SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT ON THE ISSUANCE OF AUTHORIZATIONS TO TAKE MARINE MAMMALS, BY HARASSMENT, INCIDENTAL TO NAVAL EXPLOSIVE ORDNANCE DISPOSAL SCHOOL TRAINING OPERATIONS AT EGLIN AIR FORCE BASE, FLORIDA

I. Introduction

On June 7, 2007, the National Marine Fisheries Service (NMFS) received an application from Eglin Air Force Base (EAFB) requesting an Incidental Harassment Authorization (IHA) under section 101 (a)(5)(D) of the Marine Mammal Protection Act (MMPA) for 2007-2008, and subsequent promulgation of a 5-year rule. The IHA would cover the take of Atlantic bottlenose dolphins *(Tursiops truncatus)* and Atlantic spotted dolphins *(Stenella frontalis)* incidental to the Naval Explosive Ordnance Disposal School (NEODS) training operations at EAFB, off Santa Rosa Island (SRI), Florida. EAFB was previously issued an IHA in 2005 and 2006 in respect to the same operations. No training operations have been carried out to date; however, EAFB is requesting the IHA as they intend to conduct NEODS operations within the year.

In July, 2005, an Environmental Assessment (EA) was prepared by NMFS to address the issuance of Authorizations and subsequent promulgation of a 5-year rule for the proposed activities to 2011. However, new information is available regarding effects of these activities to Essential Fish Habitat (EFH) and other operations EAFB is conducting that may have cumulative impacts to the physical and biological environment. This Supplemental EA is intended to address effects to EFH that would result from the issuance of the proposed IHA and subsequent authorizations through 2011 and cumulative impacts to the environment.

II. Purpose and Need

The purpose and need described in the 2005 NEODS EA remains applicable for the proposed issuance of the 2007-2008 IHA. In summary, in 2005, the EAFB has determined that conducting multi-year NEODS training operations might potentially disturb marine mammals and, accordingly, submitted an application for an IHA and subsequent LOAs under MMPA sections 101(a)(5)(A) and (a)(5)(D). The purpose of the IHA is to investigate the status of the marine mammals that may be impacted by the action, set forth the types and amount of take that may occur, and list the mitigation and monitoring required to ensure the least practicable impact to marine mammal species.

III. Description of Action

A. Proposed Action

The issuance of the IHA would authorize takes of marine mammals incidental to these training operations. Up to 4 bottlenose (*Tursiops truncatus*) and 3 spotted (*Stenella frontalis*) bottlenose may be taken, by level B harassment, annually. Mitigation and monitoring measures would be set in place to ensure the least practical impact on marine mammals.

The mission of NEODS is to train personnel to detect, recover, identify, evaluate, render safe, and dispose of unexploded ordnances (UXO) that constitute a threat to people, material, installations, ships, aircraft, and operations. The NEODS proposes to utilize three areas within the Eglin Gulf Test and Training Range (EGTTR), consisting of approximately 86,000 square miles within the GOM and the airspace above, for Mine Countermeasures (MCM) detonations, which involve mine-hunting and mine-clearance operations (Appendix 1). The detonation of small, live explosive charges disables the function of the mines, which are inert for training purposes. The proposed training would occur approximately one to three nautical miles (nm) (1.9 to 5.6 km) offshore of SRI six times annually, at varying times within the year.

Each of the six training classes would include one or two "Live Demolition Days." During each set of Live Demolition Days, five inert mines would be placed in a compact area on the sea floor in approximately 60 ft (18.3 m) of water. Five charges packed with five lbs (2.3 kg) of C-4 explosive material will be set up adjacent to each of the mines. No more than five charges will be detonated over the two-day period. Detonation times will begin no earlier than two hours after sunrise and end no later than two hours before dusk and charges utilized within the same hour period will have a maximum separation time of 20 minutes. Mine shapes and debris will be recovered and removed from the water when training is completed. Six training sessions per year, with 5 detonations per session, equals a total of 30 detonations per year, or 180 detonations over the course of 6 years. A more detailed description of the NEODS training operations is contained in the application, which may be viewed at: http://www.nmfs.noaa.gov/prot_res/PR1/Small_Take/smalltake_info.htm#applications.

IV. Alternatives

NMFS' alternatives for this supplemental EA are the same as Alternative A and B, as described in the 2005 EA: A) Issuance of an IHA for 2007-2008; and B) the no action alternative (*i.e.*, not issuing the IHA).

V. Affected Environment

The affected environment was described fully in NMFS' 2005 EA and is incorporated here by reference. The environment retains the same characteristics as described in that document and remains unchanged.

V. Environmental Consequences

With the exception of new information present here, NMFS' 2005 EA adequately describes the potential effects on the human environment for both alternatives. This section presents new information related to EFH and cumulative impacts. Furthermore, how this new information does, or does not, change the effects analysis of the 2005 EA will also be addressed.

A. Essential Fish Habitat

The aforementioned 2005 EA did not adequately address impacts to designated EFH; therefore, current EFH status and the result of informal consultation of potential impacts from NEODS activities are addressed here. EFH is designated within the action area for 9 species of invertebrates (*i.e.*, shrimp, lobster, and crab) and fish (*e.g.*, mackerel, red drum, gray snapper). A list of these species and where EFH is designated based on life stage can be found at http://galveston.ssp.nmfs.gov/research/fisheryecology/EFH/Relative/php/regions.asp. In addition to EFH, Gulf sturgeon critical habitat extends from the mean high-water line to 1 mile offshore. However, NEODS testing would occur 1-3 miles offshore; therefore, critical habitat for this species would not be physically affected.

While underwater detonations would disturb a small area of the sea floor, this would be sandy bottom. Hardbottom habitats and artificial reefs would be avoided and mines would only be placed on sandy bottoms. All physical and chemical materials would be removed from the testing site upon completion of the training exercises. While the proposed NEODS testing would occasionally introduce small quantities of chemical compounds into the marine water, these chemicals would rapidly disperse and are insignificant considering the size and fluidity of the Gulf of Mexico. In addition, testing frequency is minimal (maximum of 30 detonations during 6 exercises annually) and sites are alternated, minimizing any cumulative effects to any one area.

On July 27, 2007, EAFB initiated consultation with NMFS Southeast Region Habitat and Conservation Division on effects to EFH within the action area pursuant to the Magnuson-Stevens Conservation and Management Act. On August 6, 2007, NMFS provided concurrence with Eglin AFB's determination that NEODS' activities are not likely to adversely affect EFH and NMFS does not have any EFH conservation recommendations to offer.

The no action alternative (*i.e.*, not issuing the IHA) would restrict EAFB from conducting NEODS training activities, as carrying out those operations without an IHA would be in violation of the MMPA. If the activities do not go forward, there would be no impact to the human environment, including EFH, as not detonations would occur. However, not conducting these activities could be considered detrimental to the military defense capabilities of the country.

VI. Cumulative Impacts

Cumulative impact is defined as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-federal) or person undertakes such other actions" (40 CFR §1508.7). Cumulative impacts may occur when there is a relationship between a proposed action and other actions expected to occur in a similar location or during a similar time period. This relationship may or may not be obvious. Actions overlapping within close proximity to the proposed action can reasonably be expected to have more potential for cumulative effects on "shared resources" than actions that may be geographically separated. Similarly, actions that coincide temporally will tend to offer a higher potential for cumulative effects.

Cumulative effects refer to the impacts on the environment that result from a combination of past, existing, and imminent projects and human activities. Past, current, and future projects that are likely to affect the human environment in the GOM include oil & gas production, seismic surveys, shipping, commercial fishing, and military training activities. The original 2005 EA did not adequately analyze these impacts; therefore, they will be addressed in this document. The following describes projects based in the Northern Gulf of Mexico that may, but not necessarily, result in cumulative adverse impacts to the biological and physical environment.

1) The northern shelf in the Gulf of Mexico has large reservoirs of oil and natural gas. As of the late 1990s, over 83% of the crude oil and 99% of the natural gas produced offshore in the United States came from the Gulf of Mexico (Davis et al. 2000). The oil and gas industry is characterized by production and pumping platforms, tanker traffic, seismic surveys, explosive removal of platforms from expired lease areas, and associated vessel and aircraft support (Würsig et al. 2000). As of 2003, there were 3,462 offshore production platforms active in the search for natural gas and oil on the Gulf outer continental shelf (MMS 2003). There is also a deepwater crude-oil terminal offshore of Louisiana, known as the Louisiana Offshore Oil Port (LOOP). This facility is located in 29 km south of Grand Isle, Louisiana (MMS 2000). LOOP provides facilities for offloading, temporary storage, and transport of crude oil; the use of this facility reduces vessel traffic in coastal and inland ports (MMS 2000). From 1981 to 1996, about 3,350 tankers used this facility (MMS 2000). Seismic surveys on behalf of the oil industry have been and remain very common in the northern Gulf of Mexico. From 1998 to 2002, an average of 230,000 line-miles of seismic survey work has been conducted per year in that area, including over 213,000 miles in 2002. Oil and natural gas production is believed to potentially result in acoustical harassment to marine mammals

2) Marine mammal and seismic survey research cruises operate within the Gulf of Mexico. While some marine mammal surveys introduce no more than increased vessel traffic impacts to the environment, seismic surveys use various methods (*e.g.*, air gun arrays) to conduct research. In 2007, the Lamont-Doherty Earth Observatory was issued an IHA to conduct this type of seismic research in the northern Gulf of Mexico. Monitoring reports from other seismic surveys suggest that impacts are no more severe

than those anticipated in the IHAs. Furthermore, based on the number of marine mammal observations, it appears that fewer marine mammals are exposed than anticipated.

3) Four of the United States' busiest ports are also located in the Gulf of Mexico; handling about 45% of U.S. shipped tonnage (Würsig et al. 2000). Thus, vessel traffic in the area is extensive. Tanker traffic in the northern Gulf is most intense between the Mississippi River and Sabine River, Texas; in 1998, there were 40,599 tanker trips between the Mississippi River and Sabine River (MMS 2000). Ship strikes are potential sources of serious injury or mortality to large whales; however, occurrence of ship strikes to dolphins are rare. Effects to dolphins from large commercial vessels are believed to be limited to acoustical harassment which could decrease social communication, foraging success, and predator detection.

4) The Gulf of Mexico is also a major area for commercial fishing; it provides almost 20% of the commercial fish catches in the U.S. annually (MMS 2000) and, together with recreational fishing, generates 2.8 billion dollars annually. Nearshore and offshore waters east of the Mississippi River Delta have especially diverse fishery resources (MMS 2000). In addition, recreational and charter fishing vessel activities are highly popular on the shelf and offshore Gulf of Mexico. These activities could result in by-catch of marine mammals, entanglement in fishing gear, and reduce prey availability for marine mammals.

5) Pollution in the Gulf of Mexico is estimated to have more than doubled since 1950. Leading factors are ever increasing amounts of dissolved nitrogen and phosphorous from agricultural runoff. According to the Mississippi River/Gulf of Mexico Watershed Nutrient Task Force (2001), this increase in excess nutrient runoff has created a large seasonal hypoxic deadzone in the northern Gulf of Mexico which expands more than 20,000 km^2 and red tide algae blooms. These waters do not carry enough oxygen to sustain marine life and the enlarging dead zone is a major threat to the fishing industry and to public health. Red tide algal blooms can kill fish and marine mammals and cause respiratory problems in humans when the blooms come close to shore.

6) Military Readiness Activities

In addition to the proposed NEODS training activities, EAFB currently conducts Precision Strike Weapons (PSW) Testing and anticipates 5 more foreseeable training and testing missions in the future within the Gulf of Mexico. These mission activities are detailed below. Impacts to marine mammals from PSW Testing has been analyzed; however, analyses of potential effects to marine mammals from the 5 listed foreseable operations have not been conducted as no applications for IHAs or LOAs have been received by NMFS for those activities.

<u>Precision Strike Weapon (PSW) Testing</u>
PSW missions involve air-to-surface impacts of two weapons, the Joint Air-to-Surface Stand-off Missile (JASSM) AGM-158 A and B and the small-diameter bomb (SDB) that

result in in-air and underwater detonations of up to approximately 300 pounds (lbs) and 96 lbs (double SDB) of net explosive weight, respectively. As many as two live and four inert JASSM missiles per year can be launched from an aircraft above the Gulf of Mexico (GOM) at a target located approximately 15 to 24 nautical miles offshore of Eglin AFB, and as many as six live and 12 inert SDBs can also be dropped on targets annually for the next five years. All missions are to be conducted on shelf waters only. Detonation of the JASSM and SDB have the potential for causing harassment, injury or mortality to four species of marine mammals: Atlantic bottlenose dolphins, Atlantic spotted dolphins, dwarf sperm whales (*Kogia simus*), and pygmy sperm whales (*K. breviceps*). However, due to implementation of mitigation and monitoring measures, similar to those approved by NMFS for use during Navy shock trials, takings will be limited to Level B harassment in the form of a temporary change in the hearing threshold in the dolphin and whale species that might be in the vicinity of the detonations. The mitigation and monitoring measures, which are outlined in the final rule (71 FR 67810, November 24, 2006), include safety zones and aerial and shipboard monitoring surveys that will be conducted at various time intervals on the day of the launch, beginning five hours prior to launch and continuing at least two hours after the launch. A Letter of Authorization (LOA) was issued for this activity on February 20, 2007 and expires on February 19, 2008.

Marine Expeditionary Unit (WEU) Readiness Training

The MEU Readiness Training involves the development of training for the U.S. Marine Corp prior to deployment. The training is anticipated to occur twice per year with each training event having a total duration of 10 days, or less if only a portion of the activities is conducted. It is possible that training could only occur once during some years and possibly not at all in others.

There are 17 proposed training activities that fall under this mission: Insertion of Forward Command Element; Insertion of Reconnaissance and Surveillance Teams MEU Aviation Operations; Helicopter Raids; Rapid Ground Refueling; Small Boat Raids; Amphibious Landing Rehearsal; 2 Mechanized Raids (wet and dry); MEU Landing; Major Highway Crossing; Supporting Arms Coordinating Exercise; Live Fire and/or Maneuver; Non-combatant Evacuation Operation; Direct Action; Tactical Exercise Control Groups/Opposing Force Requirements; and Withdrawal. These activities involve one or more of five basic elements that are the building blocks of training; amphibious landings, ground movement, aviation operations, munitions use, and pyrotechnics.

Navy Offshore Petroleum Distribution System (OPDS)

The Navy OPDS provides for the delivery of fuels from an offshore source up to a beach combat fuel depot via a flexible 8-inch diameter pipe; however, fuel would not be pumped at any time. The purpose of the project is to test pipe deployment and recovery procedures and pumping capabilities using salt or freshwater. The testing would consist of a 20-day practice period and a 5-day acceptance test period to begin in late 2007.

Passive and Active Data Collection

A third foreseeable future event involves the collection of passive and active multi-spectral seeker/sensor data of obstacles and simulated mines in littoral waters and inland environments from several potential systems using an airborne platform. Tests would be carried out by the Airborne Littoral Reconnaissance Technologies team and would occur at Test Site A-15 on the EAFB portion of SRI. Tests would utilize a wide field view of diode laser illuminator array flown in an aircraft 500-3,000 ft. above the targets. The target area would incorporate the Gulf Coast beach area (out to 3 meter depth), the bay side coastal area, and an intermittent area between the two coastal areas and include mines and obstacles on the island and in the water. Personnel would install the targets at A-15 over a 3-4 day period in a fashion to simulate actual mine layouts. After installation, missile flights would commence, during which a laser array would scan the minefields. Testing could occur at any time of the year, day or night. Upon test completion, personnel would remove targets from the test sure over a 2-3 day period. The mines and obstacles would remain on land and in the water for no longer than 2 weeks.

Fiber Optic Cable Installation

EAFB also has plans to install a fiber optic cable in conduits to repair the communications infrastructure on SRI that was destroyed during hurricanes Ivan and Dennis. Contractors would use a directional boring method for the entire length of SRI and install an 8-inch diameter pipe pulling in two 288 strand fiber cables and bore under the sound from A-15 to Windhaven to complete the fiber loop to A-20-points to tie the pipe together at the end of each bore. The depth of the bore and tie in points would be a minimum of 20 ft.

Santa Rosa Island Dune and Beach Restoration

EAFB plans to carry out an SRI dune and beach restoration project. The project's goals are to protect facilities at risk of damage from storm surge and wave action with 17 miles of shoreline requiring restoration. The U.S. Air Force Air Armament Center (AAC) would restore dunes at 23 general locations along Air Force owned SRI. The U.S. Army Corps of Engineers would oversee contracts to dredge sand from an offshore location and pump it onto the beach. Corps contractors would then bulldoze the sand into place for either shoreline restoration or dune restoration.

* * *

The commercial, scientific, military, and recreational activities, as described above, which occur in the northern Gulf of Mexico, would not occur within the NEODS training acoustic zone of impact due to safety concerns. Furthermore, given the small scale and infrequent occurrence of the proposed activity, and its anticipated minimal environmental effects, NEODS training activities, as described in their application, will not contribute significantly or measurably to the overall environmental effects of other human activities in the northern Gulf of Mexico. Therefore, NMFS has determined that NEODS training activities would not produce any significant cumulative impacts to the human environment.

VII. Conclusion

While the additional information contained in this supplemental EA gives a better understanding of EFH and cumulative impacts to the human environment, it does not change the determinations made in the NMFS' 2005 EA for NEODS activities. Based on the information contained in NMFS 2005 EA and this document, NMFS has determined that the issuance of a 1-yr IHA, and subsequent promulgation of a new 5-yr rule and issuance of LOAs to take marine mammals incidental to NEODS training operations at EAFB, will not significantly affect the quality of the human environment and a Finding of No Significant Impact has been prepared. Accordingly, an environmental impact statement is not required.

Prepared by: _____ _____

Jaclyn Daly — Date
Permits, Conservation, and Education Division
Office of Protected Resources
National Marine Fisheries Service

Recommended by: _____ _____

Michael Payne — Date
Permits, Conservation, and Education Division
Office of Protected Resources
National Marine Fisheries Service

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Appendix I
NEODS Test Locations in the Eglin Gulf Test and Training Range (EGTTR)