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In accordance with the Letters of Authorization
Under the MMPA and ITS authorization under
the ESA 19 December 2018

2021 Annual Testing Report Year 3

21 December 2020 to 20 December 2021

**For the U.S. Navy's
Hawaii-Southern California Training and Testing (HSTT)
Study Area**

17 March 2022

TABLE OF CONTENTS

ANNUAL HSTT TESTING REPORT

INTRODUCTION	1
(1) HSTT – Summary of Testing Sources Used	2
(2) HSTT – Humpback Whale Special Reporting Area (December 15 – April 15).....	5
(3) HSTT – HSTT Study Area Mitigation Areas.....	5
(4) HSTT – Geographic Testing Information Representation	5

HAWAII-SOUTHERN CALIFORNIA TRAINING AND TESTING STUDY AREA TESTING REPORT

INTRODUCTION

The U.S. Navy prepared this Annual Testing Exercise Report covering the period from 21 December 2020 to 20 December 2021 in compliance with the National Marine Fisheries Service (NMFS) Final Rule, Letter of Authorization (LOA), and Incidental Take Statement under the Marine Mammal Protection Act (MMPA) and Endangered Species Act (ESA) authorizations for the U.S. Navy's Hawaii-Southern California Training and Testing (HSTT) Study Area.

In the HSTT Final Rule and Letters of Authorization¹ the following report subsections were specified and are present within this report:

- (1) Summary of Testing Sources Used
- (2) Humpback Whale Special Reporting Area (December 15 – April 15)
- (3) HSTT Study Area Mitigation Areas
- (4) Geographic Information Presentation

The information in this report represents the best practical data collection for this period.

¹ HSTT Testing Letter of Authorization, and 50 CFR §218.75(e) (3), (4), (5) and (6)

(1) HSTT – Summary of Testing Sources Used

This section summarizes total annual usage of each type of sound source used for testing within the HSTT study area from 21 December 2020 to 20 December 2021, which constitutes year 3 of the 7-year authorization.

Total annual hours or quantity of each bin of sonar or other acoustic sources

Table 1-1. Testing Sound Source Usage within the HSTT Study Area by Source Bin

Authorized sound sources HSTT Final Rule		Authorized Amount (21Dec20- 20Dec21)	Actual Usage (21Dec20- 20Dec21)	% Used of Authorized Amount
(1) Active Acoustic Sources Used				
LF3	Low frequency sources greater than 200 dB	195 hours	*	*
LF4	Low frequency sources equal to 180 dB up to 200 dB	777 hours	*	*
		20 items	*	*
LF5	Low frequency sources less than 180 dB	2694 hours	*	*
LF6	Low frequency sources greater than 200 dB with long pulse lengths	80 hours	*	*
MF1	Hull-mounted surface ship sonars (e.g. SQS-53C and A/SQS-61)	1540 hours	*	*
MF1K	Hull-mounted sonar Kingfisher mode	14 hours	*	*
MF2	Hull-mounted sonars (e.g. SQS-56)	54 hours	*	*
MF3	Hull-mounted submarine sonar (e.g. BQQ-10)	1311 hours	*	*
MF4	Helicopter dipping sonar (e.g. AQS-13/22)	475 hours	*	*
MF5	Acoustic sonobuoys (e.g. DICASS)	5863 items	*	*
MF6	Underwater sound signaling devices (e.g. MK 84 SUS)	1226 items	*	*
MF8	Other active sources greater than 200dB	70 hours	*	*
MF9	Other active sources equal to 180 dB up to 200 dB not otherwise binned	5165 hours	*	*
MF10	Other active sources greater than 160 dB up to 180 dB not otherwise binned	1992 hours	*	*
MF11	Hull-mounted surface ship sonars with an active duty cycle greater than 80%	56 hours	*	*
MF12	Towed array surface ship sonars with an active duty cycle greater than 80%	660 hours	*	*
MF13	Mid-frequency sonar source	300 hours	*	*
HF1	Hull-mounted submarine sonar (e.g. BQQ-10)	772 hours	*	*
HF2	HF Marine Mammal Monitoring System	120 hours	*	*
HF3	Other hull-mounted submarine sonars	110 hours	*	*
HF4	Mine detection/classification sonars	16323 hours	*	*
		960 hours	*	*
HF5	Other active sources greater than 200dB	40 items	*	*
HF6	Other active sources equal to 180 dB up to 200 dB	1009 hours	*	*
HF7	Active sources (greater than 160 dB, but less than 180 dB) not otherwise binned	1380 hours	*	*
HF8	Hull-mounted surface ship sonars (e.g. AN/SQS-61)	1032 hours	*	*
ASW1	Mid-frequency systems operating above 200 dB	470 hours	*	*

