

Prepared for and submitted to:

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 31 August 2016 and ITS authorization under
the ESA dated 13 September 2017

Annual Unclassified Exercise Report

For Exercises

Conducted in the MITT Study Area

03 August 2018 through 02 August 2019
(Year 4)

For The U.S. Navy's
Mariana Islands Training and Testing (MITT) Study Area

30 November 2019

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ANNUAL MARIANA ISLANDS TRAINING AND TESTING UNCLASSIFIED EXERCISE REPORT

INTRODUCTION

The U.S. Navy prepared this Annual Exercise Report covering the period from 03 August 2018 to 02 August 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 Mariana Islands Training and Testing (MITT) Study Area.

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

- (1) Major Training Exercises (MTE)/SINKEX
 - (i) Reporting requirements for Coordinated and Strike Group Exercises and SINKEX
 - (ii) Exercise information for each MTE
 - (iii) Evaluation of mitigation effectiveness
 - (iv) Exercise information for each SINKEX
- (2) Summary of Sources Used
 - (i) Total annual usage of each type of sound source
- (3) Geographic Information Presentation

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.

¹MITT: 7(e) of the Letter of Authorization, and 50 CFR §218.95(g)(1) through (g)(3)

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

Table 1-ii-2. MITT MTE – Individual Marine Mammal Sighting Information: Valiant Shield 2018 16 Sep – 23 Sep 2018.

(1) Date/time/location of sighting	(2) Species	(3) Number of individuals	(4) Initial detection sensor	(5) Indication of specific type of platform the observation was made from	(6) Length of time observers maintained visual contact with marine mammal(s) (min)	(7) Sea state (Beaufort scale)	(8) Visibility (nm)	(9) Sound source in use at time of sighting (Y/N)	(10) Indication of whether animal is <200 yd, 200-500 yd, 500-1000 yd, 1000-2000 yd, or >2000yd	(11) Mitigation implementation – whether operation of sonar sensor was delayed, or sonar was powered down or shutdown, and how long the delay was	(12) If source in use is hull-mounted, relative bearing of animal from ship, and estimation of animal’s motion relative to ship	(13) 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
No marine mammal mitigation actions were reported in the MITT Study Area during this reporting period.												

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

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

There was one major training exercise conducted in the MITT Study Area during this reporting period (see **Table 1-ii-1a**).

Table 1-iii-1. MITT Study Area MTEs and associated marine mammal and sea turtle mitigation sightings.

MTE Type	Dates	# of Exercise Days	# of US Ships Involved (MFAS and non-MFAS)	# of Mitigation Sightings	# of Marine Mammals
Valiant Shield	16 – 23 Sep 2018	8	14	0	0
	Total	8	14	0	0

MITT Study Area Major Training Exercise Marine Mammal Observations

There were no reported marine mammal observations during the single MTE in the MITT Study Area during the reporting period.

MITT Study Area Major Training Exercise Mitigations

There were no active sonar mitigation actions taken during the single MTE in the MITT Study Area during the reporting period.

SUMMARY: Mitigation Effectiveness and Navy Mitigation Zone Adherence

The Lookout and mitigation zone measures approved by NMFS and outlined in the MITT Study Area LOA were effective in appropriately mitigating exposure of marine mammals to sonar. Although no active sonar mitigations took place in the MITT Study Area during the reporting period, the Protective Measures Assessment Protocol (PMAP) is directed to be used prior to each activity requiring potential mitigation to ensure proper requirements and mitigation zones are utilized. 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), adherence to required active sonar mitigation zones, and application of lessons learned in marine mammal sighting and reporting.

(iv) Exercise Information for each SINKEX

One SINKEX event was conducted in the MITT Study Area during the reporting period on 23 September 2018.

Table 1-iv-1. SINKEX information for event on 23 September 2018.

