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Signed at Washington, DC, this 27th day of August 2009.

**Ronald K. Lorentzen,**

*Acting Assistant Secretary of Commerce for Import Administration, Alternate Chairman, Foreign-Trade Zones Board.*

Attest:

Andrew McGilvray,  
*Executive Secretary.*

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## DEPARTMENT OF COMMERCE

### National Oceanic and Atmospheric Administration

RIN 0648-XQ10

#### Incidental Takes of Marine Mammals During Specified Activities; Blasting and Dredging Operations by the U.S. Army Corps of Engineers and U.S. Marine Corps in the U.S. Marine Corps Slipway at the Blount Island Facility, Duval County, FL

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

**ACTION:** Notice; proposed incidental harassment authorization; request for comments.

**SUMMARY:** NMFS has received an application from the U.S. Army Corps of Engineers (ACOE) and U.S. Marine Corps (USMC) for an Incidental Harassment Authorization (IHA) to take small numbers of marine mammals, by harassment, incidental to blasting and dredging operations in the USMC slipway at the Blount Island facility (MCSF-BI Slipway) in Duval County, FL. NMFS has reviewed the application, including all supporting documents, and determined that it is adequate and complete. Pursuant to the Marine Mammal Protection Act (MMPA), NMFS is requesting comments on its proposal to issue an IHA to ACOE and USMC to incidentally harass, by Level B harassment only, marine mammals during the specified activities within the specified geographic region.

**DATES:** Comments and information must be received no later than October 8, 2009.

**ADDRESSES:** Comments on the application should be addressed to Michael Payne, Chief, Permits, Conservation and Education Division, Office of Protected Resources, National Marine Fisheries Service, 1315 East-

West Highway, Silver Spring, MD 20910-3225. The mailbox address for providing email comments is *PR1.0648-XQ10@noaa.gov*. NMFS is not responsible for e-mail comments sent to addresses other than the one provided here. Comments sent via e-mail, including all attachments, must not exceed a 10-megabyte file size.

**Instructions:** All comments received are a part of the public record and will generally be posted to <http://www.nmfs.noaa.gov/pr/permits/incidental.htm> without change. All Personal Identifying Information (for example, name, address, etc.) voluntarily submitted by the commenter may be publicly accessible. Do not submit Confidential Business Information or otherwise sensitive or protected information.

A copy of the application containing a list of the references used in this document may be obtained by writing to the address specified above, telephoning the contact listed below (see **FOR FURTHER INFORMATION CONTACT**), or visiting the internet at: <http://www.nmfs.noaa.gov/pr/permits/incidental.htm>. Documents cited in this notice may be viewed, by appointment, during regular business hours, at the aforementioned address.

**FOR FURTHER INFORMATION CONTACT:** Howard Goldstein or Jolie Harrison, Office of Protected Resources, NMFS, 301-713-2289, ext. 172.

#### SUPPLEMENTARY INFORMATION:

##### Background

Sections 101(a)(5)(D) of the MMPA (16 U.S.C. 1361 (a)(5)(D)) directs the Secretary of Commerce to allow, upon request, the incidental, but not intentional, taking of marine mammals for periods not more than one year 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 if the taking is limited to harassment, a notice of a proposed authorization is provided to the public for review.

An authorization to take small numbers of marine mammals by harassment shall be granted if NMFS finds that the taking will have a negligible impact on the species or stock(s), will not have an unmitigable adverse impact on the availability of the species or stock(s) for subsistence uses (where relevant), and if the permissible methods of taking and requirements pertaining to the mitigation, monitoring and reporting of such takings are set forth to achieve the least practicable adverse impact. 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."

Section 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. Except with respect to certain activities not pertinent here, the MMPA defines "harassment" as:

any act of pursuit, torment, or annoyance which (i) has the potential to injure a marine mammal or marine mammal stock in the wild [Level A harassment]; or (ii) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering [Level B harassment].

Section 101(a)(5)(D) establishes a 45-day time limit for NMFS review of an application followed by a publication in the **Federal Register** and other relevant media proposed authorizations for the incidental harassment of marine mammals. The publication of the proposed authorization initiates a 30-day public comment period. Within 45 days of the close of the comment period, NMFS must either issue or deny issuance of the authorization.

#### Summary of Request

On January 16, 2009, NMFS received a letter from the ACOE and USMC, requesting an IHA. The requested IHA would authorize the take, by Level B (behavioral) harassment, of small numbers of Atlantic bottlenose dolphins (*Tursiops truncatus*) incidental to blasting and dredging operations in the MCSF-BI Slipway. Proposed activities will include the removal of concrete sill/cemented rock by blasting and advanced maintenance dredging. The ACOE proposed to use blasting to fracture ("pre-treat") an existing concrete sill and cemented rock in the slipway, then completely remove the pre-treated sill and cemented rock by dredging, and dredge the entire slipway from its current depth of -37 ft mean low low water (MLLW) to -47 ft MLLW. The dredging will likely be completed using a mechanical dredge (i.e., clamshell or backhoe), cutterhead dredge, and blasting. The dredging will remove approximately 750,000 cubic yards of material from the slipway. Material removed from the dredging will be placed in Dayson Island Dredge Material Management Area located at Little Marsh Island. Concrete from the sill will be removed to an offsite

location. The blasting is proposed to take place during winter 2009–2010 (between November and March) in Duval County, Florida. Additional information on the blasting and dredging project is contained in the application, which is available upon request (see **ADDRESSES**).

