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## DEPARTMENT OF COMMERCE

### National Oceanic and Atmospheric Administration

#### 50 CFR Part 218

RIN 0648-AW79

#### Taking and Importing Marine Mammals; U.S. Navy Training in the Jacksonville Range Complex

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

**ACTION:** Final rule.

**SUMMARY:** NMFS, upon application from the U.S. Navy (Navy), is issuing regulations to govern the unintentional taking of marine mammals incidental to activities conducted off the Charleston/Jacksonville (JAX) Range Complex for the period of June 2009 through June 2014. The Navy's activities are considered military readiness activities pursuant to the Marine Mammal Protection Act (MMPA), as amended by the National Defense Authorization Act for Fiscal Year 2004 (NDAA). These regulations, which allow for the issuance of "Letters of Authorization" (LOAs) for the incidental take of marine mammals during the described activities and specified timeframes, prescribe the permissible methods of taking and other means of effecting the least practicable adverse impact on marine mammal species and their habitat, as well as requirements pertaining to the monitoring and reporting of such taking.

**DATES:** Effective June 8, 2009 and is applicable to the Navy on June 5, 2009 through June 4, 2014.

**ADDRESSES:** A copy of the Navy's application (which contains a list of the references used in this document), NMFS' Record of Decision (ROD), and other documents cited herein may be obtained by writing to Michael Payne, Chief, Permits, Conservation and Education Division, Office of Protected Resources, National Marine Fisheries Service, 1315 East-West Highway, Silver Spring, MD 20910-3225 or by telephone via the contact listed here (*see* **FOR FURTHER INFORMATION CONTACT**).

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

**SUPPLEMENTARY INFORMATION:** Extensive supplementary information was provided in the proposed rule for this activity, which was published in the **Federal Register** on Wednesday, December 17, 2008 (73 FR 76578). This information will not be reprinted here in its entirety; rather, all sections from the proposed rule will be represented herein and will contain either a summary of the material presented in the proposed rule or a note referencing the page(s) in the proposed rule where the information may be found. Any information that has changed since the proposed rule was published will be addressed herein. Additionally, this final rule contains a section that responds to the comments received during the public comment period.

#### Background

Sections 101(a)(5)(A) and (D) of the MMPA (16 U.S.C. 1361 *et seq.*) direct the Secretary of Commerce (Secretary) to allow, upon request, the incidental, but not intentional taking of marine mammals by U.S. citizens who engage in a specified activity (other than commercial fishing) during periods of not more than five consecutive years each if certain findings are made and regulations are issued or, if the taking is limited to harassment and of no more than 1 year, the Secretary shall issue a notice of proposed authorization for public review.

Authorization 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, 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 NDAA (Pub. L. 108-136) removed the "small numbers" and "specified geographical region" limitations 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 March 17, 2008, NMFS received an application from the Navy requesting authorization for the take of six species of cetaceans incidental to the proposed training activities in the JAX Range Complex over the course of 5 years. On November 7, 2008, the Navy submitted an Addendum with some modifications and additional information to its original request. These training activities are classified as military readiness activities. The Navy states that these training activities may cause various impacts to marine mammal species in the proposed JAX Range Complex area. The Navy requests an authorization to take individuals of these cetacean species by Level B Harassment. Further, the Navy requests authorization to take 2 individual Atlantic spotted dolphins per year by injury incidental to the proposed training activities in the JAX Range Complex. Please refer to Table 5 of this document for detailed information of the potential exposures from explosive ordnance (per year) for marine mammals in the JAX Range Complex. However, due to the proposed mitigation and monitoring measures, NMFS does not expect the proposed action would result in any marine mammal mortality. Therefore, no mortality would be authorized for the Navy's JAX Range Complex training activities.

#### Background of Navy Request

The proposed rule contains a description of the Navy's mission, their responsibilities pursuant to Title 10 of the United States Code, and the specific purpose and need for the activities for which they requested incidental take authorization. The description contained in the proposed rule has not changed (73 FR 76578; December 17, 2008).

#### Description of the Specified Activities

The proposed rule contains a complete description of the Navy's specified activities that are covered by these final regulations, and for which the associated incidental take of marine mammals will be authorized in the related LOAs. The proposed rule describes the nature and number of the training activities. These training activities consist of surface warfare [Missile Exercise (MISSILEX)], mine warfare [Mine Exercises (MINEX)], amphibious warfare [Firing Exercise

(FIREX)], small arms training (explosive hand grenades), and vessel movement to, from, and within the JAX Range Complex Study Area. The description of the action contained in the proposed rule has not changed (73 FR 76578, pages 76579–76581). Table 1 summarizes the nature and level of these planned activities.

The Navy provided the following additional information regarding the anti-swimmer grenade training. Any single event using the MK3A2 grenades could consist of up to 10 high explosive (HE) grenades being used. The total number of HE grenades used per year will not exceed 80. Non-explosive practice grenades may also be used in

these training events. For modeling purposes, and to account for the highest number of grenades that may potentially be used during an individual event, it was assumed that there would be 8 events (up to 10 grenades per event), or a total of 80 grenades, per year.

TABLE 1—TRAINING EVENTS INVOLVING EXPLOSIVES PLANNED IN THE JAX RANGE COMPLEX PER YEAR

Operation	Platform	System/ordnance	Number of events	Event duration
Missile Exercise (MISSILEX) (Air to Surface).	MH–60R/S, SH–60B, HH–60H. P–3C, and P–8A .....	AGM–114 (Hellfire missile) ....	70 sorties (70 missiles) .....	1 hour.
Mine Neutralization .....	EOD .....	AGM–65 (Maverick missile) ...	3 sorties (3 missiles) .....	1 hour.
FIREX with IMPASS .....	CG, DDG .....	20 lb charges .....	12 events .....	6–8 hours.
Small Arms Training (explosive hand grenades).	Maritime Expeditionary Support Group (Various Small Boats).	5" gun (IMPASS) .....	10 events (390 rounds) .....	8 hours.
		MK3A2 anti-swimmer grenades (HE).	8 events (10 grenades per event).	1 hour.

### JAX Range Complex

The JAX Range Complex proposed rule contains a description of the JAX Range Complex Study Area along with

a description of the areas in which certain types of activities will occur. Table 2, included here, summarizes the areas in which explosive events will

occur and their frequency of occurrence. The description of the JAX Range Complex Study Area in the proposed rule has not changed.

TABLE 2—NUMBER OF EVENTS UTILIZING EXPLOSIVE MUNITIONS WITHIN THE JAX RANGE COMPLEX

Sub-area*	Ordnance	Winter	Spring	Summer	Fall	Annual total events
MLTR .....	MISSILEX .....	.....	.....	.....	.....	73
MLTR .....	Hellfire .....	17.5	17.5	17.5	17.5	70
MLTR .....	Maverick .....	0.75	0.75	0.75	0.75	3
BB, CC .....	FIREX .....	.....	.....	.....	.....	10
BB, CC .....	5" rounds .....	**0	**0	5	5	10
UNDET North .....	MINEX .....	.....	.....	.....	.....	12
UNDET North .....	20 LB .....	1.25	1.25	2.25	1.25	6
UNDET South .....	20 LB .....	1.25	1.25	2.25	1.25	6
UNDET North .....	Small Arms Training .....	.....	.....	.....	.....	***8
UNDET North .....	MK3A2 anti-swimmer concussion grenade (0.5 lbs NEW).	1	1	1	1	4
UNDET South .....	MK3A2 anti-swimmer concussion grenade (0.5 lbs NEW).	1	1	1	1	4

\* See Figure 1 of the LOA application for the location of sub-areas.

\*\* In accordance with the current biological opinion for the Southeast, no live FIREX is conducted during North Atlantic right whale calving season (December 1–March 31) and therefore no modeling was completed for the winter and spring season.

\*\*\* (10 grenades per event)

### Description of Marine Mammals in the Area of the Specified Activities

There are 29 marine mammal species with possible or confirmed occurrence in the JAX Range Complex. As indicated in Table 3, all of the marine mammals are cetacean species (7 mysticetes and 22 odontocetes). Table 6 also includes

the Federal status of these marine mammal species. Six marine mammal species listed as Federally endangered under the Endangered Species Act (ESA) occur in the JAX Range Complex: the humpback whale, North Atlantic right whale, sei whale, fin whale, blue whale, and sperm whale. The proposed

rule also includes a discussion of the methods used to estimate marine mammal density in the JAX Study Area. The Description of Marine Mammals in the Area of the Specified Activities section has not changed from what was in the proposed rule (73 FR 75631, pages 76581–76582).

TABLE 3—MARINE MAMMAL SPECIES FOUND IN THE JAX RANGE COMPLEX

Family and scientific name	Common name	Federal status
Order Cetacea		
Suborder Mysticeti (baleen whales)		
<i>Eubalaena glacialis</i> .....	North Atlantic right whale .....	Endangered.

TABLE 3—MARINE MAMMAL SPECIES FOUND IN THE JAX RANGE COMPLEX—Continued

Family and scientific name	Common name	Federal status
<i>Megaptera novaeangliae</i> .....	Humpback whale .....	Endangered.
<i>Balaenoptera acutorostrata</i> .....	Minke whale.	
<i>B. brydei</i> .....	Bryde's whale.	
<i>B. borealis</i> .....	Sei whale .....	Endangered.
<i>B. physalus</i> .....	Fin whale .....	Endangered.
<i>B. musculus</i> .....	Blue whale .....	Endangered.
Suborder Odontoceti (toothed whales)		
<i>Physeter macrocephalus</i> .....	Sperm whale .....	Endangered.
<i>Kogia breviceps</i> .....	Pygmy sperm whale.	
<i>K. sima</i> .....	Dwarf sperm whale.	
<i>Ziphius cavirostris</i> .....	Cuvier's beaked whale.	
<i>Mesoplodon minus</i> .....	True's beaked whale.	
<i>M. europaeus</i> .....	Gervais' beaked whale.	
<i>M. densirostris</i> .....	Blainville's beaked whale.	
<i>Steno bredanensis</i> .....	Rough-toothed dolphin.	
<i>Tursiops truncatus</i> .....	Bottlenose dolphin.	
<i>Stenella attenuate</i> .....	Pantropical spotted dolphin.	
<i>S. frontalis</i> .....	Atlantic spotted dolphin.	
<i>S. longirostris</i> .....	Spinner dolphin.	
<i>S. clymene</i> .....	Clymene dolphin.	
<i>S. coeruleoalba</i> .....	Striped dolphin.	
<i>Delphinus delphis</i> .....	Common dolphin.	
<i>Lagenodephis hovei</i> .....	Fraser's dolphin.	
<i>Grampus griseus</i> .....	Risso's dolphin.	
<i>Peponocephala electra</i> .....	Melon-headed whale.	
<i>Feresa attenuate</i> .....	Pygmy killer whale.	
<i>Pseudorca crassidens</i> .....	False killer whale.	
<i>Orcinus orca</i> .....	Killer whale.	
<i>G. macrorhynchus</i> .....	Short-finned pilot whale.	

### Potential Impacts to Marine Mammal Species

With respect to the MMPA, NMFS' effects assessment serves four primary purposes: (1) To prescribe the permissible methods of taking (*i.e.*, Level B Harassment (behavioral harassment), Level A Harassment (injury), or mortality, including an identification of the number and types of take that could occur by Level A or B harassment or mortality) and to prescribe other means of effecting the least practicable adverse impact on such species or stock and its habitat (*i.e.*, mitigation); (2) to determine whether the specified activity will have a negligible impact on the affected species or stocks of marine mammals (based on the likelihood that the activity will adversely affect the species or stock through effects on annual rates of recruitment or survival); (3) to determine whether the specified activity will have an unmitigable adverse impact on the availability of the species or stock(s) for subsistence uses (however, there are no subsistence communities in the JAX Range Complex Study Area); and (4) to prescribe requirements pertaining to monitoring and reporting.

In the Potential Impacts to Marine Mammal Species section of the proposed rule NMFS included a qualitative discussion of the different ways that vessel strikes and underwater explosive detonations from MISSILEX, MINEX, and FIREX may potentially affect marine mammals (some of which NMFS would not classify as harassment)—*see* 73 FR 76578, pages 76582–76587. Marine mammals may experience direct physiological effects such as threshold shift, acoustic masking, impaired communications, stress responses, and behavioral disturbance. The information contained in Potential Impacts to Marine Mammal Species section from the proposed rule has not changed.

The Navy provided additional information concerning potential impacts from MK3A2 anti-swimmer concussion grenades during small arms training. Modeling was completed for the MK3A2 explosive source, which assumed a 6 ft (1.8 m) detonation depth. The net explosive weight (NEW) of the MK3A2 grenade is 0.5 lb.

Determining the zone of influence (ZOI) of different thresholds from MK3A2 explosives in terms of total energy flux density (EFD), impulse, peak pressure and 1/3-octave bands EFD

must treat the sequential explosions differently than the single detonations. For the MK3A2, two factors are involved for the sequential explosives that deal with the spatial and temporal distribution of the detonations as well as the effective accumulation of the resultant acoustics. In view of the ZOI determinations, the sequential detonations are modeled as a single point event with only the EFD summed incoherently:

$$Total\ EFD_{dB} = 10 \log_{10} \sum_{i=1}^n 10^{(EFD_i/10)}$$

The multiple explosion energy criteria were used to determine the ZOI for the non-injurious behavioral (without TTS) exposure analysis.

Table 4 shows the ZOI results of the model estimation for MK3A2 grenade in the JAX Range Complex. The ZOI, when multiplied by the animal densities and total number of events, provides the exposure estimates for that species. In addition to other mitigation measures, lookouts will visually survey the target area for marine mammals. The exercise will not be conducted until the area is clear of protected species and will be suspended if any enter the buffer area.

TABLE 4—ESTIMATED ZOIS (KM<sup>2</sup>) FOR SMALL ARMS TRAINING (ANTI-SWIMMER GRENADES) IN THE JAX RANGE COMPLEX

Area*	Ordnance	Estimated ZOI @ 177 dB re 1 $\mu$ Pa <sup>2</sup> -sec (multiple detonations only)				Estimated ZOI @ 205 dB re 1 $\mu$ Pa <sup>2</sup> -sec or 13 psi				Mortality ZOI @ 30.5 psi			
		Win	Spr	Sum	Fall	Win	Spr	Sum	Fall	Win	Spr	Sum	Fall
UNDET North.	MK3A2 gre- nade.	4.25	4.30	3.97	3.97	0.09	0.09	0.09	0.09	<0.01	<0.01	<0.01	<0.01
UNDET South.	MK3A2 gre- nade.	4.67	4.72	4.24	4.59	0.09	0.09	0.09	0.09	<0.01	<0.01	<0.01	<0.01

**Note:** ZOIs for the MK3A2 grenades are modeled as multiple detonations (10 grenades being used during each event).

\* See Figure 1 of the LOA application for the location of sub-areas.

Later, in the Estimated Take of Marine Mammals Section, NMFS relates and quantifies the potential effects to marine mammals from underwater detonation of explosives discussed here to the MMPA definitions of Level A and Level B Harassment.

Additional analyses on potential impacts to marine mammals from vessel movement within the JAX Range Complex Study Area are added below.

