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## INCIDENTAL TAKE STATEMENT

### U.S. Navy Training and Research Activities in the Hawai'i Range Complex

January 15, 2010-January 14, 2011

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#### Proposed Action

This incidental take statement addresses the U.S. Navy's 2010-2011 training and research activities in the Hawai'i Range Complex. These activities consist of:

- Five major exercises in the Hawai'i Operating Area (Rim of the Pacific (RIMPAC), Undersea Warfare Exercises, and Multi-Strike Group Exercises). In most years, these would consist of one exercise involving 2 carriers, a second exercise involving 3 carriers, and five Undersea Warfare Exercises (USWEX);
- Other training exercises; and
- Research, Development, Test, and Evaluation Activities, which may be conducted by the U.S. Navy, U.S. Department of Defense's Missile Defense Agency, U.S. Army and U.S. Army's Space and Missile Command, U.S. Air Force, U.S. Coast Guard, and National Oceanic and Atmospheric Administration (NOAA).

Furthermore, the following additional activities will be conducted as part of the 2010 RIMPAC exercises scheduled to occur around July 2010:

- In-port operations, command and control, aircraft operations, ship maneuvers, amphibious landings, troop movements, gunfire and missile exercises, submarine and antisubmarine exercises, mining and demolition activities, sinking exercise, salvage, special warfare, and humanitarian operations. These exercises have historically included a series of anti-submarine warfare training events that employ mid-frequency sonar.

These activities were described in greater detail in the National Marine Fisheries Service's (NMFS') Programmatic Biological Opinion on the U.S. Navy's Proposal to Conduct Training and Research Activities in the Hawai'i Range Complex from 2008 to 2013 and NMFS' Permits, Conservation and Education Division's Proposal to issue regulations to authorize the U.S. Navy to "take" Marine Mammals Incidental to the Conduct of Training Exercises in the Hawai'i Range Complex December 2008 to December 2013 (December 18, 2008) and NMFS' Permits, Conservation and Education Division's final rule establishing a framework for the issuance of annual Letters of Authorization (LOA) to take marine mammals incidental to Navy training exercises in the Hawai'i Range Complex which was published on January 12, 2009 (74 FR 1456).

We have reviewed the Navy's proposed activities as described in the request for Letter of Authorization (LOA) for the 2010-2011 training and research activities received on

November 3, 2009. We have determined that the actions proposed to be taken in 2010-2011 (e.g., Navy training and research and NMFS' Permits, Conservation and Education Division's issuance of a LOA) and the effects of these actions fall within the scope of the prior analyses. This incidental take statement accompanies the 2008 programmatic biological opinion.

Section 9 of the ESA and Federal regulation pursuant to section 4(d) of the ESA prohibits the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by NMFS to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2) of the ESA, taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The measures described below are non-discretionary and must be implemented by NMFS' Permits, Conservation and Education Division so they become binding conditions of any permit issued to the U.S. Navy, as appropriate, in order for the exemption in section 7(o)(2) to apply. NMFS' Permits, Conservation, and Education Division has a continuing duty to regulate the activity covered by this Incidental Take Statement. If NMFS' Permits, Conservation and Education Division (1) fails to require the U.S. Navy to adhere to the terms and conditions of the Incidental Take Statement through enforceable terms that are added to the permit or grant document, and/or (2) fails to retain oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(o)(2) may lapse.

#### **Amount or Extent of Take Anticipated**

The section 7 regulations require NMFS to estimate the number of individuals that may be taken by proposed actions or the extent of land or marine area that may be affected by an action, if we cannot assign numerical limits for animals that could be incidentally taken during the course of an action (51 Federal Register page 19953, June 3, 1986). The amount of take resulting from active sonar transmissions was difficult to estimate because we have no empirical information on (a) the actual number of listed species that are likely to occur in the different sites, (b) the actual number of individuals of those species that are likely to be exposed to active sonar transmissions, (c) the circumstances associated with any exposure, and (d) the range of responses we would expect different individuals of the different species to exhibit upon exposure.

To estimate the number of animals that might be "taken", we classified the suite of responses as one or more form of "take" and estimated the number of animals that might be "taken" by (1) multiplying the number of animals exposed the probability of particular responses given an exposure; (2) classifying particular responses as one or more form of

“take” (as that term is defined by the ESA and implementing regulations that further define “harm”); then (3) adding the number of exposure events that are expected to produce responses that we would consider “take.” The result represents our “take” estimate.