#### **Description of the Proposed Specified Activities**

The purpose of the blasting and dredging project is to remove a 430 foot (ft) (131 m) long, 32 ft (9.8 m) wide and 14 ft (4.3 m) thick rebar reinforced concrete sill and conduct advance maintenance dredging to a maximum depth of -47 ft (14.3 m) MLLW in the MCSF-BI Slipway. These areas require blasting because they are too dense to dredge. To achieve the removal of the concrete sill and rock in the MCSF-BI Slipway, pre-treatment will be required. The ACOE has used two criteria to determine which areas are most likely to need blasting for the MCSF-BI Slipway: (1) areas documented by core borings to contain hard massive rock; and (2) concrete sill that is too hard to dredge without pre-treatment. Based on evaluations of the core boring logs, and as-built information for the sill provided by the MCSF-BI, the following is an evaluation of the proposed blasting requirements for the current project. Areas currently identified as having the hardest rock and most likely in need of blasting prior to dredging include the concrete sill and the mouth of the slipway. Additional core borings were collected in October, 2008. The results of recent core borings have identified an area of 875,000 ft<sup>2</sup> of cemented rock within the proposed dredging template in addition to the concrete sill. The cemented rock is highly dense and likely in need of blasting prior to dredging. Based on evaluations of the core boring logs, and as-built information for the sill provided by MCSF-BI, the blasting requirements for the current project would include removal of existing sill and 130,000 cubic yards (cy) cemented sedimentary rock. The pre-treatment of the cemented rock would need to occur between Station 22+00 to Station 43+00 of the existing channel baseline. The concrete sill is located approximately at Station 7+00 (see Figure 1 of ACOE's application).

The focus of the proposed blasting work at the MCSF-BI Slipway would be to pre-treat the concrete sill and any hard rock prior to removal by a dredge utilizing confined blasting, meaning the shots would be "confined" in the rock. In confined blasting, each charge is placed in a hole drilled in the rock

approximately 5 to 10 ft (m) deep; depending on how much rock/concrete needs to be broken and the intended project depth. The hole is then capped with an inert material, such as crushed rock. This process is referred to as "stemming the hole." Stemming is the process of filling each borehole with crushed rock after the explosive charge has been placed. Stemming reduces the strength of the outward pressure wave produced by blasts. The ACOE has used this technique previously at the Port of Miami in 2005. NMFS issued an IHA for that operation on April 19, 2005. For the Port of Miami expansion that used blasting as a pre-treatment technique, the stemming material was angular crushed rock. The optimum size of stemming material is material that has an average diameter of approximately 0.05 times the diameter of the blast-hole. Material must be angular to perform properly (Konya, 2003). For the MCSF-BI Slipway project, the geotechnical branch of the Jacksonville District, will prepare project specific specifications. Each borehole would be drilled 5 to 10 ft into the sill or cemented rock depending on substrate density, and holes would be at least 8 ft apart. In the Miami Harbor project, the following requirements were in the specifications regarding stemming material:

##### **1.22.9.20 Stemming**

All blastholes shall be stemmed. The Blaster or Blasting Specialist shall determine the thickness of stemming using blasting industry conventional stemming calculations. The minimum stemming shall be 2 ft (0.6 m) thick. Stemming shall be placed in the blast hole in a zone encompassed by competent rock. Measures shall be taken to prevent bridging of explosive materials and stemming within the hole. Stemming shall be clean, angular to sub-angular, hard stone chips without fines having an approximate diameter of 1/2 inch to 3/8 inch. A barrier shall be placed between the stemming and explosive product, if necessary, to prevent the stemming from setting into the explosive product. Anything contradicting the effectiveness of stemming shall not extend through the stemming.

It is expected that the specifications for any construction utilizing the blasting at Blount Island would have similar stemming requirements as those that were used for the Miami Harbor project. The length of stemming material would vary based on the length of the hole drilled, however minimum lengths would be included in the project specific specifications. Studies have

shown that stemmed blasts have up to a 60 to 90 percent decrease in the strength of the pressure wave released, compared to open water blasts of the same charge weight (Nedwell and Thandavamoorthy, 1992; Hempen *et al.*, 2005; Hempen *et al.*, 2007). However, unlike open water blasts, very little documentation exists on the effects that confined blasting can have on marine animals near the blast (Keevin *et al.*, 1999).

The size of each charge would be determined during an on-site test blast program. At this time the ACOE cannot provide detailed charge weights until after the Contractor has been selected and they assess the types of equipment necessary for use, as well as the specific drill pattern. Each charge would be limited to the lowest poundage that can adequately fracture the rock and other material. A close drill pattern could mean more holes with less explosives, while a wider pattern could mean fewer holes with more explosives. The equipment to remove the cracked rock (i.e., cutterhead dredge) could vary based on cutterhead size and horsepower the larger the head and horsepower, the less pre-treatment that is needed for blasting. The explosives would be used to remove thick rebar and concrete.

The test blast program would be conducted immediately before full-scale blasting begins to determine the smallest effective charge size. The same conservation protocols for full-scale blasting would be used for the test blast program. The test blast program begins with a range of small individual charges and progresses up to the maximum charge size necessary to effectively pre-treat the substrate. The final test event simulates the conditions anticipated during full-scale blasts including charge size, overlying water depth, charge configuration, charge separation, initiation methods, and loading conditions. Once the test blast program is completed, a regression analysis would be used to develop a complete blast plan for the entire project. The test blast program is considered part of the action.

Additional details regarding the proposed blasting and dredging project can be found in the ACOE and USMC's IHA application and Draft Environmental Assessment Removal of Concrete Sill and Advance Maintenance Dredging of Marine Corps Slipway, U.S. Marine Corps Support Facility Blount Island, Jacksonville, Duval County, Florida (Draft EA). The Draft EA can also be found online at: <http://www.nmfs.noaa.gov/pr/permits/incidental.htm#applications>

**Proposed Dates, Duration, and Location of Specified Activity**

The ACOE expects to award the contract for construction in August, 2009; provide the Notice to Proceed to the selected contractor in October 2009, which would result in blasting between November, 2009 and March, 2010, and is expected to take up to two months.

The project is located in a pre-existing military boat basin (latitude 30.3883 N, longitude 81.5137 W) in Jacksonville, Duval County, Florida, at the MCSF-BI located on Blount Island along the St.

