MARINE SPECIES MONITORING

FOR THE NAVAL SURFACE WARFARE CENTER PANAMA CITY DIVISION (NSWC PCD) STUDY AREA

Submitted To:
Office of Protected Resources
National Marine Fisheries Service (NMFS)
1315 East-West Highway
Silver Spring, MD 20910-3226

In accordance with:
January 21, 2010 Letter of Authorization for NSWC PCD Mission Activities and 50 CFR Part 218, Subpart S

ANNUAL REPORT FOR 2010

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2010

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I. INTRODUCTION

The United States (U.S.) Navy developed the Naval Surface Warfare Center Panama City Division (NSWC PCD) Mission Activities 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. To issue an Incidental Take Authorization (ITA) for an activity, Section 101(a) (5) (a) of the MMPA states that the National Marine Fisheries Service (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. While the ESA does not have specific monitoring requirements, recent Biological Opinions (BOs) issued by NMFS also have included terms and conditions requiring the U.S. Navy to develop a monitoring program. Therefore, as part of the issuance of the NSWC PCD Mission Activities LOA in 2010 (NMFS 2010), the U.S. Navy published a Monitoring Plan with specific monitoring objectives for the NSWC PCD Study Area (Department of the U.S. Navy [DON] 2009).

Based on discussions with NMFS, the NSWC PCD Monitoring Plan was designed as a collection of focused "studies" to gather data that will attempt to address the following questions:

1) What are the behavioral responses of marine mammals and sea turtles that are exposed to MFA/HFA sonar and explosives?
2) Is the U.S. Navy's suite of mitigation measures for MFA/HFA sonar and explosives effective at avoiding injury and mortality of marine mammals and sea turtles?

Monitoring methods proposed for the NSWC PCD Study Area include a combination of research elements designed to support NSWC PCD specific monitoring, as well as to contribute information to a larger U.S. Navy-wide science-based program. These research elements include visual surveys from vessels or airplanes, passive acoustic monitoring (PAM) when feasible, and marine mammal observers (MMO). Each monitoring technique has advantages and disadvantages that vary temporally and spatially and each supports one particular study objective better than another (DON 2009). The U.S. Navy intends to use a combination of techniques so that detection and observation of marine animals is maximized and meaningful information can be derived to answer the research questions proposed above. The plan and objectives also include incorporation of techniques not previously proposed (e.g. photo-ID), if warranted.

In addition to the NSWC PCD Mission Activities Monitoring Plan described above, the Chief of Naval Operations (CNO) Environmental Readiness Division (N45) and the Office of Naval Research (ONR) have developed a coordinated Science & Technology and Research & Development program focused on marine mammals and sound. Total investment in this program for fiscal year (FY) 2009 was approximately $22 million, and continued funding at levels greater than $14 million is foreseen in subsequent years. Several significant projects relative to U.S. Navy operational impact or lack of impact to marine mammals are currently funded and ongoing within some U.S. Navy Operating Areas (OPAREAs).

Report Objective

Design and conduct of the NSWC PCD Monitoring Plan is part of the larger development of comprehensive marine species monitoring across U.S. Navy Range Complexes as a new U.S. Navy-wide and regional assessment. As with any new program, many coordination, logistic, and technical details continue to be refined. The scope of this monitoring plan and the program in general was to outline the background for monitoring, as well as define initial procedures to be used in meeting certain study objectives derived from U.S. Navy and NMFS agreements.

Overall, and in support of the above statement, this report's main objective is to:

- Present information on U.S. Navy-funded marine mammal and sea turtle monitoring conducted in the NSWC PCD Study Area under the NSWC PCD Mission Activities LOA during the period from January 14, 2010 to August 1, 2010. Because one full year of monitoring has not occurred from the January 2010 promulgation of the LOA, this report is meant to be a status report on the U. S. Navy's accomplishments over the past seven months of effort. Included in this assessment are reportable metrics of monitoring as requested by NMFS. Given the relatively new start of this ambitious program, this first report will focus on summarizing the NSWC PCD monitoring goals and activities, and on providing a brief description of the major accomplishments this year.

This report has been prepared in accordance with the requirements of the MMPA regulations (NMFS, 2010 [50 C.F.R. §§ 218.184]) and the Letter of Authorization (LOA) for NSWC PCD Mission Activities (NMFS, 2010b [Section 7).

II. NSWC PCD STUDY AREA & MONITORING BACKGROUND INFORMATION

NSWC PCD Study Area

The NSWC PCD Study Area includes military warning areas W-151 (includes Panama City OPAREA), W-155 (includes Pensacola OPAREA), and W-470 (Figure 1) and St. Andrew Bay (Figure 2). The NSWC PCD research, development, test, and evaluation (RDT&E) activities may be conducted anywhere within the existing military warning areas and St. Andrew Bay from the mean high water line out to 222 kilometers (km) (120 nautical miles [NM]) offshore.

There are 20 marine mammal species or separate stocks with possible or confirmed occurrence in the NSWC PCD Study Area including whales, dolphins, and one manatee species. The sperm whale is also protected under the ESA. Additionally, four species of threatened and endangered sea turtles exist in the NSWC PCD Study Area.

NSWC PCD Study Questions Overview

The goal of the NSWC PCD Monitoring Plan is to implement field methods chosen to address the long term monitoring objectives outlined in the Introduction. In the NSWC PCD Monitoring Plan (DON 2009), the U.S. Navy proposed to implement a variety of field methods to gather monitoring data on marine mammals and sea turtles in the NSWC PCD Study Area. Specifically, the U.S. Navy proposed to use visual surveys (aerial or vessel), to deploy PAM devices when possible, and to put marine mammal observers aboard U.S. Navy vessels to meet its goals for the NSWC PCD monitoring program. Table 1 shows the FY 2010 monitoring objectives agreed upon by NMFS and the U.S. Navy from the Final NSWC PCD Monitoring Plan.

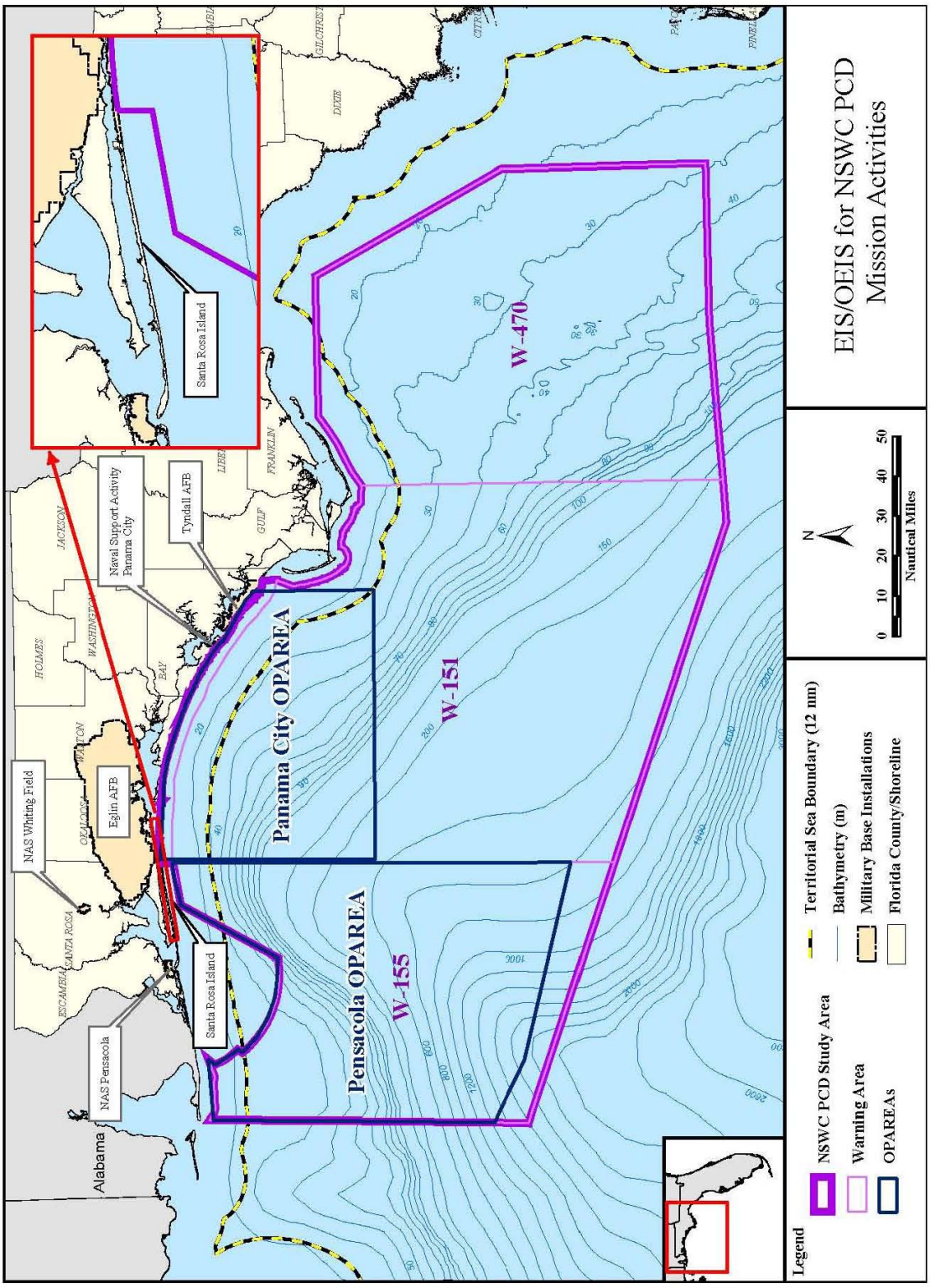

Figure 1. NSWC PCD Study Area: Gulf of Mexico

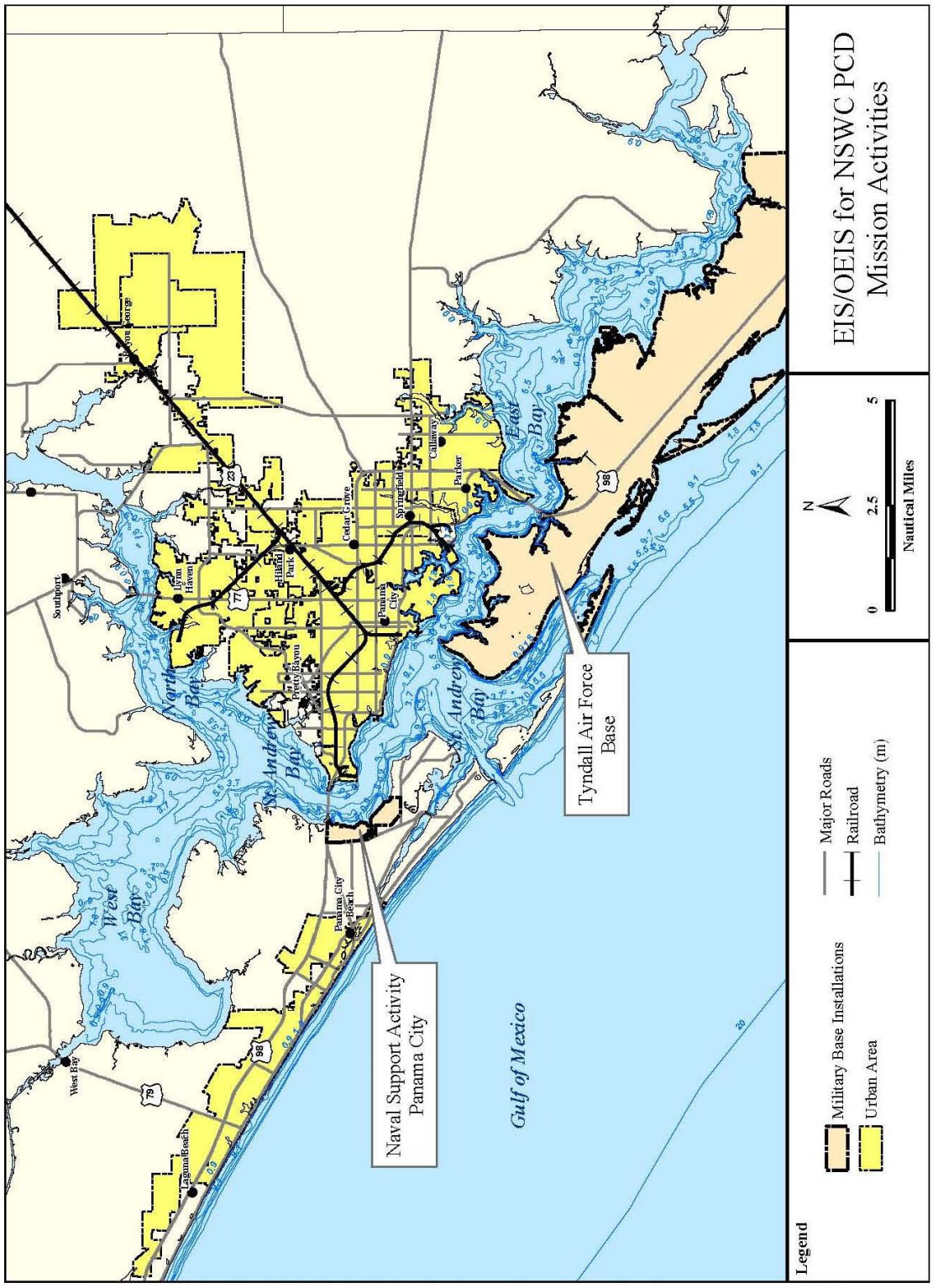

Figure 2. NSWC PCD Study Area: Nearshore and St. Andrew Bay

Table 1. FY 2010 and FY 2011-2014 Monitoring Objectives Agreed upon by NMFS and the U.S. Navy from the Final NSWC PCD Monitoring Plan.

STUDY 1 (behavioral responses)		
	FY 2010	**FY 2011-2014**
Aerial or Vessel surveys	Award monitoring contract, develop SOPs, obtain permits	Two sonar activities and two explosive events per year
Marine Mammal Observers	Opportunistic as staff and SOPs developed	One explosive event per year
STUDY 2 (mitigation effectiveness)		
	FY 2010	**FY 2011-2014**
Marine mammal observers/lookout comparison	Opportunistic as staff and SOPs developed	One explosive event per year
Vessel or Aerial surveys before and after training events	Award monitoring contract, develop SOPs, obtain permits	Two sonar activities and two explosive events per year

*SOPs = Standard Operating Procedures; The FY extends from October 1 through September 30, therefore, FY 2010 = October 1, 2009 through September 30, 2010 (*Note: NSWC PCD operations were not authorized until January 21, 2010).

III. NSWC PCD MONITORING ACCOMPLISHMENTS FOR 2010

From January 2010 to August 2010, there have been no monitoring opportunities available for explosive or projectile firing events in the NSWC PCD Study Area. Based on the NSWC PCD Monitoring Plan, sonar observations and "studies" will not commence until FY 2011.

The NSWC PCD Monitoring Plan identified the need in FY 2010 for the U.S. Navy to plan for future execution of monitoring tasks under the Monitoring Plan in the NSWC PCD Study Area. The tasks to be completed in FY 2010 included developing and awarding the monitoring contract and standard operating procedures (SOPs) for marine species monitoring. The NSWC PCD Environmental Office and Test and Evaluation Branch identified the appropriate contracting vehicle and worked with the consulting firm to develop annual budgetary, scheduling, and monitoring support requirements.

As briefly mentioned in the Introduction, because one full year of monitoring has not occurred from the January 2010 promulgation of the NSWC PCD Mission Activities LOA, this report is meant to be a status report on the U.S. Navy's accomplishments over the past seven months of effort. In this case, there is no monitoring to report at this time.

IV. ADAPTIVE MANAGEMENT RECOMMENDATIONS

Adaptive management is an iterative process of optimal decision making in the face of uncertainty, with an aim to reducing uncertainty over time via system monitoring. Within the natural resource management community, adaptive management involves ongoing, real-time learning and knowledge creation, both in a substantive sense and in terms of the adaptive process itself. Adaptive management focuses on learning and adapting, through partnerships of managers, scientists, and other stakeholders who learn together how to create and maintain sustainable ecosystems. Adaptive management helps science managers maintain flexibility in their decisions, knowing that uncertainties exist, and provides managers the latitude to change direction to improve understanding of ecological systems in achieving management objectives. Adaptive management is about taking action to improve progress towards desired outcomes.

In March 2009, the U.S. Navy convened government and academic researchers to review the U.S. Navy's monitoring plans. This diverse group of experts reviewed the methods that currently exist for monitoring, the methods expected to be available in five years, and the U.S. Navy's current plans for monitoring. The team reinforced that the current methods being used by the U.S. Navy for monitoring were robust and strongly recommended that the U.S. Navy continue to use a variety of methods simultaneously. The U.S. Navy was successful in applying a diversity of field methods to gather visual and acoustic data to work toward answering the questions posed by the U.S. Navy and NMFS.

The U.S. Navy's adaptive management of the NSWC PCD Mission Activities Monitoring Plan will involve close coordination with NMFS to align marine mammal monitoring with the Plan's overall objectives. In FY 2010, there were no events executed involving explosives or projectile firing testing. Considerations and challenges that NSWC PCD may face in addition to operational scheduling include cancellations or major date shifts in RDT&E missions based on logistics, fiscal, or operational needs. These kind of changes are difficult to predict and more importantly, more difficult to reschedule from a monitoring prospective when contracts have been awarded, survey equipment has been purchased, rented or relocated; personnel availability and transport arranged; and fixed price and date contracts put into place. Additional obstacles may include low densities of animals, inclement weather, and explosives safety logistics.

NSWC PCD will evaluate these challenges yearly and use lessons learned from annual missions, as well as other U.S. Navy Monitoring Plans to adapt to these challenges in future years. At this time, there are no modifications requested for the NSWC PCD Monitoring Plan and LOA monitoring requirements.

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VI. REFERENCES

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