

Dated: September 8, 2008.

**P. Michael Payne,**

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-XI15

#### Small Takes of Marine Mammals Incidental to Specified Activities; Marine Geophysical Survey in the Gulf of Alaska, September 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 in the Gulf of Alaska  
during September, 2008.

**DATES:** Effective September 10, 2008,  
through October 31, 2008.

**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](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:**  
Howard Goldstein or Ken Hollingshead,  
Office of Protected Resources, NMFS,  
(301) 713-2289.

**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 April 10, 2008, NMFS received an  
application from L-DEO for the taking,  
by Level B harassment only, of small  
numbers of 20 species of marine  
mammals incidental to conducting,

under a cooperative agreement with the  
National Science Foundation (NSF), a  
marine seismic survey in the Gulf of  
Alaska during September, 2008. The  
purpose of the research program was  
outlined in NMFS' notice of the  
proposed IHA (73 FR 45407, August 5,  
2008).

## Description of the Activity

The seismic survey will involve one  
source vessel, the R/V *Marcus G.  
Langseth* (*Langseth*), which will occur  
offshore from the Saint Elias Mountains.  
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 8-km (5-mi) towed  
hydrophone streamer and/or Ocean  
Bottom Seismometers (OBSs). The  
streamer will be towed at a depth of 7  
m (23 ft). The OBSs are housed in 43-  
cm diameter glass spheres that have a  
gross weight of approximately 45 kg (99  
lbs). As the airgun array is towed along  
the survey lines, the hydrophone  
streamer and/or OBSs will receive the  
returning acoustic signals and transfer  
the data to the on-board processing  
system.

The *Langseth* is expected to depart  
Astoria, Oregon on approximately  
September 10, 2008 for the study area in  
the GOA (see Figure 1 of L-DEO's  
application). The airgun array is  
expected to operate for a total of ~200-  
250 hours. With OBS deployment and  
retrieval, the length of the survey will be  
~18 days. The overall area within which  
the STEEP survey will take place is  
located at ~58-60.5° N, 138-146° W (see  
Figure 1 of L-DEO's application). The  
proposed survey will be conducted in  
water depths from <100 m to >3,000 m  
(<330 to >9,840 ft) entirely within the  
territorial waters and Exclusive  
Economic Zone (EEZ) of the United  
States. 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 primary marine seismic survey  
will consist of two long transect lines  
that will cross each other (Figure 1 of L-  
DEO's application). For the longer line  
paralleling the shoreline, a seismic  
reflection-refraction profile will be shot  
using the hydrophone streamer as well  
as 25 OBSs deployed on the seafloor  
and 60 Texan seismometers deployed  
on land across the toe of the Bering  
Glacier. A reflection-refraction profile  
will also be obtained from the slightly  
shorter line that is perpendicular to the  
shoreline using the hydrophone  
streamer as well as 17 OBSs; this line  
will be shot twice if time allows. Both  
of these lines will have a shot spacing

of 50 m (164 ft, 20 seconds); if the onshore-offshore line is shot twice, the shot interval used during the second run will be 150 m (492 ft, 60 s). During the reflection-refraction profiling, the airgun array will be towed at a depth of 9 m. In addition, two reflection-only 2-dimensional (2-D) seismic grids will be shot; the western grid is located approximately 150 km (93 mi) from shore whereas the eastern grid is located nearshore (see Figure 1 in L-DEO's application). The shot spacing for these grids will be 50 m (164 ft) and the airgun array will be towed at a depth of 9 m. No OBSs will be deployed during reflection-only profiling. There will be additional operations associated with equipment testing, startup, line changes, and repeat coverage of any areas where initial data quality is sub-standard. In L-DEO's calculations, 25 percent has been added to the line total for those additional operations.

The planned seismic survey (excluding the 25 percent contingency) will consist of 1,909 km of survey lines including turns (see Figure 1 in L-DEO's

application). Most of this effort (923 km or 574 mi) will take place in intermediate water depths of 100–1,000 m and in water depths >1,000 m deep (812 km or 504 mi), and a smaller portion (174 km or 108 mi) will take place in water <100 m deep.

All planned geophysical data acquisition activities will be conducted by L-DEO with on-board assistance by the scientists who have proposed the study. The scientific team is headed by Dr. Sean Gullick of the University of Texas at Austin Institute for Geophysics (UTIG) and also includes Drs. G. Christesen, P. Mann, and H. Van Avendonk of UTIG. The vessel will be self-contained, and the crew will live aboard the vessel for the entire cruise.

In addition to the operations of the airgun array, a multibeam echosounder (MBES) will be operated from the *Langseth* continuously throughout the STEEP cruise. Also, a sub-bottom profiler (SBP) will be operated by the *Langseth* during most of the survey.

A more detailed description of the authorized action, including vessel and

acoustic source specifications, was included in the proposed IHA notice (73 FR 45407, August 5, 2008).

#### 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 (73 FR 45407, August 5, 2008) 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
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 STEEP survey in the Gulf of Alaska.