Johns River (Figures 2 and 3 of ACOE's application). The project site is 10 nautical miles west of the St. Johns River outlet. Blount Island was created as a byproduct of ACOE's post-World War II dredging operations in the St. Johns River. The Draft EA provides a detailed explanation of project location as well as project implementation.

**Description of Marine Mammals and Habitat Affected in the Activity Area**

Several cetacean species and a single species of sirenian are known to or could occur in the Duval County study

area and off the Southeast Atlantic coastline (see Table 1 below). Species listed as Endangered under the U.S. Endangered Species Act (ESA), includes the humpback, sei, fin, blue, North Atlantic right, sperm whale, and Florida manatee. The marine mammals that occur in the proposed blasting area belong to three taxonomic groups: mysticetes (baleen whales), odontocetes (toothed whales), and sirenians (the manatee). Table 1 below outlines the cetacean species and their habitat in the region of the proposed project area.

TABLE 1—THE HABITAT AND CONSERVATION STATUS OF MARINE MAMMALS INHABITING THE PROPOSED STUDY AREA IN THE ATLANTIC OCEAN OFF THE U.S. SOUTHEAST COAST

Species	Habitat	ESA <sup>1</sup>
<b>Mysticetes</b>		
Nort Atlantic right whale ( <i>Eubalena glacialis</i> )	Coastal and shelf	EN
Humpback whale ( <i>Megaptera novaeangliae</i> )	Pelagic and banks	EN
Bryde's whale ( <i>Balenoptera brydei</i> )	Pelagic and coastal	NL
Minke whale ( <i>Balaenoptera acutorostrata</i> )	Shelf, coastal, and pelagic	NL
Blue whale ( <i>Balaenoptera musculus</i> )	Pelagic and coastal	EN
Sei whale ( <i>Balaenoptera borealis</i> )	Primarily offshore, pelagic	EN
Fin whale ( <i>Balaenoptera physalus</i> )	Slope, mostly pelagic	EN
<b>Odontocetes</b>		
Sperm whale ( <i>Physeter macrocephalus</i> )	Pelagic, deep seas	EN
Cuvier's beaked whale ( <i>Ziphius cavirostris</i> )	Pelagic	NL
Gervais' beaked whale ( <i>Mesoplodon europaeus</i> )	Pelagic	NL
True's beaked whale ( <i>Mesoplodon mirus</i> )	Pelagic	NL
Blainville's beaked whale ( <i>Mesoplodon densirostris</i> )	Pelagic	NL
Dwarf sperm whale ( <i>Kogia sima</i> )	Offshore, pelagic	NL
Pygmy sperm whale ( <i>Kogia breviceps</i> )	Offshore, pelagic	NL
Killer whale ( <i>Orcinus orca</i> )	Widely distributed	NL
Short-finned pilot whale ( <i>Globicephala macrorhynchus</i> )	Inshore and offshore	NL

TABLE 1—THE HABITAT AND CONSERVATION STATUS OF MARINE MAMMALS INHABITING THE PROPOSED STUDY AREA IN THE ATLANTIC OCEAN OFF THE U.S. SOUTHEAST COAST—Continued

Species	Habitat	ESA <sup>1</sup>
False killer whale ( <i>Pseudorca crassidens</i> )	Pelagic	NL
Mellon-headed whale ( <i>Peponocephala electra</i> )	Pelagic	NL
Pygmy killer whale ( <i>Fertesa attentuata</i> )	Pelagic	NL
Risso's dolphin ( <i>Grampus griseus</i> )	Pelagic, shelf	NL
Bottlenose dolphin ( <i>Tursiops truncatus</i> )	Offshore, inshore, coastal, estuaries	NL
Rough toothed dolphin ( <i>Steno bredanensis</i> )	Pelagic	NL
Fraser's dolphin ( <i>Lagenodelphis hosei</i> )	Pelagic	NL
Striped dolphin ( <i>Stenella coeruleoalba</i> )	Pelagic	NL
Pantropical spotted dolphin ( <i>Stenella attenuata</i> )	Pelagic	NL
Atlantic spotted dolphin ( <i>Stella frontalis</i> )	Coastal to pelagic	NL
Spinner dolphin ( <i>Stenella longirostris</i> )	Mostly pelagic	NL
Clymene dolphin ( <i>Stenella clymene</i> )	Pelagic	NL
<b>Sirenians</b>		
West Indian (Florida) manatee ( <i>Trichechus manatus latirostris</i> )	Coastal, rivers and estuaries	EN

<sup>1</sup> U.S. Endangered Species Act: EN = Endangered, T = Threatened, NL = Not listed

The two species of marine mammals that are known to commonly occur in close proximity to the blasting area of the St. Johns River and Blount Island are the West Indian (Florida) manatee and Atlantic bottlenose dolphin.

#### Florida Manatee

The West Indian manatee in Florida and U.S. waters is managed under the jurisdiction of the U.S. Fish and Wildlife Service (USFWS) and is listed as Endangered under the Endangered Species Act (ESA). They primarily inhabit coastal and inshore waters. Manatee occurrences are extremely rare during winter months (December, January, and February) in typical years because of the cold water temperatures in the waterway and lack of warm water refuge sites nearby. To minimize potential involvement with manatees from underwater explosions, the

optimal timeframe to utilize explosives is during the winter months of the year. The USFWS considers this timeframe “the manatee construction window” for utilizing explosives.

#### Atlantic Bottlenose Dolphins

Atlantic bottlenose dolphins are distributed worldwide in tropical and temperate waters, and in U.S. waters occur in multiple complex stocks along the U.S. Atlantic coast. According to the 2008 NOAA stock assessment report of Western North Atlantic Coastal Morphotype Stocks, the coastal morphotype of bottlenose dolphins is continuously distributed along the Atlantic coast south of Long Island, New York around the Florida peninsula and along the Gulf of Mexico coast. On the Atlantic coast, Scott *et al.* (1988) hypothesized a single coastal migratory stock ranging seasonally from as far

north as Long Island, to as far south as central Florida, citing stranding patterns during a high mortality event in 1987 to 1988 and observed density patterns. More recent studies demonstrate that the single coastal migratory stock hypothesis is incorrect, and there is instead a complex mosaic of stocks (NMFS, 2001; McLellan *et al.*, 2003; NMFS, 2008). The coastal morphotype is morphologically and genetically distinct from the larger, more robust morphotype primarily occupying habitats further offshore (Hoelzel *et al.*, 1998; Mead & Potter, 1995). The primary habitat of the coastal morphotype of bottlenose dolphins extends from Florida to New Jersey during summer months and in waters less than 66 ft (20 m) deep, including estuarine and inshore waters (NMFS, 2008).

