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2020 Annual Hawaii/SOCAL Training and Testing (HSTT) Training Exercise Report

21 December 2019 to 20 December 2020 Year 2

16 MARCH 2021

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ANNUAL HSTT STUDY AREA TRAINING EXERCISE REPORT

HAWAII-SOUTHERN CALIFORNIA TRAINING AND TESTING STUDY AREA TRAINING EXERCISE REPORT

INTRODUCTION

The U.S. Navy prepared this unclassified Annual Training Exercise Report covering the period from 21 December 2019 to 20 December 2020 in compliance with the National Marine Fisheries Service (NMFS) Final Rule, Letters of Authorization (LOA), and Incidental Take Statements 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. A classified version of this report is also submitted to NMFS.

In the HSTT Final Rule and Letters of Authorization,[1] the following report subsections were specified. However, only unclassified information is present within this report:

(1) Major Training Exercises (MTEs)
   - (i) Exercise information (for each MTE)
   - (ii) Individual marine mammal sighting information for each sighting in each exercise when mitigation occurred
   - (iii) Evaluation (based on data gathered during all MTEs) of the effectiveness of mitigation measures designed to minimize the received level to which marine mammals may be exposed

(2) Sinking Exercises (SINKEXs)
   - (i) Exercise information (gathered for each SINKEX)
   - (ii) Individual marine mammal observation (by Navy Lookouts) information (gathered for each marine mammal sighting) for each sighting where mitigation was implemented

(3) Summary of Sources Used
   - (i) Total annual hours or quantity (per the LOA) of each bin of sonar or other acoustic sources (pile driving and air gun activities)
   - (ii) Total annual expended/detonated ordnance (missiles, bombs, sonobuoys, etc.) for each explosive bin

(4) Humpback Whale Special Reporting Area (December 15 – April 15)

(5) HSTT Study Area Mitigation Areas

(6) Geographic Information Presentation

(7) Sonar Exercise Notification

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

[1]HSTT Requirements for Monitoring and Reporting, 50 CFR 218.75(e)(1) through (e)(7). The reporting requirements are also delineated in section 7(e) of the Training Letter of Authorization.

(1) HSTT – Major Training Exercises

This section summarizes authorized sonar use and marine mammal observations from MTEs conducted within the HSTT Study Area during the reporting period. The HSTT MTEs include Large Integrated Anti-Submarine Warfare, which consists of ***Composite Training Unit Exercises*** (C2X) and ***Rim of the Pacific Exercise*** (RIMPAC), and Medium Integrated Anti-Submarine Warfare, which consists of ***Fleet Exercises*** (FLEETEX), ***Sustainment Exercises*** (SUSTEX), and ***Undersea Warfare Exercises*** (USWEX).

(i) Exercise information

Table 1-1. MTEs conducted in the HSTT Study Area

(A) Exercise designator	(B) Date began and ended	(C) Location	(D) Number and types of active sonar sources used					(E) Number and types of passive acoustic sources used				(F) Number and types of vessels, aircraft, and other platforms participating					
			Surface hull-mounted sonar	Submarine hull-mounted sonar	Helicopter dipping sonar	Aircraft sonobuoy	Towed countermeasure	Surface hull-mounted sonar	Submarine hull-mounted sonar	Aircraft sonobuoy	Towed array	CG	DDG	MH-60R dipping helo	MPRA	Submarines	Non-ASW surface ship
C2X	6 Apr – 2 Jun 2020	SOCAL	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
RIMPAC	17 Aug – 31 Aug 2020	HRC	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
SUSTEX	7 Dec – 22 Dec 2020	SOCAL	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*

*Information is presented in the classified version of this report

Table 1-1 (continued). MTEs conducted in the HSTT Study Area

(A) Exercise designator	(B) Date began and ended	(C) Location	(G) Total hours of all active sonar source operation	(H) Total hours of each active source bin																								(I) Wave height (high, low, average)
				LF6 (hours)	MF1 (hours)	MF1K (hours)	MF3 (hours)	MF4 (hours)	MF5 (count)	MF6 (count)	MF11 (hours)	MF12 (hours)	HF1 (hours)	HF3 (hours)	HF4 (hours)	HF8 (hours)	ASW1 (hours)	ASW2 (count)	ASW3 (hours)	ASW4 (count)	ASW5 (hours)	TORP1 (count)	TORP2 (count)	FLS2 (hours)	M3 (hours)	SAS2 (hours)	SAS4 (hours)	
C2X	6 Apr – 2 Jun 2020	SOCAL	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	13,1,2
RIMPAC	17 Aug – 31 Aug 2020	HRC	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	6,4,4
SUSTEX	7 Dec – 22 Dec 2020	SOCAL	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	13,2,9

