

see the annual General Grant Administration Terms and Conditions for the Coastal Ocean Program document in the **Federal Register** November 8, 2002 (67 FR 68103), and the CSCOR/COP home page.

(12) *Evaluation criteria.* For complete information on evaluation criteria, see the annual General Grant Administration Terms and Condition for the Coastal Ocean Program document in the **Federal Register** November 8, 2002 (67 FR 68103), and the CSCOR/COP home page.

(13) *Selection procedures.* For complete information on selection procedures, see the annual General Grant Administration Terms and Conditions for the Coastal Ocean Program document in the **Federal Register** November 8, 2002 (67 FR 68103), and the CSCOR/COP home page. All proposals received under this specific document will be evaluated and ranked individually in accordance with the assigned weights of the above evaluation criteria by independent peer mail review and/or panel review. No consensus advice will be given by the independent peer mail review or the review panel.

(14) *Other requirements.*

(a) For a complete description of other requirements, see the annual General Grant Administration Terms and Conditions for the Coastal Ocean Program document in the **Federal Register** November 8, 2002 (67 FR 68103) and the CSCOR/COP home page. NOAA has specific requirements that environmental data be submitted to the National Oceanographic Data Center (see section 16, Data Archiving).

(b) The Department of Commerce Pre-Award Notification Requirements for Grants and Cooperative Agreements contained in the **Federal Register** October 1, 2001 (66 FR 49917), as amended by the **Federal Register** notice published on October 30, 2002 (67 FR 66109), are applicable to this solicitation.

(c) Please note that NOAA is developing a policy on internal overhead charges; NOAA scientists considering submission of proposals should contact the appropriate CSCOR/COP Program Manager for the latest information.

(15) *Intergovernmental review.* Applications under this program are not subject to Executive Order 12372, "Intergovernmental Review of Federal Programs." It has been determined that this notice is not significant for purposes of Executive Order 12866. Pursuant to 5 U.S.C. 553(a) (2), an opportunity for public notice and comment is not required for this notice

relating to grants, benefits and contracts. Because this notice is exempt from the notice and comment provisions of the Administrative Procedure Act, a Regulatory Flexibility Analysis is not required, and none has been prepared. It has been determined that this notice does not contain policies with Federalism implications as that term is defined in Executive Order 13132.

(16) *Data archiving.* Any data collected in projects supported by NCCOS/CSCOR/COP must be delivered to a National Data Center (NDC), such as the National Oceanographic Data Center (NODC), in a format to be determined by the institution, the NODC, and Program Officer. It is the responsibility of the funded institution for the delivery of these data; the DOC will not provide additional support for delivery beyond the award. Additionally, all biological cultures established, molecular probes developed, genetic sequences identified, mathematical models constructed, or other resulting information products established through support provided by NCCOS/CSCOR/COP are encouraged to be made available to the general research community at no or a modest handling charge (to be determined by the institution, Program Officer, and DOC). For more details, refer to NCCOS/CSCOR/COP data policy posted at the CSCOR/COP home page.

(17) *Collection of information requirements.* This notification involves collection-of-information requirements subject to the Paperwork Reduction Act. The use of Standard Forms 424, 424A, 424B, and SF-LLL has been approved by the Office of Management and Budget (OMB) under control numbers 0348-0043, 0348-0044, 0348-0040 and 0348-0046.

The following requirements have been approved by OMB under control number 0648-0384; a Summary Proposal Budget Form (30 minutes per response), a Project Summary Form (30 minutes per response), a standardized format for the annual Performance Report (5 hours per response), a standardized format for the Final Report (10 hours per response), and the submission of up to 20 copies of proposals (10 minutes per response). The response estimates include the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding these requirements and the burden estimate, or any other aspect of this collection of information, including suggestions for reducing this burden, to [leslie.mcdonald@noaa.gov](mailto:leslie.mcdonald@noaa.gov). Copies of these forms and formats can be found on

the CSCOR/COP home page under Grants Information sections, Parts D and F.

Notwithstanding any other provision of law, no person is required to respond to, nor shall any person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act, unless that collection displays a currently valid OMB control number.

Dated: February 24, 2003.