There are multiple lines of evidence supporting demographic separation

between bottlenose dolphins residing within estuaries along the Atlantic coast. There are relatively few published studies demonstrating that these resident animals are genetically distinct from animals in nearby coastal waters; however a study conducted near Jacksonville, Florida demonstrated significant genetic differences between animals in nearshore coastal waters and estuarine waters (Caldwell, 2001; NMFS, 2008). Long-term, year-round, multi-generational resident communities of dolphins have been recognized in embayments and coastal areas of the Gulf of Mexico (Wells *et al.*, 1987, 1996; Scott *et al.*, 1990; Weller, 1998; Wells, 2003), and it is not surprising to find similar patterns along the Atlantic coast (NMFS, 2008).

Given the observed patterns of residency across multiple estuaries along the Atlantic coast and the evidence of demographically distinct estuarine stocks in the Gulf of Mexico, it is highly likely that there is demographic separation between bottlenose dolphins residing within estuaries and those in nearshore coastal waters. However, the degree of spatial overlap between these populations remains unclear. Photo-identification studies within estuaries demonstrate seasonal immigration and emigration and the presence of transient animals. In addition, the degree of movement of resident estuarine animals into coastal waters on seasonal or shorter times scales is poorly understood. However, in the 2008 stock assessment report analysis, bottlenose dolphins inhabiting primarily estuarine habitats are considered distinct from those inhabiting coastal habitats (NMFS, 2008).

These complex stock segments of coastal bottlenose dolphins are based on a combination of geographical, ecological, and genetic research. However, because the data of structure of stocks is complex, coastal and continental shelf stocks may overlap, the exact structure of these stocks continues to be revised as research is completed. Analytical results of the overall genetic variation and satellite telemetry studies indicate a minimum of two migrating coastal stocks (Northern Migratory and Southern Migratory coastal stocks) as well as evidence for coastal resident stocks of coastal bottlenose dolphins along the U.S. Atlantic coast. The 2008 NOAA stock assessment report identifies seven prospective stocks of coastal morphotype bottlenose dolphins inhabiting nearshore coastal waters along the Atlantic coast.

Abundance estimates for bottlenose dolphins in each stock were calculated using line transect methods and distance analysis (Buckland *et al.*, 2001; NMFS, 2008). For the Central Florida, Northern Florida, Georgia, South Carolina, and Southern North Carolina stocks, the mean of the summer 2002 and 2004 abundance estimates provided the best estimate of abundance. During winter months, these stocks overlap spatially with either the Southern Migratory or Northern Migratory stocks. There is apparent inter-annual variation in the abundance estimates and observed spatial distribution of bottlenose dolphins in this region that may indicate movements of animals in response to environmental variability (NMFS, 2008).

The proposed action would occur inshore and, therefore, has the potential to affect the coastal stocks. From genetic analysis, the bottlenose dolphin population around Duval County, Florida consists of part of the prospective Northern Florida stock. This stock may also include demographically distinct coastal and resident estuarine populations that are defined by seasonal migratory and transient movements throughout large home ranges. The movement along the southern portion of the Atlantic coast is poorly understood and is currently under study. The resident estuarine stocks are likely demographically distinct from coastal stocks. The estimated population for the prospective Northern Florida stock is approximately 2,502 to 3,064 animals. The Atlantic bottlenose dolphin is not listed as Threatened or Endangered under the ESA, and one or more of the coastal migratory stocks may be depleted, therefore all stocks retain the depleted designation and are considered strategic under the MMPA.

Dr. Quinton White of Jacksonville University states dolphins are commonly seen in the vicinity of the Dames Point Bridge west and upriver of Blount Island (White, pers. comm.). The ACOE MCSF-BI Slipway project site is in the Northern Florida management unit for Atlantic bottlenose dolphin coastal morphotypes. Atlantic bottlenose dolphins are known to occur in the project area at or within a few hundred feet of the project several times a week. Dolphins, when present near the project site, usually occur in groups of two or three. Bottlenose dolphin occurrence in the Jacksonville area is year-round, however significant seasonal variation exists.

Dr. Martha Jane Caldwell (2001) completed research on the coastal and inshore bottlenose dolphin populations of the St. Johns River in the vicinity of

Blount Island. Caldwell determined that there are two resident inshore populations of Atlantic bottlenose dolphins in the St. Johns River, the Intracoastal South/St. Johns River population (also referred to as the Southern community) and the Intracoastal North population (also referred to as the Northern community). The Southern community inhabits the waters east (seaward) of the MCSF-BI Slipway facility, based on Caldwell's assessment (see Figure 4 of ACOE and USMC's application). The estimated size of the Southern community is 145 animals and 191 animals in the St. Johns River proper. There was significant overlap between these two groups, and Caldwell classified them as one Community the Southern Community. Using the maximum number of animals between the two groups, the ACOE will adopt a population size of 191 animals in the Southern Community.

