

SUPPLEMENTARY INFORMATION: The establishment of MAFAC was approved by the Secretary on December 28, 1970, and initially chartered under the Federal Advisory Committee Act, 5, U.S.C. App.2, on February 17, 1971. The Committee meets twice a year with supplementary subcommittee meetings as determined necessary by the Secretary. Individuals serve for a term of 3 years for no more than two consecutive terms if reappointed. No less than 15 and no more than 21 individuals may serve on the Committee. Membership is comprised of highly qualified individuals representing commercial and recreational fisheries interests, environmental organizations, academic institutions, governmental, tribal and consumer groups from a balance of geographical regions, including the Hawaii and the Pacific Islands, and the U.S. Virgin Islands.

Nominations are encouraged from all interested parties involved with or representing interests affected by the Agency's actions in managing living marine resources. Nominees should possess demonstrable expertise in a field related to the management of living marine resources and be able to fulfill the time commitments required for two meetings annually.

A MAFAC member cannot be a Federal agency employee or a member of a Regional Fishery Management Council. Selected candidates must have security checks and complete financial disclosure forms. Membership is voluntary, and except for reimbursable travel and related expenses, service is without pay.

Each submission should include the submitting person's or organization's name and affiliation, a cover letter describing the nominee's qualifications and interest in serving on the Committee, a curriculum vitae or resume of nominee, and no more than three supporting letters describing the qualifications of the nominee. Self nominations are acceptable. The following contact information should accompany each nominee's submission: name, address, phone number, fax number, and e-mail address if available.

Nominations should be sent to (*see ADDRESSES*) and nominations must be received by (*see DATES*). The full text of the Committee Charter and its current membership can be viewed at the Agency's web page at www.nmfs.noaa.gov/mafac.htm.

Dated: March 4, 2002.

William T. Hogarth,

*Assistant Administrator for Fisheries,
National Marine Fisheries Service.*

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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

[I.D. 030702A]

Small Takes of Marine Mammals Incidental to Specified Activities; Seismic Reflection Data off Southern California

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

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

SUMMARY: NMFS has received a request from the U.S. Geological Survey (USGS) for an authorization to take small numbers of marine mammals by harassment incidental to collecting marine seismic reflection data to investigate the landslide and earthquake hazards off Southern California. Under the Marine Mammal Protection Act (MMPA), NMFS is requesting comments on its proposal to authorize the USGS to incidentally take, by harassment, small numbers of marine mammals in the above mentioned area during June, 2002.

DATES: Comments and information must be received no later than May 1, 2002.

ADDRESSES: Comments on the application should be addressed to Donna Wieting, Chief, Marine Mammal Conservation Division, Office of Protected Resources, NMFS, 1315 East-West Highway, Silver Spring, MD 20910-3225. A copy of the application, which includes a list of references used in this document, and other documents referenced herein may be obtained by writing to this address or by telephoning one of the contacts listed below.

FOR FURTHER INFORMATION CONTACT: Kenneth R. Hollingshead, Office of Protected Resources, NMFS, (301) 713-2055, or Christina Fahy, NMFS, 562-960-4023.

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 small numbers 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 if 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."

Subsection 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. 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.

Subsection 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 small numbers 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

The USGS proposes to conduct a high-resolution seismic-reflection survey offshore from southern California for two weeks during June 2002. The USGS will collect this seismic-reflection data to investigate the hazards posed by landslides, tsunamis, and potential earthquake faults in the nearshore region from Ventura to Santa Barbara, CA. This task is part of a multiyear hazard analysis that requires high-resolution, seismic-reflection data using several acoustic sources. In addition, a few days of survey time will be used to

conduct a seafloor imaging survey in support of environmental studies in the area offshore Pt. Conception.

The USGS plans to collect seismic-reflection data using three basic instrument systems:

(1) A Huntect™ or a Geopulse™ boomer sound-source to collect high-resolution seismic-reflection data of the sub-seafloor;

(2) A high-resolution multi-channel system for which the primary source will be either a 2-kilo-Joule (kJ) sparker system for shallow water or a small GI airgun in deeper water. The type of sparker to be used will depend on the results of a sparker feasibility study completed earlier this year in the Seattle, Washington area. A 250-m-long (820.2-ft) hydrophone streamer is used for both multi-channel sources.

(3) A Klein sidescan sonar for the environmental survey off Pt. Conception, CA.