**Vessel Movement:** There are limited data concerning marine mammal behavioral responses to vessel traffic and vessel noise, and a lack of consensus among scientists with respect to what these responses mean or whether they result in short-term or long-term adverse effects. In those cases where there is a busy shipping lane or where there is large amount of vessel traffic, marine mammals may experience acoustic masking (Hildebrand, 2005) if they are present in the area (e.g., killer whales in Puget Sound; Foote *et al.*, 2004; Holt *et al.*, 2008). In cases where vessels actively approach marine mammals (e.g., whale watching or dolphin watching boats), scientists have documented that animals exhibit altered behavior such as increased swimming speed, erratic movement, and active avoidance behavior (Bursk, 1983; Acevedo, 1991; Baker and MacGibbon, 1991; Trites and Bain, 2000; Williams *et al.*, 2002; Constantine *et al.*, 2003), reduced blow interval (Ritcher *et al.*, 2003), disruption of normal social behaviors (Lusseau, 2003; 2006), and the shift of behavioral activities which may increase energetic costs (Constantine *et al.*, 2003; 2004). A detailed review of marine mammal reactions to ships and boats is available in Richardson *et al.* (1995). For each of the marine mammals taxonomy groups, Richardson *et al.* (1995) provided the following assessment regarding cetacean reactions to vessel traffic:

**Toothed whales:** “In summary, toothed whales sometimes show no avoidance reaction to vessels, or even approach them. However, avoidance can occur, especially in response to vessels

of types used to chase or hunt the animals. This may cause temporary displacement, but we know of no clear evidence that toothed whales have abandoned significant parts of their range because of vessel traffic.”

**Baleen whales:** “When baleen whales receive low-level sounds from distant or stationary vessels, the sounds often seem to be ignored. Some whales approach the sources of these sounds. When vessels approach whales slowly and nonaggressively, whales often exhibit slow and inconspicuous avoidance maneuvers. In response to strong or rapidly changing vessel noise, baleen whales often interrupt their normal behavior and swim rapidly away. Avoidance is especially strong when a boat heads directly toward the whale.”

It is important to recognize that behavioral responses to stimuli are complex and influenced to varying degrees by a number of factors such as species, behavioral contexts, geographical regions, source characteristics (moving or stationary, speed, direction, *etc.*), prior experience of the animal, and physical status of the animal. For example, studies have shown that beluga whales reacted differently when exposed to vessel noise and traffic. In some cases, naïve beluga whales exhibited rapid swimming from ice-breaking vessels up to 80 km away, and showed changes in surfacing, breathing, diving, and group composition in the Canadian high Arctic where vessel traffic is rare (Finley *et al.*, 1990). In other cases, beluga whales were more tolerant of vessels, but differentially responsive by reducing their calling rates, to certain vessels and operating characteristics (especially older animals) in the St. Lawrence River where vessel traffic is common (Blane and Jackson, 1994). In Bristol Bay, Alaska, beluga whales continued to feed when surrounded by fishing vessels and resisted dispersal even when purposefully harassed (Fish and Vania, 1971).

In reviewing more than 25 years of whale observation data, Watkins (1986) concluded that whale reactions to vessel traffic were “modified by their previous experience and current activity: habituation often occurred rapidly, attention to other stimuli or preoccupation with other activities sometimes overcame their interest or wariness of stimuli.” Watkins noticed that over the years of exposure to ships in the Cape Cod area, minke whales (*Balaenoptera acutorostrata*) changed from frequent positive (such as approaching vessels) interest to generally uninterested reactions; finback whales (*B. physalus*) changed from mostly negative (such as avoidance) to uninterested reactions; right whales (*Eubalaena glacialis*) apparently continued the same variety of responses (negative, uninterested, and positive responses) with little change; and humpbacks (*Megaptera novaeangliae*) dramatically changed from mixed responses that were often negative to often strongly positive reactions. Watkins (1986) summarized that “whales near shore, even in regions with low vessel traffic, generally have become less wary of boats and their noises, and they have appeared to be less easily disturbed than previously. In particular locations with intense shipping and repeated approaches by boats (such as the whale-watching areas of Stellwagen Bank), more and more whales had P [positive] reactions to familiar vessels, and they also occasionally approached other boats and yachts in the same ways.”

In the case of the JAX Range Complex, naval vessel traffic is expected to be much lower than in areas where there are large shipping lanes and large numbers of fishing vessels and/or recreational vessels. Nevertheless, the proposed action area is well traveled by a variety of commercial and recreational vessels, so marine mammals in the area are expected to be habituated to vessel noise.

As described in the proposed rule, operations involving vessel movements

occur intermittently and are variable in duration, ranging from a few hours up to 2 weeks. These operations are widely dispersed throughout the JAX Range Complex OPAREA, which is a vast area encompassing 50,090 square nautical miles (nm<sup>2</sup>). The Navy logs about 1,000 total vessel days within the Study Area during a typical year. Consequently, the density of ships within the Study Area at any given time is extremely low (*i.e.*, less than 0.00005 ships/nm<sup>2</sup>).

Moreover, naval vessels transiting the study area or engaging in the training exercises will not actively or intentionally approach a marine mammal or change speed drastically. Except under certain mitigation measures that protect right whales and other marine mammals from vessel strike, all vessels transit to, from, and within the range complexes will be traveling at speeds generally ranging from 10 to 14 knots.

The final rule contains additional mitigation measures requiring Navy vessels to keep at least 500 yards (460 m) away from any observed whale and at least 200 yards (183 m) from marine mammals other than whales, and avoid approaching animals head-on. Although the radiated sound from the vessels will be audible to marine mammals over a large distance, it is unlikely that animals will respond behaviorally to low-level distant shipping noise as the animals in the area are likely to be habituated to such noises (Nowacek *et al.*, 2004). In light of these facts, NMFS does not expect the Navy's vessel movements to result in Level B harassment.

### Mitigation

In order to issue an incidental take authorization (ITA) under Section 101(a)(5)(A) of the MMPA, NMFS must prescribe regulations setting 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." The NDAA 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." The JAX Range Complex training activities described in the proposed rule are considered military readiness activities.

NMFS reviewed the Navy's proposed JAX Range Complex training activities and the proposed JAX Range Complex

mitigation measures presented in the Navy's application to determine whether the activities and mitigation measures were capable of achieving the least practicable adverse effect on marine mammals.

Any mitigation measure prescribed by NMFS should be known 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 below:

(a) Avoidance or minimization of injury or death of marine mammals wherever possible (goals b, c, and d may contribute to this goal).

(b) A reduction in the numbers of marine mammals (total number or number at biologically important time or location) exposed to underwater detonations or other activities expected to result in the take of marine mammals (this goal may contribute to a, above, or to reducing harassment takes only).

(c) A reduction in the number of times (total number or number at biologically important time or location) individuals would be exposed to underwater detonations or other activities expected to result in the take of marine mammals (this goal may contribute to a, above, or to reducing harassment takes only).

(d) A reduction in the intensity of exposures (either total number or number at biologically important time or location) to underwater detonations or other activities expected to result in the take of marine mammals (this goal may contribute to a, above, or to reducing the severity of harassment takes only).

(e) A reduction in 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.

(f) For monitoring directly related to mitigation—an increase in the probability of detecting marine mammals, thus allowing for more effective implementation of the mitigation (shut-down zone, *etc.*).

NMFS reviewed the Navy's proposed mitigation measures, which included a careful balancing of the likely benefits 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."

The Navy's proposed mitigation measures were described in detail in the proposed rule (73 FR 76578; December 17, 2008; pages 76592–76595). Slight

wording changes have been made to the Personnel Training Lookouts section as presented in the Proposed Rule (page 76592). Bullet 6 of that section is modified to read: "At night, to increase effectiveness, lookouts would not continuously sweep the horizon with their eyes. Instead, lookouts would scan the horizon in a series of movements that would allow their eyes to come to periodic rests as they scan the sector. When visually searching at night, they would look a little to one side and out of the corners of their eyes, paying attention to the things on the outer edges of their field of vision. Lookouts will also have night vision devices available for use."

The Navy's measures addressing operating procedures for training activities using underwater detonation of explosives and firing exercises, and mitigation related to vessel traffic and the North Atlantic right whale (NARW) were described in the proposed rule. No changes have been made to the mitigation measures described in the proposed rule except the following requirements.

During specific at-sea training events, if a marine mammal is injured or killed as a result of the proposed Navy training activities (*e.g.*, instances in which it is clear that munitions explosions caused the injury or death), the Navy shall suspend its activities immediately and report such incident to NMFS.

Regarding the NARW vessel collision measures, NMFS expanded the final rule to include vessel collision avoidance measures for the South Atlantic and the Northeast Atlantic to be consistent with the U.S. Navy's Atlantic Fleet Active Sonar Training (AFAST) rule. The Navy is required to comply with the same ship collision measures while transiting and conducting exercises within specific NARW areas along the East Coast. The specific vessel collision measures in the Northeast and Southeast Atlantic regions are listed in the regulatory text of the final rule.

NMFS has determined that these mitigation measures (which include a suite of measures that specifically address vessel transit and the NARW) are adequate means of effecting the least practicable adverse impacts on marine mammal species or stocks and their habitat while also considering personnel safety, practicality of implementation, and impact on the effectiveness of the military readiness activity.

### Monitoring

In order to issue an ITA for an activity, Section 101(a)(5)(A) of the MMPA states that NMFS 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 LOAs must include the suggested means of accomplishing the necessary monitoring and reporting that will result in increased knowledge of the species and of the level of taking or impacts on populations of marine mammals that are expected to be present.

Monitoring measures prescribed by NMFS should accomplish one or more of the following general goals:

(1) An increase in the probability of detecting marine mammals, both within the safety zone (thus allowing for more effective implementation of the mitigation) and in general to generate more data to contribute to the effects analyses.

(2) An increase in our understanding of how many marine mammals are likely to be exposed to levels of underwater detonations or other stimuli that we associate with specific adverse effects, such as behavioral harassment, temporary threshold shift of hearing sensitivity (TTS), or permanent threshold shift of hearing sensitivity (PTS).

(3) An increase in our understanding of how marine mammals respond (behaviorally or physiologically) to underwater detonations or other stimuli expected to result in take and how anticipated adverse effects on individuals (in different ways and to varying degrees) may impact the population, species, or stock (specifically through effects on annual rates of recruitment or survival).

(4) An increased knowledge of the affected species.

(5) An increase in our understanding of the effectiveness of certain mitigation and monitoring measures.

(6) A better understanding and record of the manner in which the authorized entity complies with the incidental take authorization.

#### **Proposed Monitoring Plan for the JAX Range Complex Study Area**

As NMFS indicated in the proposed rule, the Navy has (with input from NMFS) fleshed out the details of and made improvements to the JAX Range Complex Monitoring Plan. Additionally, NMFS and the Navy have incorporated a suggestion from the public, which recommended the Navy hold a peer review workshop to discuss the Navy’s Monitoring Plans for the multiple range complexes and training exercises in which the Navy would receive ITAs (see Monitoring Workshop section). The final JAX Range Complex Monitoring Plan, which is summarized below, may

be viewed at <http://www.nmfs.noaa.gov/pr/permits/incidental.htm#applications>. The Navy plans to implement all of the components of the Monitoring Plan; however, only the marine mammal components (not the sea turtle components) will be required by the MMPA regulations and associated LOAs.

A summary of the monitoring methods required for use during training events in the JAX Range Complex are described below. These methods include a combination of individual elements that are designed to allow a comprehensive assessment.

#### **I. Vessel or Aerial Surveys**

(A) The Holder of this Authorization shall visually survey a minimum of 2 explosive events per year, one of which shall be a multiple detonation event. One of the vessel or aerial surveys should involve professionally trained marine mammal observers (MMOs).

(B) When operationally feasible, for specified training events, aerial or vessel surveys shall be used 1–2 days prior to, during (if reasonably safe), and 1–5 days post detonation.

(C) Surveys shall include any specified exclusion zone around a particular detonation point plus 2,000 yards beyond the border of the exclusion zone (*i.e.*, the circumference of the area from the border of the exclusion zone extending 2,000 yards outwards). For vessel-based surveys a passive acoustic system (hydrophone or towed array) would be used to determine if marine mammals are in the area before and/or after a detonation event.

(D) When conducting a particular survey, the survey team shall collect:

- Location of sighting;
- Species (if not possible, indicate whale, dolphin or pinniped);
- Number of individuals;
- Whether calves were observed;
- Initial detection sensor;
- Length of time observers maintained visual contact with marine mammal;
- Wave height;
- Visibility;
- Whether sighting was before, during, or after detonations/exercise, and how many minutes before or after;
- Distance of marine mammal from actual detonations (or target spot if not yet detonated);
- *Observed behavior*—Watchstanders will report, in plain language and without trying to categorize in any way, the observed behavior of the animal(s) (such as animal closing to bow ride, paralleling course/speed, floating on surface and not swimming *etc.*), including speed and direction;

- Resulting mitigation implementation—Indicate whether explosive detonations were delayed, ceased, modified, or not modified due to marine mammal presence and for how long; and

- If observation occurs while explosives are detonating in the water, indicate munition type in use at time of marine mammal detection (*e.g.*, were the 5-inch guns actually firing when the animals were sighted? Did animals enter an area 2 minutes after a huge explosion went off?).

#### **II. Passive Acoustic Monitoring**

The Navy shall conduct passive acoustic monitoring when operationally feasible:

(A) Any time a towed hydrophone array is employed during shipboard surveys the towed array shall be deployed during daylight hours for each of the days the ship is at sea.

(B) The towed hydrophone array shall be used to supplement the ship-based systematic line-transect surveys (particularly for species such as beaked whales that are rarely seen).

#### **III. Marine Mammal Observers on Navy Platforms**

(A) Marine mammal observers (MMOs) selected for aerial or vessel survey shall be placed on a Navy platform during one of the exercises being monitored per year. The remaining designated exercise(s) shall be monitored by the Navy lookouts/watchstanders.

(B) The MMO must possess expertise in species identification of regional marine mammal species and experience collecting behavioral data.

(C) MMOs shall not be placed aboard Navy platforms for every Navy training event or major exercise, but during specifically identified opportunities deemed appropriate for data collection efforts. The events selected for MMO participation shall take into account safety, logistics, and operational concerns.

(D) MMOs shall observe from the same height above water as the lookouts.

(E) The MMOs shall not be part of the Navy’s formal reporting chain of command during their data collection efforts; Navy lookouts shall continue to serve as the primary reporting means within the Navy chain of command for marine mammal sightings. The only exception is that if an animal is observed within the shutdown zone that has not been observed by the lookout, the MMO shall inform the lookout of the sighting, and the lookout shall take the

appropriate action through the chain of command.

(F) The MMOs shall collect species identification, behavior, direction of travel relative to the Navy platform, and distance first observed. All MMO sightings shall be conducted according to a standard operating procedure. Information collected by MMOs should be the same as those collected by Navy lookout/watchstanders described above.

The Monitoring Plan for JAX Range Complex has been designed as a collection of focused “studies” (described fully in the JAX Monitoring Plan) to gather data that will allow the Navy to address the following questions:

(a) What are the behavioral responses of marine mammals and sea turtles that are exposed to explosives?

(b) Is the Navy’s suite of mitigation measures effective at avoiding injury and mortality of marine mammals and sea turtles?