#### Comments and Responses

A notice of receipt of the L-DEO application and proposed IHA was published in the **Federal Register** on August 5, 2008 (73 FR 45407). During the comment period, NMFS received comments from the Marine Mammal Commission (Commission). NMFS also received one comment from a private citizen. Following are the comments from the Commission, a private citizen, the Center for Regulatory Effectiveness (CRE), and NMFS' responses.

**Comment 1:** The Commission recommends that NMFS provide additional justification for its proposed determination that the planned

monitoring program will be sufficient to detect, with reasonable confidence, all marine mammals within or entering the identified safety zones; as such monitoring is essential for determining whether animals are being taken in unanticipated ways and unexpected numbers.

**Response:** 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.

The *Langseth* is utilizing a team of trained marine mammal observers (MMOs) to both visually monitor from the high observation tower of the *Langseth* and to conduct passive acoustic monitoring (PAM). However, there are limitations on marine mammal detection, and ramp-ups are required as a mitigation measure due to these limitations. 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 90 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).

Theoretical detection distance of this PAM system is tens 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.

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 km, 2 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 a 9 m (29.5 ft) tow depth. Only 174 km (9 percent) of the total 1,909 km survey lines of the planned seismic survey (excluding 25 percent contingency) will take place in water less than 100 m deep (shallow water). The species most likely to be encountered in the waters of the Gulf of Alaska are Dall's porpoise and Pacific white-sided dolphins, which have relatively larger group sizes (2–20 animals for Dall's porpoises but even higher in some areas of the survey, 10–100 or more animals per group for Pacific white-sided dolphins), are not cryptic at the surface, and have relatively short dive times (6 minutes for dolphins), all which generally make them easier to visually detect. Other species that are likely to be encountered during the seismic survey include humpback, fin, and killer whales, have relatively long dive times; however, they are not cryptic at the surface, have large blows and distinct physical features, all which generally make them easier to visually detect. Furthermore,

the vocalizations of most of these species are easily detected by the 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.

*Comment 2:* The Commission recommends that observations be made during ramp-up procedures to gather data on its effectiveness as a mitigation measure.

*Response:* The IHA requires that 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 operations 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.

*Comment 3:* The Commission 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 Commission 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 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 min; 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.

*Comment 4:* A member of the public opposes the issuance of permits to allow killing of marine mammals.

*Response:* NMFS does not believe that the authorized activities will result in the death of any marine mammals, nor does this IHA authorize any marine mammal mortality.

*Comment 5:* CRE states that there is no accompanying Environmental Impact Statement (EIS) for the GOA IHA, instead, there is only an EA. CRE asks NMFS if there is any continuing plan to prepare an EIS for the *Langseth*.

*Response:* A Draft Programmatic EIS (Draft PEIS) is being prepared by NSF (not NMFS) for future seismic surveys on the *Langseth*. However, NMFS is a cooperating agency under NEPA in its preparation. It is NMFS' intention that the Draft PEIS currently being developed will be used to support, in whole, or in part, future MMPA actions relating to academic research on seismic surveys.

*Comment 6:* CRE asks NMFS if there is any continuing plan to use the

Acoustic Integration Model (AIM) for the *Langseth*.

**Response:** The use of AIM remains proposed for NSF's Draft PEIS to address potential impacts related to marine seismic research. Preparation of that EIS continues, and public comments will be solicited when the Draft PEIS is published. AIM was developed by and is proprietary to Marine Acoustics, Inc. The commentor correctly notes that this particular IHA application does not use AIM. This application was prepared for NSF, L-DEO, and NMFS by LGL, Ltd., Environmental Research Associates (LGL). In the application for the proposed seismic operations, LGL notes that it is using the line transect method to estimate marine mammal exposures and determine exclusion zones, consistent with applications for recent previous NSF-funded research seismic cruises.

**Comment 7:** CRE requests that be any opportunity for public comment on AIM before NMFS issues AIM for the *Langseth* or for any other purpose.

**Response:** The NSF Draft PEIS will make the use of AIM available for public comment. AIM itself will not be available for public comment as it is proprietary.

**Comment 8:** CRE states that the GOA IHA application and the accompanying EA rely on both visual observers and PAM to monitor compliance with seismic safety radii requirements. Neither the IHA application nor the EA contain a record demonstrating that PAM is accurate and reliable for this

purpose. CRE asks NMFS whether there is a record demonstrating PAM is sufficiently accurate and reliable to monitor compliance with seismic safety radii requirements and whether there is an opportunity for public comment on that subject.

**Response:** It is unclear what the commentor means by the phrase "monitor compliance with seismic safety radii requirements." NMFS believes that visual observers and PAM are effective tools for monitoring marine mammals in the affected area during the seismic survey. PAM is required for monitoring on the *Langseth* (when practicable), but not for the implementation of mitigation measures. PAM is used by MMOs and the bioacoustician aboard the *Langseth* for the detection of vocalizing marine mammals. Any confirmed marine mammal vocalization detections using PAM are communicated to the visual observer(s) on watch to help alert the visual observers to the presence of vocalizing marine mammals in the survey area (not necessarily the safety radii). The use of PAM is therefore used in aid of the visual observers, who monitor the safety radii for presence of marine mammals. The detection of marine mammals in the vicinity of the array in turn triggers mitigation requirements.