Based on photo-identification and behavioral data, Caldwell (2001) identified three behaviorally differentiated bottlenose dolphin communities in the Jacksonville, Florida area. These three distinct communities have been called Northern, Southern, and Coastal. The Northern community has year-round residency and random social affiliations, with a mean group size of five individuals. The Southern community has seasonal residency and non-random social affiliations, with a mean group size of 22 individuals. The Coastal community has no residency and random social affiliations, with a mean group size of 17 individuals. The social structure on a small geographic scale of these three distinct populations varies based on significant genetic differentiation and behavior. Although the three Jacksonville area communities use contiguous habitats, the Northern and Southern communities are primarily inshore, and the Coastal community generally uses the coastal waters of the Jacksonville area from the beach to 1.9 miles (3 km) offshore (Caldwell, 2001). The Southern and Coastal communities have partially overlapping ranges, while the Northern and Southern community's ranges may generally be separated by the St. John's River. Also, the Southern and Coastal communities are behaviorally and genetically differentiated from the Northern community (Caldwell, 2001).

In Florida and other states along the U.S. East Coast, bottlenose dolphin abundance and density is often correlated with water temperature and season. Significantly fewer dolphins were observed during the winter season

when water temperature falls below 16 degrees Celsius (Caldwell, 2001).

NMFS anticipates that no bottlenose dolphins will be injured, seriously injured, or killed during the three proposed blasting events. The specific objective of the ACOE's Mitigation Plan or Protected Species Watch Plan is to ensure that no dolphins (or manatees) and other protected species are in the area and could be impacted by the blast detonations. Because of the circumstances and the proposed mitigation and monitoring requirements discussed herein this document, NMFS believes it highly unlikely that the proposed activities would result in injury (Level A harassment), serious injury, or mortality of bottlenose dolphins, however, they may temporarily avoid the area where the proposed explosive demolition will occur. The ACOE has requested the incidental take of 191 bottlenose dolphin for the duration of the proposed action. The estimated abundance of the prospective Northern Florida stock is approximately 2,502 to 3,064 animals. There is not currently a stock assessment available concerning the status of bottlenose dolphins in the inshore and nearshore waters off of Florida. NMFS has determined that the number of requested incidental takes for the proposed action are small relative to the stock population estimate of Atlantic bottlenose dolphins.

Further information on the biology and local distribution of these species and others in the region can be found in ACOE's application, which is available upon request (see **ADDRESSES**), and the NMFS Marine Mammal Stock Assessment Reports, which are available online at <http://www.nmfs.noaa.gov/pr/species/>

#### **Potential Effects of Activities on Marine Mammals**

In general, potential impacts to marine mammals from explosive detonations could include both lethal and non-lethal injury (Level A harassment), as well as Level B harassment. In the absence of monitoring and mitigation, marine mammals may be killed or injured as a result of an explosive detonation 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."

A second potential possible cause of mortality is the onset of extensive lung hemorrhage. Extensive lung hemorrhage is considered debilitating and potentially fatal. Suffocation caused by

lung hemorrhage is likely to be the major cause of marine mammal death from underwater shock waves. The estimated range for the onset of extensive lung hemorrhage to marine mammals varies depending upon the animal's weight, with the smallest mammals having the greatest potential hazard range.

NMFS' criteria for determining non-lethal injury (Level A harassment) from explosives are the peak pressure that will result in: (1) the onset of slight lung hemorrhage, or (2) a 50 percent probability level for a rupture of the tympanic membrane (TM). These are injuries from which animals would be expected to recover on their own.

NMFS has established dual criteria for what constitutes Level B harassment: (1) An energy based temporary threshold shift (TTS) received sound levels 182 dB re 1  $\mu\text{Pa}^2\text{-s}$  cumulative energy flux in any 1/3 octave band above 100 Hz for odontocetes (derived from experiments with bottlenose dolphins (Ridgway *et al.*, 1997; Schlundt *et al.*, 2000); and (2) 12 psi peak pressure cited by Ketten (1995) as associated with a safe outer limit for minimal, recoverable auditory trauma (i.e., TTS). The Level B harassment zone, therefore, is the distance from the mortality, serious injury, injury (Level A harassment) zone to the radius where neither of these criterion is exceeded.

The primary potential impact to the Atlantic bottlenose dolphins occurring in the Blount Island action area from the proposed detonations is Level B harassment incidental to noise generated by explosives. In the absence of any monitoring or mitigation measures, there is a very small chance that a marine mammal could be injured or killed when exposed to the energy generated from an explosive force on the sea floor. However, NMFS believes the proposed monitoring and mitigation measures will preclude this possibility in the case of this particular activity.

Non-lethal injurious impacts (Level A harassment) are defined in this proposed IHA as TM rupture and the onset of slight lung injury. The threshold for Level A harassment corresponds to a 50 percent rate of TM rupture, which can be stated in terms of an energy flux density (EFD) value of 205 dB re 1  $\mu\text{Pa}^2\text{s}$ . TM rupture is well-correlated with permanent hearing impairment (Ketten, 1998) indicates a 30 percent incidence of permanent threshold shift (PTS) at the same threshold). The farthest distance from the source at which an animal is exposed to the EFD level for the Level A harassment threshold is unknown at this time.

Level B (non-injurious) harassment includes temporary (auditory) threshold shift (TTS), a slight, recoverable loss of hearing sensitivity. One criterion used for TTS is 182 dB re 1  $\mu\text{Pa}^2\text{s}$  maximum EFD level in any 1/3- octave band above 100 Hz for toothed whales (e.g., dolphins). A second criterion, 23 psi, has recently been established by NMFS to provide a more conservative range of TTS when the explosive or animals approaches the sea surface, in which case explosive energy is reduced, but the peak pressure is not. The distance for 23 psi has not been determined at this time, however, NMFS will apply the more conservative of these two distances.

Level B harassment also includes behavioral modifications resulting from repeated noise exposures (below TTS) to the same animals (usually resident) over a relatively short period of times. Threshold criteria for this particular type of harassment are currently still being considered. One recommendation is a level of 6 dB below TTS (see 69 FR 21816, April 22, 2004), which would be 176 dB re 1  $\mu\text{Pa}^2\text{s}$ . Due, however, to the infrequency of detonations, the relatively short overall time period of the project, and the continuous movement of marine mammals in the St. Johns River, NMFS believes that behavioral modification from repeated exposures to the same animals is unlikely.

