

DEPARTMENT OF COMMERCE**National Oceanic and Atmospheric Administration**

[I.D. 092203D]

Small Takes of Marine Mammals Incidental to Specified Activities; Oceanographic Surveys in the Southeast Caribbean Sea and Adjacent Atlantic Ocean

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

ACTION: Notice of receipt of application and proposed incidental take authorization; request for comments.

SUMMARY: NMFS has received an application from the Lamont-Doherty Earth Observatory (LDEO), a part of Columbia University, for an Incidental Harassment Authorization (IHA) to take small numbers of marine mammals, by harassment, incidental to conducting oceanographic surveys in the Southeast Caribbean Sea and adjacent Atlantic Ocean. Under the Marine Mammal Protection Act (MMPA), NMFS is requesting comments on its proposal to issue an authorization to LDEO to incidentally take, by harassment, small numbers of several species of cetaceans and pinnipeds for a limited period of time within the next year.

DATES: Comments and information must be received no later than November 20, 2003.

ADDRESSES: Comments on the application should be addressed to the Acting Chief, Marine Mammal Conservation 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 this address or by telephoning the contact listed here. Comments cannot be accepted if submitted via e-mail or the Internet.

FOR FURTHER INFORMATION CONTACT: Kimberly Skrupky, Office of Protected Resources, NMFS, (301) 713-2322, ext 163.

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 may be granted if NMFS finds that the taking will have a negligible impact on the species or stock(s) and will not have an unmitigable adverse impact on the availability of the species or stock(s) for subsistence uses and that the permissible methods of taking and requirements pertaining to the 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. Under section 3(18)(A), 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; 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.

The term "Level A harassment" means harassment described in subparagraph (A)(i). The term "Level B harassment" means harassment described in subparagraph (A)(ii).

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 issue or deny issuance of the authorization.

Summary of Request

On August 7, 2003, NMFS received an application from LDEO for the taking, by harassment, of several species of marine mammals incidental to conducting a seismic survey program. As presently scheduled, a seismic survey will be conducted in the Southeast Caribbean Sea and Adjacent Atlantic Ocean. The Southeast Caribbean Sea and Atlantic Ocean

cruise will be off the coast of Venezuela in an area extending from 59° to 71° W and 10° to 15° N from January 11, 2004 to February 21, 2004. The operations will partly take place in the Exclusive Economic Zones (EEZ) of several nations in the Southeast Caribbean (including Venezuela, Aruba, Bonaire, Curacao, Trinidad, and Tobago) as well as in international waters.

The purpose of the project is to obtain information on island arc movements and geometry which can be used to better understand the history and mechanical processes by which island arcs accrete to continents, deeply buried rocks are exhumed, and folded belts and different types of sedimentary basins form along oblique collision zones. The interplay of the crust and subcrustal lithosphere during arc accretion and metamorphic belt exhumation and subduction polarity reverses will be examined. In addition, the flow patterns of the sublithospheric mantle beneath the plate boundary and northern South America as a whole and beneath the right lateral shear zone between them will be examined.

Description of the Activity

The seismic survey will involve two vessels which will conduct the seismic work. The source vessel, the *R/V Maurice Ewing*, will deploy an array of 20 airguns as an energy source, plus a 6-km (3.2 n.mi.) towed hydrophone streamer. A second vessel, the *R/V Seward Johnson*, will deploy and retrieve Ocean Bottom Seismometers (OBSs). As the airgun array is towed along the survey line, the towed hydrophone streamer or OBSs will receive the returning acoustic signals and transfer the data to the on-board processing system. Water depths within the study area range from approximately 15-6,000 m (49-19,685 ft). Most of the survey effort will take place in waters greater than 1,000 m (3,281 ft) deep, 2,031 km (1,097 n.mi.) will be surveyed in water depth ranging from 100-1,000 m (328-3,281 ft) deep, and a small portion of the survey effort will occur in shallow water less than 100 m (328 ft) deep.

The procedures to be used for the seismic study will be similar to those used during previous seismic surveys by LDEO in the equatorial Pacific Ocean (Carbotte *et al.*, 1998, 2000). The proposed seismic surveys will use conventional seismic methodology with a towed airgun array as the energy source, and a towed hydrophone streamer and/or OBSs as the receiver system. The OBSs will be deployed by the *Seward Johnson*. The energy to the airgun array is compressed air supplied

by compressors on board the source vessel. In addition to the operations of the airgun array, a multibeam bathymetric sonar will be operated from the source vessel continuously throughout the entire cruise, and a lower-energy sub-bottom profiler will also be operated during most of the survey.

