

Comment 7: Third Country Sales

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Comfrut

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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

[I.D. 010302E]

Small Takes of Marine Mammals Incidental to Specified Activities; Seismic Hazard Investigations in Washington State

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

ACTION: Notice of issuance of an incidental harassment authorization.

SUMMARY: In accordance with provisions of the Marine Mammal Protection Act (MMPA) as amended, notification is hereby given that an Incidental Harassment Authorization (IHA) to take small numbers of marine mammals by harassment incidental to collecting marine seismic reflection data to investigate the earthquake hazard in the Straits of Georgia region of Washington State by the U.S. Geological Survey (USGS) during May, 2002.

DATES: This authorization is effective from April 30, 2002, through September 30, 2002.

ADDRESSES: A copy of the application and an Environmental Assessment (EA) may be obtained by writing to Donna Wieting, Chief, Marine Mammal Conservation Division, Office of Protected Resources, NMFS, 1315 East-West Highway, Silver Spring, MD 20910-3225, or by telephoning the contact listed below.

FOR FURTHER INFORMATION CONTACT: Kenneth R. Hollingshead, Office of Protected Resources, NMFS, (301) 713-2055, ext 128.

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 (a) has the potential to injure a marine mammal or marine mammal stock in the wild; or (b) 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

In May, 2002, the USGS, in cooperation with the Geological Survey of Canada and the University of Victoria, will collect marine seismic reflection data to investigate the earthquake hazards in the Straits of Georgia. For approximately 2 to 4 days this research will be in U.S. waters and about 17 to 19 days will be in Canadian waters. Geological features around the Straits of Georgia that might produce earthquakes lie obscured beneath water, urban areas, forest, and thick glacial deposits. As a result, investigators must use sound waves that are produced by

either a single airgun or more usually an array of airguns to indirectly view these features. Because seismic noise from the proposed survey's airguns could potentially affect marine mammals due to disturbance by sound (i.e., acoustic harassment), an IHA under the MMPA is warranted.

Throughout western Washington state and southwest British Columbia (BC), geological faults that might produce earthquakes lie hidden beneath the dense forest and the waters of Puget Sound and the Strait of Georgia. Although some faults are known from limited exposures on land and from marine seismic surveys, such as the Lummi Island and Outer Islands faults (see Figure 1 in the USGS application), more may have eluded detection in this little-studied area. Furthermore, the amount of recent (<50,000 years) motion on these faults, if any, is unknown. Estimating the frequency and sizes of earthquakes on both the known and unknown faults is crucial to understanding the earthquake risk to the cities of Bellingham and Anacortes, WA to Vancouver and Victoria, BC and to the more rural parts of the region. For more detailed information on the geological faults in this area, please refer to the USGS application.

Seismic reflection data will be collected during May, 2002 by the Canadian research vessel *J. P. Tully*. Seismic profiling will be done by towing a 600-m (1,968.5-ft) long hydrophone streamer for sensing and recording pressure changes from the airgun echos. The streamer will be towed at a depth of 5 m (16.4 ft). Near the forward end of the streamer, an airgun will be towed about 10 m (32.8 ft) behind the ship at a depth of about 5 m (16.4 ft). The hydrophone streamer, which is connected to a computer recording system, will record echos coming from the strata beneath the sea bottom. These recordings will be computer-processed to create an image of the subsurface strata, including any faults that are crossed during the profiling. The seismic operation will operate 24 hours/day while in U.S. waters and will be traveling at a speed of 6 to 8 knots (6.9 to 9.2 miles/hr; 11.1 to 14.8 km/hr).

The sound source will be either a single, 120 inch³ airgun or, more likely, a small array of airguns consisting of two 40- in³ and two 20-in³ guns being fired within several milliseconds (1/1000 second) of each other. The source will be chosen after tests at the beginning of the cruise. Either way, this sound source, as measured by the volume of the chamber, is only 2 percent of the size of the airgun array

used in the USGS survey conducted in 1998 in Puget Sound (see 63 FR 2213, January 14, 1998). Both of the USGS' potential sources for this activity will produce similar levels of sound pressure, which is estimated to be about 225 dB. An array of small airguns increases the frequency of the sound over that from a single gun, and an array better directs the sound downward. This array has been used previously in the inland waters of Canada (Reidel *et al.*, 1999), and the characteristics of this sound source have been measured (see Figure 3 in the USGS application).

