



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

AUG 21 2017

Commander, 86th Fighter Weapons Squadron  
1001 Nomad Way, Bldg 1310  
Suite 210  
Eglin Air Force Base, Florida 32542

Dear Commander:

Enclosed is Letter of Authorization (LOA) issued to the Commander, U.S. Air Force, 86<sup>th</sup> Fighter Weapon Squadron (86 FWS), under the authority of Section 101(a)(5)(A) of the Marine Mammal Protection Act (16 U.S.C. 1361 *et seq.*) and the regulations governing the take of marine mammals incidental to the 86 FWS training activities on the Barking Sands Underwater Range Expansion area of the Pacific Missile Range Facility, Kauai, Hawaii (50 C.F.R. Part 218, Subpart F). This authorization is effective for five years and covers the taking of marine mammals incidental to the 86 FWS's training activities, as identified in the final rule, provided the mitigation, monitoring, and reporting requirements are undertaken as required by the regulations and the LOA.

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

Sincerely,

Donna S. Wieting  
Director, Office of Protected Resources

Enclosures



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DEPARTMENT OF COMMERCE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

NATIONAL MARINE FISHERIES SERVICE

Letter of Authorization

The U.S. Air Force, 86 Fighter Weapon Squadron (FWS), Commander, 86th Fighter Weapons Squadron, 1001 Nomad Way, Bldg 1310, Suite 210 Eglin Air Force Base, Florida 32542, and persons operating under his authority (*i.e.*, USAF 86 FWS), are authorized to take marine mammals incidental to 86 FWS Long Range Strike (LRS) Weapon System Evaluation Training (WSEP) training activities conducted in the Barking Sands Underwater Range Expansion (BSURE) area of the Pacific Missile Range Facility (PMRF) off Kauai, Hawaii, in accordance with 50 CFR Part 218, Subpart F — Taking of Marine Mammals Incidental to the U.S. Air Force 86 Fighter Weapons Squadron Conducting Long Range Strike Weapons System Evaluation Program at the Pacific Missile Range Facility at Kauai, Hawaii (“the regulations”); subject to the provisions of the Marine Mammal Protection Act (16 U.S.C. 1361 *et seq.*; MMPA) and the following conditions:

1. This Authorization is valid for the period August 21, 2017, through August 20, 2022.
2. This Authorization is valid only for the unintentional taking of the species of marine mammals and manner of take identified in Section 5 of this Authorization incidental to the training activities specified in Section 4(a) of this Authorization and occurring within the BSURE of the PMRF.
3. This Authorization is valid only if the Holder of the Authorization or any person(s) operating under his authority implements the mitigation, monitoring, and reporting required pursuant to 50 CFR §§ 218.54 & 218.55 and implements the Terms and Conditions of this Authorization.
4. This Authorization is valid for LRS WSEP air-to-surface training missions on the BSURE area of the PMRF. Missions involving explosives are limited to four training days per year for four hours per day. The maximum amount of explosives per mission, by type, is provided in Table 1.
5. The incidental take of marine mammals, by Level A and B harassment, by species, allowed for under this Authorization is provided in § 218.50 and Table 2.
6. Mitigation - The Holder of this Authorization, and any individuals operating under his authority, must implement the following mitigation measures when conducting activities identified in Section 4 of this Authorization:
  - (a) Missions involving explosives shall only occur during day-light hours, no more than four hours per day, no more than one day during 2017, no more than four days per

year for 2018 through 2022, on weekdays, and during summer (June through August) or fall (September through November) months.

- (b) Conduct aerial and range camera monitoring before, during, and after all missions per section 7(a-b) of this Letter of Authorization (LOA), § 218.55, and the 86 FWS Protected Species Mitigation and Monitoring Plan.
  - (c) Delay LRS WSEP training if daytime weather and/or sea conditions preclude aircraft from conducting aerial surveys.
  - (d) *Exclusion Zone*: Delay LRS WSEP training if a marine mammal is observed in the designated exclusion zone (2.3 mile (mi) (3,704 m) from the weapon impact site, resuming only after the animal is observed exiting the harassment zones or, based on speed and direction, it is likely the marine mammal has cleared the zone and 30 minutes have passed since last sighting.
  - (e) *Harassment Zone*: Delay live munition detonations if a marine mammal is observed in a designated harassment zone (Table 3) if the manner of taking is not authorized (e.g., animal is observed in Level A harassment zone for that species and no Level A take is authorized), resuming only after the animal is observed exiting the harassment zones or, based on speed and direction, it is likely the marine mammal has cleared the zone and 30 minutes have passed since last sighting.
  - (f) Shift the target site as far as possible from an observed marine mammal's location (but within the two-mile wide weapon impact area) if a marine mammal is observed during the pre-mission survey or during missions and continuing the mission will not result in an unauthorized take of a marine mammal.
  - (g) Delay live munition detonations if an unauthorized take of a marine mammal occurs, and report the incident to National Marine Fisheries Service (NMFS) Office of Protected Resources (OPR), NMFS Pacific Islands Regional Office (PIRO), and the Pacific Islands Region Marine Mammal Stranding Network representative immediately followed by a report to NMFS within 24 hours.
  - (h) Conduct mitigation and monitoring per the 86 FWS's Protected Species Mitigation and Monitoring Plan, dated August 2017.
7. Monitoring and Reporting – When conducting operations identified in Section 4, the Holder of the Authorization and any person(s) operating under his authority must implement the following monitoring and reporting measures and the 86 FWS' Protected Species Mitigation and Monitoring Plan, dated August 2017. All reports should be submitted to the Director, Office of Protected Resources, NMFS, 1315 East-West Highway, Silver Spring MD 20910.



