

**DEPARTMENT OF DEFENSE****Department of the Navy****Record of Decision for the Final Environmental Impact Statement (EIS)/Overseas Environmental Impact Statement (OEIS) for Gulf of Mexico Range Complex**

**AGENCY:** Department of the Navy, DoD.

**ACTION:** Record of Decision.

**SUMMARY:** The Department of the Navy (Navy), after carefully weighing the operational and environmental consequences of the proposed action, announces its decision to conduct Navy Atlantic Fleet training; research, development, testing, and evaluation (RDT&E) activities; and associated range capabilities enhancements in the Corpus Christi, New Orleans, Pensacola, and Panama City Operating Areas (OPAREAs) and associated airspace, land and overland components, hereafter referred to as the Gulf of Mexico (GOMEX) Range Complex. Title 10, United States Code (U.S.C.) Part 5062 directs the Chief of Naval Operations to train all naval forces for combat. The Chief of Naval Operations meets that direction, in part, by conducting at-sea training exercises and ensuring naval forces have access to ranges, OPAREAs and airspace where the Navy can develop and maintain skills for wartime missions and conduct RDT&E of naval weapons systems. The proposed action will be accomplished as set forth in Alternative 2, described in the Final EIS/OEIS as the Preferred Alternative. The purpose for the proposed action is to: (1) Achieve and maintain Fleet readiness using the GOMEX Range Complex to support and conduct current, emerging, and future training and RDT&E; (2) Expand warfare missions supported by the GOMEX Range Complex; and (3) Upgrade and modernize existing range capabilities to enhance and sustain Navy training and RDT&E. The need for the proposed action is to provide range capabilities for training and equipping combat-capable naval forces ready to deploy worldwide.

**FOR FURTHER INFORMATION:** Naval Facilities Engineering Command Atlantic, Code EV22 (GOMEX Range Complex Project Manager), 6506 Hampton Boulevard, Norfolk, Virginia, 23508-1278, telephone number (757) 322-4769.

**SUPPLEMENTARY INFORMATION:** Pursuant to Section 4321 *et seq.* of Title 42, U.S.C. (Section 101 *et seq.* of the National Environmental Policy Act of 1969 [NEPA]), the regulations of the

President's Council on Environmental Quality (CEQ) that implement NEPA procedures (40 Code of Federal Regulations [CFR] Parts 1500-1508), Department of Defense (DoD) Instruction 4715.9, Environmental Planning and Analysis, and the applicable Navy environmental regulations that implement these laws and regulations, the Navy announces its decision to conduct Navy Atlantic Fleet training and RDT&E activities, associated range capabilities enhancements in the Corpus Christi, New Orleans, Pensacola, and Panama City OPAREAs, and associated airspace, land and overland components, hereafter referred to as the GOMEX Range Complex. The Navy considered applicable executive orders, including an analysis of the environmental effects of its actions outside the U.S. or its territories under Executive Order (EO) 12114, *Environmental Effects Abroad of Major Federal Actions*, and the requirements of Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations*.

Implementation of the Preferred Alternative could begin immediately. The Preferred Alternative includes training activities currently conducted (*i.e.*, those described in the No Action Alternative), increased or modified training activities, force structure changes to accommodate systems and enhance range complex capabilities, and reduction of high explosive bombing exercises (BOMBEXs). These activities represent the training and RDT&E necessary for Navy to meet its Title 10 obligation to organize, train, equip, and maintain combat-ready naval forces and to successfully fulfill its current and future global mission of winning wars, deterring aggression, and maintaining freedom of the seas. Emergent missions have included major combat, maritime and theater security, homeland defense, support of civil authorities, anti-terrorism/force protection, and humanitarian assistance/disaster relief operations. This rapid response of forces to supplement naval forces on routine deployment is referred to as a "surge." Surge refers to the capability to quickly deploy Navy assets, sometimes to multiple locations, in response to world events. In order for the Navy to be "surge-ready", it must be able to quickly modify its routine training schedule to allow for earlier certification of units before deploying them. Activities involving RDT&E for DoD or other federal agency systems are an integral part of this readiness mandate.

#### **BACKGROUND AND ISSUES:**

**Overview of the GOMEX Range Complex:** The Navy has been training for national defense purposes in the area now defined as the GOMEX Range Complex for over 70 years. The land, air, sea

space, and undersea space of the Range Complex has, and continues to provide, a safe and realistic training and testing environment to ensure military personnel are ready to carry out assigned missions. The GOMEX Range Complex is situated close to several naval facilities along the Gulf Coast. A wide range of Navy active duty and reserve component organizations are permanently assigned to facilities and air stations from Florida to south Texas. The GOMEX Range Complex provides the land, sea and littoral training environment necessary to permit these forces to train on a daily basis, all within annual time, distance and budget constraints. Local access to the immediate GOMEX range space and the availability of regional Fleet support organizations permit training of Navy forces from the individual unit level up to Strike Group certification. Efficient operations and training for these local forces can only be conducted within the GOMEX range complex. The Range Complex provides the infrastructure and proximity that allows for all levels of training and the efficient use of resources.

**Why the Navy Trains:** Operational requirements for deploying combat-ready naval forces worldwide drive and shape training doctrine and procedures. The nature of modern warfare and security operations has become increasingly complex. The threat is global, and the tactics, weapons, and forces arrayed against the U.S. military span the gamut from crude to extremely sophisticated. To effectively counter the array of threats, naval forces bring together thousands of Sailors and Marines, their equipment, vehicles, ships, and aircraft, and often other U.S. services or coalition partners, all of which need to work together as a cohesive team to achieve success. Realistic, regular training provides all elements of the Navy, from the individual to the strike group, with the initial combat experience crucial to success and survival in this environment.

Naval forces can carry out operations on and below the ocean surface, on land, and in the air simultaneously. To optimize this capability, Navy training activities must focus on achieving proficiency in eight functional areas, known as Primary Mission Areas (PMAR): Air Warfare (AW), Anti-submarine Warfare (ASW), Amphibious Warfare (AMW), Surface Warfare (SUW), Mine Warfare (MIW), Strike Warfare (STW), Electronic Combat (EC), and Naval Special Warfare (NSW). Each training event addressed in the GOMEX Range Complex Final EIS/OEIS is categorized under one of these PMARs.

**Geographic Scope:** The GOMEX Range Complex Final EIS/OEIS analyzed current, emerging, and future training and RDT&E in the GOMEX Range Complex that geographically encompasses offshore,

near-shore, and onshore OPAREAs, including the area from the mean high tide line, up to and extending seaward to each OPAREA's boundary. Several Military Operating Areas (MOAs) not associated with the offshore OPAREAs and land-based ranges are also included in the GOMEX Range Complex. These MOAs, located in Alabama, Mississippi and Texas, are critical to the training and certification of military student pilots and aircrew. Thousands of air sorties are conducted annually, all in support of local Aviation Wings that train Naval aviators. These areas, along with the GOMEX Range Complex, comprise the GOMEX Study Area for the purposes of the Final EIS/OEIS. Together, components of the GOMEX Range Complex encompass 17,440 square nm ( $\text{nm}^2$ ) of offshore surface and subsurface OPAREA, of which 12,072  $\text{nm}^2$  is shallow ocean area with depths less than 100 fathoms (600 feet), 20,810  $\text{nm}^2$  of offshore special use airspace (SUA) and more than 12,000  $\text{nm}^2$  of onshore SUA.

A separate EIS/OEIS was prepared by the Navy to evaluate the effects associated with the littoral and expeditionary warfare activities proposed for the Naval Sea Warfare Center, Panama City Division (NSWC PCD) Study Area, which includes St. Andrew Bay (SAB) and Warning Areas W-151, W-155, and W-470. The NSWC PCD EIS/OEIS (ROD signed 15 Jan 2010; *Federal Register* Volume 175, Number 15) covers separate and distinct activities from the GOMEX Range Complex EIS/OEIS.

**Active Sonar Systems:** The Atlantic Fleet Active Sonar Training (AFAST) Final EIS/OEIS was incorporated by reference in the GOMEX Range Complex Final EIS/OEIS. The AFAST Final EIS/OEIS evaluated the potential impacts of active sonar training on the marine environment for activities along the U.S. east coast and Gulf of Mexico (Record of Decision January 23, 2009; 74 FR 5650). A summary of the environmental consequences due to sonar activities in the GOMEX Range Complex is provided within the GOMEX Final EIS/OEIS.

**Relationship with other Ongoing U.S. Atlantic Fleet Environmental Planning Documents:** In 2002, Commander, U.S. Fleet Forces and Commander, U.S. Pacific Fleet initiated the Tactical Training Theater Assessment and Planning (TAP) Program to serve as the overarching Fleet training area sustainment program. The TAP program focuses specifically on the sustainability of range complexes, OPAREAs, and special use airspace that support the Fleet Readiness Training Plan (F RTP). The TAP program represents the first time the Navy has managed its training areas on a range complex-wide basis. TAP provides environmental planning documentation that assesses the environmental effects

associated with certain defined activities conducted within each range complex.

**PURPOSE AND NEED:** The purpose of the proposed action is to: (1) Achieve and maintain Fleet readiness using the GOMEX Range Complex to support and conduct current, emerging, and future training and RDT&E; (2) Expand warfare missions supported by the GOMEX Range Complex; and (3) Upgrade and modernize existing range capabilities to enhance and sustain Navy training and RDT&E.

The need for the proposed action is to provide range capabilities for training and equipping combat-capable naval forces ready to deploy worldwide. In this regard, the GOMEX Range Complex furthers the Navy's execution of its roles and responsibilities under Title 10. To implement this mandate, the Navy needs to:

1. Maintain current levels of military readiness by training in the GOMEX Range Complex;
2. Accommodate future increases in training tempo in the GOMEX Range Complex and support the rapid deployment of naval units or strike groups;
3. Achieve and sustain readiness of ships and squadrons so the Navy can quickly surge significant combat power in the event of a national crisis or contingency operation consistent with the FRTP;
4. Support the acquisition and implementation into the Fleet of advanced military technology. The GOMEX Range Complex must adequately support the testing and training needed for new vessels, aircraft, and weapons systems; and
5. Maintain the long-term viability of the GOMEX Range Complex while protecting human health and the environment and enhancing the quality, communication capability, and safety of the range complex.

Support to current, emerging, and future training and RDT&E, including implementation of range enhancements, entails the actions that were evaluated in this Final EIS/OEIS. These assessed actions include:

1. Increased use of contractor-operated aircraft that simulate enemy aircraft during training (Commercial Air Services Support for Fleet Opposition Forces [OPFOR] and Electronic Warfare Threat Training);
2. Support of basic flight instruction and mission area training for pilot proficiency; and
3. Implementation of the Joint National Training Capability (JNTC) within the GOMEX Range Complex. JNTC provides both the live and virtual connecting architecture for Joint integrated

training. As a result, Naval forces will more easily and efficiently participate in regional Gulf exercise events and Joint theater combat rehearsals.

