Subsequent to review of the Navy's application, NMFS requested the Navy provide the following additional information:

1. A site-specific monitoring plan
2. A more detailed description of the proposed reporting requirements as informed by Navy/NMFS discussions during previous consultations
3. A more detailed description of how the mid-frequency sonar training covered under the MIRC application may, in a limited number of exercises, overlap with low frequency sonar operation.
4. A clarification of what DEMO exercises are

The requested information is provided below.

1) Site-specific monitoring plan

EXECUTIVE SUMMARY

The U.S. Navy has developed this Mariana Islands Range Complex (MIRC) Monitoring Plan to provide marine mammal and sea turtle monitoring as required under the Marine Mammal Protection Act (MMPA) of 1972 and the Endangered Species Act (ESA) of 1973. In order to issue an Incidental Take Authorization (ITA) for an activity, Section 101(a) (5) (a) of the MMPA states that National Marine Fisheries Service (NOAA/NMFS) must set forth "requirements pertaining to the monitoring and reporting of such taking." The MMPA implementing regulations at 50 CFR Section 216.104 (a)(13) note that requests for Letters of Authorization (LOAs) must include the suggested means of accomplishing the necessary monitoring and reporting that will result in increased knowledge of the species and of the level of taking or impacts on populations of marine mammals that are expected to be present (NOAA/NMFS, 2005). While the Endangered Species Act does not have specific monitoring requirements, recent Biological Opinions issued by NMFS have included terms and conditions requiring the Navy to develop a monitoring program.

In addition to this proposed MIRC monitoring plan, a number of other Navy range complex monitoring plans have been or are being developed for protected marine species, primarily marine mammals and sea turtles, as part of the environmental planning and regulatory compliance process associated with a variety of training activities. The goals of these monitoring plans are to assess the impacts of training activities on marine species and evaluate the effectiveness of the Navy's current mitigation practices. This MIRC Plan proposes monitoring goals for marine mammals and sea turtles that are unique with regard to their breadth as well as their focus on potential impacts of mid-frequency active sonar (MFAS) and underwater explosions on marine mammals and sea turtles. Data from generated by implementation of this monitoring plan will be shared with the Navy-Wide Integrated Comprehensive Monitoring Program (ICMP)

To accomplish these goals, the Navy will use similar methods of implementation and data analyses which have demonstrated success in comparable monitoring programs regarding the effects of anthropogenic sound on marine animals. This MIRC Monitoring Plan is modeled on both the Hawaii and Southern California range complex monitoring plans and, accordingly, has been designed as a collection of focused "studies" to gather data that will aid the National Marine Fisheries Service (NMFS) in addressing the following questions:

Question 1. Are marine mammals and sea turtles exposed to MFAS, especially at levels associated with adverse effects (i.e., based on NMFS' criteria for behavioral harassment, temporary threshold shift (TTS), or permanent threshold shift (PTS)? If so, at what levels are they exposed?

Question 2. If marine mammals and sea turtles are exposed to MFAS in the MIRC, do they redistribute geographically as a result of continued exposure? If so, how long does the redistribution last?

Question 3. If marine mammals and sea turtles are exposed to MFAS, what are their behavioral responses to various levels?

Question 4. What are the behavioral responses of marine mammals and sea turtles that are exposed to explosives at specific levels?

Question 5. Is the Navy's suite of mitigation measures for MFAS and explosives (e.g., Protective Measures Assessment Protocol (PMAP), major exercise measures agreed to by the Navy through permitting) effective at avoiding TTS, injury, and mortality of marine mammals and sea turtles?

Monitoring methods proposed for the MIRC include a combination of research elements designed to support Range-specific monitoring and contribute information to a larger Navy-wide program. These research elements include passive acoustic monitoring (PAM), shore-based observers for explosives and marine mammal observers (MMO) aboard Navy vessels.

Table ES-1. Summary of proposed monitoring studies and level of effort in support of the MIRC Monitoring Plan.

STUDY 1,3, 4 (exposures and behavioral responses)										
Passive acoustic monitoring (Study 2, 3,	FY10	ADAPTIVE MANAGEMENT REASSESSMENT (AMR)	FY11	AMR	FY12	AMR	FY13	AMR	FY14
	Deploy 2 autonomous devices in the MIRC study area and begin		Continue recording from devices; Begin data analysis		Continue recording from devices and data analysis; integrate other		Data Analysis and continue recording from devices and data analysis;		Data Analysis and continue recording from devices and data analysis;
Marine Mammal Observers aboard Navy vessels (Study 1, 3, 5)	Two each, aboard two surface combatants during Valiant Shield if it occurs		Two each, aboard two surface combatants during Valiant Shield if it occurs		Two each, aboard two surface combatants during Valiant Shield if it occurs		Two each, aboard two surface combatants during Valiant Shield if it occurs		Two each, aboard two surface combatants during Valiant Shield if it occurs
Shore-based observers	Shore based observers will monitor before, during and after 3 nearshore explosive events inside Apra Harbor and Agat Bay.		Shore based observers will monitor before, during and after 3 nearshore explosive events (total) inside Apra Harbor and Agat Bay.		Shore based observers will monitor before, during and after 3 nearshore explosive events (total) inside Apra Harbor and Agat Bay.		Shore based observers will monitor before, during and after 3 nearshore explosive events(total) inside Apra Harbor and Agat Bay.		Shore based observers will monitor before, during and after 3 nearshore explosive events(total) inside Apra Harbor and Agat Bay.
STUDY 2 (geographic redistribution)									

Passive Acoustics Monitoring (PAM)	Deploy 2 autonomous devices in the MIRC study area and begin recording	AMR	Continue recording from devices; Begin data analysis	AMR	Continue recording from devices and data analysis; integrate other range classification data (BW and other species if available)	AMR	Data Analysis and continue recording from devices and data analysis; integrate data collected on other ranges	AMR	Data Analysis and continue recording from devices and data analysis; integrate data collected on other ranges

INTRODUCTION

The U.S. Navy is in the process of developed a Mariana Islands Range Complex (MIRC) (**Figure 1**) Monitoring Plan to provide marine mammal and sea turtle monitoring as required under the Marine Mammal Protection Act (MMPA) of 1972 and the Endangered Species Act (ESA) of 1973.

In order to issue an Incidental Take Authorization (ITA) for an activity, Section 101(a) (5) (a) of the MMPA states that National Marine Fisheries Service (NOAA/NMFS) must set forth "*requirements pertaining to the monitoring and reporting of such taking*". The MMPA implementing regulations at 50 CFR Section 216.104 (a) (13) note that requests for Letters of Authorization (LOAs) must include the suggested means of accomplishing the necessary monitoring and reporting that will result in increased knowledge of the species and of the level of taking or impacts on populations of marine mammals that are expected to be present (NOAA/NMFS, 2005).

While the ESA does not have specific monitoring requirements, recent NMFS section 7, ESA, biological pinions have included terms and conditions requiring the Navy to develop a monitoring program.

Additional Navy-funded research and development (R&D) studies and ancillary research collaborations with academia and other institutions will be integrated as possible to enhance the available data, and will be used in part to address objectives of a larger Navy-wide initiative discussed in this Plan. Lastly, as an adaptive management strategy, the MIRC Monitoring Plan will integrate elements from Navy-wide marine mammal research into the regional monitoring and data analysis proposed in this Plan as new technologies and techniques become available.

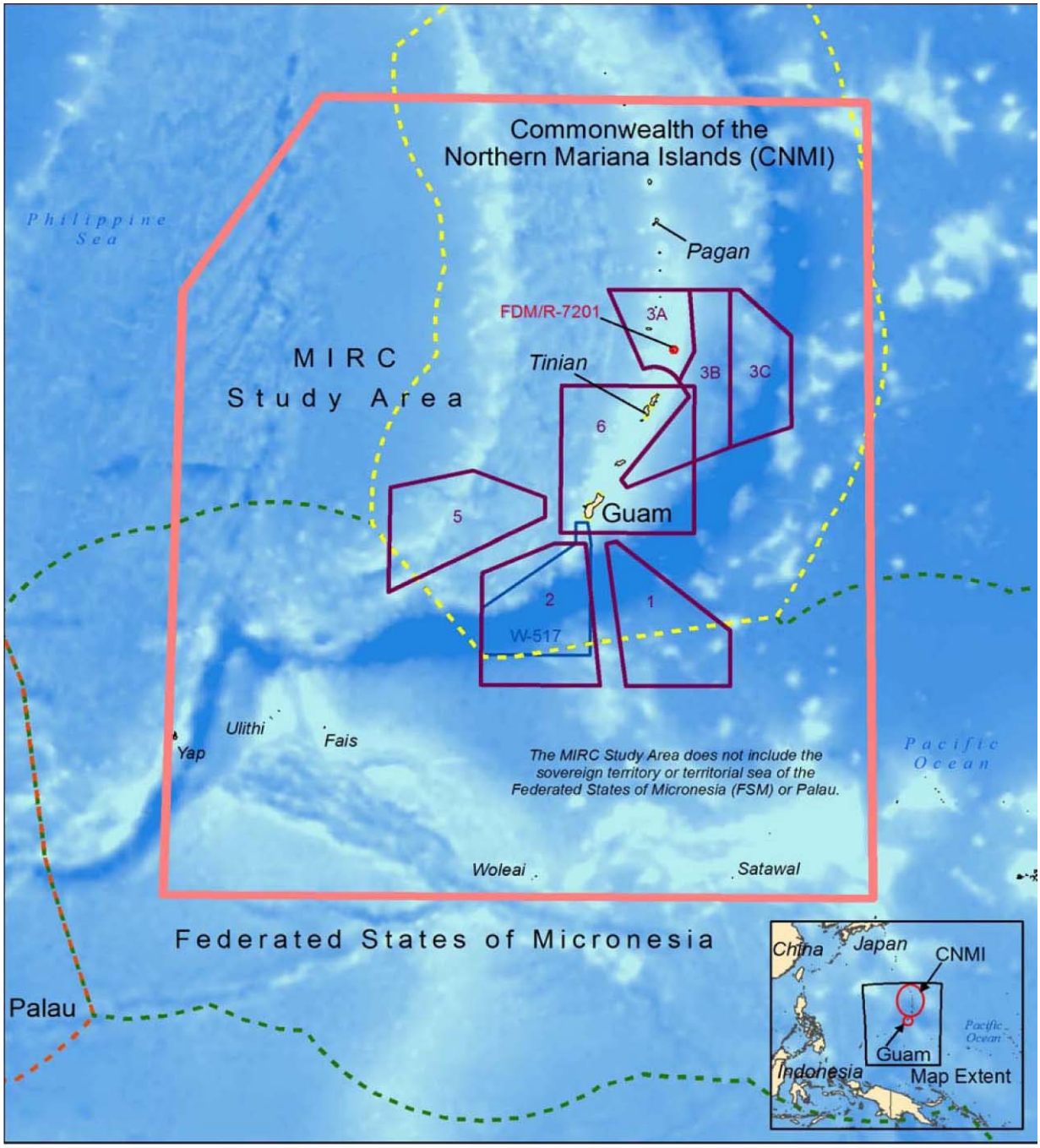
Commonwealth of the
Northern Mariana Islands (CNMI)
Philippine Sea
Pagan
FDM/R-7201
3A
MIRC
Study Area
Tinian
3B
3C
6
5
Guam
2
1
W-517
Ulithi
Yap
Fais
The MIRC Study Area does not include the sovereign territory or territorial sea of the Federated States of Micronesia (FSM) or Palau.
Pacific Ocean
Woleai
Satawal
Federated States of Micronesia
Palau
China
Japan
CNMI
Guam
Indonesia
Map Extent
MIRC and EIS/OEIS Study Area
Air Traffic Control Assigned Airspace (ATCAA)
Special Use Airspace
Restricted Airspace - R7201
Warning Area - W517
Exclusive Economic Zone
United States (Includes CNMI and Guam)
Federated States of Micronesia
Palau
N
0 25 50 100 Nautical Miles
0 25 50 100 Miles
Sources: VLIZ (2005). Maritime Boundaries Geodatabase. Available online at http://www.vliz.be/vmdcdata/marbound
*EEZ should not be used for legal, commerical/ economical (exploration of natural resources) or navigational purposes.

Figure 1. MIRC Study Area (inclusive).

NAVY-WIDE INTEGRATED COMPREHENSIVE MONITORING PROGRAM (ICMP)

The Integrated Comprehensive Monitoring Program (ICMP) is Navy-wide and will provide an overarching structure and coordination that compiles data from all Navy range specific monitoring plans (Figure 2).

In addition to the MIRC Range Complex monitoring plan, a number of other Navy range complex monitoring plans have been or are being developed for protected marine species, primarily marine mammals and sea turtles, as part of the environmental planning and regulatory compliance process associated with a variety of training actions in those regions. Goals of these monitoring plans are to assess the impacts of training activities on marine species and effectiveness of the Navy's current mitigation practices. Ranges with the largest amount of operations will be prioritized for monitoring based on availability of both funding and scientific resources. These include the Atlantic Fleet Active Sonar Training Range (AFAST), Hawaii Range Complex (HRC), and Southern California Range Complex (SOCAL). Additional Navy funded research and development (R&D) studies and ancillary research collaborations with academia and other institutions will be integrated as possible to enhance the data pool, and will be used in part to address objectives of the ICMP. Lastly, as an adaptive management strategy, the HRC monitoring plan will integrate elements from Navy-wide marine mammal research into the regional monitoring and data analysis proposed in this plan when new technologies and techniques become available.

The MIRC Range Complex plan is one component of the ICMP and the studies outlined here will also be implemented in various combinations within other range complexes (Figure 2). The overall objective of the ICMP is to assimilate relevant data collected across Navy range complexes in order to answer questions pertaining to the impact of mid-frequency active sonar (MFAS) and underwater explosive detonation on marine mammals and sea turtles.

The primary objectives of the ICMP are to:

- Coordinate monitoring of Navy training events, particularly those involving mid-frequency active sonar (MFAS) and underwater detonations (explosives), for compliance with the terms and conditions of ESA Section 7 consultations or MMPA authorizations;
- Coordinate data collection to support estimating the number of individual marine mammals and sea turtles exposed to sound levels above current regulatory thresholds;
- Assess the efficacy of the Navy's current marine species mitigation;
- Add to the knowledge base on potential behavioral and physiological effects to marine species from mid-frequency active sonar and underwater detonations; and

- Assess the practicality and effectiveness of a number of mitigation tools and techniques (some not yet in use).

Operational components of the ICMP are still in development and will be finalized in 2009. These include defining organizational responsibilities, program coordination, and oversight responsibilities; identifying optimum monitoring strategies; identifying region-specific monitoring that has applicability for all Navy ranges; seeking collaboration with non-Navy government and academic scientists in monitoring review via an "expert team" concept; and defining appropriate levels of statistical analyses and data set management leveraged across multiple Range Complex Monitoring Plans. Working toward an approach that allows data to be compared across Range Complex and identifying the appropriate level of statistical power required to address basic monitoring plan research objectives, along with selecting the best analysis strategy, is a critical short term task of the ICMP.

Given the relatively new direction and design of the Navy-wide ICMP, specific details of the ICMP will be promulgated as they are finalized in a separate report from the current range complex monitoring plans. During the Adaptive Management Reassessment of the MIRC Range Complex Monitoring Plan (discussed later in this report), Plan monitoring elements may be adjusted based on direction of the ICMP and with concurrence of NMFS.

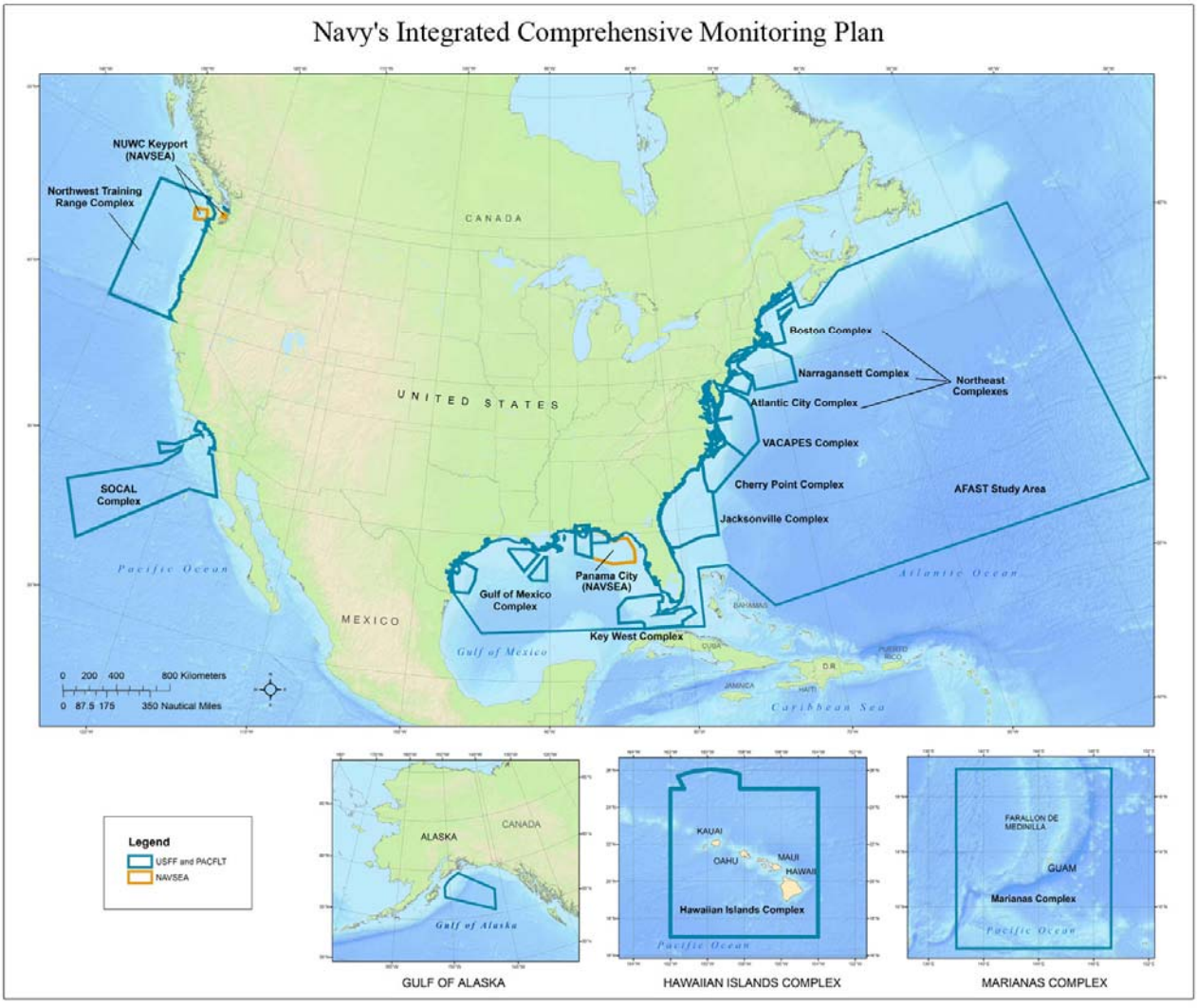

Figure 2. Integrated Comprehensive Monitoring Plan – Navy-wide Map of Ranges where data collection is expected to occur.

MARINE SPECIES UNDER CONSIDERATION

There are 32 potential marine mammal species or separate stocks with possible or confirmed occurrence in the marine waters associated with the MIRC Range Complex: 29 cetaceans (whales, dolphins, and porpoises), 2 pinnipeds (seals), and 1 sirenia (dugong) (Table 1). Full descriptions of these species and a summary of the scientific literature are provided in the Mariana Islands Range Complex Draft Environmental Impact Statement/Overseas Environmental Impact Statement of January 2009 (Draft MIRC EIS).

Table 1. Marine Mammal Species Associated With the MIRC Action Area

(Insert table)

Table 2. Sea Turtles Associated With the MIRC Action Area

(Insert table)

MONITORING PLAN OBJECTIVES

The MIRC Range Complex Monitoring Plan has been designed as a collection of focused "*studies*" to gather data that will allow us to attempt to address the following questions which are described fully in the following sections:

1. Are marine mammals and sea turtles exposed to mid-frequency active sonar (MFAS), especially at levels associated with adverse effects (i.e., based on NMFS' criteria for behavioral harassment, TTS, or PTS)? If so, at what levels are they exposed?
2. If marine mammals and sea turtles are exposed to MFAS in MIRC, do they redistribute geographically as a result of continued exposure? If so, how long does the redistribution last?
3. If marine mammals and sea turtles are exposed to MFAS, what are their behavioral responses to various levels?
4. What are the behavioral responses of marine mammals and sea turtles that are exposed to explosives at specific levels?
5. Is the Navy's suite of mitigation measures for MFAS and explosives (e.g., Protective Measures Assessment Protocol (PMAP), major exercise measures agreed to by the Navy through permitting) effective at avoiding TTS, injury, and mortality of marine mammals and sea turtles?

MONITORING PLAN RESEARCH ELEMENTS

Each monitoring technique has advantages and disadvantages that vary temporally and spatially, as well as support one particular study objective better than another (Table ES-2). Monitoring methods proposed for the MIRC Range Complex include a combination of the following research elements designed to contribute to data gathered in other ranges in order to support both Range Complex specific monitoring, and contribute information to the ICMP. Research elements in the MIRC that make will augment other range data collection include:

- Marine Mammal Observers aboard Navy vessels
- Shore-based observers
- Passive Acoustic Monitoring (PAM)

STUDY 1: ARE MARINE MAMMALS AND SEA TURTLES EXPOSED TO MID-FREQUENCY ACTIVE SONAR (MFAS)? IF SO, AT WHAT LEVELS ARE THEY EXPOSED?

Details TBD. See Table ES-1

STUDY 2: IF MARINE MAMMALS AND SEA TURTLES ARE EXPOSED TO MFAS IN THE MIRC RANGE COMPLEX, DO THEY REDISTRIBUTE GEOGRAPHICALLY AS A RESULT OF CONTINUED EXPOSURE? IF SO, HOW LONG DOES THE REDISTRIBUTION LAST?

Details TBD. See Table ES-1

STUDY 3: IF MARINE MAMMALS AND SEA TURTLES ARE EXPOSED TO MFAS, WHAT ARE THEIR BEHAVIORAL RESPONSES TO VARIOUS LEVELS?

Details TBD. See Table ES-1

STUDY 4: WHAT ARE THE BEHAVIORAL RESPONSES OF MARINE MAMMALS AND SEA TURTLES THAT ARE EXPOSED TO EXPLOSIVES?

Details TBD. See Table ES-1

STUDY 5: IS THE NAVY'S SUITE OF MITIGATION MEASURES EFFECTIVE AT AVOIDING INJURY AND MORTALITY OF MARINE MAMMALS AND SEA TURTLES?

Details TBD. See Table ES-1

IMPLEMENTATION – ANALYSIS – REPORTING

Worldwide, a suite of visual and acoustic monitoring techniques has been used to assess the effects of anthropogenic sound on marine mammals (Barlow and Gisiner, 2006). For example, for more than a decade, studies on low-frequency active (LFA) sonar on marine mammals have been conducted (Aburto et al., 1997; Croll et al., 2001; Fristrup et al., 2003; Clark and Altman, 2006). Similar monitoring techniques were used during low-frequency sound emissions that were conducted for the Acoustic Thermometry of Ocean Climate (ATOC) (Au et al., 1997; NRC, 2000; Frankel and Clark, 1998 and 2000; 2002, Costa et al., 2003) and ATOC's continuation project, the North Pacific Acoustic Laboratory (NPAL) (Office of Naval Research, 2001; Mobley, 2006).

MIRC MONITORING PLAN IMPLEMENTATION AND ANALYSIS

Based upon the Sonar Positional Reporting System (SPORTS) and knowledge of training events in the MIRC Range Complex, Navy operators determined that Valiant Shield and nearshore explosive events are appropriate for marine mammal monitoring within the MIRC, with the understanding that major exercise undergo significant schedule changes base on real-world commitments which may or may not therefore limit the availability of monitoring within these major exercises.

Contracted third party data collection will be collected by qualified, professional marine mammal and sea turtle biologists that are experts in their field. Researchers will provide annual reports to the Navy, however, this is expected to be an ongoing process with data collected, analyzed and interpreted over many years. It is not likely that firm conclusions can be drawn on most questions within a single year of monitoring effort due to the difficulty in achieving sufficient sample sizes for statistical analysis. The Navy will provide annual reports to NMFS headquarters (HQ) in fulfillment of the MMPA LOA requirements. The report will provide information on the amount and spatial/temporal distribution of monitoring effort as well as summaries of data collected and any preliminary results that may be available from analysis.

While the monitoring described in this plan represent the best estimate of availability, there may be instances within any given year where exercise schedules shift, survey crew availability becomes limited, or extreme weather precludes effective sampling. In case of monitoring delay based on these conditions, monitoring effort will be re-scheduled at the next available opportunity. In the event that a particular target exercise is not available within the remainder of a particular year, monitoring may have to be made up in a following year.

Table ES-1 provides detail about how the MIRC Monitoring Plan will be implemented from 2010 to 2014. After the issuance of the LOA, implementation of this monitoring plan will commence in 2010 at which time monitoring will begin gradually add to the data pool being collected on other ranges. Many of the study hours may overlap when implemented, allowing for data to be collected for more than one study simultaneously.

The Navy will be investing significant funding and personnel towards this monitoring program and intends to conduct the research in a scientifically sound and robust manner. The Navy is committed to conducting research until the original program objectives have been answered to the satisfaction of both NMFS and Navy. Therefore, it

is in the best interest of the Navy to choose studies wisely in each range complex that are the most likely to collect large data sets, and will enable the Navy and NMFS to answer required questions. Some field methods may be applied throughout Navy ranges, while other methodologies may be specially selected for one or two ranges that are most likely to produce the best quality data.

ICMP AND RELATIONSHIP TO MIRC RANGE COMPLEX MONITORING PROGRAM

The ICMP is currently in development by the Navy, with Chief of Naval Operations (CNO) and the Marine Resources Support Group having the lead. The program does not duplicate the MIRC monitoring plan; it is intended to provide the overarching coordination that will support compilation of data from both range-specific monitoring plans (e.g. MIRC plan) as well as Navy-funded research and development (R&D) studies (see Appendix A). The ICMP will coordinate the monitoring programs progress towards meeting its goals and develop a data management plan. A program review board is also being considered to provide additional guidance. The ICMP will be evaluated annually to provide a matrix for progress and goals for the following year, and will make recommendations on adaptive management for refinement and analysis of the monitoring methods.

Due to the complexity of the ICMP and large number of U.S. Navy Range Complexes and training events, the Navy is considering the dedication of a Program Manager to oversee the ICMP. Specific qualifications, roles and responsibilities are yet to be determined but may include the oversight and coordination of all range-complex monitoring plans.

ANALYSIS AND REPORTING

The Navy is currently working on the overarching structure and coordination (ICMP) that will, over time, compile data from both range-specific monitoring plans (e.g., Hawaii Range Complex and Southern California Range complex monitoring plans) as well as Navy funded research and development (R&D) studies. The analysis protocols are still in development phase at this time. However, data collection methods will be standardized to allow for comparison from ranges in different geographic locations. The sampling scheme for the program will be developed so that the results are scientifically defensible. For example, since all data will be collected using a behavioral program like Noldus, data collection will be standardized between the different geographical regions. A data management system will be developed to assure standardized, quality data are collected towards meeting of the goals. The data management plan shall provide standard marine species sighting forms for Navy lookouts and biologists to use to standardize data collection. Annual reports summarizing effort, analysis and results will be compiled and submitted to NMFS. These reports will allow the Navy and NMFS to assess and adaptively manage the Navy's monitoring effort to more effectively answer the questions outlined above.

Data collection will begin after MONTH/YEAR, when the MIRC LOA is issued and the monitoring plan finalized (See Table ES-1 for year by year implementation schedule). Data collected from the MIRC monitoring plan will be added to a Navy-wide analysis of monitoring from other permitted Navy range complexes via the ICMP. All available data

will be included in Navy's annual report and individual exercise reports for the MIRC as detailed in the requirements specified in the NMFS MMPA LOA. The Navy's reports will provide information on the amount and spatial/temporal distribution of monitoring effort as well as summaries of data collected and any preliminary results that may be available from analysis. This also includes an evaluation of the effectiveness of any given element within the MIRC monitoring program. All subsequent analysis shall be completed in time for Navy's five year report to NMFS.

All data will be considered "pre-decisional" and proprietary and will be shared among Navy and NMFS at least throughout the five year period of the LOA. Annual Reports, associated data, and any conclusions based on data from this Monitoring Plan cannot be published or used by non-Navy or non-NMFS individuals or organizations without the written consent of both the Director of NOAA and the Secretary of the Navy or their designee.

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2. A more detailed description of the proposed reporting requirements as informed by Navy/NMFS discussions during previous consultations.

ANNUAL MARIANA ISLANDS RANGE COMPLEX (MIRC) REPORT

The Navy will submit an Annual MIRC Report on October 1 of every year (covering data gathered through August 1). This report shall contain the subsections and information indicated below.

MULTI-STRIKE GROUP EXERCISES (A VALIANT SHIELD TYPE EXERCISE)

This section shall contain the following information for Multi-Strike Group Exercises (MSGEs) conducted in the MIRC:

(a) Exercise information (for each MSGE):

(i) Exercise designator

(ii) Date that exercise began and ended

(iii) Location

(iv) Number and types of active acoustic sources used in exercise

(v) Number and types of passive acoustic sources used in exercise

(vi) Number and types of vessels, aircraft, etc., participating in exercise

(vii) Total hours of observation by watchstanders

(viii) Total hours of all active sonar source operation

(ix) Total hours of each active sonar source (along with explanation of how hours are calculated for sources typically quantified in alternate way (buoys, torpedoes, etc.))

(x) Wave height in feet (high, low and average during exercise)

(b) Individual marine mammal sighting info (for each sighting in each MSGE):

(i) Location of sighting

(ii) Species (if not possible – indication of whale/dolphin/pinniped)

(iii) Number of individuals

(iv) Calves observed (y/n)

(v) Initial detection sensor

(vi) Indication of specific type of platform observation made from (including, for example, what type of surface vessel, i.e., FFG, DDG, or CG)

(vii) Length of time observers maintained visual contact with marine mammal(s)

(viii) Wave height (in feet)

(ix) Visibility

(x) Sonar source in use (y/n)

(xi) Indication of whether animal is <200yd, 200-500yd, 500-1000yd, 1000-2000yd, or >2000yd from sonar source in (x) above

(xii) Mitigation Implementation – whether operation of sonar sensor was delayed, or sonar was powered or shut down, and how long the delay was

(xiii) If source in use (x) is hullmounted, true bearing of animal from ship, true direction of ship's travel, and estimation of animal's motion relative to ship (opening, closing, parallel)

(xiv) Observed behavior – watchstanders shall report, in plain language and without trying to categorize in any way, the observed behavior of the animals (such as animals closing to bow ride, paralleling course/speed, floating on surface and not swimming, etc.)

(c) An evaluation (based on data gathered during all of the MSGEs) of the effectiveness of mitigation measures designed to avoid exposing animals to mid-frequency sonar. This evaluation shall identify the specific observations that support any conclusions the Navy reaches about the effectiveness of the mitigation

ASW SUMMARY

This section shall include the following information as summarized from both MSGEs and non-major training exercises (unit-level exercises, such as TRACKEXs):

(a) Total Hours Sub-section- Total annual hours of each type of sonar source (along with explanation of how hours are calculated for sources typically quantified in alternate way (buoys, torpedoes, etc.))

(b) Cumulative Impact Sub-section - To the extent practicable, the Navy, in coordination with NMFS, shall develop and implement a method of annually reporting non-major (i.e., other than MSGEs) 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 MIRC. The Navy shall include (in the MIRC 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.

SINKEXs

This section shall include the following information for each SINKEX completed that year:

(a) Exercise info:

(i) Location

(ii) Date and time exercise began and ended

(iii) Total hours of observation by watchstanders before, during, and after exercise

(iv) Total number and types of rounds expended/explosives detonated

(v) Number and types of passive acoustic sources used in exercise

(vi) Total hours of passive acoustic search time

(vii) Number and types of vessels, aircraft, etc., participating in exercise

(viii) Wave height in feet (high, low and average during exercise)

(ix) Narrative description of sensors and platforms utilized for marine mammal detection and timeline illustrating how marine mammal detection was conducted

(b) Individual marine mammal observation during SINKEX (by Navy lookouts) info

(i) Location of sighting

(ii) Species (if not possible – indication of whale/dolphin/pinniped)

(iii) Number of individuals

(iv) Calves observed (y/n)

(v) Initial detection sensor

(vi) Length of time observers maintained visual contact with marine mammal

(vii) Wave height

(viii) Visibility

(ix) Whether sighting was before, during, or after detonations/exercise, and how many minutes before or after

(x) Distance of marine mammal from actual detonations (or target spot if not yet detonated) – use four categories to define distance: 1) the modeled injury threshold radius for the largest explosive used in that exercise type in the MIRC Study Area (TBD m for SINKEX in the MIRC); 2) the required exclusion zone (1 nm for SINKEX in the MIRC); (3) the required observation distance (if different than the exclusion zone (2 nm for SINKEX in the MIRC); and (4) greater than the required observed distance. For example, in this case, the observer would indicate if < TBD m, from 738 m – 1 nm, from 1 nm – 2 nm, and > 2 nm.

(xi) Observed behavior – Watchstanders will report, in plain language and without trying to categorize in any way, the observed behavior of the animals (such as animal closing to bow ride, paralleling course/speed, floating on surface and not swimming etc.), including speed and direction.

(xii) Resulting mitigation implementation – Indicate whether explosive detonations were delayed, ceased, modified, or not modified due to marine mammal presence and for how long.

(xiii) If observation occurs while explosives are detonating in the water, indicate munitions type in use at time of marine mammal detection.

IMPROVED EXTENDED ECHO-RANGING SYSTEM (IEER) AND ADVANCED EXTENDED ECHO RANGING (AEER) SUMMARY

This section shall include an annual summary of the following IEER/AEER information:

(a) Total number of IEER and AEER events conducted in the MIRC

(b) Total expended/detonated rounds (buoys)

(c) Total number of self-scuttled IEER rounds

EXPLOSIVES SUMMARY

The Navy is in the process of improving the methods used to track explosive use to provide increased granularity. To the extent practicable, the Navy will provide the information described below for all of their explosive exercises. Until the Navy is able to report in full the information below, they will provide an annual update on the Navy's explosive tracking methods, including improvements from the previous year.

(a) Total annual number of each type of explosive exercise (of those identified as part of the "specified activity" in this final rule) conducted in the MIRC

(b) Total annual expended/detonated rounds (missiles, bombs, etc.) for each explosive type

SONAR EXERCISE NOTIFICATION

The Navy shall submit to the NMFS Office of protected Resources (specific contact in formation to be provided LOA) either an electronic (preferably) or verbal report within fifteen calendar days after the completion an MSGE indicating:

(1) Location of the exercise
(2) Beginning and end dates of the exercise
(3) Type of exercise

MIRC 5-YR COMPREHENSIVE REPORT

The Navy shall submit to NMFS a draft report that analyzes and summarizes all of the multi-year marine mammal information gathered during ASW and explosive exercises for which annual reports are required (Annual MIRC Exercise Reports and MIRC Monitoring Plan Reports). This report will be submitted at the end of the fourth year of the rule (November 2013), covering activities that have occurred through June 1, 2013.

COMPREHENSIVE NATIONAL ASW REPORT

By June, 2014, the Navy shall submit a draft National Report that analyzes, compares, and summarizes the active sonar data gathered (through January 1, 2014) from the watchstanders and pursuant to the implementation of the Monitoring Plans for the MIRC, the Atlantic Fleet Active Sonar Training, the HRC, the SOCAL Range Complex, the Northwest Training Range, the Gulf of Alaska, and the East Coast Undersea Warfare Training Range.

3) A more detailed description of how the mid-frequency sonar training covered under the MIRC application may, in a limited number of exercises, overlap with low frequency sonar operation.

In the MIRC study area, the Navy intends to conduct 3 exercises during a 5-year period that may include both SURTASS LFA and MFA active sonar sources. The expected duration of this exercise, commonly referred to as a "combined exercise", is approximately 14 days. Based on an exercise of this length, an LFA system would be active (i.e., actually transmitting) for no more than approximately 25 hours. The Navy has analyzed all SURTASS LFA sonar use in Final and Supplemental EISs/OEISs, and its operation is covered by associated environmental documentation.

It is unlikely but not impossible for both an LFA and an MFA sonar to be active at exactly the same time during one of the exercises in question. In the unlikely event that both systems were active at the same time, the likelihood of a marine mammal with some sensitivity in both the low and middle frequencies also being physically present at a time, location and depth to be able to receive both LFA and MFA signals at the same time is even smaller. Finally, please bear in mind that the sound from both signals would have attenuated when they reached the marine mammal in question, so even a simultaneous exposure would not be at the full signal of either system. In terms of estimated hours of such exposure, assuming an LFA and MFA source transmitting at the same time over a 25 hour period (which is a subset of an nominal 14 day exercise) and based on the fact that the two sources transmit at very different duty cycles, the overlap of the signals would be approximately 3.2 percent, or 0.8 hrs (assuming that there is only one MFA ship transmitting). But the possibility of even that overlap must consider the other matters discussed above.

4. A clarification of what DEMO exercises are - DEMO is short for demolition, and specifically refers to the disposal of mines and unexploded ordnance during a mine neutralization action.