Request for Public Comments

We request comment on our analysis, the draft authorization, and any other aspect of this Notice of Proposed IHA for UniSea's dock construction activities. Please include with your comments any supporting data or literature citations to help inform our final decision on UniSea's request for an MMPA authorization.

Dated: December 17, 2015.

Perry F. Gayaldo,

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

[FR Doc. 2015–32155 Filed 12–22–15; 8:45 am]

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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648–XE343

Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to the U.S. Air Force Conducting Maritime Weapon Systems Evaluation Program Operational Testing Within the Eglin Gulf Test and Training Range

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

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

SUMMARY: NMFS (hereinafter, ''we'' or ''our'') received an application from the U.S. Department of the Air Force, Headquarters 96th Air Base Wing (Air Force), Eglin Air Force Base (Eglin AFB), requesting an Incidental Harassment Authorization (Authorization) to take marine mammals, by harassment, incidental to a Maritime Weapon Systems Evaluation Program (Maritime WSEP) within a section of the Eglin Gulf Test and Training Range in the northern Gulf of Mexico.

Eglin AFB's activities are military readiness activities per the Marine Mammal Protection Act (MMPA), as amended by the National Defense Authorization Act (NDAA) for Fiscal Year 2004. Per the MMPA, NMFS requests comments on its proposal to issue an Authorization to Eglin AFB to incidentally take, by Level B and Level A harassment, two species of marine mammals, the Atlantic bottlenose dolphin (*Tursiops truncatus*) and Atlantic spotted dolphin (*Stenella frontalis*), during the specified activity.

DATES: NMFS must receive comments and information no later than January 22, 2016.

ADDRESSES: Address comments on the application to Jolie Harrison, Chief, Permits and Conservation Division, Office of Protected Resources, National Marine Fisheries Service, 1315 East-West Highway, Silver Spring, MD 20910. The mailbox address for providing email comments is *ITP.Cody@noaa.gov.* Please include 0648–XE343 in the subject line. Comments sent via email to *ITP.Cody@noaa.gov,* including all attachments, must not exceed a 25-megabyte file size. NMFS is not responsible for email comments sent to addresses other than the one provided in this notice.

Instructions: All submitted comments are a part of the public record, and generally we will post them to *http://www.nmfs.noaa.gov/pr/permits/incidental/military.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.

To obtain an electronic copy of the 2015 renewal request, the 2014 application, a list of the references used in this document, and Eglin AFB's Environmental Assessment (EA) titled, ''Maritime Weapons System Evaluation Program,'' write to the previously mentioned address, telephone the contact listed here (see **FOR FURTHER INFORMATION CONTACT**), or visit the internet at: *http://www.nmfs.noaa.gov/pr/permits/incidental/military.htm.*

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

SUPPLEMENTARY INFORMATION:

Background

Sections 101(a)(5)(A) and (D) of the Marine Mammal Protection Act of 1972, as amended (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 of a species or population stock, by U.S. citizens who engage in a specified activity (other than commercial fishing) within a specified geographical region if, after NMFS provides a notice of a proposed authorization to the public for review and comment: (1) NMFS makes certain findings; and (2) the taking is limited to harassment.

An Authorization for incidental takings for marine mammals 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 taking 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.''

The National Defense Authorization Act of 2004 (NDAA; Public Law 108–136) removed the ''small numbers'' and ''specified geographical region'' limitations indicated earlier and amended the definition of harassment as it applies to a ''military readiness activity'' to read as follows (Section 3(18)(B) of the MMPA): (i) Any act that injures or has the significant potential to injure a marine mammal or marine mammal stock in the wild [Level A Harassment]; or (ii) any act that disturbs or is likely to disturb a marine mammal or marine mammal stock in the wild by causing disruption of natural behavioral patterns, including, but not limited to, migration, surfacing, nursing, breeding, feeding, or sheltering, to a point where such behavioral patterns are abandoned or significantly altered [Level B Harassment].

Summary of Request

On February 5, 2015, we issued an Authorization to Eglin AFB to take marine mammals, by harassment, incidental to a Maritime Weapon Systems Evaluation Program (Maritime WSEP) within the Eglin Gulf Test and Training Range (EGTTR) in the Gulf of Mexico from February through April 2015 (see 80 FR 17394, April 1, 2015). Eglin AFB conducted the Maritime WSEP training activities between February 9–12, and March 16–19, 2015. However, due to unavailability of some of the live munitions, Eglin AFB released only 1.05 percent of the munitions proposed for the 2015 military readiness activities. On May 28, 2015, we received a renewal request for an Authorization from Eglin AFB to complete the missions authorized in 2015. Following the initial application submission, Eglin AFB submitted a revised version of the renewal request on December 3, 2015. We considered the revised renewal request as adequate and complete on December 10, 2015.

Eglin AFB proposes to conduct Maritime WESP missions within the EGTTR airspace over the Gulf of

Mexico, specifically within Warning Area 151 (W–151). The proposed Maritime WSEP training activities would occur February through April (spring) in the daytime; however, the activities could occur between February 2016 and February 2017.

Eglin AFB proposes to use multiple types of live munitions (*e.g.,* gunnery rounds, rockets, missiles, and bombs) against small boat targets in the EGTTR. These activities qualify as a military readiness activities under the MMPA and NDAA.

The following aspects of the proposed Maritime WSEP training activities have the potential to take marine mammals: Exposure to impulsive noise and pressure waves generated by live ordnance detonation at or near the surface of the water. Take, by Level B harassment of individuals of common bottlenose dolphin or Atlantic spotted dolphin could potentially result from the specified activity. Additionally, although NMFS does not expect it to occur, Eglin AFB has also requested authorization for Level A Harassment of up to 38 individuals of either common bottlenose dolphins or Atlantic spotted dolphins. Therefore, Eglin AFB has requested authorization to take individuals of two cetacean species by Level A and Level B harassment.

Eglin AFB's Maritime WSEP training activities may potentially impact marine mammals at or near the water surface in the absence of mitigation. Marine mammals could potentially be harassed, injured, or killed by exploding and non-exploding projectiles, and falling debris. However, based on analyses provided in Eglin AFB's 2015 Authorization renewal request; 2014 application; 2015 Environmental Assessment (EA); the 2015 monitoring report for the authorized activities conducted in February and March 2015; and for reasons discussed later in this document, we do not anticipate that Eglin AFB's Maritime WSEP activities would result in any serious injury or mortality to marine mammals.

For Eglin AFB, this would be the second such Authorization, if issued, following the Authorization issued effective from February through April 2015 (80 FR 17394, April 1, 2015). The monitoring report associated with the 2015 Authorization is available at *www.nmfs.noaa.gov/pr/permits/incidental/military.htm* and provides additional environmental information related to proposed issuance of this Authorization for public review and comment.

Description of the Specified Activity

Overview

Eglin AFB proposes to conduct live ordnance testing and training in the Gulf of Mexico as part of the Maritime WSEP operational testing missions. The Maritime WSEP test objectives are to evaluate maritime deployment data, evaluate tactics, techniques and procedures, and to determine the impact of techniques and procedures on combat Air Force training. The need to conduct this type of testing has developed in response to increasing threats at sea posed by operations conducted from small boats which can carry a variety of weapons; can form in large or small numbers; and may be difficult to locate, track, and engage in the marine environment. Because of limited Air Force aircraft and munitions testing on engaging and defeating small boat threats, Eglin AFB proposes to employ live munitions against boat targets in the EGTTR in order to continue development of techniques and procedures to train Air Force strike aircraft to counter small maneuvering surface vessels. Thus, the Department of Defense considers the Maritime WSEP training activities as a high priority for national security.

Dates and Duration

Eglin AFB proposes to schedule the Maritime WSEP training missions over an approximate three-week period that would begin in early February 2016. The proposed missions would occur in the spring, on weekdays, during daytime hours only, with one or two missions occurring per day. Some minor deviation from Eglin AFB's requested dates is possible and the proposed Authorization, if issued, would be effective from February 4, 2016 through February 3, 2017.

Specified Geographic Region

The specific planned mission location is approximately 17 miles (mi) (27.3 kilometers [km]) offshore from Santa Rosa Island, Florida, in nearshore waters of the continental shelf in the Gulf of Mexico. All activities would take place within the EGTTR, defined as the airspace over the Gulf of Mexico controlled by Eglin AFB, beginning at a point three nautical miles (nmi) (3.5 miles [mi]; 5.5 kilometers [km]) from shore. The EGTTR consists of subdivided blocks including Warning Area 151 (W–151) where the proposed activities would occur, specifically in sub-area W–151A shown (Figure 1).

W–151: The inshore and offshore boundaries of W–151 are roughly parallel to the shoreline contour. The shoreward boundary is three nmi (3.5 mi; 5.5 km) from shore, while the seaward boundary extends approximately 85 to 100 nmi (97.8 mi; 157.4 km to 115 mi; 185.2 km) offshore, depending on the specific location. W–151 covers a surface area of approximately 10,247 square nmi [nmi^2] (13,570 square mi [mi^2]; 35,145 square km [km^2]), and includes water depths ranging from about 20 to 700 meters (m) (65.6 to 2296.6 feet [ft]). This range of depth includes continental shelf and slope waters. Approximately half of W–151 lies over the shelf.

W–151A: W–151A extends approximately 60 nmi (69.0 mi; 111.1 km) offshore and has a surface area of 2,565 nmi^2 (3,396.8 mi^2; 8,797 km^2). Water depths range from about 30 to 350 m (98.4 to 1148.2 ft) and include continental shelf and slope zones. However, most of W–151A occurs over the continental shelf, in water depths less than 250 m (820.2 ft). Maritime WSEP training missions will occur in the shallower, northern inshore portion of the sub-area, in a water depth of about 35 meters (114.8 ft).

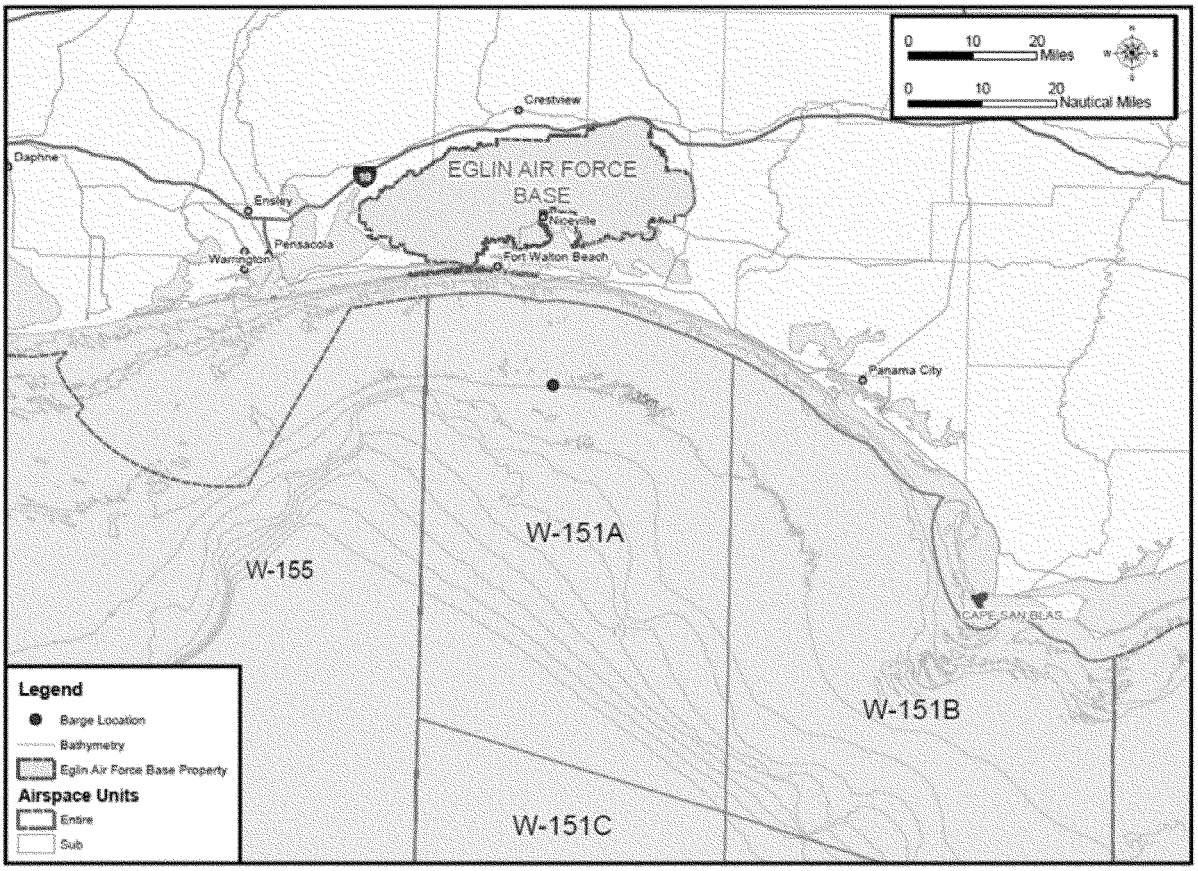

Figure 1 – Proposed Maritime WSEP operational testing location in block W-151A in the EGTRR.

Detailed Description of Activities

The Maritime WSEP training missions, classified as military readiness activities, include the release of multiple types of inert and live munitions from fighter and bomber aircraft, unmanned aerial vehicles, and gunships against small, static, towed, and remotely-controlled boat targets. Munition types include bombs, missiles, rockets, and gunnery rounds (Table 1).

TABLE 1—LIVE MUNITIONS AND AIRCRAFT

Munitions	Aircraft (not associated with specific munitions)
GBU–10 laser-guided Mk-84 bomb	F–16C fighter aircraft.
GBU–24 laser-guided Mk-84 bomb	F–16C+ fighter aircraft.
GBU–12 laser-guided Mk-82 bomb	F–15E fighter aircraft.
GBU–54 Laser Joint Direct Attack Munition (LJDAM), laser-guided Mk-82 bomb.	A–10 fighter aircraft.
CBU–105 (WCMD) (inert)	B–1B bomber aircraft.
AGM–65 Maverick air-to-surface missile	B–52H bomber aircraft.
GBU–38 Small Diameter Bomb II (Laser SDB)	MQ–1/9 unmanned aerial vehicle.
AGM–114 Hellfire air-to-surface missile	AC–130 gunship.
AGM–176 Griffin air-to-surface missile.	
2.75 Rockets.	
PGU–13/B high explosive incendiary 30 mm rounds.	
7.62 mm/.50 Cal (inert).	

Key: AGM = air-to-ground missile; CBU = Cluster Bomb Unit; GBU = Guided Bomb Unit; LJDAM = Laser Joint Direct Attack Munition; Laser SDB = Laser Small Diameter Bomb; mm = millimeters; PGU = Projectile Gun Unit; WCMD = wind corrected munition dispenser.

The proposed Maritime WSEP training activities involve detonations above the water, near the water surface, and under water within the EGTTR. However, because the tests will focus on weapons/target interaction, Eglin AFB will not specify a particular aircraft for a given test as long as it meets the delivery parameters.

Eglin AFB would deploy the munitions against static, towed, and remotely-controlled boat targets within the W–151A. Eglin AFB would operate the remote-controlled boats from an

instrumentation barge (*i.e.,* the Gulf Range Armament Test Vessel; GRATV) anchored on site within the test area. The GRATV would provide a platform for video cameras and weapons-tracking equipment. Eglin AFB would position the target boats approximately 182.8 m (600 ft) from the GRATV, depending on the munition type.

Table 2 lists the number, height, or depth of detonation, explosive material, and net explosive weight (NEW) in pounds (lbs) of each munition proposed for use during the Maritime WSEP activities.

TABLE 2—MARITIME WSEP MUNITIONS PROPOSED FOR USE IN THE W–151A TEST AREA

Type of munition	Total number of live munitions	Detonation type	Warhead—explosive material	Net explosive weight per munition
GBU–10 or GBU–24	2	Surface	MK–84—Tritonal	945 lbs.
GBU–12 or GBU–54 (LJDAM).	6	Surface	MK–82—Tritonal	192 lbs.
AGM–65 (Maverick)	6	Surface	WDU–24/B penetrating blast-fragmentation warhead.	86 lbs.
CBU–105 (WCMD)	4	Airburst	10 BLU–108 sub-munitions each containing 4 projectiles parachute, rocket motor and altimeter.	Inert.
GBU–38 (Laser Small Diameter Bomb).	4	Surface	AFX–757 (Insensitive munition)	37 lbs.
AGM–114 (Hellfire)	15	Subsurface (10 msec delay).	High Explosive Anti-Tank (HEAT) tandem anti-armor metal augmented charge.	20 lbs.
AGM–176 (Griffin)	10	Surface	Blast fragmentation	13 lbs.
2.75 Rockets	100	Surface	Comp B–4 HEI	Up to 12 lbs.
PGU–12 HEI 30 mm	1,000	Surface	30 x 173 mm caliber with aluminized RDX explosive. Designed for GAU–8/A Gun System.	0.1 lbs.
7.62 mm/.50 cal	5,000	Surface	N/A	Inert.

Key: AGL = above ground level; AGM = air-to-ground missile; CBU = Cluster Bomb Unit; GBU = Guided Bomb Unit; JDAM = Joint Direct Attack Munition; LJDAM = Laser Joint Direct Attack Munition; mm = millimeters; msec = millisecond; lbs = pounds; PGU = Projectile Gun Unit; HEI = high explosive incendiary.

At least two ordnance delivery aircraft will participate in each live weapons release training mission which lasts approximately four hours. Before delivering the ordnance, mission aircraft would make a dry run over the target area to ensure that it is clear of commercial and recreational boats. Jets will fly at a minimum air speed of 300 knots (approximately 345 miles per hour, depending on atmospheric conditions) and at a minimum altitude of 305 m (1,000 ft). Due to the limited flyover duration and potentially high speed and altitude, the pilots would not participate in visual surveys for protected species. Eglin AFB's 2015 renewal request, 2014 application for the same activities, and 2015 EA, which is available upon request (see **ADDRESSES**), contain additional detailed information on the Maritime WSEP training activities.

Description of Marine Mammals in the Area of the Specified Activity

Table 3 lists marine mammal species with potential or confirmed occurrence in the proposed activity area during the project timeframe and summarizes key information regarding stock status and abundance. Please see NMFS' draft 2015 and 2014 Stock Assessment Reports (SAR), available at *www.nmfs.noaa.gov/pr/sars* and Garrison *et al.,* 2008; Navy, 2007; Davis *et al.,* 2000 for more detailed accounts of these stocks' status and abundance.

TABLE 3—MARINE MAMMALS THAT COULD OCCUR IN THE PROPOSED ACTIVITY AREA

Species	Stock name	Regulatory status[1 2]	Estimated abundance	Relative occurrence in W–151
Common bottlenose Dolphin	Choctawatchee Bay	MMPA–S ESA–NL	179 CV = 0.04[3]	Uncommon.
	Pensacola/East Bay	MMPA–S ESA–NL	33 CV = 0.80[4]	Uncommon.
	St. Andrew Bay	MMPA–S ESA–NL	124 CV = 0.57[4]	Uncommon.
	Gulf of Mexico Northern Coastal	MMPA–S ESA–NL	7,185 CV = 0.21[3]	Common.
	Northern Gulf of Mexico Continental Shelf.	MMPA–NC ESA–NL	51,192 CV = 0.10[3]	Uncommon.
	Northern Gulf of Mexico Oceanic	MMPA–NC ESA–NL	5,806 CV = 0.39[4]	Uncommon.
Atlantic spotted dolphin	Northern Gulf of Mexico	MMPA–NC ESA–NL	37,611[4] CV = 0.28	Common.

[1] MMPA: D = Depleted, S = Strategic, NC = Not Classified.
[2] ESA: EN = Endangered, T = Threatened, DL = Delisted, NL = Not listed.
[3] NMFS Draft 2015 SAR (Waring *et al.,* 2015).
[4] NMFS 2014 SAR (Waring *et al.,* 2014).

An additional 19 cetacean species could occur within the northeastern Gulf of Mexico, mainly occurring at or beyond the shelf break (*i.e.,* water depth of approximately 200 m (656.2 ft)) located beyond the W–151A test area. NMFS and Eglin AFB consider these 19 species to be rare or extralimital within the W–151A test location area. These species are the Bryde's whale (*Balaenoptera edeni*), sperm whale (*Physeter macrocephalus*), dwarf sperm whale (*Kogia sima*), pygmy sperm whale (*K. breviceps*), pantropical spotted dolphin (*Stenella atenuarta*), Blainville's beaked whale (*Mesoplodon densirostris*), Cuvier's beaked whale (*Ziphius cavirostris*), Gervais' beaked whale (*M. europaeus*), Clymene dolphin (*S. clymene*), spinner dolphin (*S. longirostris*), striped dolphin (*S. coeruleoalba*), killer whale (*Orcinus orca*), false killer whale (*Pseudorca crassidens*), pygmy killer whale (*Feresa attenuata*), Risso's dolphin (*Grampus griseus*), Fraser's dolphin (*Lagenodelphis hosei*), melon-headed whale (*Peponocephala electra*), rough-toothed dolphin (*Steno bredanensis*), and short-finned pilot whale (*Globicephala macrorhynchus*).

Of these species, only the sperm whale is listed as endangered under the ESA and as depleted throughout its range under the MMPA. Sperm whale occurrence within W–151A is unlikely because almost all reported sightings have occurred in water depths greater than 200 m (656.2 ft).

Because these species are unlikely to occur within the W–151A area, Eglin AFB has not requested and NMFS has not proposed the issuance of take authorizations for them. Thus, NMFS does not consider these species further in this notice.

We have reviewed Eglin AFB's species descriptions, including life history information, distribution, regional distribution, diving behavior, and acoustics and hearing, for accuracy and completeness. We refer the reader to Sections 3 and 4 of Eglin AFB's 2014 Authorization application and to Chapter 3 in Eglin AFB's EA rather than reprinting the information here.

Other Marine Mammals in the Proposed Action Area

The endangered West Indian manatee (*Trichechus manatus*) rarely occurs in the area (USAF, 2014). The U.S. Fish and Wildlife Service has jurisdiction over the manatee; therefore, we would not include a proposed Authorization to harass manatees and do not discuss this species further in this notice.

Potential Effects of the Specified Activity on Marine Mammals and Their Habitat

This section includes a summary and discussion of the ways that components (*e.g.,* exposure to impulsive noise and pressure waves generated by live ordnance detonation at or near the surface of the water) of the specified activity, including mitigation may impact marine mammals and their habitat. The ''Estimated Take by Incidental Harassment'' section later in this document will include a quantitative analysis of the number of individuals that we expect Eglin AFB to take during this activity. The ''Negligible Impact Analysis'' section will include the analysis of how this specific activity would impact marine mammals. We will consider the content of the following sections: ''Estimated Take by Incidental Harassment'' and ''Proposed Mitigation'' to draw conclusions regarding the likely impacts of these activities on the reproductive success or survivorship of individuals—and from that consideration—the likely impacts of this activity on the affected marine mammal populations or stocks.

In the following discussion, we provide general background information on sound and marine mammal hearing before considering potential effects to marine mammals from sound produced by underwater detonations.

Brief Background on Sound and WSEP Sound Types

Sound travels in waves, the basic components of which are frequency, wavelength, velocity, and amplitude. Frequency is the number of pressure waves that pass by a reference point per unit of time and is measured in hertz (Hz) or cycles per second. Wavelength is the distance between two peaks of a sound wave; lower frequency sounds have longer wavelengths than higher frequency sounds and attenuate (decrease) more rapidly in shallower water. Amplitude is the height of the sound pressure wave or the ''loudness'' of a sound and is typically measured using the decibel (dB) scale. A dB is the ratio between a measured pressure (with sound) and a reference pressure (sound at a constant pressure, established by scientific standards). It is a logarithmic unit that accounts for large variations in amplitude; therefore, relatively small changes in dB ratings correspond to large changes in sound pressure. When referring to sound pressure levels (SPLs; the sound force per unit area), sound is referenced in the context of underwater sound pressure to 1 microPascal (μPa). One pascal is the pressure resulting from a force of one newton exerted over an area of one square meter. The source level (SL) represents the sound level at a distance of 1 m from the source (referenced to 1 μPa). The received level is the sound level at the listener's position. Note that we reference all underwater sound levels in this document to a pressure of 1 μPa.

Root mean square (rms) is the quadratic mean sound pressure over the duration of an impulse. Acousticians calculate rms by squaring all of the sound amplitudes, averaging the squares, and then taking the square root of the average (Urick, 1983). Rms accounts for both positive and negative values; squaring the pressures makes all values positive so that one can account for the values in the summation of pressure levels (Hastings and Popper, 2005). Researchers often use this measurement 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 than by peak pressures.

The sounds produced by the proposed WSEP activities fall into one of two general sound types: Impulsive (defined in the following) and non-pulsed. The distinction between these two sound types is important because they have differing potential to cause physical effects, particularly with regard to hearing (*e.g.,* Ward, 1997 in Southall *et al.,* 2007). Please see Southall *et al.,* (2007) for an in-depth discussion of these concepts.

Impulsive sound sources (*e.g.,* explosions, gunshots, sonic booms, impact pile driving) produce signals that are brief (typically considered to be less than one second), broadband, atonal transients (ANSI, 1986; Harris, 1998; NIOSH, 1998; ISO, 2003; ANSI, 2005) and occur either as isolated events or repeated in some succession. These sounds have a relatively rapid rise from ambient pressure to a maximal pressure value followed by a rapid decay period that may include a period of diminishing, oscillating maximal and minimal pressures, and generally have an increased capacity to induce physical injury as compared with sounds that lack these features.

Marine Mammal Hearing

When considering the influence of various kinds of sound on the marine environment, it is necessary to understand that different kinds of marine life are sensitive to different frequencies of sound. Current data indicate that not all marine mammal species have equal hearing capabilities (Richardson *et al.,* 1995; Southall *et al.,*

1997; Wartzok and Ketten, 1999; Au and Hastings, 2008).

Southall *et al.* (2007) designated ''functional hearing groups'' for marine mammals based on available behavioral data; audiograms derived from auditory evoked potentials; anatomical modeling; and other data. Southall *et al.* (2007) also estimated the lower and upper frequencies of functional hearing for each group. However, animals are less sensitive to sounds at the outer edges of their functional hearing range and are more sensitive to a range of frequencies within the middle of their functional hearing range.

The functional groups and the associated frequencies are:

- Low frequency cetaceans (13 species of mysticetes): Functional hearing estimates occur between approximately 7 Hertz (Hz) and 25 kilohertz (kHz) (extended from 22 kHz based on data indicating that some mysticetes can hear above 22 kHz; Au *et al.,* 2006; Lucifredi and Stein, 2007; Ketten and Mountain, 2009; Tubelli *et al.,* 2012);
- Mid-frequency cetaceans (32 species of dolphins, six species of larger toothed whales, and 19 species of beaked and bottlenose whales): Functional hearing estimates occur between approximately 150 Hz and 160 kHz;
- High-frequency cetaceans (porpoises, river dolphins, and members of the genera *Kogia* and *Cephalorhynchus;* now considered to include two members of the genus *Lagenorhynchus* on the basis of recent echolocation data and genetic data [May-Collado and Agnarsson, 2006; Kyhn *et al.* 2009, 2010; Tougaard *et al.* 2010]): Functional hearing is estimated to occur between approximately 200 Hz and 180 kHz; and
- Pinnipeds in water: Functional hearing is estimated to occur between approximately 75 Hz to 100 kHz for Phocidae (true seals) and between 100 Hz and 40 kHz for Otariidae (eared seals), with the greatest sensitivity between approximately 700 Hz and 20 kHz. The pinniped functional hearing group was modified from Southall *et al.* (2007) on the basis of data indicating that phocid species have consistently demonstrated an extended frequency range of hearing compared to otariids, especially in the higher frequency range (Hemila *et al.,* 2006; Kastelein *et al.,* 2009; Reichmuth *et al.,* 2013).

There are two marine mammal species (two cetaceans, the common bottlenose dolphin and the Atlantic spotted dolphin) with expected potential to co-occur with Eglin AFB WSEP military readiness activities. Please refer to Table 3 for information on these mid-frequency hearing specialists.

Common Bottlenose Dolphin Vocalization and Hearing: Bottlenose dolphins can typically hear within a broad frequency range of 0.04 to 160 kHz (Au, 1993; Turl, 1993). Electrophysiological experiments suggest that the bottlenose dolphin brain has a dual analysis system: One specialized for ultrasonic clicks and another for lower-frequency sounds, such as whistles (Ridgway, 2000). Scientists have reported a range of highest sensitivity between 25 and 70 kHz, with peaks in sensitivity at 25 and 50 kHz (Nachtigall *et al.,* 2000). Research on the same individuals indicates that auditory thresholds obtained by electrophysiological methods correlate well with those obtained in behavior studies, except at lower (10 kHz) and higher (80 and 100 kHz) frequencies (Finneran and Houser, 2006).

Sounds emitted by common bottlenose dolphins fall into two broad categories: Pulsed sounds (including clicks and burst-pulses) and narrow-band continuous sounds (whistles), which usually are frequency modulated. Clicks have a dominant frequency range of 110 to 130 kHz and a source level of 218 to 228 dB re: 1 µPa (peak-to-peak) (Au, 1993) and 3.4 to 14.5 kHz at 125 to 173 dB re 1 µPa (peak-to-peak) (Ketten, 1998). Whistles are primarily associated with communication and can serve to identify specific individuals (*i.e.,* signature whistles) (Caldwell and Caldwell, 1965; Janik *et al.,* 2006). Cook *et al.* (2004) classified up to 52 percent of whistles produced by bottlenose dolphin groups with mother-calf pairs as signature whistles. Sound production is also influenced by group type (single or multiple individuals), habitat, and behavior (Nowacek, 2005). Bray calls (low-frequency vocalizations; majority of energy below 4 kHz), for example, are used when capturing fish, specifically sea trout (*Salmo trutta*) and Atlantic salmon (*Salmo salar*), in some regions (*i.e.,* Moray Firth, Scotland) (Janik, 2000). Additionally, whistle production has been observed to increase while feeding (Acevedo-Gutiérrez and Stienessen, 2004; Cook *et al.,* 2004).

Atlantic Spotted Dolphin Vocalization and Hearing: Researchers have recorded a variety of sounds including whistles, echolocation clicks, squawks, barks, growls, and chirps for the Atlantic spotted dolphin. Whistles have dominant frequencies below 20 kHz (range: 7.1 to 14.5 kHz) but multiple harmonics extend above 100 kHz, while burst pulses consist of frequencies above 20 kHz (dominant frequency of approximately 40 kHz) (Lammers *et al.,* 2003). Other sounds, such as squawks, barks, growls, and chirps, typically range in frequency from 0.1 to 8 kHz (Thomson and Richardson, 1995). Recorded echolocation clicks had two dominant frequency ranges at 40 to 50 kHz and 110 to 130 kHz, depending on source level (*i.e.,* lower source levels typically correspond to lower frequencies and higher frequencies to higher source levels (Au and Herzing, 2003). Echolocation click source levels as high as 210 dB re 1 µPa-m peak-to-peak have been recorded (Au and Herzing, 2003). Spotted dolphins in the Bahamas were frequently recorded during agonistic/aggressive interactions with bottlenose dolphins (and their own species) to produce squawks (0.2 to 12 kHz broad band burst pulses; males and females), screams (5.8 to 9.4 kHz whistles; males only), barks (0.2 to 20 kHz burst pulses; males only), and synchronized squawks (0.1–15 kHz burst pulses; males only in a coordinated group) (Herzing, 1996). The hearing ability for the Atlantic spotted dolphin is unknown. However, odontocetes are generally adapted to hear high-frequencies (Ketten, 1997).

The Maritime WSEP training exercises proposed for the incidental take of marine mammals have the potential to take marine mammals by exposing them to impulsive noise and pressure waves generated by live ordnance detonation at or near the surface of the water. Exposure to energy, pressure, or direct strike by ordnance has the potential to result in non-lethal injury (Level A harassment), disturbance (Level B harassment), serious injury, and/or mortality. In addition, NMFS also considered the potential for harassment from vessel and aircraft operations.

Acoustic Effects, Underwater Detonations

Underwater explosive detonations send a shock wave and sound energy through the water and can release gaseous by-products, create an oscillating bubble, or cause a plume of water to shoot up from the water surface. The shock wave and accompanying noise are of most concern to marine animals. Depending on the intensity of the shock wave and size, location, and depth of the animal, an animal can be injured, killed, suffer non-lethal physical effects, experience hearing related effects with or without behavioral responses, or exhibit temporary behavioral responses or tolerance from hearing the blast sound. Generally, exposures to higher levels of

impulse and pressure levels would result in greater impacts to an individual animal.

The effects of underwater detonations on marine mammals are dependent on several factors, including the size, type, and depth of the animal; the depth, intensity, and duration of the sound; the depth of the water column; the substrate of the habitat; the standoff distance between activities and the animal; and the sound propagation properties of the environment. Thus, we expect impacts to marine mammals from WSEP activities to result primarily from acoustic pathways. As such, the degree of the effect relates to the received level and duration of the sound exposure, as influenced by the distance between the animal and the source. The further away from the source, the less intense the exposure should be.

The potential effects of underwater detonations from the proposed WSEP training activities may include one or more of the following: Temporary or permanent hearing impairment, non-auditory physical or physiological effects, behavioral disturbance, and masking (Richardson *et al.,* 1995; Gordon *et al.,* 2004; Nowacek *et al.,* 2007; Southall *et al.,* 2007). However, the effects of noise on marine mammals are highly variable, often depending on species and contextual factors (based on Richardson *et al.,* 1995).

In the absence of mitigation, impacts to marine species could result from physiological and behavioral responses to both the type and strength of the acoustic signature (Viada *et al.,* 2008). The type and severity of behavioral impacts are more difficult to define due to limited studies addressing the behavioral effects of impulsive sounds on marine mammals. Potential effects from impulsive sound sources can range in severity from effects such as behavioral disturbance or tactile perception to physical discomfort, slight injury of the internal organs and the auditory system, or mortality (Yelverton *et al.,* 1973).

Hearing Impairment and Other Physical Effects—Marine mammals exposed to high intensity sound repeatedly or for prolonged periods can experience hearing threshold shift (TS), which is the loss of hearing sensitivity at certain frequency ranges (Kastak *et al.,* 1999; Schlundt *et al.,* 2000; Finneran *et al.,* 2002, 2005). TS can be permanent (PTS), in which case the loss of hearing sensitivity is not recoverable, or temporary (TTS), in which case the animal's hearing threshold would recover over time (Southall *et al.,* 2007). Marine mammals depend on acoustic cues for vital biological functions, (*e.g.,* orientation, communication, finding prey, avoiding predators); thus, TTS may result in reduced fitness in survival and reproduction. However, this depends on the frequency and duration of TTS, as well as the biological context in which it occurs. TTS of limited duration, occurring in a frequency range that does not coincide with that used for recognition of important acoustic cues, would have little to no effect on an animal's fitness. Repeated sound exposure that leads to TTS could cause PTS. PTS constitutes injury, but TTS does not (Southall *et al.,* 2007). The following subsections provide a summary on the possibilities of TTS, PTS, and non-auditory physical effects.

Temporary Threshold Shift—TTS is the mildest form of hearing impairment that can occur during exposure to a strong sound (Kryter, 1985). While experiencing TTS, the hearing threshold rises, and a sound must be stronger in order to be heard. In terrestrial mammals, TTS can last from minutes or hours to days (in cases of strong TTS). For sound exposures at or somewhat above the TTS threshold, hearing sensitivity in both terrestrial and marine mammals recovers rapidly after exposure to the sound ends. Few data on sound levels and durations necessary to elicit mild TTS have been obtained for marine mammals, and none of the published data concern TTS elicited by exposure to multiple pulses of sound. Southall *et al.* (2007) summarizes available data on TTS in marine mammals.

Given the available data, the received level of a single pulse (with no frequency weighting) might need to be approximately 186 dB re 1 μPa2-s (*i.e.,* 186 dB sound exposure level [SEL] or approximately 221–226 dB p-p [peak]) in order to produce brief, mild TTS. Exposure to several strong pulses that each have received levels near 190 dB rms (175–180 dB SEL) might result in cumulative exposure of approximately 186 dB SEL and thus slight TTS in a small odontocete, assuming the TTS threshold is (to a first approximation) a function of the total received pulse energy.

The above TTS information for odontocetes is derived from studies on the bottlenose dolphin and beluga whale (*Delphinapterus leucas*). There is no published TTS information for other species of cetaceans. However, preliminary evidence from a harbor porpoise exposed to pulsed sound suggests that its TTS threshold may have been lower (Lucke *et al.,* 2009). As summarized earlier, data that are now available imply that TTS is unlikely to occur unless odontocetes are exposed to pulses stronger than 180 dB re 1 μPa rms.

Permanent Threshold Shift—When PTS occurs, there is physical damage to the sound receptors in the ear. In severe cases, there can be total or partial deafness, while in other cases the animal has an impaired ability to hear sounds in specific frequency ranges (Kryter, 1985). There is no specific evidence that exposure to pulses of sound can cause PTS in any marine mammal. However, given the possibility that mammals close to a sound source might incur TTS, there has been further speculation about the possibility that some individuals might incur PTS. Single or occasional occurrences of mild TTS are not indicative of permanent auditory damage, but repeated or (in some cases) single exposures to a level well above that causing TTS onset might elicit PTS.

Relationships between TTS and PTS thresholds have not been studied in marine mammals, but they are assumed to be similar to those in humans and other terrestrial mammals. PTS might occur at a received sound level at least several decibels above that inducing mild TTS if the animal were exposed to strong sound pulses with rapid rise time. There is no empirical data for onset of PTS in any marine mammal for ethical reasons and researchers must extrapolate PTS-onset based on hearing loss growth rates (*i.e.,* rate of how quickly threshold shifts grow in relation to increases in decibel level; expressed in dB of TTS/dB of noise) from limited marine mammal TTS studies and more numerous terrestrial mammal TTS/PTS experiments. Typically, the magnitude of a threshold shift increases with increasing duration or level of exposure, until it becomes asymptotic (growth rate begins to level or the upper limit of TTS; Mills *et al.,* 1979; Clark *et al.,* 1987; Laroche *et al.,* 1989; Yost, 2007). Based on data from terrestrial mammals, a precautionary assumption is that the PTS threshold for impulse sounds is at least 6 dB higher than the TTS threshold on a peak-pressure basis and probably greater than 6 dB (Southall *et al.,* 2007). On an SEL basis, Southall *et al.* (2007) estimated that received levels would need to exceed the TTS threshold by at least 15 dB for there to be risk of PTS. Thus, for cetaceans, Southall *et al.* (2007) estimate that the PTS threshold might be an M-weighted SEL (for the sequence of received pulses) of approximately 198 dB re 1 μPa2-s (approximately 15 dB higher than the TTS threshold for an impulse sound).

Non-auditory Physiological Effects—Non-auditory physiological effects or injuries that theoretically might occur in

marine mammals exposed to strong underwater sound include stress and other types of organ or tissue damage (Cox *et al.,* 2006; Southall *et al.,* 2007).

Adverse Stress Responses: An acoustic source is considered a potential stressor if, by its action on the animal, via auditory or non-auditory means, it may produce a stress response in the animal. Here, the stress response will refer to an increase in energetic expenditure that results from exposure to the stressor and which is predominantly characterized by either the stimulation of the sympathetic nervous system (SNS) or the hypothalamic-pituitary-adrenal (HPA) axis (Reeder and Kramer, 2005). The SNS response to a stressor is immediate and acute and occurs by the release of the catecholamine neurohormones norepinephrine and epinephrine (*i.e.,* adrenaline). These hormones produce elevations in the heart and respiration rate, increase awareness, and increase the availability of glucose and lipids for energy. The HPA response results in increases in the secretion of the glucocorticoid steroid hormones, predominantly cortisol in mammals. The presence and magnitude of a stress response in an animal depends on a number of factors. These include the animal's life history stage (*e.g.,* neonate, juvenile, adult), the environmental conditions, reproductive or developmental state, and experience with the stressor. Not only will these factors be subject to individual variation, but they will also vary within an individual over time. The stress response may or may not result in a behavioral change, depending on the characteristics of the exposed animal. However, provided that a stress response occurs, we assume that some contribution is made to the animal's allostatic load. One can assume that any immediate effect of exposure that produces an injury also produce a stress response and contribute to the allostatic load. Allostasis is the ability of an animal to maintain stability through change by adjusting its physiology in response to both predictable and unpredictable events (McEwen and Wingfield, 2003). If the animal does not perceive the sound, the acoustic source would not produce tissue effects and does not produce a stress response by any other means. Thus, we expect that the exposure does not contribute to the allostatic load.

Serious Injury/Mortality: Elgin AFB proposes to use several types of explosive sources during its training exercises. Proposed detonations could be either in air, at the water surface, or underwater, depending on the mission and type of munition. Airburst detonations have little transfer of energy underwater, but surface and underwater detonations are of most concern regarding potential effects to marine mammals. The underwater explosions from these weapons would send a shock wave and blast noise through the water, release gaseous by-products, create an oscillating bubble, and cause a plume of water to shoot up from the water surface. The shock wave and blast noise are of most concern to marine animals. In general, potential impacts from explosive detonations can range from brief effects (such as short term behavioral disturbance), tactile perception, physical discomfort, slight injury of the internal organs, and death of the animal (Yelverton *et al.,* 1973; O'Keeffe and Young, 1984; DoN, 2001). The effects of an underwater explosion on a marine mammal depend on many factors, including the size, type, and depth of both the animal and the explosive charge; the depth of the water column; and the standoff distance between the charge and the animal, as well as the sound propagation properties of the environment. Physical damage of tissues resulting from a shock wave (from an explosive detonation) constitutes an injury. Blast effects are greatest at the gas-liquid interface (Landsberg, 2000) and gas containing organs, particularly the lungs and gastrointestinal tract, are especially susceptible to damage (Goertner, 1982; Hill, 1978; Yelverton *et al.,* 1973). Nasal sacs, larynx, pharynx, trachea, and lungs may be damaged by compression/expansion caused by the oscillations of the blast gas bubble (Reidenberg and Laitman, 2003). Severe damage (from the shock wave) to the ears can include tympanic membrane rupture, fracture of the ossicles, cochlear damage, hemorrhage, and cerebrospinal fluid leakage into the middle ear.

Non-lethal injury includes slight injury to internal organs and the auditory system; however, delayed lethality can be a result of individual or cumulative sublethal injuries (DoN, 2001). Immediate lethal injury would be a result of massive combined trauma to internal organs as a direct result of proximity to the point of detonation (DoN, 2001).

Disturbance Reactions

Disturbance includes a variety of effects, including subtle changes in behavior, more conspicuous changes in activities, and displacement. Behavioral responses to sound are highly variable and context-specific and reactions, if any, depend on species, state of maturity, experience, current activity, reproductive state, auditory sensitivity, time of day, and many other factors (Richardson *et al.,* 1995; Wartzok *et al.,* 2003; Southall *et al.,* 2007).

Tolerance: Studies on marine mammals' tolerance to sound in the natural environment are relatively rare. Richardson *et al.* (1995) defined tolerance as the occurrence of marine mammals in areas where they are exposed to human activities or manmade noise. In many cases, tolerance develops by the animal habituating to the stimulus (*i.e.,* the gradual waning of responses to a repeated or ongoing stimulus) (Richardson, *et al.,* 1995; Wartzok *et al.,* 2003), but because of ecological or physiological requirements, many marine animals may need to remain in areas where they are exposed to chronic stimuli (Richardson, *et al.,* 1995). Animals are most likely to habituate to sounds that are predictable and unvarying.

The opposite process is sensitization, when an unpleasant experience leads to subsequent responses, often in the form of avoidance, at a lower level of exposure. Behavioral state may affect the type of response as well. For example, animals that are resting may show greater behavioral change in response to disturbing sound levels than animals that are highly motivated to remain in an area for feeding (Richardson *et al.,* 1995; NRC, 2003; Wartzok *et al.,* 2003).

Numerous studies have shown that underwater sounds are often readily detectable by marine mammals in the water at distances of many kilometers. However, other studies have shown that marine mammals at distances more than a few kilometers away often show no apparent response to activities of various types (Miller *et al.,* 2005). This is often true even in cases when the 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 underwater sound from impulsive sources such as airguns, at other times, mammals of all three types have shown no overt reactions (*e.g.,* Malme *et al.,* 1986; Richardson *et al.,* 1995; Madsen and Mohl, 2000; Croll *et al.,* 2001; Jacobs and Terhune, 2002; Madsen *et al.,* 2002; MacLean and Koski, 2005; Miller *et al.,* 2005; Bain and Williams, 2006).

Controlled experiments with captive marine mammals showed pronounced behavioral reactions, including avoidance of loud sound sources (Ridgway *et al.,* 1997; Finneran *et al.,*

2003). Observed responses of wild marine mammals to loud pulsed sound sources (typically seismic guns or acoustic harassment devices) have been varied but often consist of avoidance behavior or other behavioral changes suggesting discomfort (Morton and Symonds, 2002; Thorson and Reyff, 2006; see also Gordon *et al.,* 2004; Wartzok *et al.,* 2003; Nowacek *et al.,* 2007).

Because the few available studies show wide variation in response to underwater sound, it is difficult to quantify exactly how sound from the Maritime WSEP operational testing would affect marine mammals. It is likely that the onset of underwater detonations could result in temporary, short term changes in an animal's typical behavior and/or avoidance of the affected area. These behavioral changes may include (Richardson *et al.,* 1995): Changing durations of surfacing and dives, number of blows per surfacing, or moving direction and/or speed; reduced/increased vocal activities; changing/cessation of certain behavioral activities (such as socializing or feeding); visible startle response or aggressive behavior (such as tail/fluke slapping or jaw clapping); or avoidance of areas where sound sources are located.

The biological significance of any of these behavioral disturbances is difficult to predict, especially if the detected disturbances appear minor. However generally, one could expect the consequences of behavioral modification to be biologically significant if the change affects growth, survival, or reproduction. Significant behavioral modifications that could potentially lead to effects on growth, survival, or reproduction include:

- Drastic changes in diving/surfacing patterns (such as those thought to cause beaked whale stranding due to exposure to military mid-frequency tactical sonar);
- Habitat abandonment due to loss of desirable acoustic environment; and
- Cessation of feeding or social interaction.

The onset of behavioral disturbance from anthropogenic sound depends on both external factors (characteristics of sound sources and their paths) and the specific characteristics of the receiving animals (hearing, motivation, experience, demography) and is difficult to predict (Southall *et al.,* 2007).

Auditory Masking

Natural and artificial sounds can disrupt behavior by masking, or interfering with, a marine mammal's ability to hear other sounds. Masking occurs when the receipt of a sound interferes with by another coincident sound at similar frequencies and at similar or higher levels (Clark *et al.,* 2009). Chronic exposure to excessive, though not high-intensity, sound could cause masking at particular frequencies for marine mammals, which utilize sound for vital biological functions. Masking can interfere with detection of acoustic signals such as communication calls, echolocation sounds, and environmental sounds important to marine mammals for other purposes such as navigation. Therefore, under certain circumstances, marine mammals whose acoustical sensors or environment are being severely masked could also be impaired from maximizing their performance fitness in survival and reproduction. If the coincident (masking) sound were man-made, it could be potentially harassing if it disrupted hearing-related behavior. It is important to distinguish TTS and PTS, which persist after the sound exposure, from masking, which occurs during the sound exposure. Because masking (without resulting in TS) is not associated with abnormal physiological function, we do not consider it to be a physiological effect, but rather a potential behavioral effect.

Introduced underwater sound may, through masking, more specifically reduce the effective communication distance of a marine mammal species if the frequency of the source is close to that used as a signal by the marine mammal, and if the anthropogenic sound is present for a significant fraction of the time (Richardson *et al.,* 1995). Marine mammals are thought to be able to compensate for communication masking by adjusting their acoustic behavior through shifting call frequencies, increasing call volume, and increasing vocalization rates. For example in one study, blue whales increased call rates when exposed to noise from seismic surveys in the St. Lawrence Estuary (Di Iorio and Clark, 2010). Other studies reported that some North Atlantic right whales exposed to high shipping noise increased call frequency (Parks *et al.,* 2007) and some humpback whales responded to low-frequency active sonar playbacks by increasing song length (Miller *et al.,* 2000). Additionally, beluga whales change their vocalizations in the presence of high background noise possibly to avoid masking calls (Au *et al.,* 1985; Lesage *et al.,* 1999; Scheifele *et al.,* 2005).

While it may occur temporarily, we do not expect auditory masking to result in detrimental impacts to an individual's or population's survival, fitness, or reproductive success. Dolphin movement is not restricted within the W–151 test area, allowing for movement out of the area to avoid masking impacts and the sound resulting from the underwater detonations is short in duration. Also, masking is typically of greater concern for those marine mammals that utilize low frequency communications, such as baleen whales and, as such, is not likely to occur for marine mammals in the W–151 test area.

Vessel and Aircraft Presence

The marine mammals most vulnerable to vessel strikes are slow-moving and/or spend extended periods of time at the surface in order to restore oxygen levels within their tissues after deep dives (*e.g.,* North Atlantic right whales (*Eubalaena glacialis*), fin whales (*Balaenoptera physalus*), and sperm whales). Smaller marine mammals such as common bottlenose and Atlantic spotted dolphins are agile and move more quickly through the water, making them less susceptible to ship strikes. NMFS and Eglin AFB are not aware of any vessel strikes of common bottlenose and Atlantic spotted dolphins within in W–151 during training operations and both parties do not anticipate that Eglin AFB vessels engaged in the specified activity would strike any marine mammals.

Dolphins within the Gulf of Mexico are continually exposed to recreational, commercial, and military vessels. Behaviorally, marine mammals may or may not respond to the operation of vessels and associated noise. Responses to vessels vary widely among marine mammals in general, but also among different species of small cetaceans. Responses may include attraction to the vessel (Richardson *et al.,* 1995); altering travel patterns to avoid vessels (Constantine, 2001; Nowacek *et al.,* 2001; Lusseau, 2003, 2006); relocating to other areas (Allen and Read, 2000); cessation of feeding, resting, and social interaction (Baker *et al.,* 1983; Bauer and Herman, 1986; Hall, 1982; Krieger and Wing, 1984; Lusseau, 2003; Constantine *et al.,* 2004); abandoning feeding, resting, and nursing areas (Jurasz and Jurasz 1979; Dean *et al.,* 1985; Glockner-Ferrari and Ferrari, 1985, 1990; Lusseau, 2005; Norris *et al.,* 1985; Salden, 1988; Forest, 2001; Morton and Symonds, 2002; Courbis, 2004; Bejder, 2006); stress (Romano *et al.,* 2004); and changes in acoustic behavior (Van Parijs and Corkeron, 2001). However, in some studies marine mammals display no reaction to vessels (Watkins, 1986; Nowacek *et al.,* 2003) and many odontocetes show

considerable tolerance to vessel traffic (Richardson *et al.,* 1995). Dolphins may actually reduce the energetic cost of traveling by riding the bow or stern waves of vessels (Williams *et al.,* 1992; Richardson *et al.,* 1995).

Aircraft produce noise at frequencies that are well within the frequency range of cetacean hearing and also produce visual signals such as the aircraft itself and its shadow (Richardson *et al.,* 1995, Richardson and Wursig, 1997). A major difference between aircraft noise and noise caused by other anthropogenic sources is that the sound is generated in the air, transmitted through the water surface and then propagates underwater to the receiver, diminishing the received levels significantly below what is heard above the water's surface. Sound transmission from air to water is greatest in a sound cone 26 degrees directly under the aircraft.

There are fewer reports of reactions of odontocetes to aircraft than those of pinnipeds. Responses to aircraft include diving, slapping the water with pectoral fins or tail fluke, or swimming away from the track of the aircraft (Richardson *et al.,* 1995). The nature and degree of the response, or the lack thereof, are dependent upon the nature of the flight (*e.g.,* type of aircraft, altitude, straight vs. circular flight pattern). Wursig *et al.* (1998) assessed the responses of cetaceans to aerial surveys in the north central and western Gulf of Mexico using a DeHavilland Twin Otter fixed-wing airplane. The plane flew at an altitude of 229 m (751.3 ft) at 204 km/hr (126.7 mph) and maintained a minimum of 305 m (1,000 ft) straight line distance from the cetaceans. Water depth was 100 to 1,000 m (328 to 3,281 ft). Bottlenose dolphins most commonly responded by diving (48 percent), while 14 percent responded by moving away. Other species (*e.g.,* beluga (*Delphinapterus leucas*) and sperm whales) show considerable variation in reactions to aircraft but diving or swimming away from the aircraft are the most common reactions to low flights (less than 500 m; 1,640 ft).

Direct Strike by Ordnance

Another potential risk to marine mammals is direct strike by ordnance, in which the ordnance physically hits an animal. While strike from an item falling through the water column is possible, the potential risk of a direct hit to an animal within the target area would be so low because objects sink slowly and most projectiles fired at targets usually hit those targets.

Anticipated Effects on Habitat

Detonations of live ordnance would result in temporary changes to the water environment. Munitions could hit the targets and not explode in the water. However, because the targets are located over the water, in water explosions could occur. An underwater explosion from these weapons could send a shock wave and blast noise through the water, release gaseous by-products, create an oscillating bubble, and cause a plume of water to shoot up from the water surface. However, these effects would be temporary and not expected to last more than a few seconds.

Similarly, Eglin AFB does not expect any long-term impacts with regard to hazardous constituents to occur. Eglin AFB considered the introduction of fuel, debris, ordnance, and chemical materials into the water column within its EA and determined the potential effects of each to be insignificant. We summarize Eglin AFB's analyses in the following paragraphs (for a complete discussion of potential effects, please refer to section 3.3 in Eglin AFB's EA).

Metals typically used to construct bombs, missiles, and gunnery rounds include copper, aluminum, steel, and lead, among others. Aluminum is also present in some explosive materials. These materials would settle to the seafloor after munitions detonate. Metal ions would slowly leach into the substrate and the water column, causing elevated concentrations in a small area around the munitions fragments. Some of the metals, such as aluminum, occur naturally in the ocean at varying concentrations and would not necessarily impact the substrate or water column. Other metals, such as lead, could cause toxicity in microbial communities in the substrate. However, such effects would be localized to a very small distance around munitions fragments and would not significantly affect the overall habitat quality of sediments in the northeastern Gulf of Mexico. In addition, metal fragments would corrode, degrade, and become encrusted over time.

Chemical materials include explosive byproducts and also fuel, oil, and other fluids associated with remotely controlled target boats. Explosive byproducts would be introduced into the water column through detonation of live munitions. Explosive materials would include 2,4,6-trinitrotoluene (TNT) and RDX, among others. Various byproducts are produced during and immediately after detonation of TNT and RDX. During the very brief time that a detonation is in progress, intermediate products may include carbon ions, nitrogen ions, oxygen ions, water, hydrogen cyanide, carbon monoxide, nitrogen gas, nitrous oxide, cyanic acid, and carbon dioxide (Becker, 1995). However, reactions quickly occur between the intermediates, and the final products consist mainly of water, carbon monoxide, carbon dioxide, and nitrogen gas, although small amounts of other compounds are typically produced as well.

Chemicals introduced into the water column would be quickly dispersed by waves, currents, and tidal action, and eventually become uniformly distributed. A portion of the carbon compounds such as carbon monoxide and carbon dioxide would likely become integrated into the carbonate system (alkalinity and pH buffering capacity of seawater). Some of the nitrogen and carbon compounds, including petroleum products, would be metabolized or assimilated by phytoplankton and bacteria. Most of the gas products that do not react with the water or become assimilated by organisms would be released into the atmosphere. Due to dilution, mixing, and transformation, none of these chemicals are expected to have significant impacts on the marine environment.

Explosive material that is not consumed in a detonation could sink to the substrate and bind to sediments. However, the quantity of such materials is expected to be inconsequential. Research has shown that if munitions function properly, nearly full combustion of the explosive materials will occur, and only extremely small amounts of raw material will remain. In addition, any remaining materials would be naturally degraded. TNT decomposes when exposed to sunlight (ultraviolet radiation), and is also degraded by microbial activity (Becker, 1995). Several types of microorganisms have been shown to metabolize TNT. Similarly, RDX decomposes by hydrolysis, ultraviolet radiation exposure, and biodegradation.

While we anticipate that the specified activity may result in marine mammals avoiding certain areas due to temporary ensonification, this impact to habitat and prey resources would be temporary and reversible. The main impact associated with the proposed activity would be temporarily elevated noise levels and the associated direct effects on marine mammals, previously discussed in this notice. Marine mammals are anticipated to temporarily vacate the area of live fire events. However, these events usually do not last more than 90 to 120 minutes at a time, and animals are anticipated to

return to the activity area during periods of non-activity. Thus, based on the preceding discussion, we do not anticipate that the proposed activity would have any habitat-related effects that could cause significant or long-term consequences for individual marine mammals or their populations.

Proposed Mitigation

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

The NDAA of 2004 amended the MMPA as it relates to military-readiness activities and the incidental take authorization process such that ''least practicable adverse impact'' shall include consideration of personnel safety, practicality of implementation, and impact on the effectiveness of the military readiness activity.

NMFS and Eglin AFB have worked to identify potential practicable and effective mitigation measures, which include a careful balancing of the likely benefit of any particular measure to the marine mammals with the likely effect of that measure on personnel safety, practicality of implementation, and impact on the ''military-readiness activity.'' We refer the reader to Section 11 of Eglin AFB's application for more detailed information on the proposed mitigation measures which include the following:

Vessel-Based Monitoring: Eglin AFB would station a large number of range clearing boats (approximately 20 to 25) around the test site to prevent non-participating vessels from entering the human safety zone. Based on the composite footprint, range clearing boats will be located approximately 15.28 km (9.5 mi) from the detonation point (see Figure 11–1 in Eglin AFB's application). However, the actual distance will vary based on the size of the munition being deployed.

Trained protected species observers would be aboard five of these boats and will conduct protected species surveys before and after each test. The protected species survey vessels will be dedicated solely to observing for marine species during the pre-mission surveys while the remaining safety boats clear the area of non-authorized vessels. The protected species survey vessels will begin surveying the area at sunrise. The area to be surveyed will encompass the zone of influence (ZOI), which is 5 km (3.1 mi). Animals that may enter the area after Eglin AFB has completed the pre-mission surveys and prior to detonation would not reach the predicted smaller slight lung injury and/or mortality zones.

Because of human safety issues, observers will be required to leave the test area at least 30 minutes in advance of live weapon deployment and move to a position on the safety zone periphery, approximately 15.28 km (9.5 mi) from the detonation point. Observers will continue to scan for marine mammals from the periphery.

Determination of the Zone of Influence

Eglin AFB has created a sample day reflecting the maximum number of munitions that could be released and resulting in the greatest impact in a single mission day. However, this scenario is only a representation and may not accurately reflect how Eglin AFB may conduct actual operations. However, NMFS and Eglin AFB are considering this conservative assumption to calculate the impact range for mitigation monitoring measures. Thus, Eglin AFB has modeled, combined, and compared the sum of all energies from these detonations against thresholds with energy metric criteria to generate the accumulated energy ranges for this scenario. Table 4 lists these ranges which form the basis of the mitigation monitoring.

TABLE 4—DISTANCES (m) TO HARASSMENT THRESHOLDS FOR AN EXAMPLE MISSION DAY

Munition	NEW (lbs)	Total number per day	Detonation scenario	Level A harassment	Level B harassment	
				PTS 187 dB SEL	TTS 172 dB SEL	Behavioral 167 dB SEL
GBU–10 or GBU–24	945	1	Surface	5,120	12,384	15,960
GBU–12 or GBU–54	192	1	Surface.			
AGM–65 (Maverick)	86	1	Surface.			
GBU–39 (LSDB)	37	1	Surface.			
AGM–114 (Hellfire)	20	3	(10 ft depth).			
AGM–175 (Griffin)	13	2	Surface.			
2.75 Rockets	12	12	Surface.			
PGU–13 HEI 30 mm	0.1	125	Surface.			

AGM = air-to-ground missile; cal = caliber; CBU = Cluster Bomb Unit; ft = feet; GBU = Guided Bomb Unit; HEI = high explosive incendiary; lbs = pounds; mm = millimeters; N/A = not applicable; NEW = net explosive weight; PGU = Projectile Gun Unit; SDB = small diameter bomb; PTS = permanent threshold shift; TTS = temporary threshold shift; WCMD = wind corrected munition dispenser.

Based on the ranges presented in Table 4 and factoring operational limitations associated with survey-based vessel support for the missions, Eglin AFB estimates that during pre-mission surveys, the proposed monitoring area would be approximately 5 km (3.1 miles) from the target area, which corresponds to the Level A harassment threshold range. Eglin AFB proposes to survey the same-sized area for each mission day, regardless of the planned munition expenditures. By clearing the Level A harassment threshold range of protected species, animals that may enter the area after the completed pre-mission surveys but prior to detonation would not reach the smaller slight lung injury or mortality zones (presented in Table 6 later in this document). Because of human safety issues, Eglin AFB would require observers to leave the test area at least 30 minutes in advance of live weapon deployment and move to a position on the safety zone periphery, approximately 15 km (9.5 miles) from the detonation point. Observers would continue to scan for marine mammals from the periphery, but effectiveness would be limited as the boat would remain at a designated station.

Video Monitoring: In addition to vessel-based monitoring, Eglin AFB

would position three high-definition video cameras on the GRATV anchored on-site, as described earlier, to allow for real-time monitoring for the duration of the mission. The camera configuration and actual number of cameras used would depend on specific mission requirements. In addition to monitoring the area for mission objective issues, the camera(s) would also monitor for the presence of protected species. A trained marine species observer from Eglin Natural Resources would be located in Eglin AFB's Central Control Facility, along with mission personnel, to view the video feed before and during test activities. The distance to which objects can be detected at the water surface by use of the cameras is considered generally comparable to that of the human eye.

The GRATV will be located about 183 m (600 ft) from the target. The larger mortality threshold ranges correspond to the modified Goertner model adjusted for the weight of an Atlantic spotted dolphin calf, and extend from 0 to 237 m (0 to 778 ft) from the target, depending on the ordnance, and the Level A ranges for both common bottlenose and Atlantic spotted dolphins extend from 7 to 965 m (23 to 3,166 ft) from the target, depending on the ordnance and harassment criterion. Given these distances, observers could reasonably be expected to view a substantial portion of the mortality zone in front of the camera, although a small portion would be behind or to the side of the camera view. Based on previous monitoring reports for this activity, the pre-training surveys for delphinids and other protected species within the mission area are effective. Observers can view some portion of the Level A harassment zone, although the view window would be less than that of the mortality zone (a large percentage would be behind or to the side of the camera view).

If the high-definition video cameras are not operational for any reason, Eglin AFB will not conduct Maritime WSEP missions.

In addition to the two types of visual monitoring discussed earlier in this section, Eglin AFB personnel are present within the mission area (on boats and the GRATV) on each day of testing well in advance of weapon deployment, typically near sunrise. They will perform a variety of tasks including target preparation, equipment checks, etc., and will opportunistically observe for marine mammals and indicators as feasible throughout test preparation. However, we consider these observations as supplemental to the proposed mitigation monitoring and would only occur as time and schedule permits. Eglin AFB personnel would relay information on these types of sightings to the Lead Biologist, as described in the following mitigation sections.

Pre-Mission Monitoring

The purposes of pre-mission monitoring are to: (1) Evaluate the mission site for environmental suitability, and (2) verify that the ZOI (in this case, 5 km [3.1 mi]) is free of visually detectable marine mammals, as well as potential indicators of these species. On the morning of the mission, the Test Director and Safety Officer will confirm that there are no issues that would preclude mission execution and that weather is adequate to support mitigation measures.

Sunrise or Two Hours Prior to Mission

Eglin AFB range clearing vessels and protected species survey vessels will be on site at least two hours prior to the mission. The Lead Biologist on board one survey vessel will assess the overall suitability of the mission site based on environmental conditions (sea state) and presence/absence of marine mammal indicators. Eglin AFB personnel will communicate this information to Tower Control and personnel will relay the information to the Safety Officer in Central Control Facility.

One and One-Half Hours Prior to Mission

Vessel-based surveys will begin approximately one and one-half hours prior to live weapons deployment. Surface vessel observers will survey the ZOI (in this case, 5 km [3.1 mi]) and relay all marine species and indicator sightings, including the time of sighting, GPS location, and direction of travel, if known, to the Lead Biologist. The lead biologist will document all sighting information on report forms which he/she will submit to Eglin Natural Resources after each mission. Surveys would continue for approximately one hour. During this time, Eglin AFB personnel in the mission area will also observe for marine species as feasible. If marine mammals or indicators are observed within the ZOI (5 km [3.1 mi]), the range will be declared ''fouled,'' a term that signifies to mission personnel that conditions are such that a live ordnance drop cannot occur (*e.g.,* protected species or civilian vessels are in the mission area). If there are no observations of marine mammals or indicators of marine mammals, Eglin AFB would declare the range clear of protected species.

One-Half Hour Prior to Mission

At approximately 30 minutes to one hour prior to live weapon deployment, marine species observers will be instructed to leave the mission site and remain outside the safety zone, which on average will be 15.28 km (9.5 mi) from the detonation point. The actual size is determined by weapon net explosive weight and method of delivery. The survey team will continue to monitor for protected species while leaving the area. As the survey vessels leave the area, marine species monitoring of the immediate target areas will continue at the Central Control Facility through the live video feed received from the high definition cameras on the GRATV. Once the survey vessels have arrived at the perimeter of the safety zone (approximately 30 minutes after leaving the area per instructions from Eglin AFB, depending on actual travel time), Eglin AFB will declare the range as ''green'' and the mission will proceed, assuming all non-participating vessels have left the safety zone as well.

Execution of Mission

Immediately prior to live weapons drop, the Test Director and Safety Officer will communicate to confirm the results of marine mammal surveys and the appropriateness of proceeding with the mission. The Safety Officer will have final authority to proceed with, postpone, or cancel the mission. Eglin AFB would postpone the mission if:

- Any of the high-definition video cameras are not operational for any reason;
- Any marine mammal is visually detected within the ZOI (5 km [3.1 mi]). Postponement would continue until the animal(s) that caused the postponement is: (1) Confirmed to be outside of the ZOI (5 km [3.1 mi]) on a heading away from the targets; or (2) not seen again for 30 minutes and presumed to be outside the ZOI (5 km [3.1 mi]) due to the animal swimming out of the range;
- Any large schools of fish or large flocks of birds feeding at the surface are within the ZOI (5 km [3.1 mi]). Postponement would continue until Eglin AFB personnel confirm that these potential indicators are outside the ZOI (5 km [3.1 mi]):
- Any technical or mechanical issues related to the aircraft or target boats; or
- Any non-participating vessel enters the human safety zone prior to weapon release.

In the event of a postponement, protected species monitoring would continue from the Central Control Facility through the live video feed.

Post-Mission Monitoring

Post-mission monitoring determines the effectiveness of pre-mission mitigation by reporting sightings of any marine mammals. Post-detonation monitoring surveys will commence once the mission has ended or, if required, as soon as personnel declare the mission area safe. Vessels will move into the survey area from outside the safety zone and monitor for at least 30 minutes, concentrating on the area down-current of the test site. This area is easily identifiable because of the floating debris in the water from impacted targets. Up to 10 Eglin AFB support vessels will be cleaning debris and collecting damaged targets from this area thus spending several hours in the area once Eglin AFB completes the mission. Observers will document and report any marine mammal species, number, location, and behavior of any animals observed to Eglin Natural Resources.

Mission Delays Due to Weather

Eglin AFB would delay or reschedule Maritime WSEP missions if the Beaufort sea state is greater than number 4 at the time of the testing activities. The Lead Biologist aboard one of the survey vessels will make the final determination of whether conditions are conducive for sighting protected species or not.

We have carefully evaluated Eglin AFB's proposed mitigation measures in the context of ensuring that we prescribe the means of effecting the least practicable 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:

- The manner in which, and the degree to which, the successful implementation of the measure is expected to minimize adverse impacts to marine mammals;
- The proven or likely efficacy of the specific measure to minimize adverse impacts as planned; and
- The practicability of the measure for applicant implementation.

Any mitigation measure(s) prescribed by NMFS should be able to accomplish, have a reasonable likelihood of accomplishing (based on current science), or contribute to the accomplishment of one or more of the general goals listed here:

1. Avoidance or minimization of injury or death of marine mammals wherever possible (goals 2, 3, and 4 may contribute to this goal).

2. A reduction in the numbers of marine mammals (total number or number at biologically important time or location) exposed to stimuli expected to result in incidental take (this goal may contribute to 1, above, or to reducing takes by behavioral harassment only).

3. A reduction in the number of times (total number or number at biologically important time or location) individuals would be exposed to stimuli that we expect to result in the take of marine mammals (this goal may contribute to 1, above, or to reducing harassment takes only).

4. A reduction in the intensity of exposures (either total number or number at biologically important time or location) to training exercises that we expect to result in the take of marine mammals (this goal may contribute to 1, above, or to reducing the severity of harassment takes only).

5. Avoidance or minimization of adverse effects to marine mammal habitat, paying special attention to the food base, activities that block or limit passage to or from biologically important areas, permanent destruction of habitat, or temporary destruction/disturbance of habitat during a biologically important time.

6. For monitoring directly related to mitigation—an increase in the probability of detecting marine mammals, thus allowing for more effective implementation of the mitigation.

Based on our evaluation of Eglin AFB's proposed measures, as well as other measures that may be relevant to the specified activity, we have preliminarily determined that the proposed mitigation measures provide the means of effecting the least practicable impact on marine mammal species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance. while also considering personnel safety, practicality of implementation, and the impact of effectiveness of the military readiness activity.

Proposed Monitoring and Reporting

In order to issue an Authorization for an activity, section 101(a)(5)(D) of the MMPA states that we must 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 an authorization must include the suggested means of accomplishing the necessary monitoring and reporting that will result in increased knowledge of the species and our expectations of the level of taking or impacts on populations of marine mammals present in the proposed action area.

Eglin AFB submitted a marine mammal monitoring plan in their Authorization application. We may modify or supplement the plan based on comments or new information received from the public during the public comment period. Any monitoring requirement we prescribe should improve our understanding of one or more of the following:

- Occurrence of marine mammal species in action area (*e.g.,* presence, abundance, distribution, density).
- Nature, scope, or context of likely marine mammal exposure to potential stressors/impacts (individual or cumulative, acute or chronic), through better understanding of: (1) Action or environment (*e.g.,* source characterization, propagation, ambient noise); (2) Affected species (*e.g.,* life history, dive patterns); (3) Co-occurrence of marine mammal species with the action; or (4) Biological or behavioral context of exposure (*e.g.,* age, calving or feeding areas).
- Individual responses to acute stressors, or impacts of chronic exposures (behavioral or physiological).
- How anticipated responses to stressors impact either: (1) Long-term fitness and survival of an individual; or (2) Population, species, or stock.
- Effects on marine mammal habitat and resultant impacts to marine mammals.
- Mitigation and monitoring effectiveness.

NMFS proposes to include the following measures in the Maritime WSEP Authorization (if issued). They are:

(1) Eglin AFB will track the use of the EGTTR for test firing missions and protected species observations, through the use of mission reporting forms.

(2) Eglin AFB will submit a summary report of marine mammal observations and Maritime WSEP activities to the NMFS Southeast Regional Office (SERO) and the Office of Protected Resources 90 days after expiration of the current Authorization. This report must include the following information: (i) Date and time of each Maritime WSEP exercise; (ii) a complete description of the pre-exercise and post-exercise activities related to mitigating and monitoring the effects of Maritime WSEP exercises on marine mammal populations; and (iii) results of the Maritime WSEP exercise monitoring, including number of marine mammals (by species) that may have been harassed due to presence within the activity zone.

(3) Eglin AFB will monitor for marine mammals in the proposed action area. If

Eglin AFB personnel observe or detect any dead or injured marine mammals prior to testing, or detects any injured or dead marine mammal during live fire exercises, Eglin AFB must cease operations and submit a report to NMFS within 24 hours.

(4) Eglin AFB must immediately report any unauthorized takes of marine mammals (*i.e.,* serious injury or mortality) to NMFS and to the respective Southeast Region stranding network representative. Eglin AFB must cease operations and submit a report to NMFS within 24 hours.

Monitoring Results From Previously Authorized Activities

Eglin AFB complied with the mitigation and monitoring required under the previous Authorization for 2015 WSEP activities. Marine mammal monitoring occurred before, during, and after each Maritime WSEP mission. During the course of these activities, Eglin AFB's monitoring did not suggest that they had exceeded the take levels authorized under Authorization. In accordance with the 2015 Authorization, Eglin AFB submitted a monitoring report (available at: *www.nmfs.noaa.gov/pr/permits/incidental/military.htm*).

Under the 2015 Authorization, Eglin AFB anticipated conducting Maritime WSEP training missions over approximately two to three weeks, but actually conducted a total of eight mission days: Four days (February 9, 10, 11, and 12, 2015) associated with inert ordnance delivery and four days (March 16, 17, 18, and 19, 2015) associated with live ordnance delivery.

During the February 2015 missions, Eglin AFB released two inert CBU–105s in air which resulted in no acoustic impacts to marine mammals. The CBU–105 is a cluster bomb unit that detonates in air (airburst), contains 10 submunition cylinders with each cylinder containing four sub-submunitions (skeets) which fire inert projectiles.

During the March 2015 live fire missions, Eglin AFB expended four AGM–65 Mavericks and six AGM–114 Hellfire missiles against remotely-controlled boats approximately 27 km (17 mi) offshore Santa Rosa Island, FL. Net explosive weights of the munitions that detonated at the water surface or up to 3 m (10 ft) below the surface are 86 lbs for the AGM–65 Maverick missiles and 13 pounds for the AGM–114 Hellfire missiles. Eglin AFB conducted the required monitoring for marine mammals or indicators of marine mammals (*e.g.,* flocks of birds, baitfish schools, or large fish schools) before, during, and after each mission and observed only two species of marine mammals: The common bottlenose dolphin and Atlantic spotted dolphin. Total protected species observed during pre-mission surveys ranged between 149 and 156 individuals and Eglin AFB confirmed that marine mammals were outside of the ZOI (5 km [3.1 mi]) at the conclusion of each pre-mission survey.

For one mission day (March 17, 2015), Eglin AFB personnel extended the duration of the pre-mission surveys to continue to monitoring a pod of 10 bottlenose dolphins until the vessel captain could confirm that the pod remained outside the ZOI (5 km [3.1 mi]) and did not change travel direction. Eglin AFB delayed weapons delivery as required by the Authorization. Eglin AFB continued with their mission activities after all animals cleared the ZOI (5 km [3.1 mi]).

After each mission, Eglin AFB re-entered the ZOI (5 km [3.1 mi]) to begin post-mission surveys for marine mammals and debris-clean-up operations. Eglin AFB personnel did not observe reactions indicative of disturbance during the pre-mission surveys and did not observe any marine mammals during the post-mission surveys. In summary, Eglin AFB reports that no observable instances of take of marine mammals occurred incidental to the Maritime WSEP training activities under the 2015 Authorization.

Estimated Numbers of Marine Mammals Taken by Harassment

The NDAA amended the definition of harassment as it applies to a ''military readiness activity'' to read as follows (Section 3(18)(B) of the MMPA): (i) Any act that injures or has the significant potential to injure a marine mammal or marine mammal stock in the wild [Level A Harassment]; or (ii) any act that disturbs or is likely to disturb a marine mammal or marine mammal stock in the wild by causing disruption of natural behavioral patterns, including, but not limited to, migration, surfacing, nursing, breeding, feeding, or sheltering, to a point where such behavioral patterns are abandoned or significantly altered [Level B Harassment].

NMFS' analysis identified the physiological responses, and behavioral responses that could potentially result from exposure to underwater explosive detonations. In this section, we will relate the potential effects to marine mammals from underwater detonation of explosives to the MMPA regulatory definitions of Level A and Level B harassment. This section will also quantify the effects that might occur from the proposed military readiness activities in W–151.

At NMFS' recommendation, Eglin AFB updated the thresholds used for onset of temporary threshold shift (TTS; Level B Harassment) and onset of permanent threshold shift (PTS; Level A Harassment) to be consistent with the thresholds outlined in the Navy's report titled, ''Criteria and Thresholds for U.S. Navy Acoustic and Explosive Effects Analysis Technical Report,'' which the Navy coordinated with NMFS. NMFS believes that the thresholds outlined in the Navy's report represent the best available science. The report is available on the internet at: *http://aftteis.com/Portals/4/aftteis/Supporting%20Technical%20Documents/Criteria_and_Thresholds_for_US_Navy_Acoustic_and_Explosive_Effects_Analysis-Apr_2012.pdf.*

Level B Harassment

Of the potential effects described earlier in this document, the following are the types of effects that fall into the Level B harassment category:

Behavioral Harassment—Behavioral disturbance that rises to the level described in the above definition, when resulting from exposures to non-impulsive or impulsive sound, is Level B harassment. Some of the lower level physiological stress responses discussed earlier would also likely co-occur with the predicted harassments, although these responses are more difficult to detect and fewer data exist relating these responses to specific received levels of sound. When predicting Level B harassment based on estimated behavioral responses, those takes may have a stress-related physiological component.

Temporary Threshold Shift (TTS)—As discussed previously, TTS can affect how an animal behaves in response to the environment, including conspecifics, predators, and prey. NMFS classifies TTS (when resulting from exposure to explosives and other impulsive sources) as Level B harassment, not Level A harassment (injury).

Level A Harassment

Of the potential effects that were described earlier, the following are the types of effects that fall into the Level A Harassment category:

Permanent Threshold Shift (PTS)—PTS (resulting either from exposure to explosive detonations) is irreversible and NMFS considers this to be an injury.

Table 5 in this document outlines the acoustic thresholds used by NMFS for

this Authorization when addressing noise impacts from explosives.

TABLE 5—IMPULSIVE SOUND EXPLOSIVE THRESHOLDS USED BY EGLIN AFB IN ITS CURRENT ACOUSTICS IMPACTS MODELING

Group	Behavior		Slight injury			Mortality
	Behavioral	TTS	PTS	Gastro-intestinal tract	Lung	
Mid-frequency Cetaceans.	167 dB SEL	172 dB SEL or 23 psi.	187 dB SEL or 45.86 psi.	104 psi	39.1 $M^{1/3}$ $(1+[D_{Rm}/10.081])^{1/2}$ Pa-sec. .... Where: M = mass of the animals in kg ... D_{Rm} = depth of the receiver (animal) in meters.	91.4 $M^{1/3}$ $(1+D_{Rm}/10.081])^{1/2}$ Pa-sec. Where: M = mass of the animals in kg D_{Rm} = depth of the receiver (animal) in meters.

Eglin AFB conservatively modeled that all explosives would detonate at a 1.2 m (3.9 ft) water depth despite the training goal of hitting the target, resulting in an above water or on land explosion. For sources detonated at shallow depths, it is frequently the case that the explosion may breech the surface with some of the acoustic energy escaping the water column. Table 6 provides the estimated maximum range or radius, from the detonation point to the various thresholds described in Table 5.

TABLE 6—DISTANCES (m) TO HARASSMENT THRESHOLDS FROM EGLIN AFB'S EXPLOSIVE ORDNANCE

Munition	NEW (lbs)	Total number	Detonation scenario	Mortality	Level A harassment				Level B harassment		
					Slight lung injury	GI track injury	PTS		TTS		Behavioral
				Modified Goertner Model 1	Modified Goertner Model 2	237 dB SPL	187 dB SEL	230 dB peak SPL	172 dB SEL	224 dB peak SPL	167 dB SEL
Bottlenose Dolphin											
GBU–10 or GBU–24.	945	2	Surface	199	350	340	965	698	1,582	1,280	2,549
GBU–12 or GBU–54.	192	6	Surface	111	233	198	726	409	2,027	752	2,023
AGM–65 (Maverick).	86	6	Surface	82	177	150	610	312	1,414	575	1,874
GBU–39 (LSDB).	37	4	Surface	59	128	112	479	234	1,212	433	1,543
AGM–114 (Hellfire).	20	15	(10 ft depth)	110	229	95	378	193	2,070	354	3,096
AGM–175 (Griffin).	13	10	Surface	38	83	79	307	165	1,020	305	1,343
2.75 Rockets	12	100	Surface	36	81	77	281	161	1,010	296	1,339
PGU–13 HEI 30 mm.	0.1	1,000	Surface	0	7	16	24	33	247	60	492
Atlantic Spotted Dolphin and Unidentified Dolphin [1]											
GBU–10 or GBU–24.	945	2	Surface	237	400	340	965	698	1,582	1,280	2,549
GBU–12 or GBU–54.	192	6	Surface	138	274	198	726	409	2,027	752	2,023
AGM–65 (Maverick).	86	6	Surface	101	216	150	610	312	1,414	575	1,874
GBU–39 (LSDB).	37	4	Surface	73	158	112	479	234	1,212	433	1,543
AGM–114 (Hellfire).	20	15	(10 ft depth)	135	277	95	378	193	2,070	354	3,096
AGM–175 (Griffin).	13	10	Surface	47	104	79	307	165	1,020	305	1,343
2.75 Rockets	12	100	Surface	45	100	77	281	161	1,010	296	1,339
PGU–13 HEI 30 mm.	0.1	1,000	Surface	0	9	16	24	33	247	60	492

AGM = air-to-ground missile; cal = caliber; CBU = Cluster Bomb Unit; ft = feet; GBU = Guided Bomb Unit; HEI = high explosive incendiary; lbs = pounds; mm = millimeters; N/A = not applicable; NEW = net explosive weight; PGU = Projectile Gun Unit; SDB = small diameter bomb; PTS = permanent threshold shift; TTS = temporary threshold shift; WCMD = wind corrected munition dispenser

[1] Unidentified dolphin can be either bottlenose or Atlantic spotted dolphin. Eglin AFB based the mortality and slight lung injury criteria on the mass of a newborn Atlantic spotted dolphin.

Eglin AFB uses the distance information shown in Table 6 (Table 6.3 in Eglin AFB's application) to calculate the radius of impact for a given threshold from a single detonation of each munition/detonation scenario, then combine the calculated impact radii with density estimates (adjusted for depth distribution) and the number of live munitions to provide an estimate of the number of marine mammals potentially exposed to the various impact thresholds.

The ranges presented in Table 6 represent a radius of impact for a given threshold from a single detonation of each munition/detonation scenario. They do not consider accumulated energies from multiple detonation occurring within the same 24-hour time period. For calculating take estimates, the single detonation approach is more conservative because it multiplies the exposures from a single detonation by the number of munitions and assumes a fresh population of marine mammals is being impacted each time. Eglin AFB used this approach because of the uncertainty surrounding which munitions they would release on a given day. Multiple variables, such as weather, aircraft mechanical issues, munition malfunctions, and target availability may prevent planned munitions releases. By treating each detonation as a separate event and summing those impacts accordingly, Eglin AFB would have maximum operational flexibility to conduct the missions without limitations on either the total number of munitions allowed to be dropped in a day, or on the specific combinations of munitions that could be released.

While this methodology overestimates the overall potential takes, the ranges do not accurately represent the actual area acoustically impacted for a given threshold from multiple detonations in a given mission day. The total acoustic impact area for two identical bombs detonating within a given timeframe is less than twice the impact area of a single bomb's detonation. This has to do with the accumulated energy from multiple detonations occurring sequentially. When one weapon is detonated, a certain level of transmission loss is required to be calculated to achieve each threshold level which can then be equated to a range. By releasing a second munition in the same event (same place and close in time), even though the total energy is increased, the incremental impact area from the second detonation is slightly less than that of the first; however the impact range for the two munitions is larger than the impact range for one. Since each additional detonation adds energy to the sound exposure level (SEL) metric, all the energy from all munitions released in a day is accumulated. By factoring in the transmission loss of the first detonation added with the incremental increases from the second, third, fourth, etc., the range of the cumulative energy that is below each threshold level can be determined.

Density Estimation

Density estimates for bottlenose dolphin and spotted dolphin were derived from two sources (see Table 7). NMFS provided detailed information on Eglin AFB's derivation of density estimates for the common bottlenose and Atlantic spotted dolphins in a previous **Federal Register** notice for a proposed Authorization to Eglin AFB for the same activities (79 FR 72631, December 8, 2014). The information presented in that notice has not changed and NMFS refers the reader to Section 3 of Eglin AFB's application for detailed information on all equations used to calculate densities presented in Table 7.

TABLE 7—MARINE MAMMAL DENSITY ESTIMATES WITHIN EGLIN AFB'S EGTTR

Species	Density (animals/km^2)
Bottlenose dolphin [1]	1.194
Atlantic spotted dolphin [2]	0.265
Unidentified bottlenose dolphin/Atlantic spotted dolphin [2]	0.009

[1] Source: Garrison, 2008; adjusted for observer and availability bias by the author.

[2] Source: Fulling *et al.,* 2003; adjusted for negative bias based on information provided by Barlow (2003; 2006).

Take Estimation

Table 8 indicates the modeled potential for lethality, injury, and non-injurious harassment (including behavioral harassment) to marine mammals in the absence of mitigation measures. Eglin AFB and NMFS estimate that approximately 38 marine mammals could be exposed to injurious Level A harassment noise levels (187 dB SEL) and approximately 942 animals could be exposed to Level B harassment (TTS and Behavioral) noise levels in the absence of mitigation measures.

TABLE 8—MODELED NUMBER OF MARINE MAMMALS POTENTIALLY AFFECTED BY MARITIME WSEP OPERATIONS

Species	Mortality	Level A harassment (PTS only)	Level B harassment (TTS)	Level B harassment (behavioral)
Bottlenose dolphin	0	33	373	423
Atlantic spotted dolphin	0	5	68	69
Unidentified bottlenose dolphin/Atlantic spotted dolphin	0	0	4	5
Total	0	38	445	497

Based on the mortality exposure estimates calculated by the acoustic model, zero marine mammals are expected to be affected by pressure levels associated with mortality or serious injury. Zero marine mammals are expected to be exposed to pressure levels associated with slight lung injury or gastrointestinal tract injury.

NMFS generally considers PTS to fall under the injury category (Level A Harassment). An animal would need to stay very close to the sound source for an extended amount of time to incur a serious degree of PTS, which could increase the probability of mortality. In this case, it would be highly unlikely for this scenario to unfold given the nature of any anticipated acoustic exposures that could potentially result from a mobile marine mammal that NMFS generally expects to exhibit avoidance behavior to loud sounds within the EGTTR.

NMFS has relied on the best available scientific information to support the issuance of Eglin AFB's authorization. In the case of authorizing Level A harassment, NMFS has estimated that no more than 33 bottlenose dolphins and 5 Atlantic spotted dolphins could, although unlikely, experience minor permanent threshold shifts of hearing

sensitivity (PTS). The available data and analyses, as described more fully in a previous notice for a proposed Authorization (79 FR 72631, December 8, 2014) and this notice include extrapolation results of many studies on marine mammal noise-induced temporary threshold shifts of hearing sensitivities. An extensive review of TTS studies and experiments prompted NMFS to conclude that possibility of minor PTS in the form of slight upward shift of hearing threshold at certain frequency bands by a few individuals of marine mammals is extremely low, but not unlikely.

Negligible Impact Analysis and Preliminary Determinations

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.'' A negligible impact finding is based on the lack of likely adverse effects on annual rates of recruitment or survival (*i.e.,* population-level effects). An estimate of the number of Level B harassment takes alone is not enough information on which to base an impact determination. In addition to considering estimates of the number of marine mammals that might be ''taken'' through behavioral harassment, we consider other factors, such as the likely nature of any responses (*e.g.,* intensity, duration), the context of any responses (*e.g.,* critical reproductive time or location, migration), as well as the number and nature of estimated Level A harassment takes, the number of estimated mortalities, and effects on habitat.

To avoid repetition, the discussion below applies to all the species listed in Table 8 for which we propose to authorize incidental take for Eglin AFB's activities.

In making a negligible impact determination, we consider:

- The number of anticipated injuries, serious injuries, or mortalities;
- The number, nature, and intensity, and duration of Level B harassment;
- The context in which the takes occur (*e.g.,* impacts to areas of significance, impacts to local populations, and cumulative impacts when taking into account successive/contemporaneous actions when added to baseline data);
- The status of stock or species of marine mammals (*i.e.,* depleted, not depleted, decreasing, increasing, stable, impact relative to the size of the population);
- Impacts on habitat affecting rates of recruitment/survival; and
- The effectiveness of monitoring and mitigation measures to reduce the number or severity of incidental take.

For reasons stated previously in this document and based on the following factors, Eglin AFB's specified activities are not likely to cause long-term behavioral disturbance, serious injury, or death.

The takes from Level B harassment would be due to potential behavioral disturbance and TTS. The takes from Level A harassment would be due to some form of PTS. Activities would only occur over a timeframe of two to three weeks in beginning in February, 2016, with one or two missions occurring per day. It is possible that some individuals may be taken more than once if those individuals are located in the exercise area on two different days when exercises are occurring.

Noise-induced threshold shifts (TS, which includes PTS) are defined as increases in the threshold of audibility (*i.e.,* the sound has to be louder to be detected) of the ear at a certain frequency or range of frequencies (ANSI 1995; Yost 2000). Several important factors relate to the magnitude of TS, such as level, duration, spectral content (frequency range), and temporal pattern (continuous, intermittent) of exposure (Yost 2000; Henderson *et al.* 2008). TS occurs in terms of frequency range (Hz or kHz), hearing threshold level (dB), or both frequency and hearing threshold level (CDC, 2004).

In addition, there are different degrees of PTS: Ranging from slight/mild to moderate and from severe to profound (Clark, 1981). Profound PTS or the complete loss of the ability to hear in one or both ears is commonly referred to as deafness (CDC, 2004; WHO, 2006). High-frequency PTS, presumably as a normal process of aging that occurs in humans and other terrestrial mammals, has also been demonstrated in captive cetaceans (Ridgway and Carder, 1997; Yuen *et al.* 2005; Finneran *et al.,* 2005; Houser and Finneran, 2006; Finneran *et al.* 2007; Schlundt *et al.,* 2011) and in stranded individuals (Mann *et al.,* 2010).

In terms of what is analyzed for the potential PTS (Level A harassment) in marine mammals as a result of Eglin AFB's Maritime WSEP operations, if it occurs, NMFS has determined that the levels would be slight/mild because research shows that most cetaceans show relatively high levels of avoidance. Further, it is uncommon to sight marine mammals within the target area, especially for prolonged durations. Results from monitoring programs associated other Eglin AFB activities and for Eglin AFB's 2015 Maritime WSEP activities have shown the absence of marine mammals within the EGTTR during and after maritime operations. Avoidance varies among individuals and depends on their activities or reasons for being in the area.

NMFS' predicted estimates for Level A harassment take are likely overestimates of the likely injury that will occur. NMFS expects that successful implementation of the required vessel-based and video-based mitigation measures would avoid Level A take in some instances. Also, NMFS expects that some individuals would avoid the source at levels expected to result in injury. Nonetheless, although NMFS expects that Level A harassment is unlikely to occur at the numbers proposed to be authorized, because it is difficult to quantify the degree to which the mitigation and avoidance will reduce the number of animals that might incur PTS, we are proposing to authorize (and analyze) the modeled number of Level A takes (38), which does not take the mitigation or avoidance into consideration. However, we anticipate that any PTS incurred because of mitigation and the likely short duration of exposures, would be in the form of only a small degree of permanent threshold shift and not total deafness.

While animals may be impacted in the immediate vicinity of the activity, because of the short duration of the actual individual explosions themselves (versus continual sound source operation) combined with the short duration of the Maritime WSEP operations, NMFS has preliminarily determined that there will not be a substantial impact on marine mammals or on the normal functioning of the nearshore or offshore Gulf of Mexico ecosystems. We do not expect that the proposed activity would impact rates of recruitment or survival of marine mammals since we do not expect mortality (which would remove individuals from the population) or serious injury to occur. In addition, the proposed activity would not occur in areas (and/or times) of significance for the marine mammal populations potentially affected by the exercises (*e.g.,* feeding or resting areas, reproductive areas), and the activities would only occur in a small part of their overall range, so the impact of any potential temporary displacement would be negligible and animals would be expected to return to the area after the cessations of activities. Although the proposed activity could result in Level

A (PTS only, not slight lung injury or gastrointestinal tract injury) and Level B (behavioral disturbance and TTS) harassment of marine mammals, the level of harassment is not anticipated to impact rates of recruitment or survival of marine mammals because the number of exposed animals is expected to be low due to the short-term (*i.e.,* four hours a day or less) and site-specific nature of the activity. We do not anticipate that the effects would be detrimental to rates of recruitment and survival because we do not expect serious of extended behavioral responses that would result in energetic effects at the level to impact fitness.

Moreover, the mitigation and monitoring measures proposed for the Authorization (described earlier in this document) are expected to further minimize the potential for harassment. The protected species surveys would require Eglin AFB to search the area for marine mammals, and if any are found in the live fire area, then the exercise would be suspended until the animal(s) has left the area or relocated. Moreover, marine species observers located in the Eglin control tower would monitor the high-definition video feed from cameras located on the instrument barge anchored on-site for the presence of protected species. Furthermore, Maritime WSEP missions would be delayed or rescheduled if the sea state is greater than a 4 on the Beaufort Scale at the time of the test. In addition, Maritime WSEP missions would occur no earlier than two hours after sunrise and no later than two hours prior to sunset to ensure adequate daylight for pre- and post-mission monitoring.

Based on the preliminary 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 finds that Eglin AFB's Maritime WSEP operations will result in the incidental take of marine mammals, by Level A and Level B harassment only, and that the taking from the Maritime WSEP exercises will have a negligible impact on the affected species or stocks.

Impact on Availability of Affected Species or Stock for Taking for Subsistence Uses

There are no relevant subsistence uses of marine mammals implicated by this action. Therefore, NMFS has preliminarily determined that the total taking of affected species or stocks would not have an unmitigable adverse impact on the availability of such species or stocks for taking for subsistence purposes.

Endangered Species Act (ESA)

Eglin AFB initiated consultation with the Southeast Region, NMFS, under section 7 of the ESA regarding the effects of this action on ESA-listed species and critical habitat under the jurisdiction of NMFS. The consultation will be completed and a biological opinion issued prior to any final determinations on an issuance of an Authorization. Due to the location of the activity, no ESA-listed marine mammal species are likely to be affected; therefore, NMFS has preliminarily determined that this proposed Authorization would have no effect on ESA-listed species. However, prior to the agency's decision on the issuance or denial of this Authorization, NMFS will make a final determination on whether additional consultation is necessary.

National Environmental Policy Act (NEPA)

In 2015, Eglin AFB provided NMFS with an EA titled, Maritime Weapon Systems Evaluation Program (WSEP) Operational Testing in the Eglin Gulf Testing and Training Range (EGTTR), Florida. The EA analyzed the direct, indirect, and cumulative environmental impacts of the specified activities on marine mammals. NMFS, after review and evaluation of the Eglin AFB EA for consistency with the regulations published by the Council of Environmental Quality (CEQ) and NOAA Administrative Order 216–6, Environmental Review Procedures for Implementing the National Environmental Policy Act, adopted the EA. After considering the EA, the information in the 2014 IHA application, and the **Federal Register** notice, as well as public comments, NMFS has determined that the issuance of the 2015 Authorization was not likely to result in significant impacts on the human environment; adopted Eglin AFB's EA under 40 CFR 1506.3; and issued a FONSI statement on issuance of an Authorization under section 101(a)(5) of the MMPA.

In accordance with NOAA Administrative Order 216–6 (Environmental Review Procedures for Implementing the National Environmental Policy Act, May 20, 1999), NMFS will again review the information contained in Eglin AFB's EA and determine whether the EA accurately and completely describes the preferred action alternative and the potential impacts on marine mammals. Based on this review and analysis, NMFS may reaffirm the 2015 FONSI statement on issuance of an annual authorization under section 101(a)(5) of the MMPA or supplement the EA if necessary.

Proposed Authorization

As a result of these preliminary determinations, we propose to issue an Authorization to Eglin AFB for conducting Maritime WSEP activities, for a period of one year from the date of issuance, provided the previously mentioned mitigation, monitoring, and reporting requirements are incorporated. The proposed Authorization language is provided in the next section. The wording contained in this section is proposed for inclusion in the Authorization (if issued).

1. This Authorization is valid for a period of one year from the date of issuance.

2. This Authorization is valid only for activities associated with the Maritme WSEP operations utilizing munitions identified in the Attachment.

3. The incidental taking, by Level A and Level B harassment, is limited to: Atlantic bottlenose dolphin (*Tursiops truncatus*); and Atlantic spotted dolphin (*Stenella frontalis*) as specified in Table 7 of this notice.

The taking by serious injury or death of these species, the taking of these species in violation of the conditions of this Incidental Harassment Authorization, or the taking by harassment, serious injury or death of any other species of marine mammal is prohibited and may result in the modification, suspension or revocation of this Authorization.

4. Mitigation

When conducting this activity, the following mitigation measures must be undertaken:

- If daytime weather and/or sea conditions preclude adequate monitoring for detecting marine mammals and other marine life, maritime strike operations must be delayed until adequate sea conditions exist for monitoring to be undertaken. Daytime maritime strike exercises will be conducted only when sea surface conditions do not exceed Beaufort sea state 4 (*i.e.,* wind speed 13–18 mph (11–16 knots); wave height 1 m (3.3 ft)), the visibility is 5.6 km (3 nm) or greater, and the ceiling is 305 m (1,000 ft) or greater.
- On the morning of the maritime strike mission, the test director and safety officer will confirm that there are no issues that would preclude mission execution and that the weather is adequate to support monitoring and mitigation measures.

Two Hours Prior to Mission

- Mission-related surface vessels will be stationed on site.
- Vessel-based observers on board at least one vessel will assess the overall suitability of the test site based on environmental conditions (*e.g.,* sea state) and presence/absence of marine mammal or marine mammal indicators (*e.g.,* large schools of fish, jellyfish, Sargassum rafts, and large flocks of birds feeding at the surface). Observers will relay this information to the safety officer.

One and One-Half Hours Prior to Mission

- Vessel-based surveys and video camera surveillance will commence. Vessel-based observers will survey the zone of impact (ZOI) (5 km [3.1 mi]) and relay all marine mammal and indicator sightings, including the time of sighting and direction of travel (if known) to the safety officer. Surveys will continue for approximately one hour.
- If marine mammals or marine mammal indicators are observed within the ZOI (5 km [3.1 mi]), the test range will be declared ''fouled,'' which will signify to mission personnel that conditions are such that a live ordnance drop cannot occur.
- If no marine mammals or marine mammal indicators are observed, the range will be declared ''green,'' which will signify to mission personnel that conditions are such that a live ordnance drop may occur.

One-Half Hour Prior to Mission

- Approximately 30 minutes prior to live weapon deployment, vessel-based observers will be instructed to leave the test site and remain outside the safety zone, which will be 9.5 miles from the detonation point (actual size will be determined by weapon net explosive weight (NEW) and method of delivery) during the conduct of the mission.
- Monitoring for marine mammals will continue from the periphery of the safety zone while the mission is in progress. Other safety boat crews will be instructed to observe for marine mammals during this time.
- After survey vessels have left the test site, marine species monitoring will continue for the Eglin control tower through the video feed received from the high definition cameras on the instrument barge.

Execution of Mission

- Immediately prior to live weapons drop, the test director and safety officer will communicate to confirm the results of the marine mammal survey and the appropriateness of proceeding with the mission. The safety officer will have final authority to proceed with, postpone, move, or cancel the mission.
- The mission will be postponed or moved if: Any marine mammal is visually detected within the ZOI (5 km [3.1 mi]). Postponement will continue until the animal(s) that caused the postponement is confirmed to be outside of the ZOI (5 km [3.1 mi]) due to swimming out of the range; or large schools of fish, jellyfish, Sargassum rafts, or large flocks of birds feeding at the surface are observed within the ZOI (5 km [3.1 mi]). Postponement will continue until these potential indicators are confirmed to be outside the ZOI (5 km [3.1 mi]).
- In the event of a postponement, pre-mission monitoring will continue as long as weather and daylight hours allow.

Post Mission

- Post-mission surveys will commence as soon as Explosive Ordnance Disposal (EOD) personnel declare the test area safe. These surveys will be conducted by the same vessel-based observers that conducted the pre-mission surveys.
- Survey vessels will move into the ZOI (5 km [3.1 mi]) from outside the safety zone and monitor for at least 30 minutes, concentrating on the area down-current of the test site. Any marine mammals killed or injured as a result of the test will be documented and immediately reported to the NMFS Southeast Region Marine Mammal Stranding Network at 877–433–8299 and the Florida Marine Mammal Stranding Hotline at 888–404–3922. The species, number, location, and behavior of any animals observed will be documented and reported.
- If post-mission surveys determine that an injury or lethal take of a marine mammal has occurred, the next maritime strike mission will be suspended until the test procedure and the monitoring methods have been reviewed with NMFS and appropriate changes made.

5. Monitoring

The holder of this Authorization is required to cooperate with the National Marine Fisheries Service and any other Federal, state or local agency monitoring the impacts of the activity on marine mammals.

The holder of this Authorization will track their use of the EGTTR for the Maritime WSEP missions and marine mammal observations, through the use of mission reporting forms.

Maritime strike missions will coordinate with other activities conducted in the EGTTR (*e.g.,* Precision Strike Weapon and Air-to-Surface Gunnery missions) to provide supplemental post-mission observations of marine mammals in the operations area of the exercise.

Any dead or injured marine mammals observed or detected prior to testing or injured or killed during live drops, must be immediately reported to the NMFS Southeast Region Marine Mammal Stranding Network at 877–433–8299 and the Florida Marine Mammal Stranding Hotline at 888–404–3922.

Any unauthorized impacts on marine mammals must be immediately reported to Dr. Roy E. Crabtree, the National Marine Fisheries Service's Southeast Regional Administrator, at 727–842–5312, and Jolie Harrison, Chief, Permits and Conservation Division, Office of Protected Resources at 301–427–8401.

The monitoring team will document any marine mammals that were killed or injured as a result of the test and, if practicable, coordinate with the local stranding network and NMFS to assist with recovery and examination of any dead animals, as needed.

Activities related to the monitoring described in this Authorization, including the retention of marine mammals, do not require a separate scientific research permit issued under section 104 of the Marine Mammal Protection Act.

6. Reporting

A draft report of marine mammal observations and Maritime WSEP mission activities must be submitted to the National Marine Fisheries Service's Southeast Regional Office, Protected Resources Division, 263 13th Ave. South, St. Petersburg, FL 33701 and NMFS's Office of Protected Resources, 1315 East West Highway, Silver Spring, MD 20910. This draft report must include the following information:

- Date and time of each maritime strike mission;
- A complete description of the pre-exercise and post-exercise activities related to mitigating and monitoring the effects of maritime strike missions on marine mammal populations;
- Results of the monitoring program, including numbers by species/stock of any marine mammals noted injured or killed as a result of the maritime strike mission and number of marine mammals (by species if possible) that may have been harassed due to presence within the ZOI (5 km [3.1 mi]); and
- A detailed assessment of the effectiveness of sensor based monitoring in detecting marine mammals in the area of Maritime WSEP operations.

The draft report will be subject to review and comment by the National Marine Fisheries Service. Any recommendations made by the National Marine Fisheries Service must be addressed in the final report prior to acceptance by the National Marine Fisheries Service. The draft report will be considered the final report for this activity under this Authorization if the National Marine Fisheries Service has not provided comments and recommendations within 90 days of receipt of the draft report.

7. Additional Conditions

- The maritime strike mission monitoring team will participate in the marine mammal species observation training. Designated crew members will be selected to receive training as protected species observers. Protected Species Observers will receive training in protected species survey and identification techniques through a National Marine Fisheries Service-approved training program.
- The holder of this Authorization must inform the Director, Office of Protected Resources, National Marine Fisheries Service, (301–427–8400) or designee (301–427–8401) prior to the initiation of any changes to the monitoring plan for a specified mission activity.
- A copy of this Authorization must be in the possession of the safety officer on duty each day that maritime strike missions are conducted.
- Failure to abide by the Terms and Conditions contained in this Incidental Harassment Authorization may result in a modification, suspension or revocation of the Authorization.

Request for Public Comments

We request comment on our analysis, the draft authorization, and any other aspect of this **Federal Register** notice of proposed Authorization. Please include with your comments any supporting data or literature citations to help inform our final decision on Eglin AFB's renewal request for an MMPA authorization.

Dated: December 17, 2015.

Perry F. Gayaldo,

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

[FR Doc. 2015–32154 Filed 12–17–15; 4:15 pm]

BILLING CODE 3510–22–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648–XE371

North Pacific Fishery Management Council; Public Meeting

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

ACTION: Notice of public meeting.

SUMMARY: The North Pacific Fishery Management Council (Council) Electronic Monitoring Workgroup (EMWG) will meet in Anchorage, AK.

DATES: The meeting will be held on Monday, January 11, 2016, from 12:30 p.m. to 5 p.m. and on Tuesday, January 12, 2016, from 8 a.m. to 5 p.m.

ADDRESSES: The meeting will be held in the Aspen room at the Hilton Hotel, 500 W. 3rd Ave., Anchorage, AK 99501.

Council address: North Pacific Fishery Management Council, 605 W. 4th Ave., Suite 306, Anchorage, AK 99501–2252; telephone: (907) 271–2809.

FOR FURTHER INFORMATION CONTACT: Diana Evans, Council staff; telephone: (907) 271–2809.

SUPPLEMENTARY INFORMATION:

Agenda

Monday, January 11, 2016 Through Tuesday, January 12, 2016

The agenda will include a review of the 2016 pre-implementation program and other 2016 research, the EM integration analysis and progress with analytical studies, review of the budget, and other business and scheduling.

The Agenda is subject to change, and the latest version will be posted at *http://www.npfmc.org/*

Special Accommodations

These meetings are physically accessible to people with disabilities. Requests for sign language interpretation or other auxiliary aids should be directed to Shannon Gleason at (907) 271–2809 at least 7 working days prior to the meeting date.

Dated: December 18, 2015.

Tracey L. Thompson,

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

[FR Doc. 2015–32296 Filed 12–22–15; 8:45 am]

BILLING CODE 3510–22–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

Proposed Information Collection; Comment Request; Antarctic Marine Living Resources Conservation and Management Measures

AGENCY: National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Notice.

SUMMARY: The Department of Commerce, as part of its continuing effort to reduce paperwork and respondent burden, invites the general public and other Federal agencies to take this opportunity to comment on proposed and/or continuing information collections, as required by the Paperwork Reduction Act of 1995.

DATES: Written comments must be submitted on or before February 22, 2016.

ADDRESSES: Direct all written comments to Jennifer Jessup, Departmental Paperwork Clearance Officer, Department of Commerce, Room 6616, 14th and Constitution Avenue NW., Washington, DC 20230 (or via the Internet at *JJessup@doc.gov*).

FOR FURTHER INFORMATION CONTACT: Requests for additional information or copies of the information collection instrument and instructions should be directed to MiAe Kim, Office of International Affairs and Seafood Inspection, 1315 East-West Hwy, Silver Spring, MD 20910, (301) 427–8365 or *mi.ae.kim@noaa.gov.*

SUPPLEMENTARY INFORMATION:

I. Abstract

The 1982 Convention on the Conservation of Antarctic Marine Living Resources (Convention) established the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR). The United States is a Contracting Party to the Convention. The Antarctic Marine Living Resources Convention Act (AMLRCA) directs and authorizes the United States to take actions necessary to meet its treaty obligations as a Contracting Party to the Convention. The regulations implementing AMLRCA are at 50 CFR part 300, subpart G. The record keeping and reporting requirements at 50 CFR part 300 form the basis for this collection of information. This collection of information concerns research in, and the harvesting and importation of, marine living resources from waters regulated by CCAMLR related to ecosystem research, U.S.