**PUBLIC INVOLVEMENT:** The Navy initiated a mutual exchange of information through early and open communications with interested stakeholders during the development of the Draft EIS/OEIS. The National Marine Fisheries Service (NMFS) is a cooperating agency for the EIS/OEIS. The Notice of Intent (NOI), which provided an overview of the proposed action, scope of the EIS/OEIS, and scoping meeting locations was published in the *Federal Register* on August 31, 2007 (72 FR 50333-50335). Notification of public scoping meetings was also made through local media outlets and five local newspapers. The newspaper notices were run five times in each newspaper. The Navy conducted scoping meetings at the following four locations from September 24-28, 2007: Panama City and Pensacola, Florida; Metairie, Louisiana; and Corpus Christi, Texas for the public to help define and prioritize issues and convey these issues to the agencies through both oral and written comments.

The Notice of Availability of the Draft EIS/OEIS and Notice of Public Hearings were published in the *Federal Register* on January 2, 2009 (74 FR 96-97). Notification of availability and public hearings was also made through local media outlets and newspapers. The Draft EIS/OEIS was distributed to those individuals, agencies, and associations who asked to be notified during the scoping process, as well as members of Congress, state governors and officials from the coastal regions adjacent to the GOMEX Range Complex. In addition, the GOMEX Draft EIS/OEIS was made available for general review at ten regional public libraries, and the project website (<http://www.gomexrangecomplexeis.com>).

The Navy held four public hearings on February 2-6, 2009 in Panama City Beach and Pensacola Florida; New Orleans, Louisiana; and Corpus Christi, Texas. Public and agency comments were received via the GOMEX web site, facsimile, and regular mail. The public comment period for the Draft EIS/OEIS ended on February 16, 2009. During the public review process for the Draft EIS/OEIS, 22 comments were received: 13 comments from federal government agencies, 2 comments from state agencies, 5 comments from organizations and 2 comments from individuals.

The Notice of Availability of the GOMEX Range Complex Final EIS/OEIS was published in the *Federal Register* on December 23, 2010 (75 FR 80808). Notification of the availability of the Final EIS/OEIS was also made through local media outlets and newspapers. The Final EIS/OEIS was distributed to those individuals, agencies, and associations who asked to be notified

during the public comment period, as well as to members of Congress, state governors and officials from the coastal regions adjacent to the GOMEX Range Complex. Notification of the availability of the Final EIS/OEIS was sent to interested individuals, agencies, and associations, as well as elected and other public officials. In addition, the GOMEX Draft EIS/OEIS was made available for general review at ten regional public libraries, and the project website (<http://www.gomexrangecomplexeis.com>).

The Final EIS/OEIS incorporates, and formally responds to all public comments received on the Draft EIS/OEIS (see Chapter 1 and Appendix F of the EIS/OEIS). The Draft EIS/OEIS was provided to the U.S. Environmental Protection Agency for review and comment in accordance with its responsibilities and notice of availability of USEPA comments was published in the Federal Register (74 FR 96-97).

During the public review process for the Draft EIS/OEIS, 22 comments were received: 13 comments from federal government agencies, 2 comments from state agencies, 5 comments from organizations and 2 comments from individuals. Responses took the form of corrections of data inaccuracies, clarifications of and modifications to analytical approaches, inclusion of additional data or analyses, and modification of the proposed action or alternatives. Similar to comments received during the scoping meetings, no comments received on the Draft EIS/OEIS required significant revisions in the Final EIS/OEIS. There were additional revisions, which are reflected in the Final EIS/OEIS that were made to amplify information previously provided. These changes included a more detailed description of Maritime Security Operations, more detailed descriptions of the No Action Alternative, more detailed descriptions of elements of mitigation measures and more detailed Weapon System data sheets.

**ALTERNATIVES CONSIDERED:** The Navy's approach to developing alternatives in the Final EIS/OEIS hinged on the following: conducting training exercises to meet its obligations under Title 10 of the U.S. Code, the fact that no single range complex on the east coast and Gulf of Mexico can accommodate the entire spectrum of Navy training and testing, the need to "train as we fight", and achieving the necessary levels of proficiency in weapons firing. The GOMEX Range Complex possesses a number of features that make it an indispensable component of the Navy's system of ranges. The primary consideration was close proximity to existing Navy installations such as NSA Panama City along the Gulf Coast of the United States.

The Navy identified a reasonable range of alternatives, based on factors set out in the Final EIS/OEIS, which would satisfy its purpose and need. Three alternatives are analyzed in the Final EIS/OEIS: (1) The No Action Alternative, which is to continue current training, RDT&E, and major range events at current levels; (2) Alternative 1, which includes current activities described in the No Action Alternative with the exception of the elimination of Mine Warfare training; certain adjustments to training levels or introduction of new training; and implementation of enhancements, as necessary to meet the components of the proposed action; and (3) Alternative 2 (Preferred Alternative), which includes Alternative 1 activities plus additional enhancements to enable the Navy to meet foreseeable needs, including implementation of the Joint National Training Capability (JNTC) within the GOMEX Range Complex. Alternative 2 also includes the elimination of the use of High Explosive (HE) bombs during major exercise air-to-surface bombing events.

Based on the analysis in the GOMEX Final EIS/OEIS, Alternative 2, the Preferred Alternative, is also the environmentally preferred alternative.

**No Action Alternative - Description of Current Training Operations within the GOMEX Range Complex:** The No Action Alternative is required by CEQ regulations as a baseline against which the impacts of the proposed action are compared. Under the No Action Alternative, training activities and major range events would continue at current levels. The No Action Alternative stands as no change from current levels of training and testing usage. Training in the GOMEX Range Complex spans from unit level exercises to integrated major range training events. The scope of training can range from air combat maneuvers or ordnance delivery at water targets by a single aircraft, to Joint Task Force Exercises (JTFEX) which may involve thousands of participants over a period of two weeks. The Final EIS/OEIS identifies (in Table 2.2-1) eight general areas of training activities conducted on the GOMEX Range Complex. These activities are: Mine Warfare, Surface Warfare, Air Warfare, Strike Warfare, Amphibious Warfare, Electronic Combat, Mission Area and Underwater Detonation Training, and major training exercises (e.g., Carrier Strike Group Composite Training Unit Exercise and Joint Task Force Exercise).

**Alternative 1 - Modify Operational Training and Enhance Range Complex Capabilities:** Alternative 1 is a proposal designed to meet Navy and DoD current and near-term operational training and RDT&E requirements. Alternative 1 includes elements of the No

Action Alternative plus: elimination of Mine Warfare training, adjustments to training levels and introduction of new unit level training associated with Strike Fighter Squadron air-to-surface bomb training, and implementation of enhancements, as necessary to meet the components of the proposed action. The following modifications and enhancements would be implemented under Alternative 1.

#### Modifications in Training Operations

1. Eliminate Mine Warfare training events associated with base closure;
2. Increase in Bombing Exercises (BOMBEX) (Air-to-Surface) and Gunnery Exercise (Air-to-Surface) training events due to new VFA 204 squadron training requirement for unit level BOMBEX and GUNEX training;
3. Changes to the mix and net explosive weight (NEW) of charges currently used for underwater demolition training at NSA Panama City Demolition Pond, with overall NEW expected to remain similar to or decrease slightly from current levels; and
4. Conduct Maritime Security Surge Surface Strike Group training (Independent Deployment) to ensure that our ability to respond to emergent requirements, such as the rise in piracy and the global war on terrorism, is maintained.

#### Enhanced Range Complex Capabilities

Increase the number, type, and operation of Commercial Air Services to support fleet opposition force and EW threat training but will not increase aircraft numbers, emissions, time spent in warning areas, or alter current airspace usage.

**Alternative 2 - Modify Operational Training and Implement Additional Enhancements (Preferred Alternative):** Alternative 2, the Preferred Alternative, includes implementation of many of the elements of Alternative 1, as well as an increase in post-BRAC Gulf-based (F-18 and E-2) operations and transient Navy participation in Navy or joint training opportunities afforded by proximity to the Army's Joint Readiness Training Center (JRTC) and its Joint National Training Capability (JNTC) infrastructure.

The Preferred Alternative would not make radical changes to the GOMEX Range Complex facilities, training, or RDT&E capacities. Rather, the actions proposed are incremental increases over or considerable decreases from the current activities that would result in relatively small-scale, but critical, enhancements that are necessary if the Navy is to

maintain a state of military readiness commensurate with its national defense mission.

**Alternatives Eliminated From Further Consideration:** In developing a reasonable range of alternatives, the Navy eliminated four alternatives from further consideration: (1) no training alternative; (2) alternative range complex locations; (3) conduct simulated training; and (4) non-explosive, practice munitions use. Each eliminated alternative will be discussed in detail below.

If the Navy did not conduct training exercises along the Gulf Coast, it would not be able to meet its Title 10 obligations requiring the Navy to be "organized, trained, and equipped primarily for the prompt and sustained combat incident to operations at sea." Additionally, RDT&E supports the Title 10 mandate because it provides the Navy the capability of developing weapon systems and ensuring their safe and effective. For these reasons, an alternative that would substantially decrease military training from current levels or eliminate training altogether would not meet the purpose and need of the proposed action. The "no training alternative" was thus eliminated from further consideration in the EIS/OEIS.

To maintain a high level of combat readiness for naval forces at best value to the U.S. taxpayer, the Navy homeports forces in multiple concentration areas rather than a single area, in part to ensure the surrounding training and testing areas could support specific needs. The result is a system of range complexes, each optimized to support the limited set of warfare areas that predominate in that locale. Taken as a whole, this system of ranges provides a robust training and testing capability for all naval warfare missions, but no one range complex can cover them alone. Naval forces need to train for a wide variety of operations conducted on and below the ocean surface, on land and in the air. Beyond these broad categories, the Navy needs access to training areas with some very specific attributes. For example, the wide variety of Navy and Marine Corps mission areas calls for an equally wide variety of very different land ranges. Amphibious training requires a military beach that opens directly to maneuver areas and live fire ranges. Aircraft strike training requires an array of air-to-ground bombing ranges, each overlaid with special use airspace that separates military aircraft and ordnance from civilian aircraft. Small boat riverine operations need a stretch of inland water adjacent to land targets suitable for live fire. Again, no single range complex on the east coast or in the Gulf has all the geographic attributes required to

support the spectrum of training and testing. The "alternative range complex locations" alternative was eliminated from further consideration.

