Regulations under the Magnuson-Stevens Fishery Conservation and Management Act require publication of this notification to provide interested parties the opportunity to comment on applications for proposed EFPs. The applicant may place requests for minor modifications and extensions to the EFP throughout the year. EFP modifications and extensions may be granted without further notice if they are deemed essential to facilitate completion of the proposed research and minimal so as not to change the scope or impact of the initially approved EFP request.

Authority: 16 U.S.C. 1801 *et seq.*

Dated: May 19, 2008.

Emily H. Menashes

Acting Director, Office of Sustainable Fisheries, National Marine Fisheries Service.

[FR Doc. E8–11524 Filed 5–22–08; 8:45 am]

BILLING CODE 3510–22–S

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648–XH65

Incidental Takes of Marine Mammals During Specified Activities; Shallow Hazard and Site Clearance Surveys in the Chukchi Sea in 2008

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

ACTION: Notice; proposed incidental take authorization; request for comments.

SUMMARY: NMFS has received an application from ConocoPhillips Alaska, Inc. (CPAI) for an Incidental Harassment Authorization (IHA) to take small numbers of marine mammals, by harassment, incidental to conducting shallow hazard and site clearance surveys using acoustic equipment and small airguns in the Chukchi Sea between August and October 2008. Under the Marine Mammal Protection Act (MMPA), NMFS is requesting comments on its proposed IHA for these activities.

DATES: Comments and information must be received no later than June 23, 2008.

ADDRESSES: Comments on the application should be addressed to P. Michael Payne, Chief, Permits, Conservation and Education Division, Office of Protected Resources, National Marine Fisheries Service, 1315 East-West Highway, Silver Spring, MD 20910–3225. The mailbox address for providing email comments is *PR1.0648–XH65@noaa.gov*. NMFS is not responsible for e-mail comments sent to addresses other than the one provided here. Comments sent via e-mail, including all attachments, must not exceed a 10–megabyte file size.

A copy of the application containing a list of the references used in this document may be obtained by writing to the address specified above, telephoning the contact listed below (see **FOR FURTHER INFORMATION CONTACT**), or visiting the internet at: *http://www.nmfs.noaa.gov/pr/permits/incidental.htm*.

Documents cited in this notice may be viewed, by appointment, during regular business hours, at the aforementioned address.

FOR FURTHER INFORMATION CONTACT: Shane Guan, Office of Protected Resources, NMFS, (301) 713–2289, ext 137.

SUPPLEMENTARY INFORMATION:

Background

Sections 101(a)(5)(A) and (D) of the MMPA (16 U.S.C. 1361 *et seq.*) direct the Secretary of Commerce to allow, upon request, the incidental, but not intentional, taking of marine mammals by U.S. citizens who engage in a specified activity (other than commercial fishing) within a specified geographical region if certain findings are made and either regulations are issued or, if the taking is limited to harassment, a notice of a proposed authorization is provided to the public for review.

Authorization shall be granted if NMFS finds that the taking will have a negligible impact on the species or stock(s) and will not have an unmitigable adverse impact on the availability of the species or stock(s) for certain subsistence uses, and if the permissible methods of taking and requirements pertaining to the mitigation, monitoring and reporting of such takings are set forth. NMFS has defined ''negligible impact'' in 50 CFR 216.103 as ''...an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival.''

Section 101(a)(5)(D) of the MMPA established an expedited process by which citizens of the United States can apply for an authorization to incidentally take small numbers of marine mammals by harassment. Except with respect to certain activities not pertinent here, the MMPA defines ''harassment'' as:

> any act of pursuit, torment, or annoyance which (i) has the potential to injure a marine mammal or marine mammal stock in the wild [Level A harassment]; or (ii) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering [Level B harassment].

Section 101(a)(5)(D) establishes a 45–day time limit for NMFS review of an application followed by a 30–day public notice and comment period on any proposed authorizations for the incidental harassment of marine mammals. Within 45 days of the close of the comment period, NMFS must either issue or deny issuance of the authorization.

Summary of Request

On April 30, 2008, NMFS received an application from CPAI for the taking, by Level B harassment, of several species of marine mammals incidental to conducting shallow hazard and site clearance surveys using acoustic equipment and small airguns in the Chukchi Sea for up to 30 - 45 days from approximately August 1, 2008 until October 31, 2008. The geographic region of the proposed activities includes two areas spaced about 60 km (37 mi) apart and a path for sampling conditions along a potential pipeline route. Each area is about 2,000 km2 (772.5 mi2) with dimensions about 72 km (45 mi) by 62 km (38.5 mi). The two areas are about 111 km (69 mi) off the Alaska coast, generally west from the village of Wainwright. The marine surveys will be performed from a seismic vessel.

Description of the Specified Activity

CPAI is planning to conduct site clearance and shallow hazard surveys of potential exploratory drilling sites in the Chukchi Sea during the 2008 open water season. Site clearance and shallow hazard surveys would begin in August, after completing mobilization in July. CPAI anticipates shooting approximately 5,300 linear km (3,294 mi). The operation will be active 24 hours per day and use a single vessel to collect the geophysical data.

Site clearance and shallow hazard surveys will be completed to confirm the seafloor has soil and surface characteristics that will support the safe set-down of a drill rig, and long term occupation of the site by a vessel. Acoustic instrumentation to be used for the proposed survey is designed to characterize the seabed topography, bathymetry, potential geohazards, and other seafloor features (e.g., boulders) using seafloor imaging, water depth measurements, and high-resolution seismic profiling. The proposed site clearance and shallow hazard surveys will use the following methods: seafloor imaging, bathymetry, and high resolution seismic profiling.

Seafloor Imagery

Seafloor imagery would use a side-scan sonar, which is a sideward looking, two channel, narrow beam instrument that emits a sound pulse and listens for its return. The sound energy transmitted is in the shape of a cone that sweeps the sea floor resulting in a two dimensional image that produces a detailed representation of the seafloor and any features or objects on it. The sonar can either be hull mounted or towed behind the vessel. One of the following systems would be used in the proposed shallow hazard surveys:

(1) Marine Sonics Technology multi-frequency side-scan sonar: The frequency the side-scan sonar emits during operation can be varied from 150 - 1,200 kilohertz (kHz). It is expected that the frequency for this acquisition will be in the 150 kHz range. The pulse length is variable from 20 - 300 milliseconds (msec).

(2) EdgeTech 4200 dual-frequency side scan sonar: The side-scan sonar emits sound at frequency of 120 kHz during operation, occasionally reaching frequencies up to 410 kHz. The pulse length is up to 20 miliseconds (msec), and the source level is approximately 210 dB re 1 microPa-m (rms).

(3) Klein System 3000 dual-frequency digital side scan sonar: This side scan sonar would typically be run at the 132 kHz frequency band. However, the 445 kHz frequency may be used periodically during exploratory testing. The transmission pulse is variable from 25 msec to 400 msec. The peak in the 132 kHz source level beam reaches 234 dB re 1 microPa-m. The peak in the 445 kHz source level beam reaches 242 dB re 1 microPa-m.

Bathymetry

Echo sounders for measuring water depth are generally mounted to the ship hull or on a side-mounted pole. Two different echo sounding systems will be used to provide bathymetric data during the proposed Chukchi Sea shallow hazard surveys.

(1) Odom Hydrotrac Digital Echo Sounder: This device is a single beam echo sounder, which emits a single pulse of sound directly below the ship along the vessel trackline and provides a continuous recording of water depth along the survey track. Generally these records require heave compensation to rectify the data point. The Hydrotrac sonar operates at a frequency of 200 kHz and emits approximately 15 pulses per sec. Each pulse phase is between 0.03 and 0.12 msec. The peak within the source beam level transmits from 202 to 215 dB re 1 microPa-m.