*Information is presented in the classified version of this report

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

Table 1-2. HSTT MTE – Individual Marine Mammal and Sea Turtle Mitigation Sighting Information: C2X 6 Apr – 2 Jun 2020

(A) Date/time/location of sighting			(B) Species	(C) Number of individuals	(D) Initial detection sensor	(E) Indication of specific type of platform observation was made from	(F) Length of time observers maintained visual contact with marine mammal (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 was <200 yd, 200-500 yd, 500-1000 yd, 1000-2000 yd, or >2000 yd from sonar source	(K) Whether operation of sonar sensor was delayed, or sonar was powered or shut down, and how long the delay	(L) If source in use was hull-mounted, true bearing of animal from the vessel, true direction of vessel's travel, and estimation of animal's motion relative to vessel	(M) Lookouts must report, in plain language and without trying to categorize in any way, the observed behavior of the animal(s) and if any calves were present
5-May	1638Z	SOCAL	Whale	1	Vis	CG	2	2	8	Y	1,000-2,000	Powered down sonar	Whale bearing 300T, ship course 210T, opening ship	Blowing

Table 1-3. HSTT MTE – Individual Marine Mammal and Sea Turtle Mitigation Sighting Information: RIMPAC 17 Aug – 31 Aug 2020

(A) Date/time/location of sighting	(B) Species	(C) Number of individuals	(D) Initial detection sensor	(E) Indication of specific type of platform observation was made from	(F) Length of time observers maintained visual contact with marine mammal (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 was <200 yd, 200-500 yd, 500-1000 yd, 1000-2000 yd, or >2000 yd from sonar source	(K) Whether operation of sonar sensor was delayed, or sonar was powered or shut down, and how long the delay	(L) If source in use was hull-mounted, true bearing of animal from the vessel, true direction of vessel's travel, and estimation of animal's motion relative to vessel	(M) Lookouts must report, in plain language and without trying to categorize in any way, the observed behavior of the animal(s) and if any calves were present
No marine mammal mitigations reported during this exercise.												

Table 1-4. HSTT MTE – Individual Marine Mammal and Sea Turtle Mitigation Sighting Information: SUSTEX 7 Dec – 22 Dec 2020

(N) Date/time/location of sighting	(O) Species	(P) Number of individuals	(Q) Initial detection sensor	(R) Indication of specific type of platform observation was made from	(S) Length of time observers maintained visual contact with marine mammal (min)	(T) Sea state (Beaufort scale)	(U) Visibility (nm)	(V) Sound source in use at time of sighting (Y/N)	(W) Indication of whether animal was <200 yd, 200-500 yd, 500-1000 yd, 1000-2000 yd, or >2000 yd from sonar source	(X) Whether operation of sonar sensor was delayed, or sonar was powered or shut down, and how long the delay	(Y) If source in use was hull-mounted, true bearing of animal from the vessel, true direction of vessel's travel, and estimation of animal's motion relative to vessel	(Z) Lookouts must report, in plain language and without trying to categorize in any way, the observed behavior of the animal(s) and if any calves were present
No marine mammal mitigations reported during this exercise.												

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

There were three major training exercises conducted in the HSTT Study Area this reporting period (see **Table 1-5**). In support of these MTEs, the Navy conducted over 1,586 hours of Marine Species Awareness Training for at least 1,275 personnel prior to the beginning of these training exercises.

Table 1-5. HSTT Study Area Major Training Exercises.