#### Description of Marine Mammals in the Activity Area

A total of 18 cetacean species, 3 species of pinnipeds, and the northern

sea otter are known to or may occur in the GOA study area. Several of the species that may occur in the project area are listed as Endangered under the U.S. Endangered Species Act (ESA), including the sperm, humpback, North Pacific right whale, fin, and blue whale and the western stock of Steller sea lions. The eastern stock of Steller sea lions are listed as Threatened. Neither the southcentral and southeast Alaska population stocks of northern sea otters (*Enhydra lutris kenyoni*) are listed as Threatened or Endangered under the ESA nor depleted under the MMPA. The northern sea otter is under the jurisdiction of the U.S. Fish and Wildlife Service (USFWS) and therefore is not considered further in this analysis. There is little information on the distribution of marine mammals inhabiting the waters offshore of SE Alaska or the eastern GOA, although a few reports are available (e.g., Buckland *et al.*, 1993; Hobbs and Lerczak, 1993; Straley *et al.*, 1995; Calambokidis *et al.*, 1997; MacLean and Koski, 2005; Angliss and Outlaw, 2007).

Table 2 outlines the species, their habitat and abundance in the project area, and the estimated exposure 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 (73 FR 45407, August 5, 2008) and may be found in L-DEO's application.

Species	Habitat	Estimated Population	Avg. Density	Max. Density	Number of Indiv. Exposed to $\geq 160$ dB	Percent of Estimated Population Exposed to $\geq 160$ dB
<b>Odontocetes</b>						
Sperm whale ( <i>Physeter macrocephalus</i> )	Pelagic	24,000 <sup>5</sup> (Regional)	0.00 <sup>1</sup> 0.31 <sup>2</sup> 4.04 <sup>3</sup>	0.00 <sup>1</sup> 0.58 <sup>2</sup> 6.06 <sup>3</sup>	49	0.2
Cuvier's beaked whale ( <i>Ziphius cavirostris</i> )	Pelagic	20,000 <sup>6</sup> (Regional)	0.00 <sup>1</sup> 2.76 <sup>2</sup> 0.00 <sup>3</sup>	0.00 <sup>1</sup> 3.70 <sup>2</sup> 0.00 <sup>3</sup>	35	0.2
Baird's beaked whale ( <i>Berardius bairdii</i> )	Pelagic	6,000 <sup>7</sup> (Regional)	0.00 <sup>1</sup> 0.66 <sup>2</sup> 0.00 <sup>3</sup>	0.00 <sup>1</sup> 0.88 <sup>2</sup> 0.00 <sup>3</sup>	8	0.1
Stejneger's beaked whale ( <i>Mesoplodon stejnegeri</i> )	Likely Pelagic	N.A.	0.00 <sup>1</sup> 0.00 <sup>2</sup> 0.00 <sup>3</sup>	0.00 <sup>1</sup> 0.00 <sup>2</sup> 0.00 <sup>0</sup>	N.A.	0
Beluga whale ( <i>Delphinapterus leucas</i> )	Coastal & Ice Edges	366 <sup>8</sup> (Alaska)	0.00 <sup>1</sup> 0.00 <sup>2</sup> 0.00 <sup>3</sup>	0.00 <sup>1</sup> 0.00 <sup>2</sup> 0.00 <sup>3</sup>	0	N.A.