(2) Reson Seabat 8101 Multibeam Echo Sounder: This echo sounder consists of a transducer array that emits a swath of sound. The seafloor coverage swath of the multibeam sonar is water depth dependent, but is usually equal to two to four times the water depth. This sonar operates at a frequency of 240 kHz. It emits approximately 15 pulses per sec with each pulse duration lasting 21 msec to 225 msec for a swath that can cover up to 500 m (1,640 ft) in width. The peak in the source beam level for the Reson Seabat sonar transmits at 210 dB re 1 microPa-m. The multibeam system requires additional non-acoustic equipment including a motion sensor to measure heave, roll, and pitch, a gyrocompass, and a sound velocity probe. A TSSDMS–05 Dynamic Motion Sensor, Hemisphere VS–110 Global Positioning System (GPS)/ Heading System and a Seabird SBE–19 CTD or Odom Digibar Pro will provide these data. The resulting multibeam data will provide a three dimensional (3–D) view of the seafloor in the measured area.

High Resolution Seismic Profiling

An integral part of the shallow hazards and site clearance surveys is high-resolution seismic profiling using three different acoustic source systems. Seismic systems operate on the principal that an acoustic impulse will reflect part of its energy upon encountering a density interface. This will be accomplished through the use of a high-frequency subbottom profiler, an intermediate-frequency seismic profiling system, and a multichannel seismic system. The high-resolution profiling systems, which use smaller acoustic sources, will be utilized as opposed to low-resolution systems or deep exploration seismic systems. The planned surveys are geared toward providing detail of the surficial and shallow subsurface geology and not toward hydrocarbon exploration. The planned high-resolution profiles will provide the detailed information that is not resolved in the deep seismic profiles. The following equipment will be utilized for the high resolution seismic profiling portion of the marine surveys.

(1) High Resolution Subbottom Profiler

A subbottom profiler is a high-frequency seismic system that will be used to map geologic features in the proposed survey areas. Many of the modern subbottom profilers are ‘‘chirp’’ systems which are frequency or pulse-rate modulated. This allows the energy, amplitude, and phase characteristics of the acoustic pulse to be precisely controlled. The 500 Hz to 13 kHz frequency in conjunction with the 10–watt to 4–kilowatt (kW) power output generally achieves 25 to 250 msec, or approximately 20 to 200 m (65 to 656 ft) of bottom penetration, detailing the near-surface strata and density layers with a resolution of 6 to 20 cm (2 to 8 in). The two-way travel time of the acoustic signal, from firing to receiving, is recorded and travel time measurements are subsequently applied to water column velocity information, system delays, and appropriate tow depth corrections to calculate water depths and/or depths to subsurface events. The degree of ocean bottom penetration is variable depending on properties of the bottom and near-surface materials, the output power, and carrier frequency. The subbottom profiler is often used to supplement higher energy seismic systems or coring data to obtain accurate profiles of large areas. One of the following subbottom profiler systems or equivalent will be used in the proposed marine surveys:

(A) Knudsen 320 BR sub-bottom profiling system: The sub-bottom profiler will be used in the 3.5 to 12 kHz frequency range. The transmission pulse length is programmable sweeps or user defined pings. A typical pulse width is 28 - 36 msec. The pulse repetition rate is 4 pulses/sec - 12 pulses/sec.

(B) GeoAcoustics/GeoPulse sub-bottom profiling system: The subbottom profiler will be used in the 3.5 to 5 kHz frequency range. Pulse cycles range from 1 to 32 cycles of the selected frequency. During the survey, 3.5 kHz will likely be used, possibly up to 5 kHz, depending on the geology of the seafloor.

(C) GeoAcoustics GeoChirp II subbottom profiling system: The subbottom profiler has a frequency range of 0.5 to 13 kHz, which is programmable. The transmission pulse length is typically 32 msec programmable sweeps or user defined pings. The pulse repetition rate is 4 pulses/sec (at maximum) for a 32 msec chirp sweep or 10 pulses/sec for pinger waveforms.

All the subbottom profiler has a source level at approximately 214 dB re 1 microPa-m. The 160, 180, and 190 dB re microPa radii, in the beam below the transducer, would be 501 m (1,644 ft), 50 m (164 ft), and 16 m (52 ft), respectively, assuming spherical spreading.

The corresponding distances for an animal in the horizontal direction of these transducers would be much smaller due to the direct downward beam pattern of the subbottom profilers. Therefore, the horizontal received levels of 180 and 190 dB re 1 microPa (rms) would be within much smaller radii than 50 m (164 ft) and 16 m (52 ft) when using one of the GeoAcoustics subbottom profilers, which have the highest downward source level. In addition, the pulse duration of these subbottom profilers is extremely short, in the order of tens to hundreds of msec, and the survey is constantly moving. Therefore, for a marine mammal to receive prolonged exposure, the animal has to stay in a very small zone of ensonification and keep with the vessel's speed, which is very unlikely. Moreover, any effects would be less for baleen whales due to the frequency range of the profilers. Therefore, the potential effects from the sub-bottom profilers to marine mammals would be negligible.

(2) Intermediate Frequency Seismic Profiling System

One intermediate-frequency seismic system is referred to as a ''Boomer.'' The boomer transducer is a mechanical means of generating enough sound energy to penetrate the subsurface sediments. Signals are reflected from the various bedding planes (density/velocity interfaces) and received by a single-channel hydrophone streamer. The sound reflections are converted into electrical impulses, filtered, and sent to a graphic recorder. The Boomer can effectively detail the upper 40 to 600 m (131 to 1,969 ft) of subbottom, outlining the fine strata and density layers that represent foundation formations for seafloor-based structures. The depth of seismic penetration obtained with this system is determined by the sediment type and the amount of initial discharged energy. In many instances, the presence of organic gas will attenuate the signal and mask any deeper reflections. The boomer systems will consist of one of the following:

(A) An Applied Acoustics Squid 2000 mini sparker ''Boomer'': The maximum energy input ranges from 600 – 2,500 Joules (J) per shot with a maximum power input of 2,500 J per shot. The maximum energy will be determined once penetration has been assessed in the field. A pulse length range of 1 – 5 msec is typical. The peak in the source level beam reaches 222 dB re 1 microPa-m at 600 J with a frequency range of 0.5 to 300 kHz.

(B) An Applied Acoustics Model AA300 Boomer plate with housing. The maximum energy input is 350 J per shot with a maximum power input of 1,000 J per shot. The maximum energy that would be used for these surveys is 300 J. The pulse length ranges from 150 to 400 msec with a reverberation of less than 1/10 of the initial pulse. The peak in the source level beam reaches 218 dB re 1 microPa-m at 300 J with a frequency range of 0.5 to 300 kHz. A Datasonics Model SPR–1200 seismic profiling system also known as a ''bubble pulser.'' It has an electromagnetic source. The frequency of the system is 400 Hz in a narrow band. The peak in the source-level beam reaches 200 dB re 1 microPa-m.

(3) Multichannel Seismic System

The multichannel seismic system sources will consist of an:

(A) Geo-Spark 1600 Sparker: Much like the boomer, the sparker is a mechanical means of generating enough sound energy to penetrate the subsurface sediments. The sparker has eight electrode modules which are evenly spaced which make up an array with a physical dimension of 1.6 x 2 m (5.2 x 6.6 ft). The number of electrodes used is user defined, which gives the Geo-Spark 1600 the capability of operating at 6 - 16 Kj. It is expected that the sparker will be operated in a range of 10- 16 Kj. The sparker is towed behind the vessel approximately 75 ft (23 m) on a catamaran style floatation system. The towed unit is connected to a Geo-Spark 16 Kj power supply located on the deck which can emit power output of 4000 - 16000 J. Signals from the sparker are reflected from the various bedding planes (density/velocity interfaces) and received by a multi-channel hydrophone streamer. These signal data are then recorded on disc or tape. The sparker can effectively detail the upper 1 sec of sub bottom at a peak output of 212 dB re 1 microPa. The depth of seismic penetration obtained with this system is determined by the sediment type and the amount of discharged energy.

