuli generated by the operation of the airguns, which introduce sound into the marine environment, may have the potential to cause Level B harassment of marine mammals in the survey area. The effects of sounds from airgun operations might include one or more of the following: Tolerance, masking of natural sounds, behavioral disturbance, temporary or permanent hearing impairment, or non-auditory physical or physiological effects (Richardson *et al.,* 1995; Gordon *et al.,* 2004; Nowacek *et al.,* 2007; Southall *et al.,* 2007).

Permanent hearing impairment, in the unlikely event that it occurred, would

constitute injury, but temporary threshold shift (TTS) is not an injury (Southall *et al.,* 2007). Although the possibility cannot be entirely excluded, it is unlikely that the proposed project would result in any cases of temporary or permanent hearing impairment, or any significant non-auditory physical or physiological effects. Based on the available data and studies described here, some behavioral disturbance is expected, but NMFS expects the disturbance to be localized and short-term.

The notice of the proposed IHA (77 FR 14744, March 13, 2012) included a discussion of the effects of sounds from airguns on mysticetes, odontocetes, and pinnipeds including tolerance, masking, behavioral disturbance, hearing impairment, and other non-auditory physical effects. NMFS refers the reader to SIO's application and EA for additional information on the behavioral reactions (or lack thereof) by all types of marine mammals to seismic vessels.

Anticipated Effects on Marine Mammal Habitat, Fish, Fisheries, and Invertebrates

NMFS included a detailed discussion of the potential effects of this action on marine mammal habitat, including physiological and behavioral effects on marine fish, fisheries, and invertebrates in the notice of the proposed IHA (77 FR 14744, March 13, 2012). The seismic survey will not result in any permanent impact on habitats used by the marine mammals in the proposed survey area, including the food sources they use (*i.e.* fish and invertebrates), and there will be no physical damage to any habitat. While NMFS anticipates that the specified activity may result in marine mammals avoiding certain areas due to temporary ensonification, this impact to habitat is temporary and reversible which was considered in further detail in the notice of the proposed IHA (77 FR 14744, March 13, 2012), as behavioral modification. The main impact associated with the activity will be temporarily elevated noise levels and the associated direct effects on marine mammals.

Recent work by Andre *et al.* (2011) purports to present the first morphological and ultrastructural evidence of massive acoustic trauma (*i.e.,* permanent and substantial alterations of statocyst sensory hair cells) in four cephalopod species subjected to low-frequency sound. The cephalopods, primarily cuttlefish, were exposed to continuous 40 to 400 Hz sinusoidal wave sweeps (100% duty cycle and 1 s sweep period) for two hours while captive in relatively small tanks (one 2,000 liter [L, 2 m^3] and one 200 L [0.2 m^3] tank). The received SPL was reported as 157±5 dB re 1 μPa, with peak levels at 175 dB re 1 μPa. As in the McCauley *et al.* (2003) paper on sensory hair cell damage in pink snapper as a result of exposure to seismic sound, the cephalopods were subjected to higher sound levels than they would be under natural conditions, and they were unable to swim away from the sound source.

Mitigation

In order to issue an ITA under section 101(a)(5)(D) of the MMPA, NMFS must set forth the permissible methods of taking pursuant to such activity, and other means of effecting the least practicable adverse impact on such species or stock and its habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and the availability of such species or stock for taking for certain subsistence uses.

SIO has based development and evaluation of effectiveness of the mitigation measures, to be implemented under the IHA for the seismic survey, on the following:

(1) Protocols used during previous SIO seismic research cruises as approved by NMFS;

(2) Previous IHA applications and IHAs approved and authorized by NMFS; and

(3) Recommended best practices in Richardson *et al.* (1995), Pierson *et al.* (1998), and Weir and Dolman, (2007).

Planning Phase—The PIs worked with SIO and NSF to identify potential time periods to carry out the survey taking into consideration key factors such as environmental conditions (*i.e.,* the seasonal presence of marine mammals), weather conditions, equipment, and optimal timing for other proposed seismic surveys using the *Melville.* Most marine mammal species are expected to occur in the area year-round, so altering the timing of the proposed survey likely would result in no net benefits for those species. Baleen whales are most common south of the survey area between February and June, whereas odontocetes were most commonly observed between October and November. After considering what energy source level was necessary to achieve the research goals, the PIs determined the use of the two GI airgun array with a maximum total volume of 210 in^3 would be required; however, a lower energy source with a total volume of 90 in^3 may be used. Given the research goals, location of the survey and associated deep water, this energy source level was viewed appropriate. The location of the survey was informed and adjusted based on the latest scientific information on the epicenter of the February 27, 2010 earthquake; survey location is critical for collecting the data for the overall research activity and meeting research objectives.

To reduce the potential for disturbance of marine mammals from acoustic stimuli associated with the specified activities, the IHA requires SIO and/or its designees shall implement the following mitigation measures:

(1) Exclusion zones;

(2) Speed or course alteration;

(3) Shut-down procedures; and

(4) Ramp-up procedures.

Exclusion Zones—Received sound levels have been modeled by L–DEO for a number of airgun configurations, including two 45 or two 105 in^3 GI airguns, in relation to distance and direction from the airguns (see Figure 2a and 2b of the IHA application). The models do not allow for bottom interactions, and are most directly applicable to deep water. Based on the modeling, estimates of the maximum distances from the source where sound levels are predicted to be 190, 180, and 160 dB re 1 μPa (rms) in deep water were determined (see Table 2 below).