The *Seward Johnson* will have four deployments of OBSs, prior to the time when the *Maurice Ewing* conducts airgun operations in that area. After each line is shot, the *Seward Johnson* will retrieve the OBSs, download the data, and refurbish the units before redeploying the OBSs along the next line that will be shot. During the Southeast Caribbean cruise, there will be four deployments of OBSs, one deployment along each of the OBS lines. OBSs will also be deployed at two other locations near each line to fill data gaps between islands.

In addition, the ocean floor will be mapped with an Atlas Hydrosweep DS-2 multibeam 15.5-kHz bathymetric sonar, and a 3.5-kHz sub-bottom profiler will also be operated along with the multibeam sonar. Both of these sound sources will be operated simultaneously with the airgun array. For more information regarding the Atlas Hydrosweep DS-2 multibeam bathymetric sonar, please refer to previous **Federal Register** Notices (68 FR 44291, July 28, 2003, and 68 FR 17773, April 11, 2003).

During the airgun operations, the vessel will travel at 7.4–9.3 km/hr (4–5 knots), and seismic pulses will be emitted at intervals of 60–90 sec (OBS lines) and approximately 20 sec (MCS lines). The 20 sec spacing corresponds to a shot interval of about 50 m (164 ft). The 60–90 sec spacing along OBS lines is to minimize reverberation from previous shot noise during OBS data acquisition, and the exact spacing will depend on water depth. The 20-airgun array will include airguns ranging in chamber volume from 80 to 850 in³. These airguns will be spaced in an approximate rectangle of dimensions of 35 m (115 ft) across track by 9 m (30 ft) along track.

Along the selected lines, the OBSs will be positioned by the *Seward Johnson* prior to the time when the *Maurice Ewing* conducts airgun operations in that area. After each line is shot, the *Seward Johnson* will retrieve the OBSs, download the data, and refurbish the units before redeploying the OBSs along the next line that will be shot. During the Southeast Caribbean cruise, there will be four deployments of OBSs, one deployment along each of the OBS lines. OBSs will also be deployed

at two other locations near each line to fill data gaps between islands.

When airgun operations with the 20-gun array commence after a period without airgun operations, the number of guns firing will be increased gradually (“ramped up,” also described as a “soft start”). Operations will begin with the smallest gun in the array (80 in³). Guns will be added in sequence such that the source level of the array will increase in steps not exceeding 6 dB per 5-min period over a total duration of approximately 25 minutes. Throughout the ramp-up procedure, the safety zone for the full 20-gun array will be maintained. Given the presence of the streamer and airgun array behind the vessel, the turning rate of the vessel with trailing streamer and array is no more than five degrees per minute, limiting the maneuverability of the vessel during operations.

Along with the airgun operations, two additional acoustical data acquisition systems will be operated during most or all of the cruise. The ocean floor will be mapped with an Atlas Hydrosweep DS-2 multibeam 15.5-kHz bathymetric sonar, and a 3.5-kHz sub-bottom profiler will also be operated along with the multibeam sonar. These sound sources are commonly operated from the *Maurice Ewing* simultaneous with the airgun array.

The Atlas Hydrosweep is mounted on the hull of the *Maurice Ewing*, and it operates in three modes, depending on the water depth. There is one shallow water mode and there are two deep-water modes: an Omni mode and a Rotational Directional Transmission mode (RDT). When water depth is less than 400 m (1312.3 ft), the source output is 210 dB re 1 μ Pa m rms and a single 1-millisecond pulse or “ping” per second is transmitted, with a beamwidth of 2.67 degrees fore-aft and 90 degrees athwartship. The beamwidth is measured to the -3 dB point, as is usually quoted for sonars. The Omni mode is identical to the shallow-water mode except that the source output is 220 dB rms. The Omni mode is normally used only during start up. The RDT mode is normally used during deep-water operation and has a 237 dB rms source output. In the RDT mode, each “ping” consists of five successive transmissions, each ensonifying a beam that extends 2.67 degrees fore-aft and approximately 30 degrees in the cross-track direction. The five successive transmissions (segments) sweep from port to starboard with minor overlap, spanning and overall cross-track angular extent of about 140 degrees, with small gaps between the pulses for successive 30-degree segments. The total duration of

