



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Silver Spring, MD 20910

JUL 18 2012

Commander, U.S. Pacific Fleet
250 Makalapa Drive
Pearl Harbor, HI 96860-7000

To Whom It May Concern:

Enclosed is an Incidental Harassment of Authorization (IHA) issued to the Commander, U.S. Pacific Fleet, under the authority of Section 101(a)(5)(D) of the Marine Mammal Protection Act (16 U.S.C. 1361 et seq.) and the regulations governing the take of marine mammals incidental to Navy's training activities at the Silver Strand Training Complex. This authorization is effective for one year and covers the taking of marine mammals incidental to the Navy training activities identified in the IHA, which include the use of underwater explosives and pile driving and removal, provided the mitigation, monitoring and reporting requirements are undertaken as required by IHA.

If you have any questions concerning the IHA or its requirements, please contact Shane Guan, Office of Protected Resources, National Marine Fisheries Service at 301-427-8401.

Sincerely,

Helen M. Golde, Acting Director
Office of Protected Resources

Enclosure



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Silver Spring, MD 20910

Department Of Commerce
National Oceanic and Atmospheric Administration
National Marine Fisheries Service

INCIDENTAL HARASSMENT AUTHORIZATION

The Commander, U.S. Pacific Fleet, 250 Makalapa Drive, Pearl Harbor, HI 96860-7000, and persons operating under his authority (i.e., Navy), are hereby authorized under section 101(a)(5)(D) of the Marine Mammal Protection Act (16 U.S.C. 1371 (a)(5)(D)), to harass marine mammals incidental to Navy training activities conducted in the Silver Strand Training Complex (SSTC) in California.

1. This Incidental Harassment Authorization (IHA) is valid from July 18, 2012, through July 17, 2013.
2. This IHA is valid only for training activities conducted at the SSTC Study Area in the vicinity of San Diego Bay, California. The geography location of the SSTC Study Area is located south of the City of Coronado, California and north of the City of Imperial Beach, California.
3. General Conditions
 - (a) A copy of this IHA must be in the possession of the Commander, his designees, and commanding officer(s) operating under the authority of this IHA.
 - (b) The species authorized for taking are the California sea lion (*Zalophus californianus*), Pacific Harbor seal (*Phoca vitulina*), bottlenose dolphin (*Tursiops truncatus*), the eastern North Pacific gray whale (*Eschrichtius robustus*), long-beaked common dolphin (*Delphinus capensis*), short-beaked common dolphin (*D. delphis*), Pacific white-sided dolphin (*Lagenorhynchus obliquidens*), and Risso's dolphin (*Grampus griseus*).
 - (c) The taking, by Level B harassment only, is limited to the species listed in condition 3(b).
 - (d) The taking by Level A harassment, injury or death of any of the species listed in item 3(b) of the Authorization or the taking by harassment, injury or death of any other



species of marine mammal is prohibited and may result in the modification, suspension, or revocation of this IHA.

- (e) In the unanticipated event that any cases of marine mammal injury or mortality are judged to result from these activities, the holder of this Authorization must immediately cease operations and report the incident, as soon as clearance procedures allow, to the Assistant Regional Administrator (ARA) for Protected Resources, NMFS Southwest Region, phone (562) 980-4000 and to the Chief, Permits and Conservation Division, Office of Protected Resources, NMFS, phone (301) 427-8401.

- (i) The Navy shall suspend the training activities at the SSTC until NMFS is able to review the incident and determine whether steps can be taken to avoid further injury or mortality or until such taking can be authorized under regulations promulgated under section 101(a)(5)(A) of the Marine Mammal Protection Act.