(B) Ultra Shallow Water (USW) array composed of a 40–in^3 seismic sound source with four 10–in^3 Input/Output (I/O) sleeve guns. If desired, the power can also be reduced to 20 in^3. The reflected energy will be received by a multi channel marine digital recording streamer system with 48 hydrophone channels located at intervals of 3.125 – 12.5 m (10 – 41 ft) along the length of the streamer. The sound source is expected to provide 1.5 to 3 sec of data, two-way travel time with a resolution of 10 msec. It operates at a frequency range of 20 to 200 Hz and a peak sound output of 196 dB re 1 microPa for all four guns combined. The frequency range that will be used in the proposed surveys will be between 20 Hz and 200 Hz, nominal. This tool is useful in finding shallow faults and amplitude anomalies.

Description of Marine Mammals in the Activity Area

In general, the marine mammal species under NMFS' management authority that occur in or near the proposed survey area within the Chukchi Sea are the bowhead (*Balaena mysticetus*), gray (*Eschrichtius robustus*), humpback (*Megaptera novaeangliae*), minke (*Balaenoptera acutorostrata*), beluga (*Delphinapterus leucas*), and killer whales (*Orcinus orca*); harbor porpoises (*Phocoena phocoena*); and the bearded (*Erignathus barbatus*), ringed (*Phoca hispida*), spotted (*P. largha*), and ribbon seals (*P. fasciata*). Among these species, the bowhead, humpback, and fin whales are listed as ''Endangered'' under the Endangered Species Act (ESA).

A detailed description of the biology, population estimates, and distribution and abundance of these species is provided in CPAI's IHA application. Additional information regarding the stock assessments of these species is in NMFS' Alaska Marine Mammal Stock Assessment Report (Angliss and Outlaw, 2007), and can also be assessed via the following URL link: *http://www.nmfs.noaa.gov/pr/pdfs/sars/po2006.pdf*.

ESA-listed species known to occur in the adjacent Bering Sea, include blue (*B. musculus*), North Pacific right (*Eubalaena japonica*), and sperm whales (*Physeter macrocephalus*); and Steller sea lion (*Eumetopias jubatus*). However, these species are considered to be extra-limital or rare in the Chukchi and Beaufort Seas. Fin whales have been recently reported in the Chukchi Sea in 2007 (Green *et al.*, 2007), but there is a very remote chance of interaction and potential impact. Therefore, these species (Steller sea lion, and sperm, fin, blue, and northern right whale) are not discussed further under this IHA application.

The most numerous marine mammal species seasonally occurring in the Chukchi Sea is the Pacific walrus (*Odobenus rosmarus divergens*). The polar bear (*Ursus maritimus*) is also found in the Chukchi Sea. However, these two marine mammal species fall under the management authority of the U.S. Fish and Wildlife Service (USFWS), and a separate application for an incidental take authorization for walrus and polar bears is being made to USFWS for the Chukchi Sea program.

Additional information on those species that are under NMFS' management authority within or near the proposed survey areas is presented below.

Bowhead Whales

The only bowhead whale found in the proposed project areas is the Western Arctic stock bowhead whale, which is also known as the Bering-Chukchi-Beaufort stock or Bering Sea stock, and they are the only bowhead stock present in U.S. waters. The majority of these bowhead whales migrates annually from wintering (November through March) areas in the northern Bering Sea, through the Chukchi Sea in the Spring (March through June), to the Beaufort Sea where they spend much of the summer (mid-May through September) before returning again to Bering Sea in the fall (September through November) to overwinter (Braham *et al.*, 1980; Moore and Reeves, 1993). Most of the year, bowheads are associated with sea ice (Moore and reeves, 1993). The bowhead spring migration follows fractures in the sea ice around the coast of Alaska.

During the summer, most bowhead whales are in relatively ice-free waters of the Beaufort Sea. Although some bowheads are found in the Chukchi and Bering Seas in summer, these whales are thought to be a part of the expanding Western Arctic stock (Rugh *et al.*, 2003). In the Beaufort sea, distribution of bowhead whales is not uniform with respect to depth, and they are more often observed in continental slope (201 – 2,000 m, or 659 – 6,562 ft, water depth) than in inner shelf (<50 m or 164 ft water depth) habitat (Moore *et al.*, 2000).

In the fall, bowhead whales are distributed across the Beaufort and Chukchi seas, and are seen more often in inner and outer shelf waters than in slope and basin waters (Moore *et al.*, 2000). During the fall migration, bowheads select shelf waters in all but ‘‘heavy ice’’ conditions, when they select slope habitat (Moore, 2000).

The minimum population estimate of the Western Arctic stock of bowhead whales is 9,472 (Angliss and Outlaw, 2007). Raftery *et al.* (1995) reported that this bowhead stock increased at a rate of 3.1 percent from 1978 to 1993, during which time abundance increased from approximately 5,000 to 8,000 whales.

Gray Whales

Most of the Eastern North Pacific gray whales spend the summer feeding in the northern Bering and Chukchi Seas (Rice and Wolman, 1971; Berzin, 1984; Nerini, 1984). Moore *et al.* (2000) reported that within the Alaskan Arctic, gray whale summer distribution was concentrated in the northern Bering Sea, especially in the Chirikov Basin. In the Chukchi Sea, gray whale sightings were clustered along the shore, mostly between Cape Lisburne and Point Barrow (Moore *et al.*, 2000). Reflecting this pattern of distribution, gray whales are strongly associated with shallow (< 35 m, or 115 ft) coastal/shoal habitat in the Chukchi Sea and with the somewhat deeper (36 – 50 m, or 118 – 164 ft) Chirikov Basin shelf habitat in the northern Bering Sea (Moore *et al.*, 2000). During the summer surveys, gray whales were seen in ice conditions to 30 percent surface cover and, more often than expected, in 0 - 20 percent ice habitat (Moore *et al.*, 2000). Gray whales have also been reported feeding in the summer in waters off of Southeast Alaska, British Columbia, Washington, Oregon, and California (Rice and Wolman, 1871; Darling, 1984; Nerini, 1984; Rice *et al.*, 1984).

Each fall, gray whales migrate south along the coast of North America from Alaska to Baja California, in Mexico (Rice and Wolman, 1971), most of them starting in November or December (Rugh *et al.*, 2001). In the Alaskan Arctic in fall, gray whale distribution in the Chukchi Sea is clustered near shore at Pt. Hope and between Icy Cape and Pt. Barrow, and in offshore waters northwest of Pt. Barrow (Hanna Shoal) and southwest of Pt. Hope (Moore *et al.*, 2000). There are more sightings of gray whales in shelf/trough and coastal/shoal depth habitats than in shelf waters (Moore *et al.*, 2000). As in summer, gray whales are observed far more in open water/light (0 - 30%) ice cover (Moore *et al.*, 2000).

The Eastern North Pacific gray whales winter mainly along the west coast of Baja California, using certain shallow, nearly landlocked lagoons and bays, and calves are born from early January to mid-February (Rice *et al.*, 1981). The northbound migration generally begins in mid-February and continues through May (Rice *et al.*, 1981; 1984; Poole, 1984), with cows and newborn calves migrating northward primarily between March and June along the U.S. West Coast.

Although twice being hunted to the brink of extinction in the mid 1800s and again in the early 1900s, the eastern North Pacific gray whales population has since increased to a level that equals or exceeds pre-exploitation numbers (Jefferson *et al.*, 1993). Angliss and Outlaw (2007) reported the latest abundance estimate of this population is 18,178.