The high-resolution Huntect™ boomer system uses an electrically powered sound source that is towed behind the ship at depths between 30 m (98.4 ft) and 160 m (525 ft) below the sea surface. The hydrophone arrays for listening are attached to the tow vehicle that houses the sound source. The USGS plans to use the Huntect™ primarily in water depths greater than 300 m (984.2 ft). The system is triggered at 0.5- to 1.25-second intervals, depending upon the source tow depth. This system provides detailed information about stratified sediment, so that dates obtained from fossils in sediment samples can be correlated with episodes of fault offset. The sound pressure level (SPL) for the Huntect™ unit is 205 dB re 1 μ Pa-m (root-mean-squared (RMS)). The output-sound bandwidth is 0.5 kHz to 8 kHz, with the main peak at 4.5 kHz.

The USGS plans to use the surface-towed Geopulse™ boomer system in the shallow water parts of the survey area, typically in water depths from 20 m to 300 m (65.6 to 984.2 ft). The sound source consists of two Geopulse 5813A boomer plates mounted on a catamaran sled built in-house. The catamaran is towed just behind the vessel, while the 5-m-long (16.4-ft) hydrophone streamer is usually towed from a boom on one side of the vessel. The source level for the Geopulse is 204 dB re 1 μ Pa-m (RMS), and its effective bandwidth is about 0.75 to 3.5 kHz. The firing rate is generally 0.5 to 1 second interval.

The primary sound source for the high-resolution multi-channel system will be a 2.0 kJ sparker system such as the SQUID 2000™ minisparker system manufactured by Applied Acoustic Engineering, Inc. This minisparker includes electrodes that are mounted on

a small pontoon sled. The electrodes simultaneously discharge electric current through the seawater to an electrical ground. This discharge creates an acoustic signal. The pontoon sled that supports the minisparker is towed on the sea surface, approximately 5 meters (16.4 ft) behind the ship.

Source characteristics of the SQUID 2000™ provided by the manufacturer show an SPL of 209 dB re 1 μ Pa-m (RMS). The amplitude spectrum of this pulse indicates that most of the sound energy lies between 150 Hz and 1700 Hz, and the peak amplitude is at 900 Hz. The output sound pulse of the minisparker has a duration of about 0.8 ms. When operated at sea for the proposed multichannel seismic-reflection survey, the minisparker will be discharged every 1 to 4 seconds.

The second source for the multi-channel system is a small airgun of special type called a generator-injector, or GI gun (trademark of Seismic Systems, Inc., Houston, TX). This type of airgun consists of two small airguns within a single steel body. The two small airguns are fired sequentially, with the precise timing required to nullify the bubble oscillations that typify sound pulses from a single airgun of common type. These oscillations impede detailed analysis of fault structure. For arrays consisting of many airguns, bubble oscillations are cancelled by careful selection of airgun sizes. The GI gun is a mini-array that is carefully adjusted to achieve the desired bubble cancellation. Airguns and GI guns with similar chamber sizes have similar peak output pressures. The GI gun for this survey has two chambers of equal size (35 in³) and the gun will be fired every 12 seconds. Compressed air delivered to the GI gun will have a pressure of about 3000 psi. The gun will be towed 5 meters (16.4 ft) behind the vessel and suspended from a float to maintain a depth of about 1 m (3.2 ft).

The manufacturer's literature indicates that a GI gun of the size the USGS will use has an SPL of about 220 dB re 1 μ Pa-m (RMS). The GI gun's output sound pulse has a duration of about 10 ms. The amplitude spectrum of this pulse, as shown by the manufacturer's data, indicates that most of the sound energy is at frequencies below 500 Hz. Field measurements by USGS personnel indicates that the GI gun produces low-sound-amplitudes at frequencies above 500 Hz. Thus high-amplitude sound from this source is at frequencies that are outside the main hearing band of odontocetes and pinnipeds (Richardson *et al.*, 1995).

