

monitoring or controls on the exports of recyclable metallic materials, the Department is required to determine whether:

1. There has been a significant increase, in relation to a specific period of time, in exports of such material in relation to domestic supply and demand.

2. There has been a significant increase in domestic price of such material or a domestic shortage of such material relative to demand.

3. Exports of such material are as important as any other cause of a domestic price increase or shortage relative to demand.

4. A domestic price increase or shortage relative to demand has significantly adversely affected or may significantly adversely affect the national economy or any sector thereof, including a domestic industry.

5. Export monitoring or controls, or both, are necessary in order to carry out the policy set forth in section 3(2)(C) of the EAA. Section 3(2)(C) of the EAA states that it is the policy of the United States to restrict the export of goods where necessary to protect the domestic economy from the excessive drain of scarce materials and to reduce the serious inflationary impact of foreign demand.

To assist the Department in making these determinations, the Department is interested in any information that can be provided on the following subjects:

1. Information describing the current economic profile of the U.S. copper industry, including information on the number of producers, smelters, refiners, users, and exporters of copper scrap, and the number of employed workers engaged in these activities by industry and occupation.

2. Quantitative information characterizing the effect of copper scrap exports on industries that mine copper; smelt and refine copper; companies that roll, draw, and extrude copper; companies that produce copper wire; and the secondary smelting, refining, and copper alloying industry.

3. Data on the materials used in the manufacturing process for copper products; the percentage, by measure and price, of these materials, including the energy used, in manufactured copper products.

4. Data on the impact of exports on the domestic price of products containing copper, including an assessment of the direct economic impact of exports on user industries, such as construction, electronics, and transportation.

5. Quantitative information on the global copper industry, including the

current and anticipated world supply, demand, imports, and exports of copper and copper scrap, and the effect of copper scrap prices and supply on the U.S. copper industry involving mining.

6. Historical information comparing consumption, demand, prices, and exports of copper and copper scrap during the expanding economy from the mid-1990s through 2000, in comparison to the contraction of the economy in 2001 and 2002, and again in comparison to the current economic expansion of 2003–2004.

7. Information on any factors, other than exports, that may have contributed to domestic shortages and increased prices for copper scrap. For example, this information could include seasonal effects, reduction in smelting capacity, declines in domestic consumption, changes in technology, consumer preferences, and disruptions in the supply, production or distribution chains.

8. The effect that copper scrap shortages, by type or grade of scrap, have had on any segments of the copper industry that only utilize scrap as an input to their manufactured goods, and are unable to convert to other forms of copper.

9. Information on the trade and other practices of other countries that have had a direct impact on the U.S. copper industry's ability to compete globally.

10. Comments regarding the effectiveness or ineffectiveness of the requested monitoring and controls, and comments or suggestions as to actions that would make the requested actions more effective, if imposed.

11. Economic analyses of the likely effect of export monitoring and/or export controls on the price and availability of copper scrap in the domestic market, as well as the likely effect on other domestic industries and the U.S. economy at large.

The Department will reach a decision on this matter within 45 days of the close of the comment period. This decision and any regulations necessary to implement it, together with a detailed statement of the reasons for the Department's decision, will be published in the **Federal Register**.

Dated: April 19, 2004.

**Peter Lichtenbaum,**

*Assistant Secretary for Export Administration.*

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**BILLING CODE 3510–33–P**

## DEPARTMENT OF COMMERCE

### National Oceanic and Atmospheric Administration

[I.D. 022304A]

#### Taking and Importing Marine Mammals; Taking Marine Mammals Incidental to Conducting the Precision Strike Weapon (PSW) Testing and Training by Eglin Air Force Base in the Gulf of Mexico

**AGENCY:** National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

**ACTION:** Notice of receipt of application for an incidental take authorization; request for comments and information.

**SUMMARY:** NMFS has received a request from Eglin Air Force Base (Eglin AFB), for authorization to harass marine mammals incidental to testing and training during Precision Strike Weapons (PSW) tests in the Gulf of Mexico (GOM), a military readiness activity. As a result of this request, NMFS is proposing to issue a 1-year incidental harassment authorization (IHA) to take marine mammals by Level B harassment incidental to this activity and will propose regulations at a later time that would govern the incidental taking of marine mammals under a Letter of Authorization (LOA) issued to Eglin AFB for a period of up to 5 years after the 1-year IHA expires. In order to issue IHAs and promulgate regulations and LOAs thereunder, NMFS must determine that these takings will have a negligible impact on the affected species and stocks of marine mammals. NMFS invites comment on Eglin AFB's application, NMFS' preliminary determinations on the impact of the activity on marine mammals and suggestions on the content of the regulations.

**DATES:** Comments and information must be received no later than May 24, 2004.

**ADDRESSES:** Comments should be addressed to P. Michael Payne, Chief, Marine Mammal Conservation Division, Office of Protected Resources, National Marine Fisheries Service, 1315 East-West Highway, Silver Spring, MD 20910–3226. The mailbox address for providing email comments on this action is [PR2.022304A@noaa.gov](mailto:PR2.022304A@noaa.gov). Include in the subject line of the e-mail comment the following document identifier: 022304A. Comments sent via email, including all attachments, must not exceed a 10-megabyte file size. A copy of the application containing a list of references used in this document may

be obtained by writing to this address or by telephoning the contact listed here (see **FOR FURTHER INFORMATION CONTACT**). A copy of the Draft Environmental Assessment (Draft EA) is available by writing to the Department of the Air Force, AAC/EMSN, Natural Resources Branch, 501 DeLeon St., Suite 101, Eglin AFB, FL 32542-5133.

**FOR FURTHER INFORMATION CONTACT:** Kenneth R. Hollingshead, NMFS, 301-713-2055, ext 128.

**SUPPLEMENTARY INFORMATION:**

**Background**

Sections 101(a)(5)(A) and 101(a)(5)(D) of the Marine Mammal Protection Act (16 U.S.C. 1361 *et seq.*)(MMPA) direct the Secretary of Commerce (Secretary) to allow, upon request, the incidental, but not intentional taking of small numbers of marine mammals by U.S. citizens who engage in a specified activity (other than commercial fishing) within a specified geographical region if certain findings are made and regulations are issued or, if the taking is limited to harassment, a notice of a proposed authorization is provided to the public for review.

