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National Marine Fisheries Service
Office of Protected Resources

Prepared by:

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In accordance with the Letters of Authorization
Under the MMPA dated 26 April 2017 and ITS authorization under
the ESA dated 19 April 2017

Annual Unclassified Exercise Report

For Exercises

Conducted in the Gulf of Alaska TMAA

(Northern Edge 2017
1 to 12 May 2017)

For the U.S. Navy's
Gulf of Alaska Temporary Maritime Activities Area

FINAL

30 August 2017

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GULF OF ALASKA TEMPORARY MARITIME ACTIVITIES AREA ANNUAL EXERCISE REPORT

INTRODUCTION

The U.S. Navy prepared this Annual Exercise Report covering the period of Northern Edge 2017 in compliance with the National Marine Fisheries Service (NMFS) Final Rule and Letter of Authorization under the Marine Mammal Protection Act (MMPA) for the Navy's training activities conducted in the Gulf of Alaska (GOA) Temporary Maritime Activities Area (TMAA).

The Letter of Authorization "Requirements for monitoring and reporting"¹ subsection indicates the following must be present within this report:

- (1) Mid-Frequency Active Sonar (MFAS)/High-frequency Active Sonar (HFAS) Major Training Exercises (MTE)
 - (i) Exercise Information (for each MTE)
 - (ii) Individual marine mammal sighting information for each sighting in each exercise when mitigation occurred
 - (iii) An evaluation (based on data gathered during all of the MTEs) of the effectiveness of mitigation measures designed to minimize the received level to which marine mammals may be exposed. This evaluation shall identify the specific observations that support any conclusions the Navy reaches about the effectiveness of the mitigation
- (2) Summary of sources used (some **classified**)
- (3) Geographic information presentation (**classified**)

The information in this Annual Report represents the best practical data collection for this period. To provide accounting for the entire 5-year period of the authorization, Navy will also submit a 5-year close-out exercise report with final totals of authorized usage as part of the 2021 annual exercise report.

¹ 1GOA TMAA: 7(g) of the Letter of Authorization, and 50 CFR §218.155(g) (1) through (g) (3)

(1) GOA TMAA – MFAS/HFAS Major Training Exercises

(i) Exercise information (for each MTE)

One exercise, Northern Edge 2017, occurred within the GOA TMAA during this reporting period (Table 1-i.i).

Table 1-i-1. Exercise information for the GOA TMAA.

(A) Exercise	(B) Date	(C) Location	(D) # and types of active sources used						(E) # and types of passive sources used					(F) # and types of vessels and aircraft participating						(G) Total hours of observation by watchstanders (hrs)	(H) Total hours of all active sonar	(I) Total hours each active source bin						(J) Wave height (high, low, and average) (ft)
			SQS-53	BQQ-10	AQS-22	SSQ-62 Sonobuoys	SSQ-125 Sonobuoys	SLQ-25 Nixie	SQS-53	BQQ-10	AQS-22	Towed Array	SSQ-53 Sonobuoys	CG	DDG	FFG	MH-60R dipping helo	SH-60 non-dipping helo	Submarines			MPRA	Non-ASW surface ships	MF1	MF3	MF4	MF5	
NE 17	1-12 May 2017	A	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	2,880	*	*	*	*	*	*	8, 3, 5

NE 17 – Northern Edge 2017

A – Gulf of Alaska TMAA

*This information is **classified** and has been forwarded to NMFS in accordance with the GOA TMAA Letter of Authorization in the **classified** version of this Annual Exercise Report.

(ii) Individual marine mammal sighting information for each sighting in each MTE when mitigation occurred

Table 1-ii-1. GOA TMAA MTE – Individual Marine Mammal Sighting Information: Northern Edge 2017 1 May - 12 May 2017.

(A) Date/time/location of sighting	(B) Species	(C) Number of individuals	(D) Initial detection sensor	(E) Indication of specific type of platform the observation was made from	(F) Length of time observers maintained visual contact with marine mammal(s) (min)	(G) Sea state (Beaufort scale)	(H) Visibility (nm)	(I) Sound source in use at time of sighting (Y/N)	(J) Indication of whether animal is <200 yd, 200-500 yd, 500-1000 yd, 1000-2000 yd, or >2000 yd from sound source	(K) Mitigation implementation – whether operation of sonar sensor was delayed, or sonar was powered down or shutdown, and how long the delay was; or whether navigation was changed or delayed	(L) If source in use is hull-mounted, true bearing of animal from ship, true direction of ship’s travel, and estimation of animal’s motion relative to ship	(M) Observed behavior – Lookouts shall report, in plain language and without trying to categorize in any way, the observed behavior of the animals and if any calves present
<p>Approximately 160 hours of pre-exercise marine species awareness training conducted for 108 Navy personnel. During the 12 days of the Northern Edge 17 exercise, there were no instances when the participating units observed marine mammals which required mitigation to be implemented.</p>												

nr=not reported; VIS=visual; ACO=acoustic; Y=yes; N=no, na=not applicable

(iii) Evaluation (based on data gathered during all exercises) of effectiveness

Northern Edge 2017 was conducted from 1-12 May 2017. Mitigation protocol requires units to report sightings of individual marine mammals observed when mitigation had to be implemented. The ships involved in this exercise reported no instances of marine mammals observed when mitigation (i.e., sonar or explosives use) needed to be implemented during the exercise. In support of Northern Edge 2017, the Navy conducted over 160 hours of Marine Species Awareness Training for 108 personnel prior to the exercise.