The environmental survey off Pt. Conception will be accomplished with

sidescan-sonar surveying. The system that will be used will be the Klein 3000 or the Klein 2000. The Klein 2000 sidescan sonar uses an electrically powered sound source. In operation, the sound source, or "fish", is towed behind the research vessel at depths of 1 to 10 m (3.2 to 32.8 ft) below the sea surface. The unit emits a short pulse of sound about every 0.25 second; the interval depends on the swath width (i.e., the area of seafloor to be imaged). The sidescan-sonar system measures the return time and intensity of echoes to create a high-resolution image of the seafloor that is similar to an air photo on land. The sidescan system has a sound pressure level (SPL) of about 210 dB re 1 μ Pa-m (RMS). The output sound pulse is very short, with a time duration of less than 0.1 ms. The frequency bandwidth of the outgoing signal is 100kHz or 500 kHz.

The Klein 3000 is a system that has just been developed and its operating frequencies are 128kHz and 445 kHz. The SPL for these frequencies are 212 dB re 1 μ Pa-m (RMS) for the 125 kHz and 200 dB re 1 μ Pa-m (RMS) for the 455 kHz source. The pulse lengths are selectable from among 50/100/200/400 ms.

The work is planned for thirteen days during June 2002. The possible operational window is from mid-May to mid-August 2002, but the preferred time is early June. At this time, the USGS is in the process of leasing a vessel, and exact availability is not yet known. The primary work area (70 percent of the time) is between Pt. Dume and offshore Gaviota, California, in the western Santa Monica Basin and Santa Barbara Channel. The secondary work area is offshore between Pt. Conception and Pt. Arguello (but staying within 30 km (18.6 mi) of the coast). If authorized, the USGS will work inside a small part of the Channel Islands Marine Sanctuary. Some work might be attempted during transit between the two work areas.

Description of Habitat and Marine Mammals Affected by the Activity

The Southern California Bight supports a diverse assemblage of 29 species of cetaceans (whales, dolphins and porpoises) and 6 species of pinnipeds (seals and sea lions). The species of marine mammals that are likely to be present in the seismic research area include the bottlenose dolphin (*Tursiops truncatus*), common dolphin (*Phocoena phocoena*), killer whale (*Orcinus orca*), Pacific white-sided dolphin (*Lagenorhynchus obliquidens*), northern right whale dolphin (*Lissodelphis borealis*), Risso's dolphin (*Grampus griseus*), pilot whales

(*Globicephala macrorhynchus*), Dall's porpoise (*Phocoenoides dalli*), sperm whale (*Physeter macrocephalus*), humpback whale (*Megaptera novaengliae*), gray whale (*Eschrichtius robustus*), blue whale (*Balaenoptera musculus*), minke whale (*Balaenoptera acutorostrata*), fin whales (*Balaenoptera physalus*), harbor seal (*Phoca vitulina*), elephant seal (*Mirounga angustirostris*), northern sea lion (*Eumetopias jubatus*), California sea lion (*Zalophus californianus*), northern fur seal (*Callorhinus ursinus*) and sea otters (*Enhydra lutris*). General information on these species can be found in the USGS application and in Forney *et al.* (2000). Forney *et al.* (2000) is available at the following URL:

http://www.nmfs.noaa.gov/prot_res/PR2/Stock_Assessment_Program/sars.html Please refer to these documents for information on these species in California waters.

Potential Effects of Marine Seismic Reflection Studies on Marine Mammals

Discussion

Disturbance by acoustic noise is the principal means of taking incidental to this activity. Vessel noise may provide a secondary source. Also, the physical presence of vessels could also lead to some non-acoustic effects involving visual or other cues.

The effects of underwater sounds on marine mammals are highly variable, and can be categorized as follows: (1) The sounds may be too weak to be heard at the location of the animal (i.e. lower than the prevailing ambient noise level, the hearing threshold of the animal at relevant frequencies, or both); (2) the sounds may be audible but not strong enough to elicit any overt behavioral response; (3) the sounds may elicit behavioral reactions of variable conspicuousness and variable relevance to the well being of the animal; these can range from subtle effects on respiration or other behaviors (detectable only by statistical analysis) to active avoidance reactions; (4) upon repeated exposure, animals may exhibit diminishing responsiveness (habituation), or disturbance effects may persist (the latter is most likely with sounds that are highly variable in characteristics, unpredictable in occurrence, and associated with situations that the animal perceives as a threat); (5) any sound that is strong enough to be heard has the potential to reduce (mask) the ability of marine mammals to hear natural sounds at similar frequencies, including calls from conspecifics and/or echolocation sounds, and environmental sounds such

as storms and surf noise; and (6) very strong sounds have the potential to cause either a temporary or a permanent reduction in hearing sensitivity (i.e., temporary threshold shift (TTS) or permanent threshold shift (PTS), respectively). In addition, intense acoustic or explosive events may cause trauma to tissues associated with organs vital for hearing, sound production, respiration and other functions. This trauma may include minor to severe hemorrhage.