Data gathered in these studies will be collected by qualified, professional marine mammal biologists or trained Navy lookouts/watchstanders that are experts in their field. This monitoring plan has been designed to gather data on all species of marine mammals that are observed in the JAX Range Complex study area.

### Monitoring Workshop

During the public comment period on past proposed rules for Navy actions (such as the Hawaii Range Complex (HRC), and Southern California Range Complex (SOCAL) proposed rules), NMFS received a recommendation that a workshop or panel be convened to solicit input on the monitoring plan from researchers, experts, and other interested parties. The JAX Range Complex proposed rule included an adaptive management component and both NMFS and the Navy believe that a workshop would provide a means for Navy and NMFS to consider input from participants in determining whether (and if so, how) to modify monitoring techniques to more effectively accomplish the goals of monitoring set forth earlier in the document. NMFS and the Navy believe that this workshop concept is valuable in relation to all of the Range Complexes and major training exercise rules and LOAs that NMFS is working on with the Navy at this time, and consequently this single Monitoring Workshop will be included as a component of all of the rules and LOAs that NMFS will be processing for the Navy in the next year or so.

The Navy, with guidance and support from NMFS, will convene a Monitoring Workshop, including marine mammal and acoustic experts as well as other

interested parties, in 2011. The Monitoring Workshop participants will review the monitoring results from the previous two years of monitoring pursuant to the JAX Range Complex rule as well as monitoring results from other Navy rules and LOAs (e.g., VACAPES, AFAST, SOCAL, HRC, and other rules). The Monitoring Workshop participants would provide their individual recommendations to the Navy and NMFS on the monitoring plan(s) after also considering the current science (including Navy research and development) and working within the framework of available resources and feasibility of implementation. NMFS and the Navy would then analyze the input from the Monitoring Workshop participants and determine the best way forward from a national perspective. Subsequent to the Monitoring Workshop, modifications would be applied to monitoring plans as appropriate.

### Integrated Comprehensive Monitoring Program

In addition to the site-specific Monitoring Plan for the JAX Range Complex, the Navy will complete the Integrated Comprehensive Monitoring Program (ICMP) Plan by the end of 2009. The ICMP will provide the overarching coordination that will support compilation of data from project-specific monitoring plans (e.g., JAX Monitoring Plan) as well as Navy funded research and development (R&D) studies. The ICMP will coordinate the monitoring program’s progress towards meeting its goals and developing a data management plan. The ICMP will be evaluated annually to provide a matrix for progress and goals for the following year, and will make recommendations on adaptive management for refinement and analysis of the monitoring methods.

The primary objectives of the ICMP are to:

- Monitor and assess the effects of Navy activities on protected species;
- Ensure that data collected at multiple locations is collected in a manner that allows comparison between and among different geographic locations;
- Assess the efficacy and practicality of the monitoring and mitigation techniques;
- Add to the overall knowledge-base of marine species and the effects of Navy activities on marine species.

The ICMP will be used both as: (1) A planning tool to focus Navy monitoring priorities (pursuant to ESA/MMPA requirements) across Navy Range Complexes and Exercises; and (2) an adaptive management tool, through the

consolidation and analysis of the Navy’s monitoring and watchstander data, as well as new information from other Navy programs (e.g., R&D), and other appropriate newly published information.

In combination with the 2011 Monitoring Workshop and the adaptive management component of the JAX Range Complex rule and the other planned Navy rules (e.g. VACAPES Range Complex, Cherry Point Range Complex, *etc.*), the ICMP could potentially provide a framework for restructuring the monitoring plans and allocating monitoring effort based on the value of particular specific monitoring proposals (in terms of the degree to which results would likely contribute to stated monitoring goals, as well the likely technical success of the monitoring based on a review of past monitoring results) that have been developed through the ICMP framework, instead of allocating based on maintaining an equal (or commensurate to effects) distribution of monitoring effort across range complexes. For example, if careful prioritization and planning through the ICMP (which would include a review of both past monitoring results and current scientific developments) were to show that a large, intense monitoring effort in Hawaii would likely provide extensive, robust and much-needed data that could be used to understand the effects of sonar throughout different geographical areas, it may be appropriate to have other range complexes dedicate money, resources, or staff to the specific monitoring proposal identified as “high priority” by the Navy and NMFS, in lieu of focusing on smaller, lower priority projects divided throughout their home range complexes.

The ICMP will identify:

- A means by which NMFS and the Navy would jointly consider prior years monitoring results and advancing science to determine if modifications are needed in mitigation or monitoring measures to better effect the goals laid out in the Mitigation and Monitoring sections of the JAX Range Complex rule.

- Guidelines for prioritizing monitoring projects.

- If, as a result of the workshop and similar to the example described in the paragraph above, the Navy and NMFS decide it is appropriate to restructure the monitoring plans for multiple ranges such that they are no longer evenly allocated (by rule), but rather focused on priority monitoring projects that are not necessarily tied to the geographic area addressed in the rule, the ICMP will be modified to include a very clear and unclassified record-keeping system that

will allow NMFS and the public to see how each range complex/project is contributing to all of the ongoing monitoring programs (resources, effort, money, *etc.*).

### Adaptive Management

The final regulations governing the take of marine mammals incidental to Navy's JAX Range Complex exercises contain an adaptive management component. The use of adaptive management will give NMFS the ability to consider new data from different sources to determine (in coordination with the Navy) on an annual basis if mitigation or monitoring measures should be modified or added (or deleted) if new data suggests that such modifications are appropriate (or are not appropriate) for subsequent annual LOAs.

Following are some of the possible sources of applicable data:

- Results from the Navy's monitoring from the previous year (either from JAX Range Complex or other locations).
- Findings of the Workshop that the Navy will convene in 2011 to analyze monitoring results to date, review current science, and recommend modifications, as appropriate to the monitoring protocols to increase monitoring effectiveness.
- Compiled results of Navy funded research and development (R&D) studies (presented pursuant to the ICMP, which is discussed elsewhere in this document).
- Results from specific stranding investigations (either from JAX Range Complex or other locations).
- Results from general marine mammal and sound research (funded by the Navy or otherwise).
- Any information which reveals that marine mammals may have been taken in a manner, extent or number not authorized by these regulations or subsequent Letters of Authorization.

Mitigation measures could be modified or added (or deleted) if new data suggest that such modifications would have (or would not have) a reasonable likelihood of accomplishing the goals of mitigation laid out in this final rule and if the measures are practicable. NMFS would also coordinate with the Navy to modify or add to (or delete) the existing monitoring requirements if the new data suggest that the addition of (or deletion of) a particular measure would more effectively accomplish the goals of monitoring laid out in this final rule. The reporting requirements associated with this rule are designed to provide NMFS with monitoring data from the previous year to allow NMFS to

consider the data and issue annual LOAs. NMFS and the Navy will meet annually, prior to LOA issuance, to discuss the monitoring reports, Navy R&D developments, and current science and whether mitigation or monitoring modifications are appropriate.

### Reporting

In order to issue an ITA for an activity, Section 101(a)(5)(A) of the MMPA states that NMFS must set forth "requirements pertaining to the monitoring and reporting of such taking." Effective reporting is critical to ensure compliance with the terms and conditions of a LOA, and to provide NMFS and the Navy with data of the highest quality based on the required monitoring. As NMFS noted in its proposed rule, additional detail has been added to the reporting requirements since they were outlined in the proposed rule. The updated reporting requirements are all included below. A subset of the information provided in the monitoring reports may be classified and not releasable to the public.

NMFS will work with the Navy to develop tables that allow for efficient submission of the information required below.

### General Notification of Injured or Dead Marine Mammals

Navy personnel will ensure that NMFS (regional stranding coordinator) is notified immediately (or as soon as operational security allows) if an injured or dead marine mammal is found during or shortly after, and in the vicinity of, any Navy training exercise utilizing underwater explosives or other activities. The Navy will provide NMFS with species or description of the animal(s), the condition of the animal(s) (including carcass condition if the animal is dead), location, time of first discovery, observed behaviors (if alive), and photo or video (if available).

### Annual JAX Range Complex Monitoring Plan Report

The Navy shall submit a report annually on March 1 describing the implementation and results (through January 1 of the same year) of the JAX Range Complex Monitoring Plan described above. Data collection methods will be standardized across range complexes to allow for comparison in different geographic locations. Although additional information will also be gathered, the marine mammal observers (MMOs) collecting marine mammal data pursuant to the JAX Range Complex Monitoring Plan shall, at a minimum,

provide the same marine mammal observation data required in major range complex training exercises section of the Annual JAX Range Complex Exercise Report referenced below.

The JAX Range Complex Monitoring Plan Report may be provided to NMFS within a larger report that includes the required Monitoring Plan Reports from multiple Range Complexes.

### Annual JAX Range Complex Exercise Report

The Navy is in the process of improving the methods used to track explosives use to provide increased granularity. The Navy will provide the information described below for all of their explosive exercises. Until the Navy is able to report in full the information below, they will provide an annual update on the Navy's explosive tracking methods, including improvements from the previous year.

(1) Total annual number of each type of explosive exercise (of those identified as part of the "specified activity" in this final rule) conducted in the JAX Range Complex.

(2) Total annual expended/detonated rounds (missiles, bombs, *etc.*) for each explosive type.

### JAX Range Complex 5-yr Comprehensive Report

The Navy shall submit to NMFS a draft report that analyzes and summarizes all of the multi-year marine mammal information gathered during the JAX Range Complex exercises for which annual reports are required (Annual JAX Range Complex Exercise Reports and JAX Range Complex Monitoring Plan Reports). This report will be submitted at the end of the fourth year of the rule (May 2013), covering activities that have occurred through December 1, 2012.

### Comments and Responses

On December 17, 2008, NMFS published a proposed rule (73 FR 76578) in response to the Navy's request to take marine mammals incidental to military readiness training in the JAX Range Complex study area and requested comments, information and suggestions concerning the request. During the 30-day public comment period, NMFS received comments from 1 private citizen, comments from the Marine Mammal Commission (Commission), comments from the International Fund for Animal Welfare (IFAW), and comments from the Natural Resources Defense Council (on behalf of itself, The Humane Society of the United States, Defenders of Wildlife, International Fund for Animal Welfare,



Whale and Dolphin Conservation Society, Cetacean Society International, Ocean Futures Society, and Jean-Michel Cousteau). The comments are summarized and sorted into general topic areas and are addressed below. Full copies of the comment letters may be accessed at <http://www.regulations.gov>.

NMFS worked with the Navy to develop MMPA rules and LOAs for the JAX Range Complex. Many of the issues raised in the public comments for this rule were also raised for the VACAPES Range Complex rulemaking and NMFS considered many of the broader issues in the context of these two Navy actions when determining how to address the comments. To the extent necessary, the public may refer to the response to comments section in the VACAPES final rule (addressing similar issues identified in the JAX Range Complex final rule).

#### MMPA Concerns

*Comment 1:* The Commission recommends that NMFS consult with the Navy regarding the possible need to expand the proposed authorization to include additional species that might be taken unexpectedly and a more realistic number of takes for species that occur in groups, including Clymene dolphins, pantropical spotted dolphins, pilot whales, and Risso's dolphins.

*Response:* NMFS has consulted with the Navy regarding the possibility of additional species that might be taken unexpectedly and a more realistic number of takes for species that occur in groups. A more detailed analysis is provided in the Estimated Take of Marine Mammals section. These additional species include minke whale, common dolphin, pygmy/dwarf sperm whales, and several species of beaked whales.

*Comment 2:* The Commission recommends that NMFS revise section 218.11 of the proposed regulation to clarify that the authorized numbers of takes are annual limits that would be applicable over a five-year period.

*Response:* NMFS has revised this section in the final rule to clarify that the authorized numbers of takes are annual limits that will be applicable over a five-year period.

*Comment 3:* The IFAW states that it is concerned with the possibility of Navy ships striking North Atlantic right whales (NARW) in the JAX Range Complex Study Area, and states that NMFS mistakenly concludes that take permits are unnecessary despite the fact that the proposed exercise area overlaps right whale critical habitat. The IFAW observes that the mitigation measures

described in the proposed rule represent a strong effort by the U.S. Navy and NMFS to mitigate potential harm to critically endangered NARW, but they do not accomplish that goal. The IFAW further states that the Navy has been involved in ship strikes in the past (specifically, a female NARW and her near-term calf in the mid-Atlantic in 2004).

*Response:* NMFS appreciates the IFAW's concern regarding the possibility of Navy ships striking North Atlantic right whales and other marine mammal species in the JAX Range Complex Study Area but does not agree with the IFAW's assessment that NMFS mistakenly reached its conclusion that take of NARW is unlikely.

Regarding ship strikes, the Navy's EIS concluded that based on the implementation of Navy mitigation measures, especially during times of anticipated NARW occurrence, and the relatively low density of Navy ships in the Study Area, the likelihood that a vessel strike would occur is very low. In addition to the standard operating procedures to reduce the likelihood of collisions, which include: (1) Use of lookouts trained to detect all objects on the surface of the water (including marine mammals); (2) a requirement to avoid the close interaction of Navy assets and marine mammals; and (3) maneuvering to keep away from any observed marine mammal, the Navy has issued extensive North Atlantic right whale protective measures for all Fleet Forces training activities. These measures, which were developed with input from NMFS, include additional training requirements, designated areas of caution (where caution includes speed or direction adjustments and avoidance of known groups of right whales when feasible) and additional reporting requirements. NMFS and the Navy believe that the required measures will allow the Navy to avoid colliding with large whales during their specified activities. The Navy neither requested, nor did NMFS grant, authorization for take of right whales from ship strikes incidental to the specified activities.

Regarding the right whale strike in 2004, the commenter is most likely referring to an event that took place on November 17, 2004. On November 17 at about 10:30 a.m. a Navy amphibious assault ship struck a large whale off the Chesapeake Light House. A few hours later, around noon, a fisherman contacted the Virginia Aquarium stranding hotline and reported a live injured large whale with a fresh wound on the tail where the left fluke lobe was missing. On November 24, a dead right whale was necropsied at Ocean Sands,

NC. The right whale was a pregnant female and the cause of death was determined to be blood loss owing to a traumatic wound to the left fluke lobe, which was missing, and damage to surrounding tissue and bone. The wound was consistent with that caused by a ship strike. Neither NMFS nor the Navy can confirm or deny that the dead right whale necropsied on November 24 was the same whale struck by the Navy on November 17.

The USCG and Navy have standing orders to report sightings or collisions. Although the NMFS ship strike database reflects a disproportionately high number of ship strikes attributable to USCG and Navy vessels over the years, this is likely due to the high reporting rate by those agencies relative to other mariners and vessels, rather than a higher incidence of right whale ship strikes by Federal agency vessels. These two Federal agencies are actively involved in large whale protection programs and reporting struck or dead whales to NMFS is part of their standard operating procedures.

*Comment 4:* Citing Nowacek *et al.* (2004) that North Atlantic right whales exposed to alarm stimuli "abandoned their current foraging dive prematurely, \* \* \* executed a shallow-angled, high power \* \* \* ascent, remained at or near the surface" for an "abnormally long" period of time, and "spent significantly more time at subsurface depths (1–10 m) compared with normal surfacing periods when whales normally stay within 1 m of the surface," the IFAW states that NARW calves are most vulnerable to impacts from collisions and noise from ships, helicopters, bombs and missiles. The IFAW further concludes that alarm stimuli were a poor option in attempts to mitigate vessel collisions because the whale's reaction actually makes ship strikes more likely. The IFAW also notes NMFS' previous conclusion on North Atlantic right whales that the "loss of even a single individual right whale may contribute to the extinction of the species," and that "preventing the mortality of one adult female alters the projected outcome."