4. Mitigation Measures

In order to ensure the least practicable impact on the species and levels of takes listed in 3(b) and (c), the holder of this Authorization is required to comply with the following mitigation measures:

(a) Mitigation Measures for Underwater Detonations

- (i) Mitigation and Monitoring Measures for Underwater Detonations in Very Shallow Water (VSW, water depth < 24 ft)

(1) Mitigation and Monitoring Measures for VSW Underwater Detonations Using Positive Control

- A. Underwater detonations using positive control (remote firing devices) shall only be conducted during daylight.
- B. Easily visible anchored floats shall be positioned on 700 yard radius of a roughly semi-circular zone (the shoreward half being bounded by shoreline and immediate off-shore water) around the detonation location for small explosive exercises at the SSTC. These mark the outer limits of the mitigation zone.
- C. For each VSW underwater detonation event, a safety-boat with a minimum of one observer shall be launched 30 or more minutes prior to detonation and moves through the area around the detonation site. The safety-boat observer shall be in constant radio communication with the exercise coordinator and shore observer.
- D. A shore-based observer shall also be deployed for VSW detonations in addition to boat based observers. The shore

observer shall indicate that the area is clear of marine mammals after 10 or more minutes of continuous observation with no marine mammals having been seen in the mitigation zone or moving toward it.

- E. At least 10 minutes prior to the planned initiation of the detonation event sequence, the shore observer, on an elevated on-shore position, shall begin a continuous visual search with binoculars of the mitigation zone. At this time, the safety-boat observer shall inform the shore observer if any marine mammal has been seen in the zone and, together, both search the surface within and beyond the mitigation zone for marine mammals.
- F. The observers (boat and shore based) shall indicate that the area is not clear any time a marine mammal is sighted in the mitigation zone or moving toward it and, subsequently, indicate that the area is clear of marine mammals when the animal is out and moving away and no other marine mammals have been sighted.
- G. Initiation of the detonation sequence shall only begin on final receipt of an indication from the shore observer that the area is clear of marine mammals and will be postponed on receipt of an indication from any observer that the area is not clear of marine mammals.
- H. Following the detonation, visual monitoring of the mitigation zone shall continue for 30 minutes for the appearance of any marine mammal in the zone. Any marine mammal appearing in the area shall be observed for signs of possible injury.
- I. Any marine mammal observed after a VSW underwater detonation either injured or exhibiting signs of distress shall be reported via operational chain of command to Navy environmental representatives from U.S. Pacific Fleet, Environmental Office, San Diego Detachment. Using Marine Mammal Stranding communication trees and contact procedures established for the Southern California Range Complex, the Navy shall report these events to the Stranding Coordinator of NMFS' Southwest Regional Office. These voice or email reports shall contain the date and time of the sighting, location (or if precise latitude and longitude is not currently available, then the approximate location in reference to an established SSTC beach feature), species description (if known), and indication of the animal's status.

(2) Mitigation and Monitoring Measures for VSW Underwater Detonations Using Time-Delay (TDFD Only)

- A. Underwater detonations using timed delay devices will only be conducted during daylight.
- B. Time-delays longer than 10 minutes shall not be used. The initiation of the device shall not start until the mitigation area below is clear for a full 30 minutes prior to initiation of the timer.
- C. A mitigation zone shall be established around each underwater detonation location as indicated in Table below based on charge weight and length of time delay used.

Table. Updated Buffer Zone Radius (yd) for TDFDs Based on Size of Charge and Length of Time-Delay, with Additional Buffer Added to Account for Faster Swim Speeds

		Time-delay					
		5 min	6 min	7min	8 min	9 min	10 min
Charge Size (lb NEW)	5 lb	1,000 yd	1,000 yd	1,000 yd	1,000 yd	1,400 yd	1,400 yd
	10 lb	1,000 yd	1,000 yd	1,000 yd	1,400 yd	1,400 yd	1,400 yd
	15-29 lb	1,000 yd	1,400 yd	1,400 yd	1,400 yd	1,500 yd	1,500 yd

- D. VSW ranges 1,000 yds:
 - (A) For each VSW underwater detonation event with a mitigation zone of 1,000 yds, a safety boat with a minimum of one observer shall be launched 30 or more minutes prior to detonation and moves through the area around the detonation site at the seaward edge of the mitigation zone. The task of the boat is to exclude humans from coming into the area and to augment a shore observer's visual search of the mitigation zone for marine mammals. The safety-boat observer shall be in constant radio communication with the exercise coordinator and shore observer discussed below. To the best extent practical, boats will try to maintain a 10 knot search speed.
 - (B) A shore-based observer shall also be deployed for VSW detonations in addition to boat based observers. At least 10 minutes prior to the planned initiation of the detonation event-sequence, the shore observer, on an elevated on-shore position, begins a continuous visual search with binoculars of the mitigation zone. The safety-boat observer shall inform the shore observer if any marine mammal has been seen in the zone and, together, both search the surface within and beyond the mitigation zone for marine mammals. The shore observer shall indicate that the area is clear of marine mammals after 10 or more minutes of continuous observation with no marine mammals having been seen in the mitigation zone or moving toward it.