Simulated training using computer models and classroom training are currently used by the Navy and are effective tools; however, they cannot exclusively replace live training because they do not adequately replicate the atmosphere or experience that live training provides. Additionally, simulation cannot replicate the environment provided during coordinated training and major exercises, where multiple ships, submarines and aircraft, and hundreds or thousands of men and women are participating in training activities in a coordinated fashion to accomplish a common military objective. Because of the need to "train as we fight", the "conduct simulated training" alternative would fail to meet the purpose and need of the proposed action in that it would not sufficiently prepare our naval forces for combat. Therefore, this alternative was not evaluated in the Final EIS/OEIS.

An alternative that would rely entirely on non-explosive, practice ammunition use within the GOMEX Range Complex would not achieve the necessary levels of proficiency in firing weapons in a high stress and realistic environment. Practice ammunition is already utilized extensively to enhance combat performance in the Navy's training program. However, while it is an essential component of training, practice ammunition cannot be used exclusively to train safely for an inherently unsafe combat environment. Consequently, the "practice munitions use" alternative also fails to meet the purpose and need of the proposed action and was not carried forward for analysis.

**ENVIRONMENTAL IMPACTS:** The Navy analyzed the potential impacts of the proposed action in terms of the following resource areas: Bathymetry, Sediments, and Soil; Hazardous Material and Hazardous Waste; Water Resources; Air Quality; Airborne Noise; Marine Communities; Marine Mammals; Sea Turtles; Fish and Essential Fish Habitat (EFH); Seabirds and Migratory Birds; Land Use; Cultural Resources; Transportation; Demographics; Regional Economy; Recreation; Environmental Justice; Public Health and Safety; and Summary of Atlantic Fleet Active Sonar Training (AFAST), which is incorporated by reference into the GOMEX EIS/OEIS. The potential for environmental impacts throughout the GOMEX Study Area associated with each alternative was analyzed and documented in the Final EIS/OEIS. The Record of Decision summarizes the potential impacts associated with implementation of the Preferred Alternative.

The environmental effects analysis in the Final EIS/OEIS includes several warfare areas (e.g., Surface Warfare, Air Warfare, etc.) and most warfare areas include multiple types of training operations (e.g., gunnery exercise, bombing exercise, etc.). Likewise, several activities (e.g., ship maneuver, aircraft overflights, weapons firing, etc.) are accomplished under each operation. Accordingly, the analysis is organized by specific activity and/or stressors associated with that activity, rather than warfare area or operations.

The Navy used a screening process to identify aspects of the proposed action that could act as stressors to resources or issues. Navy subject matter experts de-constructed the warfare areas and activities included in the proposed action to identify specific activities that could act as stressors. Public and agency scoping comments, previous environmental analyses, previous agency consultations, laws, regulations, Executive Orders, and resource-specific information were also considered. This process was used to focus the information presented and analyzed in the affected environment and environmental consequences sections of the Final EIS/OEIS. Potential stressors identified through the screening process include:

1. Vessel movements (disturbance and collision)
2. Aircraft overflights (disturbance and bird strikes)
3. Non-Explosive Practice Munitions
4. Underwater Detonation with High Explosive Ordnance
5. Towed Mine Warfare Devices
6. Military Expended Materials

As defined under NEPA, the analysis was conducted to determine the significance of impacts in U.S. Territory and significance of harm in Non-Territorial Waters in accordance with EO 12114. In addition, resources and issues were evaluated in accordance with all applicable environmental laws and regulations.

**Bathymetry, Sediments, and Soil:** Implementation of the Preferred Alternative would have no significant impact on bathymetry, sediments, or soil in U.S. territorial or internal waters as a result of the analyzed stressors, and would have no impact on soils and sediments from training in the MOAs. Furthermore, the proposed activities would not cause significant harm to bathymetry, sediments, or soil in these waters as a result of the analyzed stressors.

**Hazardous Material and Hazardous Waste:** Implementation of the Preferred Alternative would have no significant impact on inland

ranges or marine habitats in territorial waters from hazardous material and hazardous waste as a result of the analyzed stressors. Furthermore, the proposed activities would not cause significant harm to marine habitats in non-territorial waters from hazardous material and hazardous waste as a result of the analyzed stressors.

**Water Resources:** Implementation of the Preferred Alternative would have no significant impact on water quality in the terrestrial and marine environments as a result of the analyzed stressors. Furthermore, the proposed activities would not cause significant harm to water quality in the marine environment outside U.S. territorial waters as a result of the analyzed stressors.

**Air Quality:** Implementation of the Preferred Alternative would have no significant impact on regional air quality as a result of the analyzed stressors. Furthermore, the proposed activities would not cause significant harm to air quality above non-territorial waters as a result of the analyzed stressors.

**Airborne Noise:** Implementation of the Preferred Alternative would have no significant impact on the human noise environment in land ranges and above territorial waters as a result of the analyzed stressors. Furthermore, the proposed activities would not cause significant harm to the human noise environment above non-territorial waters as a result of the analyzed stressors.

**Marine Communities:** The Final EIS/OEIS focused on the following marine communities occurring within the GOMEX Study Area: plankton and macroalgae, benthic communities, seagrasses/submerged aquatic vegetation and artificial habitats.

Non-explosive practice bombs and naval gun shells could result in 4,977 ft<sup>2</sup> of disturbance to benthic habitats per year. Only a small percentage of the total area affected would be sensitive benthic habitat such as live hard bottom. Therefore, the area of hard bottom habitat affected by non-explosive practice bombs and naval gun shells would be less than 4,977 ft<sup>2</sup> per year. As a result of the proposed decrease in the number of HE bombs used, the potential for plankton to be exposed to HE ordnance would decrease substantially under Alternative 2. The amount of military expended materials entering the marine environment would increase in the Study Area under Alternative 2. However, no significant changes in community structure or function would be anticipated based on the limited amount and dispersed nature of the materials.

Implementation of the Preferred Alternative would have no significant impact on marine communities in territorial waters as a result of the analyzed stressors. Furthermore, the proposed activities would not cause significant harm to marine communities in non-territorial waters as a result of the analyzed stressors.

**Marine Mammals:** Protection of marine mammals is governed by the Endangered Species Act (ESA) and the Marine Mammal Protection Act (MMPA). There are 28 cetaceans and one sirenian species, including seven ESA-listed species, with confirmed or potential occurrence in the GOMEX Study Area. The Final EIS/OEIS evaluated the potential direct and indirect effects to marine mammals as a result of exposure to potential environmental stressors. A quantitative analysis was used to determine the potential impacts to marine mammals associated with testing and training activities using explosive munitions. As discussed below, the Navy and NMFS coordinated on the threshold used in analyzing the potential effects to marine mammals from the activities analyzed in the Final EIS/OEIS.

**Explosive Modeling Analysis:** The effects of an underwater explosion on marine mammals are dependent on several factors, including the size, type, and depth of both the animal and the explosive charge; the depth of the water column; and the standoff distance between the explosive charge and the animal, as well as the sound propagation properties of the environment. Impacts to marine species are a result of physiological responses (generally the destruction of tissues at air-fluid interfaces) to both the type and strength of the acoustic signature and shock wave generated by an underwater explosion. Behavioral impacts are also expected, though the type and severity of these effects are more difficult to define due to limited studies addressing the behavioral effects of explosives on marine mammals and other aquatic species. Potential effects can range from brief acoustic effects (such as behavioral disturbance), tactile perception, physical discomfort, slight injury of the internal organs and the auditory system, to death of the animal. Non-lethal injury includes slight injury to internal organs and the auditory system; however, delayed lethality may be a result of individual or cumulative sub-lethal injuries. Immediate lethal injury would be a result of massive combined trauma to internal organs as a direct result of close proximity to the point of detonation.

**Summary of Thresholds and Criteria for Impulsive Sound:** Criteria and thresholds for estimating the exposures from a single explosive activity on marine mammals were established for the

Seawolf Submarine Shock Test Final Environmental Impact Statement ("Seawolf") and subsequently used in the USS Winston S. Churchill (DDG-81) Ship Shock Final EIS ("Churchill"). NMFS adopted these criteria and thresholds in its final rule on unintentional taking of marine animals occurring incidental to the shock testing. Since the ship-shock events involve only one large explosive event at a time, additional assumptions were made to extend the approach to cover multiple explosions for FIREX (with IMPASS). For Alternative 2, multiple explosions were assumed only for MK3A2 grenade training events in the analysis. In addition, the marine mammal section reflects a revised acoustic criterion for small underwater explosions (*i.e.*, 23 lbs per square inch [psi] instead of previous acoustic criteria of 12 psi for peak pressure over all exposures), based on the final rule issued to the Air Force by NMFS in 2006 for conducting Precision Strike Weapons training and testing at Eglin Air Force Base.

**Thresholds and Criteria for Injurious Physiological Effects:** For injury, the analysis uses dual criteria: eardrum rupture (*i.e.*, tympanic membrane [TM] rupture) and onset of slight lung injury. These criteria are considered indicative of the onset of injury. The threshold for TM rupture corresponds to a 50% rate of rupture (*i.e.*, 50% of animals exposed to the level are expected to suffer TM rupture); this is stated in terms of an Energy Flux Density Level (EFD) value of 1.17 inch pounds per square inch (in  $\text{lbs/in}^2$ ) (about 205 dB referenced to 1 microPascal squared second [dB re 1  $\mu\text{Pa}^2\text{-sec}$ ]).

The threshold for onset of slight lung injury is calculated for a small animal (a dolphin calf weighing 26.9 lbs), and is given in terms of the "Goertner modified positive impulse," indexed to 13 psi-millisecond (msec). The criterion with the largest potential exposure range (most conservative), either TM rupture (energy threshold) or onset of slight lung injury (peak pressure threshold), was used in the analysis to determine injurious physiological exposures.

For mortality, the analysis uses the criterion corresponding to the onset of extensive lung injury. For small animals, the threshold is given in terms of the Goertner modified positive impulse, indexed to 30.5 psi-msec.

**Thresholds and Criteria for Non-Injurious Physiological Effects:** The criterion for non-injurious harassment is Temporary Threshold Shift (TTS) - a slight, recoverable loss of hearing sensitivity. For this assessment, there are dual thresholds for

TTS: an energy threshold and a peak pressure threshold. The first threshold is a 182 dB re 1  $\mu\text{Pa}^2$ -sec maximum energy flux density level in any 1/3 octave band at frequencies above 100 Hertz (Hz) for toothed whales/sea turtles and in any 1/3-octave band above 10 Hz for baleen whales. The second threshold is stated in terms of peak pressure at 23 psi (about 225 dB referenced to 1 microPascal [dB re 1  $\mu\text{Pa}$ ]). The criterion with the largest potential exposure range (most conservative), either the energy threshold or peak pressure threshold, was used in the analysis to determine non-injurious physiological (TTS) exposures.