Permission may be granted if NMFS finds that the taking will have a negligible impact on the species or stock(s) and will not have an unmitigable adverse impact on the availability of the species or stock(s) for subsistence uses, and if the permissible methods of taking and requirements pertaining to the monitoring and reporting of such takings are set forth. NMFS has defined "negligible impact" in 50 CFR 216.103 as "...an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival."

Subsection 101(a)(5)(D) of the MMPA established an expedited process by which citizens of the United States can apply for an authorization to incidentally take small numbers of marine mammals by harassment. The National Defense Authorization Act of 2004 (NDAA)(Public Law 108-136) amended the definition of "harassment" in section 18(A) of the MMPA as it applies to a "military readiness activity" to read as follows:

(i) any act that injures or has the significant potential to injure a marine mammal or marine mammal stock in the wild [Level A harassment]; or (ii) any act that disturbs or is likely to disturb a marine mammal or marine mammal stock in the wild by causing disruption of natural behavioral patterns, including, but not limited to, migration, surfacing, nursing, breeding, feeding, or sheltering, to a point where such behavioral

patterns are abandoned or significantly altered [Level B harassment].

**Summary of Request**

On February 4, 2004, Eglin AFB submitted a request for a 1-year IHA and for an LOA (to take effect after the expiration of the IHA), for the incidental, but not intentional taking (in the form of noise-related harassment), of marine mammals incidental to PSW testing within the Eglin Gulf Test and Training Range (EGTTR) for the next five years, as authorized by section 101(a)(5) of the MMPA. The EGTTR is described as the airspace over the Gulf of Mexico that is controlled by Eglin AFB is also sometimes referred to as the "Eglin Water Range."

PSW missions involve air-to-surface impacts of two weapons, the Joint Air-to-Surface Stand-off Missile (JASSM) AGM-158 A and B and the small-diameter bomb (SDB) (GBU-39/B) that result in underwater detonations of up to approximately 300 lbs (136 kg) and 96 lbs (43.5 kg, double SDB) of net explosive weight, respectively.

The JASSM is a precision cruise missile designed for launch from outside area defenses to kill hard, medium-hard, soft, and area type targets. The JASSM has a range of more than 200 nm (370 km) and carries a 1,000-lb (453.6 kg) warhead. The JASSM has approximately 300 lbs (136 kg) of TNT equivalent net-explosive-weight (NEW). The explosive used is AFX-757, a type of plastic bonded explosive (PBX) formulation with higher blast characteristics and less sensitivity to many physical effects that could trigger unwanted explosions. The JASSM would be launched from an aircraft at altitudes greater than 25,000 ft (7620 m). The JASSM would cruise at altitudes greater than 12,000 ft (3658 m) for the majority of the flight profile until it makes the terminal maneuver toward the target. The JASSM exercise involves a maximum of two live shots (single) and 4 inert shots (single) each year for the next 5 years. Detonation of the JASSM would occur under one of three scenarios: (1) Detonation upon impact with the target (about 5 ft (1.5 m) above the GOM surface); (2) detonation upon impact with a barge target at the surface of the GOM; or (3) detonation at 120 milliseconds after contact with the surface of the GOM.

The SDB is a glide bomb. Because of its capabilities, the SDB system is an important element of the Air Force's Global Strike Task Force. The SDB has a range of up to 50 nm (92.6 km) and carries a 217.4-lb (98.6 kg) warhead. The SDB has approximately 48 lbs (21.7 kg) of TNT equivalent NEW. The

explosive used is AFX-757. Launch from an aircraft would occur at altitudes greater than 15,000 ft (4572 m). The SDB would commence a non-powered glide to the intended target. The SDB exercise involves a maximum of six live shots a year, with two of the shots occurring simultaneously and a maximum of 12 inert shots with up to two occurring simultaneously. Detonation of the SDBs would occur under one of two scenarios: (1) Detonation of one or two bombs upon impact with the target (about 5 ft (1.5 m) above the GOM surface), or (2) a height of burst (HOB) test: Detonation of one or two bombs 10 to 25 ft (3 to 7.6 m) above the GOM surface.

The JASSM and SDBs would be launched from B-1, B-2, B-52, F-15, F-16, F-18, or F-117 aircraft. Chase aircraft would include F-15, F-16, and T-38 aircraft. These aircraft would follow the test items during captive carry and free flight but would not follow either item below a predetermined altitude as directed by Flight Safety. Other assets on site may include an E-9 turboprop aircraft or MH-60/53 helicopters circling around the target location. Tanker aircraft including KC-10s and KC-135s would also be used. A second unmanned barge may also be on location to hold instrumentation. Targets include a platform of five containers strapped, braced, and welded together to form a single structure and a hopper barge, typical for transportation of grain.

The proposed action would occur in the northern GOM in the EGTTR. Targets would be located in water less than 200 ft (61 m) deep and from 15 to 24 nm (27.8 to 44.5 km) offshore, south of Santa Rosa Island and south of Cape San Blas Site D3-A.

**Description of Marine Mammals Affected by the Activity**

There are 29 species of marine mammals documented as occurring in Federal waters of the GOM. Information on those species that may be impacted by this activity are discussed in the Eglin AFB application and the Draft EA. A summary of that information is provided in this section.

General information on these species can be found in Wursig *et al.* (2000). The Marine Mammals of the Gulf of Mexico, TAMU Press, College Station, TX) and in the NMFS Stock Assessment Reports (Waring, 2002). This latter document is available at: [http://www.nmfs.noaa.gov/prot\\_res/PR2/Stock\\_Assessment\\_Program/sars.html#Stock\\_Assessment\\_Reports](http://www.nmfs.noaa.gov/prot_res/PR2/Stock_Assessment_Program/sars.html#Stock_Assessment_Reports)

Marine mammal species that potentially occur within the EGTTR

include several species of cetaceans and one sirenian, the West Indian manatee. During winter months, manatee distribution in the GOM is generally confined to southern Florida. During summer months, a few may migrate north as far as Louisiana. However, manatees primarily inhabit coastal and inshore waters and rarely venture offshore. PSW missions would be conducted offshore. Therefore, effects on manatees are considered very unlikely.

Cetacean abundance estimates for the study area are derived from GulfCet II (Davis *et al.*, 2000) aerial surveys of the continental shelf within the Minerals Management Service Eastern Planning Area, an area of 70,470 km<sup>2</sup>. Texas A&M University and NMFS conducted these surveys from 1996 to 1998. Abundance and density data from the aerial survey portion of the survey best reflect the occurrence of cetaceans within the EGTR, given that the survey area overlaps approximately one-third of the EGTR and nearly the entire continental shelf region of the EGTR where military activity is highest. The GulfCet II aerial surveys identified different density estimates of marine mammals for the shelf and slope geographic locations. Only the shelf data is used because PSW missions will only be conducted on the shelf.

