

sturgeon (*Acipenser brevirostrum*) for purposes of scientific research.

**DATES:** Written, telefaxed, or e-mail comments must be received on or before March 24, 2008.

**ADDRESSES:** The application and related documents are available for review upon written request or by appointment in the following offices:

Permits, Conservation and Education Division, Office of Protected Resources, NMFS, 1315 East-West Highway, Room 13705, Silver Spring, MD 20910; phone (301)713-2289; fax (301)713-0376; and

Southeast Region, NMFS, 263 13th Avenue South, St. Petersburg, FL 33701; phone (727)824-5312; fax (727)824-5309.

Written comments or requests for a public hearing on this application should be mailed to the Chief, Permits, Conservation and Education Division, F/PR1, Office of Protected Resources, NMFS, 1315 East-West Highway, Room 13705, Silver Spring, MD 20910. Those individuals requesting a hearing should set forth the specific reasons why a hearing on this particular request would be appropriate.

Comments may also be submitted by facsimile at (301)713-0376, provided the facsimile is confirmed by hard copy submitted by mail and postmarked no later than the closing date of the comment period.

Comments may also be submitted by e-mail. The mailbox address for providing e-mail comments is [NMFS.Pr1Comments@noaa.gov](mailto:NMFS.Pr1Comments@noaa.gov). Include in the subject line of the e-mail comment the following document identifier: File No. 10115.

**FOR FURTHER INFORMATION CONTACT:** Brandy Belmas or Malcolm Mohead, (301)713-2289.

**SUPPLEMENTARY INFORMATION:** The subject permit is requested under the authority of the Endangered Species Act of 1973, as amended (ESA; 16 U.S.C. 1531 *et seq.*), and the regulations governing the taking, importing, and exporting of endangered and threatened species (50 CFR 222-226).

Dr. Douglas Peterson is seeking a five-year scientific research permit to conduct a presence/absence study of shortnose sturgeon in the St. Marys and Satilla Rivers, Georgia. The purpose of the proposed research is to assess the current status of shortnose sturgeon in these rivers, as well as evaluate the current habitat availability in each river. If shortnose sturgeon are found, another objective of the proposed research would be to quantify the genetic discreteness and effective population size of the extant stock. The applicant is requesting to capture (by anchored

gill or trammel nets), measure, weigh, PIT tag, fin clip, and fin ray sample 73 shortnose sturgeon annually from each river. Blood samples would be collected from another 12 fish from each river annually, and internal radio tags would be implanted in a total of 10 fish from each river over the life of the permit.

Those fish that have blood collected and internal tags implanted would also be anesthetized and have their sex determined using laparoscopic procedures. Up to 20 eggs and larvae from each river would be collected by egg mats annually. A total of one unintentional mortality, for both rivers combined, is being requested each year.

Dated: February 14, 2008.

**Tammy C. Adams,**

*Acting Chief, Permits, Conservation and Education Division, Office of Protected Resources, National Marine Fisheries Service.*

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## DEPARTMENT OF COMMERCE

### National Oceanic and Atmospheric Administration

**RIN 0648-XF33**

#### Small Takes of Marine Mammals Incidental to Specified Activities; Marine Geophysical Survey off Central America, February-April 2008

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

**ACTION:** Notice; issuance of incidental take authorization.

**SUMMARY:** In accordance with the Marine Mammal Protection Act (MMPA) regulations, notification is hereby given that NMFS has issued an Incidental Harassment Authorization (IHA) to Lamont-Doherty Earth Observatory (L-DEO), a part of Columbia University, for the take of marine mammals, by Level B harassment only, incidental to conducting a marine seismic survey off Central America during February-April, 2008.

**DATES:** Effective February 15, 2008, through February 14, 2009.

**ADDRESSES:** A copy of the IHA and the application are available by writing to P. Michael Payne, Chief, Permits, Conservation and Education Division, Office of Protected Resources, National Marine Fisheries Service, 1315 East-West Highway, Silver Spring, MD 20910-3225 or by telephoning the contact listed here. A copy of the application containing a list of the

references used in this document may be obtained by writing to the address specified above, telephoning the contact listed below (see **FOR FURTHER INFORMATION CONTACT**), or visiting the internet at: <http://www.nmfs.noaa.gov/pr/permits/incidental.htm#applications>. Documents cited in this notice may be viewed, by appointment, during regular business hours, at the aforementioned address.

**FOR FURTHER INFORMATION CONTACT:** Candace Nachman, Office of Protected Resources, NMFS, (301) 713-2289 x156.

#### SUPPLEMENTARY INFORMATION:

##### Background

Sections 101(a)(5)(A) and (D) of the MMPA (16 U.S.C. 1361 *et seq.*) direct the Secretary of Commerce to allow, upon request, the incidental, but not intentional, taking of marine mammals by U.S. citizens who engage in a specified activity (other than commercial fishing) within a specified geographical region if certain findings are made and either regulations are issued or, if the taking is limited to harassment, a notice of a proposed authorization is provided to the public for review.

Authorization shall be granted if NMFS finds that the taking will have a negligible impact on the species or stock(s), will not have an unmitigable adverse impact on the availability of the species or stock(s) for subsistence uses (where relevant), and if the permissible methods of taking and requirements pertaining to the mitigation, monitoring and reporting of such takings are set forth. 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. 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].

Section 101(a)(5)(D) establishes a 45-day time limit for NMFS review of an application followed by a 30-day public notice and comment period on any proposed authorizations for the incidental harassment of marine mammals. Within 45 days of the close of the comment period, NMFS must either approve or deny the authorization.

#### Summary of Request

On August 24, 2007, NMFS received an application from L-DEO for the taking, by Level B harassment only, of small numbers of 26 species of marine mammals incidental to conducting, under a cooperative agreement with the National Science Foundation (NSF), a seismic survey in the Pacific Ocean and Caribbean Sea off Central America as part of the Subduction Factory (SubFac) initiative of NSF's MARGINS program from January-March, 2008. (The dates of the cruise were subsequently moved to February-April 2008.) The purpose of the research program was outlined in NMFS' notice of the proposed IHA (72 FR 71625, December 18, 2007).

#### Description of the Activity

The seismic survey will involve one source vessel, the R/V *Marcus G. Langseth* (*Langseth*), which will operate in two regions during the proposed survey: the Caribbean Sea and the Pacific Ocean. The *Langseth* will deploy an array of 36 airguns (6,600 in<sup>3</sup>) as an energy source and, at times, a receiving system consisting of a 6-km (3.7-mi) towed hydrophone streamer. The streamer will be towed at a depth of 5–8 m (16–26 ft). As the airgun array 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. In the Caribbean region, the *Langseth* will also deploy Ocean Bottom Seismometers (OBSs) to receive the returning acoustic signals. In the Pacific Ocean, a second vessel, the R/V *New Horizon*, will deploy and retrieve the OBSs.

