

U.S. participation in the WCPFC. NMFS Pacific Islands Regional Office provides administrative and technical support to the PAC in cooperation with the Department of State. The next regular annual session of the WCPFC is scheduled for December 5–December 9, 2011, in Koror, Palau. For more information on this meeting, please visit the WCPFCs Web site: <http://wcpfc.int/>.

Meeting Topics

The PAC meeting topics may include, but are not limited to, the following: (1) Outcomes of the 2010 and 2011 WCPFC Scientific Committee, Northern Committee, and Technical and Compliance Committee meetings; (2) development of conservation and management measures for bigeye, yellowfin and skipjack tuna and other species for 2012 and beyond; (3) development of a WCPFC compliance monitoring scheme; (4) issues related to the impacts of fishing on non-target, associated and dependent species, such as sea turtles, seabirds and sharks (5) input and advice from the PAC on issues that may arise at the 2011 WCPFC meetings, potential proposals from other WCPFC members; and (6) other issues as they arise.

Special Accommodations

The meeting location is physically accessible to people with disabilities. Requests for sign language interpretation or other auxiliary aids should be directed to Oriana Villar at (808) 944–2256 by October 15, 2011.

Authority: 16 U.S.C. 6902.

Dated: September 8, 2011.

Emily H. Menashes,

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

[FR Doc. 2011–23569 Filed 9–13–11; 8:45 am]

BILLING CODE 3510–22–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648–XA699

Mid-Atlantic Fishery Management Council (MAFMC); Meeting

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

ACTION: Notice of public meeting.

SUMMARY: The Mid-Atlantic Fishery Management Council's Squid, Mackerel, Butterfish Advisory Panel will hold a public meeting.

DATES: The meeting will be held on September 30, 2011, at 10 a.m. until 4 p.m.

ADDRESSES: The meeting will be held via webinar with a listening station also available at the Council Address below. Webinar registration: <https://www1.gotomeeting.com/register/332515609> Council address: Mid-Atlantic Fishery Management Council, 800 N. State Street, Suite 201, Dover, DE 19901; telephone: (302) 674–2331.

FOR FURTHER INFORMATION CONTACT:

Christopher M. Moore Ph.D., Executive Director, Mid-Atlantic Fishery Management Council, 800 N. State Street, Suite 201, Dover, DE 19901; telephone: (302) 526–5255.

SUPPLEMENTARY INFORMATION: The Advisory Panel will develop recommendations for the Council regarding Amendment 14 to the Atlantic Mackerel, Squid, and Butterfish Fishery Management Plan. See http://www.mafmc.org/jmp/msb_files/msbAm14current.htm for details on the amendment, which deals with catch and management of river herrings and shads in the Atlantic mackerel, squid, and butterfish fisheries.

Special Accommodations

The meeting is physically accessible to people with disabilities. Requests for sign language interpretation or other auxiliary aids should be directed to M. Jan Saunders at the Mid-Atlantic Council Office (302) 526–5251 at least 5 days prior to the meeting date.

Dated: September 9, 2011.

Tracey L. Thompson,

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

[FR Doc. 2011–23460 Filed 9–13–11; 8:45 am]

BILLING CODE 3510–22–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648–XA408

Small Takes of Marine Mammals Incidental to Specified Activities; Cape Wind's High Resolution Survey in Nantucket Sound, MA

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

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

SUMMARY: NMFS has received a complete and adequate application from

Cape Wind Associates for an Incidental Harassment Authorization (IHA) to take marine mammals, by harassment, incidental to pre-construction high resolution survey activities. Pursuant to the Marine Mammal Protection Act (MMPA), NMFS is proposing to issue an IHA to Cape Wind Associates to incidentally harass, by Level B harassment, five species of marine mammals during the specified activity within Nantucket Sound and is requesting comments on its proposal.

DATES: Comments and information must be received no later than October 14, 2011.

ADDRESSES: Comments on the application and this proposal should be addressed to 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 e-mail comments is ITP.Magliocca@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.

Instructions: All comments received are a part of the public record and will generally be posted to <http://www.nmfs.noaa.gov/pr/permits/incidental.htm> without change. All Personal Identifying Information (for example, name, address, etc.) voluntarily submitted by the commenter may be publicly accessible. Do not submit Confidential Business Information or otherwise sensitive or protected information.

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 also be viewed, by appointment, during regular business hours, at the aforementioned address.

FOR FURTHER INFORMATION CONTACT: Michelle Magliocca, Office of Protected Resources, NMFS, (301) 427–8401.

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 specific 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 for incidental takings shall be granted if NMFS finds that the taking will have a negligible impact on the species or stock(s), will not have an unmitigable adverse impact on the availability of the species or stock(s) for subsistence uses (where relevant), 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. 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 the authorization.

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].

Summary of Request

On April 26, 2011, NMFS received an application from Cape Wind Associates requesting an IHA for the take, by Level B harassment, of small numbers of minke whales, Atlantic white-sided dolphins, harbor porpoises, gray seals, and harbor seals, incidental to high resolution survey activities. Upon receipt of additional information, NMFS determined the application adequate and complete on August 5, 2011.

Cape Wind Associates proposes to conduct a high resolution geophysical survey in Nantucket Sound,

Massachusetts. The survey would satisfy the mitigation and monitoring requirements for "cultural resources and geology" in the environmental stipulations of the Bureau of Ocean Energy Management, Regulation and Enforcement's lease. This is part of a long-term Cape Wind energy project involving the future installation of 130 wind turbine generators. Because sounds from the survey equipment could harass marine mammals, NMFS is proposing to issue an IHA for take incidental to the high resolution geophysical survey.