- E. VSW ranges larger than 1,400 yards:
 - (A) A minimum of 2 boats shall be used to survey for marine mammals at mitigation ranges larger than 1,400 yards.
 - (B) When conducting the surveys within a mitigation zone >1,400 yds, boats shall position themselves near the mid-point of the mitigation zone radius (but always outside the detonation plume radius/human safety zone) and travel in a semi-circular pattern around the detonation location surveying both the inner (toward detonation site) and outer (away from detonation site) areas. When using 2 boats, each boat shall be positioned on opposite sides of the detonation location, separated by 180 degrees. If using more than 2 boats, each boat shall be positioned equidistant from one another (120 degrees separation for 3 boats, 90 degrees separation for 4 boats, etc.). If available, aerial visual survey support from Navy helicopters can be utilized, so long as it shall not jeopardize safety of flight. Helicopters will travel in a circular pattern around the detonation location.
- F. A mitigation zone shall be surveyed from 30 minutes prior to the detonation and for 30 minutes after the detonation.
- G. Other personnel besides boat observers shall also maintain situational awareness on the presence of marine mammals within the mitigation zone to the best extent practical given dive safety considerations. Divers placing the charges on mines shall observe the immediate underwater area around a detonation site for marine mammals and report sightings to surface observers.
- H. If a marine mammal is sighted within an established mitigation zone or moving towards it, underwater detonation events shall be suspended until the marine mammal has voluntarily left the area and the area is clear of marine mammals for at least 30 minutes.
- I. Immediately following the detonation, visual monitoring for affected marine mammals within the mitigation zone shall continue for 30 minutes.
- J. Any marine mammal observed after an underwater detonation either injured or exhibiting signs of distress shall be reported via Navy operational chain of command to Navy environmental representatives from U.S. Pacific Fleet, Environmental Office, San Diego Detachment. Using Marine Mammal Stranding

communication trees and contact procedures established for the Southern California Range Complex, the Navy shall report these events to the Stranding Coordinator of NMFS' Southwest Regional Office. These voice or email reports shall contain the date and time of the sighting, location (or if precise latitude and longitude is not currently available, then the approximate location in reference to an established SSTC beach feature), species description (if known), and indication of the animal's status.

- (ii) Mitigation and Monitoring Measures for Underwater Detonations in Shallow Water (>24 Feet)
 - (1) Mitigation and Monitoring Measures for Underwater Detonations Using Positive Control (Except SWAG and Timed Detonations)
 - A. Underwater detonations using positive control devices shall only be conducted during daylight.
 - B. A mitigation zone of 700 yards shall be established around each underwater detonation point.
 - C. A minimum of two boats, including but not limited to small zodiacs and 7-m Rigid Hulled Inflatable Boats (RHIB) shall be deployed. One boat shall act as an observer platform, while the other boat is typically the diver support boat.
 - D. Two observers with binoculars on one small craft/boat shall survey the detonation area and the mitigation zone for marine mammals from at least 30 minutes prior to commencement of the scheduled explosive event and until at least 30 minutes after detonation.
 - E. In addition to the dedicated observers, all divers and boat operators engaged in detonation events can potentially monitor the area immediately surrounding the point of detonation for marine mammals.
 - F. If a marine mammal is sighted within the 700 yard mitigation zone or moving towards it, underwater detonation events shall be suspended until the marine mammal has voluntarily left the area and the area is clear of marine mammals for at least 30 minutes.
 - G. Immediately following the detonation, visual monitoring for marine mammals within the mitigation zone shall continue for 30 minutes. Any marine mammal observed after an underwater detonation either injured or exhibiting signs of distress shall be reported to via Navy operational chain of command to Navy

environmental representatives from U.S. Pacific Fleet, Environmental Office, San Diego Detachment. Using Marine Mammal Stranding communication trees and contact procedures established for the Southern California Range Complex, the Navy will report these events to the Stranding Coordinator of NMFS' Southwest Regional Office. These voice or email reports shall contain the date and time of the sighting, location (or if precise latitude and longitude is not currently available, then the approximate location in reference to an established SSTC beach feature), species description (if known), and indication of the animals status.