For the first part of the cruise, the *Langseth* is expected to depart Puerto Limon, Costa Rica, on approximately February 16, 2008 for the study area in

the Caribbean Sea (see Figure 1 in the application). The seismic survey will commence following the transit and deployment of the streamer and airgun array. Following approximately 25 days of surveying in the Caribbean Sea, all equipment will be recovered, and the vessel will return to Puerto Limon on approximately March 11, 2008. The vessel will then transit through the Panama Canal, likely taking on fuel in Panama. The second part of the survey will commence in the Pacific Ocean on approximately March 19, 2008 from Puerto Caldera, Costa Rica. The Pacific survey is estimated to last approximately 25 days. The vessel is scheduled to arrive at Puerto Caldera on April 13, 2008. The exact dates of the activities depend upon logistics, as well as weather conditions and/or the need to repeat some lines if data quality is substandard.

The Central American SubFac survey will encompass the area from 9.6°–14° N., 82°–83.8° W. in the Caribbean Sea and the area 8°–11.5° N., 83.6°–88° W. in the Pacific Ocean (see Figure 1 in the application). Water depths in the survey area range from less than 100 m (328 ft) to greater than 2,500 m (8,202 ft).

The marine seismic survey will consist of approximately 2,149 km (1,335 mi) of unique survey lines: 753 km (468 mi) in the Caribbean and 1,396 km (867 mi) in the Pacific (see Table 1 in the application). With the exception of two lines (D and E) located in shallow to intermediate-depth water, all lines will be shot twice, once at approximately a 50-m (164 ft; 20-s) shot spacing for multichannel seismic data and once at approximately a 200-m (656 ft; 80-s) shot spacing for OBS refraction data, for a total of approximately 3,980 km (2,473 mi) of survey lines (see Table 1 in the application). The approximate numbers of line kilometers expected to be surveyed in the Pacific and Caribbean in three different water depth categories are shown in Table 2 of the application. There will be additional operations associated with equipment testing, startup, line changes, and repeat coverage of any areas where initial data quality is substandard. There will be an

additional 77 km (48 mi) of survey effort in the Pacific Ocean around Culebra off Nicoya Peninsula not reflected in Table 1 of L-DEO's application. These additional six transect lines will occur in water greater than 100 m (328 ft) deep, will not add any additional days to the cruise, and are not expected to increase the number of takes by harassment (see below).

The *New Horizon* will be the dedicated OBS vessel during the Pacific part of the survey and will deploy and retrieve the OBSs. A combination of 85 OBSs (150 total deployments) will be used during the project. A total of 60 OBS deployments will take place in the Caribbean (from the *Langseth*), and 90 deployments will take place in the Pacific from the *New Horizon*.

In addition to the operations of the airgun array, a 12-kHz Simrad EM120 multibeam echosounder will be operated from the *Langseth* continuously throughout the cruise. Also, a 3.5-kHz sub-bottom profiler (SBP) will be operated by the *Langseth* during most of the survey and during normal operations by the *New Horizon*.

A more detailed description of the authorized action, including vessel and acoustic source specifications, was included in the proposed IHA notice (72 FR 71625, December 18, 2007).

#### Safety Radii

L-DEO estimated the safety radii around their operations using a model and by adjusting the model results based on empirical data gathered in the Gulf of Mexico in 2003. Additional information regarding safety radii in general, how the safety radii were calculated, and how the empirical measurements were used to correct the modeled numbers may be found in NMFS' proposed IHA notice (72 FR 71625, December 18, 2007) and Section I and Appendix A of L-DEO's application. Using the modeled distances and various correction factors, Table 1 outlines the distances at which three rms sound levels (190 dB, 180 dB, and 160 dB) are expected to be received from the various airgun configurations in shallow, intermediate, and deep water depths.

Source and Volume	Tow Depth (m)	Water Depth	Predicted RMS Distances (m)		
			190 dB	180 dB	160 dB
Single Bolt airgun 40 in <sup>3</sup>	9	Deep	12	40	385
		Intermediate	18	60	578
		Shallow	150	296	1050

Source and Volume	Tow Depth (m)	Water Depth	Predicted RMS Distances (m)		
			190 dB	180 dB	160 dB
4 strings 36 airguns 6600 in <sup>3</sup>	9	Deep	300	950	6000
		Intermediate	450	1425	6667
		Shallow	2182	3694	8000
4 strings 36 airguns 6600 in <sup>3</sup>	12	Deep	340	1120	7400
		Intermediate	510	1680	8222
		Shallow	2473	4356	9867

Table 1. Predicted distances to which sound levels  $\geq 190$ , 180, and 160 dB re 1  $\mu$ Pa might be received in shallow (<100 m; 328 ft), intermediate (100-1,000 m; 328-3,280 ft), and deep (>1,000 m; 3,280 ft) water during the Central American SubFac survey.

### Comments and Responses

A notice of receipt of the L-DEO application and proposed IHA was published in the **Federal Register** on December 18, 2007 (72 FR 71625). During the comment period, NMFS received comments from the Marine Mammal Commission (MMC). Following are the comments from the MMC and NMFS' responses.

*MMC Comment 1:* The MMC recommends that observations be made during all ramp-up procedures to gather data regarding its effectiveness as a mitigation measure.

*Response:* The IHA requires that marine mammal observers (MMOs) on the *Langseth* 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 seismic vessel, sighting cue, apparent reaction to 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 power-down), sea state, visibility, cloud cover, and sun glare.

These requirements should provide information regarding the effectiveness of ramp-up as a mitigation measure, provided animals are detected during ramp-up.

*MMC Comment 2:* The MMC recommends that the monitoring period prior to the initiation of seismic activities and to the resumption of airgun activities after a power-down be extended to one hour.

*Response:* As the MMC points out, several species of deep-diving cetaceans are capable of remaining underwater for more than 30 minutes. However, for the

following reasons, NMFS believes that 30 minutes is an adequate length for the monitoring period prior to the start-up of airguns: (1) because the *Langseth* is required to ramp-up, the time of monitoring prior to start-up of any but the smallest array is effectively longer than 30 minutes (i.e., ramp-up will begin with the smallest gun in the array and airguns will be added in a sequence such that the source level of the array will increase in steps not exceeding approximately 6 dB per 5-min period over a total duration of 20–40 min); (2) in many cases MMOs are making observations during times when sonar is not being operated and will actually be observing the area prior to the 30-min observation period anyway; (3), many of the species that may be exposed do not stay underwater more than 30 minutes; and (4) all else being equal and if a deep diving individual happened to be in the area in the short time immediately prior to the pre-start-up monitoring, if an animal's maximum underwater time is 45 minutes, there is only a 1 in 3 chance that its last random surfacing would be prior to the beginning of the required 30-min monitoring period.