the “ping,” including all five successive segments, varies with water depth, but is 1 millisecond in water depths less than 500 m (1640.5 ft) and 10 millisecond in the deepest water. For each segment, “ping” duration is 1/5th of these values or 2/5th for a receiver in the overlap area ensonified by two beam segments. The “ping” interval during RDT operations depends on water depth and varies from once per second in less than 500 m (1640.5 ft) water depth to once per 15 seconds in the deepest water.

The sub-bottom profiler is normally operated to provide information about the sedimentary features and the bottom topography that is simultaneously being mapped by the Hydrosweep. The energy from the sub-bottom profiler is directed downward by a 3.5 kHz transducer mounted in the hull of the *Maurice Ewing*. The output varies with water depth from 50 watts in shallow water to 800 watts in deep water. Pulse interval is 1 second but a common mode of operation is to broadcast five pulses at 1-s intervals followed by a 5-s pause.

Additional information on the airgun arrays, bathymetric sonars, and sub-bottom profiler specifications is contained in the application, which is available upon request (see **ADDRESSES**).

Description of Habitat and Marine Mammals Affected by the Activity

A detailed description of the Southeast Caribbean Sea and its associated marine mammals can be found in a number of documents referenced in the LDEO application as well as in the LDEO application itself, and is not repeated here. In the Southeast Caribbean Sea and adjacent Atlantic Ocean, 30 marine mammal species are known to occur within the proposed study areas. Six species are listed as endangered under the U.S. Endangered Species Act (ESA): sperm, humpback, sei, fin, and blue whales, as well as West Indian manatees. These species included in this application are the sperm whale (*Physeter macrocephalus*), pygmy sperm whale (*Kogia breviceps*), dwarf sperm whale (*Kogia sima*), Cuvier's beaked whale (*Ziphius cavirostris*), Gervais' beaked whale (*Mesoplodon europaeus*), Blainville's beaked whale (*Mesoplodon densirostris*), rough-toothed dolphin (*Steno bredanensis*), tucuxi (*Sotalia uviatilis*), bottlenose dolphin (*Tursiops truncatus*), Pantropical spotted dolphin (*Stenella attenuata*), Atlantic spotted dolphin (*Stenella frontalis*), spinner dolphin (*Stenella longirostris*), clymene dolphin (*Stenella clymene*), striped dolphin (*Stenella coeruleoalba*), long-beaked common dolphin (*Delphinus capensis*), Fraser's dolphin

(*Lagenodelphis hosei*), Risso's dolphin (*Grampus griseus*), melon-headed whale (*Peponocephala electra*), pygmy killer whale (*Feresa attenuata*), false killer whale (*Pseudorca crassidens*), killer whale (*Orcinus orca*), short-finned pilot whale (*Globicephala macrorhynchus*), humpback whale (*Megaptera novaeangliae*), minke whale (*Balaenoptera acutorostrata*), Bryde's whale (*Balaenoptera edeni*), sei whale (*Balaenoptera borealis*), fin whale

(*Balaenoptera physalus*), and blue whale (*Balaenoptera musculus*). Also, one species of pinniped could potentially be encountered during the proposed seismic surveys. This includes the hooded seal (*Cystophora cristata*). Additional information on most of these species is available at: http://www.nmfs.noaa.gov/prot_res/PR2/Stock_Assessment_Program/sars.html.

Potential Effects on Marine Mammals

The sound pressure fields for the 20-gun arrays has been modeled by LDEO, in relation to distance and direction from the airguns. Table 1 in the application (LDEO Caribbean 2003) shows the distances from the arrays where sound levels of ≥190, 180, 170, and 160 dB re 1 μPa (rms) are predicted to be received:

Airgun Array	Predicted RMS Radii in meters/ft			
	190 dB	180 dB	170 dB	160 dB
20 airguns	275/902	900/2953	2600/8531	9000/29,529

The rms (root-mean-squared) pressure is an average over the pulse duration. The rms level of a seismic pulse is typically about 10 dB less than its peak level (Greene 1997; McCauley *et al.* 1998, 2000a). The safety radii will be verified prior to the Southeast Caribbean cruise, using data from an acoustical measurement study in deep water within the Gulf of Mexico, which took place from 27 May to 3 June 2003. The data will either confirm or be used to refine the safety radii to be used during this and future LDEO seismic studies.