The airgun does not emit a prolonged sound source; rather, it emits an impulsive noise burst (<10 milliseconds) with a peak-to-peak (P-P) sound pressure level (SPL) estimated to be between 220 dB and 230 dB. The USGS best estimate is that the source will have an SPL of about 225 dB (P-P). This compares to an estimated SPL of 240 dB (P-P) for the 6730 inch³ airgun array used in the 1998 Puget Sound seismic survey project (Fisher, 1997). The airgun will be fired almost continuously 3 to 6 times per minute.

There is about a 16-dB difference between measuring the P-P sound pressure and the more commonly used root-mean-square (RMS) measurement for assessing sound pressure impacts on marine mammals (6 dB converts P-P to peak-to-zero values, and an additional 10 dB converts peak-to-zero to RMS values). NMFS' criteria for safety radii based on pressure measurements are based on the RMS or the average received level over the duration of the sound pulse. These conversions mean that the USGS airgun array will be approximately equivalent to a source with a RMS sound pressure of about 204 to 214 dB (relative to 1 μ Pa), with a best estimate being about 209 dB (RMS). This compares with the continuous noise from freighters and other ship traffic in the area, which is estimated to be 150 to 205 dB RMS (Richardson *et al.*, 1995).

The frequency spectrum of the sound emission was measured when the array was used in a previous study (Reidel *et al.*, 1999). The airgun's energy is concentrated below 200 Hz, with a rapid decrease in amplitude with increasing frequency between 200 and 400 Hz. Frequencies above 400 Hz have amplitudes that are less than 10 percent of the lower frequencies. Frequencies below 1,000 Hz (1 kHz) are considered low frequency (LF).

Comments and Responses

A notice of receipt of the application and proposed authorization was published on February 7, 2002 (67 FR

5792), and a 30-day public comment period was provided on the application and proposed authorization. Comments were received from the Marine Mammal Commission (MMC) and Lifeforce.

Comment 1: Lifeforce advises that all activities that could produce any undetermined impact on marine wildlife must not be permitted. This should be of special concern regarding the southern community of resident orca. They are in the planned research area during April and May. In 2001 all three pods were present in May. The abundance of orcas is high. Noise from these tests could interrupt foraging, socializing, and resting periods. These types of disturbance are believed to jeopardize the survival of this population. The population was recently designated as an endangered species by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) and the U.S. Government is considering similar action.

Response: The proposed authorization notice did not state that impacts could not be determined, but that impacts from noise were variable. If NMFS finds that the taking will be small, have a negligible impact on the species or stock(s) of affected marine mammals, and will not have an unmitigable adverse impact on the availability of the species or stock(s) for subsistence uses, the taking by incidental harassment can be authorized under section 101(a)(5)(D) of the MMPA. Due to the fairly low SPL for the single airgun or small airgun array (approximately 209 dB RMS) and the mitigation monitoring required under the IHA, marine mammal injury and mortality is unlikely. Impacts, therefore, would be limited to Level B harassment. Because behavioral reactions to the seismic airgun sounds and/or the USGS vessel could occur, the USGS applied for an IHA under the MMPA. Provided certain findings are made, as here, the MMPA allows marine mammals to be harassed, injured or killed incidental to conducting maritime activities.

The killer whale, however, appears to be fairly insensitive to LF sounds, with hearing ability approximately 100–140 dB for LF-sound (Richardson *et al.*, 1995). This means that it would be unlikely for killer whales to behaviorally respond to the sounds unless the sounds are about 20 dB or higher above those levels. For the airgun(s) planned to be used by this activity, this means being close to the source. In addition, due to the short duration of the activity under consideration here and the mitigation required to be conducted, it is unlikely that impacts on killer whales would

cause more than a short-term disturbance on a very few animals and would therefore have a negligible impact on the killer whale population or stock.

On August 13, 2001 (66 FR 42499), NMFS announced that a petition to list the eastern North Pacific southern resident stock of killer whales as endangered or threatened species under the Endangered Species Act (ESA) and to designate critical habitat for this stock under the ESA presented substantial scientific information indicating that a listing may be warranted and would initiate an ESA status review. In accordance with section 4(b)(3)(B) of the ESA, NMFS is completing its status review on this stock.

Comment 2: There has been evidence from necropsies on marine mammals that damage to auditory systems can be caused by loud noises and can be fatal. As in humans, hearing impairment can be caused by short term and/or long term exposure to loud noises. Therefore, any exposure from these tests could have an immediate or accumulative impact.