*MMC Comment 3:* The MMC recommends that NMFS provide additional justification for its proposed determination that the planned monitoring program will be sufficient to detect, with a high level of certainty, all marine mammals within or entering the identified safety radii.

*Response:* The *Langseth* is utilizing a team of trained MMOs to both visually monitor from the high observation tower of the *Langseth* and to conduct passive acoustic monitoring (PAM). This monitoring, along with the required mitigation measures (see below), will result in the least practicable adverse impact on the affected species or stocks and will result in a negligible impact on the affected species or stocks.

When stationed on the observation platform of the *Langseth*, the eye level will be approximately 17.8 m (58.4 ft) above sea level, so the visible distance (in good weather) to the horizon is 8.9 nm (16.5 km; the largest safety radii is

2.4 nm, 4.4 km). Big eyes are most effective at scanning the horizon (for blows), while 7 X 50 reticle binoculars are more effective closer in (MMOs also use a naked eye scan). Night vision devices (NVDs) will be used in low light situations. Additionally, MMOs will have a good view in all directions around the entire vessel. Also, nearly 80 percent of the survey transect lines are in intermediate or deep water depths, where the safety radii are all less than 1 nm (1.9 km).

In some cases, particularly in shallow water, chase boats will be deployed, if practicable. The primary mission of the chase boat is to warn boats that the seismic vessel is approaching and thus the boat will be in front of the seismic vessel (generally about 3.7 km, 2 nm). The plan is to have one MMO on the chase boat, who will advise the *Langseth* of the presence of marine mammals in the operating area when forward of the vessel and check for injured animals when aft of the vessel.

Theoretical detection distance of this PAM system is 10s of kilometers. The PAM is operated both during the day and at night. Though it depends on the lights on the ship, the sea state, and thermal factors, MMOs estimated that visual detection is effective out to between 150 and 250 m (492 and 820 ft) using NVDs and about 30 m (98.4 ft) with the naked eye. However, the PAM operates equally as effectively at night as during the day, especially for sperm whales and dolphins.

*MMC Comment 4:* The MMC recommends that NMFS take steps to ensure that the planned monitoring program will be sufficient to detect, with reasonable certainty, all marine mammals within or entering the identified safety zones.

*Response:* Based on the information provided in the previous comment (above) and the following information, NMFS believes that the planned monitoring program will be sufficient to detect (using visual detection and PAM), with reasonable certainty, most marine mammals within or entering identified safety zones. This monitoring,

along with the required mitigation measures (see below), will result in the least practicable adverse impact on the affected species or stocks and will result in a negligible impact on the affected species or stocks.

As mentioned above, the platform of the *Langseth* is high enough that, in good weather, MMOs can see out to 16.5 km (8.9 nm). The PAM has reliable detection rates out to 3 km (1.6 nm) and more limited ability out to 10s of km. The largest 180-dB safety radii (3.7 and 4.4 km, 2 and 2.4 nm), which is the radii within which the *Langseth* is required to shut down if a marine mammal enters, are found when the 36-gun array is operating in shallow water at 9 and 12 m (29.5 and 39 ft) tow depths, respectively. The species most likely to be encountered in the shallow waters off the coasts of Nicaragua and Costa Rica are bottlenose and pantropical spotted dolphins, which have relatively larger group sizes (2–15 animals for bottlenose dolphins but even higher in some areas of the survey, 20 or more animals per group for pantropical spotted dolphins), are not cryptic at the surface, and have relatively short dive times (5–12 minutes for bottlenose), all which generally make them easier to visually detect. Furthermore, the vocalizations of these species are easily detected by the PAM. Also, as mentioned above, MMOs on chase boats will sometimes be used

in addition to visual monitoring from the seismic vessels and PAM. During the *Maurice Ewing* cruise in the GOM in 2003, MMOs detected marine mammals at a distance of approximately 10 km (5.4 nm) from the vessel and identified them to species level at approximately 5 km (2.7 nm) from the vessel, though the bridge of that vessel was only 11 m (36 ft) above the water (vs. the *Langseth*, which is more than 17 m (55.8 ft) above sea level). All of the 180-dB safety radii for other water depths and tow depths and for the single 40 in<sup>3</sup> airgun to be used during ramp-ups and power-downs (see below) are less than 2 km (1.1 nm).

The likelihood of visual detection at night is significantly lower than during the day, though the PAM remains just as effective at night as during the day. However, the *Langseth* will not be starting up the airguns unless the safety range is visible for the entire 30 minutes prior (i.e., not at night), and therefore in all cases at night, the airguns will already be operating, which NMFS believes will cause many cetaceans to avoid the vessel, which therefore will reduce the number likely to come within the safety radii. Additionally, all of the safety radii in intermediate and deep water depths are smaller than 3 km (1.6 nm) and fall easily within the reliable detection capabilities of the PAM.

### Description of Marine Mammals in the Activity Area

A total of 35 marine mammal species are known to or may occur in the study area off Central America, including 26 odontocete (dolphins and small and large toothed whales) species, six mysticete (baleen whales) species, two pinniped species, and the West Indian manatee. Six of the species that may occur in the project area are listed under the U.S. Endangered Species Act (ESA) as Endangered: the sperm, humpback, sei, fin, and blue whale and the manatee. The West Indian manatee is under the jurisdiction of the U.S. Fish and Wildlife Service (USFWS) and therefore is not considered further in this analysis. L-DEO requested and has been authorized to take 26 of these species. The remaining nine species are not expected to be encountered during the survey.

Table 2 outlines the species, their habitat and abundance in the project area, and the estimated and authorized take levels. Additional information regarding the status and distribution of the marine mammals in the area and how the densities were calculated was included in the notice of the proposed IHA (72 FR 71625, December 18, 2007) and may be found in L-DEO's application.