Humpback Whales

The humpback whale is distributed worldwide in all ocean basins, though in the North Pacific region it does not usually occur in Arctic waters. The historic feeding range of humpback whales in the North Pacific encompassed coastal and inland waters around the Pacific Rim from Point Conception, California, north to the Gulf of Alaska and the Bering Sea, and west along the Aleutian Islands to the Kamchatka Peninsula and into the Sea of Okhotsk (Nemoto, 1957; Tomlin, 1967; Johnson and Wolman, 1984). A vessel survey in the central Bering Sea in July of 1999 documented 17 humpback whale sightings, most of which were distributed along the eastern Aleutian Island chain and along the U.S.-Russia Convention Line south of St. Lawrence Island (Moore *et al.*, 2000). Humpback whales have been known to enter the Chukchi Sea (Johnson and Wolman, 1984), nonetheless, their occurrence inside the proposed project area is rare.

Aerial, vessel, and photo-identification surveys and genetic analyses indicate that there are at least two relatively separate populations that migrate between their respective summer/fall feeding areas to winter/spring calving and mating areas are found in offshore and coastal waters of Alaska during certain part of the year (Calambokidis *et al.*, 1997 Baker *et al.*, 1998): the central North Pacific stock and the western North Pacific stock. It is unknown whether the animals that were occasionally sighted off Alaskan Arctic belong to the central or western North Pacific stock of humpback whales. The population estimate of the western North Pacific humpback whale is 394 whales; and the population estimate of the central North Pacific humpback whale is 4,005.

Minke Whales

In the North Pacific, minke whales occur from the Bering and Chukchi seas south to near the Equator (Leatherwood *et al.*, 1982). In offshore and coastal waters off Alaska, the Alaska stock of minke whales are relatively common in the Bering and Chukchi seas and in the inshore waters of the Gulf of Alaska (Mizroch, 1992). Minke whales are known to penetrate loose ice during the summer, and some individuals venture north of the Bering Strait (Leatherwood *et al.*, 1982).

No estimates have been made for the number of the Alaska stock of minke whales in the entire North Pacific (Angliss and Outlaw, 2007), however, a visual survey conducted in 1999 and 2000 provided provisional abundance estimates of 810 and 1,003 minke whales in the central-eastern and southeastern Bering Sea, respectively (Moore *et al.*, 2002).

Beluga Whales

Beluga whales are distributed throughout seasonally ice-covered Arctic and subarctic waters of the Northern Hemisphere (Gurevich, 1982), and are closely associated with open leads and polynyas in ice-covered regions (Hazard, 1988). Beluga whale seasonal distribution is affected by ice cover, tidal conditions, access to prey, temperature, and human interaction (Lowry, 1985).

Among five stocks of beluga whales that are recognized within U.S. waters, the eastern Chukchi Sea beluga whales occur within the proposed project area (Angliss and Outlaw, 2007).

In the Alaskan Arctic in summer beluga whales are seen more often in continental slope (201 - 2,000 m, or or 659 - 6,562 ft, water depth) than in inner shelf (< 50 m or 164 ft water depth) habitat (Moore *et al.*, 2000). Satellite tagging efforts directed at the eastern Chukchi stock of beluga whales showed that whales tagged in the eastern Chuckchi in summer traveled 1,100 km (684 mi) north of the Alaska coastline and to the Canadian Beaufort Sea within 3 months of tagging (Suydam *et al.*, 2001), indicting significant stock overlap with the Beaufort Sea stock of beluga whales.

During the winter, beluga whales occur in offshore waters associated with pack ice. In the spring, they migrate to warmer coastal estuaries, bays, and rivers for molting (Finley, 1982) and calving (Sergeant and Brodie, 1969). Annual migrations may cover thousands of kilometers (Reeves, 1990).

Although population surveys were conducted in 1998 and 2002, several technical issues prevented an acceptable estimation of the population size from these two surveys. As a result, the abundance estimated from the 1989–91 surveys is still considered to be the most reliable for the eastern Chukchi Sea beluga whale stock, with an estimated population of 3,710 whales (Angliss and Outlaw, 2007).

Killer Whales

Killer whales have been observed in all oceans and seas of the world (Leatherwood and Dahlheim, 1978). Along the west coast of North America, killer whales occur along the entire Alaskan coast, and seasonal and year-round occurrence has been noted for killer whales throughout Alaska (Braham and Dahlheim, 1982), including the Bering and southern Chukchi seas (Leatherwood *et al.*, 1986; Lowry *et al.*, 1987). However, little is known about the seasonal distribution of killer whales in the proposed project area in Chukchi Sea. George *et al.* (1994) cited that local hunters in Barrow, Alaska, have seen a few killer whales each year in the Point Barrow region during July and August. In addition, between 1985 and 1994, Eskimo hunters have related two instances of killer whales attacking and killing gray whales in the Chukchi Sea near Barrow (George *et al.*, 1994).

Studies of killer pods based on aspects of morphology, ecology, genetics, and behavior have provided evidence of the existence of ''resident,'' ''offshore,'' and ''transient'' killer whale ecotypes (Ford and fisher, 1982; Baird and Stacey, 1988; Baird *et al.*, 1992; Hoelzel *et al.*, 1998; 2002; Barrett-Lennard, 2000).

Off the waters of Alaska, six stocks of killer whales have been recognized: the Alaska resident; the northern resident; the Gulf of Alaska, Aleutian Islands, and Bering Sea transient; the AT1 transient; the West Coast transient; and the offshore stocks. It is not clear which stocks killer whales within the proposed project area belong to, however, mostly likely they are of the ''transient'' ecotype based on their marine mammal based diet (Ford *et al.*, 1998; Saulitis *et al.*, 2000; Herman *et al.*, 2005). The occurrence of killer whales in the vicinity of the proposed area is rare.

The population size of the Gulf of Alaska, Aleutian Islands, and Bering Sea stock of killer whales is estimated at 314 animals.

Harbor Porpoises

In the eastern North Pacific, the harbor porpoise ranges from Point Barrow, along the Alaska coast, and down the west coast of North America to Point Conception, California (Gaskin, 1984). Although it is difficult to determine the true stock structure of harbor porpoise populations in the northeast Pacific, from a management standpoint, it would be prudent to assume that regional populations exist and that they should be managed independently (Rosel *et al.*, 1995; Taylor *et al.*, 1996). Accordingly, three separate harbor porpoise stocks in Alaska are recommended based on management boundaries, with the Bering Sea stock occurring throughout the Aleutian Islands and all waters north of Unimak Pass, including the proposed project area (Angliss and Outlaw, 2007). Nonetheless, the occurrence of harbor porpoise within the proposed project area is not frequent.

The population size of this stock is estimated at 66,078 animals (Angliss and Outlaw, 2007).

Ringed Seals

Ringed seals are widely distributed throughout the Arctic basin, Hudson Bay and Strait, and the Bering and Baltic seas. Ringed seals inhabiting northern Alaska belong to the subspecies *P. h. hispida*, and they are year-round residents in the Beaufort Sea.

The seasonal distribution of ringed seals in the Beaufort Sea is affected by a number of factors but a consistent pattern of seal use has been documented since aerial survey monitoring began over 20 years ago. During late April through June, ringed seals are distributed throughout their range from the southern ice edge northward (Braham *et al.*, 1984). Recent studies indicate that ringed seals show a strong seasonal and habitat component to structure use (Williams *et al.*, 2006), and habitat, temporal, and weather factors all had significant effects on seal densities (Moulton *et al.*, 2005). The studies also showed that effects of oil and gas development on local distribution of seals and seal lairs are no more than slight, and are small relative to the effects of natural environmental factors (Moulton *et al.*, 2005; Williams *et al.*, 2006).