Empirical data concerning the 190, 180, and 160 dB (rms) distances were acquired for various airgun arrays based on measurements during the acoustic verification studies conducted by L–DEO in the northern GOM in 2003 (Tolstoy *et al.,* 2004) and 2007 to 2008 (Tolstoy *et al.,* 2009). Results of the 36 airgun array are not relevant for the two GI airguns to be used in the survey. The empirical data for the 6, 10, 12, and 20 airgun arrays indicate that, for deep water, the L–DEO model tends to overestimate the received sound levels at a given distance (Tolstoy *et al.,* 2004). Measurements were not made for the two GI airgun array in deep water, however, SIO proposes to use the EZ predicted by L–DEO's model for the GI airgun operations in deep water, although they are likely conservative give the empirical results for the other arrays.

The 180 and 190 dB radii are shut-down criteria applicable to cetaceans and pinnipeds, respectively, as specified by NMFS (2000); these levels were used to establish the EZs. If the PSO detects marine mammal(s) within or about to enter the appropriate EZ, the airguns will be shut-down immediately.

Table 2 summarizes the predicted distances at which sound levels (160, 180, and 190 dB [rms]) are expected to

be received from the two GI airgun array operating in deep water depths.

TABLE 2—DISTANCES TO WHICH SOUND LEVELS ≥190, 180, AND 160 dB RE 1 μPA (RMS) COULD BE RECEIVED IN DEEP WATER DURING THE SEISMIC SURVEY IN THE SOUTH-EASTERN PACIFIC OCEAN, MAY 2012

[Distances are based on model results provided by L–DEO]

Source and Volume	Tow depth (m)	Water depth (m)	Predicted RMS radii distances (m)		
			190 dB	180 dB	160 dB
Two GI airguns (105 in^3) (210 in^3 total)	2	Deep (>1,000)	20	70	670
Two GI airguns (45 in^3) (90 in^3 total)	2	Deep (>1,000)	10	40	350

Speed or Course Alteration—If a marine mammal is detected outside the EZ and, based on its position and the relative motion, is likely to enter the EZ, the vessel's speed and/or direct course could be changed. This would be done if operationally practicable while minimizing the effect on the planned science objectives. The activities and movements of the marine mammal (relative to the seismic vessel) will then be closely monitored to determine whether the animal is approaching the applicable EZ. If the animal appears likely to enter the EZ, further mitigative actions will be taken, *i.e.,* either further course alterations or a shut-down of the seismic source. Typically, during seismic operations, the source vessel is unable to change speed or course and one or more alternative mitigation measures will need to be implemented.

Shut-down Procedures—SIO will shut down the operating airgun(s) if a marine mammal is seen outside the EZ for the airgun(s), and if the vessel's speed and/or course cannot be changed to avoid having the animal enter the EZ, the seismic source will be shut-down before the animal is within the EZ. If a marine mammal is already within the EZ when first detected, the seismic source will be shut-down immediately.

Following a shut-down, SIO will not resume airgun activity until the marine mammal has cleared the EZ. SIO will consider the animal to have cleared the EZ if:

- A PSO has visually observed the animal leave the EZ, or
- A PSO has not sighted the animal within the EZ for 15 minutes for species with shorter dive durations (*i.e.,* small odontocetes or pinnipeds), or 30 minutes for species with longer dive durations (*i.e.,* mysticetes and large odontocetes, including sperm, killer, and beaked whales).

Ramp-up Procedures—SIO will follow a ramp-up procedure when the airgun array begins operating after a specified period without airgun operations or when a shut-down has exceeded that period. For the present cruise, this period will be approximately 15 minutes under the IHA. SIO has used similar periods (approximately 15 minutes) during previous SIO surveys.

Ramp-up will begin with a single GI airgun (45 or 105 in^3). The second GI airgun (45 or 105 in^3) will be added after five minutes. During ramp-up, the PSOs will monitor the EZ, and if marine mammals are sighted, SIO will implement a shut-down as though both GI airguns were operational.

If the complete EZ has not been visible for at least 30 minutes prior to the start of operations in either daylight or nighttime, SIO will not commence the ramp-up. If one airgun has operated, ramp-up to full power will be permissible at night or in poor visibility, on the assumption that marine mammals will be alerted to the approaching seismic vessel by the sounds from the single airgun and could move away if they choose. A ramp-up from a shut-down may occur at night, but only where the EZ is small enough to be visible. SIO will not initiate a ramp-up of the airguns if a marine mammal is sighted within or near the applicable EZs during the day or close to the vessel at night.

NMFS has carefully evaluated the applicant's mitigation measures and has considered a range of other measures in the context of ensuring that NMFS prescribes the means of effecting the least practicable adverse impact on the affected marine mammal species and stocks and their habitat. NMFS's evaluation of potential measures included consideration of the following factors in relation to one another:

(1) The manner in which, and the degree to which, the successful implementation of the measure is expected to minimize adverse impacts to marine mammals;

(2) The proven or likely efficacy of the specific measure to minimize adverse impacts as planned; and

(3) The practicability of the measure for applicant implementation.

Based on NMFS's evaluation of the applicant's measures, as well as other measures considered by NMFS or recommended by the public, NMFS has determined that the mitigation measures included in the IHA provide the means of effecting the least practicable impacts on marine mammal species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance.

Monitoring and Reporting

In order to issue an ITA for an activity, section 101(a)(5)(D) of the MMPA states that NMFS must set forth ''requirements pertaining to the monitoring and reporting of such taking.'' The MMPA implementing regulations at 50 CFR 216.104 (a)(13) indicate that requests for IHAs must include the suggested means of accomplishing the necessary monitoring and reporting that will result in increased knowledge of the species and of the level of taking or impacts on populations of marine mammals that are expected to be present in the action area.