Species	Habitat	Estimated Population	Avg. Density	Max. Density	Number of Indiv. Exposed to $\geq 160$ dB	Percent of Estimated Population Exposed to $\geq 160$ dB
Pacific white-sided dolphin ( <i>Lagenorhynchus obliquidens</i> )	Pelagic, Shelf, Coastal	26,880 <sup>9</sup> (Alaska, Stock)	2.48 <sup>1</sup> 3.36 <sup>2</sup> 0.00 <sup>3</sup>	5.41 <sup>1</sup> 13.83 <sup>2</sup> 0.00 <sup>3</sup>	56	0.2
Killer whale ( <i>Orcinus orca</i> )	Pelagic, Shelf, Coastal	1,975 <sup>12</sup> (Alaska)	12.87 <sup>1</sup> 4.03 <sup>2</sup> 0.00 <sup>3</sup>	34.14 <sup>1</sup> 8.81 <sup>2</sup> 0.00 <sup>3</sup>	116	5.9
Harbor Porpoise ( <i>Phocoena phocoena</i> )	Coastal	41,854 <sup>15</sup> (Alaska, Stock)	23.26 <sup>1</sup> 17.85 <sup>2</sup> 0.00 <sup>3</sup>	47.27 <sup>1</sup> 24.21 <sup>2</sup> 0.00 <sup>3</sup>	346	0.8
Dall's Porpoise ( <i>Phocoenoides dalli</i> )	Pelagic & Shelf	83,400 <sup>17</sup> (Alaska, Stock)	146.86 <sup>1</sup> 662.63 <sup>2</sup> 141.00 <sup>3</sup>	221.90 <sup>1</sup> 877.32 <sup>2</sup> 211.50 <sup>3</sup>	5,379	0.7
<b>Mysticetes</b>						
Humpback whale ( <i>Megaptera novaeangliae</i> )	Coastal & Banks	>6,000 <sup>22</sup> (Regional)	32.82 <sup>1</sup> 11.89 <sup>2</sup> 15.60 <sup>3</sup>	54.58 <sup>1</sup> 24.37 <sup>2</sup> 15.60 <sup>3</sup>	246	4.1
Minke whale ( <i>Balaenoptera acutorostrata</i> )	Coastal & Shelf	9,000 <sup>23</sup> (Regional)	1.20 <sup>1</sup> 0.24 <sup>2</sup> 0.00 <sup>3</sup>	4.87 <sup>1</sup> 1.23 <sup>2</sup> 0.00 <sup>3</sup>	9	0.1
Gray whale ( <i>Eschrichtius robustus</i> )	Coastal	18,813 <sup>20</sup> (Regional, Stock)	0.00 <sup>1</sup> 0.00 <sup>2</sup> 0.00 <sup>3</sup>	0.00 <sup>1</sup> 0.00 <sup>2</sup> 0.00 <sup>3</sup>	0	0
Fin whale ( <i>Balaenoptera physalus</i> )	Pelagic	13,620-18,680 <sup>22</sup> (Regional)	7.31 <sup>1</sup> 11.08 <sup>2</sup>	19.40 <sup>1</sup> 20.25 <sup>2</sup> 0.00 <sup>3</sup>	89	0.7
Blue whale ( <i>Balaenoptera musculus</i> )	Pelagic, Shelf, Coastal	1,744 <sup>11</sup> (Region)	0.00 <sup>1</sup> 0.00 <sup>2</sup> 0.00 <sup>3</sup>	0.00 <sup>1</sup> 0.00 <sup>2</sup> 0.00 <sup>3</sup>	0	0
North Pacific right whale ( <i>Eubalaena japonica</i> )	Coastal & Shelf	100-200 <sup>19</sup>	0.00 <sup>1</sup> 0.00 <sup>2</sup> 0.00 <sup>3</sup>	0.00 <sup>1</sup> 0.00 <sup>2</sup> 0.00 <sup>3</sup>	0	0
<b>Pinnipeds</b>						
Northern fur seal ( <i>Callorhinus ursinus</i> )	Pelagic, Breeds Coastally	721,935 <sup>25</sup> (Regional, Stock)	0.00 <sup>1</sup> 0.00 <sup>2</sup> 0.00 <sup>3</sup>	0.00 <sup>1</sup> 0.00 <sup>2</sup> 0.00 <sup>3</sup>	0	0
Steller sea lion ( <i>Eumetopias jubatus</i> )	Coastal	47,885 <sup>26</sup> (E. Stock) 44,780 <sup>27</sup> (W. Stock)	3.99 <sup>1</sup> 4.20 <sup>2</sup> 0.00 <sup>3</sup>	5.99 <sup>1</sup> 6.30 <sup>2</sup> 0.00 <sup>3</sup>	74 (62 E, 12 W)	0.1 E 0.02 W
Harbor seal ( <i>Phoca vitulina richardsi</i> )	Coastal	108,670 (Stock)	2.00 <sup>1</sup> 20.28 <sup>2</sup> 0.00 <sup>3</sup>	3.00 <sup>1</sup> 30.42 <sup>2</sup> 0.00 <sup>3</sup>	269	0.2

Table 2. The habitat, abundance, and conservation status of marine mammals inhabiting the proposed study area in the Gulf of Alaska. Regional abundance estimates are also given, usually for the Northeastern Pacific Ocean or the U.S. West Coast. Note: N.A. = Not available or not applicable.

<sup>1</sup> Depths <100 m (330ft) (Densities of marine mammals during surveys in Southeast Alaska and the Gulf of Alaska calculated from data in Dahlheim and Towell (194), Dahlheim *et al.* (2000), Waite (2003), MacLean and Koski (2005), and Zerbini *et al.* (2006, 2007)).

<sup>2</sup> Depths 100-1,000 m (330-3,300 ft)

<sup>3</sup> Depths >1,000 m (3,300 ft)

<sup>4</sup> Western GOA and eastern Aleutians (Zerbini *et al.*, 2004).

<sup>5</sup> Eastern temperate North Pacific (Whitehead, 2002).

<sup>6</sup> Eastern Tropical Pacific (Wade and Gerrodette, 1993).

<sup>7</sup> Western North Pacific (Reeves and Leatherwood, 1994; Kasuya, 2002).