A reliable estimate for the entire Alaska stock of ringed seals is currently not available (Angliss and Outlaw, 2007). A minimum estimate for the eastern Chukchi and Beaufort Sea is 249,000 seals, including 18,000 for the Beaufort Sea (Angliss and Outlaw, 2007). The actual numbers of ringed seals are substantially higher, since the estimate did not include much of the geographic range of the stock, and the estimate for the Alaska Beaufort Sea has not been corrected for animals missed during the surveys used to derive the abundance estimate (Angliss and Outlaw, 2007). Estimates could be as high as or approach the past estimates of 1 - 3.6 million ringed seals in the Alaska stock (Frost, 1985; Frost *et al.*, 1988).

Bearded Seals

The bearded seal has a circumpolar distribution in the Arctic, and it is found in the Bering, Chukchi, and Beaufort seas (Jefferson *et al.*, 1993). Bearded seals are predominately benthic feeders, and prefer waters less than 200 m (656 ft) in depth. Bearded seals are generally associated with pack ice and only rarely use shorefast ice (Jefferson *et al.*, 1993). Bearded seals occasionally have been observed maintaining breathing holes in annual ice and even hauling out from holes used by ringed seals (Mansfield, 1967; Stirling and Smith, 1977).

Seasonal movements of bearded seals are directly related to the advance and retreat of sea ice and to water depth (Kelly, 1988). During winter they are most common in broken pack ice and in some areas also inhabit shorefast ice (Smith and Hammill, 1981). In Alaska waters, bearded seals are distributed over the continental shelf of the Bering, Chukchi, and Beaufort seas, but are more concentrated in the northern part of the Bering Sea from January to April (Burns, 1981). Recent spring surveys along the Alaskan coast indicate that bearded seals tend to prefer areas of between 70 and 90 percent sea ice coverage, and are typically more abundant greater than 20 nm (37 km) off shore, with the exception of high concentrations nearshore to the south of Kivalina in the Chukchi Sea (Bengtson *et al.*, 2000; Simpkins *et al.*, 2003).

There are no recent reliable population estimates for bearded seals in the Beaufort Sea or in the proposed project area (Angliss and Outlaw, 2007). Aerial surveys conducted by MMS in fall 2000 and 2001 sighted a total of 46 bearded seals during survey flights conducted between September and October (Treacy, 2002a; 2002b). Bearded seal numbers are considerably higher in the Bering and Chukchi seas, particularly during winter and early spring. Early estimates of bearded seals in the Bering and Chukchi seas range from 250,000 to 300,000 (Popov, 1976; Burns, 1981). There is no evidence that this stock has suffered significant decline over the years.

Spotted Seals

Spotted seals occur in the Beaufort, Chukchi, Bering, and Okhotsk seas, and south to the northern Yellow Sea and western Sea of Japan (Shaughnessy and Fay, 1977). Based on satellite tagging studies, spotted seals migrate south from the Chukchi Sea in October and pass through the Bering Strait in November and overwinter in the Bering Sea along the ice edge (Lowry *et al.*, 1998). In summer, the majority of spotted seals are found in the Bering and Chukchi seas, but do range into the Beaufort Sea (Rugh *et al.*, 1997; Lowry *et al.*, 1998) from July until September. The seals are most commonly seen in bays, lagoons, and estuaries and are typically not associated with pack ice at this time of the year.

A small number of spotted seal haul-outs are documented in the central Beaufort Sea near the deltas of the Colville and Sagavanirktok rivers (Johnson *et al.*, 1999). Previous studies from 1996 to 2001 indicate that few spotted seals (a few tens) utilize the central Alaska Beaufort Sea (Moulton and Lawson, 2002; Treacy, 2002a; 2002b). In total, there are probably no more than a few tens of spotted seals along the coast of central Alaska Beaufort Sea.

A reliable abundance estimate for spotted seal is not currently available (Angliss and Outlaw, 2005), however, early estimates of the size of the world population of spotted seals was 335,000 to 450,000 animals and the size of the Bering Sea population, including animals in Russian waters, was estimated to be 200,000 to 250,000 animals (Burns, 1973). The total number of spotted seals in Alaskan waters is not known (Angliss and Outlaw, 2007), but the estimate is most likely between several thousand and several tens of thousands (Rugh *et al.*, 1997).

Ribbon Seals

Ribbon seals inhabit the North Pacific Ocean and adjacent parts of the Arctic Ocean. In Alaska waters, ribbon seals are found in the open sea, on the pack ice and only rarely on shorefast ice (Kelly, 1988). They range northward from Bristol Bay in the Bering Sea into the Chukchi and western Beaufort seas. From March to early May, ribbon seals inhabit the Bering Sea ice front (Burns, 1970; 1981; Braham *et al.*, 1984). They are most abundant in the northern part of the ice front in the central and western part of the Bering Sea (Burns, 1970; Burns *et al.*, 1981). As the ice recedes in May to mid-July, the seals move farther to the north in the Bering Sea, where they haul out on the receding ice edge and remnant ice (Burns, 1970; 1981; Burns *et al.*, 1981). There is little information on the range of ribbon seals during the rest of the year. Recent sightings and a review of the literature suggest that many ribbon seals migrate into the Chukchi Sea for the summer (Kelly, 1988).

A recent reliable abundance estimate for the Alaska stock of ribbon seals is currently not available. Burns (1981) estimated the worldwide population of ribbon seals at 240,000 in the mid–1970s, with an estimate for the Bering Sea at 90,000 - 100,000.

Potential Effects on Marine Mammals

Operating a variety of acoustic equipment such as side-scan sonars, echo-sounders, bottom profiling systems, and airguns for seafloor imagery, bathymetry, and seismic profiling has the potential for adverse affects on marine mammals.

Potential Effects of Airgun Sounds on Marine Mammals

The effects of sounds from airguns might include one or more of the following: tolerance, masking of natural sounds, behavioral disturbance, and, at least in theory, temporary or permanent hearing impairment, or non-auditory physical or physiological effects (Richardson *et al.*, 1995)

The potential effects of airguns discussed below are presented without consideration of the mitigation measures that CPAI has presented and that will be required by NMFS. When these measures are taken into account, it is unlikely that this project would result in temporary, or especially, permanent hearing impairment or any significant non-auditory physical or physiological effects.

(1) Tolerance

Numerous studies have shown that pulsed sounds from airguns are often readily detectable in the water at distances of many kilometers. Studies have also shown that marine mammals at distances more than a few kilometers from operating seismic vessels often show no apparent response (tolerance). That is often true even in cases when the pulsed sounds must be readily audible to the animals based on measured received levels and the hearing sensitivity of that mammal group. Although various baleen whales, toothed whales, and (less frequently) pinnipeds have been shown to react behaviorally to airgun pulses under some conditions, at other times mammals of all three types have shown no overt reactions. In general, pinnipeds, and small odontocetes seem to be more tolerant of exposure to airgun pulses than are baleen whales.

(2) Masking

Masking effects of pulsed sounds (even from large arrays of airguns) on marine mammal calls and other natural sounds are expected to be limited, although there are very few specific data of relevance. Some whales are known to continue calling in the presence of seismic pulses. Their calls can be heard between the seismic pulses (e.g., Richardson *et al.*, 1986; McDonald *et al.*, 1995; Greene *et al.*, 1999; Nieukirk *et al.*, 2004). Although there has been one report that sperm whales cease calling when exposed to pulses from a very distant seismic ship (Bowles *et al.*, 1994), a more recent study reports that sperm whales off northern Norway continued calling in the presence of seismic pulses (Madsen *et al.*, 2002). That has also been shown during recent work in the Gulf of Mexico (Tyack *et al.*, 2003; Smultea *et al.*, 2004). Masking effects of seismic pulses are expected to be negligible in the case of the smaller odontocete cetaceans, given the intermittent nature of seismic pulses. Dolphins and porpoises commonly are heard calling while airguns are operating (e.g., Gordon *et al.*, 2004; Smultea *et al.*, 2004; Holst *et al.*, 2005a; 2005b). Also, the sounds important to small odontocetes are predominantly at much higher frequencies than are airgun sounds.