In order to maximize species conservation and protection, the species density estimate data were adjusted to reflect more realistic encounters of these animals in their natural environment. Refer to "*Conservative Estimates of Marine Mammal Densities*" in this document and Eglin AFB's application for more information on density estimates. A brief description of each marine mammal species observed during GulfCet II aerial surveys on the shelf that has the potential to be present in the PSW test area is summarized here.

#### *Atlantic Bottlenose Dolphins (Tursiops truncatus)*

Bottlenose dolphins are distributed worldwide in tropical and temperate waters. In the GOM, several coastal and offshore stocks have been identified (see Waring *et al.* 2002) and one stock occurs in the inshore waters of the entire GOM. Waring *et al.* (2002) provides the following minimum population estimates for the GOM bottlenose dolphin stocks: outer shelf, 43,233; shelf and slope, 4,530; western Gulf, 2,938; northern Gulf, 3,518; eastern Gulf, 8,953; and Bay, Sound & Estuarine waters, 3,933. Baumgartner *et al.* (2001) suggest a bimodal distribution in the northern GOM, with a shelf population

occurring out to the 150-m (492 ft) isobath and a shelf break population out to the 750-m (2461 ft) isobath. Occurrence in water with depth greater than 1,000 m (3281 ft) is not considered likely. Migratory patterns from inshore to offshore are likely associated with the movements of prey rather than a preference for a particular habitat characteristic (such as surface water temperature) (Ridgeway, 1972; Irving, 1973; Jefferson *et al.*, 1992).

The average herd or group size of Atlantic bottlenose dolphins in shelf and slope waters was approximately four and 10 individuals, respectively, per herd as determined by GulfCet II surveys of eastern Gulf waters (Davis *et al.*, 2000). The diet of Atlantic bottlenose dolphins consists mainly of fish, crabs, squid, and shrimp (Caldwell and Caldwell, 1983).

#### *Atlantic Spotted Dolphins (Stenella frontalis)*

Atlantic spotted dolphins are endemic to the tropical and warm temperate Atlantic Ocean. This species ranges from the latitude of Cape May, NJ, along mainland shores to Venezuela, including the GOM and Lesser Antilles (Caldwell and Caldwell, 1983). Sightings of this species are concentrated along the continental shelf and shelf edge (Fritts *et al.*, 1983), but they also occur farther offshore. At one time, Atlantic spotted dolphins were considered to be the most abundant species of dolphin in offshore waters (Schmidly, 1981), with most sightings occurring at an average of 168 km (90.7 nm) offshore. The best available abundance estimate for this species in the northern GOM is the combined estimate of abundance for both the OCS (39,307, CV=0.31) and oceanic (238, CV=0.87) waters from 1996 to 2001, which is 39,545 (CV=0.31)(NMFS, 2003).

The preferred depth of the spotted dolphin is believed to be associated with food availability and water temperature. The diet of the Atlantic spotted dolphin consists of squid and fish.

#### *Dwarf Sperm Whales and Pygmy Sperm Whales*

Dwarf sperm whales (*Kogia simus*) commonly inhabit the deeper offshore water, generally eating squid, crustaceans, and fish (Caldwell and Caldwell, 1983), but they do move into inshore waters during calving season. The pygmy sperm whale (*Kogia breviceps*) has a diet similar to that of the dwarf sperm whale. Both pygmy and dwarf sperm whales have been sighted in the northern GOM primarily along

the continental shelf edge and in deeper shelf waters during all seasons except winter (Mullin *et al.*, 1994). The estimate of abundance for dwarf and pygmy sperm whales in oceanic waters is 809 (CV=0.33)(Mullin and Fulling, in prep), which is the best available abundance estimate for these species in the northern GOM. Separate estimates of abundance cannot be made due to uncertainty of species identification (NMFS, 2003). Dwarf and pygmy sperm whales have a high percentage of strandings relative to percent population of all cetaceans (Mullin *et al.*, 1994).

#### Impacts to Marine Mammals

Potential impacts to marine mammals from the detonation of the PSWs and SDBs include both lethal and non-lethal injury, as well as Level B behavioral harassment. Although unlikely due to the extensive mitigation measures proposed by Eglin AFB, marine mammals have the potential to be killed or injured as a result of a blast due to the response of air cavities in the body, such as the lungs and bubbles in the intestines. Effects are likely to be most severe in near surface waters where the reflected shock wave creates a region of negative pressure called "cavitation." This is a region of near total physical trauma within which no animals would be expected to survive. A second criterion used by NMFS for categorizing taking by mortality is the onset of extensive lung hemorrhage. Extensive lung hemorrhage is considered to be debilitating and thereby potentially fatal. Suffocation caused by lung hemorrhage is likely to be the major cause of marine mammal death from underwater shock waves.

For the acoustic analysis, the exploding charge is characterized as a point source. The impact thresholds used for marine mammals relate to potential effects on hearing from underwater noise from detonations. For the explosives in question, actual detonation heights would range from 0 to 25 ft (7.6 m) above the water surface. Detonation depths would range from 0 to 80 ft (73.2 m) below the surface. To bracket the range of possibilities, detonation scenarios just above and below the surface were used to analyze bombs set to detonate on contact with the target barge. Potentially, the barge may interact with the propagation of noise into the water. However, barge effects on the propagation of noise into the water column cannot be determined without in-water noise monitoring at the time of detonation.

Potential exposure of a sensitive species to detonation noise could theoretically occur at the surface or at

any number of depths with differing consequences. As a conservative measure a mid-depth scenario was selected to ensure the greatest direct path for the harassment ranges, and to give the greatest impact range for the injury thresholds.

#### *Explosive Criteria and Thresholds for Impact of Noise on Marine Mammals*

Criteria and thresholds that are the basis of the analysis of PSW noise impacts to cetaceans were initially used in U.S. Navy's environmental impact statements (EISs) for ship shock trials of the SEAWOLF submarine and the USS WINSTON S. CHURCHILL vessel (DoN, 1998; DoN, 2001) and accepted by NMFS as representing the best science available (see 66 FR 22450, May 4, 2001). NMFS continues to believe that this represents the best science available. The following sections summarize the information contained in those actions.