Species	Habitat	Abun. in NW Atlantic <sup>1</sup>	Abun. in ETP <sup>2</sup>	Auth Take in Carib. Sea	Auth Take in ETP
<b>Odontocetes</b>					
Sperm whale (C,P) ( <i>Physeter macrocephalus</i> )	Pelagic	13,190 <sup>a</sup> 4,804	26,053 <sup>b</sup>	3	71
Pygmy sperm whale (C*,P) ( <i>Kogia breviceps</i> )	Deeper water off shelf	395 <sup>c</sup>	N.A.	0	0
Dwarf sperm whale (C*,P) ( <i>Kogia sima</i> )	Deeper waters off shelf	395 <sup>c</sup>	11,200 <sup>d</sup>	0	856
Cuvier's beaked whale (C*,P) ( <i>Ziphius cavirostris</i> )	Pelagic	3,513 <sup>e</sup>	20,000 90,725 <sup>bb</sup>	0	302
Longman's beaked whale (P?) ( <i>Indopacetus pacificus</i> )	Pelagic	N.A.	291 <sup>bb</sup>	0	9
Pygmy beaked whale (P) ( <i>Mesoplodon peruvianus</i> )	Pelagic	N.A.	25,300 <sup>f</sup> 32,678 <sup>cc</sup>	0	0
Ginkgo-toothed beaked whale (P?) ( <i>Mesoplodon ginkgodens</i> )	Pelagic	N.A.	25,300 <sup>f</sup> 32,678 <sup>cc</sup>	0	0
Gervais' beaked whale (C?) ( <i>Mesoplodon europaeus</i> )	Pelagic	N.A.	N.A.	4	0
Blainville's beaked whale (C*,P) ( <i>Mesoplodon densirostris</i> )	Pelagic	N.A.	25,300 <sup>f</sup> 32,678 <sup>cc</sup>	0	29

Species	Habitat	Abun. in NW Atlantic <sup>1</sup>	Abun. in ETP <sup>2</sup>	Auth Take in Carib. Sea	Auth Take in ETP
Rough-toothed dolphin (C?,P) ( <i>Steno bredanensis</i> )	Mainly pelagic	2,223 <sup>g</sup>	145,900	9	954
Tucuxi (C) ( <i>Sotalia fluviatilis</i> )	Freshwater and coastal waters	49 <sup>h</sup> 705 <sup>i</sup>	N.A.	0	0
Bottlenose dolphin (C,P) ( <i>Tursiops truncatus</i> )	Coastal, shelf and pelagic	43,951 <sup>j</sup> 81,588 <sup>k</sup>	243,500	389	2,380
Pantropical spotted dolphin (C?,P) ( <i>Stenella attenuata</i> )	Coastal and pelagic	4,439	2,059,100	37	7,560
Atlantic spotted dolphin (C) ( <i>Stenella frontalis</i> )	Coastal and shelf	50,978	N.A.	440	0
Spinner dolphin (C*,P) ( <i>Stenella longirostris</i> )	Coastal and pelagic	11,971 <sup>g</sup>	1,651,100	0	7,856
Costa Rican spinner dolphin (P) ( <i>Stenella l. centroamericana</i> )	Coastal	N.A.	N.A.	0	3,358
Clymene dolphin (C?) ( <i>Stenella clymene</i> )	Pelagic	6,086	N.A.	29	0
Striped dolphin (C*,P) ( <i>Stenella coeruleoalba</i> )	Coastal and pelagic	94,462	1,918,000	31	8,110
Short-beaked common dolphin (P) ( <i>Delphinus delphis</i> )	Shelf and pelagic	N.A.	3,093,300	0	14,045
Fraser's dolphin (C*,P) ( <i>Lagenodelphis hosei</i> )	Pelagic	726 <sup>g</sup>	289,300	0	144
Risso's dolphin (C*,P) ( <i>Grampus griseus</i> )	Shelf and pelagic	20,479	175,800	0	651
Melon-headed whale (C*,P) ( <i>Peponocephala electra</i> )	Pelagic	3,451 <sup>g</sup>	45,400	0	1,315
Pygmy killer whale (C*,P) ( <i>Feresa attenuata</i> )	Pelagic	6 <sup>l</sup> 408 <sup>g</sup>	38,900	0	231
False killer whale (C*,P) ( <i>Pseudorca crassidens</i> )	Pelagic	1,038 <sup>g</sup>	39,800	0	479
Killer whale (C,P) ( <i>Orcinus orca</i> )	Coastal	133 <sup>g</sup> 6,600 <sup>m</sup>	8,500	10	17
Short-finned pilot whale (C,P) ( <i>Globicephala macrorhynchus</i> )	Pelagic	31,139 <sup>n</sup>	160,200 <sup>n</sup>	36	3,717
Humpback whale (C?,P) ( <i>Megaptera novaeangliae</i> )	Mainly nearshore waters and banks	10,400 <sup>o</sup> 11,570 <sup>p</sup>	NE Pacific 1,391 <sup>q</sup> ; SE Pacific ~2,900 <sup>r</sup>	1	4
Minke whale (C*,P) ( <i>Balaenoptera acutorostrata</i> )	Coastal	3,618 <sup>s</sup> 174,000 <sup>t</sup>	N.A.	0	0
Bryde's whale (C?,P) ( <i>Balaenoptera edeni</i> )	Coastal and pelagic	35 <sup>g</sup>	13,000 <sup>u</sup>	3	68
Sei whale (C*,P) ( <i>Balaenoptera borealis</i> )	Pelagic	12-13,000 <sup>v</sup>	N.A.	0	0
Fin whale (C,P) ( <i>Balaenoptera physalus</i> )	Pelagic	2,814 30,000 <sup>t</sup>	1,851 <sup>q</sup>	1	0
Blue whale (C*,P) ( <i>Balaenoptera musculus</i> )	Coastal, shelf, and pelagic	320 <sup>w</sup>	1,400	0	4

Species	Habitat	Abun. in NW Atlantic <sup>1</sup>	Abun. in ETP <sup>2</sup>	Auth Take in Carib. Sea	Auth Take in ETP
<b>Sirenian</b> West Indian manatee (C) ( <i>Trichechus manatus manatus</i> )	Freshwater and coastal waters	86 <sup>x</sup> 340 <sup>y</sup>	N.A.	0	0
<b>Pinnipeds</b> California sea lion (P) ( <i>Zalophus californianus</i> )	Coastal	N.A.	237,000-244,000 <sup>z</sup>	0	0
Galápagos sea lion (P?) ( <i>Zalophus wollebaeki</i> )	Coastal	N.A.	30,000 <sup>aa</sup>	0	0

Table 2. The habitat, abundance, and requested take levels of marine mammals that may be encountered during the proposed Central American SubFac seismic survey off Central America. Note: Abun. = abundance, NWA = Northwest Atlantic Ocean, P = may occur off Pacific coast of proposed project area, C = may occur off Caribbean coast of proposed project area, \* = very unlikely to occur in proposed project area, ? = potentially possible but somewhat unlikely to occur in proposed project area, N.A. = Not available or not applicable.

<sup>1</sup> For cetaceans, abundance estimates are given for U.S. Western North Atlantic stocks (Waring et al. 2006) unless otherwise noted.

<sup>2</sup> Abundance estimates for the ETP from Wade and Gerrodette (1993) unless otherwise indicated.