Description of the Specified Activity

Cape Wind Associates proposes to conduct a high resolution geophysical survey in order to acquire remote-sensing data around Horseshoe Shoal which would be used to characterize resources at or below the seafloor. The purpose of the survey would be to identify any submerged cultural resources that may be present and to generate additional data describing the geological environment within the survey area. This specific activity is part of a larger Cape Wind energy project, which involves the installation of 130 wind turbine generators on Horseshoe Shoal over a two-year period. The survey would collect data along predetermined track lines using a towed array of instrumentation, which would include a singlebeam depth sounder, side scan sonar, magnetometer, shallow-penetration subbottom profiler, multibeam depth sounder, and medium-penetration subbottom profiler. The proposed high resolution geophysical survey activities would not result in any disturbance to the sea floor. Cape Wind Associates also plans to conduct a geotechnical survey that is not expected to impact marine mammals; therefore, no incidental takes are being requested for this activity. In summary, the geotechnical survey would include the acquisition of soil borings and/or cone penetrometer tests at select wind turbine generator locations, as well as one vibrocore at the planned location of each wind turbine generator. These aspects of the survey are not expected to generate sound pressure levels that would exceed marine mammal harassment thresholds, except for the area immediately adjacent to the core barrel. A 500-meter (m) exclusion zone would be in place and continuously monitored to prevent marine mammal harassment.

Survey activities are necessary prior to construction of the wind turbine array and are scheduled to begin in the fall of 2011, continuing on a daily basis for up to five months. Survey vessels

would operate during daytime hours only and Cape Wind Associates estimates that one survey vessel would cover about 17 NM of track line per day. Therefore, Cape Wind Associates conservatively estimates that survey activities would take 137 days. However, if more than one survey vessel is used, the survey duration would be considerably shorter.

The high resolution geophysical survey would cover approximately 110 square kilometers (km²) (42.5 square miles [mi²]). This area includes the future location of the wind turbine generators—an area about 8.4 km (5.2 mi) from Point Gammon, 17.7 km (11 mi) from Nantucket Island, and 8.9 km (5.5 mi) from Martha's Vineyard—and cables connecting the wind park to the mainland. The survey area within the wind park would be transited by survey vessels towing specialized equipment along primary track lines and perpendicular tie lines. Preliminary survey designs include primary track lines with north-south orientations and assume 30-m line spacing. Preliminary survey designs also call for tie lines to likely run in a west-east orientation covering targeted areas of the construction footprint where wind turbine generators would be located. The survey area along the interconnecting submarine cable route includes a 100-foot (ft) construction corridor covered by three track lines, as well as an anchor corridor north of the wind farm's area of potential effect. The total track line distance covered during the survey is estimated to be about 4,292 km (2,317 NM).

Multiple survey vessels may operate within the survey area and would travel at about 3 knots during data acquisition and 15 knots during transit between the survey area and port. The survey vessels would acquire data continuously throughout the survey area during the day and terminate survey activities before dark, prior to returning to port. Given the slow speeds at which the survey vessels would operate, increase of vessel collision risk to marine mammals is expected to be negligible. Vessel sounds during survey activities would result from propeller cavitations, propeller singing, propulsion, flow noise from water dragging across the hull, and bubbles breaking in the wake. The dominant sound source from vessels would be from propeller cavitations; however, sounds resulting from survey vessel activity are considered to be no louder than the existing ambient sound levels and sound generated from regular shipping and boating activity in Nantucket Sound (MMS, 2009).

The dominant sources of sound during the proposed survey activities would be from the towed equipment used to gather seafloor data. Two of the seismic survey devices used during the high resolution geophysical survey emit sounds within the hearing range of marine mammals in Nantucket Sound: Shallow-penetration and medium-penetration subbottom profilers (known as a “chirp” and “boomer,” respectively). Cape Wind Associates would use a chirp to provide high resolution data of the upper 15 m (49 ft) of sea bottom. An EdgeTech 3000 Series or similar model would be used. The chirp would be towed near the center of the survey vessel directly adjacent to the gunwale of the boat, about 1 to 1.5 m (3 to 5 ft) beneath the water’s surface. Sources such as the chirp are considered non-impulsive, intermittent sounds. The frequency range for this instrument is generally 2 to 16 kilohertz (kHz)—a range audible by all marine mammal species in Nantucket Sound. The estimated sound pressure level at

the source would be 201 dB re 1 µPa at 1 m with a typical pulse length of 32 milliseconds and a pulse repetition rate of 4 per second. Underwater sound levels from the chirp would dissipate to 180 dB (the Level A harassment threshold, described later) at 17 m (56 ft) and to 160 dB (the Level B harassment threshold) at 258 m (847 ft). This calculation is based on a practical spreading model which represents an intermediate condition between spherical and cylindrical spreading to estimate sound propagation. Cape Wind Associates would use a boomer to obtain deeper resolution of geologic layering that cannot be imaged by the chirp. An Applied Acoustics 200, 300, or similar model would be used. The boomer would be towed about 10 to 15 ft behind the survey vessel’s stern at the water’s surface. Unlike the chirp, the boomer emits an impulse sound, characterized by a relatively rapid rise-time to maximum pressure followed by a period of diminishing and oscillating pressures (Southall *et al.*, 2007). The

boomer has a broad frequency range of 0.5 to 20 kHz—a range audible by all marine mammal species in Nantucket Sound. The estimated sound pressure level at the source would be 205 dB re 1 µPa at 1 m with a short duration sound pulse of about 330 milliseconds. Underwater sound levels from the boomer would dissipate to 180 dB at 30 m (98 ft) and to 160 dB at 444 m (1,457 ft). This calculation is also based on practical spreading.