#### *Criteria and Thresholds: Lethality*

The criterion for mortality for marine mammals used in the CHURCHILL Final EIS is 'onset of severe lung injury.' This is conservative in that it corresponds to a 1 percent chance of mortal injury, and yet any animal experiencing onset severe lung injury is counted as a lethal take. The threshold is stated in terms of the Goertner (1982) modified positive impulse with value "indexed to 31 psi-ms." Since the Goertner approach depends on propagation, source/animal depths, and animal mass in a complex way, the actual impulse value corresponding to the 31-psi index is a complicated calculation. The acoustic threshold is derived from:

$$I_{1\%} = 42.9 (M/34)^{1/3} \text{ psi-ms,}$$

where M is animal mass in kg. Again, to be conservative, CHURCHILL used the mass of a calf dolphin (at 12.2 kg), so that the threshold index is 30.5 psi-ms.

#### *Criteria and Thresholds: Injury (Level A Harassment)*

Non-lethal injurious impacts are defined in this document as eardrum rupture (i.e., tympanic-membrane (TM) rupture) and the onset of slight lung injury. These are considered indicative of the onset of injury. The threshold for TM rupture corresponds to a 50 percent rate of rupture (i.e., 50 percent of animals exposed to the level are expected to suffer TM rupture); this is stated in terms of an energy flux density (EFD) value of 1.17 in-lb/in<sup>2</sup>, which is about 205 dB re 1  $\mu\text{Pa}^2\text{-s}$ . (Note: EFD is the time integral of the squared pressure divided by the impedance in values of dB re 1  $\mu\text{Pa}^2\text{-s}$ .) This recognizes that

TM rupture is not necessarily a life-threatening injury, but is a useful index of possible injury that is well-correlated with measures of permanent hearing impairment (e.g., Ketten (1998) indicates a 30 percent incidence of permanent threshold shift (PTS) at the same threshold).

#### *Criteria and Thresholds: Non-injurious Impacts (Level B Harassment)*

Marine mammals may also be harassed due to noise from PSW missions involving high explosive detonations in the EGTR. The CHURCHILL criterion for non-injurious harassment, as established through NMFS' incidental take rulemaking (see 66 FR 22450, May 4, 2001), is temporary (auditory) threshold shift (TTS), which is a slight, recoverable loss of hearing sensitivity (DoN, 2001). The criterion for TTS used in this document is 182 dB re 1  $\text{mPa}^2\text{-s}$  maximum EFD level in any 1/3-octave band at frequencies above 100 Hz for all toothed whales (e.g., sperm whales, beaked whales, dolphins). (Note: 1/3-octave band is the EFD in a 1/3-octave frequency band; the 1/3 octave selected is the hearing range at which the affected species' hearing is believed to be most sensitive.) A 1/3-octave band above 10 Hz is used for impact assessments on all baleen whales, but those species do not inhabit the affected environment of this project.

The CHURCHILL rulemaking also established a second criterion for estimating TTS threshold: 12 psi. The appropriate application of this second TTS criterion is currently under debate, as this 12 psi criterion was originally established for estimating the impact of a 10,000-lb (4536-kg) explosive to be employed for the Navy's shock trial. It was introduced to provide a more conservative safety zone for TTS when the explosive or the animal approaches the sea surface (for which cases the explosive energy is reduced but the peak pressure is not).

For large explosives (2000 to 10,000 pounds) and explosives/ animals not too close to the surface, the TTS impact zones for these two TTS criteria are approximately the same. However, for small detonations, some acousticians contend the ranges for the two TTS thresholds may be quite different, with ranges for the peak pressure threshold several times greater than those for energy. Eglin AFB endorses an approach, currently being developed by the Navy, for appropriately "scaling" the peak pressure threshold, in order to more accurately estimate TTS for small shots while preserving the safety feature provided by the peak pressure threshold. As such, Eglin AFB believes

the energy based criterion for TTS, 182 dB re 1  $\mu\text{Pa}^2\text{-s}$  (maximum EFD level in any 1/3-octave band), used alone, conservatively estimates the zone in which non-injurious harassment of marine mammals may occur. NMFS acousticians are currently reviewing the scientific basis for this DOD proposal and will make a determination on whether scaling is appropriate. If NMFS determines that scaling is not appropriate, it will require Eglin AFB to provide revised estimated harassment take levels prior to its decision on issuance of an IHA.

#### *Criteria and Thresholds: Behavioral Modification (Sub-TTS)*

No strictly sub-TTS behavioral responses (i.e., Level B harassment) are anticipated with the JASSM and SBD test activities because there are no successive detonations (the 2 SBD explosions occur almost simultaneously) which could provide causation for a behavioral response in the absence of a Level B response due to TTS. Also, repetitive exposures (below TTS) to the same resident animals are highly unlikely due to the infrequent JASSM and SBD test events, the potential variability in target locations, and the continuous movement of marine mammals in the northern GOM.

#### **Incidental Take Estimation**

For Eglin AFB's PSW exercises, three key sources of information are necessary for estimating potential take levels from noise on marine mammals: (1) The zone of influence (ZOI) for noise exposure; (2) The number of distinct firing or test events; and (3) the density of animals that potentially reside within the ZOI.

Noise ZOIs were calculated for depth detonation scenarios of 1 ft (0.3 m) and 20 ft (6.1 m) for lethality and for harassment (both Level A and Level B). To estimate the number of potential "takes" or animals affected, the adjusted data on cetacean population information from ship and aerial surveys was applied to the various impact zones.

Table 6-2 in Eglin's application gives the estimated impact ranges for various explosive weights for summer and wintertime scenarios. For the JASSM, this range, in winter, extends to 320 m (1050 ft), 590 m (1936 ft) and 3250 m (10663 ft), for potential mortality (31 psi-ms), injury (205 dB re 1  $\mu\text{Pa}^2\text{-s}$ ) and TTS (182 dB re 1  $\mu\text{Pa}^2\text{-s}$ ) zones, respectively. SDB scenarios are for in-air detonations at heights of 1.5 m (5 ft) and 7.6 m (25 ft) at both locations. JASSM detonations were modeled for near surface (i.e., 1-ft (0.3-m) depth) and below surface >20-ft depth (>6.1-m)).

To account for “double” (2 nearly simultaneous) events, the charge weights are added (doubled) when modeling for the determination of energy estimates (since energy is proportional to weight). Pressure estimates only utilize the single charge weights for these estimates.