<sup>a</sup> g(o) corrected total estimate for the Northeast Atlantic, Faroes-Iceland, and the U.S. east coast (Whitehead 2002).

<sup>b</sup> Whitehead 2002.

<sup>c</sup> This estimate is for *Kogia* sp.

<sup>d</sup> This abundance estimate is mostly for *K. sima* but may also include some *K. breviceps*.

<sup>e</sup> This estimate is for *Mesoplodon* and *Ziphius* spp.

<sup>f</sup> This estimate includes all species of the genus *Mesoplodon* from Wade and Gerrodette (1993).

<sup>g</sup> This estimate is for the northern Gulf of Mexico.

<sup>h</sup> Estimate from a portion of Cayos Miskito Reserve, Nicaragua (Edwards and Schnell 2001).

<sup>i</sup> Estimate from the Cananéia estuarine region of Brazil (Geise et al. 1999).

<sup>j</sup> Estimate for the Western North Atlantic coastal stocks (North Carolina (summer), South Carolina, Georgia, Northern Florida, and Central Florida).

<sup>k</sup> Estimate for the for the Western North Atlantic offshore stock.

<sup>l</sup> Based on a single sighting.

<sup>m</sup> Estimate for Icelandic and Faroese waters (Reyes 1991).

<sup>n</sup> This estimate is for *G. macrorhynchus* and *G. melas*.

<sup>o</sup> Estimate for the entire North Atlantic (Smith et al. 1999).

<sup>p</sup> This estimate is for the entire North Atlantic (Stevick et al. 2001, 2003).

<sup>q</sup> Carretta et al. 2007.

<sup>r</sup> Felix et al. 2005.

<sup>s</sup> This estimate is for the Canadian East Coast stock.

<sup>t</sup> Estimate is for the North Atlantic (IWC 2007a).

<sup>u</sup> This estimate is mainly for *Balaenoptera edeni* but may include some *B. borealis*.

<sup>v</sup> Abundance estimate for the North Atlantic (Cattanach et al. 1993).

<sup>w</sup> Minimum abundance estimate (Sears et al. 1990).

<sup>x</sup> Antillean Stock in Puerto Rico only.

<sup>y</sup> Antillean Stock in Belize (Reeves et al. 2002).

<sup>z</sup> Estimate for the U.S. stock (Carretta et al. 2007).

<sup>aa</sup> Reeves et al. 2002.

<sup>bb</sup> Ferguson and Barlow 2001 in Barlow et al. 2006.

<sup>cc</sup> This estimate includes all species of the genus *Mesoplodon* (Ferguson and Barlow 2001 in Barlow et al. 2006).

## Potential Effects on Marine Mammals

The effects of sounds from airguns might include one or more of the following: tolerance, masking of natural sounds, behavioral disturbances, and at least in theory, temporary or permanent hearing impairment, or non-auditory physical or physiological effects (Richardson et al., 1995; Gordon et al., 2004; Nowacek et al., 2007). However, it is unlikely that there would be any cases of temporary or especially permanent hearing impairment or any significant non-auditory physical or physiological effects. Also, behavioral disturbance is expected to be limited to relatively short distances.

The notice of the proposed IHA (72 FR 71625, December 18, 2007) 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.

Additional information on the behavioral reactions (or lack thereof) by all types of marine mammals to seismic vessels can be found in Appendix C (e) of L-DEO's application.

The notice of the proposed IHA also included a discussion of the potential effects of the bathymetric sonar and the sub-bottom profiler. Because of the shape of the beams of these sources and their power, NMFS believes it unlikely that marine mammals will be exposed to either the bathymetric sonar or the SBP at levels at or above those likely to cause harassment. Further, NMFS believes that the brief exposure of cetaceans or pinnipeds to few signals from the multi-beam bathymetric sonar system are not likely to result in the harassment of marine mammals.

## Estimated Take by Incidental Harassment

The notice of the proposed IHA (72 FR 71625, December 18, 2007) included

an in-depth discussion of the methods used to calculate the densities of the marine mammals in the area of the seismic survey and the take estimates. Additional information was included in L-DEO's application. A summary is included here.

All anticipated takes authorized by this IHA are Level B harassment only, involving temporary changes in behavior. The two far right columns in Table 2, "Auth Take in Carib. Sea" and "Auth Take in ETP", display the numbers for which take is authorized in each ocean basin. Take calculations were based on maximum exposure estimates (based on maximum density estimates) vs. best estimates and are based on the 160-dB isopleth of a larger array of airguns. Given these considerations, the predicted number of marine mammals that might be exposed to sounds 160 dB may be somewhat overestimated.

Extensive marine mammal surveys have been conducted in the eastern tropical Pacific over numerous years (e.g., Polacheck, 1987; Wade and Gerrodette, 1993; Kinsey *et al.*, 1999, 2000, 2001; Ferguson and Barlow, 2001; Smultea and Holst, 2003; Jackson *et al.*, 2004; Holst *et al.*, 2005a; May-Collado *et al.*, 2005). Therefore, for the Pacific portion of the proposed seismic survey, marine mammal density data were readily available. The most comprehensive data available for the region encompassing the proposed survey area are from Ferguson and Barlow (2001) and Holst *et al.* (2005a).

For the Caribbean portion of the Central American SubFac program, we were unable to find published data on marine mammal densities in or immediately adjacent to the seismic survey area. The closest quantitative surveys were conducted in the southeast Caribbean (Swartz and Burks, 2000; Swartz *et al.*, 2001; Smultea *et al.*, 2004). Most of the survey effort by Swartz and Burks (2000) and Swartz *et al.* (2001) took place during March and April near the islands on the east side of the Caribbean Sea and near the north and northeast coasts of Venezuela in water depths <1,000 m (3,280 ft). Survey data from Smultea *et al.* (2004) were collected north of Venezuela during April-June in association with a previous L-DEO seismic survey. The L-DEO survey will occur from February-March in the western Caribbean Sea, a location and time of year in which the species densities are likely different from those during the above-mentioned surveys in the southeast Caribbean, but these surveys are the best available data at this time.

Except for dwarf sperm whales, the per-species take estimates fall within 3 percent (dwarf sperm whale takes are 7.64 percent) of the numbers estimated to be present during a localized survey in the Pacific Ocean off the coasts of Costa Rica and Nicaragua, and the affected species range far beyond the Pacific Ocean (i.e., the abundance of the species is notably larger). Therefore, NMFS believes that the estimated take numbers for these affected species are relatively small.