Response: Injury to both auditory and non-auditory organs can be caused by loud impulse noise and by explosions as noted in the proposed authorization document and this document. However, the acoustic sources proposed for use by this activity are unlikely to result in an SPL sufficient to cause Level A harassment (i.e., injury). In addition, Diercks *et al.* (1971), as reported in Richardson *et al.* (1995) recorded killer whale echo-location clicks at 180 dB in the 12 to 25-kHz frequency. For the proposed airgun, 180 dB (P-P) is approximately 50 m (32.8 ft) from the source, at which distance the SPL on an RMS basis would be approximately 164 dB (180 dB would be less than 10 m (32.8 ft) from the acoustic source). Therefore, since marine mammals are unlikely to be injured by their own vocalizations or vocalizations of conspecifics, it is unlikely that animals would be injured by sounds from this acoustic source unless the animal is significantly closer to the airgun than 10 m (32.8 ft). Finally, because the activity will be less than 19 days long, no long-term impacts are anticipated.

Comment 3: Seals should be regarded as any other species in the mitigation and monitoring plans. It is known that seal bombs and noise deterrents used on fish farms frighten seals and can cause hearing damage. Lifeforce assumes that continuous noise from airguns would create similar problems.

Response: Under section 101(a)(5)(D) of the MMPA, it is NMFS' responsibility to ensure that the impact on marine

mammals due to an activity is reduced to the lowest level practicable. In reviewing the information available, NMFS has determined that it is not practicable to require applicants to delay surveys in order to provide more protection for curious seals than has been proposed by the applicant, unless the animal indicates a significant adverse effect (see response to comment (RTC) 4 in this document). Delays due to shutdowns lengthen the time necessary for completing surveys, requiring additional survey time and resulting in a potential increase in impacts on more sensitive marine mammal species, and raise the potential for either increased costs for conducting surveys or continuing surveys in future years. As mentioned in this document and in prior **Federal Register** notices, seals and sea lions are believed to be less likely to be harmed by underwater noise than cetaceans, and have even been observed swimming in the bubbles of large seismic airgun arrays, a source significantly more powerful than the one proposed for use by this activity. For impulse noise such as the one under consideration here, it has been determined through scientific workshops that pinnipeds would need to be closer than 190 dB (RMS) before there is even the potential for injury. Because an SPL of 190 dB would be within about 5 m (16.4 ft) of the airgun, a requirement under the IHA of a 100-m (328-ft) shutdown is unnecessary for those seals and sea lions approaching the airgun.

Comment 4: Regarding monitoring the impact on marine mammals by the activity, the MMC believes the program (if funded) is adequate to verify that animals are taken only as authorized. The MMC notes however, that, in monitoring pinniped approaches to the active airgun array, transmissions be suspended if there is any indication that the animals are being adversely affected.

Response: NMFS concurs and has made that recommendation a part of the IHA. However, these seals and sea lions need to be actively approaching the vessel (itself moving forward at about 3–5 knots) from the side of the vessel or the stern, meaning that the animal is voluntarily approaching a noise source that is increasing in strength as the animal gets closer. Therefore, if a pinniped approaches the USGS vessel, the IHA requires the USGS to monitor the interaction to ensure the animal does not show signs of distress. If the pinniped(s) show obvious distress, the USGS is to suspend airgun operations until the pinniped moves outside of the safety zone and to continue to conduct

observations on effects on all pinnipeds after the airgun is again powered up.

Comment 5: When cetaceans, such as orcas, gray whales, humpback whales, minke whales and other slower moving cetaceans are sighted at any distance, the tests should be suspended until they are a safe distance from, and are clearly moving away from the test site. When faster dolphins and porpoises are sighted at any distance near the safety zone the tests should be suspended until they are clearly heading in a direction away from the research activity.

Response: The USGS has recommended, and NMFS has adopted, shutdown criteria for this activity at 100 m (328 ft) for all cetaceans and pinnipeds. At 100 m (328 ft), the SPL from the proposed airgun(s) will be approximately 170 dB (P-P) or 154 dB (RMS). This shutdown distance is significantly greater than is necessary to protect marine mammals from the potential for injury. As noted in RTC 3, suspension of activities whenever a marine mammal is sighted is not practical due to the potential number of shutdowns that could be required, and is not necessary because of the low SPL of the acoustic source.

Comment 6: Tests during darkness must not be permitted. Proper monitoring of marine wildlife at night is impossible and may not meet MMPA requirements. The use of night vision equipment only works if you know where to look and scanning the areas would miss marine wildlife during their dive periods. By the time they are spotted, they could be within the safety zone. Operation should only be allowed from sunrise to sunset.