*Response:* NMFS is aware of the Nowacek *et al.* (2004) study on the North Atlantic right whale response to strong anthropogenic noise. The study consisted of a controlled sound exposure on right whales and concluded that the whales reacted strongly to the alarm signal, but failed to respond to sounds of approaching vessels or the vessels themselves. In addition, the data revealed that the whales responded to the alarm stimuli by swimming strongly to the surface, a response likely to

increase the probability of a vessel/whale collision. However, alarm stimuli are not a concern for this particular rulemaking. The Navy has neither proposed using, nor is NMFS requiring alarm stimuli to minimize vessel strikes associated with activities in the JAX Range Complex. Therefore, in the context of this rulemaking, alarm stimuli are not a concern.

As the IFAW suggests, the loss of even one right whale would have serious effects on the population; however, as discussed in the proposed rule and above, NMFS does not expect a NARW to be taken by naval exercises in the JAX Range Complex, including the southern right whale critical habitat. Additionally, this zero take estimate does not account for the mitigation measures that will be implemented for the JAX Range Complex training activities, which include a prohibition of approaching right whales within 500 yards and not conducting training within the vicinity of recently sighted whales. NMFS was able to determine that the Navy's JAX Range Complex training activities would not result in a take of NARWs.

*Comment 5:* The IFAW states that the Navy's and NMFS's distribution assumptions may be flawed in that they are likely to overestimate the number of marine mammals in some areas while underestimating the number in others. The Commission recommends NMFS defer promulgation of a final rule until it and/or the Navy conducts an independent peer review of the methods used to derive marine mammal density estimates in the Navy OPAREA Density Estimates (NODE) report.

*Response:* NMFS does not agree with the IFAW's statement that the Navy and NMFS have used flawed data in estimating the number of takes of marine mammals. Though it is a fair assessment that animal distributions in the water column are often uneven, the marine mammal information contained in the analyses relies heavily on the data gathered in the Marine Resource Assessments (MRAs). The Navy MRA Program was implemented by the Commander, Fleet Forces Command, to initiate collection of data and information concerning the protected and commercial marine resources found in the Navy's OPAREAs. Specifically, the goal of the MRA program is to describe and document the marine resources present in each of the Navy's OPAREAs. The MRA for the JAX OPAREA was recently updated in 2008 (DoN, 2008).

The MRA data were used to provide a regional context for each species. The MRA represents a compilation and

synthesis of available scientific literature (e.g., journals, periodicals, theses, dissertations, project reports, and other technical reports published by government agencies, private businesses, or consulting firms), and NMFS reports including stock assessment reports, recovery plans, and survey reports.

As far as the Commission's recommendation regarding peer-review of the NODE data, the density estimates that were used in previous Navy environmental documents have been recently updated to provide a compilation of the most recent data and information on the occurrence, distribution, and density of marine mammals. The updated density estimates used for the analyses are derived from the Navy OPAREA Density Estimates (NODE) for the Southeast OPAREAS report (DON, 2007).

Density estimates for cetaceans were either modeled using available line-transect survey data or derived using available data in order of preference: (1) Through spatial models using line-transect survey data provided by NMFS; (2) using abundance estimates from Mullin and Fulling (2003); (3) or based on the cetacean abundance estimates found in the most current NMFS stock assessment report (SAR) (Waring *et al.*, 2007), which can be viewed at: <http://www.nefsc.noaa.gov/publications/tm/tm210/>.

For the model-based approach, density estimates were calculated for each species within areas containing survey effort. A relationship between these density estimates and the associated environmental parameters such as depth, slope, distance from the shelf break, sea surface temperature, and chlorophyll a concentration was formulated using generalized additive models. This relationship was then used to generate a two-dimensional density surface for the region by predicting densities in areas where no survey data exist.

The analyses for cetaceans were based on sighting data collected through shipboard surveys conducted by NMFS Northeast Fisheries Science Center (NEFSC) and Southeast Fisheries Science Center (SEFSC) between 1998 and 2005. Species-specific density estimates derived through spatial modeling were compared with abundance estimates found in the most current NMFS SAR to ensure consistency. All spatial models and density estimates were reviewed by and coordinated with NMFS Science Center technical staff and scientists with the University of St. Andrews, Scotland, Centre for Environmental and Ecological

Modeling (CREEM). Draft models and preliminary results were reviewed during a joint workshop attended by Navy, NMFS Science Center, and CREEM representatives. Subsequent revisions and draft reports were reviewed by these same parties. Therefore, NMFS considers that the NODE has already gone through an independent review process.

*Comment 6:* The IFAW points out that even taking for granted the Navy's and NMFS' distribution information, NMFS ignores the Navy's request for take permits for 2 Atlantic spotted dolphins, instead deciding that take will be less than estimated due to mitigation and monitoring measures. IFAW concludes that NMFS' determination is incorrect where Atlantic spotted dolphins are likely to suffer physical injury resulting from exposure to noise in excess of 205 dB. The IFAW considers that the Atlantic spotted dolphins' small size and ability to move quickly will make them difficult to detect by Navy's lookouts or other detection systems. Therefore, the IFAW states NMFS' proposal to not grant take permits is arbitrary and capricious.

*Response:* NMFS does not agree with the IFAW comment. NMFS did not ignore the Navy's request for take of two Atlantic spotted dolphins by Level A harassment. As shown in Table 11 of the proposed rule for the JAX Range Complex training activities (73 FR 76578; December 17, 2008), and in Table 5 of this final rule, the Navy modeled take estimates for various cetacean species, including Atlantic spotted dolphins, and NMFS has adopted the Navy's estimates for this rulemaking. Please refer to the proposed rule (73 FR 76578; December 17, 2008) for clarification. NMFS has, through this final rule, established a framework that would allow the Navy to take a specified number of Atlantic spotted dolphins by Level A harassment incidental to naval exercises in the JAX Range Complex.

*Comment 7:* The IFAW points out that the U.S. Navy and NMFS fail to address the impact of stress on marine mammals. Stress has been shown to cause physical harm, including weakening of the immune system, in marine mammals. It is safe to assume that marine mammals in the JAX Range Complex would be subjected to stress resulting from single or multiple explosive concussions. Yet, despite this potential, NMFS assumes that stress would have a negligible impact on marine mammals in the JAX Range.

*Response:* NMFS does not agree with the IFAW's assessment. It is true that intense acoustic exposure from

explosives can be 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. The term “stress” has taken on an ambiguous meaning in the scientific literature, but in general, the stress response refers to an increase in energetic expenditure which results from exposure to the stressor and which is predominantly characterized by either the stimulation of the sympathetic nervous system or the hypothalamic-pituitary-adrenal axis (Reeder and Kramer, 2005).

The stress response may or may not occur depending on the characteristics of the exposed animal. However, provided a stress response occurs, we assume that some contribution is made to the animal's allostatic load. Perturbations to an animal that may occur with the presence of a stressor, either biological (e.g., predator) or anthropogenic (e.g., construction), can contribute to the allostatic load (Wingfield, 2003). Additional costs are cumulative and additions to the allostatic load over time may contribute to reductions in the probability of achieving ultimate life history functions (e.g., survival, maturation, reproductive effort and success) by producing pathophysiological states. The contribution to the allostatic load from a stressor requires estimating the magnitude and duration of the stress response, as well as any secondary contributions that might result from a change in behavior.

Since the detonation events are widely dispersed throughout several of the designated sites within the JAX Range Complex Study Area, the probability that detonation events will overlap in time and space with marine mammals is low, particularly given the densities of marine mammals in the JAX Range Complex Study Area and the implementation of monitoring and mitigation measures. Moreover, NMFS does not expect animals to experience repeated exposures to the same sound source as animals will likely move away from the source after being exposed. In addition, these isolated exposures, when received at distances of Level B behavioral harassment (i.e., 177 dB re 1 microPa<sup>2</sup>-sec), are expected to cause brief startle reactions or short-term behavioral modification by the animals. These brief reactions and behavioral changes are expected to disappear when the exposures cease. Therefore, it is highly unlikely that the animals will be exposed to the repeated stressors (i.e., detonations) to suffer increased allostatic load.

Based on the analyses in the proposed rule and subsequent analyses contained herein, NMFS has determined that the issuance of 5-year regulations is appropriate for Navy training exercises utilizing underwater detonations since it will have a negligible impact on the marine mammal species and stocks present in the JAX Range Complex.

#### Mitigation

*Comment 8:* The Commission recommends that NMFS require the Navy to abide by the restrictions specified in NMFS' final rule implementing speed restrictions to reduce the risk of ship collisions with right whales (50 CFR 224.105) in all but emergency situations or where the need for realistic training requires greater speed or maneuverability.

*Response:* NMFS does not agree with the Commission's recommendation. NMFS' final rule on ship speed restriction does not apply to vessels operated by U.S. Federal agencies. NMFS, in consultation with other Federal agencies, has determined that the national security, navigational, and human safety missions of some agencies may be compromised by mandatory vessel speed restrictions. However, this exemption will not relieve the Navy of its obligations to consult, under section 7 of the ESA, on how their activities may affect listed species. NMFS acknowledges that the Navy already provides guidance to vessel operators and fleets with regard to conservation measures to protect right whales and other endangered species, as well as contribute to conservation efforts generally.

For the proposed JAX Range Complex training activities, the Navy has developed a series of mitigation measures that closely follow the NMFS' ship strike rule. These mitigation measures are described in the Proposed Mitigation Measures section of the proposed rule (73 FR 76578; December 17, 2008). In addition, NMFS worked with the Navy regarding their vessel operations to determine where ESA section 7 consultations would be appropriate.

*Comment 9:* The IFAW points out that the proposed rule requires the Navy to “practice increased vigilance” when passing through seasonal right whale habitat. The IFWC states that requiring the Navy to practice increased vigilance is an abdication of NMFS' duties to independently analyze potential takes of North Atlantic right whales. Further, if NMFS is to allow Navy to mitigate harm through “increased vigilance,” that term should be defined in the proposed rule.

*Response:* NMFS does not agree with the IFAW's statement. Within the context of this rulemaking, the term “increased vigilance” means to be on heightened alert to avoid vessel-whale interactions especially when operating in areas where/when NARWs are known to be migrating/present. For example, if NARWs are known to be in a particular area, instead of routine scanning through the sea surface for marine mammals that may or may not be in the vicinity, the lookouts/watchstanders or MMOs will be actively searching for the NARW that is potentially in the area.

During times of “increased vigilance” the Navy will rely on the NARW Early Warning System (EWS). Language from the JAX EIS pertaining to EWS is provided below:

“The coastal waters off the Southeast United States (SEUS) support the only known calving ground for the North Atlantic Right Whale (NARW). In the mid 1990's, the United States (U.S.) Navy, U.S. Coast Guard (USCG), U.S. Army Corps of Engineers (USACE), and National Marine Fisheries Service (NMFS) entered into a Memorandum of Agreement pursuant to the Endangered Species Act. The Early Warning System (EWS) is a result of that agreement and is a collaborative effort which involves comprehensive aerial surveys conducted during the North Atlantic Right Whale calving season. Surveys are flown daily, weather permitting, from December 1st through March 31st.”

“East/west transects are flown from shoreline to approximately 30–35 nm offshore. Aerial surveys are conducted to locate NARW and provide whale detection and reporting information to mariners in the NARW calving ground in an effort to avoid collisions with this endangered species. When a NARW is sighted, information from the aerial survey aircraft is passed to a ground contact. The ground contact e-mails the sighting information to a wide network distribution which includes Fleet Area Control and Surveillance Facility (FACSFAC) JAX, the USCG, the USACE and non-profit and commercial interests. Additionally, the ground contact will follow up with a call to FACSFAC JAX to provide further information if necessary. FACSFAC JAX records this valuable information and disseminates to all navy vessels and aircraft operating in the consultation area via the Secret Internet Protocol Router Network (SIPRNET) system.”

“General sighting information and reporting procedures are broadcasted over the following methods: the NOAA weather radio; USCG NAVTEX system and a Broadcast Notice to Mariners over VHF marine-band radio channel 16. The

EWS is a wide communication effort to ensure all vessels in the area are aware of the most recent right whale sightings as an avoidance measure.”

*Comment 10:* The IFAW points out that NMFS approves a number of other, more specific mitigation measures applicable to the Navy during right whale calving season in the “Consultation Area”—a zone overlapping established right whale critical habitat. The IFAW points out that the condition in the proposed rule is that all of the measures qualified by the Navy will only be followed if “consistent with essential mission, training, and operations.” The IFAW states that these measures do not adequately address the potential harm to breeding right whales or mother/calf pairs.

*Response:* NMFS does not agree with IFAW’s statement. NMFS recognizes the significance of the NARW calving area and has explored ways of effecting the least practicable impact (which includes a consideration of practicality of implementation, safety of personnel and impacts to training fidelity) to right whales. Navy units will incorporate data from the Early Warning System (EWS) into exercise pre-planning efforts. Fleet Area Control and Surveillance Facility, Jacksonville (FACSFACJAX) houses the Whale Fusion Center, which disseminates the latest right whale sighting information to Navy ships, submarines, and aircraft. Through the Fusion Center, FACSFACJAX coordinates ship and aircraft movement into the right whale critical habitat and the surrounding operating areas based on season, water temperature, weather conditions, and frequency of whale sightings and provides right whale reports to ships, submarines and aircraft, including coast guard vessels and civilian shipping. All sighting data is maintained on a Web site, <http://www.facsfacjax.navy.mil>.

In addition, the following list of comprehensive mitigation measures will be implemented in the “Consultation Area” during North Atlantic right whale calving season:

1. Naval vessels operating within North Atlantic right whale critical habitat and the Associated Area of Concern (AAOC) will exercise extreme caution and use slow safe speed, that is, the slowest speed that is consistent with essential mission, training, and operations.

2. Exercise extreme caution and use slow, safe speed when a whale is sighted by a vessel or when the vessel is within 5 nm of a reported new sighting less than 12 hours old.

3. Circumstances could arise where, in order to avoid North Atlantic right whale(s), speed reductions could mean vessels must reduce speed to a minimum at which it can safely keep on course (bare steerageway) or vessels could come to an all stop.

4. During the North Atlantic right whale calving season north-south transits through the critical habitat are prohibited. Naval vessel transits through the area shall be in an east-west direction, and shall use the most direct route available during the calving season.

5. Naval vessel operations (*i.e.*, precision anchorage drills) in the North Atlantic right whale critical habitat and AAOC during the calving season will be undertaken during daylight and periods of good visibility, to the extent practicable and consistent with mission, training, and operation. When operating in the critical habitat and AAOC at night or during periods of poor visibility, vessels will operate as if in the vicinity of a recently reported NARW sighting.