Previous applications from LDEO have described similar actions. Past **Federal Register** notices for LDEO include July 28, 2003 (68 FR 44291), August 26, 2003 (68 FR 51240), September 12, 2003 (68 FR 53714), and September 17, 2003 (68 FR 54421). The **Federal Register** notice on April 14, 2003 (68 FR 17909) describes, in detail, the characteristics of the *Ewing's* acoustic sources and, in general, the anticipated effects on marine mammals including masking, disturbance, and potential hearing impairment and other physical effects. Possible effects of the sub-bottom profiler have been used in the projects described in the above notices. The LDEO Southeast Caribbean application also provides information on what is known about the effects on marine mammals of the types of seismic operations planned by LDEO.

Possible Effects of the Mid-Frequency Sonar Signals

A multibeam bathymetric sonar (Atlas Hydrosweep DS-2, 15.5-kHz) will be operated from a source vessel at some times during the planned study. Sounds from the multibeam sonar are very short pulses, occurring for 1–10 msec once every 1 to 15 sec, depending on water depth. Most of the energy in the sound pulses emitted by this multibeam sonar is at high frequencies, centered at 15.5

kHz. The beam is narrow (2.67°) in fore-aft extent, and wide (140°) in the cross-track angles. A marine mammal at depth near the trackline would be in the main beam for only one or two of the five segments. Further information on mid-frequency sonar can be found in the application or in a previous **Federal Register** notice 68 FR 17909 (April 14, 2003).

Possible Effects of the Sub-bottom Profiler Signals

Sound levels have not been measured for the sub-bottom profiler used by the *Maurice Ewing*, but Burgess and Lawson (2000) measured the sounds propagating more or less horizontally from a similar unit with similar source output (205 dB re 1 μPa-m). The 160 and 180 dB re 1 μPa (rms) radii, in the horizontal direction, were estimated to be near 20 m (66 ft) and 8 m (26 ft), respectively, from the source, as measured in 13 m (43 ft) water depth. The corresponding distances for an animal in the beam below the transducer would be greater, on the order of 180 m (591 ft) and 18 m (59 ft), assuming spherical spreading. Further information on the sub-bottom profiler can be found in the application as well as in a previous **Federal Register** notice (68 FR 44291, July 28, 2003).

Estimates of Take by Harassment for the Southeast Caribbean Sea Cruise

All anticipated takes by harassment involve a temporary change in behavior. The mitigation measures to be applied will minimize the possibility of injurious takes. LDEO has calculated the "best estimates" for the numbers of animals that could be taken by level B harassment during the proposed seismic survey in the SE Caribbean Sea using data on marine mammal abundance from a previous survey region, as shown in the predicted RMS radii table.

These estimates are based on a consideration of the number of marine mammals that might be exposed to sound levels greater than 160 dB, which is currently used as the criterion for the onset of level B harassment, by operations with the 20-gun array planned to be used for the project. The anticipated radius of influence of the multibeam sonar is less than that for the airgun array. It is assumed that any marine mammals close enough to be affected by the multibeam sonar would already be affected by the airguns. Therefore, no additional allowance is included for animals that might be affected by the multibeam sonar.

Tables 4 and 5 in the application explain the corrected density estimates as well as the "best estimate" of the numbers of each species that would be exposed to seismic sounds greater than 160 dB.

According to the tables, the percentages of delphinidae that might be exposed to sound levels greater than 160 dB range from zero to 4.4 percent. Aside from the sperm whale, the physeterida and ziphiidae exposure percentages are zero. The percent of sperm whales that might be exposed is 0.4 percent. Except for the humpback and blue whales, the mysticetes and pinnipeds percent of exposure is zero. It is estimated that 1.7 percent of humpback whales and 1.0 percent of blue whales could be exposed to sound levels greater than 160 dB. The "best estimate" of the numbers of common, bottlenose, Atlantic spotted, and pantropical spotted dolphins that might be harassed (exposed to levels greater than 160 dB) are 1.9 percent, 4.4 percent, 2.6 percent, and 4.3 percent, respectively.