Response: During nighttime, observers are required to monitor a minimum of 50-m (164-ft) radius around the source whenever the airgun or small airgun array is powered up, to protect marine mammals. This distance is sufficient to ensure that marine mammals are detected prior to getting close enough to the airgun array to be injured. As discussed in the proposed authorization, suspension of night-time operations is impractical and costly to the USGS, and it may not result in reduced impacts to marine mammals by extending surveys either into a period of greater marine mammal abundance or into a future year when funding and ship time become available, or both. NMFS believes that because the vessel is underway, resulting in a de-facto ramp-up for marine mammals at distances forward of the vessel, no marine mammals will be injured by the airgun or small airgun array. However, because a mitigation requirement of the

IHA is for the safety zone to be monitored for 15 minutes prior to the time the source is turned on, if the source is powered up at night or in inclement weather, the entire 50-m (164-ft) safety zone needs to be visible to the biological observers. Otherwise, the source must remain below 160 dB re 1 micro Pa-m (RMS), until sufficient light is available to observe the safety zone(s). Alternatives to night-vision equipment would include lighting the safety zone with high intensity lights or use of infra-red scopes, which operate differently than most light-enhancement devices. Infra-red scopes were tested by biologists in 1997 and found to be useful in detecting marine mammals at night; however, they are expensive to rent or purchase and may not be warranted for this short duration survey.

Comment 7: The applicants have stated that their monitoring plans would probably not meet MMPA requirements. They state that funding would be required to meet adequate monitoring objectives.

Response: The USGS will be capable of conducting the monitoring program required under the IHA for this activity.

Comment 8: Lifeforce recommends that observers on the seismic team should have experience and training in spotting marine wildlife.

Response: In order to monitor shutdown areas and to make observations on marine mammal behavior, at least one observer on watch needs to be trained in making at-sea observations of marine mammals. For this activity, the USGS has contracted with a private company to provide a minimum of three biological observers. In addition, crewmembers will also assist in watching for marine mammals.

Comment 9: The MMC recommends that NMFS advise the USGS that, if there is any indication that other types of taking (e.g., mortalities) may be occurring, survey activities be suspended while NMFS considers whether an authorization under section 101(a)(5)(A) is needed.

Response: Because the survey time is limited to 2 days in U.S. waters, suspension of an IHA would likely result in termination of that portion of the scientific research being conducted in U.S. waters. It is also unlikely that a cause-and-effect relationship would be able to be determined within a reasonable length of time to affect the work schedule. Even though it is a standard requirement in all IHAs to suspend activities if a taking occurred in a manner that was not authorized, mortality by this activity, caused either by a ship strike (because of the relatively low speed) or by seismic noise

(because of low SPL), is highly improbable. NMFS notes that the SPLs made by this activity are comparable to the vocalizations made by many species of marine mammals. If marine mammals vocalize at high SPL levels, it is realistic to believe that these species have also evolved mechanisms to protect themselves and conspecifics from high SPL vocalizations.

Comment 10: Lifeforce has studied behavior and travel patterns of orcas over a 9-year period. This allows it to be able to locate and track orcas on a daily basis and to predict estimated times of their arrival in certain areas. Communication between Lifeforce and the research team would reduce many conflicts resulting from the merging and crossing of routes taken by the research team and the endangered orcas.

Response: To the extent possible, NMFS recommends that the monitoring team for this activity coordinate with Lifeforce so that the acoustic harassment incidental to conducting a 2-day seismic program in U.S. waters is reduced to the lowest level practicable. However, this should not be interpreted to mean that the USGS can not conduct its activity without the participation of Lifeforce. Since the USGS will have an NMFS-approved observation team onboard the vessel, additional monitoring tasks are not needed, but would be useful.

Comment 11: Many of the species which could be affected by this research are transboundary species making their homes in both the U.S. and Canadian waters. Lifeforce urges NMFS to advise both American and Canadian participants that they must follow all requirements to protect marine wildlife as stated in the MMPA and all requirements set forth in any permit.

Response: The MMPA is effective in U.S. waters and, for U.S. citizens, on the global commons; it is not effective within the waters of another nation. As a result, NMFS is recommending that the USGS follow Canadian law while operating within that nation's waters. To the extent possible, NMFS recommends that the USGS follow the mitigation requirements of the IHA while within these waters, unless required by Canada to comply with other methods for protecting marine mammals.

Comment 12: Lifeforce recommends that a new Environmental Impact Study should be considered because during the past 6 years there has been a 20-percent decrease in the southern orca community. The last EIS was conducted 5 years ago.