Similarly, the per-species take estimates are less than 1 percent (except killer (7.52 percent) and Bryde's (8.57 percent) whales) of the numbers estimated to be present during a localized survey in the Caribbean Sea off the coasts of Costa Rica and Nicaragua, and the species range far beyond the Caribbean (i.e., the abundance of the species is notably larger). Therefore, NMFS believes that

the estimated take numbers for these species are relatively small.

No pinnipeds are expected to be encountered in the Caribbean, and the likelihood of encountering sea lions or other pinnipeds in the Pacific study area is also very low. No take of any pinniped species is authorized.

#### Potential Effects on Habitat

A detailed discussion of the potential effects of this action on marine mammal habitat, including physiological and behavioral effects on marine fish and invertebrates, was included in the notice of the proposed IHA (72 FR 71625, December 18, 2007). Based on the discussion in the proposed IHA and the nature of the activities (limited duration), the authorized operations are not expected to have any habitat-related effects that could cause significant or long-term consequences for individual marine mammals or their populations or stocks. Similarly, any effects to food sources are expected to be negligible.

#### Monitoring

##### *Vessel-based Visual Monitoring*

Vessel-based marine mammal visual observers (MMVOs) will be based aboard the seismic source vessel and will watch for marine mammals near the vessel during daytime airgun operations and during start-ups of airguns at night. MMVOs will also watch for marine mammals near the seismic vessel for at least 30 minutes prior to the start of airgun operations after an extended shutdown of the airguns. When feasible, MMVOs will also make observations during daytime periods when the seismic system is not operating for comparison of animal abundance and behavior. Based on MMVO observations, airguns will be powered down, or if necessary, shut down completely (see below), when marine mammals are detected within or about to enter a designated safety radius. The MMVOs will continue to maintain watch to determine when the animal(s) are outside the safety radius, and airgun operations will not resume until the animal has left that zone. The safety radius is a region in which a possibility exists of adverse effects on animal hearing or other physical effects.

During seismic operations off Central America, at least three observers will be based aboard the *Langseth*. MMVOs will be appointed by L-DEO with NMFS concurrence. At least one MMVO, and when practical two, will monitor the safety radii for marine mammals during daytime operations and nighttime startups of the airguns. MMVO(s) will be on duty in shifts of duration no

longer than 4 hours. The crew will also be instructed to assist in detecting marine mammals and implementing mitigation requirements (if practical).

The *Langseth* is a suitable platform for marine mammal observations. When stationed on the observation platform, the eye level will be approximately 17.8 m (58.4 ft) above sea level, and the observer will have a good view around the entire vessel. During daytime, the MMVO(s) will scan the area around the vessel systematically with reticle binoculars (e.g., 7x50 Fujinon), Big-eye binoculars (25x150), and with the naked eye. During darkness, NVDs will be available (ITT F500 Series Generation 3 binocular-image intensifier or equivalent). Laser rangefinding binoculars (Leica LRF 1200 laser rangefinder or equivalent) will be available to assist with distance estimation.

##### *Passive Acoustic Monitoring*

PAM will take place to complement the visual monitoring program. Visual monitoring typically is not effective during periods of bad weather or at night, and even with good visibility, is unable to detect marine mammals when they are below the surface or beyond visual range. Acoustic monitoring can be used in addition to visual observations to improve detection, identification, localization, and tracking of cetaceans. It is only useful when marine mammals call, but it can be effective either by day or by night and does not depend on good visibility. The acoustic monitoring will serve to alert visual observers (if on duty) when vocalizing cetaceans are detected. It will be monitored in real time so visual observers can be advised when cetaceans are detected. When bearings (primary and mirror-image) to calling cetacean(s) are determined, the bearings will be relayed to the visual observer to help him/her sight the calling animal(s).

SEAMAP (Houston, Texas) will be used as the primary acoustic monitoring system. This system was also used during several previous L-DEO seismic cruises (e.g., Smultea *et al.*, 2004, 2005; Holst *et al.*, 2005a,b). A description of the PAM system was given in the notice of the proposed IHA (72 FR 71625, December 18, 2007).

While the *Langseth* is in the seismic survey area, the towed hydrophone array will be monitored 24 hours per day while at the survey area during airgun operations and also during most periods when the *Langseth* is underway with the airguns not operating. One MMO will monitor the acoustic detection system at any one time, by listening to the signals from two

channels via headphones and/or speakers and watching the real time spectrographic display for frequency ranges produced by cetaceans. MMOs monitoring the acoustical data will be on shift for 1–6 hours. All MMOs are expected to rotate through the PAM position, although the most experienced with acoustics will be on PAM duty more frequently.

When a cetacean vocalization is detected, the acoustic MMO will, if visual observations are in progress, contact the MMVO immediately to alert him/her to the presence of the vocalizing marine mammal(s). The information regarding the call will be entered into a database. The data to be entered include an acoustic encounter identification number, whether it was linked with a visual sighting, date, time when first and last heard and whenever any additional information was recorded, position and water depth when first detected, bearing if determinable, species or species group (e.g., unidentified dolphin, sperm whale), types and nature of sounds heard (e.g., clicks, continuous, sporadic, whistles, creaks, burst pulses, strength of signal, etc.), and any other notable information. The acoustic detection can also be recorded for further analysis.

#### *MMVO Data and Documentation*

MMVOs will record data to estimate the numbers of marine mammals exposed to various received sound levels and to document any apparent disturbance reactions or lack thereof. Data will be used to estimate the numbers of mammals potentially "taken" by harassment. They will also provide information needed to order a power-down or shutdown of airguns when marine mammals are within or near the relevant safety radius. 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 including responses to ramp-up), and behavioral pace.

(2) Time, location, heading, speed, activity of the vessel (including number of airguns operating and whether in state or ramp-up, power-down, or full power), sea state, visibility, cloud cover, 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 mammal observations, as well as information regarding airgun power down and shutdown, will be recorded in a standardized format. Data accuracy will be verified by the MMVOs 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. MMVO observations will provide the following information:

(1) The basis for decisions about powering down or shutting down airgun arrays.

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

#### **Mitigation**

Mitigation and monitoring measures proposed to be implemented for the proposed seismic survey have been developed and refined during previous L-DEO seismic studies and associated environmental assessments (EAs), IHA applications, and IHAs. The mitigation and monitoring measures described herein represent a combination of the procedures required by past IHAs for other similar projects and on recommended best practices in Richardson *et al.* (1995), Pierson *et al.* (1998), and Weir and Dolman (2007). The measures are described in detail below.

Required mitigation measures include: (1) speed or course alteration, provided that doing so will not compromise operational safety requirements; (2) power-down procedures; (3) shutdown procedures; (4) ramp-up procedures; and (5) minimizing approaches to slopes and submarine canyons, if possible, because of sensitivity of beaked whales.