(A) Vessels and aircraft involved
*
(B) Location (operating area)
Mariana Islands Range Complex
(C) Chronological list of events
*
(D) Visibility/weather
Visibility – Unrestricted Wind – 6 KTS Wave height – 1 FT, sea state 1 Cloud Cover – scattered at 2,000 FT and overcast at 8,000 FT
(E) Aircraft surveys
3x P-8; cleared surface to 20,000 FT; speed 400 KTS; 49,000 square miles surveyed 1x P-3; cleared surface to 25,000 FT; speed 100 KTS; 49,000 square miles surveyed 2x E-2D; cleared surface to 60,000 FT; speed 250 KTS; 125,000 square miles surveyed

(F) Passive acoustic monitoring
No sonobuoys were used during the event
(G) Individual marine mammal sighting information
No marine mammals were reported during the event
(H) Ordnance used and net explosive weight (NEW)
4x AGM-154 (192 lb NEW) 2x AGM-88 (45 lb NEW) 5x Harpoon (215 lb NEW)
Total NEW: 1,933 lbs

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

(2) MITT – Summary of Sources Used

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

This section summarizes total annual usage of each type of non-impulsive and impulsive source used within the MITT Study Area. All sound sources were used less than authorized by NMFS.

Table 2-i-1. Training and Testing source usage within the MITT Study Area by source bin.

Authorized sound sources 50 CFR §218.95 and NMFS MITT LOA		Authorized Amount (03Aug18- 02Aug19)	Actual Usage (03Aug18- 02Aug19)	% Used of Authorized Amount
(A) Annual Non-impulsive Sources Used During Training and Testing				
LF4	Low-frequency sources from 180 dB up to 200 dB	123 hours	*	*
LF5	Low-frequency sources from 160 dB up to 180 dB	11 hours	*	*
LF6	Variable depth sonars and other LF systems	40 hours	*	*
MF1	Hull-mounted sonars (e.g. AN/SQS-53)	1,872 hours	*	*
MF2	Hull-mounted sonars (e.g. AN/SQS-56)	625 hours	*	*
MF3	Hull-mounted submarine sonar (e.g. AN/BQQ-10)	192 hours	*	*
MF4	Helicopter dipping sonar (e.g. AN/AQS-22)	214 hours	*	*
MF5	Acoustic sonobuoys (e.g. AN/SSQ-62)	2,588 items	*	*
MF6	Active underwater sound signal devices (e.g. MK-84 SUS)	33 items	*	*
MF8	Other MF sources greater than 200 dB	123 hours	*	*
MF9	Other MF sources from 180 dB up to 200 dB	47 hours	*	*
MF10	Other MF sources from 160 dB up to 180 dB	231 hours	*	*
MF11	High duty cycle hull-mounted sonars (e.g. AN/SQS-53 HDC)	324 hours	*	*
MF12	High duty cycle variable depth sonars	656 hours	*	*
HF1	Hull-mounted submarine sonar (e.g. AN/BQQ-10)	113 hours	*	*
HF4	Mine detection, classification, and neutralization sonars (e.g. AN/AQS-20, AN/SQQ-32)	1,060 hours	*	*
HF5	Other active sources greater than 200 dB	336 hours	*	*
HF6	Other active sources from 180 dB up to 200 dB (e.g. UUV sensors)	1,173 items	*	*
ASW1	Mid-frequency active systems (e.g. DWADS)	144 hours	*	*
ASW2	Mid-frequency Multi-static Active Coherent sonobuoy (e.g AN/SSQ-125)	660 items	*	*
ASW3	Mid-frequency towed acoustic countermeasure (e.g. AN/SLQ-25)	3,935 hours	*	*
ASW4	Mid-frequency expendable acoustic device countermeasure (e.g. ADC/NAE)	32 items	*	*
TORP1	Lightweight torpedo (e.g. MK-46/54)	115 items	*	*