Description of Marine Mammals in the Area of the Specified Activity

Marine mammals with known occurrences in Nantucket Sound that could be harassed by high resolution geophysical survey activity in Nantucket Sound are listed in Table 1. These are the species for which take is being requested. In general, large whales do not frequent Nantucket Sound, but they are discussed below because some species have been reported near the project vicinity.

TABLE 1—MARINE MAMMALS THAT COULD BE IMPACTED BY SURVEY ACTIVITIES IN NANTUCKET SOUND

Common name	Scientific name	MMPA status ¹	Time of year in New England
Whales and Dolphins (Cetaceans)			
Minke whale	<i>Balaenoptera actuatorostrata</i>	N-D	April through October.
Atlantic white-sided dolphin	<i>Lagenorhynchus acutus</i>	N-D	October through December.
Harbor porpoise	<i>Phocoena phocoena</i>	N-D	Year-round (peak Sept-Apr).
Seals (Pinnipeds)			
Gray seal	<i>Halichoerus grypis</i>	N-D	Year-round.
Harbor seal	<i>Phoca vitulina</i>	N-D	October through April.

¹N-D = non-depleted. None of the species are listed under the Endangered Species Act.

Sightings data indicate that whales rarely visit Nantucket Sound and there are no sightings of large whales on Horseshoe Shoal. Since 2002, no humpback whales (*Megaptera novaeangilae*) have been observed anywhere in Nantucket Sound and there are no documented occurrences of fin whales (*Balaenoptera physalus*) within Nantucket Sound. Right whales (*Eubaelena glacialis*) are considered rare in Nantucket Sound and have not been sighted on Horseshoe Shoal. All of the right whales observed in Nantucket Sound during 2010 quickly transited the area and there is no evidence of any persistent aggregations around the proposed project area. The best available science indicates that humpback whales, fin whales, and right whales—although present in the New England region—are rare in Nantucket Sound and transient individuals may be occasionally found 20 km (12 mi) from the proposed project area; this is likely

due to the shallow depths of Nantucket Sound and its location outside of the coastal migratory corridor.

Likewise, sightings data shows no record of long-finned pilot whales, striped dolphins, Atlantic spotted dolphins, common dolphins, Risso’s dolphins, *Kogia* species, harp seals, or hooded seals in Nantucket Sound, although these stocks exist in the New England region. Therefore, Cape Wind Associates is not requesting, nor is NMFS proposing, take for the aforementioned species.

Minke Whales

In the North Atlantic, minke whales are found from Canada to the Gulf of Mexico and concentrated in New England waters, particularly in the spring and summer months. Minke whales found in Nantucket Sound are part of the Canadian East Coast stock, which runs from the Davis Strait down to the Gulf of Mexico. The best available

abundance estimate for this stock is 8,987 individuals. Sightings data indicate that minke whales prefer shallower waters when in the Cape Cod vicinity, but depths significantly greater than Nantucket Sound. Sightings per unit effort estimates for Nantucket Sound are 0.1 to 5.9 minke whales per 1,000 km of survey track for spring and summer. However, estimates may be biased due to heavier whale watching activities during those months. Minke whales are one of the most abundant whale species in the world and their population is considered stable throughout. The minke whale is not listed under the Endangered Species Act nor considered strategic under the MMPA.

Atlantic White-Sided Dolphin

Atlantic white-sided dolphins are found in temperate and sub-polar waters of the North Atlantic, typically along the continental shelf and slope. In the

western North Atlantic, they are found from North Carolina to Greenland. During summer months, Atlantic white-sided dolphins move north and closer to shore. Atlantic white-sided dolphins are rare in Nantucket Sound, but are found in deeper waters around Massachusetts and Rhode Island. In 2007, the estimated population size of the Western North Atlantic stock was about 63,000 animals. There is insufficient data to determine population trends, but Atlantic white-sided dolphins are not listed under the Endangered Species Act, nor considered strategic under the MMPA.

Harbor Porpoises

Harbor porpoises have a wide and discontinuous range that includes the North Atlantic and North Pacific. In the western North Atlantic, harbor porpoises are found from Greenland to Cape Hatteras, North Carolina. Harbor porpoises in U.S. waters are divided into 10 stocks, based on genetics, movement patterns, and management. Any harbor porpoises encountered during the proposed survey activities would be part of the Gulf of Maine/Bay of Fundy stock which has an estimated abundance of 89,504 animals and a minimum population estimate of 60,970 (NMFS, 2009c). They congregate around the Gulf of Maine during summer months, but are otherwise dispersed along the east coast. No trend analyses exist for this species. Harbor porpoises are not listed under the Endangered Species Act nor considered strategic under the MMPA.