One limitation of this approach is that it estimates the number of animals that might be “taken” without explicitly incorporating the influence of the received level on those probabilities although received levels are almost certain to influence, if not determine, an animal’s response to active sonar. To consider the potential effects of received level on these “take” estimates, we conducted logistic regression analyses to consider the relationship between received level and the probability of responses that would generally represent “behavioral disturbance”. The two approaches differed by about 1 percent resulting in the same estimated number of “take” or differences ranging from a low of 1 animal to a high of 33 “take” occurrences.

NMFS estimates the following endangered marine mammals might be “taken” by behavioral harassment (see Table). These estimates are based upon information provided by the U.S. Navy and NMFS’ 2008 programmatic biological opinion.

**Table: Estimates of the number of instances in which endangered or threatened marine mammals that might be “taken,” in the form of behavioral harassment as a result of exposure to the training exercises and other activities the U.S. Navy plans to conduct in the Hawai’i Range Complex from January 2010 through January 2011**

Species	Number of Instances of Harassment Resulting From Exposure Events Involving			Totals
	Active Sonar or Other Environmental Cues from Surface Vessels <sup>1</sup>	Underwater Detonations		
		Harassment	Harm	
Fin whale	22	-	-	22
Humpback whale	1,487	9	-	1,496
Sei whale	1	-	-	1
Sperm whale	791	9	-	800
Hawai’ian monk seal	121	-	-	121
<b>Totals</b>		<b>18</b>	<b>0</b>	

**Notes** 1 These estimates include animals that respond to vessels involved in major training exercises (rather than unit-level training or RDT&E activities) and that are between 600 meters and 2 kilometers of individual animals. The estimates assume the ships are moving at speeds of at least 10 knots and undergo frequent or periodic course changes

The instances of harassment identified in the Table would generally represent changes from resting, milling, or other behavioral states that require lower energy expenditures to traveling, avoidance, or other behavioral states that require higher energy expenditures and, therefore, would represent significant disruptions of the normal behavioral patterns of the animals that have been exposed. We grouped responses to active sonar and responses to vessel traffic and other environmental cues associated with the surface vessels involved in major training exercises because we assume animals would respond to a suite of environmental cues that include sound fields produced by active sonar, sounds produced by the engines of surface vessels, sounds produced by displacement

hulls, and other sounds associated with training exercises. That is, we assume endangered marine mammals will perceive and respond to all of the environmental cues associated with an exercise rather than the single stimulus represented by active sonar. Further, we assume endangered marine mammals would recognize cues that suggest that ships are moving away from them rather than approaching them and they would respond differently to both situations.

Because of their hearing sensitivities, we generally expect fin and sei whales to change their behavior in response to cues from the vessels rather than to the sound field produced by active sonar and the estimates in the Table reflect that expectation. However, we assume that humpback and sperm whales would change their behavior in response to the sound field produced by active sonar and cues from the vessels involved in training exercises.

### **Effect of the Take**

NMFS' 2008 programmatic biological opinion concluded that the number of individuals that might be exposed to mid-frequency active sonar associated with the training exercises and other activities the U.S. Navy plans to conduct in the Hawai'i Range Complex and are likely to respond to that exposure in ways that NMFS would classify as "take" as that term is defined pursuant to section 3 of the Endangered Species Act is not likely to jeopardize the continued existence of blue, fin, humpback, sei, or sperm whales, Hawai'ian monk seals, or endangered or threatened sea turtles. Although the biological significance of the animal's behavioral responses remains unknown, exposure to active sonar transmissions could disrupt one or more behavioral patterns that are essential to an individual animal's life history or to the animal's contribution to a population. Behavioral responses that result from active sonar transmissions and any associated disruptions are expected to be temporary and would not affect the reproduction, survival, or recovery of these species.

### **Reasonable and Prudent Measures**

The National Marine Fisheries Service believes the following reasonable and prudent measures are necessary and appropriate to minimize the impacts of incidental take on threatened and endangered species:

1. This ITS is valid only during the time period specified in the Letter of Authorization (LOA; January 15, 2010-January 14, 2011).
2. All activities must comply with the LOA issued under §101(a)(5)(A) and 50 CFR §216.170.
3. The U.S. Navy shall submit reports that identify the general location, timing, number of sonar hours and other aspects of the training exercises and other activities they conduct in the Hawai'i Range Complex over the next twelve months.

