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National Marine Fisheries Service
Office of Protected Resources

Prepared by:

Department of the Navy

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 2019
13 to 24 May 2019 (Year 3)

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

25 October 2019

Enclosure (1)

UNCLASSIFIED

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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 2019 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 Authorization¹ "Monitoring and Reporting" subsection indicates the following must be present within this report:

- (1) MFAS/HFAS Major Training Exercises
 - (i) Exercise Information (for each MTE)
 - (ii) Individual Marine Mammal Sighting Information (for each sighting in each MTE when mitigation occurred)
 - (iii) 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.

¹ GOA 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 2019, occurred within the GOA TMAA during this reporting period (Table 1-i-1).

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	MH-60S non-dipping helo	Submarines	MPRA			Non-ASW surface ships	MF1	MF3	MF4	MF5	ASW2	
NE 19	13-24 May 2019	A	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	1,728	*	*	*	*	*	*	6, 2, 3	

NE 19 – Northern Edge 2019

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 2019 13 May - 24 May 2019.

(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	(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	
13-May-19	1936Z	GOA	Whale	3	VIS	Non-ASW ship	3	4	10	na	1001-2000	Maneuvered away	na	nr
13-May-19	2319Z	GOA	Whale	6	VIS	DDG	3	2	10	N	501-1000	Maneuvered away	na	Surfacing
15-May-19	1819Z	GOA	Whale	4	VIS	DDG	4	1	10	N	1001-2000	Maneuvered away	na	Swimming alongside
16-May-19	0632Z	GOA	Whale	1	VIS	DDG	5	3	10	N	1001-2000	Maneuvered away	na	Spouting
17-May-19	1408Z	GOA	Whale	1	VIS	DDG	3	2	10	N	1001-2000	Maneuvered away	na	Swimming
17-May-19	1505Z	GOA	Whale	1	VIS	DDG	1	2	10	N	1001-2000	Maneuvered away	na	Breaching
18-May-19	1604Z	GOA	Whale	2	VIS	DDG	7	1	10	N	1001-2000	Maneuvered away	na	Spouting
21-May-19	0535Z	GOA	Whale	5	VIS	DDG	2	2	9	N	501-1000	Maneuvered away	na	Spouting
21-May-19	1415Z	GOA	Whale	4	VIS	DDG	1	2	9	N	501-1000	Maneuvered away	na	Spouting
21-May-19	1540Z	GOA	Whale	1	VIS	DDG	1	2	9	N	501-1000	Maneuvered away	na	Spouting
21-May-19	1656Z	GOA	Whale	1	VIS	DDG	2	2	9	N	200-500	Maneuvered away	na	Spouting
21-May-19	1706Z	GOA	Whale	10	VIS	DDG	2	2	9	N	>2000	Maneuvered away	na	Spouting
21-May-19	1923Z	GOA	Whale	5	VIS	DDG	2	2	10	N	>2000	Maneuvered away	na	Spouting
21-May-19	1941Z	GOA	Whale	3	VIS	DDG	3	1	10	N	501-1000	Maneuvered away	na	Surfacing

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 2019 was conducted from 13-24 May 2019. In-water explosives were not used during this exercise; however, active sonar was used intermittently during several days of ASW training, and several live-fire events took place utilizing crew-served weapons and small arms. There were no reported active sonar mitigations due to marine mammals during the exercise, and there were 14 reported instances of ships maneuvering to avoid marine mammals. In support of Northern Edge 2019, the Navy conducted over 291 hours of Marine Species Awareness Training for 298 personnel prior to the exercise.

Table 1-iii-1. GOA TMAA MTE – Northern Edge 2019.

MTE Type	Dates	# of Exercise Days	# of US Ships Involved (MFAS and non-MFAS)	# of Marine Mammal Mitigations	# of Marine Mammals
Northern Edge	13-24 May 2019	12	6	0	0
	Total	12	6	0	0

Mitigation Effectiveness Discussion

Although no mitigations took place during Northern Edge 2019, 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 four 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 2019. 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. The 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. A cumulative summary of source usage for the 5-year period of the authorization is also included in the classified 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		Authorized Amount (26Apr19- 25Apr20)	Northern Edge 2019 Actual Usage	% Used of 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	*	*
TORP2	Heavyweight torpedo (e.g. MK-48)	0 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 2019 was substantially below that authorized.

(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.