Gray Seals

Gray seals inhabit temperate and sub-arctic waters. They are found from Maine to Long Island Sound, live on remote, exposed islands, shoals, and unstable sandbars, and are the second most common pinniped along the U.S. Atlantic coast. Three major populations exist in eastern Canada, northwestern Europe, and the Baltic Sea. The western North Atlantic stock is equivalent to the eastern Canada population and ranges from New York to Labrador. Pupping occurs on land or ice from late December through mid-February with peaks in mid-January. Muskeget Island (located between Martha's Vineyard and Nantucket Island) and Monomoy Island (at the eastern limit of Nantucket Sound) are the only gray seal breeding colonies in the U.S. and the southernmost gray seal breeding colonies in the world. These breeding colonies are about 24 km (13 NM) and 14 km (7 NM) from the proposed project site, respectively. Gray seals presently use the islands as areas to give birth and

raise their pups. There is no defined migratory behavior for gray seals, so a large portion of the population may be present in Nantucket Sound year-round. Some adults move north during spring and summer, out of Nantucket Sound to the waters off Maine and Canada, but others have been observed in high abundance in Chatham Harbor, MA and other areas of lower Cape Cod during this time.

Incidental observations of seals were recorded during avian aerial surveys conducted independently by Cape Wind Associates and the Massachusetts Audubon Society. Between May 2002 and February 2004, Cape Wind Associates conducted about 46 aerial avian surveys in Nantucket Sound, with particular focus on Horseshoe Shoal. During this time, about 26,873 seals were observed throughout Nantucket Sound; about 56 of these were observed within the proposed project area over the three-year period. Current population numbers for the western North Atlantic stock are unknown, but are estimated at over 250,000 animals. Gray seal numbers are increasing in coastal waters between southern Massachusetts and eastern Long Island. Their abundance is likely increasing throughout the western Atlantic, but the rate of increase is unknown. Gray seals are not listed under the Endangered Species Act, nor considered strategic under the MMPA.

Harbor Seals

Harbor seals, also known as common seals, are found throughout coastal waters of the Atlantic Ocean and considered the most abundant pinniped on the U.S. east coast. The best available estimate for the harbor seal population along the New England coast is 99,340 (NMFS, 2009f). They are most common around coastal islands, ledges, and sandbars above 30° N latitude and range from the Arctic down to Nantucket Sound. Harbor seals are seasonal visitors to Massachusetts; breeding and pupping occur through the spring and summer in Maine and Canada. Harbor seals typically over-winter in Massachusetts, but some remain in southern New England year-round. No pupping areas have been identified in southern New England. Extensive sand spits off Muskeget Island and neighboring Tuckernuck and Skiff Islands have been identified as preferred haul-out spots for large numbers of harbor seals.

Harbor seal abundance estimates for Nantucket Sound are scarce. Barlas (1999) observed harbor seals on Cape Cod from October through April and saw abundance peak in March, with

very few individuals using haul-out sites in Nantucket Sound. Waring (unpublished data, 2002) observed an increased abundance of harbor seals on Muskeget Island, Monomoy Island, and Tuckernuck Island in 1999 and 2000; however, harbor seals are not likely to be in the same area when gray seals are breeding.

Potential Effects on Marine Mammals

Use of subbottom profilers on Horseshoe Shoal may temporarily impact marine mammal behavior within the survey area due to elevated in-water sound levels. Marine mammals are continually exposed to many sources of sound. Naturally occurring sounds such as lightning, rain, sub-sea earthquakes, and biological sounds (for example, snapping shrimp, whale songs) are widespread throughout the world's oceans. Marine mammals produce sounds in various contexts and use sound for various biological functions including, but not limited to, (1) Social interactions; (2) foraging; (3) orientation; and (4) predator detection. Interference with producing or receiving these sounds may result in adverse impacts. Audible distance, or received levels of sound depend on the nature of the sound source, ambient noise conditions, and the sensitivity of the receptor to the sound (Richardson *et al.*, 1995). Type and significance of marine mammal reactions to sound are likely dependent on a variety of factors including, but not limited to, (1) The behavioral state of the animal (for example, feeding, traveling, etc.); (2) frequency of the sound; (3) distance between the animal and the source; and (4) the level of the sound relative to ambient conditions (Southall *et al.*, 2007).

For background, sound is a physical phenomenon consisting of minute vibrations that travel through a medium, such as air or water, and is generally characterized by several variables. Frequency describes the sound's pitch and is measured in hertz (Hz) or kilohertz (kHz), while sound level describes the sound's loudness and is measured in decibels (dB). Sound level increases or decreases exponentially with each dB of change. For example, 10 dB yields a sound level 10 times more intense than 1 dB, while 20 dB is 100 times more intense, and 30 dB is 1,000 times more intense. Sound levels are compared to a reference sound pressure (micro-Pascal) to identify the medium. For air and water, these reference pressures are "re: 20 μ Pa" and "re: 1 μ Pa," respectively. Root mean square (RMS) is the quadratic mean sound pressure over the duration of an impulse. RMS is calculated by squaring

all of the sound amplitudes, averaging the squares, and then taking the square root of the average (Urlick, 1975). RMS accounts for both positive and negative values; squaring the pressures makes all values positive so that they may be accounted for in the summation of pressure levels (Hastings and Popper, 2005). This measurement is often used in the context of discussing behavioral effects, in part because behavioral effects, which often result from auditory cues, may be better expressed through averaged units rather than by peak pressures.

Cetaceans are divided into three functional hearing groups: Low-frequency, mid-frequency, and high-frequency. Minke whales are considered low-frequency cetaceans and their estimated auditory bandwidth (lower to upper frequency hearing cut-off) ranges from 7 Hz to 22 kHz. Atlantic white-sided dolphins are considered mid-frequency cetaceans and their estimated auditory bandwidth ranges from 150 Hz to 160 kHz. Lastly, harbor porpoises are considered high-frequency cetaceans and their estimated auditory bandwidth ranges from 200 Hz to 180 kHz. In contrast, pinnipeds are divided into two functional hearing groups: In water and in air. Pinnipeds in water have an estimated auditory bandwidth of 75 Hz to 75 kHz. There are no pinniped haul-outs close enough to the survey area to take in air auditory bandwidths into consideration.