Monitoring

SIO will sponsor marine mammal monitoring during the present project, in order to implement the mitigation measures that require real-time monitoring, and to satisfy the anticipated monitoring requirements of the IHA. SIO's Monitoring Plan is described below this section. The monitoring work described here has been planned as a self-contained project independent of any other related monitoring projects that may be occurring simultaneously in the same regions. SIO is prepared to discuss coordination of its monitoring program with any related work that might be done by other groups insofar as this is practical and desirable.

Vessel-Based Visual Monitoring

SIO's PSOs will be based aboard the seismic source vessel and will watch for marine mammals near the vessel during

daytime airgun operations and during any ramp-ups at night. PSOs will also watch for marine mammals near the seismic vessel for at least 30 minutes prior to the ramp-up of airgun operations after an extended shut-down (*i.e.,* greater than approximately 15 minutes for this proposed cruise). When feasible, PSOs will conduct observations during daytime periods when the seismic system is not operating for comparison of sighting rates and behavior with and without airgun operations and between acquisition periods. Based on PSO observations, the airguns will be shut-down when marine mammals are observed within or about to enter a designated EZ. The EZ is a region in which a possibility exists of adverse effects on animal hearing or other physical effects.

During seismic operations in the south-eastern Pacific Ocean, three PSOs will be based aboard the *Melville*. SIO will appoint the PSOs with NMFS's concurrence. At least one PSO will monitor the EZs during seismic operations. Observations will take place during ongoing daytime operations and nighttime ramp-ups of the airguns. PSO(s) will be on duty in shifts of duration no longer than 4 hr. The vessel crew will also be instructed to assist in detecting marine mammals.

The *Melville* is a suitable platform for marine mammal observations of protected species. The primary observer platform is located one deck below and forward of the bridge (02 level, 12.46 m [40.9 ft] above the waterline), affording relatively unobstructed 180° forward view. A pair of Big-eye binoculars is mounted in this location. The open deck continues along both the port and starboard sides, and opens up to an aft deck stretching across the full width of the vessel. PSOs have views in a full 360° by walking along this deck. In extremely inclement weather, the PSOs move on to the bridge (03 level, 15.5 m [50.6 ft] above the water line). There they will have a 360° view through the windows.

During daytime, the PSOs will scan the area around the vessel systematically with reticle binoculars (*e.g.,* 7 x 50 Fujinon), Big-eye binoculars (25 x 150), optical range finders and with the naked eye. During darkness, night vision devices (NVDs) will be available, when required. The PSOs will be in wireless communication with the vessel's officers on the bridge and scientists in the vessel's operations laboratory, so they can advise promptly of the need for avoidance maneuvers or seismic source shut-down. When marine mammals are detected within or about to enter the designated EZ, the airguns will immediately be shut-down. The PSO(s) will continue to maintain watch to determine when the animal(s) are outside the EZ by visual confirmation. Airgun operations will not resume until the animal is confirmed to have left the EZ, or if not observed after 15 minutes for species with shorter dive durations (small odontocetes and pinnipeds) or 30 minutes for species with longer dive durations (mysticetes and large odontocetes, including sperm, killer, and beaked whales).

PSO Data and Documentation

PSOs will record data to estimate the numbers of marine mammals exposed to various received sound levels and to document apparent disturbance reactions or lack thereof. Data will be used to estimate numbers of animals potentially 'taken' by harassment (as defined in the MMPA). They will also provide information needed to order a shut-down of the airguns when a marine mammal is within or near the EZ. Observations will also be made during daytime periods when the *Melville* is underway without seismic operations (*i.e.,* transits to, from, and through the study area) to collect baseline biological data.

When a sighting is made, the following information about the sighting will be recorded:

1. Species, group size, age/size/sex categories (if determinable), behavior when first sighted and after initial sighting, heading (if consistent), bearing and distance from seismic vessel, sighting cue, apparent reaction to the airguns or vessel (*e.g.,* none, avoidance, approach, paralleling, etc.), and behavioral pace.

2. Time, location, heading, speed, activity of the vessel, Beaufort sea state, visibility, and sun glare.

The data listed under (2) will also be recorded at the start and end of each observation watch, and during a watch whenever there is a change in one or more of the variables.

All observations as well as information regarding shut-downs of the seismic source, will be recorded in a standardized format. The data accuracy will be verified by the PSOs at sea, and preliminary reports will be prepared during the field program and summaries forwarded to the operating institution's shore facility and to NSF weekly or more frequently.

Vessel-based observations by the PSO will provide the following information:

1. The basis for real-time mitigation (airgun shut-down).

2. Information needed to estimate the number of marine mammals potentially taken by harassment, which must be reported to NMFS.

3. Data on the occurrence, distribution, and activities of marine mammals in the area where the seismic study is conducted.

4. Information to compare the distance and distribution of marine mammals relative to the source vessel at times with and without seismic activity.

5. Data on the behavior and movement patterns of marine mammals seen at times with and without seismic activity.

SIO will submit a report to NMFS and NSF within 90 days after the end of the cruise. The report will describe the operations that were conducted and sightings of marine mammals near the operations. The report will provide full documentation of methods, results, and interpretation pertaining to all monitoring. The 90-day report will summarize the dates and locations of seismic operations, and all marine mammal sightings (dates, times, locations, activities, associated seismic survey activities). The report will also include estimates of the number and nature of exposures that could result in potential ''takes'' of marine mammals by harassment or in other ways. After the report is considered final, it will be publicly available on the NMFS and NSF Web sites.