Few data on the effects of non-explosive sounds on hearing thresholds of marine mammals have been obtained. However, in terrestrial mammals (and presumably in marine mammals), received sound levels must far exceed the animal's hearing threshold for there to be any TTS and must be even higher for there to be risk of PTS (Richardson *et al.*, 1995).

Depending upon ambient conditions and the sensitivity of the receptor, underwater sounds produced by seismic operations may be detectable some substantial distance away from the activity. Any sound that is detectable is (at least in theory) capable of eliciting a disturbance reaction by a marine mammal or masking a signal of comparable frequency. Harassment is presumed to occur when marine mammals in the vicinity of the acoustic source (or vessel) show a significant behavioral response to the generated sounds or visual cues.

Seismic pulses are known to cause some species of whales, including gray and bowhead whales, to behaviorally respond within a distance of several kilometers (Richardson *et al.*, 1995). Although some limited masking of low-frequency sounds is a possibility for those species of whales using low frequencies for communication, the intermittent nature of the acoustic pulses created by the planned survey's instruments will limit the extent of masking. Bowhead whales, for example, are known to continue calling in the presence of seismic survey sounds, and their calls can be heard between seismic pulses (Richardson *et al.*, 1986).

When the received levels of noise exceed some behavioral reaction threshold, cetaceans will show disturbance reactions. The levels, frequencies, and types of noise that will elicit a response vary between and within species, individuals, locations and season. Behavioral changes may be subtle alterations in surface-diver-respiration cycles. More conspicuous responses, include changes in activity or aerial displays, movement away from the sound source, or complete avoidance of the area. The reaction

threshold and degree of response are related to the activity of the animal at the time of the disturbance. Whales engaged in active behaviors such as feeding, socializing or mating are less likely than resting animals to show overt behavioral reactions, unless the disturbance is directly threatening.

Hearing damage is not expected to occur during the project. While it is not known whether a marine mammal very close to one of the acoustic devices would be at risk of temporary or permanent hearing impairment, TTS is a theoretical possibility for animals within a few hundred meters (Richardson *et al.*, 1995), if the SPL of an acoustic source is of sufficient intensity, such as with large seismic airgun arrays. However, considering the low intensity of the proposed acoustic devices, and the planned monitoring and mitigation measures (described later in this document), which are designed to detect marine mammals occurring near the acoustic sources and to avoid, to the greatest extent practicable, exposing them to sound pulses that have any possibility of causing hearing damage, neither TTS, nor PTS are considered likely.

Maximum Sound-Exposure Levels for Marine Mammals

The adverse effects of underwater sound on mammals have been documented for exposure times that for up to several minutes, but adverse effects have not been documented for the brief pulses typical of the minisparker (0.8 ms) and the Hunttec system (typically 0.3 ms).

For impulse noise, NMFS has previously established that activities should avoid, to the greatest extent practicable, exposing mysticetes and sperm whales to an SPL of 180 dB re 1 μ Pa-m (RMS) or higher. For odontocetes and pinnipeds, activities should avoid, to the greatest extent practicable, exceeding a level of 190 dB re 1 μ Pa-m (RMS). These determinations were based on findings at the High-Energy Seismic Workshop held at Pepperdine University in 1997 as updated by the NMFS' Acoustics Workshop held in Silver Spring, MD in 1999. In 1999 however, the California Coastal Commission (CCC) limited this maximum sound-exposure level to 180 dB re 1 μ Pa-m (RMS) for all marine mammals, including pinnipeds, within the coastal zone of California and NMFS expects that the CCC will require similar limitations for this action.

However, current scientific consensus indicates that a safe level for impulse sounds for pinnipeds that avoids TTS is higher than the level indicated for

cetaceans (e.g., 180 dB). As a result, although scientists have preliminarily established an SPL of 190 dB re 1 μ Pa-m (RMS) as a safe level for pinnipeds underwater, and while NMFS adopts this information as the best scientific information available, the USGS has agreed to abide by the conditions contained in its CCC consistency determination.