(a) Aerial Surveys

- i. The marine mammal monitoring survey area shall extend no less than 8 miles (13 kilometers) from the designated impact site.
- ii. Surveys shall utilize military aircraft equipped with advanced targeting sensor pods (*e.g.*, Sniper or Litening pods) at altitudes and speeds ideal for detecting marine mammals using such equipment; aircraft shall fly transect lines covering the entire 8 mi monitoring area.
- iii. A pre-mission marine mammal survey shall commence no later than 30 minutes prior to beginning training activities.
- iv. Aircraft personnel shall also observe for marine mammals during training (*e.g.*, on approach to weapon launch location).
- v. Aircraft personnel shall conduct a post-mission survey for marine mammals immediately following the end of training each mission day. A helicopter may be used in lieu of mission aircraft only if sensor pod is not available.
- vi. Aircraft pilots shall capture still images and/or video of any marine mammals observed with sensor pods during aerial surveys. These images/video shall be included in in the annual and final marine mammal monitoring reports.
- vii. Helicopter Surveys: If military aircraft equipped with a sensor pod cannot be used for marine mammal surveys, the 86 FWS may substitute a helicopter as the survey platform. The helicopter shall fly at an approximately 200 ft altitude and shall cover the 8 mi monitoring area prior to mission onset. Delay mitigation shall be triggered if a marine mammal is observed within the exclusion zone (2.3 mi) or harassment zone for which take is not authorized. If adverse weather conditions preclude the ability for aircraft to safely operate, missions would either be delayed until the weather clears or cancelled for the day.

(b) Range Cameras: 86 FWS personnel shall use the Makaha Ridge range cameras to monitor for marine mammals within the weapon impact area at least 30 minutes prior to, during, and immediately after training activities. Should a marine mammal be sighted within the weapon impact area with the camera, a survey aircraft shall be diverted to the area to track the marine mammal. Training shall be delayed until the animal has cleared the exclusion zone (2.3 mi) and the harassment zone for which take is not authorized (*e.g.*, marine mammal must clear Level A harassment zone if no Level A take is authorized per this LOA) or, based on speed and direction, it is likely the animal has cleared the zone and 30 minutes have passed since last sighting.

(c) Acoustic Monitoring

- i. The 86 FWS shall comply with all acoustic monitoring data collection and analysis protocol as described in the Acoustic Monitoring section of the 86 FWS's Mitigation and Monitoring Plan.
- ii. Acoustic data from the PRMF hydrophones shall be collected and stored by the 86 FWS. Data shall be analyzed to better understand the effects of LRS WSEP missions. The analysis shall accompany a subsequent LOA request or, if no request is made, no later than 90 after expiration of the LOA.

- (d) The Holder of the Authorization must notify NMFS immediately (or as soon as operational security considerations allow) if the specified activity identified in § 218.50 is thought to have resulted in the mortality or serious injury of any marine mammal, or in any take of marine mammals not identified in § 218.52 and Table 2 of this LOA.
- (e) The Holder of the LOA must conduct all monitoring and reporting required under the LOA, including abiding by the 86 FWS Protected Species Mitigation and Monitoring Plan, dated August 2017.
- (f) *Mission Schedule Notification*-The 86 FWS shall notify the Pacific Islands Regional Office (PIRO; [greg.balogh@noaa.gov](mailto:greg.balogh@noaa.gov)), regarding the mission training schedule at least 72 hours prior to mission onset and one business day after completion of missions to declare that missions are complete.
- (g) *General notification of injured or dead marine mammals:*