In the unanticipated event that the specified activity clearly causes the take of a marine mammal in a manner prohibited by this IHA, such as an injury (Level A harassment), serious injury or mortality (*e.g.,* ship-strike, gear interaction, and/or entanglement), SIO will immediately cease the specified activities and immediately report the incident to the Chief of the Permits and Conservation Division, Office of Protected Resources, NMFS at 301–427–8401 and/or by email to *Jolie.Harrison@noaa.gov* and *Howard.Goldstein@noaa.gov,* and the NMFS Southwest Regional Stranding Coordinators (*Joe.Cordaro@noaa.gov* and *Sarah.Wilkin@noaa.gov*). The report must include the following information:

- Time, date, and location (latitude/longitude) of the incident;
- Name and type of vessel involved;
- Vessel's speed during and leading up to the incident;
- Description of the incident;
- Status of all sound source use in the 24 hours preceding the incident;
- Water depth;
- Environmental conditions (*e.g.,* wind speed and direction, Beaufort sea state, cloud cover, and visibility);
- Description of all marine mammal observations in the 24 hours preceding the incident;

- Species identification or description of the animal(s) involved;
- Fate of the animal(s); and
- Photographs or video footage of the animal(s) (if equipment is available).

Activities shall not resume until NMFS is able to review the circumstances of the prohibited take. NMFS shall work with SIO to determine what is necessary to minimize the likelihood of further prohibited take and ensure MMPA compliance. SIO may not resume their activities until notified by NMFS via letter or email, or telephone.

In the event that SIO discovers an injured or dead marine mammal, and the lead PSO determines that the cause of the injury or death is unknown and the death is relatively recent (*i.e.,* in less than a moderate state of decomposition as described in the next paragraph), SIO will immediately report the incident to the Chief of the Permits and Conservation Division, Office of Protected Resources, NMFS, at 301–427–8401, and/or by email to *Jolie.Harrison@noaa.gov* and *Howard.Goldstein@noaa.gov,* and the NMFS Southwest Regional Office (562–980–4017) and/or by email to the Southwest Regional Stranding Coordinators (*Joe.Cordaro@noaa.gov* and *Sarah.Wilkin@noaa.gov*). The report must include the same information identified in the paragraph above. Activities may continue while NMFS reviews the circumstances of the incident. NMFS will work with SIO to determine whether modifications in the activities are appropriate.

In the event that SIO discovers an injured or dead marine mammal, and the lead PSO determines that the injury or death is not associated with or related to the activities authorized in the IHA (*e.g.,* previously wounded animal, carcass with moderate to advanced decomposition, or scavenger damage), SIO will report the incident to the Chief of the Permits and Conservation Division, Office of Protected Resources, NMFS, at 301–427–8401, and/or by email to *Jolie.Harrison@noaa.gov* and *Howard.Goldstein@noaa.gov,* and the NMFS Southwest Regional Office (562–980–4017), and/or by email to the Southwest Regional Stranding Coordinators (*Joe.Cordaro@noaa.gov* and *Sarah.Wilkin@noaa.gov*), within 24 hours of discovery. SIO will provide photographs or video footage (if available) or other documentation of the stranded animal sighting to NMFS and the Marine Mammal Stranding Network. Activities may continue while NMFS reviews the circumstances of the incident.

Estimated Take by Incidental Harassment

Except with respect to certain activities not pertinent here, the MMPA defines ''harassment'' as: Any act of pursuit, torment, or annoyance which (i) has the potential to injure a marine mammal or marine mammal stock in the wild [Level A harassment]; or (ii) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering [Level B harassment].

Only take by Level B harassment is anticipated and authorized as a result of the marine seismic survey in the south-eastern Pacific Ocean. Acoustic stimuli (*i.e.,* increased underwater sound) generated during the operation of the seismic airgun array may have the potential to cause marine mammals in the survey area to be exposed to sounds at or greater than 160 dB or cause temporary, short-term changes in behavior. There is no evidence that the planned activities could result in injury, serious injury, or mortality within the specified geographic area for which NMFS has issued the IHA. Take by injury, serious injury, or mortality is thus neither anticipated nor authorized. NMFS has determined that the required mitigation and monitoring measures will minimize any potential risk for injury, serious injury, or mortality.

The following sections describe SIO's methods to estimate take by incidental harassment and present the applicant's estimates of the numbers of marine mammals that could be affected during the seismic program. The estimates are based on a consideration of the number of marine mammals that could be disturbed appreciably by operations with the two GI airgun array to be used during approximately 1,810 km (977.3 nmi) (includes primary and secondary lines and an additional 25 percent contingency) of survey lines in the south-eastern Pacific Ocean.

SIO assumes that, during simultaneous operations of the airgun array and the other sources, any marine mammals close enough to be affected by the MBES and SBP would already be affected by the airguns. However, whether or not the airguns are operating simultaneously with the other sources, marine mammals are expected to exhibit no more than short-term and inconsequential responses to the MBES and SBP given their characteristics (*e.g.,* narrow, downward-directed beam) and other considerations described previously. Such reactions are not considered to constitute ''taking'' (NMFS, 2001). Therefore, SIO provides no additional allowance for animals that could be affected by sound sources other than airguns.