There were no ship strikes to marine mammals from any Navy vessel.

Table 1-iii-1. GOA TMAA MTE – Northern Edge 2017.

MTE Type	Dates	# of Exercise Days	# of Ships Involved (MFAS equipped and non-MFAS)	# of Marine Mammal Mitigations Conducted	# of Marine Mammals Sighted
Northern Edge	1-12 May 2017	12	3 (2+1)	0	0
	Total	12	3	0	0

Mitigation Effectiveness Discussion

Although no mitigations took place during Northern Edge 2017 because there were no instances of the ships observing marine mammals when mitigation would have been required for a sound source, the proper implementation of mitigation measures for sighted marine mammals are estimated to be highly effective at preventing exposures that may result in injury (e.g. Permanent Threshold Shift).

The categories of mitigation measures (Personnel Training, Lookout and Watchstander Responsibility, and Operating Procedures, and Cautionary Areas) outlined in the GOA TMAA Final Supplemental Environmental Impact Statement (EIS)/Overseas Environmental Impact Statement (OEIS) of July 2016 and approved by NMFS in the GOA TMAA LOA were trained to, and were effectively implemented by the watch standers and lookouts during Northern Edge 2017. Fleet commanders, aircrews, and ship watch teams continue to improve individual awareness and enhance reporting practices. This improvement can be attributed to the various pre-exercise conferences, mandatory Marine Species Awareness Training (including on-line training required for watch standing qualifications), awareness tools such as Protective Measures Assessment Protocol, and application of lessons learned in marine mammal sighting and reporting.

(2) GOA TMAA – Summary of Sources Used

(i) Total annual usage of each type of sound source

All sound sources were used less than authorized by NMFS. Actual amount of sonar used is classified and has been forwarded to NMFS in accordance with the GOA TMAA Letter of Authorization in the classified version of this report.

Table 2-i-1. Source usage within the GOA TMAA by source bin.

Authorized sound sources 50 CFR §218.150 (c) and NMFS GOA TMAA LOA		NMFS Authorized Annual Amount (26Apr17- 25Apr18)	Northern Edge 2017 Actual Usage	% Used of Annual Authorized Amount
(A) Sonar and other active sources used during training				
MF1	Hull-mounted sonars (e.g. AN/SQS-53)	271 hours	*	*
MF3	Hull-mounted sonar (e.g. AN/BQQ-10)	24 hours	*	*
MF4	Helicopter dipping sonar (e.g. AN/AQS-22)	26 hours	*	*
MF5	Acoustic sonobuoys (e.g. AN/SSQ-62)	126 items	*	*
MF6	Underwater sound signaling devices (e.g. MK-84 SUS)	11 items	*	*
MF11	High duty cycle hull-mounted sonars (e.g. AN/SQS-53 HDC)	39 hours	*	*
HF1	Hull-mounted submarine sonar (e.g. BQQ-10)	12 hours	*	*
HF6	Other active sources from 180 dB up to 200 dB (e.g. UUV sensors)	40 items	*	*
ASW2	Mid-frequency Multi-static Active Coherent sonobuoy (e.g. AN/SSQ-125)	40 items	*	*
ASW3	Mid-frequency towed acoustic countermeasure (e.g. AN/SLQ-25)	273 hours	*	*
ASW4	Mid-frequency expendable acoustic device countermeasure (e.g. ADC/NAE)	6 items	*	*
(B) Explosive sources used during training **				
E5	>5 lb to 10 lb NEW	56 detonations	0	0%
E9	>100 lb to 250 lb NEW	64 detonations	0	0%
E10	>250 lb to 500 lb NEW	6 detonations	0	0%
E12	>650 lb to 1,000 lb NEW	2 detonations	0	0%

*This information is **classified** and has been forwarded to NMFS in accordance with the GOA TMAA Letter of Authorization in the **classified** version of this Annual Exercise Report. Use of sonars during Northern Edge 2017 was substantially below that authorized.

** For Northern Edge 2017, **no explosive ordnance was used** within the GOA TMAA.

(3) GOA TMAA – Geographic Information Presentation

The geographic extent of U.S. Navy use of sound sources within the GOA TMAA during the reporting period is **classified** and has been forwarded to NMFS in accordance with the GOA TMAA Letter of Authorization in the **classified** version of this report.