6. *Command, Control and Communication:*

- FACSFAC JAX shall coordinate ship/aircraft clearance into the operating area based on prevailing conditions, including water temperature, weather conditions, whale sighting data, mission or event to be conducted and other pertinent information. Commander Submarine Atlantic (COMSUBLANT) will coordinate any submarine operations that may require clearance with FACSFAC JAX. FASFAC JAX will provide data to ships and aircraft, including USCG if requested, and will recommend modifying, moving or canceling events as needed to prevent whale encounters. Commander Submarine Group Ten (COMSUBGRU TEN) will provide same information/guidance to subs.

- Prior to transiting or training in the critical habitat, ships will contact FASFAC JAX to obtain latest whale sighting and other information needed to make informed decisions regarding safe speed and path of their intended movement. Subs shall contact COMSUBGRU TEN for similar information. Ships and aircraft desiring to train/operate inside the critical habitat or within the warning/operating area shall coordinate clearance with FACSFAC JAX. Subs shall follow the same clearance procedures as ships and obtain clearance from CTF-82 (COMSUBLANT).

- FACSFAC JAX will coordinate local procedures for whale data entry, update, retrieval and dissemination using joint maritime command information system.

Ships, including those operated by USCG, not yet Officer in Tactical Command Information Exchange subsystem capable, will communicate via satellite communication, telephone system or international marine/maritime satellite.

7. The only type of exercise that may be conducted inside the critical habitat and AAOC in calving season is precision anchorage drills and swept channel exercises. These exercises do not involve in detonations and do not introduce intense sound that is likely to result a take into the water column. Therefore, they are not expected to result in a take of marine mammals. In addition, use of the Shipboard Electronic System Evaluation Facility range is authorized with clearance and advice from FACSFAC JAX.

NMFS believes that these measures can adequately protect the North Atlantic right whales in the “Consultation Area” during calving season.

#### *Miscellaneous Issues*

*Comment 11:* The NRDC commented on the proposed rule with its earlier comments on the NMFS’s proposed rule for the Navy’s Atlantic Fleet Active Sonar Training (AFAST) and the Navy’s AFAST DEIS. Specifically, the NRDC states that neither NMFS in its proposed rule nor the Navy in its EIS offers sufficient measures to mitigate the harmful impacts of high intensity sonar. The NRDC further states that NMFS and the Navy’s analysis substantially understates the potential effects of sonar on marine wildlife.

*Response:* NRDC’s comments are inapplicable to the proposed Navy training activities in the JAX Range Complex. The Navy does not intend, as part of its proposed action, to conduct training with MFAS, HFAS, and Improved Extended Echo Ranging (IEER)/Advanced Extended Echo Ranging (AEER). The Navy’s request for a LOA for sonar related training was addressed in the Final Rule and LOA for AFAST which was issued by NMFS on January 22, 2009, and published in the **Federal Register** on February 19, 2009 (74 FR 4844).

*Comment 12:* The IFAW and one private citizen expressed general opposition to Navy activities and NMFS’s issuance of an MMPA authorization because of the danger of killing marine life.

*Response:* NMFS appreciates the commenters’ concern for the marine mammals that live in the area of the proposed activities. However, the MMPA allows individuals to take marine mammals incidental to specified

activities if NMFS can make the necessary findings required by law (*i.e.*, negligible impact, unmitigable adverse impact on subsistence users, *etc.*). As explained throughout this rulemaking, NMFS has made the necessary findings under 16 U.S.C. 1371(a)(5)(A) to support our issuance of the final rule.

#### Estimated Take of Marine Mammals

As mentioned previously, with respect to the MMPA, NMFS's effects assessments serve three primary purposes: (1) To prescribe the permissible methods of taking (*i.e.*, Level B Harassment (behavioral harassment), Level A Harassment (injury), or mortality, including an identification of the number and types of take that could occur by Level A or B harassment or mortality) and to prescribe other means of effecting the least practicable adverse impact on such species or stock and its habitat (*i.e.*, mitigation); (2) to determine whether the specified activity will have a negligible impact on the affected species or stocks of marine mammals (based on the likelihood that the activity will adversely affect the species or stock through effects on annual rates of recruitment or survival); (3) to determine whether the specified activity will have an unmitigable adverse impact on the availability of the species or stock(s) for subsistence uses (however,

there are no subsistence communities in the JAX Range Complex; thus, there would be no effect on any subsistence user); and (4) to prescribe requirements pertaining to monitoring and reporting.

In the Estimated Take of Marine Mammals section of the proposed rule, NMFS related the potential effects to marine mammals from underwater detonation of explosives to the MMPA regulatory definitions of Level A and Level B Harassment and assessed the effects to marine mammals that could result from the specific activities that the Navy intends to conduct. These analyses are discussed in the proposed rule (73 FR 76578; pages 76596–76597) and have not changed.

#### Acoustic Take Criteria

In the Acoustic Take Criteria section of the proposed rule, NMFS described the development and application of the acoustic criteria for explosive detonations (73 FR 76578; pages 76597–76599). No changes to the modeling have been made except for those outlined in the Potential Impacts to Marine Mammal Species section of this document.

#### Take Calculations

An overview of the Navy's modeling methods to determine the number of exposures of MMPA-protected species to sound likely to result in mortality,

Level A harassment (injury), or Level B harassment is provided in the **Federal Register** notice for the proposed rule (73 FR 76578; pages 76599–76600). No changes have been made to the modeling methods in the section of the proposed rule.

As noticed in the proposed rule, the Navy's modeling revealed that only six marine mammal species (very few individuals of each) would be taken by Level A and Level B harassment. However, after further evaluation, NMFS concluded that because of the relatively high abundance of several species in the action area (*e.g.*, Atlantic spotted dolphins, bottlenose dolphins, common dolphins, striped dolphins, Risso's dolphins, and pilot whales, minke whales, pantropical spotted dolphins, *Kogia* sp., and several species of beaked whales—Waring *et al.*, 2008), and because some of these species tend to aggregate in relatively large groups, there is a reasonable probability that these species could be taken by Level B harassment. In addition, NMFS has increased the take estimates because of the aggregate social behavior of these species in large groups. Therefore, NMFS has included these species in our take estimates for the 5-year regulations. Revised estimates of potential takes from the proposed JAX Range Complex training activities are listed in Table 5.

TABLE 5—SUMMARY OF POTENTIAL TAKES FROM EXPLOSIVE ORDNANCE (PER YEAR) FOR MARINE MAMMALS IN THE JAX RANGE COMPLEX

Species	Level B harassment	Level A harassment	Mortality
Minke whale .....	3	0	0
Beaked whales .....	20	0	0
<i>Kogia</i> sp. ....	3	0	0
Pilot whale .....	20	0	0
Atlantic spotted dolphin .....	62	2	0
Bottlenose dolphin .....	30	0	0
Common dolphin .....	30	0	0
Striped dolphin .....	20	0	0
Clymene dolphin .....	20	0	0
Pantropical spotted dolphin .....	20	0	0
Risso's dolphin .....	30	0	0

#### Effects on Marine Mammal Habitat

NMFS's JAX Range Complex proposed rule included a section that addressed the effects of the Navy's activities on marine mammal habitat (73 FR 76578, page 76600). Marine mammal habitat and prey species could be affected by the explosive ordnance testing and the sound generated by such activities. Based on the analysis contained in the Navy's FEIS and the information below, NMFS has determined that the JAX Range Complex

training activities will not have adverse or long-term impacts on marine mammal habitat or prey species.

Unless the sound source or explosive detonation is stationary and/or continuous over a long duration in one area, the effects of underwater detonation and its associated sound are generally considered to have a less severe impact on marine mammal habitat than the physical alteration of the habitat. Marine mammals may be temporarily displaced from areas where Navy training is occurring, but the area

will be utilized again after the activities have ceased.

#### Effects on Food Resources

There are currently no well established thresholds for estimating effects to fish from explosives other than mortality models. Fish that are located in the water column, in proximity to the source of detonation could be injured, killed, or disturbed by the impulsive sound and could leave the area temporarily. Continental Shelf Inc. (2004) summarized a few studies

conducted to determine effects associated with removal of offshore structures (e.g., oil rigs) in the Gulf of Mexico. Their findings revealed that at very close range, underwater explosions are lethal to most fish species regardless of size, shape, or internal anatomy. In most situations, cause of death in fish has been massive organ and tissue damage and internal bleeding. At longer range, species with gas-filled swimbladders (e.g., snapper, cod, and striped bass) are more susceptible than those without swimbladders (e.g., flounders, eels).

Studies also suggest that larger fish are generally less susceptible to death or injury than small fish. Moreover, elongated forms that are round in cross section are less at risk than deep-bodied forms. Orientation of fish relative to the shock wave may also affect the extent of injury. Open water pelagic fish (e.g., mackerel) seem to be less affected than reef fishes. The results of most studies are dependent upon specific biological, environmental, explosive, and data recording factors.

The huge variation in fish populations, including numbers, species, sizes, and orientation and range from the detonation point, makes it very difficult to accurately predict mortalities at any specific site of detonation. A total of 250 hours of explosive detonation events, each lasting approximately 1–8 hours, will be widely dispersed in the large JAX study area over the calendar year. Most fish species experience a large number of natural mortalities, especially during early life-stages, and any small level of mortality caused by the JAX Range Complex training exercises involving explosives will likely be insignificant to the population as a whole.

Therefore, potential impacts to marine mammal food resources within the JAX Range Complex are expected to be minimal given both the very geographic and spatially limited scope of most Navy at-sea activities including underwater detonations, and the high biological productivity of these resources. No short or long term effects to marine mammal food resources from Navy activities are anticipated within the JAX Range Complex.

#### *Effects on North Atlantic Right Whale Critical Habitat*

The coastal waters off Georgia and northern Florida within the JAX Range Complex Study Area are the only known calving ground for the North Atlantic right whale. Designated critical habitat, which encompasses the core of the calving ground, is essential to the conservation of this species. The Navy

has proposed to largely avoid conducting any training in critical habitat, and only non-explosive activities will be conducted in the right whale critical habitat. The only training activity that would occur in the NARW critical habitat is the precision anchorage drill, which is a non-explosive event. This exercise requires the use of specially trained bridge watch teams (Sea Anchor Detail) and slow speeds. The objective is to drop anchor and stop the vessel at a precise geographic point. This exercise is typically done 3 to 8 miles from shore. The duration of this exercise is typically less than 1 hour. Therefore, NMFS believes that this training exercise will not adversely affect NARW critical habitat.

In addition, FACSACJAX coordinates Navy ship and aircraft clearance into the Northern Right Whale Critical Habitat and the surrounding Operating Area (OPAREA) based on season, water temperature, weather conditions, and frequency of whale sightings, and provides North Atlantic right whale sighting reports to ships, submarines and aircraft. Through coordination with the Florida Fish and Wildlife Conservation Commission (FWCC), Georgia Department of Natural Resources (GDNR), New England Aquarium Early Warning System (EWS) and others, FACSACJAX organized a communications network and reporting system that ensures the widest possible exchange and dissemination of North Atlantic right whale sighting information to Department of Defense and civilian shipping.

#### *Conclusion*

Based on the analyses and the aforementioned mitigation and monitoring measures for vessel transit in the North Atlantic right whale critical habitat in place, NMFS concluded that the Navy's activities would have minimal effects on marine mammal habitat, including the North Atlantic right whale critical habitat.

#### **Analysis and Negligible Impact Determination**

Pursuant to NMFS's regulations implementing the MMPA, an applicant is required to estimate the number of animals that will be "taken" by the specified activities (i.e., takes by harassment only, or takes by harassment, injury, and/or death). This estimate informs the analysis that NMFS must perform to determine whether the activity will have a "negligible impact" on the species or stock. Level B (behavioral) harassment occurs at the level of the individual(s) and does not

assume any resulting population-level consequences, though there are known avenues through which behavioral disturbance of individuals can result in population-level effects. 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, NMFS must consider other factors, such as the likely nature of any responses (their intensity, duration, etc.), the context of any responses (critical reproductive time or location, migration, etc.), and the number and nature of estimated Level A takes, the number of estimated mortalities, and effects on habitat.

The Navy's specified activities have been described based on best estimates of the planned detonation events the Navy would conduct for the proposed JAX Range Complex training activities. Taking the above into account, considering the sections discussed below, and dependent upon the implementation of the proposed mitigation measures, NMFS has determined that Navy training exercises utilizing underwater explosives will have a negligible impact on the affected marine mammal species and stocks present in the JAX Range Complex Study Area.

NMFS's analysis of potential behavioral harassment, temporary threshold shifts, permanent threshold shifts, injury, and mortality to marine mammals as a result of the JAX Range Complex training activities was provided in the proposed rule (73 FR 76578, pages 76585–76591) and is described in more detail below.

#### *Behavioral Harassment*

The Navy plans a total of 73 MISSILEX training events (each lasting for 1 hour), 10 FIREX training events (each lasting for 8 hours), 12 MINEX training events (each lasting for 6–8 hours), and 8 small arms exercises events (each lasting for 1 hour) annually. The total training exercises proposed by the Navy in the JAX Range Complex amount to approximate 250 hours per year. These detonation events are widely dispersed throughout several of the designated sites within the JAX Range Complex Study Area. The probability that detonation events will overlap in time and space with marine mammals is low, particularly given the densities of marine mammals in the JAX

Range Complex Study Area and the implementation of monitoring and mitigation measures. Moreover, NMFS does not expect animals to experience repeated exposures to the same sound source as animals will likely move away from the source after being exposed. In addition, these isolated exposures, when received at distances of Level B behavioral harassment (*i.e.*, 177 dB re 1 microPa<sup>2</sup>-sec), are expected to cause brief startle reactions or short-term behavioral modification by the animals. These brief reactions and behavioral changes are expected to disappear when the exposures cease. Therefore, these levels of received impulse noise from detonation are not expected to affect annual rates or recruitment or survival.

#### TTS

NMFS and the Navy have estimated that individuals of some species of marine mammals may sustain some level of temporarily threshold shift TTS from underwater detonations. TTS can last from a few minutes to days, be of varying degree, and occur across various frequency bandwidths. The TTS sustained by an animal is primarily classified by three characteristics:

- *Frequency*—Available data (of mid-frequency hearing specialists exposed to mid to high frequency sounds—Southall *et al.*, 2007) suggest that most TTS occurs in the frequency range of the source up to one octave higher than the source (with the maximum TTS at  $\frac{1}{2}$  octave above).

- *Degree of the shift (i.e., how many dB is the sensitivity of the hearing reduced by)*—generally, both the degree of TTS and the duration of TTS will be greater if the marine mammal is exposed to a higher level of energy (which would occur when the peak dB level is higher or the duration is longer). Since the impulse from detonation is extremely brief, an animal would have to approach very close to the detonation site to increase the received SEL. The threshold for the onset of TTS for detonations is a dual criteria: 182 dB re 1 microPa<sup>2</sup>-sec or 23 psi, which might be received at distances from 252–1,096 m from the centers of detonation based on the types of NEW involved to receive the SEL that causes TTS compared to similar source level with longer durations (such as sonar signals).

- *Duration of TTS (Recovery time)*—Of all TTS laboratory studies, some using exposures of almost an hour in duration or up to 217 SEL, almost all recovered within 1 day (or less, often in minutes), though in one study (Finneran *et al.*, 2007), recovery took 4 days.