<sup>8</sup> Cook Inlet stock (Rugh *et al.*, 2005a).

<sup>9</sup> GOA (Angliss and Outlaw, 2007).

<sup>10</sup> North Pacific Ocean (Buckland *et al.*, 1993).

<sup>11</sup> California/Oregon/Washington (Carretta *et al.* 2007).

<sup>12</sup> Minimum abundance in Alaskan waters, includes 1,339 resident and 636 transient (Angliss and Outlaw, 2007).

<sup>13</sup> Eastern Tropical Pacific (Ford, 2002).

- <sup>14</sup> SE Alaska stock (Angliss and Outlaw, 2007).
- <sup>15</sup> GOA stock (Angliss and Outlaw 2007).
- <sup>16</sup> Western North Pacific Ocean (totals from Carretta *et al.*, 2007 and Angliss and Outlaw, 2007).
- <sup>17</sup> Alaska stock (Angliss and Outlaw, 2007).
- <sup>18</sup> North Pacific Ocean and Bering Sea (Houk and Jefferson, 1999).
- <sup>19</sup> Eastern North Pacific (Wada, 1973).
- <sup>20</sup> Mean of 2000-2001 and 2001-2002 abundance estimates for eastern North Pacific (Angliss and Outlaw, 2007).
- <sup>21</sup> Western GOA and eastern Aleutians (Zerbini *et al.*, 2006).
- <sup>22</sup> North Pacific Ocean (Carretta *et al.*, 2007).
- <sup>23</sup> North Pacific Ocean (Wada, 1976).
- <sup>24</sup> Central waters of western Alaska and eastern and central Aleutian Islands (Angliss and Outlaw, 2007).
- <sup>25</sup> Abundance for Eastern Pacific Stock (Angliss and Outlaw, 2007).
- <sup>26</sup> Eastern U.S. Stock (Angliss and Outlaw, 2007).
- <sup>27</sup> Western U.S. Stock (Angliss and Outlaw, 2007).
- <sup>28</sup> Alaska statewide (Angliss and Outlaw, 2007).
- <sup>29</sup> Abundance estimate for SE Alaska stock (USFWS 2002 in Angliss and Outlaw, 2007).
- <sup>30</sup> Abundance estimate Southcentral Alaska (USFWS 2002 in Angliss and Outlaw, 2007).
- <sup>31</sup> SW Alaska stock (USFWS 2002 in Angliss and Outlaw, 2007).

### 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; 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). With the possible exception of some cases of TTS in harbor seals, it is unlikely that the project would result in any cases of temporary impairment, or any significant non-auditory physical or physiological effects. Some behavioral disturbance is expected, but this would be localized and short-term. Also, behavioral disturbance is expected to be limited to relatively short distances.

The notice of the proposed IHA (73 FR 45407, August 5, 2008) 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 B of L-DEO's application.

The notice of the proposed IHA also included a discussion of the potential effects of the multibeam echosounder (MBES) and the sub-bottom profiler (SBP). 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 MBES 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 is not likely to

result in the harassment of marine mammals.

### Estimated Take by Incidental Harassment

The notice of the proposed IHA (73 FR 45407, August 5, 2008) 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 by harassment" authorized by this IHA are Level B harassment only, involving temporary changes in behavior. The mitigation measures are expected to minimize the possibility of injurious takes. 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.

There are few systematic data on the numbers and distributions of marine mammals in SE Alaska and the GOA. Zerbini *et al.* (2003, 2006, 2007) conducted vessel-based surveys in the northern and western GOA from the Kenai Peninsula to the central Aleutian Islands during July-August 2001–2003. Killer whales were the principal target of the surveys, but the abundance and distribution of fin, humpback, and minke whales were also reported. Waite (2003) conducted vessel-based surveys in the northern and western GOA from Prince William Sound (PWS) to approximately 160° W off Alaska Peninsula during 26 June–15 July 2003; cetaceans recorded included small odontocetes, beaked whales, and mysticetes. The eastern part of Zerbini *et al.* surveys and Waite's survey were confined to water <1,000 m deep, and most effort was in depths <100 m.

Dahlheim *et al.* (2000) conducted aerial surveys of the nearshore waters from Bristol Bay to Dixon Entrance for harbor porpoises; SE Alaska was surveyed during 1–26 June 1993. Dahlheim and Towell (1994) conducted vessel-based surveys of Pacific white-sided dolphins in the inland waterways of SE Alaska during April-May, June or July, and September–early October of 1991–1993. In a report on a seismic cruise in SE Alaska from Dixon Entrance to Kodiak Island during August–September 2004, MacLean and Koski (2005) included density estimates of cetaceans and pinnipeds for each of three depth ranges (<100 m, 100–1,000 m, and >1,000 m) during non-seismic periods.

Most surveys for pinnipeds in Alaskan waters have estimated the number of animals at haul-out sites, not in the water (e.g., Loughlin, 1994; Sease *et al.*, 2001; Withrow and Cesarone, 2002; Sease and York, 2003). To our knowledge, the estimates of MacLean and Koski (2005) are the only in-water estimates of pinnipeds in the proposed survey area.