- (2) Mitigation and Monitoring Measures for Underwater Detonations Using Time-Delay (TDFD Detonations Only)
 - A. Underwater detonations using timed delay devices shall only be conducted during daylight.
 - B. Time-delays longer than 10 minutes shall not be used. The initiation of the device shall not start until the mitigation area below is clear for a full 30 minutes prior to initiation of the timer.
 - C. A mitigation zone shall be established around each underwater detonation location as indicated in Table above based on charge weight and length of time-delay used. When conducting the surveys within a mitigation zone (either 1,000 or 1,400 yds), boats shall position themselves near the mid-point of the mitigation zone radius (but always outside the detonation plume radius/human safety zone) and travel in a circular pattern around the detonation location surveying both the inner (toward detonation site) and outer (away from detonation site) areas.
 - D. Shallow water TDFD detonations range 1,000 yds:
 - (A) A minimum of 2 boats shall be used to survey for marine mammals at mitigation ranges of 1,000 yds.
 - (B) When using 2 boats, each boat shall be positioned on opposite sides of the detonation location, separated by 180 degrees.
 - (C) Two observers in each of the boats shall conduct continuous visual survey of the mitigation zone for the entire duration of a training event.
 - (D) To the best extent practical, boats shall try to maintain a 10 knot search speed. This search speed was added to ensure

adequate coverage of the buffer zone during observation periods. While weather conditions and sea states may require slower speeds in some instances, 10 knots is a prudent, safe, and executable speed that will allow for adequate surveillance. For a 1,000 yd radius buffer zone a boat travelling at 10 knots and 500 yds away from the detonation point would circle the detonation point 3.22 times during a 30 minute survey period. By using 2 boats, 6.44 circles around the detonation point would be completed in a 30 minute span.

- E. Shallow water TDFD detonations greater than 1,400 yds:
 - (A) A minimum of 3 boats or 2 boats and 1 helicopter shall be used to survey for marine mammals at mitigation ranges of 1,400 yds.
 - (B) When using 3 (or more) boats, each boat shall be positioned equidistant from one another (120 degrees separation for 3 boats, 90 degrees separation for 4 boats, etc.).
 - (C) For a 1,400 yd radius mitigation zone, a 10 knot speed results in 2.3 circles for each of the three boats, or nearly 7 circles around the detonation point over a 30 minute span.
 - (D) If available, aerial visual survey support from Navy helicopters shall be utilized, so long as it will not jeopardize safety of flight.
 - (E) Helicopters, if available, shall be used in lieu of one of the boat requirements. A helicopter search pattern is dictated by standard Navy protocols and accounts for multiple variables, such as the size and shape of the search area, size of the object being searched for, and local environmental conditions, among others.
- F. A mitigation zone shall be surveyed from 30 minutes prior to the detonation and for 30 minutes after the detonation.
- G. Other personnel besides boat observers can also maintain situational awareness on the presence of marine mammals within the mitigation zone to the best extent practical given dive safety considerations. Divers placing the charges on mines shall observe the immediate underwater area around a detonation site for marine mammals and report sightings to surface observers.

- H. If a marine mammal is sighted within an established mitigation zone or moving towards it, underwater detonation events shall be suspended until the marine mammal has voluntarily left the area and the area is clear of marine mammals for at least 30 minutes.
- I. Immediately following the detonation, visual monitoring for affected marine mammals within the mitigation zone shall continue for 30 minutes.
- J. Any marine mammal observed after an underwater detonation either injured or exhibiting signs of distress shall be reported via Navy operational chain of command to Navy environmental representatives from U.S. Pacific Fleet, Environmental Office, San Diego Detachment or Pearl Harbor. Using Marine Mammal Stranding protocols and communication trees established for the Southern California and Hawaii Range Complexes, the Navy shall report these events to the Stranding Coordinator of NMFS' Southwest or Pacific Islands Regional Office. These voice or email reports shall contain the date and time of the sighting, location (or if precise latitude and longitude is not currently available, then the approximate location in reference to an established SSTC beach feature), species description (if known), and indication of the animal's status.