Response: In conjunction with a seismic survey project in Puget Sound in 1998, NMFS completed an EA that

addressed the impacts on the human environment from issuance of an authorization and the alternatives to that action. NMFS' analysis resulted in a Finding of No Significant Impact (FONSI). As a result of that finding, in accordance with Council on Environmental Quality regulations (40 CFR 1501.3) and NOAA Administrative Order 216-6 (i.e., NOAA's guidelines implementing the National Environmental Policy Act (NEPA)), an Environmental Impact Statement was not prepared. This seismic survey will operate in approximately the same geographic area as the 1998 survey, and affect the same species of marine mammals. However, the airgun sources used in this action are significantly less intense than the 1998 array and only 2 percent of the size of the earlier acoustic array. Accordingly, this proposed action qualifies for a categorical exclusion under NEPA. A change in the status of a marine mammal stock does not necessarily require a new NEPA analysis; a new NEPA review would be required if either the impact of the action was different than assessed under the proposed action or alternatives in the EA, or if new knowledge became available that called into question the impact assessments made in the EA. Since neither situation is relevant here, a new NEPA analysis is unnecessary.

Description of Habitat and Marine Mammals Affected by the Activity

A description of the affected habitat and its associated marine mammals can be found in the USGS application and in several documents issued previously for acoustic research in Washington State waters (NMFS, 1996, 1997).

Marine Mammals

The species of marine mammals that are likely to be present in the region of the Straits of Georgia include the harbor porpoise (*Phocoena phocoena*), killer whale (*Orcinus orca*), Dall's porpoise (*Phocoenoides dalli*), harbor seal (*Phoca vitulina*), California sea lion (*Zalophus californianus*), elephant seal (*Mirounga angustirostris*) (Calambokidis and Baird, 1995) and Steller sea lion (*Eumetopias jubatus*) (NMFS data). Additional species that are rare or only occasionally seen in the area at the time of the survey include: Pacific white-sided dolphin (*Lagenorhynchus obliquidens*), minke whale (*Balaenoptera acutorostrata*), humpback whale (*Megaptera novaeangliae*) and gray whale (*Eschrichtius robustus*). However, because of the short duration of this project in waters under the jurisdiction of the United States, it is very unlikely that these latter species would be

subject to harassment as a result of conducting seismic surveys.

General information on the marine mammal species can be found in the USGS application and the previously mentioned documents prepared under NEPA. Information on marine mammal species in this area can also be found in Caretta *et al.* (2002). In addition, a general synopsis of marine mammal presence and abundance in the Straits of Georgia area has been provided by NMFS' National Marine Mammal Laboratory for the determinations made here. That paper and the NEPA documents are available upon request (see ADDRESSES); Caretta *et al.* (2002) is available at the following URL: http://www.nmfs.noaa.gov/prot_res/readingrm/MMSARS/FinalPacSar2001.pdf. Please refer to these documents for information on marine mammal species.

Potential Effects of Seismic Surveys on Marine Mammals

Discussion

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

The effects of underwater 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 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) any noise 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; (5) 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); 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 large-scale open-water 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. Incidental harassment is presumed to occur when marine mammals in the vicinity of the seismic source (or vessel) show a significant behavioral response to the generated sounds or visual cues.

High-intensity LF seismic pulses are known to cause some species of whales, including gray and bowhead whales, to behaviorally respond within a distance of several kilometers of the source (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 seismic source pulses 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.

Neither hearing damage nor nonauditory trauma are expected to occur as a result of this project. While TTS is a theoretical possibility for marine mammals close to an acoustic source, if the SPL of the source is of sufficient intensity, planned monitoring and mitigation measures (described later in this document) are designed to detect marine mammals occurring near the airgun array and to avoid, to the greatest extent practicable, exposing them to sound pulses that have any possibility of causing TTS.

Two factors determine the effect of the airgun array on marine mammals: (1) The intensity of the sound (mentioned previously in this document), and (2) the frequency range of the sound. The airgun sound spreads laterally in the water as the radius of the sound wave increases, resulting in a decrease in amplitude with distance of $20\log(R)$ or greater (R = distance in meters). Given this estimate of decay, a 230 dB(P-P) sound pressure decays to 180 dB(P-P) at a distance of about 300 m (984.3 ft)(see Figure 4 in the USGS application) from the source.