The L-DEO survey will occur from September–October, 2008 in the Gulf of Alaska, a location and time of year in which the species densities are likely similar or slightly different from those during the above-mentioned surveys in the Gulf of Alaska, but these surveys are the best available data at this time.

Eight species of odontocete whales, five species of mysticete whale, and three species of pinnipeds are expected to be harassed during the seismic survey. Risso's dolphins and short-finned pilot whales are unlikely to occur in the study area and any sightings would be considered extralimital to their range. No take was authorized for either of these species. Stejneger's beaked whales, beluga whales, gray whales, and northern fur seals occur in the Gulf of Alaska, but generally occur in the study area in low numbers or at different times of the year. Although not expected in the area,

small numbers of take of Stejneger's beaked whales, gray whales, blue whales, and northern fur seals were authorized due to a lack of marine mammal survey data and uncertainty in the study area. No take of North Pacific right or beluga whales is expected or authorized due to their rare occurrence in the area and the special mitigation for these species of concern. Where stock size wasn't available, NMFS used the estimated abundance in Alaska or the region to determine the percentage of the population exposed to sound levels greater than or equal to 160 dB. Since the take estimates authorized in this IHA are no more than 5.9 percent of any affected cetacean species and no more than 0.2 percent of any affected pinnipeds species found along or offshore of the Alaskan coast, NMFS believes that the estimated take numbers for these species and stocks are small relative to the relevant population of these affected species or stocks.

Table 3 (see below) outlines the species, estimated stock population (minimum and best), and estimated percentage of the stock exposed to seismic impulses in the project area. Additional information regarding the status, abundance, and distribution of the marine mammals in the area and how the densities were calculated was included in Table 2 (see above), the notice of the proposed IHA (73 FR 45407, August 5, 2008) and may be found in L-DEO's application

#### 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 (73 FR 45407, August 5, 2008). Based on the discussion in the proposed IHA notice 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.

#### Subsistence Activities

The proposed project could potentially impact the availability of marine mammals for subsistence harvest in a very small area immediately around the *Langseth*, and for a very short time period during seismic activities. Considering the limited time and locations for the planned seismic surveys, most of which are well offshore, the proposed project is not expected to have any significant impacts

to the availability of beluga whales, Steller sea lions, Pacific harbor seals, and sea otters. Also, seismic surveys can at times, cause changes in the catchability of fish.

To avoid having an unmitigable adverse impact on subsistence uses of marine mammals, NMFS is required to implement mitigation measures to ensure that NSF and L-DEO's seismic activities do not have an unmitigable adverse impact on subsistence uses of marine mammals in the project area. L-DEO will minimize the potential to negatively impact the subsistence harvest by coordinating with local native communities and avoiding areas (to the maximum extent practicable) where subsistence collectors are hunting marine mammals and fishing. Additionally, L-DEO will consult with each village near the planned project area to identify and avoid areas of potential conflict. These consultations will include all marine subsistence activities (mammals and fisheries). Implementation of these measures ensures that there will not be significant social or economic impacts on the coastal inhabitants of the GOA and Southeast Alaska. NMFS has determined (based on the above stated reasons) that L-DEO's activities will not have an unmitigable adverse impact on the subsistence uses of the species hunted by Alaska Natives and a requirement to these effects will be addressed in the IHA.

#### Monitoring and Mitigation

Mitigation and monitoring measures required to be implemented for the proposed seismic survey have been developed and refined during previous L-DEO seismic survey 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; (5) special procedures for situations and species of particular concern, e.g., avoidance of critical habitat around Steller sea lion rookeries and haul-outs (see "shut-down procedures" and "special procedures for

situations and species of particular concern," below).

#### 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 and after an extended shutdown of the airguns (i.e., 7 minutes). 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 corresponding to 180 dB (for cetaceans) and 190 dB (for pinnipeds) isopleths. 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 predicted distances for the safety radius' are listed according to the sound source, water depth, and received isopleth in Table 1.

During seismic operations in the Gulf of Alaska, at least three visual observers and one bioacoustician 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. Use of two simultaneous MMVOs will increase the proportion of the animals present near the source vessel that are detected. MMVO(s) will be on duty in shifts of duration no longer than 4 hours. The vessel crew will also be instructed to assist in detecting marine mammals and implementing mitigation requirements (if practical). Before the start of the seismic survey the crew will be given additional instruction regarding how to do so.

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. Those are useful in training MMVOs to estimate distances visually, but are generally not useful in measuring distances to animals directly.

#### *Passive Acoustic Monitoring*

PAM will take place to complement the visual monitoring program. 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 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).

The PAM system consists of hardware (i.e., hydrophones) and software. The "wet end" of the system consists of a low-noise, towed hydrophone array that is connected to the vessel by a "hairy" faired cable. The array will be deployed from a winch located on the back deck. A deck cable will connect from the winch to the main computer lab where the acoustic station and signal condition and processing system will be located. The lead-in from the hydrophone array is approximately 400 m (1,312 ft) long, and the active part of the hydrophone is approximately 56 m (184 ft) long. The hydrophone array is typically towed at depths <20 m (65.6 ft).