Hearing Impairment

Marine mammals may experience temporary or permanent hearing impairment when exposed to loud sounds. Hearing impairment is classified by temporary threshold shift (TTS) and permanent threshold shift (PTS). There are no empirical data for onset of PTS in any marine mammal; therefore, PTS-onset must be estimated from TTS-onset measurements and from the rate of TTS growth with increasing exposure levels above the level eliciting TTS-onset. PTS is presumed to be likely if the hearing threshold is reduced by ≥ 40 dB (that is, 40 dB of TTS). PTS is considered auditory injury (Southall *et al.*, 2007) and occurs in a specific frequency range and amount. Irreparable damage to the inner or outer cochlear hair cells may cause PTS; however, other mechanisms are also involved, such as exceeding the elastic limits of certain tissues and membranes in the middle and inner ears and resultant changes in the chemical composition of the inner ear fluids (Southall *et al.*, 2007). Due to proposed mitigation measures and source levels, NMFS does not expect marine mammals to be

exposed to PTS levels during the proposed survey activities.

Temporary Threshold Shift (TTS)

TTS is the mildest form of hearing impairment that can occur during exposure to a loud sound (Kryter, 1985). While experiencing TTS, the hearing threshold rises and a sound must be louder in order to be heard. TTS can last from minutes or hours to days, but is recoverable. TTS also occurs in specific frequency ranges; therefore, an animal might experience a temporary loss of hearing sensitivity only between the frequencies of 1 and 10 kHz, for example. The amount of change in hearing sensitivity is also variable and could be reduced by 6 dB or 30 dB, for example. Recent literature highlights the inherent complexity of predicting TTS onset in marine mammals, as well as the importance of considering exposure duration when assessing potential impacts (Mooney *et al.*, 2009a, 2009b; Kastak *et al.*, 2007). Generally, with sound exposures of equal energy, quieter sounds (lower SPL) of longer duration were found to induce TTS onset more than louder sounds (higher SPL) of shorter duration (more similar to subbottom profilers). For intermittent sounds, less threshold shift will occur than from a continuous exposure with the same energy (some recovery will occur between intermittent exposures) (Kryter *et al.*, 1966; Ward, 1997). For sound exposures at or somewhat above the TTS-onset threshold, hearing sensitivity recovers rapidly after exposure to the sound ends. Southall *et al.* (2007) considers a 6 dB TTS (that is, baseline thresholds are elevated by 6 dB) to be a sufficient definition of TTS-onset. NMFS considers TTS as Level B harassment that is mediated by physiological effects on the auditory system; however, NMFS does not consider TTS-onset to be the lowest level at which Level B harassment may occur. Southall *et al.* (2007) summarizes underwater pinniped data from Kastak *et al.* (2005), indicating that a tested harbor seal showed a TTS of around 6 dB when exposed to a nonpulse noise at sound pressure level 152 dB re: 1 μ Pa for 25 minutes. There is no information on species-specific TTS for harbor porpoises, minke whales, Atlantic white-sided dolphins, or gray seals; published data on the onset of TTS are limited to the captive bottlenose dolphin and beluga (Finneran *et al.*, 2000, 2002b, 2005a; Schlundt *et al.*, 2000; Nachtigall *et al.*, 2003, 2004).

Behavioral Disturbance

Behavioral responses to sound are highly variable and context-specific. An

animal's perception of and response to (in both nature and magnitude) an acoustic event can be influenced by prior experience, perceived proximity, bearing of the sound, familiarity of the sound, etc. (Southall *et al.*, 2007). If a marine mammal does react briefly to an underwater sound by changing its behavior or moving a small distance, the impacts of the change are unlikely to be significant to the individual, let alone the stock or population. However, if a sound source displaces marine mammals from an important feeding or breeding area for a prolonged period, impacts on individuals and populations could be significant (*e.g.*, Lusseau and Bejder, 2007; Weilgart, 2007). Given the many uncertainties in predicting the quantity and types of impacts of noise on marine mammals, it is common practice to estimate how many mammals would be present within a particular distance of activities and/or exposed to a particular level of sound. In most cases, this approach likely overestimates the numbers of marine mammals that would be affected in some biologically-important manner.

The studies that address responses of low-frequency cetaceans (such as the minke whale) to non-pulse sounds include data gathered in the field and related to several types of sound sources (of varying similarity to chirps), including: Vessel noise, drilling and machinery playback, low-frequency M-sequences (sine wave with multiple phase reversals) playback, tactical low-frequency active sonar playback, drill ships, and non-pulse playbacks. These studies generally indicate no (or very limited) responses to received levels in the 90 to 120 dB re: 1 μ Pa range and an increasing likelihood of avoidance and other behavioral effects in the 120 to 160 dB range. As mentioned earlier, though, contextual variables play a very important role in the reported responses and the severity of effects are not linear when compared to received level. Also, few of the laboratory or field datasets had common conditions, behavioral contexts, or sound sources, so it is not surprising that responses differ.