(3) Disturbance Reactions

Disturbance includes a variety of effects, including subtle changes in behavior, more conspicuous changes in activities, and displacement.

Reactions to sound, if any, depend on species, state of maturity, experience, current activity, reproductive state, time of day, and many other factors. If a marine mammal does react briefly to an underwater sound by slightly changing its behavior or moving a small distance, the impacts of the change are unlikely to be biologically significant to the individual, let alone the stock or the species as a whole. However, if a sound source displaces marine mammals from an important feeding or breeding area for a prolonged period, impacts on the animals could be significant.

(4) Hearing Impairment and Other Physical Effects

Temporary or permanent hearing impairment is a possibility when marine mammals are exposed to very strong sounds, but there has been no specific documentation of this for marine mammals exposed to sequences of airgun pulses. NMFS advises against exposing cetaceans and pinnipeds to impulsive sounds above 180 and 190 dB re 1 microPa (rms), respectively (NMFS, 2000). Those thresholds have been used in defining the safety (shut down) radii planned for the proposed seismic surveys. Although those thresholds were established before there were any data on the minimum received levels of sounds necessary to cause temporary auditory impairment in marine mammals, they are considered to be conservative.

Several aspects of the planned monitoring and mitigation measures for this project are designed to detect marine mammals occurring near the airguns to avoid exposing them to sound pulses that might, at least in theory, cause hearing impairment (see Mitigation and Monitoring section below). In addition, many cetaceans are likely to show some avoidance of the area with high received levels of airgun sound. In those cases, the avoidance responses of the animals themselves will reduce or (most likely) avoid any possibility of hearing impairment.

Non-auditory physical effects may also occur in marine mammals exposed to strong underwater pulsed sound. Possible types of non-auditory physiological effects or injuries that theoretically might occur in mammals close to a strong sound source include stress, neurological effects, bubble formation, and other types of organ or tissue damage. It is possible that some marine mammal species (i.e., beaked whales) may be especially susceptible to injury and/or stranding when exposed to strong pulsed sounds. However, there is no definitive evidence that any of these effects occur even for marine mammals in close proximity to large arrays of airguns. It is unlikely that any effects of these types would occur during the proposed project given the brief duration of exposure of any given mammal, and the planned monitoring and mitigation measures (see below).

(5) Strandings and Mortality

Marine mammals close to underwater detonations of high explosive can be killed or severely injured, and the auditory organs are especially susceptible to injury (Ketten *et al.*, 1993; Ketten, 1995). Airgun pulses are less energetic and have slower rise times, and there is no evidence that they can cause serious injury, death, or stranding even in the case of large airgun arrays.

Nonetheless, the airgun array proposed to be used in the proposed site clearance surveys in Chukchi Sea is small in volume (40 cu inches) and the source level is expected at 196 dB re 1 mircoPa (peak), which is approximately 190 dB re 1 microPa (rms). The 160, 170, and 180 dB re 1 microPa (rms) radii, in the beam below the transducer, would be 32 m (104 ft), 10 m (33 ft), and 3.2 m (10 ft), respectively, for the 40–cu-inch airgun array, assuming spherical spreading.

Possible Effects of Signals from Sonar Equipment

While the sonar equipment proposed to be used for this project generates high sound energy, the equipment operates at frequencies (>100 kHz) beyond the effective hearing range of most marine mammals likely be encountered (Richardson *et al.*, 1995). However, the equipment proposed for the seismic profiling operate at a frequency range and sound level that could affect marine mammal behavior if they occur within a relatively close distance to the sound source (Richardson *et al.*, 1995). In addition, given the direct downward beam pattern of these sonar systems coupled with the high-frequency characteristics of the signals, the horizontal received levels of 180 and 190 dB re 1 microPa (rms) would be much smaller when compared to those from the low-frequency airguns with similar source levels. Therefore, NMFS believes that effects of signals from sonar equipment to marine mammals are negligible.

Numbers of Marine Mammals Estimated to be Taken

All anticipated takes would be takes by Level B harassment, involving temporary changes in behavior. The proposed mitigation measures to be applied would prevent the possibility of injurious takes.

Take was calculated for the two areas of the study area using vessel-based density estimates. Few bowheads and no belugas were observed during the vessel surveys conducted in the Chukchi Sea by LGL *et al.* (2008), although the surveys used multiple vessels achieving substantial effort and coverage from early July to mid November. This result is generally consistent with the historic information, which shows that bowheads generally migrated through the Chukchi Sea to the Beaufort Sea by mid-late June, and don't return until about late October and November, probably reaching the region of the project area no earlier than late October (LGL *et al.*, 2008). Similarly, most belugas migrate to the northern Chukchi Sea and westward into the Beaufort Sea by mid to late July and return to the region of the project area in late October and November (Suydam *et al.*, 2005). Although LGL *et al.*, (2008) did not observe belugas offshore in 2006 or 2007, they did encounter belugas along the coast in decreasing numbers from July to October/November during aerial surveys. LGL *et al.* (2008) also observed bowheads in the fall near Barrow during nearshore aerial surveys, suggesting the whales had not moved very far into Chukchi Sea at that time. While these data and the historic information suggest the take calculations are reasonable for belugas and bowheads, the take numbers have been adjusted to 10 animals for each species to account for the possible occurrence of more animals than estimated in the project area during operations due to an early freeze-up or other unanticipated changes in the environment. This adjustment is generally consistent with estimates based on less current densities used in past IHAs for bowhead (0.0011/km^2) and beluga (0.0034/km^2) whales for late fall.

The vessel-based density estimates for ringed and spotted seals were reported in the LGL *et al.* (2008) study as a combined estimate for the two species, since observers were not able to distinguish the two species in the open water. However, since typically ringed seals comprise almost 95 percent of the combined ringed/spotted seal sightings recorded during surveys in offshore waters of the Chukchi Sea during 1989 - 1991 were ringed seals (Brueggeman *et al.*, 1990; 1991; 1992), the LGL *et al.* (2008) ringed/spotted seal data were corrected by applying 95 percent of the sightings as ringed, and 5 percent as spotted seals, respectively.

JASCO modeled the sound levels of different configurations of seismic profilers (10 kj and 16 kj sparkers, 10 in^3 and 20 in^3 2–gun arrays, 40 cu^3 single gun, and 10 in^3 4–gun array) and found the 4–gun array produced the highest sound levels. Therefore, all take estimates of marine mammals are calculated for the 4–gun array in this proposed activity, which reaches the 160 dB re 1 microPa sound level at 1.665 km (1.03 mi) from the source, the 180 dB re 1 microPa level at 115 m (377 ft), and the 190 dB level at 20 m (66 ft).

The average estimates of ''take'' were calculated by multiplying the expected average animal densities by the area of ensonification for the 160 dB re 1 microPa (rms). The area of ensonification was determined by multiplying the total proposed trackline of 5,300 km (3,294 mi)(2,120 km, or 1,318 mi, in August; 2,120 km, or 1,318 mi, in September; and 1,060 km, or 659 mi, in October) times 2 (both sides of the trackline) times the distance to the 160–dB isopleth. The distance to the 160–dB isopleth was estimated as approximately 1,665 m (5,463 ft) with a corresponding area of ensonification of 17,649 km2 (6,817 mi2).