**Ted I. Lillestolen,**

*Associate Deputy Assistant Administrator,  
National Oceanic and Atmospheric  
Administration, National Ocean Service.*

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## DEPARTMENT OF COMMERCE

### National Oceanic and Atmospheric Administration

[I.D. 012903A]

#### Taking and Importing Marine Mammals; Taking Marine Mammals Incidental to Conducting Oil and Gas Exploration Activities in the Gulf of Mexico

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

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

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**SUMMARY:** NMFS has received a request from the U.S. Minerals Management Service (MMS) of the Department of the Interior, for authorization to harass small numbers of marine mammals, principally the sperm whale, incidental to conducting seismic surveys in the Gulf of Mexico (GOM). As a result of that request, NMFS is considering whether to propose regulations that would govern the incidental taking of small numbers of marine mammals under Letters of Authorization (LOAs) issued to members of the seismic industry that might have interactions with sperm whales. In order to promulgate regulations and issue LOAs, NMFS must determine that these takings will have a negligible impact on the affected species and stocks of marine mammals. NMFS invites comment on the preliminary application and suggestions on the content of the regulations.

**DATES:** Comments and information must be postmarked no later than April 2, 2003.

**ADDRESSES:** Comments should be addressed to the Chief, Marine Mammal Conservation Division, Office of Protected Resources, National Marine Fisheries Service, 1315 East-West Highway, Silver Spring, MD 20910-3226. A copy of the application and a list of references used in this document may be obtained by writing to this address, or by telephoning the contact listed here (see **FOR FURTHER INFORMATION CONTACT**). A copy of the MMS draft Programmatic Environmental Assessment (Draft PEA) is available by writing to: Minerals Management Service, Public Information Office, 1201 Elmwood Park Boulevard, New Orleans, LA 70123-2394. Comments will not be accepted if submitted via e-mail or the Internet.

**FOR FURTHER INFORMATION CONTACT:** Kenneth R. Hollingshead, NMFS, 301-713-2055, ext 128.

**SUPPLEMENTARY INFORMATION:**

**Background**

Section 101(a)(5)(A) of the Marine Mammal Protection Act (16 U.S.C. 1361 *et seq.*)(MMPA) directs the Secretary of Commerce (Secretary) 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 regulations are issued.

Permission may be granted for periods of 5 years or less if the Secretary finds that the taking will have a negligible impact on the species or stock(s), will not have an unmitigable adverse impact on the availability of the species or stock(s) for subsistence uses, and regulations are prescribed setting forth the permissible methods of taking and the requirements pertaining to the monitoring and reporting of such taking.

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." 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).

**Summary of Request**

On December 20, 2002, MMS petitioned NMFS, as a precautionary measure, for rulemaking under section 101(a)(5)(A) of the MMPA to authorize any potential take of sperm whales (*Physeter macrocephalus*) incidental to conducting seismic surveys during oil and gas exploration activities in the GOM (MMS, 2002a). MMS has preliminarily determined that the taking will involve only small numbers of sperm whales; have no more than a negligible impact on the species and stocks of affected marine mammals; and not have an unmitigable adverse impact on the availability of marine mammals for subsistence uses. It should be noted that MMS expects to update its petition for regulations to include the incidental take of other species of marine mammals, such as dolphins, beaked whales, and Bryde's whales (*Balaenoptera edeni*), based upon information currently being assessed under the National Environmental Policy Act (NEPA). The NEPA document will be submitted to NMFS prior to its determination on whether or not to proceed with this rulemaking. If NMFS decides to proceed with rulemaking, that document will expand the description of seismic airgun operations and on the analysis of impacts on marine mammals by seismic airgun arrays.

**Description of the Specified Activity**

Marine geophysical seismic surveys are conducted to obtain information on surface and near-surface geology and on subsurface geological formations. Typical seismic surveying operations tow an array of airguns (the seismic sound source) and a streamer (signal receiver cable) behind the vessel, 5-10 m (16.4-32.8 ft) below the sea surface. The airgun array produces a burst of underwater sound by releasing compressed air into the water column that creates an acoustic energy pulse. The release of compressed air every several seconds creates a regular series of strong acoustic impulses separated by silent periods lasting 7-16 seconds, depending on survey type and depth to the target formations. Airgun arrays are designed to focus the sound energy downward. Acoustic (sound) signals are reflected off the subsurface sedimentary layers and recorded near the water surface by hydrophones spaced within the streamer cables. These streamer cables are often 3 mi (4.8 km) or greater in length. Vessel speed is typically 4.5-6 knots (about 4-8 mph) with gear deployed.