The studies that address responses of mid-frequency cetaceans (such as Atlantic white-sided dolphins) to non-pulse sounds include data gathered both in the field and the laboratory and related to several different sound sources (of varying similarity to chirps) including: pingers, drilling playbacks, ship and ice-breaking noise, vessel noise, Acoustic harassment devices (AHDs), Acoustic Deterrent Devices (ADDs), mid-frequency active sonar, and non-pulse bands and tones. Southall *et al.* (2007) were unable to come to a clear

conclusion regarding the results of these studies. In some cases animals in the field showed significant responses to received levels between 90 and 120 dB, while in other cases these responses were not seen in the 120 to 150 dB range. The disparity in results was likely due to contextual variation and the differences between the results in the field and laboratory data (animals typically responded at lower levels in the field).

The studies that address responses of high-frequency cetaceans (such as the harbor porpoise) to non-pulse sounds include data gathered both in the field and the laboratory and related to several different sound sources (of varying similarity to chirps), including: pingers, AHDs, and various laboratory non-pulse sounds. All of these data were collected from harbor porpoises. Southall *et al.* (2007) concluded that the existing data indicate that harbor porpoises are likely sensitive to a wide range of anthropogenic sounds at low received levels (around 90 to 120 dB), at least for initial exposures. All recorded exposures above 140 dB induced profound and sustained avoidance behavior in wild harbor porpoises (Southall *et al.*, 2007). Rapid habituation was noted in some but not all studies.

The studies that address the responses of pinnipeds in water to non-pulse sounds include data gathered both in the field and the laboratory and related to several different sound sources (of varying similarity to chirps), including: AHDs, various non-pulse sounds used in underwater data communication, underwater drilling, and construction noise. Few studies exist with enough information to include them in the analysis. The limited data suggest that exposures to non-pulse sounds between 90 and 140 dB generally do not result in strong behavioral responses of pinnipeds in water, but no data exist at higher received levels (Southall *et al.*, 2007).

Southall *et al.* (2007) also addressed behavioral responses of marine mammals to impulse sounds. The studies that address the responses of low-frequency cetaceans to impulse sounds include data gathered in the field and related to two sound sources: airguns and explosions. The onset of significant behavioral disturbance varied between 120 and 160 dB, depending on species. The studies that address the responses of mid-frequency cetaceans to impulse sounds include data gathered both in the field and the laboratory and related to several different sound sources (of varying similarity to boomers), including: small

explosives, airgun arrays, pulse sequences, and natural and artificial pulses. The data show no clear indication of increasing probability and severity of response with increasing received level. Behavioral responses seem to vary depending on species and stimuli. Data on behavioral responses of high-frequency cetaceans to multiple pulses is not available. Although individual elements of some non-pulse sources (such as pingers) could be considered pulses, it is believed that some mammalian auditory systems perceive them as non-pulse sounds (Southall *et al.*, 2007).

The studies that address the responses of pinnipeds in water to impulse sounds include data gathered in the field and related to several different sources (of varying similarity to boomers), including: small explosives, impact pile driving, and airgun arrays. Quantitative data on reactions of pinnipeds to impulse sounds is limited, but a general finding is that exposures in the 150 to 180 dB range generally have limited potential to induce avoidance behavior (Southall *et al.*, 2007).

Any impacts to marine mammal behavior are expected to be temporary. Animals may avoid the area around the survey vessels, thereby reducing exposure. Any disturbance to marine mammals is likely to be in the form of temporary avoidance or alteration of opportunistic foraging behavior near the survey location. In addition, because protected species observers would be monitoring a 500-m exclusion zone (much larger than the 30-m, 180-dB isopleth in which Level A harassment could occur), marine mammal injury or mortality is not anticipated. The protected species observers would be on watch to stop survey activities, a mitigation measure designed to prevent animals from being exposed to injurious level sounds. For these reasons, any changes to marine mammal behavior are expected to be temporary and result in a negligible impact to affected species and stocks.

Anticipated Effects on Marine Mammal Habitat

There is no anticipated impact on marine mammal habitat from the proposed survey activities. The high resolution geophysical survey equipment would not come in contact with the seafloor and would not be a source of air or water pollution. Marine mammals may avoid the survey area temporarily due to ensonification, but survey activities are not expected to result in long-term abandonment of marine mammal habitat. A negligible area of seafloor would be temporarily

disturbed during the collection of geotechnical data.

Overall, the proposed activity is not expected to cause significant impacts on marine mammal habitat or marine mammal prey species in the proposed survey area. Therefore, NMFS has preliminarily determined impacts to marine mammal habitat are negligible.

Proposed Mitigation

In order to issue an IHA under section 101(a)(5)(D) of the MMPA, NMFS must, where applicable, set forth the permissible methods of taking pursuant to such activity, and other means of effecting the least practicable impact on such species or stock and its habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of such species or stock for taking for subsistence uses where relevant.

Cape Wind Associates proposed, with NMFS' guidance, the following mitigation measures to help ensure the least practicable adverse impact on marine mammals:

Establishment of an Exclusion Zone

During all survey activities involving the shallow-penetration and medium-penetration subbottom profilers, Cape Wind Associates would establish a 500-m radius exclusion zone around each survey vessel. This area would be monitored for marine mammals 60 minutes (as stipulated by the BOEMRE lease) prior to starting or restarting surveys, and during surveys, to ensure that no marine mammals are exposed to injurious levels of sound. Monitoring would also continue for 60 minutes after survey equipment has been turned off.

Shut Down and Delay Procedures

If a protected species observer sees a marine mammal within or approaching the exclusion zone prior to the start of surveying, the observer would notify the appropriate individual who would then be required to delay surveying until the marine mammal moves outside of the exclusion zone or if the animal has not been resighted for 60 minutes.