The ACOE is unable to determine if Atlantic bottlenose dolphins in the area utilize the MCSF-BI Slipway, however they do transit up and down the St. Johns River, past the slipway, and have been documented at the Dames Point Bridge west of the MCSF-BI Slipway, thus their presence in the waters adjacent to the slipway is expected. The slipway is a man-made, dead-end slip with concrete walls and a rock and sand bottom. The bottom of the river adjacent to the slip is rock and sand. The ACOE acknowledges that while the MCSF-BI Slipway may not be suitable habitat for dolphins in the St. Johns River, it is likely that animals may traverse the St. Johns River to North Biscayne Bay or offshore via the main port channel. North Atlantic right whales are highly unlikely to occur in the MCSF-BI Slipway area, as they would need to enter the river and swim 10 miles up the river to be found adjacent to the slipway.

#### **Possible Effects of Activities on Marine Mammal Habitat**

The ACOE expects no loss or modification of habitat for the populations of marine mammals in the St. Johns River located adjacent to the

MCSF-BI Slipway. All of the material dredged from the Blount Island facility has been placed in the Dayton Island DMMA. The bottom of the basin in the MCSF-BI Slipway mostly consists of silts and clays, with some sand. There are no mangroves seagrasses, or corals in the basin.

The ambient noise level of an area like MCSF-BI includes sounds from both natural (wind, waves, birds, etc.) and artificial (vehicle and ship engines, maintenance activities, etc.) sources. The strength/extent (or magnitude) and frequency of sound levels vary over the course of the day, throughout the week, and can be affected by weather conditions.

Noise generated by dredges is low frequency in nature. This low frequency noise tends to carry long distances in water, but is attenuated the further away you are from the source. Currently, periodic maintenance dredging occurs in the dredging project area, as often as every two years for the NAVSTA Mayport entrance channel and turning basin. Deepening of the Jacksonville Harbor has involved some blasting upriver from the Jacksonville Harbor Bar Cut 3 Federal navigation channel. Underwater noise as it relates to marine mammals is discussed in Sections 3.6 and 4.6 of the ACOE's Draft EA. Sound exposure levels measured for equipment similar to clamshell equipment used in the past to dredge the NAVSTA Mayport turning basin range between 75 and 88 dBA at 50 ft (15 m) distance from the dredging equipment (NMFS, 2007). The ACOE and USMC expect the effects on marine mammal habitat to be minimal.

NMFS anticipates that the action will result in no impacts to marine mammal habitat beyond rendering the areas immediately around the MCSF-BI Slipway less desirable shortly after each blasting event and during dredging operations. The impacts will be localized and instantaneous. Impacts to marine mammal, invertebrate, and fish species are not expected to be detrimental.

#### Proposed Mitigation

In order to issue an Incidental Take Authorization under Section 101(a)(5)(D) of the MMPA, NMFS must set forth the permissible methods of taking pursuant to such activity, and other means of effecting the least practicable adverse impact on such species or stock and its habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of such species or stock for taking for certain subsistence uses.

The ACOE and MSCF-BI plan to remove a sill consisting of 875,000 ft<sup>2</sup> (81,290 m<sup>2</sup>) of reinforced concrete and 130,000 cy of hard rock from the MSCF-BI Slipway using the same confined blasting technique as utilized at the Port of Miami project in 2005 and reviewed in Jordan *et al.* (2007) and Hempen *et al.* (2007) (see application). Danger, safety, and monitoring radii would be based on the delay weights of an unconfined charge, however for this project, all charges would be confined in the rock/concrete.

Radii calculations:

Danger Zone radius = 260 (lbs/delay)<sup>1/3</sup>  
 Safety Zone radius (two times the size of the Danger Zone) = 520 (lbs/delay)<sup>1/3</sup>  
 Watch Zone radius (three times the size of the Danger Zone) = 3 [260 (lbs/delay)<sup>1/3</sup>]

These zones are considered conservative because they are based on unconfined blasts in open water. Open-water detonations produce both higher amplitude and higher frequency shock waves than contained detonations; thus, stemming charges results in reduced pressures and lower aquatic organism mortality than the same explosive charge weight detonated in open water. These same calculations were approved by NMFS for use during the Miami Harbor Project. A take by Level B harassment could occur if a marine mammal is exposed to blasting outside the Danger Zone and inside the Safety Zone.

In the MCSF-BI Slipway where blasting is required to obtain channel design depth, marine mammal protection measures shall be employed, before, during, and after each blast. The following standard conditions will be incorporated into the project specifications to reduce the risk of impacts to protected species to the lowest level practicable within the project area:

(1) Establishing a Danger, Safety, and Watch Zone for confined blasting based on the maximum weight of explosives detonated. For each explosive charge placed, detonation will not occur if a marine mammal is known to be (or based on previous sightings, may be) within a circular area around the detonation site with the following radius:

$$R = 260(W)^{1/3}$$

Where:

R = radius of the Danger Zone in ft

W = weight of the explosive charge in lbs (tetryl or TNT)

(2) Confining the explosives in the borehole with drill patterns restricted to a minimum of 8 ft (2.4 m) separation from any other loaded borehole;

(3) Restricting the hours of detonation from two hours after sunrise to one hour before sunset to ensure adequate observation of marine mammals in the project area;

(4) Staggering the detonation for each explosive hole in order to spread the explosive's total overpressure over time;

(5) Capping or stemming the boreholes containing explosives with angular rock or crushed stone (sized 1/20 to 1/8 of the borehole diameter) to a minimum of 12 inches in depth in order to reduce the outward potential of the blast, thereby reducing the change of injuring a marine mammal;

(6) Matching, the extent possible, the energy needed in the "work effort" of the borehole to the rock mass to minimize excess energy vented into the water column;

(7) A protected species watch (as described in Jordan *et al.*, 2007) will be conducted by no less than six NMFS-qualified observers from a small watercraft, aircraft and/or elevated platform on the explosives barge, beginning at least 60 min before and continuing for at least 30 min after the time of each detonation, in a circular area at least three times the radius of the above described Danger Zone (this is called the Watch Zone), to ensure that there are no marine mammals in the proximity of the action area at the time of detonation;

(8) Any marine mammal(s) in the Danger Zone or the Safety Zone shall not be forced to move out of those zones by human intervention. Detonation shall not occur until the animal(s) move(s) out of the Danger Zone and/or the Safety Zone on its own volition.