The 3-D (3-Dimensional) seismic surveying enables a more accurate assessment of potential hydrocarbon reservoirs to optimally locate exploration and development wells, and minimize the number of wells required to develop a field. State-of-the-art interactive computer mapping systems can handle much denser data coverage than the older 2-D seismic surveys. Multiple-source and multiple-streamer technologies are used for 3-D seismic surveys. A typical 3-D survey might employ a dual array of 18 guns per array. Each array might emit a 3,000 cubic-inch burst of compressed air at 2,000 kilojoule (kJ) of acoustic energy for each burst. The streamer array might consist of 6-8 parallel cables, each 6-8 km (3.7-5 mi) long, spaced 75 m (246 ft) apart. A series of 3-D surveys collected over time (4-D seismic survey) is used for reservoir monitoring and management (the movement of oil, gas, and water in the reservoirs can be observed over time).

For management purposes, MMS has divided the Northern GOM into three planning areas: Eastern, Central and Western. In general, Federal waters offshore Florida and Alabama are in the Eastern Planning Area, Federal waters offshore Mississippi and Louisiana are in the Central Planning Area, and Federal waters offshore Texas are in the Western Planning Area. For seismic exploration, about 1300 blocks in the Western and Central Planning Areas have not yet been surveyed with 3-D seismic techniques (R. Brinkman, MMS GOM Region, pers comm, 2002). It is assumed that a lower level of new seismic survey activity will occur in the Eastern Planning Area relative to the other two areas (i.e. the vast majority of survey activities are expected in the Central and Western Planning Areas). Industry interest in the Eastern GOM has historically been limited to the westernmost portions of the planning area and is usually defined by MMS' 5-Year Leasing Plan (MMS, 2002a).

The different types of seismic survey activity in the northern GOM can occur on any day of a given year during the scope of the petition (5 years). Seismic surveys may span one day, weeks, or months. MMS (2002b) provides detailed characteristics of the different types of operations and equipment applicable to seismic surveys employed in the region. That information will be used by NMFS during this rulemaking.

Seismic surveys may be conducted in any Federal waters of the GOM. Tables provided in the MMS application (MMS, 2002a) project the anticipated surveys for vertical seismic profiling, deep seismic, and high resolution

seismic operations in the GOM over the next 5 years.

### Description of Marine Mammals Affected by the Activity

There are 29 species of marine mammals documented as occurring in Federal waters of the GOM. General information on these species can be found in NMFS Stock Assessment Reports (Waring, 2001, 2002). These documents are available at: [http://www.nmfs.noaa.gov/prot\\_res/PR2/Stock\\_Assessment\\_Program/sars.html](http://www.nmfs.noaa.gov/prot_res/PR2/Stock_Assessment_Program/sars.html)/ Stock Assessment Reports.

Any of these 29 marine mammal species may be exposed to acoustic energies introduced into Federal waters by seismic survey operations. At this time, the MMS is requesting authorization of take for only GOM sperm whales under this petition; therefore, the remainder of this section addresses this species only. Additional information on sperm whales in the GOM is available in NMFS (2002a), which is available for viewing or downloading at: [http://www.nmfs.noaa.gov/prot\\_res/overview/publicat.html](http://www.nmfs.noaa.gov/prot_res/overview/publicat.html)/ section.

Sperm whales are the most abundant large cetacean in the GOM, and are the most important Gulf cetacean in terms of collective biomass. The GOM sperm whales are comprised of mostly female and juvenile animals, although a few large bulls have been sighted in the northern Gulf. Some large males have been observed in the Gulf in recent summer surveys, particularly in the DeSoto Canyon region. Calves are frequently sighted. The GOM sperm whale abundance has recently been estimated by NMFS at 1,213 (CV 0.35) whales with a minimum population estimate of 911 whales. The presence of cow/calf pairs indicates that the northern GOM is a biologically important nursery area for sperm whales. Based on seasonal aerial surveys, sperm whales are present in the northern GOM in all seasons, but sightings in the northern GOM are more common during the summer months. Based on recent survey efforts, areas of concentration appear to be off the Mississippi River Delta, off Southern Florida, and off South Texas.

Sperm whales have been observed throughout the GOM from the upper continental slope near the 100-m (328.1-ft) isobath to the seaward extent of the U.S. Exclusive Economic Zone (EEZ) and beyond. It should be noted that both the apparent seasonality and the areas of concentration could be affected by, or the result of, geographic and seasonal patterns of existing

surveys and, as such, should be considered tentative findings.