NMFS notes moreover, that the recent precautionary application of a 180-dB safety zone for protecting marine mammals does not necessarily mean that animals entering that zone will be adversely affected. It simply means that animals have the *potential* to incur a temporary elevation in hearing threshold (i.e., TTS), lasting, at worst, for a few minutes at the 180 dB sound pressure level.

The USGS has provided two estimates of how close marine mammals can approach each sound source before it needs to be shut off. The first estimate follows the procedure required by the CCC in 1999, in that underwater sound is assumed to attenuate with distance according to 20log(R), and the maximum SPL to which marine mammals can be exposed is 180 dB re 1 μ Pa-m (RMS). The alternative estimate of safe distance is proposed for operations in shallow water. In shallow water, sound from the sources will decay with distance more sharply than 20log(R) because some of the sound energy will exit the water and penetrate the seafloor when the source is physically close to the seafloor.

The zone of impact for the sound sources is a circle whose radius is the distance from the source to where the SPL is reduced to 180 dB re 1 μ Pa-m (RMS). In the deeper water (>50 m; >164 ft) areas of the proposed survey, for a 20log(R) sound attenuation, the zone of impact for a 209 dB (RMS) minisparker source has a radius of 28 m (92 ft). The 204 dB Geopulse™ and 205 dB Huntex™ boomers yield radii of 16 and 18 m (52.5 and 59 ft) respectively. The 210 dB Klein sidescan yields a safety radius of 32 m (105 ft), and the 220 dB GI gun yields a safety radius of 100 m (328 ft). The USGS proposes that safety zones of 30 m (98 ft) around the boomers, minisparker, sidescan fish, and of 100 m (328 ft) around the airgun be used in water deeper than 50 m (164 ft).

In water <50 m (<164 ft) deep, underwater sound commonly attenuates more sharply than 20log(R). In 1999, the USGS measured a sound attenuation of 27log(R) off southern California, so it proposes that for inshore areas, underwater sound attenuates approximately like 25log(R). Strictly for

inshore areas, then, an attenuation of 25log(R) yields zones of influence for the boomers of 10 m (32.8 ft), for minisparker 15 m (49 ft), and for sidescan 20 m (65.6 ft).

Potential Level of Taking by Harassment of Marine Mammals

The following summary is from a report by Calambokidis and Chandler (2001) that was submitted in compliance with an Incidental Harassment Authorization (IHA) issued to the USGS on June 5, 2000 (65 FR 39871, June 28, 2000). During a similar acoustic survey in early June, 2000, there were a total of 241 marine mammal sightings (not including re-sightings), representing at least 11 species and 4,792 marine mammals. (Sighting a marine mammal should not be interpreted to mean that the animal was being harassed.) Small cetaceans were the most numerous and accounted for 54 percent of the sightings and 96 percent of the animals. Common dolphins made up 74 sightings and 3,764 of the sighted animals. Risso's dolphins, bottlenose dolphins and Dall's porpoises were seen in smaller numbers. Pinnipeds accounted for 98 sightings and these were predominantly California sea lions. Smaller numbers of harbor seals and a single elephant seal were also sighted. Four species of large cetaceans were sighted in small numbers. Blue whales were most common with 5 sightings of single animals. Fin, humpback and minke whales were each sighted once or twice. Sighting rates versus acoustic source appeared to be related to habitat of operations and not to the sound source itself.

The sound source was shutdown a total of 40 times (22 daylight and 18 nighttime). Shutdowns were in response to five different species. Common dolphins triggered a shutdown in 29 instances; Risso's dolphin, bottlenose dolphins and California sea lions each resulted in 3 to 4 shutdowns each. The only shutdown for a large whale was for a sighting of a blue whale which, although still outside the 250-m (820-ft) mitigation zone, was prompted as precautionary measure.

The high proportion of shutdowns caused by common dolphins was a result both of their being one of the most common species in the area and their tendency to approach the ship. Common dolphins accounted for 31 percent of marine mammal sightings but were responsible for 72 percent of the shutdowns. California sea lions, which accounted for 36 percent of the sightings were responsible for only 7 percent of the shutdowns. Although other dolphin

species were less common, both Risso's and bottlenose dolphins had shutdown rates that were similar to common dolphins. Overall, 30 percent of small cetacean sightings made while the sound source was operational led to shutdowns compared to only 4 percent of pinniped sightings. A low proportion of large whale sightings led to shutdowns. The 11 sightings of whales made during sound source operations led to only a single precautionary shutdown.