### **Terms and Conditions**

In order to be exempt from the prohibitions of section 9 of the Endangered Species Act of 1973, as amended, NMFS' Permits, Conservation and Education Division and the U.S. Navy must comply with the following terms and conditions, which implements the

reasonable and prudent measures described above and outlines the reporting requirements required by the section 7 regulations (50 CFR 402.14(i)).

1. The Navy shall implement the 2010 Update to the Hawaii Range Complex Monitoring Plan.
2. The Navy shall comply with the 2009 Integrated Comprehensive Monitoring Program Plan (ICMP) and continue to improve the program as appropriate, in consultation with NMFS. Changes and improvements to the program made during 2010 will be described in an updated 2010 ICMP and submitted to NMFS by October 31, 2010 for review. An updated 2010 ICMP will be finalized by December 31, 2010.
3. Annual HRC Monitoring Plan Report – The Navy shall submit a report on October 1, 2010, describing the implementation and results (through August 1, 2010) of the HRC Monitoring Plan, as described in the 2010-2011 LOA. The report will include any analysis conducted or conclusions reached based on the previous year’s data that were not completed in time for the previous year’s monitoring report. Data collection methods will be standardized across Range Complexes to allow for comparison in different geographic locations. Although additional information will be gathered, the marine mammals observers collecting marine mammal data pursuant to the HRC Monitoring Plan shall, at a minimum, provide the same marine mammal observation data required in condition (2) below. The HRC Monitoring Plan Report may be provided to NMFS within a larger report that includes the required Monitoring Plan Reports from multiple Range Complexes.
4. Annual HRC Exercise Report - The Navy shall submit an Annual HRC Exercise Report on October 1, 2010 (covering data gathered through August 1, 2010). This report shall contain the information identified below:
  - (a) MFAS/HFAS Major Training Exercises - This section shall contain the following information for Major Training Exercises (MTEs, which include RIMPAC, USWEX, and Multi Strike Group) conducted in the HRC:
    - (i) Exercise Information (for each MTE):
      - (A) Exercise designator
      - (B) Date that exercise began and ended
      - (C) Location
      - (D) Number and types of active sources used in the exercise
      - (E) Number and types of passive acoustic sources used in exercise

- (F) Number and types of vessels, aircraft, etc., participating in exercise
  - (G) Total hours of observation by watchstanders
  - (H) Total hours of all active sonar source operation
  - (I) Total hours of each active sonar source (along with explanation of how hours are calculated for sources typically quantified in alternate way (buoys, torpedoes, etc.)).
  - (J) Wave height (high, low, and average during exercise)
- (ii) Individual marine mammal sighting info (for each sighting in each MTE)
- (A) Location of sighting
  - (B) Species (if not possible – indication of whale/dolphin/pinniped)
  - (C) Number of individuals
  - (D) Calves observed (y/n)
  - (E) Initial Detection Sensor
  - (F) Indication of specific type of platform observation made from (including, for example, what type of surface vessel, i.e., FFG, DDG, or CG)
  - (G) Length of time observers maintained visual contact with marine mammal
  - (H) Wave height (in feet)
  - (I) Visibility
  - (J) Sonar source in use (y/n).
  - (K) Indication of whether animal is <200 yd, 200-500 yd, 500-1000 yd, 1000-2000 yd, or >2000 yd from sonar source in (j) above.
  - (L) Mitigation Implementation – Whether operation of sonar sensor was delayed, or sonar was powered or shut down, and duration of the delay.
  - (M) If source in use (J) is hull-mounted, true bearing of animal from ship, true direction of ship's travel, and estimation of animal's motion relative to ship (opening, closing, parallel)