### Potential Effects of Seismic Activities on Marine Mammals

The Federal waters of the GOM are inhabited by a diverse assemblage of marine mammal species, including the sperm whale. Seismic surveys are conducted in these waters, and acoustic energies introduced into Gulf waters may adversely impact marine mammals in the vicinity of the activity. The potential adverse impacts to Gulf sperm whales are detailed in NMFS (2002a). Additional information describing potential impacts is documented in MMS (2002b). Because loud underwater noise has the potential to harass, injure, and possibly cause the mortality of marine mammals, MMS is seeking an authorization, under the MMPA, for the harassment, injury, and/or mortality of sperm whales in GOM that may occur as a result of seismic surveys as described in this document and in MMS (2002a and 2002b). While the serious injury or mortality of sperm whales or other marine mammals is believed to be unlikely, especially due to the implementation of effective mitigation measures to protect marine mammals (see Mitigation), MMS has requested authorization for takings by incidental mortality at least until additional impact assessments are completed under NEPA and any rulemaking. This authorization is being sought by the MMS on the behalf of the offshore oil and gas industry and seismic contractors operating within the GOM.

As outlined in several previous NMFS documents, the effects of noise on marine mammals are highly variable, and can be categorized as follows (based on Richardson et al., 1995):

- (1) The noise 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 noise may be audible but not strong enough to elicit any overt behavioral response;
- (3) The noise may elicit reactions of variable conspicuousness and variable relevance to the well being of the marine mammal; these can range from temporary alert responses to active avoidance reactions such as vacating an area at least until the noise event ceases;
- (4) Upon repeated exposure, a cetacean may exhibit diminishing responsiveness (habituation), or disturbance effects may persist; the latter is most likely with sounds that are highly variable in characteristics, infrequent and unpredictable in occurrence (as are vehicle launches),

and associated with situations that a marine mammal perceives as a threat;

(5) Any anthropogenic noise that is strong enough to be heard has the potential to reduce (mask) the ability of a cetacean to hear natural sounds at similar frequencies, including calls from conspecifics, and underwater environmental sounds such as surf noise;

(6) If mammals remain in an area because it is important for feeding, breeding or some other biologically important purpose even though there is chronic exposure to noise, it is possible that there could be noise-induced physiological stress; this might (in turn) have negative effects on the well-being or reproduction of the animals involved; and

(7) Very strong sounds have the potential to cause temporary or permanent reduction in hearing sensitivity. In terrestrial mammals, and presumably marine mammals, received sound levels must far exceed the animal's hearing threshold for there to be any temporary threshold shift (TTS). For transient sounds, the sound level necessary to cause TTS is inversely related to the duration of the sound. Received sound levels must be even higher for there to be risk of permanent hearing impairment. 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.

Sperm whales spend large amounts of time at depth and use low frequency sound to communicate and navigate. Therefore, they are considered sensitive to the marine acoustic environment and may respond to sound emissions in many ways. Reactions to acoustic emissions may include, but are not limited to, cessation of vocalizations, disruption of feeding and dive behaviors, and physical avoidance. Seismic operations can introduce noise into the sea that may cause temporary or permanent hearing impairment in marine mammals if the noise is strong enough and/or if the animal is in close proximity to the sound source when transmitting. Such impairment could have the potential to diminish the individual's chance for survival. Tolerance of noise is often demonstrated, but this does not prove that the animals are unaffected by noise; adverse levels of noise might interrupt or decrease feeding activity, social interactions, or parenting (e.g. nursing calves, if the interruption is extended). Therefore, behavioral responses causing adverse effect to individuals and cow/

calf pairs, reproduction, feeding or temporary or permanent threshold shifts due to seismic activity may negatively impact GOM sperm whales if disruptions are extended. There are no documented data on auditory-induced physical effects of underwater seismic noise on sperm whales. There is observational evidence that sperm whales may be temporarily displaced to areas near those where seismic operations are underway. However, while MMS believes that sperm whales apparently are not being displaced from the northern Gulf due to seismic surveys, NMFS notes that no data have been provided to support this statement. Nonetheless, it is unknown whether their site fidelity reflects low sensitivity to seismic noise or a high motivation to remain in the area in spite of this noise. Details of such emissions and potential impacts to sperm whales are characterized in NMFS (2002a) and MMS (2002b).