- Although the degree of TTS depends on the received noise levels

and exposure time, all studies show that TTS are reversible and animals' sensitivity is expected to be fully recovered in minutes to hours. Therefore, NMFS expects that TTS would not affect annual rates of recruitment or survival.

#### Acoustic Masking or Communication Impairment

As discussed above, it is also possible that anthropogenic sound could result in masking of marine mammal communication and navigation signals. However, masking only occurs during the time of the signal (and potential secondary arrivals of indirect rays), versus TTS, which occurs continuously for its duration. Impulse sounds from underwater detonations are extremely brief and the majority of most animals' vocalizations would not be masked. Therefore, masking effects from underwater detonations are expected to be minimal and unlikely. If masking or communication impairment were to occur briefly, it would be in the frequency ranges below 100 Hz, which overlaps with some mysticete vocalizations; however, it would likely not mask the entirety of any particular vocalization or communication series because of the short impulse.

#### PTS, Injury, or Mortality

The Navy's model estimated that 2 Atlantic spotted dolphins could experience 50 percent tympanic membrane rupture or slight lung injury (Level A harassment) as a result of the training activities utilizing underwater detonation in the JAX Range Complex Study Area. However, these estimates do not take into consideration the proposed mitigation and monitoring measures. For underwater detonations, the animals have to be within pre-defined zones of influence (ZOI) to experience Level A harassment. The injury zones vary from 0.02 km<sup>2</sup> to 0.165 km<sup>2</sup> (or at distances between 80 m to 230 m from the center of detonation) depending on the types of munition used and the season of the action. NMFS believes it is unlikely that any marine mammal could be undetected by lookouts/watchstanders or MMOs within such a small area during pre-testing surveys. As discussed previously, the Navy plans to utilize aerial or vessel surveys to detect marine mammals for mitigation implementation and indicated that they are capable of effectively monitoring safety zones.

Based on these assessments, NMFS determined that approximately 3 minke whales, 3 dwarf or pygmy sperm whales, 20 beaked whales, 20 pilot whales, 62 Atlantic spotted dolphins, 30

bottlenose dolphins, 20 Clymene dolphins, 30 common dolphins, 20 pantropical spotted dolphins, 30 Risso's dolphins, and 20 striped dolphins could be affected by Level B harassment (TTS and sub-TTS) as a result of the proposed JAX Range Complex training activities. These numbers represent approximately 0.09%, 0.76%, 0.06%, 0.12%, 0.04%, 0.02%, 0.45%, 0.02%, 0.15%, and 0.57% of minke whales, dwarf or pygmy sperm whales, pilot whales, Atlantic spotted dolphins, bottlenose dolphins, common dolphins, pantropical spotted dolphins, striped dolphins, Risso's dolphins, and beaked whales, respectively in the vicinity of the proposed JAX Range Complex Study Area (calculation based on NMFS 2007 U.S. Atlantic and Gulf of Mexico Marine Mammal Stock Assessment). Although the population estimate of Clymene dolphins is unknown in the proposed action area, NMFS considers the take of 20 individuals of this species by Level B harassment would have a negligible impact to this species because most of its population exists beyond the project area and because they are widely distributed species in the North Atlantic (Jefferson *et al.*, 1993; Reeves *et al.*, 2002).

In addition, the estimated Level A takes of 2 Atlantic spotted dolphins represent 0.0039% of this species in the vicinity of the proposed JAX Range Complex Study Area (calculation based on NMFS 2007 U.S. Atlantic and Gulf of Mexico Marine Mammal Stock Assessment). Given these very small percentages, NMFS does not expect there to be any long-term adverse effect on the populations of the aforementioned dolphin species. No marine mammals are expected to be killed as a result of these activities.

Additionally, the aforementioned take estimates do not account for the implementation of mitigation measures. With the implementation of mitigation and monitoring measures, NMFS expects that the takes would be reduced further. Coupled with the fact that these impacts will likely not occur in areas and times critical to reproduction, NMFS has determined that the total taking over the 5-year period of the regulations and subsequent LOAs from the Navy's JAX Range Complex training activities will have a negligible impact on the marine mammal species and stocks present in the JAX Range Complex Study Area.

#### Subsistence Harvest of Marine Mammals

NMFS has determined that the issuance of 5-year regulations and subsequent LOAs (as warranted) for



Navy training exercises in the JAX Range Complex would not have an unmitigable adverse impact on the availability of the affected species or stocks for subsistence use since there are no such uses in the specified area.

#### ESA

There are six marine mammal species that are listed as endangered under the ESA with confirmed or possible occurrence in the study area and could be impacted by the proposed action: blue whale, fin whale, sei whale, humpback whale, North Atlantic right whale, and sperm whale.

Pursuant to Section 7 of the ESA, the Navy has consulted with NMFS on this action. NMFS has also consulted internally on the issuance of regulations under section 101(a)(5)(A) of the MMPA for this activity. The Biological Opinion concludes that the proposed training activities are likely to adversely affect but are not likely to jeopardize the continued existence of these threatened and endangered species under NMFS jurisdiction.

#### NEPA

NMFS participated as a cooperating agency on the Navy's Final Environmental Impact Statement (FEIS) for the JAX Range Complex. NMFS subsequently adopted the Navy's EIS for the purpose of complying with the MMPA.

#### Determination

Based on the analysis contained herein and in the proposed rule (and other related documents) of the likely effects of the specified activity on marine mammals and their habitat and dependent upon the implementation of the mitigation measures, NMFS finds that the total taking from Navy JAX Range Complex training exercises utilizing underwater explosives over the 5 year period will have a negligible impact on the affected species or stocks and will not result in an unmitigable adverse impact on the availability of marine mammal species or stocks for taking for subsistence uses because no subsistence uses exist in the JAX Range Complex study area. NMFS has issued regulations for these exercises that prescribe the means of effecting the least practicable adverse impact on marine mammals and their habitat and set forth requirements pertaining to the monitoring and reporting of that taking.

#### Classification

This action does not contain a collection of information requirement for purposes of the Paperwork Reduction Act.

The Regulatory Flexibility Act (RFA) requires Federal agencies to prepare an analysis of a rule's impact on small entities whenever the agency is required to publish a notice of proposed rulemaking. However, a Federal agency may certify, pursuant to 5 U.S.C. 605(b), that the action will not have a significant economic impact on a substantial number of small entities. The Chief Counsel for Regulation of the Department of Commerce certified at the Proposed Rule stage. The Navy is the entity that will be affected by this rulemaking, not a small governmental jurisdiction, small organization or small business, as defined by the RFA. This rulemaking authorizes the take of marine mammals incidental to a specified activity. The specified activity defined in the final rule includes the use of underwater detonations, which are only used by the U.S. military, during training activities that are only conducted by the U.S. Navy. Additionally, any requirements imposed by a Letter of Authorization issued pursuant to these regulations, and any monitoring or reporting requirements imposed by these regulations, will be applicable only to the Navy. Because this action, if adopted, would directly affect the Navy and not a small entity, NMFS concludes the action would not result in a significant economic impact on a substantial number of small entities.

The Assistant Administrator for Fisheries has determined that there is good cause under the Administrative Procedure Act (5 U.S.C. 553(d)(3)) to waive the 30-day delay in effective date of the measures contained in the final rule. The U.S. Navy has a compelling national policy reason to continue military readiness activities without interruption in its East Coast Operating Areas, *i.e.*, the JAX Range Complex. As discussed below, suspension/interruption of the Navy's ability to train, for even a small number of days, disrupts vital sequential training and certification processes essential to our national security.

In order to meet its national security objectives, the Navy must continually maintain its ability to operate in a challenging at-sea environment, conduct military operations, control strategic maritime transit routes and international straits, and protect sea lines of communications that support international commerce. To meet these objectives, the Navy must continually train. Timely training is critical because individual Navy units and Strike Groups/Amphibious Readiness Groups (ARG) currently operate in, or need to quickly deploy to high risk geographic

areas. In addition, a Strike Group/ARG is built around an aircraft carrier with typically 5,300 personnel on board and an amphibious assault ship that carries a Marine Corps Expeditionary Unit, so failure to adequately train risks thousands of lives.

The training necessary to protect American interests and the lives of sailors and marines is complex. It involves ensuring the warfighter can accurately identify potential threats in a variety of marine environments and conditions, and it involves the coordination of different vessels and aircraft so that the group's capabilities are employed in the most tactically effective manner. As with any complicated coordinated effort, this challenge requires routine practice, as these skills are perishable.

In 10 U.S.C. 5062, Congress mandated that the Chief of Naval Operations organize, train, and equip all Naval forces for combat. In response, the Fleet Response Training Plan (FRTP) is a major initiative designed to ensure Naval units receive required training before they deploy. The FRTP is an arduous sequential training cycle in which unit level training (ULT) and combat certification is followed by major exercises that bring together various warfare components so they have the opportunity to practice as an integrated whole and attain certification. Accordingly, any delay in coordinated training creates a significant and unreasonable risk which could result in a unit's and/or Strike Group's inability to train, certify and report as directed to an overseas theater of operations.

A deployment certification exercise is currently scheduled for June 2009 that will encompass areas of the JAX Range Complex. Lack of the appropriate environmental regulatory coverage for even a single day imperils completion of this exercise, and risks deployment certification. Essential ULT also occurs in these OPAREAs. There is limited unit level underway (at-sea) time available in the FRTP to adjust the training dates. These ULT training periods are driven by sequential certification processes for both in port and at-sea training. Scheduling constraints are further complicated by the availability of Afloat Training Groups (ATGs) that are responsible for training all individual units. ATGs have a limited number of trainers available at any given time, and their schedules must also be de-conflicted, compounding the problem if training schedules are not adhered to. Waiver of the 30-day delay of the effective date of the Final Rule will allow Navy to finalize operational



procedures to ensure compliance with required mitigation, monitoring, and reporting requirements, and have MMPA authorization in place prior to Navy's vital June 2009 exercise.

#### List of Subjects in 50 CFR Part 218

Exports, Fish, Imports, Incidental take, Indians, Labeling, Marine mammals, Navy, Penalties, Reporting and recordkeeping requirements, Seafood, Sonar, Transportation.

Dated: June 5, 2009.

**Samuel D. Rauch III,**

Deputy Assistant Administrator for Regulatory Programs, National Marine Fisheries Service.

■ For reasons set forth in the preamble, 50 CFR part 218 is amended to read as follows:

#### PART 218—REGULATIONS GOVERNING THE TAKING AND IMPORTING OF MARINE MAMMALS

■ 1. The authority citation for part 218 continues to read as follows:

**Authority:** 16 U.S.C. 1361 *et seq.*

■ 2. Subpart B is added to part 218 to read as follows:

##### Subpart B—Taking Marine Mammals Incidental to U.S. Navy Training in the Jacksonville Range Complex

Sec.

- 218.10 Specified activity and specified geographical area and effective dates.
- 218.11 Permissible methods of taking.
- 218.12 Prohibitions.
- 218.13 Mitigation.
- 218.14 Requirements for monitoring and reporting.
- 218.15 Applications for Letters of Authorization.
- 218.16 Letters of Authorization.
- 218.17 Renewal of Letters of Authorization and adaptive management.
- 218.18 Modifications to Letters of Authorization.

##### Subpart B—Taking Marine Mammals Incidental to U.S. Navy Training in the Jacksonville Range Complex (JAX Range Complex)

#### § 218.10 Specified activity and specified geographical area and effective dates.

(a) Regulations in this subpart apply only to the U.S. Navy for the taking of marine mammals that occurs in the area outlined in paragraph (b) of this section and that occur incidental to the activities described in paragraph (c) of this section.

(b) The taking of marine mammals by the Navy is only authorized if it occurs within the JAX Range Complex Operation Areas (OPAREAs), which are located along the southern east coast of the U.S. The two principal OPAREAs within the JAX Study Area are the

Jacksonville OPAREA and the Charleston OPAREA (sometimes referred to collectively as the JAX/CHASN OPAREA, or simply the OPAREA). The northernmost point of the JAX/CHASN OPAREA is located just north of Wilmington, North Carolina (34°37' N) in waters less than 20 m (65.6 ft) deep, while the easternmost boundary lies 281 nm (518.6 km) offshore of Jacksonville, Florida (77°00' W in waters with a bottom depth of nearly 2,000 m [1,243 mi]).

(c) The taking of marine mammals by the Navy is only authorized if it occurs incidental to the following activities within the designated amounts of use:

- (1) The detonation of the underwater explosives indicated in paragraph (c)(1)(i) of this section conducted as part of the training events indicated in paragraph (c)(1)(ii) of this section:
  - (i) Underwater Explosives:
    - (A) AGM-114 (Hellfire missile);
    - (B) AGM-65 E/F (Maverick missile);
    - (C) Mine Neutralization (20 lb NEW charges);
    - (D) 5" Naval Gunfire;
    - (E) MK3A2 anti-swimmer concussion grenades.
  - (ii) Training Events:
    - (A) Mine Neutralization (20 lb NEW charges)—up to 60 exercises over the course of 5 years (an average of 12 per year);
    - (B) Missile Exercise (MISSILEX) (Air-to-Surface; Hellfire missile)—up to 350 exercises over the course of 5 years (an average of 70 per year);
    - (C) Missile Exercise (MISSILEX) (Air-to-Surface; Maverick)—up to 15 exercises over the course of 5 years (an average of 3 per year);
    - (D) FIREX with IMPASS—up to 50 exercises over the course of 5 years (an average of 10 per year); and
    - (E) Small Arms Training with MK3A2 anti-swimmer concussion grenade (0.5 lbs NEW)—up to 400 grenades over the course of 5 years (an average of 80 HE grenades used per year).

(2) [Reserved]

(d) Regulations are effective June 8, 2009 and are applicable to the Navy on June 5, 2009 through June 4, 2014.

#### § 218.11 Permissible methods of taking.

(a) Under Letters of Authorization issued pursuant to §§ 216.106 of this chapter and 218.16, the Holder of the Letter of Authorization may incidentally, but not intentionally, take marine mammals within the area described in § 218.10(b), provided the activity is in compliance with all terms, conditions, and requirements of this subpart and the appropriate Letter of Authorization.

(b) The activities identified in § 218.10(c) must be conducted in a

manner that minimizes, to the greatest extent practicable, any adverse impacts on marine mammals and their habitat.

(c) The incidental take of marine mammals under the activities identified in § 218.10(c) is limited to the following species, by the indicated method of take and the indicated number of times:

- (1) Level B Harassment:
  - (i) Bottlenose dolphin (*Tursiops truncatus*)—150 (an average of 30 annually);
  - (ii) Pantropical spotted dolphin (*Stenella attenuata*)—100 (an average of 20 annually);
  - (iii) Clymene dolphin (*S. clymene*)—100 (an average of 20 annually);
  - (iv) Atlantic spotted dolphin (*S. frontalis*)—310 (an average of 62 annually);
  - (v) Striped dolphin (*S. coeruleoalba*)—100 (an average of 20 annually);
  - (vi) Risso's dolphin (*Grampus griseus*)—150 (an average of 30 annually);
  - (vii) Common dolphin (*Delphinus delphis*)—150 (an average of 30 annually);
  - (viii) Pilot whales (*Globicephala* sp.)—100 (an average of 20 annually);
  - (ix) Dwarf or pygmy sperm whales (*Kogia* sp.)—15 (an average of 3 annually);
  - (x) Beaked whales—100 (an average of 20 annually);
  - (xi) Minke whales (*Balaenoptera acutorostrata*)—15 (an average of 3 annually).
- (2) Level A Harassment (injury):
  - (i) Atlantic spotted dolphin—10 (an average of 2 annually).
  - (ii) [Reserved]

#### § 218.12 Prohibitions.

Notwithstanding takings contemplated in § 218.11 and authorized by a Letter of Authorization issued under § 216.106 of this chapter and § 218.16, no person in connection with the activities described in § 218.10 may:

- (a) Take any marine mammal not specified in § 218.11(c);
- (b) Take any marine mammal specified in § 218.11(c) other than by incidental take as specified in § 218.11(c)(1) and (2);
- (c) Take a marine mammal specified in § 218.11(c) if such taking results in more than a negligible impact on the species or stocks of such marine mammal; or
- (d) Violate, or fail to comply with, the terms, conditions, and requirements of this Subpart or a Letter of Authorization issued under § 216.106 of this chapter and § 218.16.

**§ 218.13 Mitigation.**

(a) When conducting training activities identified in § 218.10(c), the mitigation measures contained in the Letter of Authorization issued under § 216.106 of this chapter and § 218.16 must be implemented. These mitigation measures include, but are not limited to:

(1) General Maritime Measures:

(i) Personnel Training—Lookouts:

(A) All bridge personnel, Commanding Officers, Executive Officers, officers standing watch on the bridge, maritime patrol aircraft aircrews, and Mine Warfare (MIW) helicopter crews shall complete Marine Species Awareness Training (MSAT).

(B) Navy lookouts shall undertake extensive training to qualify as a watchstander in accordance with the Lookout Training Handbook (NAVEDTRA 12968–D).

(C) Lookout training shall include on-the-job instruction under the supervision of a qualified, experienced watchstander. Following successful completion of this supervised training period, lookouts shall complete the Personal Qualification Standard Program, certifying that they have demonstrated the necessary skills (such as detection and reporting of partially submerged objects).

(D) Lookouts shall be trained in the most effective means to ensure quick and effective communication within the command structure to facilitate implementation of protective measures if marine species are spotted.

(E) Surface lookouts shall scan the water from the ship to the horizon and be responsible for all contacts in their sector. In searching the assigned sector, the lookout shall always start at the forward part of the sector and search aft (toward the back). To search and scan, the lookout shall hold the binoculars steady so the horizon is in the top third of the field of vision and direct the eyes just below the horizon. The lookout shall scan for approximately five seconds in as many small steps as possible across the field seen through the binoculars. They shall search the entire sector in approximately five-degree steps, pausing between steps for approximately five seconds to scan the field of view. At the end of the sector search, the glasses shall be lowered to allow the eyes to rest for a few seconds, and then the lookout shall search back across the sector with the naked eye.

(F) At night, lookouts shall scan the horizon in a series of movements that would allow their eyes to come to periodic rests as they scan the sector. When visually searching at night, they shall look a little to one side and out of the corners of their eyes, paying

attention to the things on the outer edges of their field of vision. Lookouts shall also have night vision devices available for use.

(ii) Operating Procedures & Collision Avoidance:

(A) Prior to major exercises, a Letter of Instruction, Mitigation Measures Message or Environmental Annex to the Operational Order shall be issued to further disseminate the personnel training requirement and general marine species mitigation measures.

(B) Commanding Officers shall make use of marine species detection cues and information to limit interaction with marine species to the maximum extent possible consistent with safety of the ship.

(C) While underway, surface vessels shall have at least two lookouts with binoculars; surfaced submarines shall have at least one lookout with binoculars. Lookouts already posted for safety of navigation and man-overboard precautions may be used to fill this requirement. As part of their regular duties, lookouts shall watch for and report to the OOD the presence of marine mammals.

(D) Personnel on lookout shall employ visual search procedures employing a scanning method in accordance with the Lookout Training Handbook (NAVEDTRA 12968–D).

(E) After sunset and prior to sunrise, lookouts shall employ Night Lookouts Techniques in accordance with the Lookout Training Handbook (NAVEDTRA 12968–D).

(F) While in transit, naval vessels shall be alert at all times, use extreme caution, and proceed at a “safe speed” (the minimum speed at which mission goals or safety will not be compromised) so that the vessel can take proper and effective action to avoid a collision with any marine animal and can be stopped within a distance appropriate to the prevailing circumstances and conditions.

(G) When marine mammals have been sighted in the area, Navy vessels shall increase vigilance and implement measures to avoid collisions with marine mammals and avoid activities that might result in close interaction of naval assets and marine mammals. Such measures shall include changing speed and/or course direction and would be dictated by environmental and other conditions (e.g., safety or weather).

(H) Naval vessels shall maneuver to keep at least 500 yds (460 m) away from any observed whale and avoid approaching whales head-on. This requirement does not apply if a vessel’s safety is threatened, such as when change of course will create an

imminent and serious threat to a person, vessel, or aircraft, and to the extent vessels are restricted in their ability to maneuver. Vessels shall take reasonable steps to alert other vessels in the vicinity of the whale.

(I) Where feasible and consistent with mission and safety, vessels shall avoid closing to within 200 yds (183 m) of marine mammals other than whales (whales addressed above).

(J) Navy aircraft participating in exercises at sea shall conduct and maintain, when operationally feasible and safe, surveillance for marine species of concern as long as it does not violate safety constraints or interfere with the accomplishment of primary operational duties. Marine mammal detections shall be immediately reported to assigned Aircraft Control Unit for further dissemination to ships in the vicinity of the marine species as appropriate where it is reasonable to conclude that the course of the ship will likely result in a closing of the distance to the detected marine mammal.

(K) All vessels shall maintain logs and records documenting training operations should they be required for event reconstruction purposes. Logs and records shall be kept for a period of 30 days following completion of a major training exercise.

(2) Coordination and Reporting Requirements:

(i) The Navy shall coordinate with the local NMFS Stranding Coordinator for any unusual marine mammal behavior and any stranding, beached live/dead, or floating marine mammals that may occur at any time during or within 24 hours after completion of training activities.

(ii) The Navy shall follow internal chain of command reporting procedures as promulgated through Navy instructions and orders.

(3) Mitigation Measures Applicable to Vessel Transit in the Mid-Atlantic during North Atlantic Right Whale Migration: The mitigation measures apply to all Navy vessel transits, including those vessels that would transit to and from East Coast ports and the JAX Range Complex OPAREA.

(i) Mid-Atlantic, Offshore of the Eastern United States:

(A) All Navy vessels are required to use extreme caution and operate at a slow, safe speed consistent with mission and safety during the months indicated below and within a 37 km (20 nm) arc (except as noted) of the specified associated reference points:

(1) South and East of Block Island (37 km (20 NM) seaward of line between 41–4.49° N. lat. 071–51.15° W. long. and

41–18.58° N. lat. 070–50.23° W. long.): Sept-Oct and Mar-Apr

(2) New York/New Jersey (40–30.64° N. lat. 073–57.76° W. long.): Sep–Oct and Feb-Apr.

(3) Delaware Bay (Philadelphia) (38–52.13° N. lat. 075–1.93° W. long.): Oct–Dec and Feb–Mar.

(4) Chesapeake Bay (Hampton Roads and Baltimore) (37–1.11° N. lat. 075–57.56° W. long.): Nov-Dec and Feb–Apr.

(5) North Carolina (34–41.54° N. lat. 076–40.20° W. long.): Dec-Apr

(6) South Carolina (33–11.84° N. lat. 079–8.99° W. long. and 32–43.39° N. lat. 079–48.72° W. long.): Oct-Apr

(B) During the months indicated in paragraph (a)(3)(i)(A) of this section, Navy vessels shall practice increased vigilance with respect to avoidance of vessel-whale interactions along the mid-Atlantic coast, including transits to and from any mid-Atlantic ports not specifically identified in paragraph (a)(3)(i)(A) of this section.

(C) All surface units transiting within 56 km (30 NM) of the coast in the mid-Atlantic shall ensure at least two watchstanders are posted, including at least one lookout who has completed required MSAT training.

(D) Navy vessels shall not knowingly approach any whale head on and shall maneuver to keep at least 457 m (1,500 ft) away from any observed whale, consistent with vessel safety.

(ii) Southeast Atlantic, Offshore of the Eastern United States—for the purposes of the measures below (paragraphs (a)(3)(ii)(A) & (B) of this section), the “southeast” encompasses sea space from Charleston, South Carolina, southward to Sebastian Inlet, Florida, and from the coast seaward to 148 km (80 NM) from shore. North Atlantic right whale critical habitat is the area from 31–15° N. lat. to 30–15° N. lat. extending from the coast out to 28 km (15 NM), and the area from 28–00° N. lat. to 30–15° N. lat. from the coast out to 9 km (5 NM). All mitigation measures described here that apply to the critical habitat apply from November 15–April 15 and also apply to an associated area of concern which extends 9 km (5 NM) seaward of the designated critical habitat boundaries.

(A) Prior to transiting or training in the critical habitat or associated area of concern, ships shall contact Fleet Area Control and Surveillance Facility, Jacksonville, to obtain latest whale sighting and other information needed to make informed decisions regarding safe speed (the minimum speed at which mission goals or safety will not be compromised) and path of intended movement. Subs shall contact

Commander, Submarine Group Ten for similar information.

(B) The following specific mitigation measures apply to activities occurring within the North Atlantic right whale critical habitat and an associated area of concern which extends 9 km (5 NM) seaward of the designated critical habitat boundaries:

(1) When transiting within the critical habitat or associated area of concern, vessels shall exercise extreme caution and proceed at a slow safe speed. The speed shall be the slowest safe speed that is consistent with mission, training and operations.

(2) Speed reductions (adjustments) are required when a whale is sighted by a vessel or when the vessel is within 9 km (5 NM) of a reported new sighting less than 12 hours old. Circumstances could arise where, in order to avoid North Atlantic right whale(s), speed reductions could mean vessels must reduce speed to a minimum at which it can safely keep on course or vessels could come to an all stop.

(3) Vessels shall avoid head-on approaches to North Atlantic right whale(s) and shall maneuver to maintain at least 457 m (500 yd) of separation from any observed whale if deemed safe to do so. These requirements do not apply if a vessel's safety is threatened, such as when a change of course would create an imminent and serious threat to a person, vessel, or aircraft, and to the extent vessels are restricted in the ability to maneuver.

(4) During the North Atlantic right whale calving season, north-south transits through the critical habitat are prohibited, except for Precision Anchoring drills and the Shipboard Electronic System Evaluation Facility range that necessarily operate at slow, safe speed.

(5) Ships, surfaced subs, and aircraft shall report any whale sightings to Fleet Area Control and Surveillance Facility, Jacksonville, by the quickest and most practicable means. The sighting report shall include the time, latitude/longitude, direction of movement and number and description of whale (*i.e.*, adult/calf).

(6) Naval vessel operations in the North Atlantic right whale critical habitat and AAOC during the calving season shall be undertaken during daylight and periods of good visibility, to the extent practicable and consistent with mission, training, and operation. When operating in the critical habitat and AAOC at night or during periods of poor visibility, vessels shall operate as if in the vicinity of a recently reported NARW sighting.

(iii) Northeast Atlantic, Offshore of the Eastern United States:

(A) Prior to transiting the Great South Channel or Cape Cod Bay critical habitat areas, ships shall obtain the latest North Atlantic right whale sightings and other information needed to make informed decisions regarding safe speed (the minimum speed at which mission goals or safety will not be compromised). The Great South Channel critical habitat is defined by the following coordinates:

41–00° N. lat., 69–05° W. long.; 41–45° N. lat., 69–45° W. long.; 42–10° N. lat., 68–31° W. long.; 41–38° N. lat., 68–13° W. long. The Cape Cod Bay critical habitat is defined by the following coordinates: 42–04.8° N. lat., 70–10° W. long.; 42–12° N. lat., 70–15° W. long.; 42–12° N. lat., 70–30° W. long.; 41–46.8° N. lat., 70–30° W. long.

(B) Ships, surfaced subs, and aircraft shall report any North Atlantic right whale sightings (if the whale is identifiable as a right whale) off the northeastern U.S. to Patrol and Reconnaissance Wing (COMPATRECONWING). The report shall include the time of sighting, lat/long, direction of movement (if apparent) and number and description of the whale(s).

(C) Vessels or aircraft that observe whale carcasses shall record the location and time of the sighting and report this information as soon as possible to the cognizant regional environmental coordinator. All whale strikes must be reported immediately. This report shall include the date, time, and location of the strike; vessel course and speed; operations being conducted by the vessel; weather conditions, visibility, and sea state; description of the whale; narrative of incident; and indication of whether photos/videos were taken. Navy personnel are encouraged to take photos whenever possible.

(D) Specific mitigation measures related to activities occurring within the critical habitat include the following:

(1) Vessels shall avoid head-on approaches to North Atlantic right whale(s) and shall maneuver to maintain at least 457 m (500 yd) of separation from any observed whale if deemed safe to do so. These requirements do not apply if a vessel's safety is threatened, such as when change of course would create an imminent and serious threat to person, vessel, or aircraft, and to the extent vessels are restricted in the ability to maneuver.

(2) When transiting within the critical habitat or associated area of concern, vessels shall use extreme caution and operate at a safe speed (the minimum

speed at which mission goals or safety will not be compromised) so as to be able to avoid collisions with North Atlantic right whales and other marine mammals, and stop within a distance appropriate to the circumstances and conditions.

(3) Speed reductions (adjustments) are required when a whale is sighted by a vessel or when the vessel is within 9 km (5 NM) of a reported new sighting less than one week old.

(4) Ships transiting in the Cape Cod Bay and Great South Channel critical habitats shall obtain information on recent whale sightings in the vicinity of the critical habitat. Any vessel operating in the vicinity of a North Atlantic right whale shall consider additional speed reductions as per Rule 6 of International Navigational Rules.

(4) Mitigation Measures for Specific At-sea Training Events—If a marine mammal is injured or killed as a result of the proposed Navy training activities (e.g., instances in which it is clear that munitions explosions caused death), the Navy shall suspend its activities immediately and report such incident to NMFS.

(i) Firing Exercise (FIREX) Using the Integrated Maritime Portable Acoustic Scoring System (IMPASS) (5-in Explosive Rounds):

(A) This activity shall only occur in Areas BB and CC, as specified in the Navy's LOA application, in the JAX Range Complex.

(B) During North Atlantic right whale calving season no explosive ordnance shall be used.

(C) Pre-exercise monitoring of the target area shall be conducted with "Big Eyes" prior to the event, during deployment of the IMPASS sonobuoy array, and during return to the firing position. Ships shall maintain a lookout dedicated to visually searching for marine mammals 180° along the ship track line and 360° at each buoy drop-off location.

(D) "Big Eyes" on the ship shall be used to monitor a 600 yard (548 m) buffer zone for marine mammals during naval-gunfire events.

(E) Ships shall not fire on the target if any marine mammals are detected within or approaching the 600 yd (548 m) buffer zone until the area is cleared. If marine mammals are present, operations shall be suspended. Visual observation shall occur for approximately 45 minutes, or until the animal has been observed to have cleared the area and is heading away from the buffer zone.

(F) Post-exercise monitoring of the entire target area shall take place with "Big Eyes" and the naked eye during the

retrieval of the IMPASS sonobuoy array following each firing exercise.

(G) FIREX with IMPASS shall take place during daylight hours only.

(H) FIREX with IMPASS shall only be used in Beaufort Sea State three (3) or less.

(I) The visibility must be such that the fall of shot is visible from the firing ship during the exercise.

(J) No firing shall occur if marine mammals are detected within 70 yards (64 m) of the vessel.

(ii) Air-to-Surface Missile Exercises (Explosive):

(A) Aircraft shall initially survey the intended ordnance impact area for marine mammals.

(B) During the actual firing of the weapon, the aircraft involved must be able to observe the intended ordnance impact area to ensure the area is free of marine mammals transiting the range.

(C) Visual inspection of the target area shall be made by flying at 1,500 ft (457 m) altitude or lower, if safe to do so, and at slowest safe speed.

(D) Explosive ordnance shall not be targeted to impact within 1,800 yd (1,646 m) of sighted marine mammals.

(iii) Mine Neutralization Training Involving Underwater Detonations (up to and including 20-lb charges):

(A) This activity shall only occur in Undet North and Undet South of the JAX Range Complex.

(B) Observers shall survey the Zone of Influence (ZOI), a 700 yd (640 m) radius from detonation location for marine mammals from all participating vessels during the entire operation. A survey of the ZOI (minimum of 3 parallel tracklines 219 yd [200 m] apart) using support craft shall be conducted at the detonation location 30 minutes prior through 30 minutes post detonation. Aerial survey support shall be utilized whenever assets are available.

(C) Detonation operations shall be conducted during daylight hours only.

(D) If a marine mammal is sighted within the ZOI, the animal shall be allowed to leave of its own volition. The Navy shall suspend detonation exercises and ensure the area is clear of marine mammals for a full 30 minutes prior to detonation.

(E) Divers placing the charges on mines and dive support vessel personnel shall survey the area for marine mammals and shall report any sightings to the surface observers. These animals shall be allowed to leave of their own volition and the ZOI shall be clear of marine mammals for 30 minutes prior to detonation.

(F) No detonations shall take place within 3.2 nm (6 km) of an estuarine inlet.

(G) No detonations shall take place within 1.6 nm (3 km) of shoreline.

(H) Personnel shall record any protected species observations during the exercise as well as measures taken if species are detected within the ZOI.

(iv) Small Arms Training—Explosive hand grenades (such as the MK3A2 grenades):

(A) Lookouts shall visually survey for marine mammals prior to and during exercise.

(B) A 200 yd (182 m) radius buffer zone shall be established around the intended target. The exercises shall be conducted only if the buffer zone is clear of marine mammals.

#### **§ 218.14 Requirements for monitoring and reporting.**

(a) The Holder of the Letter of Authorization issued pursuant to § 216.106 of this chapter and § 218.16 for activities described in § 218.10(b) is required to cooperate with the NMFS when monitoring the impacts of the activity on marine mammals.

(b) The Holder of the Authorization must notify NMFS immediately (or as soon as clearance procedures allow) if the specified activity identified in § 218.10(b) is thought to have resulted in the mortality or serious injury of any marine mammals, or in any take of marine mammals not identified in § 218.10(c).

(c) The Navy must conduct all monitoring and required reporting under the Letter of Authorization, including abiding by the JAX Range Complex Monitoring Plan, which is incorporated herein by reference, and which requires the Navy to implement, at a minimum, the monitoring activities summarized below:

(1) Vessel or aerial surveys:

(i) The Holder of this Authorization shall visually survey a minimum of 2 explosive events per year, one of which shall be a multiple detonation event. One of the vessel or aerial surveys should involve professionally trained marine mammal observers (MMOs).

(ii) When operationally feasible, for specified training events, aerial or vessel surveys shall be used 1–2 days prior to, during (if reasonably safe), and 1–5 days post detonation.

(iii) Surveys shall include any specified exclusion zone around a particular detonation point plus 2,000 yards beyond the border of the exclusion zone (*i.e.*, the circumference of the area from the border of the exclusion zone extending 2,000 yards outwards). For vessel-based surveys a passive acoustic system (hydrophone or towed array) could be used to determine

if marine mammals are in the area before and/or after a detonation event.

(iv) When conducting a particular survey, the survey team shall collect:

- (A) Location of sighting;
- (B) Species (if not possible, indicate whale, dolphin or pinniped);
- (C) Number of individuals;
- (D) Whether calves were observed;
- (E) Initial detection sensor;
- (F) Length of time observers maintained visual contact with marine mammal;

(G) Wave height;

(H) Visibility;

(I) Whether sighting was before, during, or after detonations/exercise, and how many minutes before or after;

(J) Distance of marine mammal from actual detonations (or target spot if not yet detonated);

(K) Observed behavior—Watchstanders shall report, in plain language and without trying to categorize in any way, the observed behavior of the animal(s) (such as animal closing to bow ride, paralleling course/speed, floating on surface and not swimming *etc.*), including speed and direction;

(L) Resulting mitigation implementation—Indicate whether explosive detonations were delayed, ceased, modified, or not modified due to marine mammal presence and for how long; and

(M) If observation occurs while explosives are detonating in the water, indicate munition type in use at time of marine mammal detection.

(2) Passive acoustic monitoring—the Navy shall conduct passive acoustic monitoring when operationally feasible.

(i) Any time a towed hydrophone array is employed during shipboard surveys, the towed array shall be deployed during daylight hours for each of the days the ship is at sea.

(ii) The towed hydrophone array shall be used to supplement the ship-based systematic line-transect surveys (particularly for species such as beaked whales that are rarely seen).

(iii) The array shall have the capability of detecting low frequency vocalizations (<1,000 Hz) for baleen whales and relatively high frequency (up to 30 kHz) for odontocetes. The use of two simultaneously deployed arrays can also allow more accurate localization and determination of diving patterns.

(3) Marine mammal observers on Navy platforms:

(i) As required in § 218.14(c)(1), MMOs selected for aerial or vessel survey shall be placed on a Navy platform during one of the explosive exercises being monitored per year, the

other designated exercise shall be monitored by the Navy lookouts/watchstanders.

(ii) The MMO must possess expertise in species identification of regional marine mammal species and experience collecting behavioral data.

(iii) MMOs shall not be placed aboard Navy platforms for every Navy training event or major exercise, but during specifically identified opportunities deemed appropriate for data collection efforts. The events selected for MMO participation shall take into account safety, logistics, and operational concerns.

(iv) MMOs shall observe from the same height above water as the lookouts.

(v) The MMOs shall not be part of the Navy's formal reporting chain of command during their data collection efforts; Navy lookouts shall continue to serve as the primary reporting means within the Navy chain of command for marine mammal sightings. The only exception is that if an animal is observed within the shutdown zone that has not been observed by the lookout, the MMO shall inform the lookout of the sighting and the lookout shall take the appropriate action through the chain of command.

(vi) The MMOs shall collect species identification, behavior, direction of travel relative to the Navy platform, and distance first observed. Information collected by MMOs shall be the same as those collected by Navy lookout/watchstanders described in § 218.14(c)(1)(iv).

(d) The Navy shall complete an Integrated Comprehensive Monitoring Program (ICMP) Plan in 2009. This planning and adaptive management tool shall include:

(1) A method for prioritizing monitoring projects that clearly describes the characteristics of a proposal that factor into its priority.

(2) A method for annually reviewing, with NMFS, monitoring results, Navy R&D, and current science to use for potential modification of mitigation or monitoring methods.

(3) A detailed description of the Monitoring Workshop to be convened in 2011 and how and when Navy/NMFS will subsequently utilize the findings of the Monitoring Workshop to potentially modify subsequent monitoring and mitigation.

(4) An adaptive management plan.

(5) A method for standardizing data collection for JAX Range Complex and across range complexes.

(e) General Notification of Injured or Dead Marine Mammals—Navy personnel shall ensure that NMFS

(regional stranding coordinator) is notified immediately (or as soon as clearance procedures allow) if an injured or dead marine mammal is found during or shortly after, and in the vicinity of, any Navy training exercise utilizing underwater explosive detonations. The Navy shall provide NMFS with species or description of the animal(s), the condition of the animal(s) (including carcass condition if the animal is dead), location, time of first discovery, observed behaviors (if alive), and photo or video (if available).

(f) Annual JAX Range Complex Monitoring Plan Report—The Navy shall submit a report annually on March 1 describing the implementation and results (through January 1 of the same year) of the JAX Range Complex Monitoring Plan. Data collection methods will be standardized across range complexes to allow for comparison in different geographic locations. Although additional information will also be gathered, the MMOs collecting marine mammal data pursuant to the JAX Range Complex Monitoring Plan shall, at a minimum, provide the same marine mammal observation data required in § 218.14(g). The JAX Range Complex Monitoring Plan Report may be provided to NMFS within a larger report that includes the required Monitoring Plan Reports from JAX Range Complex and multiple range complexes.

(g) Annual JAX Range Complex Exercise Report—The Navy shall provide the information described below for all of their explosive exercises. Until the Navy is able to report in full the information below, they shall provide an annual update on the Navy's explosive tracking methods, including improvements from the previous year.

(i) Total annual number of each type of explosive exercise (of those identified as part of the "specified activity" in this final rule) conducted in the JAX Range Complex.

(ii) Total annual expended/detonated rounds (missiles, bombs, *etc.*) for each explosive type.

(h) JAX Range Complex 5-yr Comprehensive Report—The Navy shall submit to NMFS a draft report that analyzes and summarizes all of the multi-year marine mammal information gathered during the JAX Range Complex exercises for which annual reports are required (Annual JAX Range Complex Exercise Reports and JAX Range Complex Monitoring Plan Reports). This report shall be submitted at the end of the fourth year of the rule (May 2013), covering activities that have occurred through December 1, 2012.

(i) The Navy shall respond to NMFS' comments and requests for additional information or clarification on the JAX Range Complex Comprehensive Report, the Annual JAX Range Complex Exercise Report, or the Annual JAX Range Complex Monitoring Plan Report (or the multi-Range Complex Annual Monitoring Plan Report, if that is how the Navy chooses to submit the information) if submitted within 3 months of receipt. These reports will be considered final after the Navy has addressed NMFS' comments or provided the requested information, or three months after the submittal of the draft if NMFS does not comment by then.

(j) In 2011, the Navy shall convene a Monitoring Workshop in which the Monitoring Workshop participants will be asked to review the Navy's Monitoring Plans and monitoring results and make individual recommendations (to the Navy and NMFS) of ways of improving the Monitoring Plans. The recommendations shall be reviewed by the Navy, in consultation with NMFS, and modifications to the Monitoring Plan shall be made, as appropriate.

#### **§ 218.15 Applications for Letters of Authorization.**

To incidentally take marine mammals pursuant to these regulations, the U.S. citizen (as defined by § 216.103 of this chapter) conducting the activity identified in § 218.10(a) (the U.S. Navy) must apply for and obtain either an initial Letter of Authorization in accordance with § 218.16 or a renewal under § 218.17.

#### **§ 218.16 Letters of Authorization.**

(a) A Letter of Authorization, unless suspended or revoked, will be valid for a period of time not to exceed the period of validity of this subpart, but must be renewed annually subject to annual renewal conditions in § 218.17.

(b) Each Letter of Authorization will set forth:

(1) Permissible methods of incidental taking;

(2) Means of effecting the least practicable adverse impact on the species, its habitat, and on the availability of the species for subsistence uses (*i.e.*, mitigation); and

(3) Requirements for mitigation, monitoring and reporting.

(c) Issuance and renewal of the Letter of Authorization will be based on a determination that the total number of marine mammals taken by the activity as a whole will have no more than a negligible impact on the affected species or stock of marine mammal(s).

#### **§ 218.17 Renewal of Letters of Authorization and adaptive management.**

(a) A Letter of Authorization issued under § 216.106 and § 218.16 of this chapter for the activity identified in § 218.10(c) will be renewed annually upon:

(1) Notification to NMFS that the activity described in the application submitted under § 218.15 shall be undertaken and that there will not be a substantial modification to the described work, mitigation or monitoring undertaken during the upcoming 12 months;

(2) Timely receipt of the monitoring reports required under § 218.14; and

(3) A determination by NMFS that the mitigation, monitoring and reporting measures required under § 218.13 and the Letter of Authorization issued under §§ 216.106 and 218.16 of this chapter were undertaken and will be undertaken during the upcoming annual period of validity of a renewed Letter of Authorization.

(b) If a request for a renewal of a Letter of Authorization issued under §§ 216.106 and 218.17 of this chapter indicates that a substantial modification to the described work, mitigation or monitoring undertaken during the upcoming season will occur, NMFS will provide the public a period of 30 days for review and comment on the request. Review and comment on renewals of Letters of Authorization are restricted to:

(1) New cited information and data indicating that the determinations made in this document are in need of reconsideration, and

(2) Proposed changes to the mitigation and monitoring requirements contained in these regulations or in the current Letter of Authorization.

(c) A notice of issuance or denial of a renewal of a Letter of Authorization will be published in the **Federal Register**.

(d) NMFS, in response to new information and in consultation with the Navy, may modify the mitigation or monitoring measures in subsequent LOAs if doing so creates a reasonable likelihood of more effectively accomplishing the goals of mitigation and monitoring set forth in the preamble of these regulations. Below are some of the possible sources of new data that could contribute to the decision to modify the mitigation or monitoring measures:

(1) Results from the Navy's monitoring from the previous year (either from JAX Study Area or other locations).

(2) Findings of the Monitoring Workshop that the Navy will convene in 2011 (§ 218.14(j)).

(3) Compiled results of Navy funded research and development (R&D) studies (presented pursuant to the ICMP (§ 218.14(d))).

(4) Results from specific stranding investigations (either from the JAX Range Complex Study Area or other locations).

(5) Results from general marine mammal and sound research (funded by the Navy (described below) or otherwise).

(6) Any information which reveals that marine mammals may have been taken in a manner, extent or number not authorized by these regulations or subsequent Letters of Authorization.

#### **§ 218.18 Modifications to Letters of Authorization.**

(a) Except as provided in paragraph (b) of this section, no substantive modification (including withdrawal or suspension) to the Letter of Authorization by NMFS, issued pursuant to § 216.106 of this chapter and § 218.16 and subject to the provisions of this subpart shall be made until after notification and an opportunity for public comment has been provided. For purposes of this paragraph, a renewal of a Letter of Authorization under § 218.17, without modification (except for the period of validity), is not considered a substantive modification.

(b) If the Assistant Administrator determines that an emergency exists that poses a significant risk to the well-being of the species or stocks of marine mammals specified in § 218.11(b), a Letter of Authorization issued pursuant to § 216.106 of this chapter and § 218.16 may be substantively modified without prior notification and an opportunity for public comment. Notification will be published in the **Federal Register** within 30 days subsequent to the action.

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## **DEPARTMENT OF COMMERCE**

### **National Oceanic and Atmospheric Administration**

#### **50 CFR Part 218**

**RIN 0648-AX10**

#### **Taking and Importing Marine Mammals; U.S. Navy Training in the Cherry Point Range Complex**

**AGENCY:** National Marine Fisheries Service (NMFS), National Oceanic and