The 160 dB criterion is based on studies of baleen whales. Odontocete hearing at low frequencies is relatively insensitive and delphinids generally

appear to be more tolerant of strong low-frequency sounds than are most baleen whales. As a result, significantly fewer odontocetes than estimated here are likely to be harassed by the proposed action.

Pinnipeds are not expected to be encountered in the SE Caribbean Sea and so the "best estimate" of the number that might be affected is zero. Although unlikely, a more conservative estimate of a maximum of five pinnipeds (most likely hooded seals) might be affected by a portion of the proposed survey in the SE Caribbean Sea. For further information regarding the estimated takes, refer to the LDEO Caribbean 2003 application.

Conclusions- Effects on Cetaceans

Strong avoidance reactions by several species of mysticetes to seismic vessels have been observed at ranges up to 8 km (4.3 nm) and occasionally as far as 30 km (16.2 nm) from the source vessel. Some bowhead whales avoided waters within 30 km (16.2 nm) of the seismic operation. However, reactions at such long distances appear to be atypical of other species of mysticetes and, even for bowheads, may only apply during migration.

Odontocete reactions to seismic pulses, or at least those of dolphins, are expected to extend to lesser distances than are those of mysticetes. Odontocete low-frequency hearing is less sensitive than that of mysticetes, and dolphins are often seen from seismic vessels. There are documented instances of dolphins approaching active seismic vessels. However, dolphins as well as some other types of odontocetes sometimes show avoidance responses and/or other changes in behavior when near operating seismic vessels.

Taking account of the mitigation measures that are planned, effects on cetaceans are generally expected to be limited to avoidance of the area around the seismic operation and short-term changes in behavior, falling within the MMPA definition of "Level B harassment." In the cases of mysticetes, these reactions are expected to involve small numbers of individual cetaceans. The "best estimate" is that 377 humpback whales or about 1.7 percent of the North and South Atlantic populations will be exposed to sound levels greater than or equal to 160 dB re 1 μ Pa (rms). Acevedo and Smultea (1995) provide evidence that the North and South Atlantic populations overlap in their wintering areas. Similarly, only 52 sperm whales or approximately 0.4 percent of the North Atlantic sperm whale population would receive seismic sounds greater than or equal to 160 dB

during the proposed survey in the SE Caribbean Sea.

The numbers of odontocetes that may be harassed by the proposed activities are small relative to the population sizes. A maximum of 2475, 2222, 1369, 867, and 564 common, bottlenose, Atlantic spotted, rough toothed, and pantropical spotted dolphins, respectively (the most abundant delphinids in the proposed survey area) are expected to be exposed to seismic sounds greater than or equal to 160 dB. This represents 1.9 to 4.4 percent of the North Atlantic populations of these species based on population estimates for these species. However, these dolphin species surveys have not been conducted for most of their range in the North Atlantic Ocean and adjacent waters. The true percentages of the populations that might be exposed to seismic sounds greater than or equal to 160 dB are much less than 1.9–4.4 percent. The population sizes and the 1.9 to 4.4 percent are based on a small fraction of their range and their actual population sizes are actually much larger. The true percentages of the populations that might be exposed to seismic sounds greater than 160 dB are therefore much less than 1.9 to 4.4 percent. In light of all of these factors, the potential takings by Level B harassment are expected to have no more than a negligible impact on the affected species or stocks.

Mitigation measures such as controlled speed, course alteration, look-outs, non-pursuit, ramp-ups, and power-downs when marine mammals are seen within defined ranges (See Mitigation) should further reduce short-term reactions to disturbance, and minimize any effects on hearing sensitivity.

Conclusions- Effects on Pinnipeds

Pinnipeds are not expected to be encountered during the proposed seismic survey in the SE Caribbean Sea. However, a more conservative estimate of a maximum of 5 pinnipeds may be affected by a portion of the proposed survey in the SE Caribbean Sea if they were encountered. If pinnipeds were encountered, the proposed seismic survey would have, at most, a short-term effect on their behavior and negligible impacts on the affected populations. Responses of pinnipeds to acoustic disturbance are variable, but usually quite limited. Effects are expected to be limited to short-term and localized behavioral changes falling within the MMPA definition of "Level B harassment."