NMFS anticipates an unspecified number of sperm whales within Federal waters of the GOM may be adversely affected by seismic activities, especially in known areas of concentration (primarily off the Mississippi River delta) where cow/calf pairs are frequently sighted (NMFS, 2002a). At this time, there are insufficient data regarding the demography of the Gulf sperm whale stock to estimate the number of takes of sperm whales by age, sex, and reproductive condition. Most animals potentially exposed to seismic noise are expected to be adult females and immature animals, including young calves. It is understood that all animals comprising the Gulf stock (1,213 sperm whales) may be exposed to seismic noise during their lifetimes, and repeated exposure is anticipated, particularly in light of the facts that (a) sperm whales are wide-ranging animals, and (b) acoustic energy may travel great distances, depending on a suite of variables. At present, the means to accurately estimate the anticipated number of exposures for Level A or B Harassment takes of sperm whales as a result of seismic activity are not available.

In the absence of species-specific data on auditory impacts for sperm whales, a received sound pressure level of 180 dB re 1  $\mu$ Pa (rms) or greater will be used as an indication of potential concern about temporary and/or permanent hearing impairment (Level A Harassment, as used by NMFS in previous rulemakings).

While a spreading loss equation of 20 log R is recommended by Richardson et al. (1995) for calculating underwater transmission loss in deep water, MMS

believes a spreading loss equation of 15 log R is more appropriate for shallow water such as the GOM. Using a spreading equation (15log(R)), the 180-dB re 1  $\mu$ Pa (rms) isopleth in surface and near-surface waters occurs at 295 m (968 ft) from a standard airgun array. Similarly, the 180 dB re 1  $\mu$ Pa (rms) isopleth vertically below the seismic source is calculated to be 6,310 m (3.92 mi). By means of a Gulf-wide Notice to Lessees (NTL) for all seismic activities (30 CFR 250.103, August 22, 2002), MMS has implemented a 500-m (1,640-ft) impact zone to minimize possible effects to sperm whales. For typical 2-D and 3-D towed array seismic surveys with estimated source levels of 257 dB re 1  $\mu$ Pa (-3 dB rms conversion), a 500-m (1,640-ft) impact zone for a 180 dB isopleth equates to an estimated source level of approximately 232 dB. According to NMFS (2002a), at source levels of 257 dB (rms), the 20 Log(R) model and associated calculation above produce received levels of 203 dB re 1  $\mu$ Pa at 500 m (1,640 ft) from the source in subsurface waters (a conservative estimate) and 183 dB in surface waters due to the array effect. Presently, the impact zone of 500 m (1,640 ft) closely approximates the received dB levels in surface waters, but may not accurately reflect the 180 dB isopleth and associated impact zone beneath an array. These disparities between dB measurements for surface and subsurface waters indicate the need for better data to effectively formulate models that can be used to better calculate an impact zone for sperm whales.

In the absence of good sound scientific information for sperm whales in the GOM, a received sound pressure level of 160 dB re 1  $\mu$ Pa (rms) will be used in this application as the default indicator of, or for, potential concern to disturb a sperm whale in the wild by causing disruption of behavioral patterns, including but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering (Level B Harassment, as used previously by NMFS for impulse noise). Using a spherical spreading equation (15log(R)), -20 dB for the array effect, and -3 dB for zero-to-peak to RMS conversion), the 160 dB re 1  $\mu$ Pa (rms) isopleth in surface and near-surface waters occurs at 6,309 m (3.92 mi) from the seismic airgun source. Similarly, the 160 dB re 1  $\mu$ Pa (rms) isopleth below the seismic source is calculated to extend to the sea floor.

Given that (a) the Level B Harassment impact zone ranges between 6,309 m (3.92 mi) and depth below the vessel (3.92 mi and greater), (b) the Level A Harassment (injury) or mortality impact

zone ranges between 295 m (968 ft) and 6,309 m (3.92 mi), (c) seismic survey operations may be conducted over broad swaths of the Gulf, (d) sperm whales are wide-ranging and inhabit oceanic waters of the northern Gulf, (e) animals may or may not avoid seismic noise sources, and (f) sperm whales may potentially be repeatedly exposed to seismic noise introduced into the GOM, MMS expects that an unspecified number of sperm whales (chiefly adult females and immature animals) may be exposed to levels of 160 dB or greater if they do not avoid exposure by moving away from the noise source. The MMS anticipates new information in the near future from which it will calculate anticipated take numbers for seismic activity. These numbers will be included in MMS' NEPA document and provided to NMFS for rulemaking needs.