(3) Mitigation and Monitoring Measures for Underwater SWAG Detonations (SWAG Only)

- A. Underwater detonations using SWAG shall only be conducted during daylight.
- B. A mitigation zone of 60 yards shall be established around each SWAG detonation site.
- C. A minimum of two boats, including but not limited to small zodiacs and 7-m Rigid Hulled Inflatable Boats (RHIB) shall be deployed. One boat shall act as an observer platform, while the other boat is typically the diver support boat.
- D. Two observers with binoculars on one small craft\boat shall survey the detonation area and the mitigation zone for marine mammals from at least 10 minutes prior to commencement of the scheduled explosive event and until at least 10 minutes after detonation.
- E. In addition to the dedicated observers, all divers and boat operators engaged in detonation events shall monitor the area immediately

surrounding the point of detonation for marine mammals when possible.

- F. Divers and personnel in support boats shall monitor for marine mammals out to the 60 yard mitigation zone for 10 minutes prior to any detonation.
- G. After the detonation, visual monitoring for marine mammals shall continue for 10 minutes. Any marine mammal observed after an underwater detonation either injured or exhibiting signs of distress shall be reported via Navy operational chain of command to Navy environmental representatives from U.S. Pacific Fleet, Environmental Office, San Diego Detachment. Using Marine Mammal Stranding communication trees and contact procedures established for the Southern California Range Complex, the Navy shall report these events to the Stranding Coordinator of NMFS' Southwest Regional Office. These voice or email reports shall contain the date and time of the sighting, location (or if precise latitude and longitude is not currently available, then the approximate location in reference to an established SSTC beach feature), species description (if known), and indication of the animal's status.

(b) Mitigation for ELCAS Training at SSTC

(1) Safety Zone: A safety zone shall be established at 150 feet (50 yards) from ELCAS pile driving or removal events. This safety zone is based on the predicted range to Level A harassment ($180 \text{ dB}_{\text{rms}}$) for cetaceans during pile driving, and is being applied conservatively to both cetaceans and pinnipeds during pile driving and removal.

(2) If marine mammals are found within the 150-foot (50-yard) safety zone, pile driving or removal events shall be halted until the marine mammals have voluntarily left the mitigation zone.

(3) Monitoring for marine mammals shall be conducted within the zone of influence and take place at 30 minutes before, during, and 30 minutes after pile driving and removal activities, including ramp-up periods. A minimum of one trained observer shall be placed on shore, on the ELCAS, or in a boat at the best vantage point(s) practicable to monitor for marine mammals.

(4) Monitoring observer(s) shall implement shut-down/delay procedures by calling for shut-down to the hammer operator when marine mammals are sighted within the safety zone. After a shut-down/delay, pile driving or removal shall not be resumed until the marine mammal within the safety zone is confirmed to have left the area or 30 minutes have passed without seeing the animal.

(5) Soft Start - ELCAS pile driving shall implement a soft start as part of normal construction procedures. The pile driver increases impact strength as resistance goes up. At first, the pile driver piston drops a few inches. As resistance goes up, the pile driver piston will drop from a higher distance thus providing more impact due to gravity. This will allow marine mammals in the project area to vacate or begin vacating the area minimizing potential harassment.

(6) Emergency Shut-down Related to Marine Mammal Injury and Mortality - If there is clear evidence that 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 Naval activities shall be immediately suspended and the situation immediately reported by personnel involved in the activity to the officer in charge of the training, who will follow Navy procedures for reporting the incident to NMFS through the Navy's chain-of-command.