Soft-Start Procedures

A "soft-start" technique would be used at the beginning of each survey to allow any marine mammal that may be in the immediate area to leave before the sound sources reach full energy.

NMFS has carefully evaluated the applicant's proposed mitigation measures and considered a range of other measures in the context of ensuring that NMFS prescribes the means of effecting the least practicable

adverse impact on the affected marine mammal species and stocks and their habitat. Our evaluation of potential measures included consideration of the following factors in relation to one another: (1) The manner in which, and the degree to which, the successful implementation of the measure is expected to minimize adverse impacts to marine mammals; (2) the proven or likely efficacy of the specific measure to minimize adverse impacts as planned; and (3) the practicability of the measure for applicant implementation, including consideration of personnel safety, and practicality of implementation.

Based on our evaluation of the applicant's proposed measures, NMFS has preliminarily determined that the proposed mitigation measures provide the means of effecting the least practicable adverse impacts on marine mammal species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance.

Proposed Monitoring and Reporting

In order to issue an IHA for an activity, section 101(a)(5)(D) of the MMPA states that NMFS must, where applicable, set forth "requirements pertaining to the monitoring and reporting of such taking". The MMPA implementing regulations at 50 CFR 216.104 (a)(13) indicate that requests for incidental take authorizations must include the suggested means of accomplishing the necessary monitoring and reporting that will result in increased knowledge of the species and of the level of taking or impacts on populations of marine mammals that are expected to be present in the proposed action area.

Cape Wind Associates must designate at least one biologically-trained on-site individual, approved in advance by NMFS to monitor the area for marine mammals 60 minutes before, during, and 60 minutes after all survey activities and call for shut down if any marine mammal is observed within or approaching the designated 500-m exclusion zone. Should a marine mammal not included in an incidental take authorization be observed at any time within the 500-m exclusion zone, shut down and delay procedures would be followed. Cape Wind Associates would also provide additional monitoring efforts that would result in increased knowledge of marine mammal species in Nantucket Sound. At least one NMFS-approved protected species observer would conduct behavioral monitoring from the survey vessel at least twice a week to estimate take and evaluate the behavioral impacts that

survey activities have on marine mammals outside of the 500-m exclusion zone. In addition, Cape Wind Associates would also send out an additional vessel with a NMFS-approved protected species observer to collect data on species presence and behavior before surveys begin and once a month during survey activities.

Protected species observers would be provided with the equipment necessary to effectively monitor for marine mammals (for example, high-quality binoculars, compass, and range-finder) in order to determine if animals have entered into the harassment isopleths and to record species, behaviors, and responses to survey activity. These observers would be required to submit a report to NMFS within 120 days of expiration of the IHA or completion of surveying, whichever comes first. The report would include data from marine mammal sightings (for example, species, group size, behavior), any observed reactions to survey activities, distance between marine mammals and the vessel, and sound sources operating at time of sighting.

Estimated Take by Incidental 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].

Based on Cape Wind Associates' application and NMFS' subsequent analysis, the impact of the described survey activities may result in, at most, short-term modification of behavior by small numbers of marine mammals within the action area. Marine mammals may avoid the area or change their behavior at time of exposure.

Current NMFS practice regarding exposure of marine mammals to anthropogenic sound is that in order to avoid the potential for injury of marine mammals (for example, PTS), cetaceans and pinnipeds should not be exposed to impulsive sounds of 180 and 190 dB re: 1 μ Pa or above, respectively. This level is considered precautionary as it is likely that more intense sounds would be required before injury would actually occur (Southall *et al.*, 2007). Potential for behavioral harassment (Level B) is considered to have occurred when marine mammals are exposed to sounds

at or above 160 dB re: 1 μ Pa for impulse sounds and 120 dB re: 1 μ Pa for non-impulse noise, but below the aforementioned thresholds. These levels are also considered precautionary.

Cape Wind Associates estimated the number of potential takes resulting from survey activities by considering species density, the zone of influence, and duration of survey activities. More specifically, take estimates were calculated by multiplying the estimated species density values (n) measured in individuals per square kilometers, by the area of the zone of influence in square kilometers, times the total number of survey days ($d = 137$). The zone of influence was calculated as a function of the distance a survey vessel with deployed boomer would travel in one survey day and the area around the boomer where sound levels reach or exceed 160 dB.

Estimated numbers of species potentially exposed to disturbing levels of sound from the boomer (the survey equipment with the largest 160 dB isopleth) were calculated for minke whales, Atlantic white-sided dolphins, harbor porpoises, gray seals, and harbor seals. These estimates were calculated by multiplying the low and high end of the ranges of species density by the boomer's zone of influence and the number of days of survey operation. To be conservative, Cape Wind Associates is requesting incidental take based on the highest estimated possible species exposures to potentially disturbing levels of sound from the boomer. No marine mammals are expected to be exposed to injurious levels of sound in excess of 180 dB during survey activities. Cape Wind Associates is requesting, and NMFS is proposing, Level B harassment of 11 minke whales, 231 Atlantic white-sided dolphins, 138 harbor porpoises, 398 gray seals, and 99 harbor seals. These numbers are conservative because the highest density estimates were used and mitigation measures (such as the 500-m exclusion zone, marine mammal monitoring, and ramp up procedures) were not considered. These numbers indicate the maximum number of animals expected to occur within the largest Level B harassment isopleth (444 m). Estimated and proposed level of take of each species is less than one percent of each affected stock and therefore is considered small in relation to the stock estimates previously set forth.