*Speed or Course Alteration* – If a marine mammal is detected outside the safety radius but is likely to enter it based on relative movement of the vessel and the animal, then if safety and scientific objectives allow, the vessel speed and/or course will be adjusted to minimize the likelihood of the animal entering the safety radius. Major course and speed adjustments are often impractical when towing long seismic streamers and large source arrays, thus

for surveys involving large sources, alternative mitigation measures are required.

*Power-down Procedures* – A power-down involves reducing the number of operating airguns, typically to a single airgun (e.g., 40 in<sup>3</sup>), to minimize the safety radius, so that marine mammals are no longer in or about to enter this zone. A power-down of the airgun array to a reduced number of operating airguns may also occur when the vessel is moving from one seismic line to another. The continued operation of at least one airgun is intended to alert marine mammals to the presence of the seismic vessel in the area.

If a marine mammal is detected outside the safety radius but is likely to enter it, and if the vessel's speed and/or course cannot be changed, the airguns will be powered down to a single airgun before the animal is within the safety radius. Likewise, if a mammal is already within the safety radius when first detected, the airguns will be powered down immediately. If a marine mammal is detected within or near the smaller safety radius around that single airgun (see Table 1), all airguns will be shutdown (see next subsection).

Following a power down, airgun activity will not resume until the marine mammal is outside the safety radius for the full array. The animal will be considered to have cleared the safety radius if it:

(1) Is visually observed to have left the safety radius; or

(2) Has not been seen within the safety radius for 15 minutes in the case of small odontocetes and pinnipeds; or

(3) Has not been seen within the safety radius for 30 minutes in the case of mysticetes and large odontocetes, including sperm, pygmy sperm, dwarf sperm, killer, and beaked whales.

Following a power-down and subsequent animal departure as above, the airgun array will resume operations following ramp-up procedures described below.

*Shutdown Procedures* – The operating airgun(s) will be shutdown if a marine mammal is detected within the safety radius of a single 40 in<sup>3</sup> airgun while the airgun array is at full volume or during a power down. Airgun activity will not resume until the marine mammal has cleared the safety radius or until the MMVO is confident that the animal has left the vicinity of the vessel. Criteria for judging that the animal has cleared the safety radius will be as described in the preceding subsection.

*Ramp-up Procedures* – A ramp-up procedure will be followed when the airgun array begins operating after a specified-duration period without

airgun operations or when a power-down has exceeded that period. For the present cruise, this period would be approximately 8 min. This period is based on the modeled 180-dB radius for the 36-airgun array (see Table 1) in relation to the planned speed of the *Langseth* while shooting in deep water. Similar periods (approximately 8–10 min) were used during previous L-DEO surveys.

Ramp-up from a state of no airgun operations will begin with the smallest airgun in the array (40 in<sup>3</sup>). Airguns will be added in a sequence such that the source level of the array will increase in steps not exceeding 6 dB per 5-minute period over a total duration of approximately 20–40 min. Ramp-up from a reduced power state, such as during maintenance of an airgun string while the remaining string continues to fire would include the start-up of the returned string. During ramp-up, the MMVOs will monitor the safety radius, and if marine mammals are sighted, a course/speed change, power-down, or shutdown will be implemented as though the full array were operational.

Initiation of ramp-up procedures from shutdown requires that the full safety radius must be visible by the MMVOs, whether conducted in daytime or nighttime. This requirement will effectively preclude start ups at night or in thick fog because the outer part of the safety radius for that array will not be visible during those conditions. Ramp-up is allowed from a power-down under reduced visibility conditions only if at least one airgun (e.g., 40 in<sup>3</sup> or similar) has operated continuously throughout the survey without interruption, 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. Ramp-up of the airguns will not be initiated if a marine mammal is sighted within or near the applicable Safety radius during the day or close to the vessel at night.

*Minimize Approach to Slopes and Submarine Canyons* – Although sensitivity of beaked whales to airguns is not known, they appear to be sensitive to other sound sources (e.g., mid-frequency sonar). Beaked whales tend to concentrate in continental slope areas and in areas where there are submarine canyons. There are no submarine canyons within or near the study area. Three of the transect lines are on the continental slope, which accounts for only a small portion of the proposed study area (207 km; 128.6 mi) and a minimal amount of time (30 hours).

### Reporting

A report will be submitted to NMFS 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 be submitted to NMFS, providing full documentation of methods, results, and interpretation pertaining to all monitoring. The 90-day report will summarize the dates and locations of seismic operations, all marine mammal sightings (dates, times, locations, activities, associated seismic survey activities), and estimates of the amount and nature of potential “take” of marine mammals by harassment or in other ways.

### Endangered Species Act (ESA)

Pursuant to section 7 of the ESA, NSF has consulted with the NMFS, Office of Protected Resources, Endangered Species Division on this seismic survey. NMFS has also consulted internally pursuant to section 7 of the ESA on the issuance of an IHA under section 101(a)(5)(D) of the MMPA for this activity. NMFS has issued a Biological Opinion (BiOp), which concluded that the proposed action and issuance of an IHA are not likely to jeopardize the continued existence of blue, fin, humpback and sperm whales and green, hawksbill, leatherback, loggerhead, and olive ridley sea turtles. The BiOp also concluded that the proposed action would have no effect on critical habitat since none has been designated within the action area. The BiOp also made a not likely to be adversely affected finding for sei whales, Kemp’s ridley sea turtles, and elkhorn and staghorn corals. An incidental take statement (ITS) will be issued for the take of blue, fin, humpback, and sperm whales and green, hawksbill, leatherback, loggerhead, and olive ridley sea turtles. Relevant Terms and Conditions of the ITS have been incorporated into the IHA.

NSF and L-DEO made a “no effects” determination for this seismic survey regarding the West Indian manatee. The USFWS concurred with this determination since activities would occur at least 8 km (5 mi) from shore in water depths greater than 20 m (65.6 ft). Also, no support vessels would be sent from shore during the cruise. Based on these parameters, a USFWS consultation was not required for this action.

### National Environmental Policy Act (NEPA)

NSF prepared an Environmental Assessment of a Marine Geophysical Survey by the R/V *Marcus G. Langseth*

off Central America, January-March 2008. NMFS has adopted NSF’s EA and issued a Finding of No Significant Impact for the issuance of the IHA.

### Determinations

NMFS has determined that the impact of conducting the seismic survey in the Pacific Ocean and Caribbean Sea off Central America may result, at worst, in a temporary modification in behavior (Level B Harassment) of small numbers of 26 species of cetaceans. Further, this activity is expected to result in a negligible impact on the affected species or stocks. The provision requiring that the activity not have an unmitigable adverse impact on the availability of the affected species or stock for subsistence uses does not apply for this action.