(9) In the event a marine mammal is injured, seriously injured, or killed during blasting, the Contractor shall immediately notify the Contracting Officer as well as the following agencies:

a. Florida Marine Patrol "Marine Mammal Stranding Hotline" 1-800-342-5367;

b. NMFS Regional Office at 727-570-5312; and

c. USFWS Vero Beach Office at 772-562-3909; and

(10) Conducting blasts during time periods of the year when there are low marine mammal abundance densities.

In the MCSF-BI Slipway or any area where explosives are required to remove materials, marine mammal protection measures will be employed by the ACOE and USMC. For each explosive charge, the ACOE would ensure that a detonation will not occur if a marine mammal is sighted by a dedicated biologically-trained observer within the

Danger Zone, a circular area around the detonation site.

Although the area inside the Safety Zone is considered to be an area for potential injury, the ACOE, USMC, and NMFS believe that because all explosive charges will be stemmed (placed in drilled hole and tamped with rock), the areas for potential mortality and injury will be significantly smaller than this area and, therefore, it is unlikely that even non-serious injury would occur if as is believed to be the case, monitoring and mitigating this zone will be effective. Since bottlenose dolphins are commonly found on the surface of the water, implementation of a mitigation and monitoring program is expected by NMFS to be effective.

Avoiding periods when marine mammals are in the blasting zone is another mitigation measure to protect marine mammals from underwater explosions.

### Proposed Monitoring and Reporting

In order to issue an ITA for an activity, Section 101(a)(5)(D) of the MMPA states that NMFS must set forth "requirements pertaining to the monitoring and reporting of such taking." The MMPA implanting regulations at 50 CFR 216.104 (a)(13) indicate that requests for IHAs must include the suggested means of accomplishing the necessary monitoring and reporting that will result in increased knowledge of the species and of the level of taking or impacts on populations of marine mammals that are expected to be present.

The ACOE would implement a Protected Species Watch Plan. The Protected Species Watch Plan is based on the required Danger, Safety, and Watch zones and optimal observation locations. Each zone is a concentric circle whose radius is drawn from the center of the blast array. Buoys would demarcate zones where affects are possible. The Protected Species Watch Plan would consist of six observers which include at least one aerial observer, two boat-based observers, and two observers stationed at other locations (likely on the barge used to drill boreholes). The sixth observer would be placed in the most optimal observation location (boat, barge, or aircraft) on a day-by-day basis depending on the location of the blast and the placement of the dredging equipment. Observers would have the authority to halt the event if a protected species is observed inside a restricted area. This process would help to insure complete coverage of the three zones as well as any critical areas. The Protected Species Watch Plan would begin at least

one hour prior to each blast and continue for 30 min after each blast.

All observers would be equipped with marine-band VHF radios, maps of the blast zone, polarized sunglasses, and appropriate data sheets. In addition to the observation gear, all required personal protective equipment (hard hat, steel toed boots, life vest) would be worn by observers at all times with the exception of the aerial observer.

Watch hours would be restricted to between two hours after sunrise and one hour before sunset. The watch would begin at least one hour prior to the scheduled blast and would continue throughout the blast. Watch would then continue for at least 30 minutes post-blast, at which time any animals that were seen prior to the blast are visually re-located whenever possible.

If an animal is spotted inside the Danger Zone or Safety Zone and not re-sighted, no blasting would be authorized until at least 30 minutes has elapsed since the last sighting of that animal.

Proposed monitoring requirements in relation to ACOE and USMC's blasting activities would include observations made by the applicant and their associates. Information recorded would include species counts, numbers of observed disturbances, and descriptions of the disturbance behaviors before, during and after blasting activities. Observations of unusual behaviors, numbers, or distributions of marine mammals in the activity area to NMFS and USFWS so that any potential follow-up observations can be conducted by the appropriate personnel. In addition, observations of tag-bearing marine mammal, sea turtles, and fish carcasses as well as any rare or unusual species of marine mammals and fish would be reported to NMFS and USFWS.

If at any time injury or death of any marine mammal occurs that may be a result of the proposed blasting activities, the ACOE and USMC would suspend activities and contact NMFS immediately to determine how best to proceed to ensure that another injury, serious injury, or death does not occur and to ensure that the applicant remains in compliance with the MMPA.

Several mitigation measures to reduce the potential for harassment from explosive demolition activities would be (or are proposed to be implemented) implemented as part of the blasting and dredging activities. The potential risk of injury, serious injury, or mortality would be avoided with the following proposed mitigation and monitoring measures. Monitoring of the test area will continue throughout the activity

until the last detonation is complete. The activity would be postponed if:

(1) Any marine mammal is visually detected within the Danger Zone or Safety Zone. The delay would continue until the animal(s) that caused the postponement is confirmed to be outside the Danger Zone (visually observed swimming out of the range and not likely to return).

(2) Any marine mammal is detected in the Danger Zone and subsequently is not seen again. The activity would not continue until the last verified location is outside the Danger Zone and the animal is moving away from the activity area, or the animal has not been seen for at least 30 minutes within the Danger Zone.

(3) Large schools of fish are observed in the water within the Danger Zone or Safety Zone. The delay would continue until large schools are confirmed to be outside the Safety Zone.

In the event of a postponement, pre-activity monitoring would continue as long as weather and daylight hours allow. If a charge failed to explode, mitigation measures would continue while operations personnel attempted to recognize and solve the problem, i.e., detonate the charge.