Extensive systematic ship-based surveys have been conducted by NMFS SWFSC for marine mammals in the ETP. SIO used densities from five sources:

(1) SWFSC has recently developed habitat modeling as a method to estimate cetacean densities on a finer spatial scale than traditional line-transect analyses by using a continuous function of habitat variables, *e.g.,* sea surface temperature, depth, distance from shore, and prey density (Barlow *et al.,* 2009). For the ETP, the models are based on data from 12 SWFSC ship-based cetacean and ecosystem assessment surveys conducted during July to December from 1986 to 2006. The models have been incorporated into a web-based Geographic Information System (GIS) developed by Duke University's Department of Defense Strategic Environmental Research and Development Program (SERDP) team in close collaboration with the SWFSC SERDP team (Read *et al.,* 2009). For 11 cetacean species in the model, SIO used the GIS to obtain mean densities near the survey area, *i.e.,* in a rectangle bounded by 4° to 12° South and 75° to 85° West, which was the south-eastern extent of the model;

(2) For species sighted in SWFSC surveys whose sample sizes were too small to model density, SIO used densities from the surveys conducted during summer and fall 1986 to 1996, as summarized by Ferguson and Barlow (2001). Densities were calculated from Ferguson and Barlow (2003) for 5° x 5° blocks that include the proposed survey areas and corridors: Blocks 139, 159, 160, 200, 201, 202, 212, 213, and 219. Those blocks included 27,275 km (14727.3 nmi) of survey effort in Beaufort sea states 0 to 5, and 2,564 km (1,384.5 nmi) of survey effort in Beaufort sea states 0 to 2. Densities were obtained for an additional five species that were sighted in one or more of those blocks;

(3) For dusky dolphins, SIO used the mean densities reported for Area A from aerial surveys in North and Central Patagonia (Shiavini *et al.,* 1999), corrected for $f(0)$, but not $g(0)$. Since the closest density estimates were taken south of the survey area, where dusky dolphin abundance is higher, SIO used 10 percent of the reported density to account for the decreased abundance of dusky dolphins in the proposed survey area;

(4) For Chilean dolphins, SIO used the estimated density of Chilean

dolphins in Patagonia from Heinrich (2006). The extralimital, offshore distribution of Chilean dolphins in the survey area was corrected for by taking 1 percent of the densities reported by Heinrich (2006);

(5) For blue whales, SIO used the densities reported by Galletti-Vernazzani and Cabrera (2009) from aerial surveys in Patagonia in March 2007 and April in 2009 that took place south of the survey site (39° South to 44° South). The density estimates were corrected for $f(0)$ and g(0). Given the higher abundance of blue whales south of the survey site, SIO corrected the reported density for the survey area by reducing the density by 50 percent.

For two species for which there are only unconfirmed sightings in the region, the sei and fin whale, arbitrary low densities (equal to the density of the species with the lowest calculated density) were assigned. The same arbitrary low density was assigned to southern right whale dolphins and Burmeister's porpoise, where no confirmed sightings were made within the survey region. In addition, there were no density estimates available for humpback whales, minke whales, and Peale's dolphins, but confirmed sightings have been made near the survey area. SIO arbitrarily assigned a density estimate of 0.8 animals/1,000 km², which was similar to the densities reported for uncommon species in the area.

Oceanographic conditions, including occasional El Nino and La Nina events, influence the distribution and numbers of marine mammals present in the ETP and SEP, resulting in considerable year-to-year variation in the distribution and abundance of many marine mammal species (*e.g.,* Escorza-Trevino, 2009). Thus, for some species the densities derived from recent surveys may not be representative of densities that will be encountered during the seismic survey.

SIO used estimated densities (see Table 3 of the application) for each cetacean species likely to occur in the study area, *i.e.,* species for which SIO obtained or assigned densities. The densities had been corrected, by the authors, for both trackline detectability and availability bias. Trackline detection probability bias is associated with diminishing sightability with increasing lateral distance from the trackline, and is measured by $f(0)$. Availability bias refers to the fact that there is less-than-100% probability of sighting an animal that is present along the survey trackline $f(0)$, and it is measured by g(0). Corrections for $f(0)$ and g(0) were made where mentioned above. The densities are given in Table 3 of SIO's IHA application.

SIO's estimates of exposures to various sound levels assume that the surveys will be fully completed; in fact, the ensonified areas calculated using the planned number of line-km have been increased by 25 percent to accommodate turns, lines that may need to be repeated, equipment testing, etc. As is typical during offshore ship surveys, inclement weather and equipment malfunctions are likely to cause delays and may limit the number of useful line-kilometers of seismic operations that can be undertaken. Furthermore, any marine mammal sightings within or near the designated EZs will result in the shut-down of seismic operations as a mitigation measure. Thus, the following estimates of the numbers of marine mammals potentially exposed to sound levels of 160 dB re 1 μPa (rms) are precautionary and probably overestimate the actual numbers of marine mammals that might be involved. These estimates also assume that there will be no weather, equipment, or mitigation delays, which is highly unlikely.

SIO estimated the number of different individuals that may be exposed to airgun sounds with received levels greater than or equal to 160 dB re 1 μPa (rms) on one or more occasions by considering the total marine area that would be within the 160 dB radius around the operating airgun array on at least one occasion, along with the expected density of marine mammals in the area. The seismic lines are not in close proximity, which minimizes the number of times an individual marine mammal may be exposed during the survey; the area including the overlap is only 1.2 times the area excluding overlap.

The numbers of different individuals potentially exposed to greater than or equal to 160 dB (rms) were calculated by multiplying the expected species density times the anticipated area to be ensonified during airgun operations. The area expected to be ensonified was determined by entering the planned survey lines into a MapInfo GIS, using the GIS to identify the relevant areas by ''drawing'' the applicable 160 dB buffer (see Table 1 of the IHA application) around each seismic line, and then calculating the total area within the buffers. Areas where overlap occurred (because of crossing lines) were included only once when estimating the number of individuals exposed.