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 Marine Mammal Observer (MMO) and/or bioacoustician 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. Of the three observers required on board, one will have primarily responsibility for PAM during the seismic survey. However, 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 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) (if they have not already been seen), and to allow a power down or shutdown to be initiated, if required. The information regarding the call will be entered into a database. The data to be entered includes 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.

**Speed or Course Alteration** – If a marine mammal is detected outside the safety radius and, based on its position and the relative motion, is likely to enter the safety radius or exclusion zone (EZ), the vessel's speed and/or direct course may be changed. This would be done if practicable while minimizing the effect on the planned science objectives. The activities and movements of the marine mammal(s) (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 power down or shut down of the airguns. Typically, during seismic operations, major course and speed adjustments are often impractical when towing long seismic streamers and large source arrays, thus alternative mitigation measures (see below) will need to be implemented.

**Power-down Procedures** – A power-down involves reducing the number of operating airguns in use to minimize the EZ, 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. During a power down for mitigation, one airgun will be operated. The continued operation of at least one airgun is intended to alert marine mammals to the presence of the seismic vessel in the area. In contrast, a shut down occurs when all airgun activity is suspended.

If a marine mammal is detected outside the EZ but is likely to enter it, and if the vessel's speed and/or course cannot be changed to avoid the animal(s) entering the EZ, the airguns will be powered down to a single airgun before the animal is within the EZ. Likewise, if a mammal is already within the EZ when first detected, the airguns will be powered down immediately. During a power down of the airgun array, the 40-in<sup>3</sup> airgun will be operated. If a marine mammal is detected within or near the smaller EZ around that single airgun (see Table 1 above), all airguns will be shutdown (see next subsection).

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

- (1) Is visually observed to have left the EZ; or
- (2) Has not been seen within the EZ for 15 minutes in the case of small odontocetes and pinnipeds; or
- (3) Has not been seen within the EZ for 30 minutes in the case of mysticetes and large odontocetes, including sperm, pygmy sperm, dwarf sperm, and beaked whales; or

During airgun operations following a power-down (or shut 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 or approaching the EZ for the then-operating 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 EZ 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 EZ 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 more than 7 minutes without airgun operations or when a power down has exceeded 7 minutes. 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. Similar periods (approximately 8–10 minutes) were used during previous L-DEO surveys.

Ramp-up 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 20–25 minutes. During ramp-up, the MMVOs will monitor the EZ, and if marine mammals are sighted, a course/speed change, power down, or shutdown will be implemented as though the full array were operational.

If the complete EZ has not been visible for at least 30 min prior to the start of operations in either daylight or nighttime, ramp up will not commence unless at least one airgun (40 in<sup>3</sup> or similar) has been operating during the interruption of seismic survey operations. Given these provisions, it is likely that the airgun array will not be ramped up from a complete shut down at night or in thick fog, because the other part of the EZ for that array will not be visible during those conditions. If one airgun has operated during a power down period, 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 have the opportunity to move away. Ramp up of the airguns will not be initiated if a marine mammal is sighted within or near the applicable EZ during the day or close to the vessel at night.

#### Special Procedures for Situations and Species of Concern

Several species of concern could occur in the study area. To the maximum extent practicable, special mitigation procedures will be used for those species, as follows:

(1) Critical habitat around Steller sea lion rookeries and haul-outs will be avoided;

(2) The airguns will be shut down if a North Pacific right whale is sighted at any distance from the vessel;

(3) The airguns will be shut down if a beluga whale is sighted at any distance from the vessel in or near Yakutat Bay;

(4) Concentrations of humpback whales, fin whales, and sea otters will be avoided;

(5) The seismic vessel will avoid areas where subsistence fishers are hunting for marine mammals and/or fishing; and

(6) Because the sensitivity of beaked whales, approach to slopes will be minimized, if possible. There are no submarine canyons in or near the study area, and only a limited amount of airgun operations is planned over slope during the proposed survey (Figure 1 of L-DEO's application).

#### 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 observations, as well as information regarding airgun power down and shutdown, will be recorded in a standardized format. Data will be entered into a custom electronic database. The accuracy of data will be verified by computerized data validity checks as the data are entered and by subsequent manual checking of the database. 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." These data will be reported to NMFS per terms of MMPA authorizations or regulations.

(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.

#### 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 and mitigation. The 90-day report will summarize the dates and locations of seismic operations (dates, times, locations, heading, speed, weather, sea state, activities), and all marine mammal sightings (dates, times, locations, species, behavior, number of animals, associated seismic survey activities). The report will also include the estimates of the amount and nature of potential "take" of marine mammals by harassment or in other ways, as well as a description of the implementation and effectiveness of the monitoring and mitigation measures of the IHA and Biological Opinion's (BiOp) Incidental Take Statement.