5. Monitoring Measures

In order to ensure the least practicable impact on the species and levels of takes listed in 3(b) and (c), the holder of this Authorization is required to comply with the following monitoring measures:

(i) Marine Mammal Observer at a Sub-set of SSTC Underwater Detonation:

(1) Civilian scientists acting as protected species observers (PSOs) shall be used to observe a sub-set of the SSTC underwater detonation events. The PSOs shall validate the suite of SSTC specific mitigation measures applicable to a sub-set of SSTC training events and to observe marine mammal behavior in the vicinity of SSTC training events.

(2) PSOs shall be field-experienced observers that are either Navy biologists or contracted marine biologists. These civilian PSOs shall be placed either alongside existing Navy SSTC operators during a sub-set of training events, or on a separate small boat viewing platform.

(3) PSOs shall collect the same data currently being collected for more elaborate offshore ship-based observations including but not limited to:

- A. location of sighting;
- B. species;
- C. number of individuals;
- D. number of calves present;

- E. duration of sighting;
- F. behavior of marine animals sighted;
- G. direction of travel;
- H. environmental information associated with sighting event including Beaufort sea state, wave height, swell direction, wind direction, wind speed, glare, percentage of glare, percentage of cloud cover; and
- I. when in relation to Navy training did the sighting occur [before, during or after the detonation(s)].

(4) The PSOs will not be part of the Navy's formal reporting chain of command during their data collection efforts. Exceptions can be made if a marine mammal is observed by the PSO within the SSTC specific mitigation zones the Navy has formally proposed to the NMFS. The PSO shall inform any Navy operator of the sighting so that appropriate action may be taken by the Navy trainees.

(ii) ELCAS Visual Monitoring: The Navy shall place monitoring personnel to note any observations during the entire pile driving sequence, including "soft start" period, for later analysis. Information regarding species observed during pile driving and removal events (including soft start period) shall include:

- (1) location of sighting;
- (2) species;
- (3) number of individuals;
- (4) number of calves present;
- (5) duration of sighting;
- (6) behavior of marine animals sighted;
- (7) direction of travel;
- (8) environmental information associated with sighting event including Beaufort sea state, wave height, swell direction, wind direction, wind speed, glare, percentage of glare, percentage of cloud cover; and

- (9) when in relation to Navy training did the sighting occur (before, during or after pile driving or removal).
- (iii) ELCAS Acoustic Monitoring: The Navy shall conduct underwater acoustic propagation monitoring during the first available ELCAS deployment at the SSTC. These acoustic monitoring results shall be used to either confirm or refine the Navy's zones of safety and influence for pile driving and removal listed in 4(b)(1).

6. Reporting Measures

- (i) The Navy shall report results obtained annually from the Southern California Range Complex Monitoring Plan for areas pertinent to the SSTC.
- (ii) The Navy shall submit a final report to the Office of Protected Resources, NMFS, no later than 90 days after the expiration of the IHA. The report shall, at a minimum, include the following marine mammal sighting information:
 - (1) location of sighting;
 - (2) species;
 - (3) number of individuals;
 - (4) number of calves present;
 - (5) duration of sighting;
 - (6) behavior of marine animals sighted;
 - (7) direction of travel;
 - (8) environmental information associated with sighting event including Beaufort sea state, wave height, swell direction, wind direction, wind speed, glare, percentage of glare, percentage of cloud cover; and
 - (9) when in relation to Navy training did the sighting occur [before, during or after the detonation(s)].
- (iii) In addition, the Navy shall provide the information for all of its underwater detonation events and ELCAS events under the IHA. The information shall include: (1) total number of each type of underwater detonation events conducted at the SSTC, and (2) total number of piles driven and extracted during the ELCAS exercise.
- (iv) The Navy shall submit to NMFS a draft report as described above and shall respond to NMFS comments within 3 months of receipt. The report will be

considered final after the Navy has addressed NMFS' comments, or three months after the submittal of the draft if NMFS does not comment by then.

7. This Authorization may be modified, suspended or withdrawn if the holder fails to abide by the conditions prescribed herein, or if the authorized taking is having more than a negligible impact on the species or stock of affected marine mammals.

Wandall

Helen M Golde,
Acting Director, Office of Protected Resources,
National Marine Fisheries Service.

17 July 2012
Date