The 300-m (984.3-ft) distance, however, is clearly an overestimate for an estimation for a zone of potential injury (i.e., 180 db) because (1) it is based on a P-P measurement and not the accepted RMS measurement and (2) the frequency range of the airgun lies primarily outside the hearing range of most marine mammals. Data on hearing thresholds for odontocetes and pinnipeds show that the most sensitive hearing is in the 1,000- to 100,000-Hz frequency range (see Figure 5 in the USGS application; Richardson *et al.*, 1995; Kastack and Schusterman, 1995). The USGS airgun source rapidly decreases in strength above 200 Hz, resulting in the source strength above 400 Hz being less than 10 percent of the amplitude at lower frequencies.

The USGS has estimated the SPL of its airgun source as a function of frequency. The P-P sound pressure is created by the sum of waves of all the frequencies emitted by the airguns, with each frequency contributing only a portion of the total sound. If the maximum P-P SPL is divided by the frequency spectrum of the airgun array, the amplitude of the individual frequency components can be estimated

at several distances, as shown in Figure 5 of the USGS application. The results indicate that the noise from any specific frequency emitted from the airgun array lies below the TTS of marine mammals at all distances (see Fig. 5 in the application).

The latter estimate of the strength of the individual frequency components is an underestimate, however, because it assumes that all the frequencies are exactly in phase to produce the sound pulse. In reality, the system is not perfectly efficient as implied in this calculation, and the individual frequency components are somewhat larger than shown in Figure 4 in the USGS application. If it is assumed that the USGS source is about 70 percent efficient, the individual frequency components would be about 1.43 times what the USGS estimates assuming perfect efficiency. By this calculation, the sound levels from the airgun lie below the temporary hearing shift of most marine mammals at any distance greater than 50 m (164 ft)(USGS, 2001).

NMFS concurs with the USGS that the best estimate of the strength of the airgun source is the 209 dB(RMS) measure of sound pressure. Using this RMS measure, the "annoyance" or behavioral-response threshold is reached at a distance of 300 m (984.3 ft) from the airguns based on a P-P measurement (Table 4 in the USGS application) and less than 50 m (164 ft) on an RMS measurement (subtracting 16 dB from each of the Y-axis SPL designations). This implies that animals 50 m (164 ft) from the USGS airguns may become annoyed (harassed), but TTS would potentially not occur unless the USGS airguns were within about 5-10 m (16.4-32.8 ft) of a mammal.

In light of the above information and recent scientific information that indicates that nonauditory injury is unlikely at SPL levels below 190 dB (Crum and Mayo, 1996); and frequencies below 300 Hz (Ketten, 2001), nonauditory injury is also unlikely for marine mammals exposed to this acoustic source.

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) Scheduling the survey during May, when marine mammal abundance in the Straits of Georgia is low;

(2) Keeping the vessel's speed between 6 and 8 knots to permit marine mammals that hear the ship and airgun noise to be able to move out of the area of the ship's track if they find the

approaching vessel and accompanying noise annoying;

(3) Establishing a safety zone of 100 m (328 ft) around the seismic airguns; the USGS will shut down the airgun operation if any marine mammal enters the safety zone. The 100-m (328-ft) distance is double the 50-m (164-ft) estimate of the distance for harassment. This safety zone radius compares with a 100-m (328-ft) safety radius for marine mammals that was used successfully in the 1998 Puget Sound seismic experiment using much larger airguns (Fisher, 1997; Calambokidis and Osmek, 1998; Bain, 1998). Given that the current USGS airgun source is only 2 percent of the size of the 1998 source as measured in chamber volume (120 inch³ versus 6730 inch³), NMFS concurs with the USGS that a 100-m (328-ft) safety radius is overly conservative to ensure that no marine mammals would be injured and that the potential even for marine mammal harassment is unlikely.

(4) For all seals and sea lions, if the seismic vessel approaches a pinniped, a safety radius of 100 m (328 ft) will be maintained from the animal(s). However, if a pinniped (except Steller sea lions) approaches the towed airgun array during airgun transmissions, the USGS will not be required to shutdown the airguns, unless the animal(s) shows signs of distress. Therefore, if a pinniped (except Steller sea lions) approaches the USGS vessel, the IHA requires the USGS to monitor the interaction to ensure the animal does not show signs of distress. If the pinniped(s) show obvious distress, the USGS is to suspend airgun operations until the pinniped moves outside of the safety zone and to continue to conduct observations on effects on all pinnipeds after the airgun is again powered up. Experience indicates that pinnipeds will come from great distances to scrutinize seismic operations. Seals have been observed swimming within airgun bubbles, 10 m (33 ft) away from active arrays and, more recently, Canadian scientists, who were using a high-frequency seismic system that produced sound closer to pinniped hearing than will the USGS airgun array, describe how seals frequently approached close to the seismic source, presumably out of curiosity. Therefore, the above-mentioned mitigation plan has been proposed. In addition, the USGS will gather information on how often pinnipeds approach the airgun array on their own volition, and what effect the airguns appear to have on them.