TORP2	Heavyweight torpedo (e.g. MK-48)	62 items	*	*
M3	Mid-frequency acoustic modems	112 hours	*	*
SD1	Swimmer detection sonars	2,341 hours	*	*
(B) Annual Number of Impulsive Source Detonations During Training and Testing				
E1	0.1 lb to 0.25 lb NEW	10,140 detonations	5,163	51%
E2	0.26 lb to 0.5 lb NEW	106 detonations	0	0%
E3	>0.5 lb to 2.5lb NEW	932 detonations	81	9%
E4	>2.5 lb to 5 lb NEW	420 detonations	0	0%
E5	>5 lb to 10 lb NEW	684 detonations	0	0%
E6	>10 lb to 20 lb NEW	76 detonations	3	4%
E8	>60 lb to 100 lb NEW	16 detonations	2	13%
E9	>100 lb to 250 lb NEW	4 detonations	0	0%
E10	>250 lb to 500 lb NEW	12 detonations	5	42%
E11	>500 lb to 650 lb NEW	6 detonations	0	0%
E12**	>650 lb to 1,000 lb NEW	184 detonations	80	44%

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** Bomb detonations (all NEWs) and missiles from E9 were modeled as E12 and are totaled here.

Table 2-i-2. 5-year cumulative source usage within the MITT Study Area by source bin.

Sound Source Bin	Year 1 Actual Usage (03Aug15-02Aug16)	Year 2 Actual Usage (03Aug16-02Aug17)	Year 3 Actual Usage (03Aug17-02Aug18)	Year 4 Actual Usage (03Aug18-02Aug19)	5-yr Authorized Amount (03Aug15-03Aug20)	5-yr Cumulative Usage (03Aug15-03Aug20)	% Used of 5-yr Authorized Amount
(A) Non-impulsive Sources Used During Training and Testing							
LF4	*	*	*	*	615 hours	*	*
LF5	*	*	*	*	55 hours	*	*
LF6	*	*	*	*	200 hours	*	*
MF1	*	*	*	*	9,360 hours	*	*
MF2	*	*	*	*	3,125 hours	*	*
MF3	*	*	*	*	960 hours	*	*
MF4	*	*	*	*	1,070 hours	*	*
MF5	*	*	*	*	12,940 items	*	*
MF6	*	*	*	*	165 items	*	*
MF8	*	*	*	*	615 hours	*	*
MF9	*	*	*	*	235 hours	*	*
MF10	*	*	*	*	1,155 hours	*	*
MF11	*	*	*	*	1,620 hours	*	*
MF12	*	*	*	*	3,280 hours	*	*
HF1	*	*	*	*	565 hours	*	*
HF4	*	*	*	*	5,300 hours	*	*
HF5	*	*	*	*	1,680 hours	*	*
HF6	*	*	*	*	5,865 items	*	*
ASW1	*	*	*	*	720 hours	*	*
ASW2	*	*	*	*	3,300 items	*	*
ASW3	*	*	*	*	19,675 hours	*	*
ASW4	*	*	*	*	160 items	*	*
TORP1	*	*	*	*	575 items	*	*
TORP2	*	*	*	*	310 items	*	*
M3	*	*	*	*	560 hours	*	*
SD1	*	*	*	*	11,705 hours	*	*

(B) Impulsive Source Detonations During Training and Testing							
E1	0	500	0	5,163	50,700 detonations	5,663	11%
E2	0	0	0	0	530 detonations	0	0%
E3	7	7	93	81	4,660 detonations	188	4%
E4	0	1	7	0	2,100 detonations	8	1%
E5	0	0	0	0	3,420 detonations	0	0%
E6	3	5	3	3	380 detonations	14	4%
E8	0	0	0	2	80 detonations	2	3%
E9	0	6	3	0	20 detonations	9	45%
E10	0	10	0	5	60 detonations	15	25%
E11	0	0	0	0	30 detonations	0	0%
E12**	0	1	49	80	920 detonations	130	14%

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** Bomb detonations (all NEWs) and missiles from E9 were modeled as E12 and are totaled here.

(2)(C) Improved Extended Echo-Ranging System (IEER) sonobuoy summary

IEER sonobuoys were not used within the MITT Study Area. IEER buoys have been phased out of the training inventory and are no longer planned or anticipated to be used during training in MITT. However, they could possibly be used during testing activities in future years.

(3) MITT – Geographic Information Presentation

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