**Thresholds and Criteria for Behavioral Effects - Multiple Explosions:** Because multiple explosions would occur within a discrete time period, a new acoustic criterion - behavioral disturbance - is used to account for behavioral effects significant enough to be judged as harassment, but occurring at lower noise levels than those that may cause TTS.

The behavioral disturbance threshold for tones is derived from the SSC tests, and is found to be 5 dB below the threshold for TTS, or 177 dB re 1  $\mu\text{Pa}^2$ -sec maximum energy flux density level in any 1/3 octave band at frequencies above 100 Hz for toothed whales/sea turtles and in any 1/3-octave band above 10 Hz for baleen whales.

**Summary of Effects:**

**ESA Conclusions:** Vessel movements, aircraft overflights, and military expended materials may affect blue, fin, humpback, North Atlantic right whales, sei, and sperm whales. Only vessel movements may affect the West Indian manatee. Aircraft overflights and military expended materials would have no effect on the West Indian Manatee. Non-explosive practice munitions will have no effect on listed marine mammals.

Underwater detonations and HE ordnance use may affect blue, fin, humpback, North Atlantic right, sei, and sperm whales. However, the effects on extralimital species, such as fin, North Atlantic right, sei, blue, and humpback whales are likely discountable due to the low occurrence of these species in the GOMEX study area. Manatees are not expected to occur in the discrete area within the OPAREA where HE ordnance is used. HE ordnance use will therefore have no effect on the manatee. Manatees may occur in the nearshore waters of the Corpus Christi UNDET OPAREA, where small arms training occurs. Underwater detonations in that area may affect the manatee.

The Navy initiated the ESA Section 7 formal consultation process with NMFS for listed species on January 8, 2009. In a letter dated July 31, 2010, the Navy requested that NMFS use an addendum that Navy prepared to the Biological Evaluation in support of the GOMEX Range Complex for preparing their Biological Opinion. NMFS signed the Programmatic Biological and Conference Opinions on November 22, 2010. NMFS concluded that the Navy's proposed training exercises and RDT&E activities within the GOMEX Range Complex are not likely to jeopardize the continued existence of the threatened and endangered marine mammal species under NMFS' jurisdiction.

The Navy initiated the ESA Section 7 informal consultation process with USFWS on January 7, 2009. In a letter dated March 9, 2009, the USFWS concurred with the Navy's determination that the Proposed Action (Preferred Alternative) will have no effect, or is not likely to adversely affect the federally-listed species or designated critical habitat under USFWS jurisdiction.

**MMPA Conclusion:** Exposure estimates for underwater detonations and explosive ordnance use indicate the potential for Level A and Level B harassment as defined by MMPA. No marine mammals would be exposed to levels that would result in mortality. The Navy concludes that exposures to explosive ordnance and underwater detonations would result in short-term effects to most individuals exposed and would likely not affect annual rates of recruitment or survival of the species. Although there may be impacts to individual marine mammals, the impacts at the population, stock or species level would be negligible.

The Navy submitted to NMFS an application for a Letter of Authorization for Incidental Take under MMPA for the Preferred Alternative dated October 16, 2008. NMFS issued the MMPA Final Rule for GOMEX Range activities February 17, 2011.

The analysis presented above indicates that underwater detonations and explosive ordnance use under the Alternative 2 (Preferred Alternative) may impact individual marine mammals, but any impacts observed at the population, stock, or species level would be negligible. Therefore, in accordance with NEPA, implementation of the Preferred Alternative would have no significant impact on marine mammals within territorial waters. In accordance with EO 12114, there would be no significant harm to marine mammals resulting from the proposed activities in non-territorial waters.

**Sea Turtles:** Six species of sea turtles (green, hawksbill, Kemp's ridley, olive ridley, leatherback, and loggerhead) occur

in the GOMEX Study Area. These sea turtle species are protected by the Endangered Species Act (ESA) and are classified as endangered with the exception of the olive ridley<sup>1</sup>, green and loggerhead sea turtle<sup>2</sup>, which are classified as threatened. It should be noted that the Florida and Mexican Pacific coast nesting populations of green turtles are listed as endangered. However, since not all green turtles found within the GOMEX Study Area come from the Florida population they are considered as threatened for the purposes of this document.

Documentation of Permanent Threshold Shift (PTS) or TTS in sea turtles is extremely scarce, and is limited to scattered, solitary records that would be difficult to extrapolate to a population-wide generality. However, it is assumed that acoustic exposure to detonations may elicit a physiological or behavioral response (startle). Presumably the same broad categories of responses that were examined for marine mammals may also apply here to sea turtles. Few experiments have been conducted to attempt to quantify explosive exposures on turtles, and unfortunately, the methods of these experiments do not allow for their results to be analyzed.

Navy analysts have compared the injury levels reported by the best of these experiments to the injury levels that would be predicted using the modified Goertner method. For this assessment, in the absence of criteria specifically set for sea turtles, the criteria for marine mammals, as established in the Churchill Final EIS, were used to estimate potential exposures for turtles. Non-injurious effects were determined by either the dual physiological criteria for single detonations or by the behavioral criterion for multiple detonations. The criterion for behavioral disturbance used in this analysis is based on use of multiple explosives. A summary description for each criteria level, metric, and threshold for small explosives is outlined in the threshold criteria discussion above.

#### **Summary of Effects:**

**ESA Conclusions:** Vessel movements, aircraft overflights, towed MIW devices, military expended materials, and explosive ordnance use may affect olive ridley, Kemp's ridley, leatherback, loggerhead, green, and hawksbill turtles. Non-explosive practice munitions would have no effect on listed sea turtles.

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<sup>1</sup> The Pacific nesting population in Mexico is listed as endangered.

<sup>2</sup> As a species, loggerhead turtles are currently listed as threatened; however, the Northwest Atlantic Distinct Population Segment of loggerheads is currently proposed for endangered status (75 FR 12598 March 16, 2010).

Underwater detonations and explosive ordnance use may affect green, hawksbill, Kemp's ridley, olive ridley, leatherback, and loggerhead turtles. However, the effects to extralimital and rare species (olive ridley turtle) are likely discountable due to the low occurrence of these species in the GOMEX Study Area. The Navy initiated the ESA Section 7 formal consultation process with NMFS for listed sea turtles on January 8, 2009. NMFS signed the Programmatic Biological and Conference Opinions on November 22, 2010. In addition, the Navy has engaged in a formal conference with NMFS under Section 7(a)(4) with regard to the proposed endangered listing of the Northwest Atlantic Distinct Population Segment of loggerhead sea turtles. NMFS concluded that the Navy's proposed training exercises and research, development, testing, and evaluation activities within the GOMEX Range Complex are not likely to jeopardize the continued existence of listed or proposed threatened and endangered species of sea turtles. In addition, NMFS concluded that Navy plans to conduct activities within the GOMEX Range Complex are not likely to affect critical habitat that has been designated for endangered or threatened species in the study area. Sea turtles will not be affected in the terrestrial environment, such as when nesting, therefore consultation with the U.S. Fish & Wildlife Service was not initiated.

The analysis presented above indicates that in accordance with NEPA, implementation of the Preferred Alternative in territorial waters would have no significant impact on sea turtles. Furthermore, proposed activities in non-territorial waters would not cause significant harm to sea turtles in accordance with Executive Order 12114.

**Fish and Essential Fish Habitat (EFH):** Fishery resources are protected by the Magnuson-Stevens Fishery Conservation and Management Act (MSA) by the designation of Essential Fish Habitat (EFH) and the Endangered Species Act (ESA).

**MSA Conclusions:** EFH was designated for species with at least one life stage occurring within the GOMEX Study Area including 66 species of finfish, three species of shrimp, two species of crab, and numerous species of coral. EFH that occurs in the Study Area is generally categorized as: benthic habitat, structured habitat (including artificial reefs, wrecks, biogenic habitat such as sponges, mussels, and coral) Sargassum habitat, marine water column habitat, and estuarine habitat.

Any impacts from implementation of the Preferred Alternative would be temporary and/or minimal and would not adversely affect EFH. The Preferred Alternative would not reduce

the quality and/or quantity of EFH in the Study Area. Therefore, EFH consultation with NMFS was not initiated.

**ESA Conclusions:** Two ESA-listed fish species, the Gulf sturgeon and the smalltooth sawfish, were considered in the analysis of potential impacts. Critical habitat has been designated for the Gulf sturgeon and has been proposed for the smalltooth sawfish. Within the GOMEX Study Area, only the Panama City OPAREA is located within Gulf sturgeon critical habitat. The smalltooth sawfish population and range is mostly restricted to Florida waters. Within the State of Florida, there has been only one smalltooth sawfish reported and verified encounter within the vicinity of the Pensacola OPAREA. No smalltooth sawfish encounters have ever been reported and verified in federal waters off northwestern Florida and within either the Pensacola or the Panama City OPAREAs by either commercial fishermen or recreational divers. Smalltooth sawfish may occur in or near the Demolition Pond. There have been three smalltooth sawfish encounters that have been reported and verified since 1998 west of the mouth of St. Andrew Bay.

NMFS signed the Programmatic Biological and Conference Opinions on November 22, 2010, and determined that the Navy's proposed activities would not jeopardize the continued existence of listed fish. In the Opinions, NMFS determined that the Gulf sturgeon would not be exposed to shock waves or sound fields associated with Navy activities, and that activities conducted within the GOMEX Range Complex will not affect Gulf sturgeon critical habitat. NMFS proposed critical habitat for the smalltooth sawfish on November 20, 2008, but none of the proposed critical habitat is within the GOMEX Study Area. NMFS determined that smalltooth sawfish have a discountable probability of being exposed to proposed U.S. Navy training activities.

**Seabirds and Migratory Birds:** Birds are protected primarily by the Migratory Bird Treated Act (MBTA) and the Endangered Species Act (ESA). The analysis focused on seabirds in the open waters of the Atlantic Ocean and migratory birds that could seasonally migrate through the GOMEX Study Area. There are 29 species of seabirds and migratory birds that could potentially occur in the OPAREA considered in the analysis of potential impacts from implementation of the proposed activities. The brown pelican was the only species listed as endangered under the ESA that could potentially occur in the GOMEX Study Area, but was delisted on November 17, 2009. Critical habitat for listed birds has not been designated under the ESA within the Study Area.

**MBTA Conclusions:** Implementation of the Preferred Alternative would not diminish the capacity of a population of a migratory bird species to maintain genetic diversity, to reproduce, and to function effectively in its native ecosystem. The proposed action would not have a significant adverse effect on migratory bird populations.

