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 and ITS authorization under
the ESA dated 14 November 2013

UNCLASSIFIED

2014 Annual Atlantic Fleet Training and Testing (AFTT) Exercise and Testing Report

14 November 2013 to 13 November 2014

13 FEBRUARY 2015

UNCLASSIFIED

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ANNUAL AFTT EXERCISE & TESTING REPORT

ATLANTIC FLEET TRAINING AND TESTING ANNUAL EXERCISE AND TESTING REPORT

INTRODUCTION

The U.S. Navy prepared this Annual Exercise and Testing Report covering the period from 14 November 2013 to 13 November 2014 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 Atlantic Fleet Training and Testing (AFTT) Study Area.

This report is submitted as a combined report to present an overview of all U.S. Navy training and testing activities within the AFTT Study Area from 14 November 2013 through 13 November 2014. Responsibility for the management of the two AFTT LOAs remains as identified in the permits.

In the AFTT Final Rule and Letters of Authorization,[1] the following report subsections were specified and are present within this report:

(1) Major Training Exercises (MTE)/SINKEX

- (i) Exercise Information (for each exercise)
- (ii) Individual Marine Mammal Sighting Information (for each sighting in each MTE)
- (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. This evaluation shall identify the specific observations that support any conclusions the Navy reaches about the effectiveness of the mitigation.
- (iv) Exercise information for each SINKEX

(2) Summary of Training Sources Used

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

(3) Sonar Exercise Notification

(4) Geographic Training Information Representation

(5) Ship Shock Trial Report

(6) Summary of Testing Sources Used

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

(7) Geographic Testing Information Representation

The information in this report represents the best practical data collection for this period. To provide accounting for the entire five-year period of the authorization, Navy will also submit a 5-year Close-out Exercise and Testing Report with final totals of authorized usage.

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[1]AFTT Requirements for Monitoring and Reporting, 50 CFR 218.85(f) (1) through (f) (4). The reporting requirements are also delineated in section 7(d) of the Training Letter of Authorization, and section 7(d) of the Testing Letter of Authorization.

(1) AFTT – Major Training Exercises/SINKEX

This section summarizes authorized sonar use and marine mammal observations from MTEs conducted within the AFTT Study Area during the reporting period. The AFTT MTEs include ***Sustainment Exercises*** (SUSTEX), ***Integrated ASW Course*** (IAC), ***Joint Task Force Exercises*** (JTFEX), and ***Composite Training Unit Exercises*** (C2X)

(i) Exercise information

Table 1-i-1. MTEs conducted in the AFTT Study Area

(A) Exercise designator	(B) Date	(C) Locations	(D) Number of items or hours of each sound source bin used						(E) Number and types of of vessels and aircraft participating							
			MF1 (hours)	MF2 (hours)	MF3 (hours)	MF4 (hours)	MF5 (buoys)	ASW3 (hours)	CG	DDG	FFG	MH-60R/SH-60F dipping helo	SH-60B non-dipping helo	Submarines	MPRA	Non-ASW surface ship
C2X w/ IAC	20 Nov – 13 Dec 2013	VCOA/CPOA/JAX	*	*	*	*	*	*	*	*	*	*	*	*	*	*
C2X	2 Dec – 19 Dec 2013	VCOA/CPOA/JAX	*	*	*	*	*	*	*	*	*	*	*	*	*	*
JTFEX	11 Dec – 19 Dec 2013	VCOA/CPOA/JAX	*	*	*	*	*	*	*	*	*	*	*	*	*	*
IAC	14 Feb – 28 Feb 2014	VCOA/CPOA/JAX	*	*	*	*	*	*	*	*	*	*	*	*	*	*
IAC[1]	18 Aug – 28 Aug 2014	VCOA/CPOA/JAX	*	*	*	*	*	*	*	*	*	*	*	*	*	*
IAC[2]	3 Sep – 22 Sep 2014	VCOA/CPOA/JAX	*	*	*	*	*	*	*	*	*	*	*	*	*	*
C2X w/ IAC	4 Oct – 28 Oct 2014	VCOA/CPOA/JAX	*	*	*	*	*	*	*	*	*	*	*	*	*	*
IAC[3]	29 Oct – 10 Nov 2014	VCOA/CPOA	*	*	*	*	*	*	*	*	*	*	*	*	*	*

VCOA=Virginia Capes Operating Area; CPOA=Cherry Point Operating Area; JAX=Jacksonville Operating Area

[1] FLEETEX 2014 was a Group Sail which included an IAC event

[2] IWO ARG MEUEX was a Group Sail which included an IAC event

[3] BOLD ALLIGATOR 2014 was a Group Sail which included an IAC event

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

(ii) Individual marine mammal sighting information by exercise

Table 1-ii-1. AFTT MTE – Individual Marine Mammal Sighting Information: C2X W/ IAC 20 Nov – 13 Dec 2013

(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 sonar, relative bearing of animal from ship and estimation of animal's motion relative to ship	(M) Observed behavior – Watchstanders shall report, in plain language and without trying to categorize in any way, the observed behavior of the animals, and if any calves are present
19 Nov 13	0925Z	CPOA	dolphin	1	ACO	FFG	25	nr	nr	N	nr	none	na	nr
21 Nov 13	1740Z	CPOA	dolphin	2	VIS	DDG	5	3	9	N	<200	none	na	Dolphins playing with ship
21 Nov 13	1800Z	CPOA	dolphin	8	VIS	DDG	5	3	9	N	<200	none	na	Dolphins playing with ship
23 Nov 13	1759Z	CPOA	dolphin	10	VIS	DDG	5	4	8	N	<200	none	na	Dolphins playing with ship
24 Nov 13	1752Z	CPOA	dolphin	2	VIS	FFG	2	6	10	N	<200	none	na	Animals ovserved aft of the ship breaking the surface
24 Nov 13	1908Z	CPOA	dolphin	9	VIS	FFG	20	6	10	N	200-500	none	na	Animals observed bowriding and parallelling ship's course
26 Nov 13	1207Z	JAX	dolphin	23	VIS	DDG	15	2	8	N	<200	none	na	Dolphins playing with ship, calves present
29 Nov 13	1402Z	JAX	dolphin	3	VIS	FFG	8	2	10	N	<200	none	na	Breaking waves and bowriding
29 Nov 13	1412Z	JAX	dolphin	10	VIS	DDG	5	3	10	N	<200	none	na	Bowriding
30 Nov 13	1500Z	JAX	dolphin	10	VIS	FFG	10	6	10	N	<200	none	na	nr
1 Dec 13	1215Z	JAX	dolphin	1	VIS	FFG	1	5	10	N	<200	none	na	nr
1 Dec 13	2030Z	JAX	turtle	5	VIS	Non-ASW ship	2	2	10	na	<200	none	na	Swimming parallel
3 Dec 13	2030Z	JAX	turtle	1	VIS	DDG	5	2	10	N	<200	none	na	Surface swimming
4 Dec 13	2115Z	JAX	dolphin	10	VIS	Non-ASW	2	2	10	na	1000-2000	none	na	Swimming parallel

						ship								
6 Dec 13	1755Z	JAX	dolphin	9	VIS	DDG	5	3	9	N	<200	none	na	Dolphins playing with ship, calves present
7 Dec 13	1255Z	JAX	dolphin	1	VIS	DDG	5	1	6	N	<200	none	na	Surface swimming
7 Dec 13	1905Z	JAX	dolphin	10	VIS	DDG	10	2	10	N	<200	none	na	Bowriding
8 Dec 13	1220Z	JAX	dolphin	8	VIS	DDG	8	3	9	N	<200	none	na	Dolphins playing with ship, calves present
8 Dec 13	1530Z	JAX	turtle	1	VIS	CG	1	3	10	N	200-500	none	na	Swimming off stern
9 Dec 13	1259Z	JAX	dolphin	4	VIS	CG	5	3	10	N	200-500	none	na	Swimming off stern
9 Dec 13	1600Z	JAX	dolphin	2	VIS	DDG	2	3	10	N	200-500	Maneuvered away	na	Closing to bow ride
9 Dec 13	1650Z	JAX	dolphin	5	VIS	DDG	5	2	10	N	<200	none	na	Surface swimming
9 Dec 13	1716Z	JAX	dolphin	8	VIS	CG	10	3	10	N	<200	none	na	Swimming near bow
9 Dec 13	1822Z	JAX	dolphin	6	VIS	CG	7	3	10	N	200-500	none	na	Swimming near bow
9 Dec 13	1938Z	JAX	dolphin	10	VIS	DDG	20	3	10	N	<200	none	na	Following RHIB
10 Dec 13	1520Z	JAX	turtle	1	VIS	FFG	2	9	7	N	<200	none	na	Swimming
10 Dec 13	2050Z	CHASN	dolphin	10	VIS	Non-ASW ship	3	5	8	na	<200	none	na	Bowriding
10 Dec 13	2142Z	CHASN	dolphin	10	VIS	CG	2	8	10	N	<200	none	na	Bowriding
11 Dec 13	0806Z	JAX	dolphin	2	VIS	DDG	2	3	10	N	<200	Maneuvered away	na	Paralleling
11 Dec 13	1312Z	JAX	dolphin	3	VIS	FFG	2	5	7	N	<200	none	na	Bowriding
11 Dec 13	1455Z	JAX	dolphin	4	VIS	FFG	3	5	7	N	<200	none	na	Swimming/jumping
11 Dec 13	2030Z	JAX	dolphin	4	VIS	DDG	2	2	10	N	200-500	Maneuvered away	na	Paralleling
12 Dec 13	1415Z	JAX	dolphin	2	VIS	FFG	2	5	7	N	<200	none	na	Swimming
13 Dec 13	1013Z	JAX	dolphin	1	VIS	FFG	1	3	7	N	<200	none	na	Swimming
13 Dec 13	1305Z	JAX	dolphin	20	VIS	DDG	15	2	10	N	<200	none	na	Bowriding, calves present
13 Dec 13	1442Z	JAX	dolphin	5	VIS	CG	2	4	10	N	<200	none	na	Bowriding
13 Dec 13	1520Z	JAX	dolphin	10	VIS	DDG	5	2	10	N	<200	none	na	Bowriding
14 Dec 13	0819Z	JAX	dolphin	15	VIS	FFG	2	5	7	N	<200	none	na	Bowriding
14 Dec 13	1013Z	JAX	dolphin	15	VIS	FFG	4	5	7	N	<200	none	na	Bowriding

14 Dec 13	1050Z	JAX	dolphin	3	VIS	FFG	1	5	7	N	<200	none	na	Bowriding
14 Dec 13	1052Z	JAX	dolphin	15	VIS	FFG	3	5	7	N	<200	none	na	Bowriding
14 Dec 13	1108Z	JAX	dolphin	15	VIS	FFG	1	5	7	N	<200	none	na	Bowriding
14 Dec 13	1120Z	JAX	dolphin	6	VIS	FFG	4	5	7	N	<200	none	na	Bowriding

nr=not reported; VIS=visual; ACO=acoustic; Y=yes; N=no; na=not applicable
VCOA=Virginia Capes Operating Area; CPOA=Cherry Point Operating Area; CHASN=Charleston Operating Area; JAX=Jacksonville Operating Area

Table 1-ii-2. AFTT MTE – Individual Marine Mammal Sighting Information: C2X 2 Dec – 19 Dec 2013

(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 sonar, relative bearing of animal from ship and estimation of animal's motion relative to ship	(M) Observed behavior – Watchstanders shall report, in plain language and without trying to categorize in any way, the observed behavior of the animals, and if any calves are present
2 Dec 13	1900Z	CPOA	dolphin	3	VIS	FFG	1	1	10	N	200-500	none	na	Closing to bowride

nr=not reported; VIS=visual; ACO=acoustic; Y=yes; N=no; na=not applicable
CPOA=Cherry Point Operating Area

Table 1-ii-3. AFTT MTE – Individual Marine Mammal Sighting Information: JTFEX 11 Dec – 19 Dec 2013

(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 sonar, relative bearing of animal from ship and estimation of animal's motion relative to ship	(M) Observed behavior – Watchstanders shall report, in plain language and without trying to categorize in any way, the observed behavior of the animals, and if any calves are present
15 Dec 13	1010Z	JAX	dolphin	2	VIS	DDG	1	2	10	N	<200	none	na	Bowriding
15 Dec 13	1229Z	JAX	dolphin	6	VIS	CG	5	2	8	N	<200	none	na	Swimming towards bow
15 Dec 13	1253Z	JAX	turtle	1	VIS	CG	2	2	8	N	<200	none	na	Swimming near surface
15 Dec 13	1547Z	CPOA	dolphin	1	VIS	FFG	2	4	7	N	<200	none	na	Bowriding
15 Dec 13	1703Z	JAX	dolphin	15	VIS	DDG	3	2	10	N	200-500	none	na	Crossing stern
16 Dec 13	1311Z	JAX	dolphin	2	VIS	DDG	3	3	10	N	<200	none	na	Paralleling
16 Dec 13	2032Z	JAX	whale	1	VIS	CG	2	1	10	N	1000-2000	none	na	Swimming near surface
17 Dec 13	1448Z	JAX	turtle	2	VIS	FFG	1	5	7	N	<200	none	na	Swimming
17 Dec 13	1451Z	JAX	turtle	2	VIS	FFG	2	5	7	N	<200	none	na	Bowriding
17 Dec 13	1503Z	JAX	dolphin	6	VIS	FFG	4	5	7	N	<200	none	na	Bowriding
17 Dec 13	1724Z	JAX	dolphin	6	VIS	FFG	3	5	7	N	<200	none	na	Bowriding

nr=not reported; VIS=visual; ACO=acoustic; Y=yes; N=no; na=not applicable
CPOA=Cherry Point Operating Area; JAX=Jacksonville Operating Area

Table 1-ii-4. AFTT MTE – Individual Marine Mammal Sighting Information: IAC 14 Feb – 28 Feb 2014

(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 sonar, relative bearing of animal from ship and estimation of animal's motion relative to ship	(M) Observed behavior – Watchstanders shall report, in plain language and without trying to categorize in any way, the observed behavior of the animals, and if any calves are present
14 Feb 14	1906Z	JAX	dolphin	5	VIS	CG	10	1	10	N	<200	none	na	Bowriding
14 Feb 14	2053Z	CPOA	dolphin	10	VIS	CG	9	7	9	N	<200	none	na	Bowriding
14 Feb 14	2059Z	VCOA	dolphin	4	VIS	DDG	4	3	9	N	<200	none	na	nr
14 Feb 14	2112Z	VCOA	dolphin	8	VIS	DDG	4	3	9	N	<200	none	na	nr
14 Feb 14	2124Z	VCOA	dolphin	3	VIS	DDG	1	3	9	N	<200	none	na	nr
15 Feb 14	1533Z	CPOA	dolphin	1	VIS	DDG	3	5	10	N	<200	none	na	Paralleling ship
15 Feb 14	1554Z	CPOA	dolphin	3	VIS	DDG	5	5	10	N	<200	none	na	Paralleling ship
15 Feb 14	1615Z	CPOA	dolphin	1	VIS	FFG	2	9	7	N	<200	none	na	Bowriding
15 Feb 14	1738Z	CPOA	dolphin	3	VIS	DDG	2	5	10	N	<200	none	na	Paralleling ship
15 Feb 14	1958Z	CPOA	dolphin	8	VIS	DDG	3	6	10	N	200-500	none	na	Paralleling C/S
15 Feb 14	2256Z	CPOA	dolphin	4	VIS	DDG	1	5	10	N	<200	none	na	Paralleling ship
16 Feb 14	1525Z	CPOA	dolphin	20	VIS	DDG	1	5	10	N	>2000	none	na	Swimming
16 Feb 14	2320Z	CPOA	dolphin	10	VIS	DDG	30	5	10	N	>2000	none	na	Normal swimming
19 Feb 14	1543Z	CPOA	dolphin	1	VIS	DDG	1	3	10	N	500-1000	none	na	Paralleling C/S
19 Feb 14	1558Z	CPOA	dolphin	3	VIS	DDG	5	2	10	N	1000-2000	none	na	Normal swimming
19 Feb 14	1645Z	CPOA	dolphin	10	VIS	DDG	1	3	10	N	200-500	none	na	Paralleling C/S
19 Feb 14	2119Z	CPOA	dolphin	5	VIS	CG	45	3	8	N	200-500	none	na	Bowriding

20 Feb 14	1240Z	CPOA	dolphin	6	VIS	DDG	5	3	10	N	200-500	none	na	6 dolphins passed the ship
20 Feb 14	1544Z	CPOA	turtle	1	VIS	DDG	2	1	10	N	200-500	none	na	Normal swimming
20 Feb 14	1612Z	CPOA	dolphin	4	VIS	DDG	1	1	10	N	200-500	none	na	Normal swimming
20 Feb 14	1645Z	CPOA	dolphin	15	VIS	DDG	6	3	10	N	200-500	none	na	Pod of 15 dolphins parallelled the ship
20 Feb 14	1703Z	CPOA	dolphin	20	VIS	DDG	10	3	10	N	200-500	none	na	Moving in packs, racing and passing under bow
20 Feb 14	1841Z	CPOA	dolphin	15	VIS	DDG	15	2	10	N	>2000	none	na	Paralleling C/S
20 Feb 14	1908Z	CPOA	turtle	1	VIS	DDG	2	2	10	N	<200	none	na	Floating
20 Feb 14	1926Z	CPOA	dolphin	3	VIS	DDG	2	3	9	N	<200	none	na	nr
20 Feb 14	2202Z	JAX	dolphin	4	VIS	CG	5	4	10	N	<200	none	na	Swimming with the ship
21 Feb 14	1415Z	CPOA	turtle	1	VIS	DDG	1	3	10	N	200-500	none	na	Floating
21 Feb 14	1937Z	CPOA	dolphin	5	VIS	FFG	3	4	7	N	<200	none	na	Bowriding
21 Feb 14	1952Z	CPOA	dolphin	10	VIS	DDG	10	3	10	N	<200	none	na	Paralleling ship's course/speed
21 Feb 14	2307Z	CPOA	dolphin	40	VIS	CG	10	nr	7	N	<200	none	na	Moving away from ship
22 Feb 14	0552Z	CPOA	dolphin	3	VIS	DDG	1	6	9	N	<200	none	na	Crossing and passing beneath bow
22 Feb 14	1445Z	CPOA	whale	1	VIS	DDG	2	2	10	N	200-500	none	na	Surfacing a number of times before diving out of sight
22 Feb 14	1710Z	CPOA	turtle	1	VIS	DDG	10	2	10	N	<200	none	na	nr
22 Feb 14	2300Z	CPOA	dolphin	10	VIS	CG	3	2	10	N	<200	none	na	Bowriding
22 Feb 14	2320Z	UNK	dolphin	6	VIS	DDG	5	2	10	N	<200	none	na	nr
23 Feb 14	1408Z	CPOA	dolphin	12	VIS	DDG	1	5	9	N	200-500	none	na	Crossing in front of bow, diving out of sight
23 Feb 14	1446Z	CPOA	dolphin	4	VIS	DDG	2	2	10	N	1000-2000	none	na	nr
23 Feb 14	1523Z	CPOA	dolphin	40	VIS	DDG	20	2	10	N	200-500	none	na	Pod transited opposite way of ship
23 Feb 14	1854Z	CPOA	dolphin	15	VIS	DDG	5	1	10	N	200-500	none	na	nr
23 Feb 14	2031Z	CPOA	dolphin	4	VIS	DDG	1	1	10	N	500-1000	none	na	nr
23 Feb 14	2114Z	CPOA	dolphin	6	VIS	DDG	2	1	10	N	500-1000	none	na	nr
23 Feb 14	2152Z	CPOA	dolphin	1	VIS	DDG	1	2	10	N	500-1000	none	na	Paralleling ship's course/speed,

														breaching near towed target
24 Feb 14	1149Z	CPOA	dolphin	10	VIS	CG	5	nr	7	N	200-500	none	na	Moving away from ship
24 Feb 14	1218Z	CPOA	dolphin	5	VIS	DDG	5	5	9	N	<200	none	na	Paralleling ship's course/speed, diving beneath props and riding bow
24 Feb 14	1506Z	CPOA	dolphin	20	VIS	DDG	8	5	10	N	200-500	none	na	Paralleling ship's course/speed, diving beneath props and riding bow, calves present
24 Feb 14	1531Z	CPOA	dolphin	30	VIS	DDG	15	5	10	N	<200	none	na	Following bow, diving, feeding, calves present
24 Feb 14	1643Z	CPOA	dolphin	20	VIS	DDG	20	5	10	N	<200	none	na	Paralleling ship's course/speed, diving beneath props and riding bow, calves present
26 Feb 14	1223Z	VCOA	dolphin	45	VIS	DDG	10	2	6	N	<200	none	na	Opening, breaching

nr=not reported; VIS=visual; ACO=acoustic; Y=yes; N=no; na=not applicable
VCOA=Virginia Capes Operating Area; CPOA=Cherry Point Operating Area; JAX=Jacksonville Operating Area

Table 1-ii-5. AFTT MTE – Individual Marine Mammal Sighting Information: IAC 18 Aug – 28 Aug 2014

(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 sonar, relative bearing of animal from ship and estimation of animal's motion relative to ship	(M) Observed behavior – Watchstanders shall report, in plain language and without trying to categorize in any way, the observed behavior of the animals, and if any calves are present
No sightings reported during this exercise												

Note: IAC was included as part of FLEETEX 2014 Group Sail.

Table 1-ii-6. AFTT MTE – Individual Marine Mammal Sighting Information: IAC 3 Sep – 22 Sep 2014

(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 sonar, relative bearing of animal from ship and estimation of animal's motion relative to ship	(M) Observed behavior – Watchstanders shall report, in plain language and without trying to categorize in any way, the observed behavior of the animals, and if any calves are present
2 Sep 14	1200Z	VCOA	whale	1	VIS	CG	1	2	7	N	200-500	Maneuvered away	na	Came up
3 Sep 14	1715Z	JAX	dolphin	3	VIS	Non-ASW ship	5	1	10	na	200-500	none	na	nr
3 Sep 14	1910Z	JAX	whale	4	VIS	Non-ASW ship	5	1	10	na	>2000	none	na	nr
4 Sep 14	1200Z	VCOA	whale	3	VIS	DDG	3	1	9	N	1000-2000	none	na	nr
4 Sep 14	1943Z	CPOA	whale	1	VIS	Non-ASW ship	2	1	10	na	500-1000	none	na	nr
5 Sep 14	1140Z	VCOA	dolphin	30	VIS	Non-ASW ship	60	0	10	na	1000-2000	none	na	nr
5 Sep 14	1200Z	VCOA	dolphin	16	VIS	Non-ASW ship	20	0	10	na	500-1000	none	na	Calves present
5 Sep 14	1300Z	VCOA	dolphin	10	VIS	Non-ASW ship	10	0	10	na	500-1000	none	na	nr
5 Sep 14	1400Z	VCOA	dolphin	13	VIS	Non-ASW ship	15	1	10	na	<200	none	na	nr
6 Sep 14	1504Z	JAX	whale	2	VIS	DDG	1	1	10	Y	200-500	Powered down sonar	Whales bearing 300R, paralleling ship	Blowing
7 Sep 14	2247Z	CPOA	dolphin	1	VIS	Non-ASW ship	2	1	10	na	<200	none	na	Opening
8 Sep 14	1200Z	JAX	dolphin	3	VIS	FFG	5	3	8	Y	>2000	none	Dolphins bearing 275R, paralleling ship	Parallel

10 Sep 14	1340Z	JAX	turtle	1	VIS	DDG	1	1	10	N	200-500	none	na	Floating on surface
10 Sep 14	1633Z	CPOA	dolphin	4	VIS	Non-ASW ship	5	1	10	na	<200	none	na	Opening
10 Sep 14	1702Z	JAX	dolphin	3	VIS	Non-ASW ship	1	1	10	na	500-1000	none	na	nr
10 Sep 14	2045Z	JAX	dolphin	10	VIS	Non-ASW ship	10	0	10	na	<200	none	na	nr
10 Sep 14	2308Z	CPOA	dolphin	4	VIS	Non-ASW ship	4	0	10	na	200-500	none	na	Closing
11 Sep 14	1124Z	JAX	dolphin	4	VIS	Non-ASW ship	45	0	10	na	200-500	none	na	nr
11 Sep 14	1420Z	JAX	turtle	1	VIS	Non-ASW ship	5	1	10	na	<200	none	na	nr
12 Sep 14	1801Z	JAX	dolphin	2	VIS	Non-ASW ship	2	1	10	na	500-1000	none	na	Paralleling
13 Sep 14	1356Z	JAX	turtle	1	VIS	DDG	5	1	10	N	500-1000	none	na	Floating on surface
14 Sep 14	1912Z	JAX	turtle	1	VIS	Non-ASW ship	1	1	8	na	<200	none	na	nr
14 Sep 14	1953Z	JAX	dolphin	2	VIS	Non-ASW ship	1	1	8	na	<200	none	na	nr
14 Sep 14	2000Z	JAX	dolphin	7	VIS	DDG	30	1	10	N	<200	none	na	Paralleling
15 Sep 14	1114Z	JAX	dolphin	2	VIS	Non-ASW ship	1	0	10	na	<200	none	na	Paralleling, calves present
15 Sep 14	1146Z	JAX	dolphin	15	VIS	Non-ASW ship	5	0	10	na	<200	none	na	Paralleling
15 Sep 14	1237Z	JAX	dolphin	4	VIS	Non-ASW ship	1	3	10	na	200-500	none	na	nr
15 Sep 14	1323Z	JAX	dolphin	3	VIS	Non-ASW ship	3	1	10	na	500-1000	none	na	nr
15 Sep 14	1735Z	JAX	dolphin	3	VIS	Non-ASW ship	2	0	10	na	<200	none	na	nr
15 Sep 14	1818Z	JAX	dolphin	3	VIS	Non-ASW ship	1	0	6	na	<200	none	na	nr

15 Sep 14	2040Z	JAX	dolphin	1	VIS	Non-ASW ship	5	1	10	na	200-500	none	na	nr
15 Sep 14	2142Z	JAX	turtle	1	VIS	Non-ASW ship	2	1	10	na	200-500	none	na	nr
16 Sep 14	1710Z	JAX	dolphin	6	VIS	Non-ASW ship	2	2	10	na	500-1000	none	na	nr
17 Sep 14	0548Z	JAX	dolphin	2	VIS	Non-ASW ship	1	2	10	na	<200	none	na	Paralleling
17 Sep 14	0929Z	JAX	dolphin	30	VIS	Non-ASW ship	10	3	10	na	<200	none	na	Calves present

nr=not reported; VIS=visual; ACO=acoustic; Y=yes; N=no; na=not applicable
VCOA=Virginia Capes Operating Area; CPOA=Cherry Point Operating Area; JAX=Jacksonville Operating Area

Note: IAC was included as part of IWO ARG MEUEX Group Sail.

Table 1-ii-7. AFTT MTE – Individual Marine Mammal Sighting Information: C2X w/ IAC 4 Oct – 28 Oct 2014

(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 sonar, relative bearing of animal from ship and estimation of animal's motion relative to ship	(M) Observed behavior – Watchstanders shall report, in plain language and without trying to categorize in any way, the observed behavior of the animals, and if any calves are present
4 Oct 14	1746Z	JAX	dolphin	4	VIS	Non-ASW ship	5	3	10	na	200-500	none	na	nr
5 Oct 14	1225Z	JAX	dolphin	30	VIS	Non-ASW ship	20	3	10	na	500-1000	none	na	nr
5 Oct 14	2046Z	CPOA	dolphin	20	VIS	Non-ASW ship	20	2	10	na	<200	none	na	nr
7 Oct 14	1335Z	CPOA	dolphin	10	VIS	DDG	45	1	10	N	200-500	none	na	Jumping
7 Oct 14	2124Z	CPOA	dolphin	12	VIS	DDG	2	1	10	N	500-1000	none	na	Jumping
9 Oct 14	1246Z	CPOA	dolphin	6	VIS	DDG	1	3	10	N	<200	none	na	Jumping
10 Oct 14	1117Z	JAX	dolphin	3	VIS	DDG	3	1	10	N	<200	none	na	Cresting
10 Oct 14	1238Z	JAX	dolphin	3	VIS	DDG	3	3	10	N	<200	none	na	Bowriding dolphins
10 Oct 14	1238Z	CHASN	dolphin	2	VIS	DDG	2	1	10	N	200-500	none	na	Bowriding dolphins
10 Oct 14	1522Z	JAX	dolphin	9	VIS	DDG	1	1	10	N	<200	none	na	Jumping
10 Oct 14	1611Z	JAX	dolphin	8	VIS	DDG	2	1	10	N	<200	none	na	Cresting
12 Oct 14	1458Z	JAX	turtle	1	VIS	Non-ASW ship	5	0	10	na	1000-2000	none	na	nr
12 Oct 14	1800Z	JAX	turtle	1	VIS	Non-ASW ship	1	1	10	na	<200	none	na	nr
12 Oct 14	1900Z	JAX	dolphin	30	VIS	Non-ASW ship	20	0	10	na	>2000	none	na	nr

12 Oct 14	2049Z	JAX	dolphin	7	VIS	DDG	5	1	10	N	200-500	none	na	Cresting
12 Oct 14	2200Z	JAX	dolphin	1	VIS	Non-ASW ship	1	1	10	na	<200	none	na	nr
12 Oct 14	1215Z	JAX	dolphin	4	VIS	Non-ASW ship	2	1	10	na	<200	none	na	nr
12 Oct 14	1215Z	JAX	dolphin	7	VIS	DDG	1	1	10	Y	200-500	Shut down sonar	Dolphins bearing 350R, closing ship	Cresting
14 Oct 14	1155Z	JAX	dolphin	12	VIS	Non-ASW ship	3	2	10	na	200-500	none	na	Opening
14 Oct 14	1400Z	JAX	dolphin	15	VIS	Non-ASW ship	5	4	10	na	<200	none	na	nr
16 Oct 14	1800Z	JAX	turtle	1	VIS	DDG	2	3	10	N	<200	none	na	Swimming
18 Oct 14	1253Z	JAX	dolphin	7	VIS	Non-ASW ship	3	4	10	na	<200	none	na	nr
19 Oct 14	1028Z	JAX	dolphin	5	VIS	Non-ASW ship	3	2	10	na	<200	none	na	nr
21 Oct 14	1951Z	JAX	dolphin	2	VIS	DDG	1	2	10	N	<200	none	na	Bowriding dolphins

nr=not reported; VIS=visual; ACO=acoustic; Y=yes; N=no; na=not applicable
CPOA=Cherry Point Operating Area; CHASN=Charleston Operating Area; JAX=Jacksonville Operating Area

Table 1-ii-8. AFTT MTE – Individual Marine Mammal Sighting Information: Group Sail with IAC 29 Oct – 10 Nov 2014

(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 sonar, relative bearing of animal from ship and estimation of animal's motion relative to ship	(M) Observed behavior – Watchstanders shall report, in plain language and without trying to categorize in any way, the observed behavior of the animals, and if any calves are present
No sightings reported during this exercise												

Note: IAC was included as part of BOLD ALLIGATOR 2014 Group Sail.

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

Between 14 November 2013 and 13 November 2014, there were a total of ten major training exercises, including three C2X, one JTFEX, and six IAC.

Table 1-iii-1. AFTT MTEs and associated marine mammal sightings

MTE Type	Month	# of Exercise Days	# of Ships Involved (MFAS and non-MFAS)	# of Marine Mammal Sightings	# of Marine Mammals
C2X w/ IAC	Nov – Dec 2013	24	18	43	300
C2X	Dec 2013	18	17	1	3
JTFEX	Dec 2013	9	18	11	44
IAC	Feb 2014	15	14	48	457
IAC	Aug 2014	11	9	0	0
IAC	Sep 2014	20	12	35	197
C2X w/ IAC	Oct 2014	25	9	24	200
IAC	Oct – Nov 2014	13	13	0	0
	Total	**135**	**110**	**162**	**1,201**

Mitigation Effectiveness Discussion

The three categories of mitigation measures (Personnel Training, Lookout and Watchstander Responsibility, and Operating Procedures) outlined in the AFTT EIS and approved by NMFS were effective in detecting and appropriately mitigating exposure of marine mammal to mid-frequency active sonar. Fleet commanders 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, and making adjustments based upon the lessons learned. The mitigation zones were adhered to, and vessels and aircraft applied mitigation measures when marine mammals were visually observed within the requisite zones.

There were a total of 2 sightings of at least 9 marine mammals during all AFTT MTEs at ranges less than 1,000 yards during which active sonar was in use. These 2 sightings included 1 sighting of 2 whales and 1 sighting of 7 dolphins. (**Table 1-iii-2**).

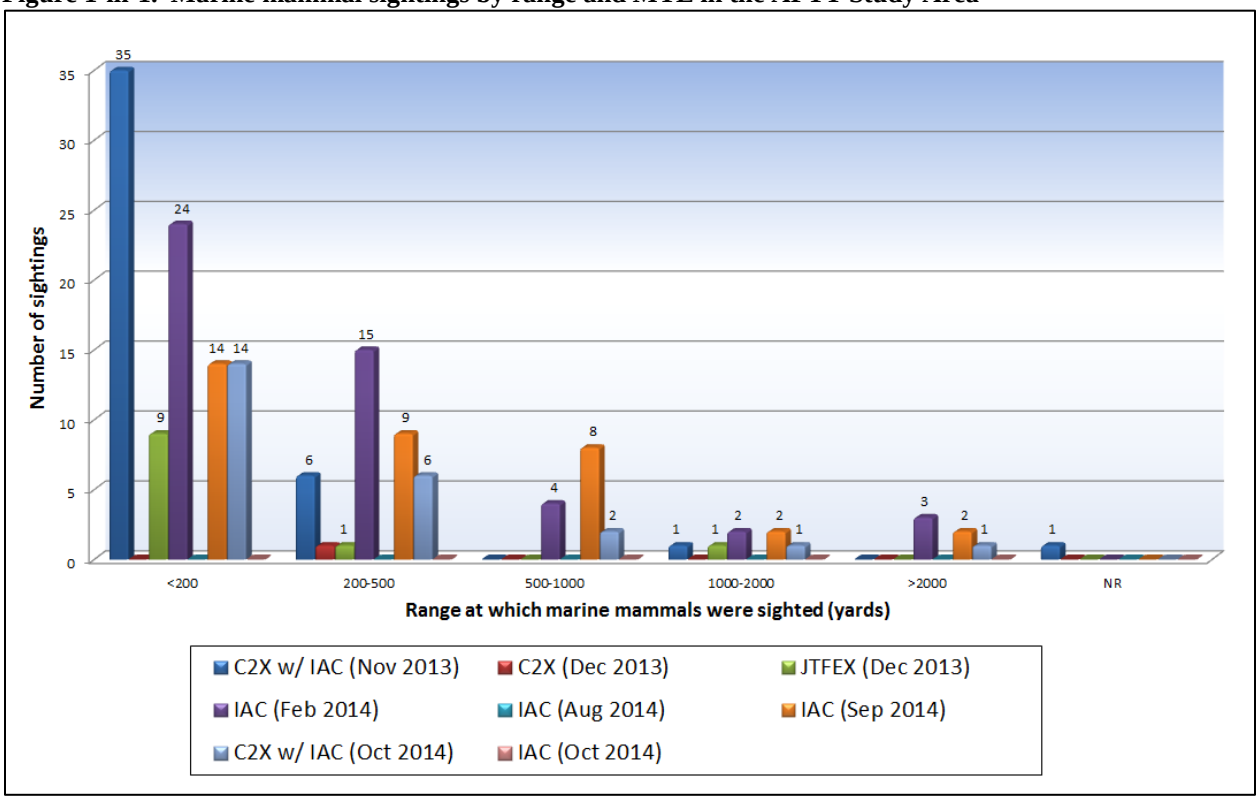
Table 1-iii-2. Breakdown of marine mammals sighted in the AFTT Study Area during MTEs at ranges less than 1000 yards concurrent with active sonar use

Range	< 200 yards	200 – 500 yards	500 – 1000 yards
Dolphins	0	7	0
Whales	0	2	0
Pinnipeds	0	0	0
Turtles	0	0	0
Total marine mammals	0	9	0

For AFTT MTEs, there were a total of 2 mitigation events when sonar was shut off or powered down during ASW training. During one of these mitigations, sonar was unnecessarily powered down by other units in formation due to 2 whales reported outside of the 1,000 yard power down mitigation zone.

Figure 1-iii-1 depicts the reported ranges of all marine mammal sightings (with and without active sonar) from each of the ten MTEs within the AFTT Study Area. The number of sightings is variable by strike group, exercise type, and sea state at the time of the MTE.

Figure 1-iii-1. Marine mammal sightings by range and MTE in the AFTT Study Area



Deep diving animals were not observed during any of the MTEs. If exposure did occur, Navy assesses that these animals would not be exposed to significant levels of sound for long periods of time based on the nature of ship movements during active sonar use, and even less exposure from aviation active sonar systems, such as dipping sonar and sonobuoys, because they are used less frequently and at lower power levels. For instance, during a one hour dive by a beaked whale or sperm whale, a ship moving at a nominal 10 knot speed could transit about 10 nm from its original location, well beyond ranges predicted to have significant exposures (**Table 1-iii-3**).

Table 1-iii-3 contains a list of all mitigation events where sonar was on and the observed range was less than 1,000 yards. It should be noted that with or without mitigation, given the relative motion of ships maneuvering at-sea and the independent marine mammal movement, the time any given animal would be exposed to active sonar from surface ships is likely to be limited as shown by the distances calculated in **Table 1-iii-3** Column 13.

Table 1-iii-3. Sightings where sonar was on during detection of marine mammals at ranges less than 1,000 yards, and the mitigation conducted

1) OpArea (JAX, CPOA, VCOA)	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 (Sonar powerdown, Sonar shutdown)	10) Estimate MAX exposure PRIOR to mitigation (dB re 1uPa) [1]	11) Number of minutes sonar mitigation applied	12) Estimate exposure AFTER mitigation (dB re 1uPa) [1]	13) DISTANCE ship would have moved given length of mitigation and nominal 10-knot ship speed (yds)	14) If source in use is hull-mounted sonar, relative bearing of animal from ship and estimation of animal's motion relative to ship	15) Observed behavior
JAX	IAC	Sep	whale	2	DDG	1	200-500	Sonar powerdown	<181-189	5	<171-179	1,667	Whales bearing 300R, paralleling ship	Blowing
JAX	IAC	Oct	dolphin	7	DDG	1	200-500	Sonar shutdown	<181-189	10	None	3,333	Dolphins bearing 350R, closing ship	Cresting

Notes:
[1] Estimated exposure based on 20Log[R] spherical spreading propagation loss for ranges less than 1000 yards and where nominal active sonar Source Level (SL) assumed to be 235 dB for DDGs and 225 for FFGs. Actual operating parameters and oceanographic condition likely result is 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 predicts the maximum potential exposure since it assumes the horizontal range from a visual sighting accounts for an animal across all depths at which an animal travels. In other words, this estimated maximum potiential exposure is assumed independent of the animal'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.

Use of passive sonar to differentiate specific species types or range to an animal is not deemed effective. Passive sonar is an acoustic device used for listening to underwater sound and does not involve transmitting active sound into the water column. Passive sonar use is driven by the tactical nature of an ASW training or testing event, and is employed whenever possible. However, given the nature of passive sonar technology and underwater sound propagation, determining range and absolute position of a marine mammal is exceedingly difficult and generally not possible with any single ship-based passive sonar. Skilled operators or unique circumstances may sometimes allow real-time or near-real time determinations of marine mammal range at the expense of interrupting the ship's ASW training at the time. In addition, passive sonar can only detect marine mammals that are vocalizing (i.e., making underwater sound as part of communication and echolocation). Marine mammal vocalization is based on individual animal needs or characteristics at a particular moment, such as species-level foraging, mating, and other oceanographic or biological factors. For instance, for some species, it is believed only males typically vocalize (ex. humpback whales, blue whales, fin whales, and minke whales). Depending on oceanographic conditions and animal source levels, when marine mammals do vocalize, sounds can easily travel one to several tens of kilometers (km) (0.5 nautical mile (nm) to tens of nm) for some mid-to-low frequency animals, and tens to hundreds of km for very low frequency baleen whales (i.e., blue and fin whales). These ranges demonstrate that even if the marine mammal vocalization can be detected, it does not mean the mammal is necessarily close to the passive sonar sensor. Determining when or if a marine mammal is within a mitigation zone by passive acoustic detection is not always technically feasible.

There is no information from which to assess how many, if any, animals not observed by Navy lookouts may or may not have been exposed to MFAS received levels equal to or greater than the exposure criteria set forth by NMFS. However, many of the ESA-listed species in AFTT, with the exception of perhaps the sperm whale, are easier to spot on the surface due to shorter dive times and larger animal size (blue whale, fin whale, sei whale). Dolphins, the most common cetacean seen in AFTT often occur in large, visible pods. Beaked whales are acknowledged to be difficult to observe at-sea due to deep diving profiles and short surface intervals. For all marine mammal sightings made by Navy platforms during AFTT MTEs (**Tables 1-iii-1**, **1-iii-2**, **1-iii-3** and **Figure 1-iii-1**), there was no obvious indication or report that any animal behaved in a manner not associated with normal movement, or foraging.

(iv) Exercise Information for Each SINKEX

No SINKEXs were conducted in the AFTT Study Area during the reporting period.

(2) AFTT – Summary of Training Sources Used

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

This section summarizes total annual usage of each type of sound source used for training within AFTT from 14 November 2013 to 13 November 2014.

Table 2-i-1. Training sound source usage within the AFTT Study Area by source BIN

Authorized sound sources 50 CFR §218.80 (c) and NMFS AFTT LOA		Authorized Amount (14Nov13-13Nov14)	Actual Usage (14Nov13-13Nov14)	% Used of Authorized Amount
(1) Active Acoustic Sources Used During Annual Training				
MF1	Hull-mounted sonars (e.g. AN/SQS-53)	9,844 hours	*	*
MF1K	Hull-mounted sonar Kingfisher mode	163 hours	*	*
MF2	Hull-mounted sonars (e.g. AN/SQS-56)	3,150 hours	*	*
MF2K	Hull-mounted sonar Kingfisher mode	61 hours	*	*
MF3	Hull-mounted submarine sonar (e.g. AN/BQQ-10)	2,058 hours	*	*
MF4	Helicopter dipping sonar (e.g. AN/AQS-22)	927 hours	*	*
MF5	Acoustic sonobuoys (e.g. AN/SSQ-62)	14,556 buoys	*	*
MF11	High duty cycle hull-mounted sonars (e.g. AN/SQS-53 HDC)	800 hours	*	*
MF12	High duty cycle towed array sonars (e.g. HDC-VDS)	687 hours	*	*
HF1	Hull-mounted submarine sonar (e.g. AN/BQQ-10)	1,676 hours	*	*
HF4	Mine detection / classification sonars	8,464 hours	*	*
ASW1	Mid-frequency Deep Water Active Distributed System (DWADS)	128 hours	*	*
ASW2	Mid-frequency Multi-static Active Coherent sonobuoy (e.g. AN/SSQ-125)	2,620 buoys	*	*
ASW3	Mid-frequency towed acoustic countermeasure (e.g. AN/SLQ-25)	13,586 hours	*	*
ASW4	Mid-frequency expendable acoustic device countermeasure (e.g. ADC/NAE)	1,365 devices	*	*
TORP1	Lightweight torpedo (e.g. MK 54/MK 46)	54 torpedoes	*	*
TORP2	Heavyweight torpedo (e.g. MK 48)	80 torpedoes	*	*
(2) Explosive Sources Used During Annual Training				
E1	Medium-caliber projectiles (0.1 – 0.25 lb.)	124,552 detonations	*	*
E2	Medium-caliber projectiles (0.26 – 0.5 lb.)	856 detonations	*	*
E3	Large-caliber projectiles	3,132 detonations	*	*
E4	Improved Extended Echo Ranging sonobuoy	2,190 detonations	*	*
E5	5-inch projectiles	14,370 detonations	*	*
E6	15 lb. shaped charge	500 detonations	*	*
E7	40 lb. demo block / shaped charge	322 detonations	*	*
E8	250 lb. bomb	77 detonations	*	*
E9	500 lb. bomb	2 detonations	*	*

E10	1,000 lb. bomb	8 detonations	*	*
E11	650 lb. mine	1 detonation	*	*
E12	2,000 lb. bomb	133 detonations	*	*
(3) Active Acoustic Sources Used During Non-Annual Training				
HF4	Mine detection/classification sonars	192 hours	*	*
(4) Explosive Sources Used During Non-Annual Training				
E2	Medium-caliber projectiles	2 detonations	*	*
E4	Improved Extended Echo Ranging sonobuoy	2 detonations	*	*

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

(3) AFTT – 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.

(4) AFTT – Geographic Training Information Representation

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 available method for this information to be disseminated for the foreseeable future is in the classified version of this Annual Exercise Report.

(5) AFTT – Ship Shock Trial Report

No Ship Shock Trials were conducted in the AFTT Study Area during the reporting period.

(6) AFTT – Summary of Testing Sound Sources

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

This section summarizes total annual usage of each type of sound source used for testing within AFTT from 14 November 2013 to 13 November 2014.

Table 6-i-1. Testing sound source usage within the AFTT Study Area by source BIN

Authorized sound sources 50 CFR §218.80 (c) and NMFS AFTT LOA		Authorized Amount (14Nov13-13Nov14)	Actual Usage (14Nov13-13Nov14)	% Used of Authorized Amount
(1) Active Acoustic Sources Used During Annual Testing				
LF4	Low-frequency sources from 180 dB up to 200 dB	254 hours	*	*
LF5	Low-frequency sources from 160 dB up to 180 dB	370 hours	*	*
MF1	Hull-mounted sonars (e.g. AN/SQS-53)	220 hours	*	*
MF1K	Hull-mounted sonar Kingfisher mode	19 hours	*	*
MF2	Hull-mounted sonars (e.g. AN/SQS-56)	36 hours	*	*
MF3	Hull-mounted submarine sonar (e.g. AN/BQQ-10)	434 hours	*	*
MF4	Helicopter dipping sonar (e.g. AN/AQS-22)	776 hours	*	*
MF5	Acoustic sonobuoys (e.g. AN/SSQ-62)	4,184 buoys	*	*
MF6	Active underwater sound signal devices (e.g. MK 84 SUS)	303 items	*	*

MF8	Other active sources greater than 200 dB	90 hours	*	*
MF9	Other active sources from 180 dB up to 200 dB	13,034 hours	*	*
MF10	Other active sources from 160 dB up to 180 dB	1,067 hours	*	*
MF12	High duty cycle towed array sonars (e.g. HDC-VDS)	144 hours	*	*
HF1	Hull-mounted submarine sonar (e.g. AN/BQQ-10)	1,243 hours	*	*
HF3	Other hull-mounted submarine sonars	384 hours	*	*
HF4	Mine detection / classification sonars	5,572 hours	*	*
HF5	Other active sources greater than 200 dB	1,206 hours	*	*
HF6	Other active sources from 180 dB up to 200 dB	1,974 hours	*	*
HF7	Other active sources from 160 dB up to 180 dB	366 hours	*	*
ASW1	Mid-frequency Deep Water Active Distributed System (DWADS)	96 hours	*	*
ASW2	Mid-frequency Multi-static Active Coherent sonobuoy (e.g. AN/SSQ-125)	2,743 buoys	*	*
ASW2	Mid-frequency Multi-static Active Coherent sonobuoy (e.g. AN/SSQ-125)	274 hours	*	*
ASW3	Mid-frequency towed acoustic countermeasure (e.g. AN/SLQ-25)	948 hours	*	*
ASW4	Mid-frequency expendable acoustic device countermeasure (e.g. ADC/NAE)	483 devices	*	*
TORP1	Lightweight torpedo (e.g. MK 54/MK 46)	581 torpedoes	*	*
TORP2	Heavyweight torpedo (e.g. MK 48)	521 torpedoes	*	*
M3	Mid-frequency acoustic modems	461 hours	*	*
SD1/SD2	Swimmer detection sonars	230 hours	*	*
FLS2/FLS3	Forward Looking Sonar systems	365 hours	*	*
SAS1	Mid-frequency SAS systems	6 hours	*	*
SAS2	High-frequency SAS systems	3,424 hours	*	*
(2) Explosive Sources Used During Annual Testing				
E1	Medium-caliber projectiles (0.1 – 0.25 lb.)	25,501 detonations	*	*
E2	Medium-caliber projectiles (0.26 – 0.5 lb.)	0 detonations	*	*
E3	Large-caliber projectiles	2,912 detonations	*	*
E4	Improved Extended Echo Ranging sonobuoy	1,432 detonations	*	*
E5	5-inch projectiles	495 detonations	*	*
E6	15 lb. shaped charge	54 detonations	*	*
E7	40 lb. demo block / shaped charge	0 detonations	*	*
E8	250 lb. bomb	11 detonations	*	*
E9	500 lb. bomb	0 detonations	*	*
E10	1,000 lb. bomb	10 detonations	*	*
E11	650 lb. mine	27 detonations	*	*
E12	2,000 lb. bomb	0 detonations	*	*
E13	1,200 lb. HBX	0 detonations	*	*
E14	2,500 lb. HBX	4 detonations	*	*
(3) Active Acoustic Sources Used During Non-Annual Testing				
LF5	Low-frequency sources from 160 dB up to 180 dB	240 hours	*	*
MF9	Other active sources from 180 dB up to 200 dB	480 hours	*	*

HF5	Other active sources greater than 200 dB	240 hours	*	*
HF6	Other active sources from 180 dB up to 200 dB	720 hours	*	*
HF7	Other active sources from 160 dB up to 180 dB	240 hours	*	*
FLS2/FLS3	Forward Looking Sonar systems	240 hours	*	*
SAS2	High-frequency SAS systems	720 hours	*	*
(4) Explosive Sources Used During Non-Annual Testing				
E1	Medium-caliber projectiles	600 detonations	*	*
E16	10,000 lb. HBX	12 detonations	*	*
E17	40,000 lb. HBX	4 detonations	*	*

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

(7) AFTT – Geographic Testing Information Representation

The precise locations and frequency of ASW 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.