Applying the lethality (31 psi) and harassment (182 and 205 dB) impact ranges in Eglin AFB’s Table 6–2 to the calculated species densities, the number of animals potentially occurring within the ZOIs absent mitigation was

estimated. These results are presented in Tables 1, 2, and 3 in this document and in Tables 6–3, 6–4, and 6–5 in Eglin AFB’s application. In summary, without any mitigation, a remote possibility exists for one each of both the bottlenose and the Atlantic spotted dolphins to be exposed to noise levels sufficient to cause mortality. Additionally, nearly 3 cetaceans could be exposed to injurious Level A harassment noise levels (205 dB re 1  $\mu\text{Pa}^2\text{-s}$ ), and as few as 3 or as many as 103 cetaceans (depending on the season

and water depth) would potentially be exposed (annually) to a non-injurious (TTS) Level B harassment noise level (182 dB re 1  $\mu\text{Pa}^2\text{-s}$ ). None of these impact estimates consider mitigation measures that will be employed by Eglin AFB to minimize potential impacts to protected species. These mitigation measures are described next and are anticipated to greatly reduce potential impacts to marine mammals, in both numbers and degree of severity.

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**Table 1. Marine Mammal Densities and Risk Estimates for Level A Harassment  
(205 dB EFD 1/3-Octave Band) Noise Exposure**

Species	Density	Number of Animals Exposed from 1-ft Depth Detonations	Number of Animals Exposed from >20-ft Depth Detonations
<b>Summer</b>			
Dwarf/pygmy sperm whale	0.013	0.0024	0.0247
Bottlenose dolphin	0.81	0.1491	1.5417
Atlantic spotted dolphin	0.677	0.1246	1.2886
<i>T. truncatus/S. frontalis</i>	0.053	0.0098	0.1009
<b>TOTAL</b>		<b>0.29</b>	<b>3.0</b>
<b>Winter</b>			
Dwarf/pygmy sperm whale	0.013	0.0024	0.0285
Bottlenose dolphin	0.81	0.1491	1.7737
Atlantic spotted dolphin	0.677	0.1246	1.4824
<i>T. truncatus/S. frontalis</i>	0.053	0.0098	0.1161
<b>TOTAL</b>		<b>0.29</b>	<b>3.4</b>

**Table 2. Marine Mammal Densities and Risk Estimates for Level B Harassment  
(182 dB EFD 1/3-Octave Band) Noise Exposure**

Species	Density	Number of Animals Exposed from 1-ft Depth Detonations	Number of Animals Exposed from >20-ft Depth Detonations
<b>Summer</b>			
Dwarf/pygmy sperm whale	0.013	0.0226	0.5070
Bottlenose dolphin	0.81	1.4089	31.5886
Atlantic spotted dolphin	0.677	1.1776	26.3735
<i>T. truncatus/S. frontalis</i>	0.053	0.0922	2.0669
<b>TOTAL</b>		<b>2.7</b>	<b>60.5</b>
<b>Winter</b>			
Dwarf/pygmy sperm whale	0.013	0.0280	0.8633
Bottlenose dolphin	0.81	1.7448	53.7906
Atlantic spotted dolphin	0.677	1.4583	44.9300
<i>T. truncatus/S. frontalis</i>	0.053	0.1142	3.5196
<b>TOTAL</b>		<b>3.3</b>	<b>103.1</b>

**Table 3. Marine Mammal Densities and Risk Estimates for Lethality  
(31 psi) Noise Exposure**

Species	Density	Number of Animals Exposed from 1-ft Depth Detonations	Number of Animals Exposed from >20-ft Depth Detonations
<b>Summer</b>			
Dwarf/pygmy sperm whale	0.013	0.0005	0.0084
Bottlenose dolphin	0.81	0.0286	0.5212
Atlantic spotted dolphin	0.677	0.0239	0.4356
<i>T. truncatus/S. frontalis</i>	0.053	0.0019	0.0341
<b>TOTAL</b>		<b>0.0549</b>	<b>0.992</b>
<b>Winter</b>			
Dwarf/pygmy sperm whale	0.013	0.0005	0.0084
Bottlenose dolphin	0.81	0.0286	0.5212
Atlantic spotted dolphin	0.677	0.0239	0.4356
<i>T. truncatus/S. frontalis</i>	0.053	0.0019	0.0341
<b>TOTAL</b>		<b>0.0549</b>	<b>0.992</b>

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#### Mitigation and Monitoring

Prior to the planned detonation, trained observers aboard two helicopters will survey (visually monitor) the test area, a very effective method for detecting sea turtles and cetaceans. The area to be surveyed will be 1.75 nm (3.2 km) in every direction from the target (this is approximately the size of the largest harassment ZOI). The helicopters fly approximately 250 ft (0.5 m) above the sea surface to allow observers to scan a large distance. Using 25X power "Big-eye" binoculars, surface observation would be effective out to several kilometers. In addition, another trained observer aboard a surface support vessel will conduct ship-based monitoring for non-participating vessels as well as protected species. Weather that supports the ability to sight small marine life (e.g., sea turtles) is required to effectively mitigate impacts on marine life (DoN, 1998). Wind, visibility, and surface conditions in the GOM are the most critical factors affecting mitigation operations. Higher winds typically increase wave height and create "white cap" conditions, both of which limit an observer's ability to locate surfacing marine mammals and sea turtles. PSW missions would be delayed if the Beaufort scale sea state were greater than 3. This would maximize detection of marine mammals and sea turtles.

Visibility is also a critical factor for flight safety issues. A minimum ceiling of 305 m (1000 ft) and visibility of 5.6 km (3 nm) is required to support mitigation and safety-of-flight concerns (DoN, 2001).

#### Aerial Survey/Monitoring Team

Eglin AFB has agreed to train personnel to conduct aerial surveys for protected species. The aerial survey/monitoring team would consist of two observers and a pilot familiar with flying marine mammal/turtle surveys. A helicopter provides a preferable viewing platform for detection of protected marine species. Each aerial observer would be experienced in marine mammal surveying and be familiar with species that may occur in the area. Each aircraft would have a data recorder who would be responsible for relaying the location (latitude and longitude), the species, and the number of animals sighted. The aerial monitoring team would also identify large schools of fish, jellyfish aggregations, and any large accumulation of *Sargassum* that could potentially drift into the ZOI. Standard line transect aerial surveying methods, as developed by NMFS (Blaylock and Hoggard, 1994; Buckland *et al.*, 1993) would be used. Aerial observers are expected to have above average to excellent sighting conditions at sunrise to 1.85 km (1 nm) on either side of the aircraft within the weather limitation noted previously. Observed marine mammals and sea turtles would be identified to species or the lowest possible taxonomic level and the relative position recorded. Mission activity would occur no earlier than 3 hours after sunrise and no later than 3 hours prior to sunset to ensure adequate daylight and pre- and post-mission monitoring.