MTE Type	Dates	# of Exercise Days	# of US Ships Involved (MFAS and non-MFAS)	# of Marine Mammal Mitigation Sightings	# of Marine Mammals
C2X	6 Apr – 2 Jun 2020	27	*	1	1
RIMPAC	17 Aug – 31 Aug 2020	15	*	0	0
SUSTEX	7 Dec – 22 Dec 2020	16	*	0	0
	Total	**58**	*	**1**	**1**

*Information is presented in the classified version of this report

HSTT Study Area Major Training Exercise Marine Mammal Observations When Mitigation Occurred

There was one marine mammal sighting over the course of the three MTEs in the HSTT Study Area (see **Table 1-5**) that required active sonar mitigation. The breakdown of sightings by species type is shown in **Table 1-6**.

Table 1-6. Total number of marine mammal sightings observed from Navy platforms when mitigation occurred during Major Training Exercises.

Species Type	# of Sightings	% of Total Sightings	# of Marine Mammals	% of Total Number of Marine Mammals
Dolphins	0	0%	0	0%
Whales	1	100%	1	100%
Pinnipeds	0	0%	0	0%
Turtles	0	0%	0	0%
Not recorded	0	0%	0	0%
Totals:	**1**		**1**	

SUMMARY: Mitigation Effectiveness and Navy Mitigation Zone Adherence

During this year's MTEs in the HSTT Study Area, prescribed NMFS mitigation zones were effectively applied in cases of observation of marine mammals within the applicable zone. **Table 1-7** depicts the maximum estimated receive levels by the marine mammal at the time the mitigation measure was applied. In each case, the Permanent Threshold Shift (PTS) threshold is higher than the estimated maximum exposure level prior to mitigation which means that the marine mammal was unlikely to experience injury. During this reporting period the proper implementation of mitigation measures for sighted marine mammals is estimated to be highly effective at preventing exposures that may result in injury (e.g. PTS).

The two categories of mitigation measures (procedural mitigation and mitigation areas) outlined in the HSTT Final Environmental Impact Statement (EIS)/Overseas Environmental Impact Statement (OEIS) of October 2018 and approved by NMFS in the HSTT Training LOA were effective in appropriately mitigating exposure of marine mammals to sonar. 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.

Table 1-7. Sightings where sonar was on during detection of marine mammals, and the mitigation conducted.

Location	MTE	Month	Species sighted	# of marine mammals sighted	Platform	Length of time observed (min)	Range at which marine mammal sighted	Mitigation (Sonar powerdown, sonar shutdown)	Estimate MAX exposure PRIOR to mitigation (dB re 1uPa)[1]	Number of minutes sonar mitigation applied	Estimate exposure AFTER mitigation (dB re 1uPa)[1]	DISTANCE ship would have moved given length of mitigation and nominal 10-knot ship speed (yds)	If source in use is hull-mounted sonar, relative bearing of animal from ship and estimation of animal's motion relative to ship	Observed behavior
SOCAL	C2X	May	Whale	1	CG	2	1,000-2,000	Powered down sonar	<172-175	2	<166-169	667	Whale bearing 300T, ship course 210T, opening ship	Blowing

[1]Estimated exposure based on 20Log[R] spherical spreading propagation loss for ranges less than 1,000 yards and where nominal active sonar Source Level (SL) assumed to be 235 dB for CGs and DDGs. Actual operating parameters and oceanographic condition likely result in lower exposure. This calculation assumes exposure prior to mitigation. Once animal was spotted at the range indicated, applied mitigation would have resulted in much lower to no exposures.

Exposure Assessment

Estimated exposures within 2,000 yards can be determined based on standard formulas of how sound propagates in water. Spherical spreading is generally valid within 1,000 yards from the sound source, and can be expressed as spreading loss (in dB from a source) equals 20logR (with "R" being range from the source in yards). Spherical spreading loss in the first 1,000 yards equates to 60 dB of loss. At ranges between 1,000 and 2,000 yards, the sound waves become trapped by the sea surface and bottom and cannot expand vertically. The spreading wave then forms an expanding cylinder. Cylindrical spreading loss in dB between two points can be calculated by using the formula (10logR2/R1), with "R2" being the longer range, and "R1" being 1,000 yards. Cylindrical spreading loss between 1,000 and 2,000 yards equates to an additional 3 dB of loss. By the time the wave has propagated to 2,000 yards, the sonar signal strength has decreased by a total of 63 dB. Using the AN/SQS-53 sonar as an example, transmitting at 235 dB and subtracting the 63 dB of spreading loss equates to an estimated sonar Receive Level (RL) of 172 dB at 2,000 yards. The spreading loss formulas are used to make very conservative assumptions about potential exposure. The formula is an estimation of spreading losses only and does not take into account other factors that could increase the total propagation losses such as oceanographic conditions, attenuation losses, scattering losses, and Navy-unique MFAS operating parameters which would result in slightly lower sonar transmit levels. Use of this approach to estimate potential RL at any given animal assumes the horizontal range from a visual sighting accounts for an animal across all depths at which an animal travels to predict the maximum, worst case potential exposure. In other words, this estimated worst case exposure is presented independent of the animmal's actual depth level, since a) time and depth of current and previous dives cannot be deduced from a limited surface sighting, and b) oceanographic and tactical conditions influence actual sound propagation at different depths. Given the relative motion of ships and animals at sea, the time spent with any given exposure from surface ships is likely to be limited.

(2) HSTT – Sinking Exercises (SINKEXs)

One SINKEX was conducted in the HSTT Study Area during the reporting period, on 30 August 2020.

Table 2-1. SINKEX information for event on 30 August 2020.

(A) Location
Hawaii Range Complex
(B) Date and time exercise began and ended
0523 local, August 30 2020 through 0032 local, 31 August 2020
(C) Total hours of observation by Lookouts before, during, and after exercise
150 hours
(D) Total number and types of explosive bins detonated
E5: 127 detonations E6: 5 detonations E10: 7 detonations
(E) Number and types of passive acoustic sources used in exercise
2x SQS-53 surface hull-mounted sonar 1x BQQ-10 submarine hull-mounted sonar 18x SSQ-53 passive sonobuoy
(F) Total hours of passive acoustic search time
64 hours
(G) Number and types of vessels, aircraft, and other platforms participating in exercise
Information is contained in the classified version of this report

(H) Wave height in feet (high, low, average) during exercise
6,5,5
(I) Narrative description of sensors and platforms utilized for marine mammal detection and timeline illustrating how marine mammal detection was conducted
In addition to surface ship Lookouts, aircraft surveys were conducted throughout the day. Each survey covered a 10NM circle around the hulk at an altitude of 1,000 feet or less. Aircraft included 2x S-61N helicopters and 3x P-8 maritime patrol aircraft. 18 passive sonobuoys were deployed to monitor during the torpedo shot. Timeline (all times local): 0622 Sunrise 0600-0800 Mammal survey 1330-1400 Helicopter mammal survey 1530-1610 Helicopter mammal survey 1730-1800 P-8 mammal survey; buoy field deployed 1858 Sunset 2100-2130 Surface ship infrared mammal survey

(3) HSTT – Summary of Sources Used

This section summarizes total annual usage of each type of sound source used for training within HSTT from 21 December 2019 to 20 December 2020, which constitutes Year 2 of the 7-year authorization.

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

Table 3-1. Annual Training Acoustic Source Usage within the HSTT Study Area by Source Bin.

Authorized sound sources from HSTT Final Rule		Authorized Amount (21Dec19-20Dec20)	Actual Usage (21Dec19-20Dec20)	% Used of Authorized Amount
(i) Acoustic Sources Used During Annual Training				
LF5	LF sources less than 180 dB	9 hours	*	*
LF6	LF sources greater than 200 dB with long pulse lengths	137 hours	*	*
MF1	Hull-mounted surface ship sonars (e.g. AN/SQS-53C and AN/SQS-60)	5,498 hours	*	*
MF1K	Kingfisher & SOA modes associated with MF1 sonars	100 hours	*	*
MF3	Hull-mounted submarine sonars (e.g. AN/BQQ-10)	2,100 hours	*	*
MF4	Helicopter-deployed dipping sonars (e.g. AN/AQS-22)	388 hours	*	*
MF5	Active acoustic sonobuoys (e.g. DICASS)	5,733 count	*	*
MF6	Underwater sound signal devices (e.g. MK 84 SUS)	9 hours	*	*
MF11	Hull-mounted surface ship sonars with an active duty cycle greater than 80% (e.g. AN/SQS-53C)	744 hours	*	*
MF12	Towed array surface ship sonars with an active duty cycle greater than 80%	180 hours	*	*
HF1	Hull-mounted submarine sonars (e.g. AN/BQQ-10)	1,793 hours	*	*
HF3	Other hull-mounted submarine sonars	274 hours	*	*
HF4	Mine detection, classification, and neutralization sonar (e.g. AN/SQS-20)	2,145 hours	*	*
HF8	Hull-mounted surface ship sonars (e.g. AN/SQS-61)	102 hours	*	*
ASW1	MF systems operating above 200 dB	215 hours	*	*
ASW2	MF Multistatic Active Coherent sonobuoy	689 count	*	*

	(e.g. AN/SSQ-125)			
ASW3	MF towed acoustic countermeasure systems (e.g. AN/SLQ-25)	5,341 hours	*	*
ASW4	MF expendable active acoustic device countermeasures (e.g. MK 3)	1,289 count	*	*
ASW5	MF sonobuoys with high duty cycles	254 hours	*	*
TORP1	Lightweight torpedo (e.g. MK 46/MK 54)	229 count	*	*
TORP2	Heavyweight torpedo (e.g. MK 48)	502 count	*	*
FLS2	HF sources with short pulse lengths, narrow beam widths, and focused beam patterns	28 hours	*	*
M3	MF acoustic modems (greater than 190 dB)	39 hours	*	*
SAS2	HF SAS systems	900 hours	*	*
SAS4	MF to HF broadband mine countermeasure sonar	42 hours	*	*
Pile driving	Pile driving (impact)	238 count	0	0%
Pile removal	Vibratory pile removal	238 count	0	0%

*Information is presented in the classified version of this report

(ii) Total annual expended/detonated ordnance for each explosive bin

Table 3-2. Annual Training Explosive Source Usage within the HSTT Study Area by Source Bin.

Authorized sound sources from HSTT Final Rule		Authorized Amount (21Dec19-20Dec20)	Actual Usage (21Dec19-20Dec20)	% Used of Authorized Amount
(ii) Explosive Sources Used During Annual Training				
E1	Medium-caliber projectile	2,940 detonations	0	0%
E2	Medium-caliber projectile	1,746 detonations	494	28%
E3	Large-caliber projectile	2,797 detonations	2,068	74%
E4	Mine neutralization charge	38 detonations	96	253%[1]
E5	5-inch projectile	4,759 detonations	914	19%
E6	Hellfire missile	579 detonations	90	16%
E7	Demo block / shaped charge	13 detonations	8	62%
E8	Maverick missile	34 detonations	16	46%
E9	500 lb. bomb	421 detonations	18	4%
E10	Harpoon missile / 1,000 lb. bomb	220 detonations	26	12%
E11	650 lb. mine	10 detonations	0	0%
E12	2,000 lb. bomb	16 detonations	0	0%
E13	Multiple Mat Weave charges	9 detonations	8	89%

[1]Bin E4 within permitted 7-yr authorizations (38%).

Table 3-3. 7-year Cumulative Training 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)	7-yr Authorized Amount (21Dec18-20Dec25)	7-yr Cumulative Actual Usage (21Dec18-20Dec23)	% Used of 7-yr Authorized Amount
(i) Acoustic Sources Used During Annual Training					
LF5	*	*	65	*	*
LF6	*	*	956	*	*
MF1	*	*	38,489	*	*
MF1K	*	*	700	*	*
MF3	*	*	14,700	*	*
MF4	*	*	2,719	*	*
MF5	*	*	40,128	*	*
MF6	*	*	63	*	*
MF11	*	*	5,205	*	*
MF12	*	*	1,260	*	*
HF1	*	*	12,550	*	*
HF3	*	*	1,919	*	*
HF4	*	*	15,012	*	*
HF8	*	*	711	*	*
ASW1	*	*	1,503	*	*
ASW2	*	*	4,824	*	*
ASW3	*	*	37,385	*	*
ASW4	*	*	9,023	*	*
ASW5	*	*	1,780	*	*
TORP1	*	*	1,605	*	*
TORP2	*	*	3,515	*	*
FLS2	*	*	196	*	*
M3	*	*	274	*	*
SAS2	*	*	6,297	*	*
SAS4	*	*	294	*	*
Pile driving	0	0	1,666	0	0%
Pile removal	0	0	1,666	0	0%
(ii) Explosive Sources Used During Annual Training					
E1	2,629	0	20,580	2,629	13%
E2	492	494	12,222	986	8%
E3	405	2,068	19,579	2,473	13%
E4	4	96	266	100	38%
E5	773	914	33,310	1,687	5%
E6	35	90	4,056	125	3%
E7	1	8	91	9	10%
E8	17	16	241	33	14%
E9	38	18	2,950	56	2%
E10	16	26	1,543	42	3%
E11	1	0	69	1	1%
E12	0	0	114	0	0%
E13	0	8	63	8	13%

*Information is presented in the classified version of this report

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

The amount of surface ship hull-mounted mid-frequency active sonar used for training in the six Humpback Whale Special Reporting Areas during this period is presented in the classified version of this report.

(5) HSTT – HSTT Study Area Mitigation Areas

The amount of active sonar and in-water explosives used for training in the HSTT Study Area Mitigation Areas is shown in **Tables 5-1** through **5-6** below.

Table 5-1. Training Active Sonar & In-Water Explosive Usage within the Hawaii Island Mitigation Area (year-round).

Authorized sound sources from HSTT Final Rule		Actual Usage[1]
MF1	Hull-mounted surface ship sonars (e.g. AN/SQS-53/60)	*
MF4	Helicopter-deployed dipping sonars (e.g. AN/AQS-22)	*
In-Water Explosives	All Explosive Bins	0

[1]MF1 usage did not exceed 300 hours and MF4 usage did not exceed 20 hours
*Information is presented in the classified version of this report

Table 5-2. Training Active Sonar & In-Water Explosive Usage within the 4-Islands Region Mitigation Area (November 15 through April 15 for active sonar; year-round for explosives).

Authorized sound sources from HSTT Final Rule		Actual Usage
MF1	Hull-mounted surface ship sonars (e.g. AN/SQS-53/60)	*
In-Water Explosives	All Explosive Bins	0

*Information is presented in the classified version of this report

Table 5-3. Training Active Sonar & In-Water Explosive Usage within the San Diego Arc Mitigation Area (June 1 through October 31).

Authorized sound sources from HSTT Final Rule		Actual Usage[1]
MF1	Hull-mounted surface ship sonars (e.g. AN/SQS-53/60)	*
In-Water Explosives	All Explosive Bins	0

[1]Combined MF1 usage did not exceed 200 hours
*Information is presented in the classified version of this report

Table 5-4. Training Active Sonar & In-Water Explosive Usage within the San Nicholas Island Mitigation Area (June 1 through October 31).

Authorized sound sources from HSTT Final Rule		Actual Usage[1]
MF1	Hull-mounted surface ship sonars (e.g. AN/SQS-53/60)	*
In-Water Explosives	All Explosive Bins	0

[1]Combined MF1 usage did not exceed 200 hours
*Information is presented in the classified version of this report

Table 5-5. Training Active Sonar & In-Water Explosive Usage within the Santa Monica/Long Beach Mitigation Area (June 1 through October 31).

Authorized sound sources from HSTT Final Rule		Actual Usage[1]
MF1	Hull-mounted surface ship sonars (e.g. AN/SQS-53/60)	*
In-Water Explosives	All Explosive Bins	0

[1]Combined MF1 usage did not exceed 200 hours
*Information is presented in the classified version of this report

Table 5-6. Training Active Sonar & In-Water Explosive Usage within the Santa Barbara Island Mitigation Area (year-round).

Authorized sound sources from HSTT Final Rule		Actual Usage
MF1	Hull-mounted surface ship sonars (e.g. AN/SQS-53/60)	*
In-Water Explosives	All Explosive Bins	0

*Information is presented in the classified version of this report

(6) HSTT – Geographic Information Presentation

The precise locations and frequency of ASW training are 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 Training Exercise Report.

(7) HSTT – Sonar Exercise Notification

The Navy submitted all required information to NMFS for all MTEs during the reporting period, including location of the exercise, beginning and end dates of the exercise, and type of exercise.