Mitigation

Vessel-based observers will monitor marine mammals in the vicinity of the arrays. LDEO proposes to power-down the airguns if marine mammals are observed within the proposed safety radii, which will be verified prior to the southeast Caribbean cruise, using data from an acoustical measurement study in the Gulf of Mexico which took place May 27, 2003, through June 3, 2003. Also, LDEO proposes to use a ramp-up procedure when commencing operations using the 20-gun array. Ramp-up will begin with the smallest gun in the array (80 in³), and guns will be added in a sequence such that the source level of the array will increase at a rate no greater than 6 dB per 5-minute period over a total duration of about 25 minutes. Refer to LDEO's application for more detailed information about the mitigation measures that are an integral part of the planned activity.

Operational Mitigation

The directional nature of the 20-airgun array to be used in this project is an important mitigating factor, resulting in lower sound levels at any given horizontal distance than would be expected at that distance if the source were omnidirectional with the stated nominal source level. Because the actual seismic source is a distributed sound source (20 guns) rather than a single point source, the highest sound levels measurable at any location in the water will be less than the nominal source level.

The airguns comprising these arrays will be spread out horizontally, so that the energy from the arrays will be directed mostly downward. This directionality will result in reduced sound levels at any given horizontal distance than would be expected at that distance if the source were omnidirectional with the nominal source level.

Marine Mammal Monitoring

Vessel-based observers will monitor marine mammals near the seismic source vessel during all daytime airgun operations and during any nighttime start-ups of the airguns. During daylight, vessel-based observers will watch for marine mammals near the seismic vessel during periods with shooting (including ramp-ups), and for 30 minutes prior to the planned start of airgun operations after an extended shut-down. Observers will not be on duty during ongoing seismic operations at night; bridge personnel will watch for marine mammals during this period and will call for the airguns to be powered-

down if marine mammals are observed in or about to enter the safety radii. If the airguns are ramped-up at night, two marine mammal observers will monitor marine mammals near the source vessel for 30 minutes prior to ramp-up using night vision devices.

Proposed Safety Radii

Received sound levels have been modeled for the 20-gun arrays. Based on the modeling, estimates of the 190-, 180-, 170- and 160-dB re 1 μ Pa (rms) distances for these arrays have been provided in the application. Airgun operations will be powered-down (or shut-down) immediately when cetaceans or pinnipeds are seen within or about to enter the appropriate 180-dB (rms) or 190-dB (rms) safety radius, respectively. These 180- and 190-dB criteria are consistent with guidelines for onset of level A harassment of cetaceans and pinnipeds by NMFS (2000) and other guidance by NMFS.

Mitigation During Operations

The following mitigation measures, as well as marine mammal monitoring, will be adopted during the proposed Mid-Atlantic seismic surveys, provided that doing so will not compromise operational safety requirements: (1) Speed or course alteration; (2) power-down procedures; (3) shut-down procedures; and (4) ramp-up procedures.

Airgun operations will be suspended when marine mammals are observed within, or about to enter, designated safety zones, where there is a possibility of Level A harassment.

Course Alteration

If a marine mammal is detected outside the appropriate safety radius and, based on its position and the relative motion, is likely to enter the safety radius, the vessel's speed and/or direct course will be changed in a manner that also minimizes the effect to the planned science objectives. The marine mammal activities and movements relative to the seismic vessel will be closely monitored to ensure that the marine mammal does not approach within the safety radius. If the mammal appears likely to enter the safety radius, further mitigative actions will be taken, i.e., either further course alterations or shutdown of the airguns.

Power-down Procedures

If a marine mammal is detected outside the safety radius but is likely to enter the safety radius, and if the vessel's course and/or speed cannot be changed to avoid having the marine mammal enter the safety radius, the

airguns will be powered-down before the mammal is within the safety radius. Likewise, if a mammal is already within the safety zone when first detected, the airguns will be powered-down immediately. For the power-down procedure for the 20-gun array, one 80 in³ airgun will be operated during the interruption of seismic survey. Airgun activity (after both power-down and shut-down procedures) will not resume until the marine mammal has cleared the safety zone. An animal will be considered to have cleared the safety zone if it is visually observed to have left the safety zone, or if it has not been seen within the zone for 15 min (small odontocetes, including delphinidae, and pinnipeds) or 30 min (mysticetes and large odontocetes, including sperm, pygmy sperm, dwarf sperm, and beaked whales).