NMFS has been determined (NMFS, 2002a) that ramp-up procedures and visual monitoring of an impact zone coupled with passive acoustic monitoring systems will more effectively minimize possible adverse effects to sperm whales than ramp-up and visual observations alone, as currently required by MMS' NTL No. 2002-G07 and Addendum 1. Conservative estimates should be used to calculate impact zones for sperm whales without the array effect until more appropriate models can be formulated from field measurements that effectively minimize the risk of threshold shift to sperm whales. The use of mitigation measures such as visual and acoustic monitoring of adjacent waters (e.g. delineated by the 160 or 180 dB re 1  $\mu$ Pa (rms) isopleths), shut-downs, or ramping up seismic airguns are presumably effective techniques that may reduce the potential number of sperm whales taken by harassment as a result of seismic surveys. It is assumed that the likelihood of impacts will be reduced relative to the scope of mitigation measures employed by seismic operators. For example, it is presumed that some animals may experience Level A Harassment if only visual monitoring is employed, and animals do not actively avoid noise or are missed during visual monitoring. Similarly, fewer animals will experience Level A Harassment if visual and effective acoustics monitoring are conducted in conjunction with shut-downs and ramping up. An acoustic model that incorporates acoustic noise propagation, environmental variables, and ecological and behavioral variables known for marine mammals (e.g. sperm whales) would be necessary for the MMS to quantify the anticipated takes

of sperm whales attributable to seismic operations in the GOM; the MMS presently does not have access to such a model.

There is a reasonable potential that seismic surveys are exposing sperm whales to noise levels that may cause behavioral disturbance. The most probable disturbance is avoidance (moving away) from an actively-transmitting seismic vessel. The degree of displacement, length of time involved, and types of normal activities interrupted would influence the significance of this disturbance. Less likely, but possible, is that sperm whales will remain within acoustic exposure levels that will cause temporary hearing impairment or permanent hearing damage. This outcome would require whales to lack the ability to detect harmful sound intensities, "ignore" the signal in favor of other behavior such as feeding, or be in close proximity to a sudden start-up of the airguns. The GOM environment is deep, open waters. Short of a physically impaired whale or a whale being caught between two seismic sources, no physical constraints exist in the GOM that would "trap" a whale near a seismic sound source.

The area of most concern is the area of apparent concentration of whales located on the continental slope offshore of the Mississippi River mouth (and extending east to the DeSoto Canyon area in the Eastern Planning Area), where a year-round population of sperm whales has been documented. Although sperm whales apparently are not being displaced from this area due to seismic surveys, it is unknown whether their site fidelity reflects low sensitivity to seismic noise or a high motivation to remain in the area in spite of this noise. Because there is some evidence of sperm whale responses to low frequency noise, including possibly leaving an area where seismic surveys are occurring, it is reasonable to presume that these animals are being exposed to adverse noise levels (i.e., noise levels that would cause behavior modification, such as avoidance or displacement) in a preferred habitat. Minor behavioral changes typically do not adversely affect either the individual or the population. To date, there is no evidence that behavioral changes prompted by seismic noise are of sufficient magnitude to have meaningful effects on this population in that no large-scale displacement or voids in sperm whale occurrence relative to seismic activities have been observed. The present state of knowledge indicates sperm whales may react to seismic activity, but results are

not consistent. Studies are underway to precisely determine the behavioral responses of Gulf sperm whales to airguns. Current mitigation procedures include ramp-up, visual monitoring and shut-down of seismic operations if sperm whales are within the 500-m (1,640-ft) impact zone. These measures are expected to significantly reduce the potential for noise impacts to sperm whales. However, because the potential for acoustic impact by oil and gas seismic surveys cannot be completely eliminated, nor are potential impacts clearly documented or understood at this time, a precautionary approach taken by MMS is to keep any impacts at an insignificant level. Therefore, MMS has preliminarily determined that while impacts on sperm whales are still somewhat speculative, and the potential for harm to the species or stock is unlikely, impacts to the species or stock will not be more than "negligible."