(5) To ensure no marine mammals are inadvertently harmed when data collection first begins or resumes after

operations have ceased temporarily, the airguns will be turned on sequentially (if an array is used), so that peak power is achieved gradually to give marine mammals a chance to move away from the source.

(6) Upon notification by a local stranding network that a marine mammal has been found dead within the waters of the Straits of Georgia or nearby U.S. waters when the array is operating within that body of water, NMFS will investigate the stranding to determine whether a reasonable chance exists that the USGS seismic survey project 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 must cease U.S. operations until procedures are altered to eliminate the potential for future deaths.

Monitoring

To monitor the 100-m (328-ft) safety zone when in U.S. waters, the USGS will have two trained observers, one on each side of the ship, specifically watching for marine mammals at all times that the airguns are operating. Members of the crew, specifically the ship's pilot, will also be instructed to immediately notify the observers if any marine mammals are sighted. However, in order for 24-hour operations to be undertaken, a sufficient number of biological observers must be available so that no single observer is on active watch for more than 3 consecutive hours.

Observations will begin at least 15 minutes before airguns are turned on. The observers will be equipped with binoculars during the day and night-vision equipment during the night, both of which are believed adequate to monitor the 100-m (328-ft) safety zone while standing on the ship. The observers will order the airgun operations to cease if the vessel approaches within 100 m (328 ft) of a marine mammal during daylight hours and 50 m (164 ft) during nighttime operations.

The objectives of the proposed monitoring program will be: to mitigate potential harassment of marine mammals, to document the number of animals of each species present in the vicinity of the sound transmissions, and to evaluate the reactions of marine mammals to these transmissions.

Reporting

The USGS will provide an initial report to NMFS within 120 days of the completion of the Straits of Georgia marine seismic 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.

NEPA

In conjunction with a seismic survey project in Puget Sound in 1998, NMFS completed an EA that addressed the impacts on the human environment from issuance of an authorization and the alternatives to that action. NMFS' analysis resulted in a FONSI. This proposed seismic survey will operate in the same geographic area as the 1998 survey and as the seismic airgun sources used in this proposed action are significantly less intense. Accordingly, this proposed action qualifies for a categorical exclusion under NEPA. Therefore, a new EA will not be prepared. A copy of the 1997 EA is available upon request (see ADDRESSES).

Consultation

Under section 7 of the ESA, NMFS has completed consultation on the issuance of this IHA. NMFS has concluded that this action is unlikely to adversely affect listed marine mammals because those species of whales that are listed under the ESA are not expected to be present in the inshore waters of the Straits of Georgia at the time of the year that the activity will take place. Steller sea lions, which are more common in British Columbia than the Straits of Georgia, are unlikely to be affected by low frequency seismic sources unless fairly close to the source. However, the acoustic source that will be used during this project is of low intensity and will not have a large zone of influence. Therefore, even though Steller sea lions may be fairly abundant in these waters in late spring, because of the small zone of influence for this source (less than 50 m (164 ft)), no Steller sea lions are expected to be taken during this short acoustic survey.

Conclusions

NMFS has determined that the short-term impact of conducting a marine seismic survey in the Straits of Georgia will result, at worst, in a temporary modification in behavior by certain species of pinnipeds, and possibly some individual cetaceans. While behavioral modifications may occur in 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 the affected species or stocks of marine mammals.

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. No known rookeries, mating grounds, areas of concentrated feeding, or other areas of special significance for marine mammals occur within or near the planned area of operations during the season of operations.

Authorization

As a result of these determinations, NMFS has issued an IHA to the USGS for the possible harassment of small numbers of several species of marine mammals incidental to collecting marine seismic data in Straits of Georgia region of Washington State, provided the above-mentioned mitigation, monitoring, and reporting requirements are incorporated.

Dated: May 15, 2002.

David Cottingham,

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

[FR Doc. 02-12718 Filed 5-20-02; 8:45 am]

BILLING CODE 3510-22-S

COMMITTEE FOR THE IMPLEMENTATION OF TEXTILE AGREEMENTS

Adjustment of Import Limits for Certain Wool and Man-Made Fiber Textiles and Textile Products Produced or Manufactured in Romania

May 15, 2002.