#### 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 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, Steller sea lions, and leatherback sea turtles; or listed ESUs of Pacific salmon and steelhead. The BiOp also concluded that the proposed activities are not likely to adversely modify critical habitat designated for Steller sea lions in the action area. Relevant Terms and Conditions of the Incidental Take Statement in the BiOp have been incorporated into the IHA.

#### National Environmental Policy Act (NEPA)

NSF prepared an Environmental Assessment of a Marine Geophysical Survey by the R/V *Marcus G. Langseth* in the Gulf of Alaska, September 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 Gulf of Alaska may result, at worst, in a temporary modification in behavior (Level B Harassment) of small numbers of 16 species of cetaceans and pinnipeds. 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 is not implicated for this proposed action provided the mitigation measures required under the authorization are implemented.

This negligible impact determination is supported by: (1) the likelihood that, given sufficient warning 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 likelihood that marine mammal detection ability by trained observers is good at those distances from the vessel; (5) the use of PAM, which is effective out to tens of km, will assist in the detection of vocalizing marine mammals at greater distances from the vessel; (6) the incorporation of other required mitigation measures (i.e., ramp-up, power-down, and shutdown); and (7) the limited duration of the seismic survey in the GOA study area (approximately 18 days). 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 monitoring and 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, relative to the affected species and stock 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 Gulf of Alaska in September, 2008, provided the previously mentioned mitigation, monitoring, and reporting requirements are incorporated.

Dated: September 8, 2008.

**James H. Lecky,**

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

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**BILLING CODE 3510-22-S**

#### COMMODITY FUTURES TRADING COMMISSION

##### Agency Information Collection Activities: Notice of Intent To Renew Collection 3038-0052, Establishing Procedures for Designated Contract Markets and Applicants Seeking Designation, Comment Request

**AGENCY:** Commodity Futures Trading Commission.

**ACTION:** Extension of an existing collection notice.

**SUMMARY:** The Commodity Futures Trading Commission (Commission or CFTC) is announcing an opportunity for public comment on the proposed collection of certain information by the agency. Under the Paperwork Reduction Act of 1995 (PRA), 44 U.S.C. 3501 *et seq.*, Federal agencies are required to publish notice in the **Federal Register** concerning each proposed collection of information, including each proposed extension of an existing collection of information, and to allow 60 days for public comment in response to the notice. This notice solicits comments on requirements relating to Part 38 of the Commission's regulations (17 CFR 38) establishing submission and compliance procedures for designated contract markets and applicant exchanges seeking designation with the CFTC.

**DATES:** Comments must be submitted on or before November 12, 2008.

**ADDRESSES:** Comments may be mailed to Bruce Fekrat, Special Counsel, Division of Market Oversight, U.S. Commodity Futures Trading Commission, 1155 21st Street, NW., Washington, DC 20581.

**FOR FURTHER INFORMATION CONTACT:** Bruce Fekrat, (202) 418-5578; Fax: (202) 418-5527; e-mail: [bfekrat@cftc.gov](mailto:bfekrat@cftc.gov).

**SUPPLEMENTARY INFORMATION:** Under the PRA, Federal agencies must obtain approval from the Office of Management

and Budget (OMB) for each collection of information they conduct or sponsor. "Collection of information" is defined in 44 U.S.C. 3502(3) and 5 CFR 1320.3(c) and includes agency requests or requirements that members of the public submit reports, keep records, or provide information to a third party. Section 3506(c)(2)(A) of the PRA, 44 U.S.C. 3506(c)(2)(A), requires Federal agencies to provide a 60-day notice in the **Federal Register** concerning each proposed collection of information, including each proposed extension of an existing collection of information, before submitting the collection to OMB for approval. To comply with this requirement, the CFTC is publishing notice of the intent to renew the collection of information listed below.

With respect to the following collection of information, the CFTC invites comments on:

- Whether the proposed collection of information is necessary for the proper performance of the functions of the Commission, including whether the information will have a practical use;
- The accuracy of the Commission's estimate of the burden of the proposed collection of information, including the validity of the methodology and assumptions used;
- Ways to enhance the quality, usefulness, and clarity of the information to be collected; and
- Ways to minimize the burden of collection of information on those who are to respond, including through the use of appropriate automated electronic, mechanical, or other technological collection techniques or other forms of information technology; e.g., permitting electronic submission of responses.

##### Collection 3038-0052, Establishing Procedures for Designated Contract Markets and Applicants Seeking Designation—Extension

Part 38 of the Commission's regulations governs the activities of designated contract markets. The information collected thereunder is necessary for the Commission to evaluate whether entities operating as, or applying to become, designated contract markets are in compliance with the designation criteria of section 5(b) of the Commodity Exchange Act (CEA), 7 U.S.C. 7(b), and the core principles of section 5(d) of the CEA, 7 U.S.C. 7(d), and the Commission's regulations adopted thereunder.

The Commission estimates the burden of this collection of information as follows: