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In accordance with the Letter of Authorization
Under the MMPA and ITS authorization under
the ESA

17 May 2011

Annual Exercise Report

17 May 2011 to 31 October 2011

For The U.S. Navy
Gulf of Alaska Temporary Maritime Activities Area

15 December 2011

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TABLE OF CONTENTS

GULF OF ALASKA TEMPORARY MARITIME ACTIVITIES AREA

INTRODUCTION.....	3
(1) GOA TMAA – MFAS/HFAS Major Training Exercises	
(i) Exercise information.....	4
(ii) Individual marine mammal sighting information by exercise.....	5
(iii) Evaluation (based on data gathered during all MTER) of effectiveness	6
(2) GOA TMAA – ASW Summary	
(i) Total hours	8
(ii) Cumulative Impacts	8
(3) GOA TMAA – SINKEX.....	10
(4) GOA TMAA – IEER/AEER Summary	11
(5) GOA TMAA – Explosives Summary	12

GULF of ALASKA TEMPORARY MARITIME ACTIVITIES AREA

INTRODUCTION

(U) The U.S. Navy prepared this Annual Exercise Report covering the period from 17 May 2011 to 31 October 2011 in compliance with the National Marine Fisheries Service (NMFS) Final Rule under the Marine Mammal Protection Act (MMPA) for the Gulf of Alaska Temporary Maritime Activities Area (TMAA).

(U) In the Gulf of Alaska Temporary Maritime Activities Area Letter of Authorization “Annual GoA TMAA Exercise Report”, the following report subsections were specified and are present within this report:

- (1) Mid-Frequency Active Sonar (MFAS)/High-Frequency Active Sonar (HFAS) Training Exercises.
 - (i) Exercise information.
 - (ii) Individual Marine Mammal Sighting Information (for each sighting in each exercise).
 - (iii) Evaluation (based on data gathered during all of the exercises) of effectiveness of mitigation measures designed to avoid exposing marine mammals to MFAS. This evaluation shall identify the specific observations that support any conclusion the Navy reaches about the effectiveness of the mitigation.
- (2) Anti-submarine Warfare (ASW) Summary
 - (i) Total annual hours of each type of sonar source.
 - (ii) Cumulative Impact Report.
- (3) Sinking Exercises (SINKEX)
 - (i) Exercise information.
 - (ii) Individual marine mammal observation information.
- (4) Improved Extended Echo Ranging (IEER) Summary
 - (i) Total number of IEER events.
 - (ii) Total expended/detonated rounds (buoys).
 - (iii) Total number of self-scuttled IEER rounds.
- (5) Explosives Summary
 - (i) Total annual number of each type of explosive exercise.
 - (ii) Total annual expended/detonated rounds for each explosive type.

(U) This Annual Exercise Report covers the period from 17 May 2011 to 31 October 2011, and the information represents the best practical data collection for this period.

(1) GOA TMAA – MFAS/HFAS Training Exercises

(i) Exercise information

(U) Table A1-i. Exercise information for the GoA TMAA.

(A) Exercise Designator	(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	(I) Total hours each active source						(J) Wave height (high, low, and average)
			(D)a SQS-53	(D)b SQS-56	(D)c BQQ-10	(D)d AQS-13F	(D)e MK-48	(D)f SQS e -62	(E)a SQS-53	(E)b SQS-56	(E)c SQR-19	(E)d BQQ-10	(E)e AQS-13F	(E)g TB-16	(E)h TB-29	(F)CG	(F)DDG	(F)FFG	(F)SH-60B	(F)SH-60F			(F)Submarines	(F)P-3C MRPA	(F)Non-ASW Ships	(F)USNS	(I)a SQS-53	(I)b SQS-56	
NE 11	13-24 JUNE 2011	A	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	5,184	*	*	*	*	*	*	4,2,3

NE 11-Northern Edge 2011

A-Gulf of Alaska TMAA

* This information is contained in the classified version of this report

(ii) Individual marine mammal sighting information by exercise

(U) Table A1-ii. GoA TMAA Exercise – Individual Marine Mammal Sighting Information: Northern Edge 2011 13-24 June 2011.

(A) Location	(B) Species	(C) # of individuals	(D) Calves observed (y/n)	(E) Initial detection sensor	(F) Platform detection from	(G) Length of time observed (min)	(H) Wave height (ft)	(I) Visibility (nm)	(J) Sonar source in use (y/n)	(K) Range (yds)	(L) Mitigation implemented	(M) If hull mounted source in use, true bearing and animal travel	(N) Observed behavior
58 32N, 150 03W	Humpback	2	N	Visual	DDG	10	2	10	N	1500	N/A	N/A	Opening ship floating on surface blowing
58 31N, 150 02W	Humpback	1	N	Visual	DDG	10	2	10	N	2000	N/A	N/A	Opening ship floating on surface blowing
58 34N, 150 04W	Whale	3	N	Visual	DDG	5	1-2	11	N	10000	N/A	N/A	Opening ship floating on surface
58 27N, 148 53W	Whale	4	N	Visual	DDG	10	2	10	N	1000	N/A	N/A	Opening ship floating on surface

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

(U) Between 17 May 2011 and 31 October 2011, there was one Northern Edge Exercise conducted in the GoA TMAA. This exercise was conducted from 13-24 June 2011, however active sonar was used only briefly for 67 minutes on one day of the exercise.

(U) Table A1-iii-1. GOA TMAA MTE from 17 May to 30 October 2011.

Exercise Type	Month	# of Exercise Days	# of Ships Involved (MFAS and non-MFAS)	# of Marine Mammal Sightings	# of Marine Mammals
Northern Edge	JUN 2011	*12	*	0	0
Totals:		*12	*	0	0

* This information is contained in the classified version of this report.

(U) Mitigation Effectiveness Discussion

(U) The three categories of mitigation measures (Personnel Training, Lookout and Watchstander Responsibility, and Operating Procedures) outlined in the GoA TMAA EIS/OEIS and approved by NMFS were used, but the effectiveness of the mitigation measures is difficult to assess due to marine mammals not being sighted during the very brief ASW portion of the exercise.

(U) Table A1-iii-2. Breakdown of marine mammals sighted in the GoA TMAA during exercises at less than 1000 yards concurrent with MFAS use.

Range of Marine Mammal Sighting		
< 200 yards	200 – 500 yards	500 – 1000 yards
No applicable sightings	No applicable sightings	No applicable sightings

(U) Table A1-iii-3. GoA TMAA MTE where sonar was on during detection of marine mammals at ranges < 1,000 yards and mitigation conducted.

1) Range [GOA TMAA (M)]	2) MTE	3) Month	4) Species sighted	5) # of marine mammals sighted	6) Platform	7) Length of time observed (min)	8) Range at which marine mammal sighted	9) Mitigation [secure (SD); power down (PD); maneuver ship (MAN) ¹]	10) Estimate MAX exposure PRIOR to mitigation (dB re 1uPa) ²	11) Number of minutes sonar mitigation applied	12) Estimate exposure AFTER mitigation (dB re 1uPa) ²	13) DISTANCE ship would have moved given length of mitigation and nominal 10-knot ship speed (yds)	14) If hull mounted source in use, true bearing, animal travel	15) Observed behavior
No sightings reported														

(2) GoA TMAA – ASW Summary

(i) Total annual hours of each type of sonar source

(U) Total annual hours of each type of sonar source used within the GoA TMAA between 17 May and 31 October 2011 is presented below.

(U) Table A2-i. Sonar use within the GoA TMAA.

Authorized MFAS sources §218.120 (c)(1) of NMFS GoA TMAA Final Rule	May – Oct 2011 (~ 5 months)	Annually Authorized	% Total Used of Total Authorized Annually
(i) AN/SQS-53 surface ship hull-mounted active sonar (hours)	*	578 hours	*
(ii) AN/SQS-56 surface ship hull-mounted active sonar (hours)	*	52 hours	*
(iii) AN/SSQ-62 DICASS acoustic sonobuoy (# of buoys)*	*	266 buoys	*
(iv) AN/AQS-22 or 13 helicopter active dipping sonar (# of dips)**	*	192 dips	*
(v) AN/BQQ-10 submarine active sonar (hours)***	*	48 hours	*
(vi) Mk-48torpedoes (# of torpedoes)	*	2 runs	*
(vii) AN/SSQ-110A (IEER) sonobuoy (# of buoys)	*	80 Buoys	*
(viii) AN/SSQ-125 (AEER) sonobuoy (# of buoys)	*		
(ix) Range Pinger	*	80 hours	*
(x) MK-84 SUS	*	24 devices	*
(xi) PUTR Transponder	*	80 hours	*
(xiii) EMATT	*	12 devices	*

*ULT data does not report the number of buoys deployed, only the sonar hours. The DICASS SSQ-62 buoy numbers in this table are based on a conservative estimate of 7.5 minutes of active sonar per buoy (equates to 8 buoys per hour), therefore the actual number of buoys used during ULT events may differ.

**ULT data does not report actual number of dips an aircraft conducted, only the sonar hours. The number of dips shown in this table is based on a conservative empirical estimate of 30 minutes (equates to two dips per hour) of active sonar per dip, therefore the actual number of dips conducted during ULT events may differ.

***ULT data does not report actual number of pings a submarine conducted, only the sonar hours. The number of pings shown in this table is based on the modeled estimate of two pings per 1 hour for training. Therefore, the actual number of pings conducted during ULT events may differ.

(ii) Cumulative Impact Report

(U) From NMFS Final Rule: *“To the extent practical, the Navy, in coordination with NMFS, shall develop and implement a method of annually reporting non-major (i.e., other than MTE’s) 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 GoA TMAA. The Navy shall include (in the GoA TMAA annual report) a brief annual progress update on the status of the development of an effective and unclassified method to report this information until an agreed-upon (with NMFS) method has been developed and implemented.”*

(U) The breakdown of geographic locations that hull mounted sonar was used within the GoA TMAA during training occurring from 17 May and 31 October 2011 is presented in Figure A2-1. All hull mounted MF sonar use occurred greater than 160 nautical miles from land.

(U) The precise locations and frequency of ASW training is classified. There is currently no method to declassify the sensitivity of this data in order to publish this type of information in an unclassified report. For this reason the only method available for this information to be disseminated for the foreseeable future is in the classified version of the GoA TMAA annual exercise report.

(3) GoA TMAA – Sinking Exercises (SINKEX)

(i) Exercise information

(U) Table A3-i. Summary of SINKEX conducted in the GoA TMAA.

(a) Location	(b) Date/time exercise began/ended	(c) Total hours of observation 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 and aircraft participating	(h) Wave height in ft (High, Low, Avg)	(i) Narrative description of sensors and platforms used for marine mammal detection and timeline illustrating how marine mammal detection was conducted
A SINKEX event was not conducted.								

(ii) Individual marine mammal observation information

(U) Table A3-ii-1. Mammal sighting information for SINKEX.

(a) Location	(b) Species	(c) Number of individuals	(d) Calves observed (y/n)	(e) Initial detection sensor	(f) Length of observation (min)	(g) Wave height	(h) Visibility	(i) Sighted before/during/after exercise, and time (min)	(j) Distance of mammal from detonation	(k) Observed behavior	(l) Mitigation implementation	(m) If observation occurs during detonation, indicate munitions type
A SINKEX event was not conducted.												

(4) GoA TMAA – IEER/AEER Summary

(U) The annual summary of use within the GoA TMAA Study Area for Improved Extended Echo-Ranging System (IEER) and Advanced Extended Echo-Ranging System (AEER) sonobuoys is presented in Table A4-1.

(U) Table A4-1. IEER/AEER events conducted and buoys expended, detonated, and self-scuttled.

Period	(i) # Events	(ii) # Expended	(ii) # Detonated	(iii) # Self-scuttled
17 May to 30 Oct 2011	*	*	*	*
Total Annual	*	*	*	*

* This information is contained in the classified version of this report.

(5) GoA TMAA – Explosives Summary

(U) Table A5-1. Explosives usage in the GoA TMAA.

(ii) Total annual number of each type of explosive exercise			
Authorized Exercise	Total Exercise Amount May-Oct 2011 (~5 months)	Amt. Annual Authorized	% Total Used To Total Authorized
(A) Surface to Surface Gunnery Exercises	**	12	**
(B) Bombing Exercises (BOMBEX)	**	36	**
(C) Sinking Exercises (SINKEX)	**	2	**
(D) Extended Echo Ranging and Improved Echo Ranging (IEER/AEER) Systems	**	80	**
(E) Missile Exercises	**	4	**
(i) Total annual expended/detonated rounds for each explosive type			
Category	Authorized quantity/year	Total Amount Used May-Oct 2011 (~5 months)	
(A) 5" Naval rounds	84 HE	**	
(B) 76mm Naval rounds	28 HE	**	
(C) Maverick Missile	3 HE	**	
(D) MK-82 bomb	7 HE	**	
(E) MK-83 bomb	4 HE	**	
(F) MK-83 bomb*	4 HE	**	
(G) MK-84 bomb	1 HE	**	
(H) MK-48 torpedo	2 HE	**	
(D) IEER/AEER Systems	80	**	

*As listed in the LOA MK-83 is listed twice.

** This information is contained in the classified version of this report.

(U) These explosive numbers are collected manually from several different databases that are maintained by the separate entities. An automated database query tool is being developed and may be operational in time to be used for next year's explosives data collection. This system will improve reporting accuracy within the Gulf of Alaska Temporary Maritime Activities Areas (GoA TMAA).

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