Negligible Impact and Small Numbers Analysis and Determination

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." In making a negligible impact determination, NMFS considers a number of factors which include, but are not limited to, number of anticipated injuries or mortalities (none of which would be authorized here), number, nature, intensity, and duration of Level B harassment, and the context in which takes occur (for instance, will the takes occur in an area or time of significance for marine mammals, or are takes occurring to a small, localized population?).

As described above, marine mammals would not be exposed to activities or sound levels which would result in injury (for instance, PTS), serious injury, or mortality. Anticipated impacts of survey activities on marine mammals are temporary behavioral changes due to avoidance of the area. All marine mammals in the vicinity of survey operations would be transient as no breeding, calving, pupping, nursing, or haul-outs overlap with the survey area. The closest pinniped haul-outs are 23.5 km (12.7 NM) and 13.7 km (7.4 NM) away on Monomoy Island and Muskeget Island, respectively. Marine mammals approaching the survey area would likely be traveling or opportunistically foraging. The amount of take Cape Wind Associates requested, and NMFS proposes to authorize, is considered small (less than one percent) relative to the estimated populations of 8,987 minke whales, 63,368 Atlantic white-sided dolphins, 89,504 harbor porpoises, 250,000 gray seals, and 99,340 harbor seals. No affected marine mammals are listed under the ESA or considered strategic under the MMPA. Marine mammals are expected to avoid the survey area, thereby reducing exposure and impacts. No disruption to reproductive behavior is anticipated and there is no anticipated effect on annual rates of recruitment or survival of affected marine mammals.

Based on the analysis contained herein of the likely effects of the specified activity on marine mammals and their habitat, and taking into consideration the implementation of the mitigation and monitoring measures, NMFS preliminarily determines that Cape Wind Associate's survey activities would result in the incidental take of small numbers of marine mammals, by Level B harassment, and that the total taking would have a negligible impact on the affected species or stocks.

Impact on Availability of Affected Species for Taking for Subsistence Uses

There are no relevant subsistence uses of marine mammals implicated by this action.

Endangered Species Act (ESA)

No marine mammal species listed under the ESA are anticipated to occur within the action area. Therefore, section 7 consultation under the ESA is not required.

National Environmental Policy Act (NEPA)

In compliance with the National Environmental Policy Act of 1969 (42 U.S.C. 4321 *et seq.*), as implemented by the regulations published by the Council on Environmental Quality (40 CFR parts 1500–1508), and NOAA Administrative Order 216–6, NMFS is preparing an Environmental Assessment (EA) to consider the direct, indirect, and cumulative effects to marine mammals and other applicable environmental resources resulting from issuance of a one-year IHA and the potential issuance of additional authorization for incidental harassment for the ongoing project. Upon completion, this EA will be available on the NMFS Web site listed in the beginning of this document.

Dated: September 8, 2011.

James H. Lecky,

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

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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648-XA700

Mid-Atlantic Fishery Management Council; Workshop

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

ACTION: Notice of a workshop.

SUMMARY: The Eight Regional Fishery Management Councils will convene a workshop of representatives of their respective Scientific and Statistical Committees (SSCs) to examine the approaches being taken around the United States by the Council SSCs in addressing Ecosystems Based Fishery Management (EBFM) issues from biological, economic and social perspectives.

DATES: The workshop will be held Tuesday, October 4 through Thursday, October 6, 2011.

ADDRESSES: The workshop will be held at the Kingsmill Conference Center, 1010 Kingsmill Road, Williamsburg, VA 23185; telephone: (800) 832-5665.

Council address: Mid-Atlantic Fishery Management Council, 800 N. State St., Suite 201, Dover, DE 19901; telephone: (302) 674-2331.

FOR FURTHER INFORMATION CONTACT: Richard Seagraves at the Mid-Atlantic Fishery Management Council, telephone: (302) 674-2331.

SUPPLEMENTARY INFORMATION: The Magnuson Stevens Fishery Conservation and Management Act (MSA) requires that each Council maintain and utilize its SSCs to assist in the development, collection, evaluation, and peer review of information relevant to the development and amendment of fishery management plans (FMPs). In addition, the MSA mandates that each SSC shall provide its Council ongoing scientific advice for fishery management decisions, including recommendations for acceptable biological catch (ABC), preventing overfishing, maximum sustainable yield, and achieving rebuilding targets, and reports on stock status and health, bycatch, habitat status, social and economic impacts of management measures, and sustainability of fishing practices.

At its January 2011 meeting, the Council Coordination Committee (a group consisting of the leadership from the eight Regional Fishery Management Councils), recommended that a fourth National SSC Workshop be convened to address ecosystem considerations in the fishery management process as well as to examine how social and economic considerations can be incorporated in both traditional single species and ecosystem based fishery management. Therefore, the purpose of this workshop is to examine the approaches being taken around the United States by the Council SSCs in addressing Ecosystems Based Fishery Management (EBFM) issues from biological, economic and social perspectives.

Proposed agenda items are as follows:
Tuesday, October 4, 2011; 8:30 a.m.— Keynote speaker Dr. Tony Smith CSIRO Australia; 9:30 a.m.—Status report from each SSC on approaches being taken to implement ABCs and providing advice to the Councils on implementing ecosystem based fishery management approaches and the role of social science and economics in the SSC Process; 1:15 p.m.—Plenary Session 1: Broader Context and Tradeoffs/