#### Research

A major field study of GOM sperm whales and other cetaceans, sponsored by MMS, in cooperation and with support from the GOM seismic industry (the Sperm Whale Seismic Study (SWSS)), has been completed. Major accomplishments included tagging a number of sperm whales with data-reporting satellite tags, and field testing a passive acoustic listening system for its ability to detect and locate sperm whales, relative to effectiveness of visual marine mammal observers. Although formal reports on findings have not yet been published, MMS has determined that the passive acoustic monitoring system was far superior to visual observers, as it could detect cetaceans underwater and at distances or in sea states where visual observations are not reliable.

In 1999, MMS hosted a workshop to identify protected species concerns in the GOM. The expert panel concluded possible acoustic impacts from anthropogenic sources were a valid concern and that information for the marine environment in the GOM was extremely limited. Recommendations to MMS included initiation of research on acoustic effects on marine mammals. Seismic exploration (i.e., airgun arrays) was identified as the sound source of primary concern. The MMS, with cooperative funding from the Office of Naval Research (ONR), immediately modified the existing research to develop and test research methods to address this topic. The pilot study successfully developed a multi-disciplinary approach and new technology to conduct research. In FY 2002, MMS and ONR initiated a 3-year

study, the SWSS, managed by Texas A&M Research Foundation, to establish habitat use and normal behavior of sperm whales in the GOM, evaluate physical oceanographic correlates to whale locations and movements, obtain DNA profiling of GOM whales, and investigate seasonal movements and breeding behavior. In addition to addressing many aspects of sperm whale biology, the study will look at both short-term behavioral responses to seismic airguns and any longer-term displacement using two types of whale tags. The offshore industry contributed use of a seismic vessel and acoustic array in FY 2002 to support this research. In FY 2003, MMS/ONR will obtain additional support from the National Science Foundation and the oil industry to expand the efforts so far described and also to begin investigating effects on sperm whale prey (squid). Embedded in SWSS are efforts to improve underwater detection (range, bearing, depth estimates) for sperm whales using passive acoustics. The immediate intent is to study sperm whale locations near seismic vessels and for effective tagging efforts. A spin-off of this work will be the means to detect and estimate relative locations to sperm whales using acoustics. Applications for using this technology for mitigation monitoring are being explored by MMS.

If NMFS proceeds with rulemaking, it intends to monitor the results of this research during the rule's effectiveness period to ensure that the determinations made during the rulemaking are correct. As appropriate, research results may lead to amendments to LOAs and/or rulemaking to ensure that marine mammals are protected to the greatest extent practicable.

#### Mitigation

In response to NMFS' question regarding the availability and feasibility (economic and technological) of equipment, methods and manner of conducting oil and gas seismic surveys to effect the least practicable adverse impact on potentially affected marine mammals, MMS noted that current mitigation measures for the oil and gas seismic industry in the GOM include: ramp-up, visual monitoring, establishment of an impact zone (currently 500 m (1,640-ft) around the sound source), and mandatory "shut-down" to avoid injury to whales in or about to enter the impact zone. Each of these helps insure the least practicable adverse impact to the sperm whales. Ramp-up, or soft start, requires seismic operators to start firing the acoustic array with one gun and gradually over

time add more guns until the array is fully operational. This allows whales in the area to move away from the sound source before discomfort or injury might result. Visual observers monitor the area around the sound source for 30 minutes prior to ramp-up and throughout seismic operations. Any time a sperm whale enters or surfaces within 500 m (1,640 ft) of the sound source, seismic operations are immediately ceased in order to minimize as much as possible the exposure of the whales to potentially damaging levels of sound.

MMS notes that an expanded seismic observer program is currently in development that will require trained observers on all seismic vessels. MMS expects to issue updated guidelines for the seismic observer program in early 2003 and an enhanced monitoring and reporting will also be put in place later in 2003. However, in the interim period before this rulemaking is complete, MMS will enforce the mitigation measures outlined in this section to ensure the protections required by the ESA and MMPA. As these mitigation measures would be the subject of any rulemaking under the MMS application, these measures may be adopted or amended according to this action.

### Monitoring

Currently, monitoring and reporting requirements for the offshore seismic industry are set forth by MMS in MMS NTL No. 2002-G07 and 2002-G07. At this time, MMS is proposing to continue this monitoring program until an enhanced monitoring program can be designed.