ASW2	Mid-frequency Multi-static Active Coherent sonobuoy (e.g. SSQ-125)	5191 items	*	*
ASW3	Mid-frequency towed acoustic countermeasure (e.g. SLQ-25)	2741 hours	*	*
ASW4	Mid-frequency expendable acoustic device countermeasure (e.g. MK 3)	2244 items	*	*
ASW5	Mid-frequency sonobuoys with high duty cycles	592 hours	*	*
BB4	LF to MF oceanographic source	1170 hours	*	*
BB7	LF oceanographic source	28 counts	*	*
BB9	MF optoacoustic source	480 hours	*	*
TORP1	Lightweight torpedo (e.g. MK 46,/MK 54, or Anti-Torpedo Torpedo)	971 torpedoes	*	*
TORP2	Heavyweight torpedo (e.g. MK48)	404 torpedoes	*	*
TORP3		45 items	*	*
FLS2	HF sources with short pulse lengths, narrow beam widths, and focused beam patterns	544 hours	*	*
FLS3	VHF sources with short pulse lengths, narrow beam widths, and focused beam patterns	2640 hours	*	*
M3	Mid-frequency acoustic modems (greater than 190 dB)	518 hours	*	*
SD1 – SD2	HF and VHF sources with short pulse lengths, used for the swimmer detection and other objects for port security	10 hours	*	*
AG	Underwater airguns	844 counts	*	*
SAS1	Mid-frequency SAS systems	1960 hours	*	*
SAS2	High-frequency SAS systems	8584 hours	*	*
SAS3	Very high-frequency SAS systems	4600 hours	*	*
(2)	Explosive Sources Used			
E1	Medium-caliber projectiles (0.2 – 0.25 lb.)	15216 detonations	17	0.11
E3	Large-caliber projectiles	3124 detonations	52	1.66
E4	Mine neutralization charge	674 detonations	0	0
E5	5-in projectiles	1400 detonations	0	0
E6	Hellfire missile	38 detonations	0	0
E8	Lightweight Torpedo	57 detonations	0	0
E9	500 lb. Bomb	4 detonations	0	0
E10	Harpoon Missile	30 detonations	0	0
E11	650 lb. mine	12 detonations	0	0

*Information is presented in the classified version of this report.

Total annual airgun use summary

Information is presented in the classified version of this report.

Table 1-2. 7-Year Cumulative Testing Sound Source Usage within the HSTT Study Area by Source Bin

Sound Source Bin	Year 1 Actual Usage (21Dec18-20Dec19)	Year 2 Actual Usage (21Dec19-20Dec20)	Year 3 Actual Usage (21Dec20-20Dec21)	7-Year Authorized Amount (21Dec18-20Dec25)	7-Year Cumulative Actual Usage (21Dec18-20Dec20)	% Used of Authorized Amount
LF3	*	*	*	1365 hours	*	*
LF4	*	*	*	4496 hours	*	*
LF4	*	*	*	140 items	*	*
LF5	*	*	*	14458 hours	*	*
LF6	*	*	*	360 hours	*	*
MF1	*	*	*	8692 hours	*	*
MF1K	*	*	*	98 hours	*	*
MF2	*	*	*	378 hours	*	*
MF3	*	*	*	9177 hours	*	*
MF4	*	*	*	2502 hours	*	*
MF5	*	*	*	38233 items	*	*
MF6	*	*	*	8202 items	*	*
MF8	*	*	*	490 hours	*	*
MF9	*	*	*	36056 hours	*	*
MF10	*	*	*	13104 hours	*	*
MF11	*	*	*	392 hours	*	*
MF12	*	*	*	4620 hours	*	*
MF13	*	*	*	2100 hours	*	*
HF1	*	*	*	5403 hours	*	*
HF2	*	*	*	840 hours	*	*
HF3	*	*	*	769 hours	*	*
HF4	*	*	*	114069 hours	*	*
HF5	*	*	*	6720 hours	*	*
	*	*	*	280 items	*	*
HF6	*	*	*	7015 hours	*	*
HF7	*	*	*	9660 hours	*	*
HF8	*	*	*	5136 hours	*	*
ASW1	*	*	*	3290 hours	*	*
ASW2	*	*	*	32900 items	*	*
ASW3	*	*	*	19178 hours	*	*
ASW4	*	*	*	15398 devices	*	*
ASW5	*	*	*	3854 hours	*	*
BB4	*	*	*	6414 hours	*	*
BB7	*	*	*	196 counts	*	*
BB9	*	*	*	3360 hours	*	*
TORP1	*	*	*	6454 torpedoes	*	*
TORP2	*	*	*	2756 torpedoes	*	*
TORP3	*	*	*	315 items	*	*
FLS2	*	*	*	3424 hours	*	*
FLS3	*	*	*	18480 hours	*	*
M3	*	*	*	3623 hours	*	*
SD1 – SD2	*	*	*	70 hours	*	*
AG	*	*	*	5908 counts	*	*
SAS1	*	*	*	13720 hours	*	*
SAS2	*	*	*	60088 hours	*	*
SAS3	*	*	*	32200 hours	*	*

				(2) Explosive Sources Used		
E1	0	0		87012 detonations	17	0.02
E3	0	26		20848 detonations	78	0.37
E4	0	0		4372 detonations	0	0
E5	0	0		9800 detonations	0	0
E6	0	0		230 detonations	0	0
E8	0	0		399 detonations	0	0
E9	0	0		28 detonations	0	0
E10	0	0		210 detonations	0	0
E11	0	0		84 detonations	0	0

*Information is presented in the classified version of this report.

(2) HSTT – Humpback Whale Special Reporting Area (December 15 – April 15)

The precise locations and frequency of testing 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 available method for this information to be disseminated for the foreseeable future is in the classified version of this Annual Testing Report.

(3) HSTT – HSTT Study Area Mitigation Areas

The precise locations and frequency of testing 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 available method for this information to be disseminated for the foreseeable future is in the classified version of this Annual Testing Report.

(4) HSTT – Geographic Testing Information Representation

The precise locations and frequency of testing 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 available method for this information to be disseminated for the foreseeable future is in the classified version of this Annual Testing Report.