#### Shipboard Monitoring Team

Eglin AFB has agreed to conduct shipboard monitoring to reduce impacts to protected species. The monitoring would be staged from the highest point possible on a mission ship. Observers would be experienced in shipboard surveys and be familiar with the marine life of the area. The observer on the vessel must be equipped with optical equipment with sufficient magnification (e.g., 25X power "Big-Eye" binoculars, as these have been successfully used in monitoring activities from ships), which should allow the observer to sight surfacing mammals from as far as 11.6 km (6.3 nm) and provide overlapping coverage from the aerial team. A team leader would be responsible for reporting sighting locations, which would be based on bearing and distance.

The aerial and shipboard monitoring teams would have proper lines of communication to avoid communication deficiencies. The observers from the aerial team and operations vessel will have direct communication with the lead scientist aboard the operations vessel. The lead scientist reviews the range conditions and recommends a Go/No-Go decision from the test director. The test director recommends the Go/No-Go decision to the Officer in Tactical Command, who makes the final Go/No-Go decision.

#### Mitigation Procedures Plan

Stepwise mitigation procedures for PSW missions are outlined here. All zones (mortality, injury, TTS, and safety zones) are monitored.

*Pre-mission Monitoring:* The purposes of pre-mission monitoring are to (1)

evaluate the test site for environmental suitability of the mission (e.g., relatively low numbers of marine mammals and turtles, few or no patches of Sargassum, etc.) and (2) verify that the ZOI is free of visually detectable marine mammals, sea turtles, large schools of fish, large flocks of birds, large Sargassum mats, and large concentrations of jellyfish (both are possible indicators of turtle presence). On the morning of the test, the lead scientist would confirm that the test sites can still support the mission and that the weather is adequate to support mitigation.

(a) *Five Hours Prior to Mission:* Approximately 5 hours prior to the mission, or at daybreak, the appropriate vessel(s) would be on-site in the primary test site near the location of the earliest planned mission point. Observers onboard the vessel will assess the suitability of the test site, based on visual observation of marine mammals and sea turtles, the presence of large Sargassum mats, and overall environmental conditions (visibility, sea state, etc.). This information will be relayed to the lead scientist.

(b) *Two Hours Prior to Mission:* Two hours prior to the mission, aerial monitoring would commence within the test site to evaluate the test site for environmental suitability. Monitoring would commence at the same end of the test site that the mission ship would be entering. Evaluation of the entire test site would take approximately one hour. Shipboard observers would monitor the area around the ship, and the lead scientist would enter all marine mammals and sea turtle sightings, including time of sighting, into a marine animal tracking and sighting database.

(c) *Forty Minutes Prior to Mission:* Forty minutes prior to the mission, the aerial monitoring team would begin monitoring the 12.56 nm<sup>2</sup> safety buffer around the target area. The shipboard monitoring and acoustic monitoring teams would combine with the aerial team to monitor the area immediately around the mission area including both the ZOIs and buffer zone.

(d) *Fifteen Minutes Prior to Detonation:* Aerial and shipboard viewers would be instructed to leave the area and remain outside the safety area (over 2 nm (3.7 km) from impact). Visual monitoring would continue to document any missed animals that may have gone undetected during the past two hours.

(e) *Go/No-Go Decision Process:* The lead scientist would plot and record sightings and bearing for all marine animals detected. This would depict animal sightings relative to the mission area. The lead scientist would

have the authority to declare the range fouled and recommend a hold until monitoring indicates that the ZOI is and will remain clear of detectable animals. The ZOI (for preventing TTS (182 dB re 1 mPa<sup>2</sup>-s)) is estimated for the specific charge weight being used, the depth of blast, and the season. For example, for the JASSM, this range, in winter, would extend to 3250 m (10663 ft), for potential TTS.

The mission would be postponed if:

(1) Any marine mammal or sea turtle is visually detected within the ZOI. The delay would continue until the marine mammal or sea turtle that caused the postponement is confirmed to be outside of the ZOI due to the animal swimming out of the range.

(2) Any marine mammal or sea turtle is detected in a monitoring zone of 2-nm (3.7-km) radius and subsequently cannot be reacquired. The mission would not continue until the last verified location is outside of the ZOI and the animal is moving away from the mission area.

(3) Large *Sargassum* rafts or large concentrations of jellyfish are observed within the ZOI. The delay would continue until the *Sargassum* rafts or jellyfish that caused the postponement are confirmed to be outside of the ZOI either due to the current and/or wind moving them out of the mission area.

(4) Large schools of fish are observed in the water within 1 nm (1.8 km) of the mission area. The delay would continue until the large fish schools are confirmed to be more than 1 nm outside the ZOI.

In the event of a postponement, pre-mission monitoring would continue as long as weather and daylight hours allow. Aerial monitoring is limited by fuel and the on-station time of the monitoring aircraft. If a live warhead failed to explode, operations would attempt to recognize and solve the problem while continuing with all mitigation measures in place. The probability of this occurring is very remote but it exists. Should a weapon fail to explode, the activity sponsor would attempt to identify the problem and detonate the charge with all marine mammal and sea turtle mitigation measures in place as described.

*Post-mission monitoring:* Post-mission monitoring is designed to determine the effectiveness of pre-mission mitigation by reporting any sightings of dead or injured marine mammals or sea turtles. Post-detonation monitoring would commence immediately following each detonation. The vessel could be assisted by aerial surveys over the same time period. The helicopter would resume transects in the area of the detonation

and continue monitoring for at least two hours, concentrating on the area down current of the test site. Aerial and shipboard monitoring is intended to locate and identify dead and injured animals.