Visual observers must monitor waters (with the assistance of binoculars) for sperm whales within and adjacent to the exclusion zone for 30 minutes prior to initiating the airgun ramp-up procedures. Observers must monitor the exclusion zone and adjacent waters during seismic operations, unless atmospheric conditions reduce visibility to zero or during hours of darkness (i.e., night). When sperm whales are observed entering or within the exclusion zone, observers must call for the shut down of the airgun array; seismic operators must shut down the seismic array when instructed by an observer. Ramp-up (see MMS NTL No. 2002-G07 for specified procedure) and seismic activities may be reinitiated only when the observer has: (a) determined that the sperm whale(s) has departed the exclusion zone, and (b) visually monitored the exclusion zone for at least 30 minutes since the last sperm whale sighting within the exclusion zone.

### Reporting

The MMS proposes that when sperm whales are sighted prior to or during a seismic survey operation, observers must document the information listed below. This information must be reported to MMS within 8 days of the sighting by email. The following observations are to be included in the reports: (1) The date, time, and location (latitude/longitude) of each observation; (2) the number of sperm whales sighted; (3) whether or not a sperm whale entered the exclusion zone warranting a shut-down; (4) how long the shut-down occurred (i.e., how long the sperm whale was in the exclusion zone); and (5) the name and contact information for the person submitting the report. These observations and reporting requirements will identify all observed taking by harassment within the exclusion zone from seismic operations in the GOM.

### NEPA

In February, 2002, MMS completed a draft PEA that is available upon written request (see ADDRESSES). That draft NEPA document has undergone extensive review by MMS and other Federal agencies, and by state, non-governmental, and interested private sector parties. This draft PEA, along with a document reviewing the public comments, was provided to NMFS to support the information contained in MMS' application and has been determined by NMFS to be sufficient for use at this stage of rulemaking. Based in part on public comments, a final PEA is being substantially revised by MMS, and is expected to be available for release prior to NMFS' issuance of a proposed rule on the MMS application. A copy of the final PEA will be available at that time.

### Endangered Species Act (ESA)

Under section 7 of the ESA, NMFS has begun consultation on the proposed issuance of regulations under section 101(a)(5)(A) of the MMPA for this activity. Consultation will be concluded prior to promulgation of a final rule.

### Information Solicited

As this document is being published in conformance with NMFS regulations implementing the small take program (50 CFR 216.104(b)(1)(ii)), NMFS requests interested persons to submit comments, information, and suggestions concerning the request and the structure and content of the regulations to allow the taking. As required by 50 CFR 216.105, NMFS will consider this information in developing proposed regulations to authorize the taking. If NMFS proposes regulations to allow

this take, interested parties will be provided with a 45-day period within which to submit comments on the proposed rule.

Dated: February 25, 2003.

**Laurie K. Allen,**

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

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## DEPARTMENT OF COMMERCE

### National Oceanic and Atmospheric Administration (NOAA)

#### Science Advisory Board; Open Meeting

**AGENCY:** Office of Oceanic and Atmospheric Research, NOAA, DOC.

**ACTION:** Notice of open meeting.

**SUMMARY:** The Science Advisory Board (SAB) was established by a Decision Memorandum dated September 25, 1997, and is the only Federal Advisory Committee with responsibility to advise the Under Secretary of Commerce for Oceans and Atmosphere on long- and short-range strategies for research, education, and application of science to resource management. SAB activities and advice provide necessary input to ensure that National Oceanic and Atmospheric Administration (NOAA) science programs are of the highest quality and provide optimal support to resource management.

*Time and Date:* The meeting will be held Tuesday, March 18, 2003, from 10 a.m. to 5:30 p.m.; and Wednesday, March 19, 2003, from 8 a.m. to 5:15 p.m. These times and the agenda topics described below may be subject to change. Refer to the web page listed below for the most up-to-date meeting agenda.

*Place:* The meeting will be held both days at the Washington Marriott Hotel, 1221 22nd Street, NW., Washington, DC.

*Status:* The meeting will be open to public participation with two 30-minute time periods set aside for direct verbal comments or questions from the public. The SAB expects that public statements presented at its meetings will not be repetitive of previously submitted verbal or written statements. In general, each individual or group making a verbal presentation will be limited to a total time of five (5) minutes. Written comments (at least 35 copies) should be received in the SAB Executive Director's Office by March 7, 2003, to provide sufficient time for SAB review. Written comments received by the SAB Executive Director after March 7, 2003,