Shut-down Procedures

If a marine mammal is detected close to the airgun array during a power-down, modeled safety radii for a single gun will be maintained. If the 20-gun array is used, the single gun that will be firing is 80 in³. Since no calibrations have been done to confirm the modeled safety radii for this single gun, conservative (1.5 times the safety radius) radii will be used: 54 m (177 ft) for cetaceans, and 20 m (66 ft) for pinnipeds. If a marine mammal is seen within the appropriate safety radius of the array when the air guns have already been powered-down, airgun operations will be shut-down.

Ramp-up Procedure

A "ramp-up" procedure will be followed when the airgun arrays begin operating after a specified duration without airgun operations. Under normal operational conditions (vessel speed 4 knots, or 7.4 km/hr), a ramp-up would be required after a power-down or shut-down period lasting about 8 minutes or longer if the Ewing was towing the 20-gun array. At 4 knots, the source vessel would travel 900 m (2953 ft) during an 8-minute period. If the towing speed is reduced to 3 knots or less, as sometimes required when maneuvering in shallow water, it is proposed that a ramp-up would be required after a "no shooting" period lasting 10 minutes or longer. At towing speeds not exceeding 3 knots, the source vessel would travel no more than 900 m (3117 ft) in 10 minutes. Based on the same calculation, a ramp-up procedure would be required after a 6 minute period if the speed of the source vessel was 5 knots.

Ramp-up will not occur if the safety radius has not been visible for at least

30 min prior to the start of operations in either daylight or nighttime. If the safety radius has not been visible for that 30 minute period (e.g., during darkness or fog), ramp-up will not commence unless one airgun has been maintained during the interruption of seismic activity.

Monitoring and Reporting

LDEO proposes to conduct the following marine mammal monitoring of its 2003 SE Caribbean Sea seismic program.

Vessel-based Visual Monitoring

At least two observers will be based aboard the vessel. At least one experienced marine mammal observer will be on duty aboard the seismic vessel, and observers will be appointed by LDEO with NMFS concurrence. Observers will be on duty in shifts of duration no longer than 4 hours. The second observer will also be on watch part of the time, including the 30-minute periods preceding startup of the airguns and during ramp-ups. Use of two simultaneous observers will increase the proportion of the marine mammals present near the source vessel that are detected. LDEO bridge personnel additional to the dedicated marine mammal observers will also assist in detecting marine mammals and implementing mitigation requirements whenever possible (they will be given instruction on how to do so), especially during operations at night when designated observers will not be on duty.

The observer(s) will watch for marine mammals from the highest practical vantage point on the vessel, which is either the bridge or the flying bridge. On the bridge of the *Maurice Ewing*, the observer's eye level will be 11 m (36 ft) above sea level, allowing for good visibility within a 210° arc. If observers are station on the flying bridge, the eye level will be 14.4 m (47.2 ft) above sea level. The observer(s) systematically scan the area around the vessel with reticle binoculars (e.g., 7 X 50 Fujinon) and with the naked eye during the daytime. At night, night vision equipment 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. If a marine mammal is seen well outside the safety radius, the vessel may be maneuvered to avoid having the mammal come within the safety radius (see Mitigation). When mammals are detected within or about to enter the designated safety radii, the airguns will

be powered-down immediately. The observer(s) will continue to maintain watch to determine when the animal is outside the safety radius. If the airguns are powered-down, observers will continue to maintain watch to determine when the animal is outside the safety radius. Airgun operations will not resume until the animal is outside the safety radius or until the specified intervals (15 or 30 min) have passed without a resighting.

If ramp-up procedures must be performed at night, two observers will be on duty 30 minutes prior to the start of airgun operations and during the subsequent ramp-up procedures. Ramp-up procedures for the 20-gun array will not commence at night unless the seismic source has been maintained.