Behavioral observations were made both while the sources were on and when they were off. For small dolphins and pinnipeds there did not appear to be a difference in behavior between the two operational modes. There was also no apparent difference in the orientation (direction of swimming) of these animals in relation to transmissions. Breaching was observed in two cases for large cetaceans; a minke whale and a group of two humpback whales. Sound transmissions were occurring only during the minke whale sighting.

The Need for 24-hour Seismic Operations

The USGS has requested that the IHA allow for 24-hour operations, specifically for the minisparker and/or boomers or sidescan. The reasons for around-the-clock operation that benefit the environment are: (1) When the sound sources cease to operate, marine mammals might move back into the survey area and incur an increased potential for harm when operations resume, and (2) Daylight-only operations prolong activities in a given area, thus increasing the likelihood that marine mammals will be harassed.

The 2002 survey will require only two weeks, and the ship will be moving continuously through the Santa Barbara Channel, so no single area will see long-term activity. The USGS believes that the best course is to complete the survey as expeditiously as possible. Also, operating less than 24 hours each day incurs substantially increased cost for the leased ship, for which the USGS has not been provided funding (Normark *et al.*, 1999b). The ship schedule provides a narrow time window for this project; typically, other experiments are scheduled to precede and follow the USGS project. Thus they are not able arbitrarily to extend the survey time to include large delays for dark or poor visibility. Delays could require scheduling additional surveys in future years to complete the missed work.

Mitigation

Several mitigation measures to reduce the potential for marine mammal

harassment will be implemented by USGS as part of their proposed activity. These include:

(1) The survey is planned for June, when gray whales are not migrating.

(2) The smallest possible acoustic sources have been selected to minimize the chances of incidental harassment.

(3) To avoid potential incidental injury to marine mammals, safety zones will be established and monitored continuously. Whenever the seismic source(s) approaches a marine mammal closer than the assigned safe distance the USGS will shut them down.

(4) For mysticetes and sperm whales, the marine mammal species near the survey area that are considered to be most sensitive to the frequency and intensity of sound that will be emitted by the seismic sources, operations will cease when members of these species approach within 250 m (820 ft) of the sound source.

(5) For odontocetes, with their lower sensitivity to low frequency sound, operations will cease when these animals approach a safety zone of 30 m (98.4 ft) from the boomer, minisparker, or sidescan fish, and a zone of 100 m (328 ft) from the airgun.

(6) For pinnipeds (seals and sealions): if the research vessel approaches a pinniped, a safety radius of 30 m (98.4 ft) around the boomer, minisparker, or sidescan fish and 100 m (328 ft) around the airgun will be maintained from the animal(s). However, if a pinniped approaches the acoustic source, the USGS will not be required to shut it down. Experience indicates that pinnipeds will come from great distances to scrutinize seismic-reflection operations. Seals have been observed swimming within airgun bubbles, 10 m (33 ft) away from active arrays. More recently, Canadian scientists, who were using a high-frequency seismic system that produced sound closer to pinniped hearing than will the USGS sources, describe how seals frequently approached close to the seismic source, presumably out of curiosity. Therefore, because pinnipeds indicate no adverse reaction to seismic noise, the above-mentioned mitigation plan is proposed. In addition, the USGS will gather information on how often pinnipeds approach the sound source(s) on their own volition, and what effect the source(s) appears to have on them.

(7) During seismic-reflection survey operations, the ship's speed will be 4 to 5 knots so that when the seismic sources are being discharged, nearby marine mammals will have gradual warning of the ship's approach and can move away.

(8) The USGS will have marine biologists onboard the seismic vessel

who will have the authority to stop seismic operations whenever a mammal enters the safety zone. These observers will monitor the safety zone to ensure that no marine mammals enter the zone, and record observations on marine mammal abundance and behavior.

(9) If observations are made that one or more marine mammals of any species are attempting to beach themselves when the seismic source is operating in the vicinity of the beaching, the seismic sources will be immediately shut off and NMFS contacted.

(10) Upon notification by a local stranding network that a marine mammal has stranded where the acoustic sources had recently been operated, NMFS will investigate the stranding to determine whether a reasonable chance exists that the seismic survey caused the animal's death. If NMFS determines, based upon a necropsy of the animal(s), that the death was likely due to the seismic source, the survey shall cease until procedures are altered to eliminate the potential for future deaths.