Implementation of the Preferred Alternative would have no significant impact on seabirds and migratory birds in territorial waters. Furthermore, the proposed activities would not cause significant harm to seabirds and migratory birds in non-territorial waters.

**ESA Conclusions:** Under the Preferred Alternative, vessel movements, aircraft overflights, non-explosive practice munitions, underwater detonations and high explosive ordnance may affect brown pelicans. Military expended materials and towed warfare devices would have no effect on brown pelicans. The Navy has completed informal ESA Section 7 consultation with USFWS regarding its determination of effect for the Preferred Alternative and the brown pelican; however this species was delisted prior to the completion of the FEIS.

**Terrestrial Biological Resources:** The analysis focused on NSA Panama City Demolition Pond and two bombing ranges within the GOMEX Range Complex Study Area: McMullen County Range (consisting of Dixie and Yankee Targets) and Noxubee County Range (SEARAY Target). The biological resources in these areas included vegetation, wetlands, and wildlife, including those protected by the Clean Water Act (CWA), the Migratory Bird Treated Act (MBTA), and the Endangered Species Act (ESA).

**ESA Conclusions:** Implementation of the Preferred Alternative may affect the interior least tern, whooping crane, and ocelot at Dixie and Yankee Targets. The Preferred Alternative would have no effect on whooping crane critical habitat. The Preferred Alternative may affect the red-cockaded woodpecker at Noxubee County Range. Proposed activities under the Preferred Alternative at the Demolition Pond would have no effect on the Choctawhatchee beach mouse or its critical habitat. The Preferred Alternative may affect the piping plover, wood stork, and Eastern indigo snake at the Demolition Pond. The Preferred Alternative would have no effect on piping plover critical habitat. The Navy completed informal ESA Section 7 consultation with USFWS for the Preferred Alternative and terrestrial species. In a letter dated March 9, 2009, USFWS concurred with the Navy's determination that the Preferred Alternative would

have no effect on, or is not likely to adversely affect listed terrestrial species.

**CWA and MBTA conclusions:** The Preferred Alternative would have no significant impact on wetlands, vegetation, migratory birds and other biological resources within the Panama City Demolition Pond, McMullen County Range and Noxubee County Range Study Areas.

**Land use:** Implementation of the Preferred Alternative would have no impact on land use for NSA Panama City Demolition Pond, McMullen County Range, and Noxubee County Range. Offshore activities in the proposed action and potential impacts in non-territorial waters are not relevant to land use impacts. Evaluation of the environmental stressors indicated that there would be no significant impact to land use on the land-based targets and in territorial waters.

**Cultural Resources:** Information on cultural resources for the GOMEX OPAREAs, NSA Panama City Demolition Pond, McMullen County Range, and Noxubee County Range was examined to determine the potential impacts of environmental stressors as a result of implementation of the Preferred Alternative.

Implementation of the Preferred Alternative would expend training materials in offshore areas, most of which would become buried in the sea floor sediment, and would have no substantial effects on cultural resources. There is a remote possibility that discarded training materials would settle on or near offshore shipwrecks. The Navy has instituted mitigation measures to avoid all known shipwreck locations. The implementation of the Preferred Alternative would result in no significant impacts to cultural resources. Furthermore, the proposed activities would not cause significant harm to cultural resources.

**Transportation:** Evaluation of the potential environmental stressors for the Preferred Alternative indicated that there would be no significant impacts to transportation resources in territorial waters of the GOMEX Range Complex and no significant harm to transportation resources in non-territorial waters. No significant effects to shore/land resources would be expected.

**Demographics:** No environmental stressors were identified for assessment of potential impacts to population characteristics, household characteristics, and employment rates and trends. Offshore activities in the proposed action were not assessed and potential impacts in non-territorial water were not relevant to demographic impact assessment. Therefore, no significant impact

to demographics from implementation of the Preferred Alternative would be expected.

**Regional Economy:** The Final EIS/OEIS included assessment of economic factors including industry, commercial fishing, tourism, and recreational fishing. Evaluation of the potential environmental stressors indicated that no significant impact and no significant harm to regional economy from implementation of the Preferred Alternative would be expected.

**Recreation:** The Final EIS/OEIS included assessment of non-commercial activities that occur in the GOMEX Study Area. Evaluation of the potential environmental stressors indicated that no significant impact and no significant harm to recreation from implementation of the Preferred Alternative would be expected.

**Environmental Justice:** The Final EIS/OEIS included assessment of Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* and EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*. OPNAVINST 5090.1C provides instructions to identify and assess stressors and disproportionately high and adverse impacts to minorities, low-income populations, and children. Evaluation of the potential environmental stressors indicated that no significant impact or harm to environmental justice or protection of children from implementation of the Preferred Alternative would be expected.

**Public Health and Safety:** The Final EIS/OEIS included assessment of potential hazards inherent in flight operations, vessel movements, and weapons firing. Evaluation of the potential environmental stressors indicated that no significant impact and no significant harm to public health and safety from implementation of the Preferred Alternative would be expected.

**Summary of Atlantic Fleet Active Sonar Training (AFAST) and Aggregate Impacts in the GOMEX Range Complex:** The Navy prepared an EIS/OEIS for the use of active sonar and other sources of underwater energy during training operations in the East Coast and GOMEX OPAREAs. The types of active sonar analyzed include those using mid- and high- frequencies as well as small explosive charges used in certain Anti-Submarine Warfare (ASW) devices. The Navy's ASW and Mine Warfare (MIW) sonars and other acoustic source systems are being studied across a number of environments for myriad Navy training operations in this EIS/OEIS. In addition to incorporating the AFAST EIS/OEIS by reference, the GOMEX Range Complex EIS/OEIS includes a summary

of effects from active sonar sources utilized in the GOMEX Range Complex based on the analysis of effects from the Final AFAST EIS/OEIS (Record of Decision signed 23 January 2009).

The active sonar activities described in the GOMEX Range Complex EIS/OEIS are not new and do not involve significant changes in systems, tempo, or intensity from past events. Evaluation of the potential environmental stressors indicated that no significant impact to resources and issues from AFAST activities conducted in the GOMEX Range Complex would be expected.

#### **MITIGATION MEASURES**

**Standard Operating Procedures (General Maritime Measures):** The mitigation measures presented below are implemented by Navy personnel on a regular and routine basis. These are routine measures and are considered "Standard Operating Procedures." The use of shipboard lookouts is a critical component of all Navy standard operating procedures. Navy shipboard lookouts (also referred to as "watchstanders") are highly qualified and experienced observers of the marine environment. Their duties require that they report all objects sighted in the water to the Officer of the Deck (OOD) (e.g., trash, a periscope, marine mammals, sea turtles) and all disturbances (e.g., surface disturbance, discoloration) that may be indicative of a threat to the vessel and its crew. There are personnel serving as lookouts on station at all times (day and night) when a ship or surfaced submarine is moving through the water.

All personnel serving as lookouts on Navy ships and submarines are required to complete Marine Species Awareness Training (MSAT) as part of the lookout training program. MSAT includes instruction on the lookout's role in environmental protection, laws governing the protection of marine species, Navy stewardship commitments, general observation at sea, and detecting/identifying marine mammals. MSAT has been reviewed by NMFS and acknowledged as suitable training.

All bridge personnel, Commanding Officers, Executive Officers, officers standing watch on the bridge, maritime patrol aircraft aircrews, and MIW helicopter crews shall complete MSAT. Navy lookouts shall undertake extensive training to qualify as a watchstander in accordance with the Lookout Training Handbook (NAVEDTRA 12968-D). Lookout training shall include on-the-job instruction under the supervision of a qualified, experienced watchstander. Following successful completion of this supervised training period, lookouts shall complete the Personal

Qualification Standard Program, certifying that they have demonstrated the necessary skills (such as detection and reporting of partially submerged objects). Lookouts shall be trained in the most effective means to ensure quick and effective communication within the command structure to facilitate implementation of protective measures if marine species are spotted. Surface lookouts shall scan the water from the ship to the horizon and be responsible for all contacts in their sector. In searching the assigned sector, the lookout shall always start at the forward part of the sector and search aft (toward the back). To search and scan, the lookout shall hold the binoculars steady so the horizon is in the top third of the field of vision and direct the eyes just below the horizon. The lookout shall scan for approximately five seconds in as many small steps as possible across the field seen through the binoculars. They shall search the entire sector in approximately five-degree steps, pausing between steps for approximately five seconds to scan the field of view. At the end of the sector search, the glasses shall be lowered to allow the eyes to rest for a few seconds, and then the lookout would search back across the sector with the naked eye. At night, lookouts shall continuously scan the horizon in a series of movements that would allow their eyes to come to periodic rests as they scan the sector. When visually searching at night, they shall look a little to one side and out of the corners of their eyes, paying attention to the things on the outer edges of their field of vision. Lookouts shall also have night vision devices available for use.

#### Operating Procedures & Collision Avoidance

(1) Prior to major exercises, a Letter of Instruction, Naval Message or Environmental Annex to the Operational Order shall be issued to further disseminate the personnel training requirement and general marine species mitigation measures.

(2) Commanding Officers shall make use of marine species detection cues and information to limit interaction with marine species to the maximum extent possible consistent with safety of the ship.

(3) While underway, surface vessels shall have at least two lookouts with binoculars; surfaced submarines shall have at least one lookout with binoculars. Lookouts already posted for safety of navigation and man-overboard precautions may be used to fill this requirement. As part of their regular duties, lookouts shall watch for and

report to the OOD the presence of marine mammals and sea turtles.

(4) On surface vessels equipped with a MFA sonar, pedestal mounted "Big Eyes" (20x110) binoculars will be properly installed and in good working order to assist in the detection of marine mammals and sea turtles in the vicinity of the vessel.

(5) Personnel on lookout shall employ visual search procedures employing a scanning method in accordance with the Lookout Training Handbook (NAVEDTRA 12968-D).

(6) After sunset and prior to sunrise, lookouts shall employ Night Lookouts Techniques in accordance with the Lookout Training Handbook (NAVEDTRA 12968-D).

(7) While in transit, naval vessels shall be alert at all times, use extreme caution, and proceed at a "safe speed" so that the vessel can take proper and effective action to avoid a collision with any marine animal and can be stopped within a distance appropriate to the prevailing circumstances and conditions.

(8) When whales have been sighted in the area, Navy vessels shall increase vigilance and take reasonable and practicable actions to avoid collisions and activities that might result in close interaction of naval assets and marine mammals. Such measures shall include changing speed and/or direction and are dictated by environmental and other conditions (e.g., safety, weather).