Although it is highly unlikely that marine mammals or sea turtles would be killed or seriously injured by this activity, marine mammals or sea turtles killed by an explosion would likely suffer lung rupture, which would cause them to float to the surface immediately due to air in the blood stream. Animals that were not killed instantly but were mortally wounded would likely resurface within a few days, though this would depend on the size and type of animal, fat stores, depth, and water temperature (DoN, 2001). The monitoring team would attempt to document any marine mammals or turtles that were killed or injured as a result of the test and, if practicable, recover and examine any dead animals. The species, number, location, and behavior of any animals observed by the observation teams would be documented and reported to the lead scientist.

Post-mission monitoring activities could include coordination with marine animal stranding networks. NMFS maintains stranding networks along coasts to collect and circulate information about marine mammal and sea turtle standings. Local coordinators report stranding data to state and regional coordinators. Any observed dead or injured marine mammal or sea turtle would be reported to the appropriate coordinator.

#### *Summary of Mitigation Plan*

Should human safety concerns arise or protected species are sighted within the noise impact zones, the test would be postponed. The area to be monitored will be 2.00 nm (1.75 km) in every direction from the target (approximately the size of the largest harassment ZOI). The total area to be monitored for marine mammals and sea turtles is 12.56 nm<sup>2</sup>. If a protected species is observed within this area, the test will be stopped or postponed until the area is clear of the animals. The survey vessels and aircraft will leave the safety footprint immediately prior to weapons launch. This will be no more than 15 minutes prior to impact of the weapons at the target area.

Avoidance of impacts to schools of cetaceans will most likely be realized through these measures since groups of dolphins are relatively easy to spot with the survey distances and methods that will be employed. Typically solitary marine mammals such as dwarf/pygmy



sperm whales and sea turtles, while more challenging to detect, will also be afforded substantial protection through pre-test monitoring.

One helicopter and vessel(s) would conduct post-mission monitoring for two hours after each mission. The monitoring team would attempt to document any marine mammals or turtles that were killed or injured as a result of the test and, if practicable, recover and examine any dead animals. Post-mission monitoring activities could include coordination with marine animal stranding networks.

Hardbottom habitats and artificial reefs would be avoided to alleviate any potential impacts to protected habitat. PSW testing would be delayed if large Sargassum mats were found in the ZOI. Testing would resume only when the mats move outside of the largest ZOI. The PSW mission team will make every effort to recover surface debris, from the target or the weapons following test activities.

#### *Conservative Estimates of Marine Mammal Densities*

By using conservative mathematic calculations, conservative density estimates can serve as a respectable mitigation technique for take estimates. Marine mammal densities used to calculate takes were based on the most current and comprehensive GOM surveys available (GulfCet II). The densities are adjusted for the time the animals are submerged, and further adjusted by applying standard deviations to provide an approximately 99 percent confidence level. As an example, the density estimates for bottlenose dolphins range from 0.06 to 0.15 animals/km<sup>2</sup> in GulfCet II aerial surveys of the shelf and slope. However, the final adjusted density used in take calculations is 0.81 animals/km<sup>2</sup>.

#### **Reporting**

NMFS proposes to require Eglin AFB to submit an annual report on the results of the monitoring requirements mentioned previously in this document. This annual report will be due within 120 days of the expiration of the IHA. This report will include a discussion on the effectiveness of the mitigation in addition to the following information:

(1) Date and time of each of the detonations; (2) a detailed description of the pre-test and post-test activities related to mitigating and monitoring the effects of explosives detonation on marine mammals and their populations; (3) the results of the monitoring program, including numbers by species/stock of any marine mammals noted injured or killed as a result of the

detonations and numbers that may have been harassed due to undetected presence within the safety zone; and (4) results of coordination with coastal marine mammal/sea turtle stranding networks.

#### **Research**

Although Eglin AFB does not currently conduct independent Air Force monitoring efforts, Eglin AFB's Natural Resources Branch does participate in marine animal tagging and monitoring programs lead by other agencies. Additionally, the Natural Resources Branch also supports participation in annual surveys of marine mammals in the GOM with NOAA Fisheries. From 1999 to 2002, Eglin AFB's Natural Resources Branch has, through a contract representative, participated in summer cetacean monitoring and research opportunities. The contractor participated in visual surveys in 1999 for cetaceans in GOM, photographic identification of sperm whales in the northeastern Gulf in 2001, and as a visual observer during the 2000 Sperm Whale Pilot Study and the 2002 sperm whale Satellite-tag (S-tag) cruise. Support for these research efforts is anticipated to continue.

Eglin AFB conducts other research efforts that utilize marine mammal stranding information as a means of ascertaining the effectiveness of mitigation techniques. Stranding data is collected and maintained for the Florida panhandle and Gulf-wide areas. This is undertaken through the establishment and maintenance of contacts with local, state, and regional stranding networks. Eglin AFB assists with stranding data collection by maintaining its own team of stranding personnel. In addition to simply collecting stranding data, various analyses are performed. Stranding events are tracked by year, season, and NOAA Fisheries statistical zone, both Gulf-wide and on the coastline in proximity to Eglin AFB. Stranding data is combined with records of EGTTR mission activity in each water range and analyzed for any possible correlation. In addition to being used as a measure of the effectiveness of mission mitigation, stranding data can yield insight into the species composition of cetaceans in the region.

#### **Endangered Species Act (ESA)**

Eglin AFB requested consultation with NMFS on February 4, 2004. Because the proposed issuance of an IHA to Eglin AFB is a federal action, NMFS has also begun consultation on the proposed issuance of IHAs and/or LOAs under section 101(a)(5)(A) and 101(a)(5)(D) of the MMPA for this

activity. Consultation will be concluded prior to a determination on whether or not to issue an IHA.

#### **National Environmental Policy Act (NEPA)**

In December, 2003, Eglin AFB released draft EA on this proposed activity. NMFS is reviewing this EA and will either adopt it or prepare its own NEPA document before making a determination on the issuance of an IHA and rulemaking. A copy of the Eglin AFB EA for this activity is available by contacting either Eglin AFB or NMFS (see **ADDRESSES**).