Applying the approach described above, approximately 1,448.4 km² (422.3 nmi²) would be within the 160 dB isopleth on one or more occasions during the survey (including primary and secondary lines). The total ensonified area used to calculate estimated numbers exposed was approximately 1,810.5 km² [527.9 nmi²] and includes the additional 25 percent increase in the calculated area for contingency. Because this approach does not allow for turnover in the marine mammal populations in the study area during the course of the survey, the actual number of individuals exposed could be underestimated, although the conservative (*i.e.,* probably overestimated) line-kilometer distances used to calculate the area may offset this. Also, the approach assumes that no cetaceans will move away from or toward the trackline as the *Melville* approaches in response to increasing sound levels prior to the time the levels reach 160 dB. Another way of interpreting the estimates that follow is that they represent the number of individuals that are expected (in the absence of a seismic program) to occur in the waters that will be exposed to greater than or equal to 160 dB re 1 μPa (rms).

Table 3 (Table 3 of the IHA application) shows the estimates of the number of different individual marine mammals that potentially could be exposed to greater than or equal to 160 dB re 1 μPa (rms) during the seismic survey if no animals moved away from the survey vessel. The requested take authorization is given in Table 3 (below; the far right column of Table 3 of the IHA application). For ESA listed species, the requested take authorization has been increased to the mean group size in southern Chile where available (Viddi *et al.,* 2010) or the ETP (Wade and Gerodette, 1993), where the calculated number of individuals exposed was between 0.05 and the mean group size (*i.e.,* for sei, fin, humpback, and sperm whales). For species not listed under the ESA that could occur in the study area, the requested take authorization has been increased to the mean group size in the ETP (Wade and Gerodette, 1993) or southern Chile (Viddi *et al.,* 2010); Zamorano-Abramson *et al.,* 2010) in cases where the calculated number of individuals exposed was between one and the mean group size. For delphinids where typically large group sizes are encountered, the requested take authorization was increased to the mean group size in southern Chile (Aguauo *et al.,* 1998; Viddi *et al.,* 2010; Zamarano-Abramson *et al.,* 2010) if the calculated number was greater than one, but less than the mean group size.

The best estimate of the number of individual cetaceans that could be

exposed to seismic sounds with received levels greater than or equal to 160 dB re 1 μPa (rms) during the survey is 561 (see Table 3 of the IHA application). That total includes: 1 humpback, 1 minke, 2 Bryde's, 4 blue, and 7 sperm whales, 1 Cuvier's, 1 Blainville's, and 1 unidentified *Mesoplodon* beaked whale, 15 rough-toothed, 72 bottlenose, 134 spinner, 123 striped, 254 short-beaked common, 4 Peale's, 67 dusky, and 4 Chilean dolphins, and 1 false killer, 2 killer, and 22 long-finned pilot whales, which would represent less than 1% of the regional populations for any of the respective species. Most (96.4%) of the cetaceans potentially exposed are delphinids; rough-toothed, short-beaked common, striped, spinner, bottlenose, Risso's, and dusky dolphins and long-finned pilot whales are estimated to be the most common species in the study area. Due to the extralimital distribution of pinnipeds in the study area, no pinnipeds are expected to be encountered during the survey. The authorized incidental take numbers of humpback (3), minke (2), sperm (8), Cuvier's (2), Blainville's (2), *Mesoplodon* spp. (2), false killer (10), and killer (10) whales, as well as rough-toothed (15), bottlenose (72), spinner (134), Risso's (254), and Peale's (4) dolphins has been requested from the calculated potential takes to account for mean group size (Jefferson *et al.,* 2008).

TABLE 3—ESTIMATES OF THE POSSIBLE NUMBERS OF MARINE MAMMALS EXPOSED TO DIFFERENT SOUND LEVELS ≥160 dB DURING SIO'S SEISMIC SURVEY IN THE SOUTH-EASTERN PACIFIC OCEAN DURING MAY 2012

Species	Estimated number of individuals exposed to sound levels ≥160 dB re 1 μPa [1]	Authorized take requested	Incidental take authorized	Approximate percent of regional population (for incidental take authorized) [2]
Mysticetes				
Humpback whale	1	*3	3	0.1
Minke whale	1	*2	2	<0.01
Bryde's whale	2	2	2	<0.01
Sei whale	0	0	0	NA
Fin whale	0	0	0	NA
Blue whale	4	4	4	0.3
Odontocetes				
Sperm whale	7	*8	8	0.03
Pygmy sperm whale	0	0	0	NA
Dwarf sperm whale	0	0	0	NA
Cuvier's beaked whale	1	1	2	0.01
Blainville's beaked whale	1	1	2	<0.01
Gray's beaked whale	0	0	0	NA
Hector's beaked whale	0	0	0	NA
Strap-toothed beaked whale	0	0	0	NA
Unidentified *Mesoplodon* spp.	1	1	2	NA
Rough-toothed dolphin	8	*15	15	0.01
Bottlenose dolphin	31	*72	72	0.02
Spinner dolphin	65	*134	134	<0.01
Striped dolphin	123	123	123	0.01
Short-beaked common dolphin	201	*254	254	0.01
Risso's dolphin	18	18	18	0.02
False killer whale	1	1	10	<0.01
Killer whale	2	2	10	0.12
Long-finned pilot whale	22	22	22	0.01
Peale's dolphin	1	*4	4	NA
Dusky dolphin	67	67	67	0.92
Southern right whale dolphin	0	0	0	NA
Chilean dolphin	4	4	4	0.4
Burmeister's porpoise	0	0	0	NA
Pinnipeds				
South American fur seal	0	0	0	NA
Juan Fernandez fur seal	0	0	0	NA
South American sea lion	0	0	0	NA
Southern elephant seal	0	0	0	NA

[1] Estimates are based on densities from Table 1 (Table 3 of the IHA application) and ensonified areas (including 25% contingency) for 160 dB of 1,810.5 km^2.