(9) Naval vessels will maneuver to keep at least 1,500-yd (460 m) away from any observed whale and avoid approaching whales head-on. This requirement does not apply if a vessel's safety is threatened, such as when change of course will create an imminent and serious threat to a person, vessel, or aircraft, and to the extent vessels are restricted in their ability to maneuver. Restricted maneuverability includes, but is not limited to, situations when vessels are engaged in dredging, submerged operations, launching and recovering aircraft or landing craft, minesweeping operations, replenishment while underway and towing operations that severely restrict a vessel's ability to deviate course. Vessels will take reasonable steps to alert other vessels in the vicinity of the whale.

(10) Where feasible and consistent with mission and safety, vessels will avoid closing to within 200-yd (183 m) of sea turtles and marine mammals other than whales (whales addressed above).

(11) Floating weeds, algal mats, Sargassum rafts, clusters of seabirds, and jellyfish are good indicators of sea turtles and marine mammals. Therefore, increased vigilance in watching for sea turtles and marine mammals will be taken where these are present.

(12) Navy aircraft participating in exercises at sea will conduct and maintain, when operationally feasible and safe, surveillance for marine species of concern as long as it does not violate safety constraints or interfere with the accomplishment of primary operational duties. Marine mammal detections will be immediately reported to assigned Aircraft Control Unit for further dissemination to ships in the vicinity of the marine species as appropriate where it is reasonable to conclude that the course of the ship will likely result in a closing of the distance to the detected marine mammal.

(13) All vessels will maintain logs and records documenting training operations should they be required for event reconstruction purposes. Logs and records will be kept for a period of 30 days following completion of a major training exercise.

**Measures for Specific Training Events:**

These actions are standard operating procedures that are in place currently and will be used in the future for all activities being analyzed.

**Surface-to-Surface Gunnery (up to and including 5-inch non-explosive rounds):**

1. Lookouts will visually survey for floating weeds, algal mats, and Sargassum rafts which may be inhabited by immature sea turtles in the target area. Intended impact will not be within 200 yards (182 m) of known or observed floating weeds, algal mats, Sargassum rafts, or coral reefs.
2. If applicable, target towing vessels will maintain a lookout. If a marine mammal or sea turtle is sighted in the vicinity of the exercise, the tow vessel will immediately notify the firing vessel in order to secure gunnery firing until the area is clear.
3. A 200-yard (182 m) radius buffer zone will be established around the intended target.

4. From the intended firing position, trained lookouts will survey the buffer zone for marine mammals and sea turtles prior to commencement and during the exercise as long as practicable. Due to the distance between the firing position and the buffer zone, lookouts are only expected to visually detect breaching whales, whale blows, and large pods of dolphins and porpoises.
5. The exercise will be conducted only when the buffer zone is visible and marine mammals and sea turtles are not detected within the target area and the buffer zone.

**Small Arms Training - (such as 7.62 mm and .50 cal):**

1. Lookouts will visually survey for floating weeds, algal mats, *Sargassum* rafts, marine mammals, and sea turtles. Weapons would not be fired in the direction of known or observed floating weeds, algal mats, *Sargassum* rafts, marine mammals, sea turtles, or coral reefs.

**Small Arms Training - Explosive Hand Grenades (such as MK3A2 grenades):**

1. Lookouts visually survey for floating weeds, algal mats, *Sargassum* rafts, marine mammals, and sea turtles.
2. 200-yard radius buffer zone will be established around the intended target. The exercises will be conducted only if the buffer is clear of sighted marine mammals and sea turtles.

**Air-to-Surface Gunnery (such as 20-mm non-explosive rounds):**

1. If surface vessels are involved, lookouts will visually survey for *Sargassum* rafts, which may be inhabited by immature sea turtles, in the target area. Impact should not occur within 200 yd (182 m) of known or observed floating weeds, algal mats, *Sargassum* rafts, or coral reefs.
2. Aerial surveillance of the buffer zone for marine mammals and sea turtles will be conducted prior to commencement of the exercise. Aerial surveillance altitude of 500 ft to 1,500 ft is optimum. Aircraft crew/pilot will maintain visual watch during exercises. Release of ordnance through cloud cover is prohibited; aircraft must be able to actually see ordnance impact areas. The exercise will be conducted only if marine mammals and sea turtles are not visible within the buffer zone.

3. Target towing craft shall maintain a lookout. If a marine mammal or sea turtle is sighted in the vicinity of the exercise, the tow craft will immediately notify the firing vessel in order to secure gunnery firing until the area is clear.

**Air-to-Surface At-Sea Bombing Exercises (500-lb to 2,000-lb explosive bombs):**

This activity occurs in W-155A/B (hot box) area of the GOMEX Study Area. The location was established to be within 150 nm from shore-based facilities (the established flight distance restriction for F/A-18 jets during unit level training events).

1. Aircraft will visually survey the target and buffer zone for marine mammals and sea turtles prior to and during the exercise. The pre-exercise survey of the impact area would be made by flying at 1,500 feet altitude or lower, if safe to do so, and at the slowest safe speed. Release of ordnance through cloud cover is prohibited; aircraft must be able to actually see ordnance impact areas. Survey aircraft should employ most effective search tactics and capabilities.
2. A buffer zone of a 5,100-yard (4,663 m) radius would be established around the intended target zone. The exercises would be conducted only if the buffer zone is clear of sighted marine mammals and sea turtles.
3. If surface vessels are involved, lookouts would survey for *Sargassum* rafts, which may be inhabited by immature sea turtles. Ordnance would not be targeted to impact within 5,100 yards (4,663 m) of known or observed *Sargassum* rafts or coral reefs.
4. At-sea BOMBEXs using explosive ordnance will occur during daylight hours only.

**Air-to-Surface At-Sea Bombing Exercises (non-explosive munitions):**

1. If surface vessels are involved, trained lookouts would survey for *Sargassum* rafts, which may be inhabited by immature sea turtles, and for sea turtles and marine mammals. Ordnance would not be targeted to impact within 1,000 yards (914 m) of known or observed *Sargassum* Rafts, sea turtles, marine mammals, or coral reefs.
2. A 1,000-yard (914 m) radius buffer zone would be established around the intended target.

3. Aircraft will visually survey the target and buffer zone for marine mammals and sea turtles prior to and during the exercise. The pre-exercise survey of the impact area would be made by flying at 1,500 feet or lower, if safe to do so, and at the slowest safe speed. Release of ordnance through cloud cover is prohibited; aircraft must be able to actually see ordnance impact areas. Survey aircraft should employ most effective search tactics and capabilities.
4. The exercise will be conducted only if marine mammals and sea turtles are not visible within the buffer zone.

**Detonation of Explosives in the Demolition Pond:**

1. Visual monitoring will be conducted in the Demolition Pond for manatees, other marine mammals, and sea turtles for any exercise that involves detonation of explosives. The monitoring will be initiated a minimum of 15 min immediately prior to the exercise and will continue until the exercise is completed. If a manatee, other marine mammals, or sea turtle is observed in the Demolition Pond, then detonation of explosives would not take place until the animal has left the Demolition Pond.
2. Detonations over 5-lb net explosive weight will not be conducted in the Demolition Pond.
3. Military expended materials will be collected and removed from the Demolition Pond immediately following all exercises when feasible.

**Anchorage of Ships:**

These requirements are not applicable if going to an assigned anchorage.

1. Avoid *Sargassum* rafts.
2. Ships will not anchor in the vicinity of coral reefs, except in designated anchorages or for safety of ship: vicinity is defined as the anchor swing circle encompassing a portion of a coral reef.
3. Ships will not anchor in areas of known shipwrecks.

**Mitigation Measures Related to Acoustic Effects (Taken From the AFAST Final EIS/OEIS):**

The AFAST Record of Decision, dated 23 Jan 2009, provides detailed discussion of mitigation measures to be employed during activities analyzed in the AFAST Final EIS/OEIS. As discussed in the NMFS MMPA regulations for AFAST active sonar activities, ESA Biological Opinion, and the AFAST Record of Decision dated 23 Jan 2009, the Navy would implement various mitigation

measures to maximize the ability of operators to recognize instances when marine mammals are in the vicinity. These measures include the following:

1. Training personnel in lookout/watchstander duties;
2. Stationing at least three people on watch with binoculars at all times;
3. Stationing at least two additional people on watch during ASW exercises when MFA sonar is being used;
4. Requiring all personnel engaged in passive acoustic sonar operation to monitor for marine mammal vocalizations;
5. Using all available sensor and optical systems, such as night vision goggles during MFA and HFA active sonar activities;
6. Using only passive capability of sonobuoys when marine mammals are detected within 183 meters (200 yards);
7. Limiting ship or submarine active transmission levels to at least 6 dB below normal operating levels when marine mammals are detected by any means within 914 meters (1,000 yards) of the sonar dome (the bow);
8. Limiting ship or submarine active transmission levels to at least 10 dB below normal operating levels when marine mammals are detected by any means within 457 meters (500 yards) of the sonar dome, or ceasing ship or submarine active transmissions when a marine mammal is detected by any means within 183 meters (200 yards) of the sonar dome;
9. If the need for such power-down arises, following power-down requirements as though the system is operating at 235 dB, the normal operating level (i.e., power-down would be to 229 dB);
10. Operating sonar at the lowest practicable level, not to exceed 235 dB, except as required to meet tactical training objectives;
11. Requiring helicopters to observe or survey the vicinity of an ASW activity for ten minutes before first deployment of active (dipping) sonar in the water; prohibiting dipping sonar within 183 meters (200 yd) of a marine mammal and ceasing pinging if a marine mammal closes to within 183 meters (200 yd) after pinging has begun;
12. Coordinating with the local NMFS Stranding Coordinator; and submitting a report containing a discussion of the nature of any observed effects based on both modeled results of real-time events and sightings of marine mammals.

**Special Conditions Applicable for Bow-Riding Dolphins:**

If, after conducting an initial maneuver to avoid close quarters with dolphins, the ship concludes that dolphins are

deliberately closing in on the ship to ride the vessel's bow wave, no further mitigation actions would be necessary because dolphins are out of the main transmission axis of the active sonar while in the shallow-wave area of the vessel bow.

The Navy and NMFS worked together to identify additional practicable and effective mitigation measures to address the following three issues of concern:

- (1) general minimization of marine mammal impacts;
- (2) minimization of impacts within the southeastern North Atlantic right whales critical habitat; and
- (3) the potential relationship between the operation of mid and/or high-frequency active sonar and marine mammal strandings.