#### **Conclusions**

Preliminarily, NMFS has determined that this action is expected to have a negligible impact on the affected species or stocks of marine mammals in the GOM. No take by serious injury and/or death is anticipated, and the potential for temporary or permanent hearing impairment is low and will be avoided through the incorporation of the mitigation measures mentioned in this document. The information contained in Eglin's EA and incidental take application support the preliminary finding that these impacts will be mitigated by implementing a conservative safety range for marine mammal exclusion, incorporating aerial and shipboard survey monitoring efforts in the program both prior to, and after, detonation of explosives, and provided detonations are not conducted whenever marine mammals are either detected within the safety zone, or may enter the safety zone at the time of detonation, or if weather and sea conditions preclude adequate aerial surveillance. Since the taking will not result in more than the incidental harassment of certain species of marine mammals, will have only a negligible impact on these stocks, will not have an unmitigable adverse impact on the availability of these stocks for subsistence uses, and, through implementation of required mitigation and monitoring measures, will result in the least practicable adverse impact on the affected marine mammal stocks, NMFS has preliminarily determined that the requirements of section 101(a)(5)(D) of the MMPA have been met and the IHA can be issued.

#### **Information Solicited**

NMFS requests interested persons to submit comments and information concerning this proposed IHA and the application for regulations request (see **ADDRESSES**).

Dated: April 16, 2004.

**Phil Williams,**

Acting Director, Office of Protected Resources,  
National Marine Fisheries Service.

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## DEPARTMENT OF COMMERCE

### National Oceanic and Atmospheric Administration

[I.D. 041504A]

#### Magnuson-Stevens Act Provisions; General Provisions for Domestic Fisheries; Application for Exempted Fishing Permits (EFPs)

**AGENCY:** National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

**ACTION:** Notification of a proposal for EFPs to conduct experimental fishing; request for comments.

**SUMMARY:** NMFS announces that the Assistant Regional Administrator for Sustainable Fisheries, Northeast Region, NOAA Fisheries (Assistant Regional Administrator), has determined that an application for EFPs contains all of the required information and warrants further consideration. The Assistant Regional Administrator is considering the impacts of the activities to be authorized under the EFPs with respect to the Northeast (NE) Multispecies Fishery Management Plan (FMP). However, further review and consultation may be necessary before a final determination is made to issue EFPs. Therefore, NMFS announces that the Assistant Regional Administrator proposes to issue EFPs in response to an application submitted by the Cape Cod Commercial Hook Fisherman's

Association (CCCHFA), in collaboration with Massachusetts Division of Marine Fisheries (DMF), and Research, Environmental and Management Support (REMSA). These EFPs would allow up to 31 vessels to fish for haddock using longline gear or jig gear in portions of the following closed areas during the period of May 2004 through February 2005: Cashes Ledge Closure Area, Western Gulf of Maine Closure Area (WGOM), Georges Bank (GB) Closed Area I (CA I), GB Closed Area II (CA II), and in Rolling Closure Area III. The study will take place at various times during the months of January, February, and May through September 2004, as listed in the table below. The purpose of the proposed study is to determine if hook-and-line gear could be used to target haddock with minimal bycatch of cod in order to establish Special Access Programs (SAPs) proposed under Amendment 13 to the FMP.

**DATES:** Comments on this action must be received at the appropriate address or fax number (see **ADDRESSES**) on or before May 7, 2004.

**ADDRESSES:** Written comments should be sent to Patricia A. Kurkul, Regional Administrator, NMFS, NE Regional Office, 1 Blackburn Drive, Gloucester, MA 01930. Mark the outside of the envelope "Comments on Haddock SAP EFP Proposal." Comments may also be sent via fax to (978) 281-9135, or submitted via e-mail to the following address: [da448@noaa.gov](mailto:da448@noaa.gov).

Copies of the Environmental Assessment (EA) are available from the NE Regional Office at the same address.

**FOR FURTHER INFORMATION CONTACT:** Heather Sagar, Fishery Management Specialist, phone: 978-281-9341, fax: 978-281-9135, e-mail: [heather.sagar@noaa.gov](mailto:heather.sagar@noaa.gov).

**SUPPLEMENTARY INFORMATION:** CCCHFA, in collaboration with Massachusetts DMF, and REMSA, submitted a request on March 5, 2004, to conduct an exempted fishery for GB haddock within portions of Rolling Closure Area III, Cashes Ledge Closure Area, WGOM, GB CA I, and GB CA II. The purpose of the proposed study is to determine if hook-and-line gear could be used to target haddock with minimal bycatch of cod in order to establish SAPs. This proposal builds on an ongoing study that began on October 1, 2003, and which proposes to end on September 30, 2004. Preliminary results from this ongoing study demonstrate the viability of utilizing hook-and-line gear to reduce bycatch of cod in a portion of GB CA I.

The CCCHFA's most recent proposal requests authorizing 31 commercial hook-and-line vessels to fish for and possess haddock in the additional areas listed above during the time period May 1, 2004, through February 28, 2005. The study proposed that vessels would fish under a hard Total Allowable Catch (TAC) allocation of 788 mt of haddock and 39.4 mt of Atlantic cod. Similar to the first two portions of this experiment, Days-At-Sea (DAS) would be used. Throughout this study, CCCHFA hopes to determine the appropriate season, bait, and location for a directed haddock fishery in the above identified areas that would have minimal impact on other groundfish stocks, particularly GB cod, for the purpose of developing a SAP. Participating vessels would be prohibited from fishing in areas outside of the identified areas during an experimental fishing trip. This study would follow normal fishing practices. The experimental fishery would be terminated if any of the proposed TACs are exceeded.

#### PROPOSED STUDY AREAS AND SEASONS

Ref. #	Area	Closure Type	Duration	Location	# Trips	# DAS per Trip	Haddock	Cod
I	Rolling Closure III	Seasonal	5/04 - 6/04	43°15' X 69°52' 43°18' X 69°40' 43°13' X 69°17' 42°58' X 69°40'	16	1/2 DAS/Trip	32 mt	1.6 mt
II	Cashes	Year-Round	12/04 - 2/05 5/04 - 9/04	Entire Cashes Closed Area	64	1 DAS/Trip	128 mt	6.4 mt
III	WGOM	Year-Round	5/04 - 6/04 12/04 - 2/05	WGOM: North of 42°35' South of 43°00'	40	1/2 DAS/Trip	80 mt	4 mt
IV	GB CA I	Year-Round	10/04 - 12/04	CA I: North of Loran 43660	24	1/2 DAS/Trip	48 mt	2.4 mt
V	GB CA II	Year-Round	5/04 - 9/04	CA II: North of 42°00'	40	1 DAS/Trip	200 mt	10 mt
VI	GB CA II	Year-Round	10/04 - 2/05	CA II: North of 41°40'	40	3 DAS/Trip	300 mt	15 mt
TOTAL					244 trips	264 DAS	788 mt	39.4 mt