Based on the calculation, it is estimated that up to approximately 10 bowhead, 37 gray, and 4 minke whales, 42 harbor porpoises, 1,379 ringed, 72 spotted, and 376 bearded seals would be affected by Level B behavioral harassment as a result of the proposed shallow hazard and site clearance surveys. These take numbers represent 0.09, 0.19, 0.06, 0.66, and 0.15 percent of the western Arctic stock of bowhead, eastern North Pacific stock of gray whales, Bering Sea stock of harbor porpoise, and Alaska stocks of ringed and bearded seals in the Chukchi Sea region, respectively. Since no accurate current population estimates of minke whales and spotted seals are available, a specific estimate of the percentage of Level B harassment of this species is undetermined. Nonetheless, it is very low relative to the affected species or stocks in the proposed project area because: (1) for the minke whales, the Chukchi Sea is not their typical habitat (visual surveys in 1999 and 2000 counted 810 and 1,003 minke whales in the central-eastern and southeastern Bering Sea, respectively, not including animals missed on the trackline, and animals submerged when the ship passed (Moore *et al.*, 2002), therefore, the take estimate of 4 minke whale is small even in relation to these visual counts); and (2) for the spotted seal, the early population estimate of this species ranged from 335,000 - 450,000 seals (Burns, 1973), and there is no reason to believe that the population of this species has declined significantly.

In addition, a number of beluga, humpback, and killer whales, and ribbon seals could also be affected by Level B behavioral harassment as a result of the proposed marine surveys in the Chukchi Sea. However, since the occurrence of these marine mammals is very rare within the proposed project area during the late summer and fall in the Chukchi Sea, take numbers cannot be estimated. However, for the same reason, NMFS believes their take numbers would be much lower (including as a percentage of the affected species or stock) as compared to those marine mammals whose take numbers were calculated.

Potential Impacts to Subsistence Harvest of Marine Mammals

Subsistence hunting and fishing is historically, and continues to be, an essential aspect of Native life, especially in rural coastal villages. The Inupiat participate in subsistence hunting and fishing activities in and around the Chukchi Sea.

Alaska Natives, including the Inupiat, legally hunt several species of marine mammals. Communities that participate in subsistence activities potentially affected by seismic surveys within the proposed survey areas are Point Hope, Point Lay, Wainwright, and Barrow. Marine animals used for subsistence in the proposed area include: bowhead whales, beluga whales, ringed seals, spotted seals, bearded seals, Pacific walrus, and polar bears. In each village, there are key subsistence species. Hunts for these animals occur during different seasons throughout the year. Depending upon the village's success of the hunt for a certain species, another species may become a priority in order to provide enough nourishment to sustain the village.

Point Hope residents subsistence hunt for bowhead and beluga whales, polar bears and walrus. Bowhead and beluga whales are hunted in the spring and early summer along the ice edge. Beluga whales may also be hunted later in the summer along the shore. Walrus are harvested in late spring and early summer, and polar bear are hunted from October to April (MMS, 2007). Seals are available from October through June, but are harvested primarily during the winter months, from November through March, due to the availability of other resources during the other periods of the year (MMS, 2007).

With Point Lay situated near Kasegaluk Lagoon, the community's main subsistence focus is on beluga whales. Seals are available year-round, and polar bears and walruses are normally hunted in the winter. Hunters typically travel to Barrow, Wainwright, or Point Hope to participate in bowhead whale harvest, but there is interest in reestablishing a local Point Lay harvest.

Wainwright residents subsist on both beluga and bowhead whales in the spring and early summer. During these two seasons the chances of landing a whale are higher than during other seasons. Seals are hunted by this community year-round and polar bears are hunted in the winter.

Barrow residents' main subsistence focus is concentrated on biannual bowhead whale hunts. They hunt these whales during the spring and fall. Other animals, such as seals, walruses, and polar bears are hunted outside of the whaling season, but they are not the primary source of the subsistence harvest (URS Corporation, 2005).

The potential impact of the noise produced by the proposed survey on subsistence could be substantial. If bowhead or beluga whales are permanently deflected away from their migration path, there could be significant repercussions to the subsistence use villages. However, mitigation efforts will be put into action to minimize or avoid completely any adverse affects on all marine mammals.

As a mitigation measure to minimize or avoid any adverse effects to subsistence harvest, CPAI will meet with key native organizations responsible for managing marine mammals in the Arctic. In accordance with 50 CFR 126.104(a)(12), CPAI will meet with the Alaska Eskimo Whaling Commission (AEWC) in the planning for the 2008 site clearance and shallow hazard survey and develop a Plan of Cooperation (POC). In addition, CPAI will consult subsistence committees and commissions as required by its OCS 193 Leases, and meet with the North Slope Borough (NSB) as necessary. Meetings with other stakeholders will provide information on the time, location, and features of the seismic survey/operations, opportunities for involvement by local people, potential impacts to marine mammals, and mitigation measures to avoid or minimize impacts.

A number of actions will be taken by CPAI during the surveys to minimize any adverse effect on the availability of marine mammals for subsistence, which have been proposed in the CPAI application. They include the following:

(1) Site clearance and shallow hazard surveys will occur in areas considerably away from the villages during the hunting periods;

(2) Site clearance and shallow hazard surveys will follow procedures of changing vessel course, powering down, and shutting down acoustic equipment to minimize effects on the behavior of marine mammals and, therefore, effects on opportunities for harvest by local communities; and

(3) In the unlikely event that a hunter is encountered, operations will be managed to stay beyond any hunter encountered within 5 km (3.1 mi) of the vessel when shooting airguns.

The combination of the low volume air guns, timing, location, mitigation measures, and input from local communities and organization is expected to mitigate any adverse effect of the seismic surveys on availability of marine mammals for subsistence uses.

Potential Impacts on Habitat

The proposed site clearance surveys would not result in any permanent impact on habitats used by marine mammals, or to the food sources they use. The main impact issue associated with the proposed activity would be temporarily elevated noise levels and the associated direct effects on marine mammals, as discussed above.

Proposed Monitoring and Mitigation Measures

Monitoring

In order to reduce and minimize the potential impacts to marine mammals from the proposed site clearance surveys, NMFS proposes the following monitoring measures to be implemented for the proposed project in Chukchi Sea.

Marine mammal monitoring during the site clearance surveys would be conducted by qualified, NMFS-approved marine mammal observers (MMOs). Vessel-based MMOs would be on board the seismic source vessel to ensure that no marine mammals would enter the relevant safety radii while noise-generating equipment is operating.

MMOs will alternate at 4–hour shifts to avoid fatigue. The vessel crew will also be instructed to assist in detecting marine mammals and implementing mitigation requirements (if practical). Before the start of a geophysical survey the crew will be given additional instruction on how to do so.

During daytime hours, the MMO(s) will scan the area around the vessel systematically with reticule binoculars (e.g., 7 50 Bushnell or equivalent) and with the naked eye. Laser range finders (Laser Tech laser rangefinder or equivalent) will also be available to assist with distance estimation. During darkness, NVDs (Night Vision Device) will be available (ATN NVG–7 or equivalent).

Mitigation

Proposed mitigation measures include (1) vessel speed or course alteration, provided that doing so will not compromise operational safety requirements, (2) acoustic equipment shut down, and (3) acoustic source ramp up.

(1) Speed or Course Alteration

If a marine mammal is detected outside the relevant safety zone but appears likely to enter it based on relative movement of the vessel and the animal, then if safety and survey objectives allow, the vessel speed and/or course would be adjusted to minimize the likelihood of the animal entering the safety zone.

(2) Shut down Procedures

If a marine mammal is detected within, or appears likely to enter, the relevant safety zone of the array in use, and if vessel course and/or speed changes are impractical or will not be effective to prevent the animal from entering the safety zone, then the acoustic sources that relate to the seismic surveys would be shut down.

Following a shut down, acoustic equipment would not be turned on until the marine mammal is outside the safety zone. The animal would be considered to have cleared the safety zone if it (1) is visually observed to have left the 115–m (377–ft) or 20–m (66–ft) safety zone, for a cetacean or a pinniped species, respectively; or (2) has not been seen within the relevant safety zone for 15 min in the case of odontocetes or pinnipeds and 30 min in the case of mysticetes. These safety zones correspond to areas where the received SPLs are 180 and 190 dB re 1 microPa (rms), respectively.