AGENCY: Committee for the Implementation of Textile Agreements (CITA).

ACTION: Issuing a directive to the Commissioner of Customs adjusting limits.

EFFECTIVE DATE: May 21, 2002.

FOR FURTHER INFORMATION CONTACT: Naomi Freeman, International Trade Specialist, Office of Textiles and Apparel, U.S. Department of Commerce, (202) 482-4212. For information on the quota status of these limits, refer to the Quota Status Reports posted on the bulletin boards of each Customs port, call (202) 927-5850, or refer to the U.S. Customs website at <http://www.customs.ustras.gov>. For information on embargoes and quota re-openings, refer to the Office of Textiles

and Apparel website at <http://otexa.ita.doc.gov>.

SUPPLEMENTARY INFORMATION:

Authority: Section 204 of the Agricultural Act of 1956, as amended (7 U.S.C. 1854); Executive Order 11651 of March 3, 1972, as amended.

The current limits for certain categories are being reduced for carryforward used.

A description of the textile and apparel categories in terms of HTS numbers is available in the **CORRELATION:** Textile and Apparel Categories with the Harmonized Tariff Schedule of the United States (see **Federal Register** notice 66 FR 65178, published on December 18, 2000). Also see 66 FR 63033, published on December 4, 2001.

James C. Leonard III,
Chairman, Committee for the Implementation of Textile Agreements.

Committee for the Implementation of Textile Agreements

May 15, 2002.

Commissioner of Customs,
Department of the Treasury, Washington, DC 20229.

Dear Commissioner: This directive amends, but does not cancel, the directive issued to you on November 27, 2001, by the Chairman, Committee for the Implementation of Textile Agreements. That directive concerns imports of certain cotton, wool and man-made fiber textiles and textile products in the following categories, produced or manufactured in Romania and exported during the twelve-month period which began on January 1, 2002 and extends through December 31, 2002.

Effective on May 21, 2002, you are directed to reduce the limits for the following categories, as provided for under the Uruguay Round Agreement on Textiles and Clothing:

Category	Adjusted twelve-month limit ¹
435	10,529 dozen.
444	44,829 numbers.
604	1,652,800 kilograms.

¹ The limits have not been adjusted to account for any imports exported after December 31, 2001.

The Committee for the Implementation of Textile Agreements has determined that these actions fall within the foreign affairs exception to the rulemaking provisions of 5 U.S.C. 553(a)(1).

Sincerely,
James C. Leonard III,
Chairman, Committee for the Implementation of Textile Agreements.
[FR Doc. 02-12632 Filed 5-20-02; 8:45 am]

BILLING CODE 3510-DR-S

COMMODITY FUTURES TRADING COMMISSION

Sunshine Act Meeting

TIME AND DATE: 11 a.m., Friday, June 7, 2002.

PLACE: 1155 21st St., NW., Washington, DC, 9th Floor Conference Room.

STATUS: Closed.

MATTERS TO BE CONSIDERED: Surveillance Matters.

CONTACT PERSON FOR MORE INFORMATION: Jean A. Webb, 202-418-5100.

Jean A. Webb,

Secretary of the Commission.

[FR Doc. 02-12814 Filed 5-17-02; 2:40 pm]

BILLING CODE 6351-01-M

COMMODITY FUTURES TRADING COMMISSION

Sunshine Act Meeting

TIME AND DATE: 11:00 a.m., Friday, June 14, 2002.

PLACE: 1155 21st St., N.W., Washington, D.C., 9th Floor Conference Room.

STATUS: Closed.

MATTERS TO BE CONSIDERED: Surveillance Matters.

CONTACT PERSONS FOR MORE INFORMATION: Jean A. Webb, 202-418-5100.

Jean A. Webb,

Secretary of the Commission.

[FR Doc. 02-12815 Filed 5-17-02; 2:40 pm]

BILLING CODE 6351-01-M

COMMODITY FUTURES TRADING COMMISSION

Sunshine Act Meeting

DATES: *Time and Date:* 11:00 a.m., Friday, June 21, 2002

PLACE: 1155 21st St., NW., Washington, DC., 9th Floor Conference Room.

STATUS: Closed.

MATTERS TO BE CONSIDERED: Surveillance Matters.

FOR FURTHER INFORMATION CONTACT: Jean A. Webb, 202-418-5100.

Jean A. Webb,

Secretary of the Commission.

[FR Doc. 02-12816 Filed 5-17-02; 2:40 pm]

BILLING CODE 6351-01-M