This negligible impact determination is supported by: (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 it becoming potentially injurious; (2) the fact that marine mammals would have to be closer than 40 m (131 ft) in deep water, 60 m (197 ft) at intermediate depths, or 296 m (971 ft) in shallow water when a single airgun is in use from the vessel to be exposed to levels of sound (180 dB) believed to have even a minimal chance of causing TTS; (3) the fact that marine mammals would have to be closer than 950 m (0.5 nm) in deep water, 1,425 m (0.8 nm) at intermediate depths, and 3,694 m (2 nm) in shallow water when the full array is in use at a 9 m (29.5 ft) tow depth from the vessel to be exposed to levels of sound (180 dB) believed to have even a minimal chance of causing TTS; (4) the fact that marine mammals would have to be closer than 1,120 m (0.6 nm) in deep water, 1,680 m (0.9 nm) at intermediate depths, and 4,356 m (2.4 nm) in shallow water when the full array is in use at a 12 m (39 ft) tow depth from the vessel to be exposed to levels of sound (180 dB) believed to have even a minimal chance of causing TTS; (5) the likelihood that marine mammal detection ability by trained observers is good at those distances from the vessel; (6) the use of PAM, which is effective out to 10s of km, will assist in the detection of vocalizing marine mammals at greater distances from the vessel; and (7) the incorporation of other required mitigation measures (i.e., ramp-up, power-down, and shutdown). As a result, no take by injury or death is anticipated, and the potential for temporary or permanent hearing impairment is very low and will be

avoided through the incorporation of the required mitigation measures.

While the number of potential incidental harassment takes will depend on the distribution and abundance of marine mammals in the vicinity of the survey activity, the number of potential harassment takings is estimated to be small, a small percent of any of the estimated population sizes, and has been mitigated to the lowest level practicable through incorporation of the measures mentioned previously in this document.

#### Authorization

As a result of these determinations, NMFS has issued an IHA to L-DEO for conducting a marine geophysical survey in the Pacific Ocean and Caribbean Sea off Central America from February-April, 2008, provided the previously mentioned mitigation, monitoring, and reporting requirements are incorporated.

Dated: February 14, 2008.

**James H. Lecky,**

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

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## DEPARTMENT OF COMMERCE

### National Oceanic and Atmospheric Administration

RIN 0648-XF10

#### Taking of Marine Mammals Incidental to Specified Activities; An On-ice Marine Geophysical and Seismic Programs in the U.S. Beaufort Sea

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

**ACTION:** Notice of issuance of three incidental harassment authorizations.

**SUMMARY:** In accordance with provisions of the Marine Mammal Protection Act (MMPA) as amended, notification is hereby given that Incidental Harassment Authorizations (IHAs) to take marine mammals, by Level-B harassment, incidental to conducting on-ice marine geophysical research and seismic surveys by CGGVeritas (Veritas) and Shell Offshore, Inc. (SOI) in the U.S. Beaufort Sea, have been issued for a period of one year from the IHAs effective date.

**DATES:** These authorizations are effective from February 15, 2008, until February 14, 2009.

**ADDRESSES:** Copies of the applications, IHAs, the *Environmental Assessment*

(EA) on Regulations Governing the Taking of ringed and Bearded Seals Incidental to On-ice Seismic Activities in the Beaufort Sea (NMFS' 1998 EA), the 2008 Supplemental Environmental Assessment on the Issuance of Three Incidental Harassment Authorizations to Take Marine Mammals by Harassment Incidental to Conducting On-ice Seismic Survey Operations in the U.S. Beaufort Sea (SEA), and/or a list of references used in this document may be obtained by writing to P. Michael Payne, Chief, Permits, Conservation and Education Division, Office of Protected Resources, National Marine Fisheries Service, 1315 East-West Highway, Silver Spring, MD 20910-3225, or by telephoning one of the contacts listed here (see **FOR FURTHER INFORMATION CONTACT**).

#### FOR FURTHER INFORMATION CONTACT:

Shane Guan, Office of Protected Resources, NMFS, (301) 713-2289, ext 137 or Brad Smith, Alaska Region, NMFS, (907) 271-5006.

#### SUPPLEMENTARY INFORMATION:

##### Background

Sections 101(a)(5)(A) and (D) of the MMPA (16 U.S.C. 1361 *et seq.*) direct the Secretary of Commerce to allow, upon request, the incidental, but not intentional, taking of marine mammals by U.S. citizens who engage in a specified activity (other than commercial fishing) within a specified geographical region if certain findings are made and either regulations are issued or, if the taking is limited to harassment, a notice of a proposed authorization is provided to the public for review.

Permission shall be granted if NMFS finds that the taking will have a negligible impact on the species or stock(s), will not have an unmitigable adverse impact on the availability of the species or stock(s) for subsistence uses, and if the permissible methods of taking and requirements pertaining to the mitigation, monitoring, and reporting of such takings are set forth. 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. Except for certain categories of 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].

Section 101(a)(5)(D) establishes a 45-day time limit for NMFS review of an application followed by a 30-day public notice and comment period on any proposed authorizations for the incidental harassment of marine mammals. Within 45 days of the close of the comment period, NMFS must either approve or disapprove the request for authorization.

#### Summary of Request

On August 8 and 14, 2007, NMFS received two applications from Veritas for the taking, by harassment, of three species of marine mammals incidental to conducting on-ice seismic surveys in Smith Bay and Pt. Thomson areas of the U.S. Beaufort Sea. On September 10, 2007, NMFS received an application from SOI for the taking, by harassment, of three species of marine mammals incidental to conducting an on-ice marine geophysical survey program offshore west of Simpson Lagoon, U.S. Beaufort Sea. Veritas plans to acquire 3D seismic data within the months of February - May, 2008. The energy source for the proposed activity will be vibroseis. The proposed SOI on-ice seismic survey will also use vibroseis as energy sources, and is scheduled to begin in early March 2008 with camp mobilization expected to begin approximately March 11 from Oliktok Point. No under-ice acoustic sources would be deployed during the on-ice marine seismic program. Data acquisition will begin in mid-March and continue for approximately 60 days until mid-May, followed by camp demobilization to Oliktok Point.

#### Description of the Activity

##### Veritas

The first specified geographic region of Veritas activities is a 569-km<sup>2</sup> (220-mi<sup>2</sup>) area extending across Smith Bay from point of entry from the west at approximately 71°06'00.05" N, 154°30'21.00" W to the east at point of exit to land at approximately 70°54'37.03" N, 153°46'43.43" W. Water depths in most (≤ 80 percent) of the area are less than 10 ft (3 m) based on bathymetry charts. The second specified geographic area is a 276-km<sup>2</sup> (107-mi<sup>2</sup>)