Any mitigation measure(s) prescribed by NMFS should be able to accomplish, have a reasonable likelihood of accomplishing (based on current science), or contribute to the accomplishment of one or more of the following general goals:

1. avoidance or minimization of injury or death of marine mammals wherever possible;
2. a reduction in the numbers of marine mammals (total number or number at biologically important time or location) exposed to received levels of mid- or high-frequency active sonar, underwater detonations, or other activities expected to result in the take of marine mammals (this goal may contribute to the first goal above, or by reducing harassment takes only);
3. a reduction in the number of times (total number or number at biologically important time or location) individuals would be exposed to received levels of mid- or high-frequency active sonar, underwater detonations, or other activities expected to result in the take of marine mammals (this goal may contribute to the first goal listed above or by reducing harassment takes only);
4. a reduction in the intensity of exposures (either total number or number at biologically important time or location) to received levels of MFA or HFA sonar, underwater detonations, or other activities expected to result in the take of marine mammals (this goal may contribute to (1), above, or to reducing the severity of harassment takes only);
5. a reduction in adverse effects to marine mammal habitat, paying special attention to the food base, activities that block or limit passage to or from biologically important areas, permanent destruction of habitat, or temporary destruction/disturbance of habitat during a biologically important time; and
6. for monitoring directly related to mitigation, an increase in the probability of detecting marine mammals, thus allowing for

more effective implementation of the mitigation (shut-down zone, etc.).

NMFS and the Navy had extensive discussions regarding mitigation as part of consultation on the proposed and final rules, in which several mitigation options and their respective practicability were explored. Ultimately, NMFS and the Navy developed the following measures which the Navy and NMFS believe supports (or contributes to) the goals mentioned above:

**Planning Awareness Areas (PAAs):** The Navy has designated several Planning Awareness Areas (PAAs) based on areas of high productivity that have been correlated with high concentrations of marine mammals (such as persistent oceanographic features like upwellings associated with the Gulf Stream front where it is deflected off the east coast near the Outer Banks), and areas of steep bathymetric contours that are frequented by deep diving marine mammals such as beaked whales and sperm whales. In developing the PAAs, USFF was able to consider these factors because of geographic flexibility in conducting ASW training. USFF is not tied to a specific range support structure for the majority of the training for AFAST.

The topography and bathymetry along the east coast and in the Gulf of Mexico is unique in that there is a wide continental shelf leading to the shelf break, affording a wider range of training opportunities. The Navy will avoid planning major exercises in the specified PAAs where feasible. Should national security require the conduct of more than four major exercises in these areas (meaning all or a portion of the exercise) per year, the Navy will provide NMFS with prior notification and include the information in any associated after-action or monitoring reports. To the extent operationally feasible, the Navy plans to conduct no more than one of the four major exercises per year in the Gulf of Mexico. Based on operational requirements, the exercise area for this one exercise may include the De Soto Canyon. If national security needs require more than one major exercise to be conducted in the PAAs that include portions of the DeSoto Canyon, the Navy would provide NMFS with prior notification and include the information in any associated after-action or monitoring reports. The PAAs will be included in the Navy's Protective Measures Assessment Protocol (PMAP) (implemented by the Navy for use in the protection of the marine environment) for unit level situational awareness (i.e., exercises other than COMPTUEX, JTFEX, or SEASWITI). The goal of PMAP is to raise awareness in the fleet and ensure common sense and informed oversight is injected into planning processes for testing and training evolutions.

**Mitigation Measures Related to Explosive Source Sonobuoys (AN/SSQ-110A) (Taken from the AFAST Final EIS/OEIS):**

As discussed in the NMFS MMPA regulations for AFAST active sonar activities, ESA Biological Opinion, and the AFAST Record of Decision dated 23 Jan 2009, the Navy would implement the following mitigation measures for explosive source sonobuoys (AN/SSQ-110A) as well as for the follow on Advanced Extended Echo Ranging (AEER) system:

1. Crews will conduct visual reconnaissance of the drop area prior to laying their intended sonobuoy pattern;
2. Crews will conduct a minimum of 30 minutes of visual and aural monitoring of the search area prior to commanding the first post (source/receiver sonobuoy pair) detonation;
3. If a post (source/receiver sonobuoy pair) will be deployed within 914 meters (1,000 yards) of observed marine mammal activity, crews will deploy the receiver only and monitor while conducting a visual search;
4. When operationally feasible, crews will conduct continuous visual and aural monitoring of marine mammal activity, including monitoring of their aircraft sensors from first sensor placement to checking off-station and of radio frequency range of these sensors; aural detection of marine mammal cues the aircrew to increase the diligence of their visual surveillance;
5. If marine mammals are visually detected within 914 meter (1,000 yards) of the explosive source sonobuoy (AN/SSQ-110A) intended for use, then that payload shall not be detonated;
6. Aircrews will ensure a 914-meter (1,000-yard) safety zone, visually clear of marine mammals, is maintained;
7. Aircrews shall only leave posts with unexploded charges in the event of a sonobuoy malfunction, an aircraft system malfunction, or when an aircraft must immediately depart the area due to issues such as fuel constraints, inclement weather, and in-flight emergencies;
8. Aircrews will ensure all payloads are accounted for; and
9. Marine mammal monitoring shall continue until out of their aircraft sensor range.

**Coordination and Reporting Requirements:** The Navy will coordinate with the local NMFS Stranding Coordinator for any unusual marine mammal behavior and any stranding, beached live/dead, or floating marine mammals that may occur at any time during or within 24 hours after completion of training activities. Additionally, the Navy will follow internal chain of command reporting procedures as promulgated through Navy instructions and orders.

**Measures Considered but Eliminated:** As described in Chapter 3 of the GOMEX EIS/OEIS, the majority of estimated exposures to marine mammals during proposed activities would not cause injury. Potential effects on marine mammals would be further reduced with the implementation of mitigation measures described above. Therefore, the Navy concludes the proposed action and mitigation measures would achieve the least practicable adverse impact on species or stocks of marine mammals. A determination of "least practicable adverse impacts" includes consideration, in consultation with NMFS, of personnel safety, practicality of implementation, and impact of the effectiveness of the military training activity. Therefore, the following additional mitigation measures were analyzed and eliminated from further consideration because they would result in impacts to training effectiveness, which would ultimately degrade military readiness, they present personnel safety concerns, or they are impractical and provide no known protective benefit.

**Reduction in training:** The requirements for training have been developed iteratively over many years to ensure Sailors achieve levels of readiness that ensure they are prepared to properly respond to the many contingencies that may occur during deployment and actual combat. These training requirements are designed to provide the experience needed to ensure Sailors are properly trained and proficient for operational success. There is not extra training built into the training plan, as this would not be an efficient use of resources (e.g., fuel, time). Therefore, any reduction of training below that included in the Preferred Alternative would not allow Sailors to achieve satisfactory levels of readiness needed to accomplish their mission.

**Establish and implement a set vessel speed:** Navy personnel are required to use extreme caution and operate at a slow, safe speed consistent with mission and safety. Ships and submarines need to be able to react to changing tactical situations during training as they would in actual combat. Placing arbitrary speed restrictions would not allow them to properly react to these situations. By training differently than what would be needed in an actual combat scenario, there would be a decrease in training effectiveness and a reduction in crew's abilities.

**Restrict training to certain geographic areas, during certain seasons, and during certain conditions (e.g. low visibility, nighttime):** Implementation of blanket restrictions on training as mitigation measures would dramatically reduce the realism of training with potentially severe national security consequences and would afford, at best, only highly speculative benefits to marine species populations. Personnel must train under the full

range of conditions that might be encountered during deployment and in combat, and be in a state of readiness that allows them to identify and respond to changing environmental conditions 24-hours per day. On-the-job training in combat is the worst possible way of training personnel and places personnel and the success of the military mission at significant risk. Nonetheless, the Navy has considered limitations during certain seasons and for specific training events in the GOMEX Range Complex, particularly Unit Level Training (ULT) events involving explosive ordnance, where feasible when such limitations would not interfere with training missions and goals, and when other related training events provide the necessary exposure of personnel to the full spectrum of environmental conditions they may encounter during deployment and combat.

**Visual monitoring using third-party observers from aircraft and vessels in addition to existing Navy-trained lookouts:** Under the Integrated Comprehensive Monitoring Program for Marine Mammals described in Section 5.3.1 of the GOMEX EIS/OEIS, third-party lookouts would be used during exercises selected for data sampling. However, using third-party lookouts for all training events conducted by the Navy to supplement Navy lookout observations and/or provide a "check" of Navy-trained lookouts, would present logistical and security problems for the Navy.

**Security:** Security clearances would need to be obtained for a large number of observers in order to cover all training events, because the exact time and location of all Navy training events is classified.

**Space:** Some training events span one or more 24-hour periods, with operations that are occurring underway continuously in that timeframe; therefore, enough third-party personnel would be needed to man the observation decks or aircraft during that timeframe. There is also severe space limitations onboard ship for berthing third-party crews, and there are no additional seats on aircraft involved in exercises. Overnight berthing of contractors and visitors onboard ships is currently accomplished only after significant planning and juggling of bunks, space, and Navy crew work shifts.

**Scheduling:** Scheduling civilian vessels and/or aircraft to coincide with all training events would impact training effectiveness since exercise event timetables cannot be precisely fixed and, instead, are based on the free-flow development of tactical situations. Waiting for civilian aircraft or vessels to complete surveys, refuel, or be on

station would slow the unceasing progress of the exercise and impact the effectiveness of the training activity.

**Safety:** Surveying during training events also raises safety concerns with multiple, slow and low-flying civilian vessels and aircraft operating in the same sea space and airspace as military vessels and aircraft engaged in combat training activities. In addition, most of the training events take place far from land, limiting both the time available for civilian aircraft to be in the exercise area and presenting a concern should aircraft mechanical problems arise.

**Expansion of Exclusion Area Delineated for Use with Explosive Detonations:** Currently, the Navy uses certain exclusion zones for different explosive types, which means that an area of a certain size around an explosive must be clear of marine mammals for a certain amount of time prior to the detonation of that explosive. For a few of the larger charges (MK-84s), the distance to the isopleths within which NMFS expects TTS would likely occur is larger than the distance that the Navy must ensure is clear prior to the initiation of some of the exercise types that utilize those larger charges (i.e., an animal could be within the distance from a source where TTS may occur, but outside of the distance that the Navy is required to 'clear' prior to detonation. NMFS considered requiring an enlarged exclusion zone for use with these larger charges. This measure is not always practical and could have national security consequences and would afford, at best, only speculative benefits to marine species populations. This measure was eliminated.

**Monitoring of Explosive Exclusion Area During Exercises:** For some explosive detonations, the Navy's current mitigation requires clearance of an area prior to the initiation of an explosive exercise, but does not require continued monitoring of the area throughout the exercise. Under this proposed measure, NMFS considered a requirement for Navy to continue monitoring the exclusion zone throughout the exercise and to take appropriate mitigation measures during the exercise should a marine mammal be spotted within that zone. As above, this measure was eliminated.