Monitoring

Monitoring of marine mammals while the sparker or airgun sound sources are active will be conducted continuously. Trained marine mammal observers will be onboard the vessel to mitigate the potential environmental impact from either of the two systems and to gather data on the species, number, and reaction of marine mammals to the sources. Each observer will use equipment, such as Tasco 7x50 binoculars with internal compasses and reticules, to record the horizontal and vertical angle to sighted mammals. Nighttime operations in shallow water will be conducted with a spotlight to illuminate the radius of influence around the minisparker tow sled and observers will have night-vision goggles.

Monitoring data to be recorded during seismic-reflection operations include which observer is on duty and what the weather conditions are like, such as Beaufort Sea state, wind speed, cloud cover, swell height, precipitation and visibility. For each mammal sighting the observer will record the time, bearing and reticule readings, species, group size, and the animal's surface behavior and orientation. Observers will instruct geologists to shut all active seismic sources whenever a marine mammal enters a safety zone.

Reporting

The USGS will provide an initial report to NMFS within 120 days of the completion of the marine seismic reflection survey project. This report

will provide dates and locations of seismic operations, details of marine mammal sightings, and estimates of the amount and nature of all takes by harassment. A final technical report will be provided by USGS within 1 year of completion of the project. The final technical report will contain a description of the methods, results, and interpretation of all monitoring tasks.

Consultation

Under section 7 of the Endangered Species Act, NMFS has begun consultation on the proposed issuance of an IHA. Consultation will be concluded upon completion of the comment period and consideration of those comments in the final determination on issuance of an authorization.

National Environmental Policy Act (NEPA)

In conjunction with the promulgation of regulations implementing section 101(a)(5)(D) of the MMPA, NMFS completed an Environmental Assessment (EA) on May 9, 1995 that addressed the impacts on the human environment from issuance of IHAs and the alternatives to that action. NMFS' analysis resulted in a Finding of No Significant Impact (FONSI). In addition, this proposed seismic reflection survey will use acoustic instruments that are significantly less intense and thereby have a significantly lower impact on the marine environment than acoustic sources used in other surveys for which EAs and resulting FONSI have been prepared previously. Accordingly, this proposed action qualifies for a categorical exclusion under NEPA and, therefore, a new EA will not be prepared. A copy of relevant previous EAs are available (*see ADDRESSES*).

Preliminary Conclusions

NMFS has preliminarily determined that the short-term impact of conducting a marine seismic survey in southern California waters will result, at worst, in a temporary modification in behavior by certain species of pinnipeds, and possibly some individual cetaceans. While behavioral modifications may be made by certain species of marine mammals to avoid the resultant noise from airgun arrays, this behavioral change is expected to result in the harassment of only small numbers of each of several species of marine mammals and would have no more than a negligible impact on these affected species or stocks.

In addition, no take by injury and/or death is anticipated and takes by harassment will be at the lowest level

practicable due to incorporation of the mitigation measures mentioned previously. Known rookeries, mating grounds, areas of concentrated feeding, or other areas of special significance for marine mammals that occur within or near the planned area of operations during the season of operations are unlikely to be affected.

As a result, NMFS proposes to issue an IHA to the USGS for the possible harassment of small numbers of several species of marine mammals incidental to collecting marine seismic reflection data in southern California waters, provided the above-mentioned mitigation, monitoring, and reporting requirements are incorporated.

Information Solicited

NMFS requests interested persons to submit comments, information, and

suggestions concerning this request (*see ADDRESSES*).

Dated: March 26, 2002.

Wanda Cain,

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

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DEPARTMENT OF DEFENSE

Office of the Secretary

[Transmittal No. 02-17]

36(b)(1) Arms Sales Notification

AGENCY: Department of Defense, Defense Security Cooperation Agency.

ACTION: Notice.

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

FOR FURTHER INFORMATION CONTACT: Ms. J. Hurd, DSCA/COMPT/RM, (703) 604-6575.

The following is a copy of a letter to the Speaker of the House of Representatives, Transmittal 02-17 with attached transmittal, policy justification, and Sensitivity of Technology.

Dated: March 25, 2002.

L.M. Bynum,

Alternate OSD Federal Register Liaison Officer, Department of Defense.

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