- i. In the unanticipated event that the specified activity clearly causes the take of a marine mammal in a manner prohibited by the LOA, such as serious injury or mortality, the 86 FWS shall immediately cease the specified activities and immediately report the incident to Pacific Islands Regional Marine Mammal Stranding Network (888-256-9840), NMFS followed by a report submitted to NMFS Office of Protected Resources (OPR) and PIRO within 24 hours. The report must include the following information:
  - 1. Time and date of the incident;
  - 2. Description of the incident;
  - 3. Environmental conditions (*e.g.*, wind speed and direction, Beaufort sea state, cloud cover, and visibility);
  - 4. of all marine mammal observations in the 24 hours preceding the incident;
  - 5. Species identification or description of the animal(s) involved;
  - 6. Fate of the animal(s); and
  - 7. Photographs or video footage of the animal(s).

Activities shall not resume until NMFS is able to review the circumstances of the prohibited take. NMFS will work with 86 FWS to determine what measures are necessary to minimize the likelihood of further prohibited take and ensure MMPA compliance. The 86 FWS may not resume their activities until notified by NMFS.

- (h) In the event that 86 FWS discovers an injured or dead marine mammal, and the lead observer determines that the cause of the injury or death is unknown and the death is relatively recent (*e.g.*, in less than a moderate state of decomposition), 86 FWS shall immediately report the incident to the Pacific Islands Regional Stranding Coordinator, followed by a report to NMFS OPR and the PIRO within 24 hours of the discovery. The report must include the same information identified in (g)(i) of this section. Activities may continue while NMFS reviews the circumstances of the incident. NMFS will work



with 86 FWS to determine whether additional mitigation measures or modifications to the activities are appropriate.

- (i) In the event that 86 FWS discovers an injured or dead marine mammal, and the lead observer determines that the injury or death is not associated with or related to the activities authorized in the LOA (*e.g.*, previously wounded animal, carcass with moderate to advanced decomposition, scavenger damage), 86 FWS shall report the incident to the NMFS OPR, PIRO, and the Pacific Islands Marine Mammal Stranding Network, NMFS, within 24 hours of the discovery. The 86 FWS shall provide photographs or video footage or other documentation of the stranded animal sighting to NMFS.
- (j) Annual LRS WSEP exercise and marine mammal monitoring report- The 86 FWS shall submit an annual report of the exercises conducted and associated marine mammal monitoring describing the implementation and results from the yearly completed mission. The report shall be submitted 90 days after the missions are completed for the calendar year. The report shall include a description of the training exercise, marine mammal monitoring efforts, and sighting information. For each sighting, the report shall include:
  - i. Date/Time/Location of sighting (relative to weapon impact site, mission timing, exclusion area, and harassment zones).
  - ii. Species (if possible) and if any calves are present.
  - iii. Number of individuals.
  - iv. Observation platform (*e.g.*, chase aircraft with pods, munition deployment aircraft, range camera).
  - v. Length of time observers maintained visual contact with marine mammal(s).
  - vi. Marine mammal speed and direction relative to weapon impact site.
  - vii. Sea state/weather conditions.
  - viii. *Mitigation implementation*: Whether mission was delayed and how long the delay occurred.
  - ix. *Observed behavior*: Observers shall report, in plain language and without trying to categorize in any way, the observed behavior of the animals (such as animal swimming in a certain direction, floating on surface and not swimming, etc.).
  - x. Photos and/or video files of marine mammal sightings from sensor pods and/or range cameras.
  - xi. An evaluation of the effectiveness of use of sensor pods and range cameras to detect marine mammals and mitigation measures designed to minimize exposure to explosive pressure and acoustic energy.
- 8. Prohibitions - Notwithstanding takings contemplated in Section 5 of this Authorization and authorized by an LOA issued under §§ 216.106 and 218.56, no person in connection with the activities described in Section 4 of this Authorization may take any marine mammal specified in Section 5 of this Authorization other than by incidental take from activities specified in Section 4; take a marine mammal specified in Section 5 if such taking results in more than a negligible impact on the species or stocks of such marine mammal; or violate, or fail to comply with, the terms, conditions, and requirements of the regulations or a LOA issued under §§ 216.106 and 218.56.

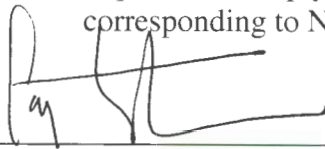
9. (a) A Letter of Authorization issued under §§ 216.106 and 218.56 of this chapter for the activity identified in § 218.50 shall be renewed or modified upon request of the applicant, provided that:

- (1) The proposed specified activity and mitigation, monitoring, and reporting measures, as well as the anticipated impacts, are the same as those described and analyzed for the regulations (excluding changes made pursuant to the adaptive management provision of §218.57), and;
- (2) NMFS determines that the mitigation, monitoring, and reporting measures required by the previous LOA under the regulations were implemented.