- (N) Observed behavior – Watchstanders shall report, in plain language and without trying to categorize in any way, the observed behavior of the animals (such as animal closing to bow ride, paralleling course/speed, floating on surface and not swimming, etc.)
- (iii) An evaluation (based on data gathered during all of the MTES) of the effectiveness of mitigation measures. This evaluation shall identify the specific observations that support any conclusions the Navy reaches about the effectiveness of the mitigation.
- (b) ASW Summary - This section shall include the following information as summarized from both MTES and non-major training exercises (i.e., unit-level exercises, such as TRACKEXs):
  - (i) Total annual hours of each type of sonar source (along with explanation of how hours are calculated for sources typically quantified in alternate way (buoys, torpedoes, etc.))
  - (ii) Total hours (from December 15, 2009, through April 15, 2010) of hull-mounted active sonar operation occurring in the dense humpback areas generally shown on the Mobley map (see 73 FR 35510, 35520) plus a 5-km buffer, but not including the Pacific Missile Range Facility. The Navy shall work with NMFS to develop the exact boundaries of this area.
  - (iii) Total estimated annual hours of hull-mounted active sonar operation conducted in Humpback Whale Cautionary area between December 15, 2009, and April 15, 2010.
  - (vi) Cumulative Impact Report - To the extent practicable, the Navy, in coordination with NMFS, shall develop and implement a method of annually reporting non-major (i.e., other than RIMPAC, USWEX, or Multi-Strike Group Exercises) training exercises utilizing hull-mounted sonar. The report shall present an annual (and seasonal, where practicable) depiction of non-major training exercises geographically across the HRC. The Navy shall either include (in the HRC annual report) the Cumulative Impact Report, as described above, or provide a brief annual progress update on the status of development of the Cumulative Report.
- (c) SINKEXs - This section of the report shall include the following information for each SINKEX completed that year:
  - (i) *Exercise information (gathered for each SINKEX):*
    - (A) Location
    - (B) Date and time exercise began and ended

- (C) Total hours of observation by watchstanders before, during, and after exercise
  - (D) Total number and types of rounds expended / explosives detonated
  - (E) Number and types of passive acoustic sources used in exercise
  - (F) Total hours of passive acoustic search time
  - (G) Number and types of vessels, aircraft, etc., participating in exercise
  - (H) Wave height in feet (high, low and average during exercise)
  - (I) Narrative description of sensors and platforms utilized for marine mammal detection and timeline illustrating how marine mammal detection was conducted
- (ii) *Individual marine mammal observation (by Navy lookouts) information (gathered for each marine mammal sighting)*
- (A) Location of sighting
  - (B) Species (if not possible, indicate whale, dolphin or pinniped)
  - (C) Number of individuals
  - (D) Whether calves were observed (y/n)
  - (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) – use four categories to define distance: 1) the modeled injury threshold radius for the largest explosive used in that exercise type in that OPAREA (91 m for SINKEX in HRC); 2) the required exclusion zone (1 nm for SINKEX in HRC); (3) the required observation distance (if different than the exclusion zone (2 nm for SINKEX in HRC); and, (4) greater than the required observed distance. For example, in this case, the observer

would indicate if < 91 m, from 91 m – 1 nm, from 1 nm – 2 nm, and > 2 nm.

- (K) 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.
  - (L) Resulting mitigation implementation – Indicate whether explosive detonations were delayed, ceased, modified, or not modified due to marine mammal presence and for how long.
  - (M) If observation occurs while explosives are detonating in the water, indicate munition type in use at time of marine mammal detection.
- (d) IEER/AEER Summary. This section shall include an annual summary of the following IEER information:
- (i) Total number of IEER/AEER events conducted in the HRC
  - (ii) Total expended/detonated rounds (buoys)
  - (iii) Total number of self-scuttled IEER rounds
- (e) Explosives Summary - To the extent practicable, 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.
- (i) Total annual number of each type of explosive exercises (of those identified as part of the "specified activity" in the final rule specified at 50 CFR §216.170) conducted in the HRC
  - (ii) Total annual expended/detonated rounds (missiles, bombs, etc.) for each explosive type
- (f) Sonar Exercise Notification - The Navy shall submit to the NMFS Office of Protected Resources (specific contact information as provided in the 2010-2011 LOA) either an electronic (preferably) or verbal report within fifteen calendar days after the completion of any major exercise (RIMPAC, USWEX, or Multi Strike Group) indicating:
- (1) Location of the exercise
  - (2) Beginning and end dates of the exercise

(3) Type of exercise (e.g., RIMPAC, USWEX, or Multi Strike Group)

5. 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.