[2] Regional population size estimates are from Table 2 (see Table 2 of the IHA application); NA means not available.

* Requested authorized take was increased to mean group size for delphinids if calculated numbers were between 1 and mean group size, and increased to the mean group size if calculated vales were greater than 0.05 for endangered species.

N.A. Not available or not assessed.

Encouraging and Coordinating Research

SIO and NSF will coordinate the planned marine mammal monitoring program associated with the seismic survey in the south-eastern Pacific Ocean with any parties that may have or express an interest in the seismic survey area. SIO and NSF have coordinated, and will continue to coordinate, with other applicable Federal agencies as required, and will comply with their requirements. Pursuant to IHA requirements, SIO will submit a monitoring report to NMFS 90 days after the survey. PSO data collected during the survey will be submitted to OBIS Seamap and will be made available on the NSF Web site for interested parties and researchers.

Negligible Impact and Small Numbers Analysis and Determination

NMFS has defined ''negligible impact'' in 50 CFR 216.103 as ''* * * an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival.'' In making a negligible impact determination, NMFS evaluated factors such as:

(1) The number of anticipated injuries, serious injuries, or mortalities;

(2) The number, nature, and intensity, and duration of Level B harassment (all relatively limited);

(3) The context in which the takes occur (*i.e.,* impacts to areas of significance, impacts to local populations, and cumulative impacts when taking into account successive/contemporaneous actions when added to baseline data);

(4) The status of stock or species of marine mammals (*i.e.,* depleted, not depleted, decreasing, increasing, stable, and impact relative to the size of the population);

(5) Impacts on habitat affecting rates of recruitment/survival; and

(6) The effectiveness of monitoring and mitigation measures (*i.e.,* the manner and degree in which the measure is likely to reduce adverse impacts to marine mammals, the likely effectiveness of the measures, and the practicability of implementation).

For reasons stated previously in this document, and in the notice of the proposed IHA (77 FR 14744, March 13, 2012), the specified activities associated with the marine seismic survey are not likely to cause PTS, or other non-auditory injury, serious injury, or death because:

(1) The likelihood that, given sufficient notice through relatively slow ship speed, marine mammals are expected to move away from a noise source that is annoying prior to its becoming potentially injurious;

(2) The potential for temporary or permanent hearing impairment is relatively low and would likely be avoided through the incorporation of the required monitoring and mitigation measures (described above);

(3) The fact that pinnipeds would have to be closer than 10 m (32.8 ft) (for the 45 in^3) or 20 m (65.6 ft) (for the 105 in^3) in deep water when the two GI airgun array is in use at 2 m (6.6 ft) tow depth from the vessel to be exposed to levels of sound believed to have even a minimal chance of causing PTS;

(4) The fact that cetaceans would have to be closer than 40 m (131.2 ft) (for the 45 in^3) or 70 m (229.7 ft) (for the 105 in^3)in deep water when the two GI airgun array is in 2 m tow depth from the vessel to be exposed to levels of sound believed to have even a minimal chance of causing PTS; and

(5) The likelihood that marine mammal detection ability by trained PSOs is high at close proximity to the vessel.

No injuries, serious injuries, or mortalities are anticipated to occur as a result of SIO's planned marine seismic survey, and none are authorized by NMFS. Only short-term, behavioral disturbance is anticipated to occur due to the brief and sporadic duration of the survey activities. Table 3 in this document outlines the number of Level B harassment takes that are anticipated as a result of the activities. Due to the nature, degree, and context of Level B (behavioral) harassment anticipated and described (see Potential Effects on Marine Mammals section above) in this notice, the activity is not expected to impact rates of recruitment or survival for any affected species or stock. Additionally, the seismic survey will not adversely impact marine mammal habitat.

Many animals perform vital functions, such as feeding, resting, traveling, and socializing, on a diel cycle (*i.e.,* 24 hr cycle). Behavioral reactions to noise exposure (such as disruption of critical life functions, displacement, or avoidance of important habitat) are more likely to be significant if they last more than one diel cycle or recur on subsequent days (Southall *et al.,* 2007). While seismic operations are anticipated to occur on consecutive days, the entire duration of the survey is not expected to last more than 15 days and the *Melville* will be continuously moving along planned tracklines. Therefore, the seismic survey will be increasing sound levels in the marine environment surrounding the vessel for several weeks in the study area.

Of the 32 marine mammal species under NMFS jurisdiction that are known to or likely to occur in the study area, five are listed as endangered under the ESA: humpback, sei, fin, blue, and sperm whale. These species are also considered depleted under the MMPA. There is generally insufficient data to determine population trends for the other depleted species in the study area. To protect these animals (and other marine mammals in the study area), SIO must cease or reduce airgun operations if animals enter designated zones. No injury, serious injury, or mortality is expected to occur and due to the nature, degree, and context of the Level B harassment anticipated, the activity is not expected to impact rates of recruitment or survival.

As mentioned previously, NMFS estimates that 20 species of marine mammals under its jurisdiction could be potentially affected by Level B harassment over the course of the IHA. For each species, these numbers are small (each less than one percent) relative to the regional population size. The population estimates for the marine mammal species that may be taken by Level B harassment were provided in Table 1 of this document.

NMFS's practice has been to apply the 160 dB re 1 μPa (rms) received level threshold for underwater impulse sound levels to determine whether take by Level B harassment occurs. Southall *et al.* (2007) provide a severity scale for ranking observed behavioral responses of both free-ranging marine mammals and laboratory subjects to various types of anthropogenic sound (see Table 4 in Southall *et al.* [2007]).