Following a shut down and subsequent animal departure as above, the acoustic sources may be turned on to resume operations following ramp-up procedures described below.

(3) Ramp-up Procedures

A ramp-up procedure will be followed when the acoustic sources begin operating after a specified period without operations. It is proposed that, for the present survey, this period would be 30 min. Ramp up would begin with the power on of the smallest acoustic equipment for the survey at its lowest power output. The power output would be gradually turned up and other acoustic sources would be added in a way such that the source level would increase in steps not exceeding 6 dB per 5–min period. During ramp-up, the MMOs would monitor the safety zone, and if marine mammals are sighted, decisions about course/speed changes and/or shutdown would be implemented as though the acoustic equipment is operating at full power.

Data Collection and Reporting

MMOs would record data to estimate the numbers of marine mammals present and to document apparent disturbance reactions or lack thereof. Data would be used to estimate numbers of animals potentially ‘‘taken’’ by harassment. They would also provide information needed to order a shut down of acoustic equipment when marine mammals are within or entering the safety zone.

When a sighting is made, the following information about the sighting would be recorded:

(1) Species, group size, age/size/sex categories (if determinable), behavior when first sighted and after initial sighting, heading (if consistent), bearing and distance from seismic vessel, and apparent reaction to the acoustic sources or vessel.

(2) Time, location relative to the acoustic sources, heading, speed, activity of the vessel (including whether and the level at which acoustic sources are operating), sea state, visibility, and sun glare.

The data listed under (2) would also be recorded at the start and end of each observation watch, and during a watch whenever there is a change in one or more of the variables.

A final report will be submitted to NMFS within 90 days after the end of the shallow hazard and site clearance surveys. The report will describe the operations that were conducted and sightings of marine mammals near the operations. The report also will provide full documentation of methods, results, and interpretation pertaining to all monitoring. The report will summarize the dates and locations of seismic operations, and all marine mammal sightings (dates, times, locations, activities, associated seismic survey activities), and the amount and nature of potential take of marine mammals by harassment or in other ways.

Endangered Species Act

Under section 7 of the ESA, the MMS has begun consultation on the proposed seismic survey activities in the Chukchi Sea during 2008. NMFS will also consult on the issuance of the IHA under section 101(a)(5)(D) of the MMPA to CPAI for this activity. Consultation will be concluded prior to NMFS making a determination on the issuance of an IHA.

National Environmental Policy Act (NEPA)

In 2006, the MMS prepared Draft and Final Programmatic Environmental Assessments (PEAs) for seismic surveys in the Beaufort and Chukchi Seas. NMFS was a cooperating agency in the preparation of the MMS PEA. On November 17, 2006, NMFS and MMS announced that they were jointly preparing a Draft Programmatic Environmental Impact Statement (PEIS) to assess the impacts of MMS' annual authorizations under the Outer Continental Shelf (OCS) Lands Act to the U.S. oil and gas industry to conduct offshore geophysical seismic surveys in the Chukchi and Beaufort seas off Alaska, and NMFS' authorizations under the MMPA to incidentally harass marine mammals while conducting those surveys. On March 30, 2007, the Environmental Protection Agency (EPA) noted the availability for comment of the NMFS/MMS Draft PEIS. A Final PEIS has not been completed. Therefore, NMFS determined it will update the 2006 PEA in order to meet its NEPA requirements in the interim. This approach is warranted because the five proposed Arctic seismic survey IHAs for 2008 fall within the scope of the effects analysis in the 2006 PEA. To update the 2006 Final PEA, NMFS is currently preparing a Supplemental EA which incorporates by reference the 2006 Final PEA and other related documents.

Preliminary Determination

Based on the preceding information, and provided that the proposed mitigation and monitoring are incorporated, NMFS has preliminarily determined that the impact of conducting the shallow hazard and site clearance surveys in Chukchi Sea may result, at worst, in a temporary modification in behavior of small numbers of certain species of marine mammals. While behavioral and avoidance reactions may be made by these species in response to the resultant noise from the airguns, side-scan sonars, seismic profilers, and other acoustic equipment, these behavioral changes are expected to have a negligible impact on the affected species and stocks of marine mammals, and no unmitigable adverse impact on their availability for subsistence.

While the number of potential incidental harassment takes will depend on the distribution and abundance of marine mammals in the area of site clearance operations, the number of potential harassment takings is estimated to be relatively small in light of the population size. NMFS anticipates the actual take of individuals to be lower than the numbers presented in the analysis because those numbers do not reflect either the implementation of the mitigation measures or the fact that some animals will avoid the sound at levels lower than those expected to result in harassment.

In addition, no take by death and/or injury is anticipated, and the potential for temporary or permanent hearing impairment will be avoided through the incorporation of the required mitigation measures described in this document. This determination is supported by (1) the likelihood that, given sufficient notice through slow ship speed and ramp-up of the acoustic equipment, marine mammals are expected to move away from a noise source that it is annoying prior to its becoming potentially injurious; (2) TTS is unlikely to occur, especially in odontocetes, until levels above 180 dB re 1 microPa (rms) are reached; and (3) the fact that injurious levels of sound are only likely very close to the vessel.

Proposed Authorization

NMFS proposes to issue an IHA to CPAI for shallow hazard and site clearance surveys in Chukchi Sea between August and October 2008, provided the previously mentioned mitigation, monitoring, and reporting requirements are incorporated.

Dated: May 16, 2008.

Helen Golde,

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

[FR Doc. E8–11537 Filed 5–22–08; 8:45 am]

BILLING CODE 3510–22–S

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN: 0648–XI08

Mid-Atlantic Fishery Management Council; Public Meetings

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

ACTION: Notice of public meetings.

SUMMARY: The Mid-Atlantic Fishery Management Council (Council), its Squid, Mackerel, Butterfish Committee; its Demersal Committee; its Law Enforcement Committee; Surfclam/Ocean Quahog Committee; its Science and Statistical Committee; its Executive Committee; its Bycatch/LAPP Committee; and, its Joint Spiny Dogfish Committee, will hold public meetings.

DATES: The meetings will be held on Monday, June 9, 2008 through Thursday, June 12, 2008. See **SUPPLEMENTARY INFORMATION** for specific dates and times.

ADDRESSES: The meetings will be held at the Sheraton Convention Center Hotel, Two Miss America Way, Atlantic City, NJ 08401; telephone: (609) 344–3535.

Council address: Mid-Atlantic Fishery Management Council, 300 S. New St., Room 2115, Dover, DE 19904; telephone: (302) 674–2331.

FOR FURTHER INFORMATION CONTACT: Daniel T. Furlong, Executive Director, Mid-Atlantic Fishery Management Council; telephone: (302) 674–2331 ext. 19.

SUPPLEMENTARY INFORMATION: On Monday, June 9, the Squid, Mackerel, Butterfish Committee with Advisors will meet from 10 a.m. until 5 p.m. There will be a concurrent session of the Demersal Committee from 2 p.m. until 5 p.m. A Squid, Mackerel, Butterfish public hearing on Amendment 10 to the Squid, Mackerel, Butterfish Fishery Management Plan will be held from 7 p.m. until 8:30 p.m.

On Tuesday, June 10, the Squid, Mackerel, Butterfish Committee with Advisors will meet from 8 a.m. until 11 a.m. The Law Enforcement Committee will meet from 11 a.m. until 12:30 p.m. The Surfclam, Ocean Quahog and Tilefish Committee with Advisors will meet from 1:30 p.m. until 3:30 p.m. A tour of a local clam dock facility and operations thereof will be held from 3:30 p.m. until 5:30 p.m. The New England Fishery Management Council will hold an Atlantic Herring Fishery Management Plan scoping meeting on