Reporting

A report will be submitted to NMFS within 90 days after the end of the cruise. The end of the Caribbean cruise is predicted to occur on approximately 21 February 2004. The report will describe the operations that were conducted and the marine mammals that were detected. The report will be submitted to NMFS, providing full documentation of methods, results, and interpretation pertaining to all monitoring tasks. The 90-day report will summarize the dates and locations of seismic operations, 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)

Under section 7 of the ESA, NMFS has begun consultation on the proposed issuance of an IHA under section 101(a)(5)(D) of the MMPA for this activity. Consultation will be concluded prior to the issuance of an IHA. LDEO has initiated consultation with the U.S. Fish and Wildlife Service on West Indian Manatees.

National Environmental Policy Act (NEPA)

The NSF has prepared an EA for the Southeast Caribbean surveys. NMFS is reviewing this EA and will either adopt it or prepare its own NEPA document before making a determination on the issuance of an IHA. A copy of the NSF EA for this activity is available upon request (see ADDRESSES).

Preliminary Conclusions

NMFS has preliminarily determined that the impact of conducting the seismic survey in the Southeast

Caribbean Sea and Adjacent Atlantic Ocean, off the coast of Venezuela, will result, at worst, in a temporary modification in behavior by certain species of marine mammals. This activity is expected to result in no more than a negligible impact on the affected species or stocks.

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. In addition, no take by injury and/or death is anticipated, and the potential for temporary or permanent hearing impairment is low and will be avoided through the incorporation of the mitigation measures mentioned in this document. In addition, the proposed seismic program is not expected to interfere with any subsistence hunts, since operations in the whaling and sealing areas will be limited.

Proposed Authorization

NMFS proposes to issue an IHA to LDEO for conducting a seismic surveys in the Southeast Caribbean Sea and Adjacent Atlantic Ocean, off the coast of Venezuela, provided the previously mentioned mitigation, monitoring, and reporting requirements are incorporated. NMFS has preliminarily determined that the proposed activity would result in the harassment of small numbers of marine mammals; would have no more than a negligible impact on the affected marine mammal stocks; and would not have an unmitigable adverse impact on the availability of species or stocks for subsistence uses.

Information Solicited

NMFS requests interested persons to submit comments and information concerning this request (see ADDRESSES).

Dated: October 14, 2003.

Donna Wieting,

Deputy Director, Office of Protected Resources, National Marine Fisheries Service.
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DEPARTMENT OF DEFENSE

Office of the Secretary

Proposed Collection; Comment Request

AGENCY: Office of the Under Secretary of Defense (Personnel and Readiness), DoD.

ACTION: Notice.

In compliance with Section 3506(c)(2)(A) of the Paperwork Reduction Act of 1995, the Office of the Under Secretary of Defense (Personnel and Readiness) announces the following proposed reinstatement of a public information collection and seeks public comment on the provisions thereof. Comments are invited on: (a) Whether the proposed collection of information is necessary for the proper performance of the function of the agency, including whether the information shall have practical utility; (b) the accuracy of the agency's estimate of burden of the proposed information collection; (c) ways to enhance the quality, utility, and clarity of the information to be collected; and (d) ways to minimize the burden of the information collection on respondents, including through the use of automated collection techniques or other forms of information technology.

DATES: Consideration will be given to all comments received by December 22, 2003.

ADDRESSES: Written comments and recommendations on the proposed information collection should be sent to the Office of the Under Secretary of Defense (Personnel and Readiness) (Military Community and Family Policy/Educational Opportunities Directorate), ATTN: Mr. Otto Thomas, 4000 Defense Pentagon, Washington, DC 20301-4000.

FOR FURTHER INFORMATION CONTACT: To request more information on the proposed information collection or to obtain a copy of the proposed and associated collection instruments, please write to the above address or call at (703) 602-4949, ext. 160.

Title, Associated Form, and OMB Control Number: Department of Defense Public and Community Service (PACS) Program, DD Forms 2581 and 2581-1, OMB Number 0704-0324.

Needs and Uses: This information collection requirement is necessary to allow for the continued implementation of the Public and Community Service (PACS) Program. The PACS Program encourages eligible Service members to work in the public or community service arena upon separation from active duty. Employers with job openings in the public and community service arena will complete the one-time DD Form 2581, "Operation Transition Employer Registration," to register in the PACS employer database. The DD Form 2581 and allows PACS employers to post employment opportunities on the Operation Transition Bulletin Board (TBB). Employers hiring separated Service members under the Temporary Early Retirement ACT (TERA) are