(b) For LOA modification or renewal requests by the applicant that include changes to the activity or the mitigation, monitoring, or reporting (excluding changes made pursuant to the adaptive management provision of this chapter) that do not change the findings made for the regulations or result in no more than a minor change in the total estimated number of takes (or distribution by species or years), NMFS may publish a notice of proposed LOA in the *Federal Register*, including the associated analysis illustrating the change, and solicit public comment before issuing the LOA.

11. A copy of this Authorization and the attached Subpart F of the regulations, or a document containing the equivalent requirements specified in this Authorization or 50 CFR Subpart F, must be in the possession of the on-site Commanding Officer or Project Engineer in order to take marine mammals under the authority of this Letter of Authorization while conducting the specified activities.

12. The Holder of this Authorization and any person operating under his authority is required to comply with the Terms and Conditions of the Incidental Take Statement corresponding to NMFS' Biological Opinion as they pertain to listed marine mammals.



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Donna S. Wieting,  
Director, Office of Protected Resources,  
National Marine Fisheries Service.

8/21/17  
\_\_\_\_\_  
Date

**Table 1. Munition Type and Amount, by Mission Year.**

Type of Munition	NEW (lb)	Detonation Scenario	Number of Live Weapon Releases				
			2017	2018	2019	2020	2021
JASSM/JASSM-ER	300	Surface	0	2	4	4	4
SDB-I	37	Surface	8	14	14	14	14
SDB-II	23	Surface	0	0	10	16	20
HARM	45	Surface	0	6	6	10	10
JDAM/LJDAM	192	Subsurface	0	16	16	16	16
ANNUAL TOTAL			8	38	50	60	64

**Table 2. Annual Authorized Take Numbers by Species.**

Species	Mortality/Tissue Damage	Level A Harassment (PTS only*)	Level B Harassment (TTS)	Level B Harassment (Behavioral)
Humpback whale	0	4	44	30
Sei whale	0	0	0	3
Minke whale	0	1	9	15
Pygmy sperm whale	0	7	66	29
Dwarf sperm whale	0	18	162	70
Pygmy killer whale	0	0	1	25*
Short-finned pilot whale	0	0	5	36*
Melon-headed whale	0	0	1	152*
Bottlenose dolphin	0	0	2	26
Pantropical spotted dolphin	0	0	3	40*
Striped dolphin	0	0	2	51*
Spinner dolphin	0	0	1	29*
Rough-toothed dolphin	0	0	3	22*
Fraser's dolphin	0	0	8	273*
Risso's dolphin	0	0	2	25*
Longman's beaked whale	0	0	1	59*
<b>Total</b>	<b>0</b>	<b>30</b>	<b>310</b>	<b>885</b>

\*Denotes average group size.



**Table 3. Distances (meters) to NMFS Harassment Thresholds, by Species.**

Species	Mortality <sup>1</sup>	Level A Harassment				Level B Harassment		
		Slight Lung Injury	GI Tract Injury	PTS		TTS	Behavioral	
			237 dB SPL	SEL	SPL	SEL	SPL	SEL
<b>Low-frequency Cetaceans</b>								
Humpback Whale	99	200	204	5,415	1,241	55,464	2,266	59,039
Blue Whale	74	149						
Fin Whale	76	157						
Sei Whale	101	204						
Bryde's Whale	99	200						
Minke Whale	138	268						
<b>Mid-frequency Cetaceans</b>								
Sperm Whale	91	177	204	1,575	413	8,019	763	11,948
Killer Whale	149	287						
False Killer Whale (MHI Insular stock)	177	340						
False Killer Whale (all other stocks)	177	340						
Pygmy Killer Whale	324	604						
Short-finned Pilot Whale	217	413						
Melon-headed Whale	273	502						
Bottlenose Dolphin	273	509						
Pantropical Spotted Dolphin	324	604						
Striped Dolphin	324	604						
Spinner Dolphin	324	604						
Rough-toothed Dolphin	273	509						
Fraser's Dolphin	257	480						
Risso's Dolphin	207	384						

Cuvier's Beaked Whale	131	257						
Blainville's Beaked Whale	195	368						
Longman's Beaked Whale	133	261						
<b>High-frequency Cetaceans</b>								
Pygmy Sperm Whale	248	457	204	20,058	4,879	71,452	7,204	74,804
Dwarf Sperm Whale	273	509						