**Reporting, Monitoring, and Stranding Response:** The Navy will implement the reporting and monitoring requirements of the MMPA Final Rule and the ESA Biological Opinion, and any additional such requirements in the annual MMPA LOAs and ESA Incidental take Statements. Reports required by the MMPA Final Rule and ESA Biological Opinion include an Annual GOMEX Monitoring Plan

Report, an Annual GOMEX Exercise Report, and a GOMEX Comprehensive 5-Year Report.

As a part of NMFS' MMPA rulemaking process, NMFS and the Navy developed a marine species monitoring plan, the GOMEX Monitoring Plan. The Monitoring Plan contains the framework for research on the distribution of key marine mammal species in the GOMEX Range Complex; analyzes behavioral responses, or the lack of such responses, of marine mammals to explosives; and assesses the effectiveness of the Navy's suite of mitigation measures. The Monitoring Plan may utilize vessel, aerial surveys, and passive acoustics to accomplish these goals. In addition to the site-specific Monitoring Plan for the GOMEX Range Complex, the Navy completed the Integrated Comprehensive Monitoring Program (ICMP) Plan at the end of 2009. The ICMP does not duplicate the monitoring plans for individual Range Complexes. Instead, it is intended to provide the overarching coordination that will support the compilation of data from range-specific monitoring plans (including the GOMEX Monitoring Plan) and Navy-funded research and development. The Navy will continue to work with the scientific community to better understand marine mammals and to assess what effect, if any, the Navy's training activities are having on marine mammals.

The MMPA regulations governing the take of marine mammals incidental to Navy activities in the GOMEX Range Complex includes an adaptive management component. The use of adaptive management will give NMFS the ability to consider new data from different sources to determine (in coordination with the Navy) on an annual basis if mitigation or monitoring measures should be modified or added (or deleted) if new data suggests that such modifications are appropriate (or are not appropriate) for subsequent annual MMPA LOAs.

Navy personnel will ensure that NMFS Regional Stranding Coordinator is notified immediately (or as soon as operational security allows) if an injured or dead marine mammal is found during or shortly after, and in the vicinity of, any Navy training exercise utilizing underwater explosive detonations or other activities. The Navy will provide NMFS with species or description of the animal(s), the condition of the animal(s) (including carcass condition if the animal is dead), location, time of first discovery, observed behaviors (if alive), and photo or video (if available).

**Cumulative Impacts:** The Final EIS/OEIS analyzed cumulative impacts associated with implementation of Navy-sponsored activities and other non-Navy activities in the region. The analysis of cumulative impacts considered the effects of the Proposed Action in combination with other past, present, and

reasonably foreseeable future actions taking place in the GOMEX Study Area, regardless of what agency or person undertakes these actions. Activities included in the GOMEX Range Complex Final EIS/OEIS cumulative impact analysis included commercial and recreational fishing; onshore and offshore liquefied natural gas facilities; exploration, extraction, and production of oil, gas, and alternative energy on the outer continental shelf; state regulated oil and gas activities; Bureau of Ocean Energy Management, Regulation, and Enforcement regulated activities; dredging operations; maritime traffic; seismic surveys; scientific research; expended materials; environmental contaminations and biotoxins; marine tourisms; and military operations.

Most of the summary conclusions on past, present, and reasonable foreseeable future actions for the resources evaluated were no adverse impacts and potential for minor, but recoverable, adverse impacts. There were fewer summary conclusions categorized as potential for moderate, but recoverable, adverse impacts. No summary conclusions were characterized as potential for major, non-recoverable, adverse impacts.

The April 20, 2010, explosion and fire on the Mobile Offshore Drilling Unit Deepwater Horizon, MC252, approximately 50 miles southeast of the Mississippi Delta, was the largest in history and potentially the second-largest in world history. Long-term impacts of the spill are still uncertain, therefore the Navy's cumulative impact analysis was limited to best available science at the time. Although the long-term additive, synergistic, magnifying, or multiplicative effect of spilled oil and dispersants and other natural and anthropogenic stressors within the Action Area remains to be determined, consultation with the National Marine Fisheries Service pursuant to the MMPA indicates that the Navy's proposed GOMEX training exercises are not expected to further impact the physical marine ecosystem. Further, NMFS considered the spill as one of the potential stressors on endangered or threatened individuals in the action area, and determined that while individuals are likely to experience disruptions in their normal behavioral patterns caused by Navy activities, they are not likely to be killed, injured, or experience measurable reductions in their current or expected future reproductive success as a result of that exposure.

**AGENCY CONSULTATION AND COORDINATION:**

**Marine Mammal Protection Act:** In support of the proposed action, on October 16, 2008, the Navy applied for an authorization pursuant to Section 101(a)(5)(A) of the MMPA. After the application was reviewed by NMFS, a Notice of Receipt of Application was published in the *Federal Register* on April 28, 2009 (74 FR 19205-19207). Publication of the Notice of Receipt of Application initiated the 30-day public comment period, during which anyone could obtain a copy of the application by contacting NMFS. NMFS developed regulations governing the issuance of a LOA and published a Proposed Rule in the *Federal Register* on July 14, 2009 (74 FR 33960-33986). Publication of the Proposed Rule initiated another 30-day public comment period, which ended on August 13, 2009. The Final Rule is applicable February 17, 2011 through February 17, 2016.

**Endangered Species Act:** As part of the environmental documentation for the Final EIS/OEIS, and as an MMPA permit applicant, the Navy entered into consultation procedures with NMFS regarding the potential effects on ESA-listed species from the conduct of the activities outlined in the GOMEX Range Complex Final EIS/OEIS. In addition, the Navy has engaged in a formal conference with NMFS under Section 7(a)(4) with regard to the proposed endangered listing of the Northwest Atlantic Distinct Population Segment of loggerhead sea turtles. Consultation was considered complete on November 22, 2010, when NMFS issued Biological and conference Opinions. In accordance with 50 CFR § 402.11, after reviewing the current status of the endangered North Atlantic right whale, humpback whale, sei whale, fin whale, blue whale, sperm whale, loggerhead sea turtle, olive ridley sea turtle, Kemp's ridley sea turtle, leatherback sea turtle, Atlantic green sea turtle, and hawksbill sea turtle; the environmental baseline for the GOMEX Study Area; and the cumulative effects, prior to the issuance of this GOMEX ROD, NMFS issued a Biological Opinion concluding that the Navy's proposal to conduct testing and training activities in the GOMEX Study Area each year for a 5-year period beginning in November, 2010, are likely to adversely affect but are not likely to jeopardize the continued existence of these threatened and endangered species under NMFS's jurisdiction. NMFS also issued a conference opinion concluding that the activities the Navy plans to conduct in the GOMEX Range Complex are not likely to jeopardize the continued existence of the proposed Northwest Atlantic distinct population segment of loggerhead sea turtles.

In accordance with regulations under Section 7 of the Endangered Species Act, the Navy requested concurrence with the

U.S. Fish and Wildlife Service (USFWS) on January 7, 2009 that the Proposed Action may affect, but is not likely to adversely affect the West Indian manatee, piping plover, interior least tern, brown pelican, wood stork, whooping crane, red-cockaded woodpecker, ocelot, and eastern indigo snake. In a letter dated March 9, 2009, the USFWS concluded that the Preferred Alternative will have no effect, or is not likely to adversely affect the federally-listed species or designated critical habitat for above listed species.

**Coastal Zone Management Act (CZMA):** In accordance with the CZMA, the Navy has reviewed the enforceable policies of Florida, Alabama, Mississippi, Louisiana, and Texas Coastal Zone Management Plan (CZMP). Based on the location of GOMEX Range Complex activities, the enforceable policies of each state's CZMP, and pursuant to 15 CFR § 930.39, the Navy submitted Consistency Determinations for Florida and Texas on September 17, 2009. Additionally, on the same date, the Navy submitted Negative Determinations pursuant to 15 CFR § 930.35 for the states of Alabama, Mississippi, and Louisiana.

The Navy received concurrence from Florida Department of Environmental Protection and Alabama Department of Environmental Management November 17, 2009 and October 8, 2009, respectively, that the proposed Federal activity is consistent to the maximum extent practicable with the enforceable policies of the state's CZMP. The States of Mississippi and Louisiana concurred with the Navy's Negative Determinations for their respective states. Concurrence was presumed for Texas after the 60-day response period elapsed without correspondence.

**National Historic Preservation Act:** The Navy consulted with the State Historic Preservation Offices (SHPO) for Florida, Alabama, Mississippi, Louisiana, and Texas regarding their determination that no historic properties are affected by the Preferred Alternative. The Navy obtained written concurrence with its finding from the states of Mississippi (October 14, 2009), Alabama (October 21, 2009), Texas (December 15, 2009), and Florida (December 18, 2009) SHPOs. Concurrence with the Navy's findings from the state of Louisiana was assumed after the response period had elapsed without correspondence.

**MSA:** The Navy determined that potential impacts to EFH and Fish/Managed species would be temporary and/or minimal, and would not adversely affect EFH. Implementation of the Preferred Alternative would not reduce the quality and/or quantity of EFH in the Study Area.

**Responses to Comments on the GOMEX Range Complex Final EIS/OEIS:**  
The Notice of Availability (NOA) of the GOMEX Range Complex Final EIS/OEIS was published in the Federal Register on December 23, 2010, in local newspapers, and on the GOMEX Range Complex EIS/OEIS website. No substantive comments were received during the 30-day wait period following the issuance of the NOA.

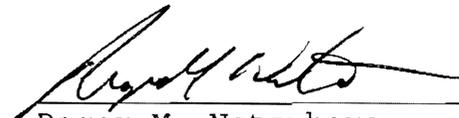
**CONCLUSION:**

In determining whether to implement the Preferred Alternative, the following factors were considered: the Congressional mandates in 10 U.S.C. § 5062; the Navy, DoD, and other federal agencies' operational, testing, and training requirements; potential environmental impacts; and comments received during the EIS/OEIS process.

Based on the environmental impacts analyzed in the Final EIS/OEIS, comments from regulatory agencies as well as those received from members of the public, mitigation, and other factors discussed above, I select Alternative 2 to implement the Proposed Action. After carefully weighing all of these factors and analyzing the data presented in the GOMEX Range Complex Final EIS/OEIS, I have determined that the Preferred Alternative best meets the requirements for the proposed testing and training activities in the GOMEX Range Complex.

In addition to the specific mitigation measures identified in this ROD, the Navy will continue to review its operational procedures and coordinate with other federal, state, and local entities as necessary to determine if any additional mitigation measures are necessary, feasible, and practicable.

2/24/11  
Date

  
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Roger M. Natsuhara  
Principal Deputy Assistant  
Secretary of the Navy  
(Energy, Installations and  
Environment)