Post-activity monitoring is designed to determine the effectiveness of pre-activity monitoring and mitigation by reporting any sightings of dead or injured marine mammals. Post-detonation monitoring, concentrating on the area down current of the test site, would commence immediately following each detonation and continue for at least one hour after the last detonation. The monitoring team would document and report to the appropriate organization the marine mammals killed or injured during the activity and, if practicable, recover and examine any dead animals. The species, number, location, and behavior of any animals observed by the team would be documented and reported to the project leader.

West Indian manatees, which are federally listed as Endangered under the ESA and managed by the USFWS, are not expected in the St. John's River during the time periods when the activities would be conducted. However, if manatees are sighted during the activities, the ACOE would follow similar mitigation and monitoring procedures in place for bottlenose dolphins to avoid impacts, suspending activities in any areas manatees are occupying.

The ACOE and USMC plan to coordinate monitoring with the appropriate Federal and state resource agencies, and will provide copies of all



relevant monitoring reports prepared by their contractors. After completion of all detonation and dredging events, the ACOE and USMC would submit a summary report to regulatory agencies. This report would contain the observer's logs, provide the names of the observers, and their positions during the event, the number and location of marine mammals sighted during the monitoring period, the behavior observations of the marine mammals, and the actions that were taken when the animals were observed in the project area.

The ACOE would notify NMFS and the Regional Office prior to initiation of each explosive demolition session. Any takes of marine mammals other than those authorized by the IHA, as well as any injuries or deaths of marine mammals, will be reported to the Southeast Regional Administrator, within 24 hours. A draft final report must be submitted to NMFS within 90 days after the conclusion of the blasting activities. The report would include a summary of the information gathered pursuant to the monitoring requirements set forth in the IHA, including dates and times of detonations as well as pre- and post-blasting monitoring observations. A final report must be submitted to the Regional Administrator within 30 days after receiving comments from NMFS on the draft final report. If no comments are received from NMFS, the draft final report would be considered to be the final report.

#### **Negligible Impact and Small Numbers Analysis and Determination**

50 CFR 216.103 states that "negligible impact is 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."

Based on the analysis contained herein, of the likely effects of the specified activity on marine mammals and their habitat, and taking into consideration the implementation of the mitigation and monitoring measures, NMFS preliminarily finds that the ACOE and USMC would result in the incidental take of small numbers of marine mammals, by Level B harassment only, and that the total taking from the blasting and dredging activities would have a negligible impact on the affected species or stocks of marine mammals.

#### **Impact on Availability of Affected Species for Taking for Subsistence Uses**

There is no subsistence hunting for marine mammals in the waters off of the

coast of Florida that implicates MMPA Section 101(a)(5)(D).

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

For the reasons already described in this **Federal Register** notice, NMFS has determined that the described proposed blasting activities and the accompanying IHA may have the potential to adversely affect species under NMFS jurisdiction and protected by the ESA. The ACOE and USMC requested a Section 7 consultation pursuant to the ESA with NMFS' Southeast Regional Office. Since ESA-listed species are not expected to be adversely affected by the proposed activities provided the described protected species avoidance measures for the use of explosives are implemented, a Letter of Concurrence was prepared by the NMFS Southeast Regional Office on July 22, 2009.

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

The ACOE has prepared a "Draft EA Removal of Concrete Sill and Advance Maintenance Dredging of Marine Corps Slipway, U.S. Marine Corps Support Facility Blount Island, Jacksonville, Duval County, Florida," which analyzed the project's purpose and need, alternatives, affected environment, and environmental effects for the proposed action. The EA evaluates whether to remove the concrete sill in the MCSF-BI Slipway and conduct advance maintenance dredging from -37 to -47 ft MLLW, as well as alternatives to accomplish the MCSF-BI Slipway goal. NMFS will review the ACOE and USMC's EA and the public comments received and subsequently either adopt it or conduct a separate NEPA analysis, as necessary, prior to making a determination on the issuance of the IHA. A copy of the Draft EA is available upon request (see **ADDRESSES**).

#### **Preliminary Determinations**

Based on ACOE and USMC's application, as well as the analysis contained herein, NMFS has preliminarily determined that the impact of the described blasting and dredging project will result, at most, in a temporary modification in behavior by small numbers of Atlantic bottlenose dolphin, in the form of temporarily vacating the MCSF-BI Slipway area to avoid blasting and dredging activities and potential for minor visual and acoustic disturbance from dredging and detonations. The effect of the blasting and dredging project is expected to be limited to short-term and localized TTS-related behavioral changes.

Due to the infrequency, short time-frame, and localized nature of these activities, the number of marine mammals, relative to the stock population size, potentially taken by harassment is small. In addition, no take by injury, serious injury, or death is anticipated, and take by Level B harassment will be at the lowest level practicable due to incorporation of the proposed monitoring and mitigation measures mentioned previously in this document. NMFS has further preliminarily determined that the anticipated takes will have a negligible impact on the affected species or stock of marine mammals. No injury (Level A harassment), serious injury, and/or mortality is expected or authorized for marine mammals. The provision requiring that the activity not have an unmitigable adverse impact on the availability of the affected species or stock for subsistence uses does not apply to this proposed action as there are no subsistence users within the geographic area of the proposed project.

#### **Proposed Authorization**

As a result of these preliminary determinations, NMFS proposes to issue an IHA to the ACOE for the harassment of small numbers (based on populations of the species and stock) of Atlantic bottlenose dolphin incidental to blasting and dredging operations, provided the previously mentioned mitigation, monitoring, and reporting requirements are incorporated.

#### **Information Solicited**

NMFS requests interested persons to submit comments and information concerning this proposed project and NMFS' preliminary determination of issuing an IHA (see **ADDRESSES**). Concurrent with the publication of this notice in the **Federal Register**, NMFS is forwarding copies of this application to the Marine Mammal Commission and its Committee of Scientific Advisors.

Dated: September 1, 2009.

**Helen M. Golde,**

*Deputy Director, Office of Protected Resources, National Marine Fisheries Service.*  
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