NMFS has determined, provided that the aforementioned mitigation and monitoring measures are implemented, that the impact of conducting a marine seismic survey in the south-eastern Pacific Ocean, May, 2012, may result, at worst, in a temporary modification in behavior and/or low-level physiological effects (Level B harassment) of small numbers of certain species of marine mammals. See Table 3 (above) for the requested authorized take numbers of cetaceans and pinnipeds.

While behavioral modifications, including temporarily vacating the area during the operation of the airgun(s), may be made by these species to avoid the resultant acoustic disturbance, the availability of alternate areas within these areas and the short and sporadic duration of the research activities, have led NMFS to determine that this action will have a negligible impact on the

species in the specified geographic region.

Based on the analysis contained herein of the likely effects of the specified activity on marine mammals and their habitat, and taking into consideration the implementation of the mitigation and monitoring measures, NMFS finds that SIO's planned research activities, will result in the incidental take of small numbers of marine mammals, by Level B harassment only, and that the total taking from the marine seismic survey will have a negligible impact on the affected species or stocks of marine mammals; and that impacts to affected species or stocks of marine mammals have been mitigated to the lowest level practicable.

Impact on Availability of Affected Species or Stock for Taking for Subsistence Uses

Section 101(a)(5)(D) also requires NMFS to determine that the authorization will not have an unmitigable adverse effect on the availability of marine mammal species or stocks for subsistence use. There are no relevant subsistence uses of marine mammals in the study area (offshore waters of the south-eastern Pacific Ocean off of Chile) that implicate MMPA section 101(a)(5)(D).

Endangered Species Act

Of the species of marine mammals that may occur in the survey area, several are listed as endangered under the ESA, including the humpback, sei, fin, blue, and sperm whale. Under section 7 of the ESA, NSF initiated and engaged in formal consultation with the NMFS, Office of Protected Resources, Endangered Species Act Interagency Cooperation Division, on this seismic survey. NMFS's Office of Protected Resources, Permits and Conservation Division, also initiated and engaged in formal consultation under section 7 of the ESA with NMFS's Office of Protected Resources, Endangered Species Act Interagency Cooperation Division, on the issuance of an IHA under section 101(a)(5)(D) of the MMPA for this activity. These two consultations were consolidated and addressed in a single BiOp addressing the direct and indirect effects of these interdependent actions. In May, 2012, NMFS issued a BiOp and concluded that the action and issuance of the IHA are not likely to jeopardize the continued existence of cetaceans, pinnipeds, and sea turtles and included an Incidental Take Statement (ITS) incorporating the requirements of the IHA as Terms and Conditions. Compliance with those Relevant Terms and Conditions of the ITS is likewise a mandatory requirement of the IHA. The BiOp also concluded that designated critical habitat of these species does not occur in the action area and would not be affected by the survey.

National Environmental Policy Act (NEPA)

To meet NMFS's NEPA requirements for the issuance of an IHA to SIO, NMFS prepared an ''Environmental Assessment on the Issuance of an Incidental Harassment Authorization to the Scripps Institution of Oceanography to Take Marine Mammals by Harassment Incidental to a Marine Geophysical Survey in the South-Eastern Pacific Ocean, May, 2012.'' This EA incorporates the NSF's ''National Environmental Policy Act Analysis Pursuant to Executive Order 12114 of a Marine Geophysical Survey by the R/V *Melville* in the South-Eastern Pacific Ocean, May 2012'' and an associated report (Report) prepared by LGL for NSF and SIO titled ''Final Environmental Analysis of a Marine Geophysical Survey by the R/V *Melville* in the South-Eastern Pacific Ocean off Chile, May 2012,'' by reference pursuant to 40 CFR 1502.21 and NOAA Administrative Order (NAO) 216–6 § 5.09(d). NMFS has fully evaluated the potential direct, indirect, and cumulative effects on the human environment prior to making a final decision on the IHA application and deciding whether or not to issue a Finding of No Significant Impact (FONSI). After considering the final EA, the information in the IHA application, BiOp, and the **Federal Register** notice, as well as public comments, NMFS has determined that the issuance of the IHA is not likely to result in significant impacts on the human environment and has prepared a FONSI. An Environmental Impact Statement is not required and will not be prepared for the action. Authorization

NMFS has issued an IHA to SIO for the take, by Level B harassment, of small numbers of marine mammals incidental to conducting a marine seismic survey in the south-eastern Pacific Ocean, provided the previously mentioned mitigation, monitoring, and reporting requirements are incorporated.

Dated: May 2, 2012.

Helen M. Golde,

Acting Director, Office of Protected Resources, National Marine Fisheries Service.

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BILLING CODE 3510–22–P

DEPARTMENT OF DEFENSE

Office of the Secretary

[Transmittal Nos. 12–15]

36(b)(1) Arms Sales Notification

AGENCY: Department of Defense, Defense Security Cooperation Agency.

ACTION: Notice.

SUMMARY: The Department of Defense is publishing the unclassified text of a section 36(b)(1) arms sales notification. This is published to fulfill the requirements of section 155 of Public Law 104–164 dated July 21, 1996.

FOR FURTHER INFORMATION CONTACT: Ms. B. English, DSCA/DBO/CFM, (703) 601–3740.

The following is a copy of a letter to the Speaker of the House of Representatives, Transmittals 12–15 with attached transmittal, policy justification, and Sensitivity of Technology.

Dated: May 4, 2012.

Aaron Siegel,

Alternate OSD Federal Register Liaison Officer, Department of Defense.

BILLING CODE 5001–06–P