



DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
P.O. BOX 4970
JACKSONVILLE, FLORIDA 32232-0019

REPLY TO
ATTENTION OF

Planning Division
Environmental Branch

JAN 12 2009

Mr. Michael P. Payne, Chief, Permits
Office of Protected Resources
National Marine Fisheries Service
1315 East West Highway
Silver Spring, Maryland 20910

Dear Mr. Payne:

The U.S. Army Corps of Engineers (Corps), Jacksonville District, proposes to remove a 430 foot long, 32 foot wide and 14 feet thick rebar reinforced concrete sill and conduct advance maintenance dredging to a maximum depth of -47 feet MLLW in the U.S. Marine Corps slipway at the Blount Island facility (MCSF-BI Slipway). This dredging and sill removal is being evaluated under an Environmental Assessment (EA) prepared under the National Environmental Policy Act. The dredging will likely be completed using a mechanical dredge (i.e. a 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).

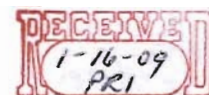
Enclosed please find the Corps' application for an Incidental Harassment Authorization under the Marine Mammal Protection Act of 1972 and a copy of the draft EA.

If you have any questions, please contact Ms. Terri Jordan at 904-232-1817 or Terri.L.Jordan@usace.army.mil.

Sincerely,

Eric P. Summa
Chief, Environmental Branch

Enclosures



Blount Island Incidental Harassment Authorization Application

1. A detailed description of the specific activity or class of activities that can be expected to result in incidental taking of marine mammals;

To achieve the removal of the concrete sill and rock in the MCSF-BI slipway, pretreatment will be required. The USACE 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.
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 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 square feet 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 will include removal of existing sill and 130,000 CYs cemented sedimentary rock. The pretreatment of the cemented rock will 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 (Figure 1).

Blount Island Channel Station Markers

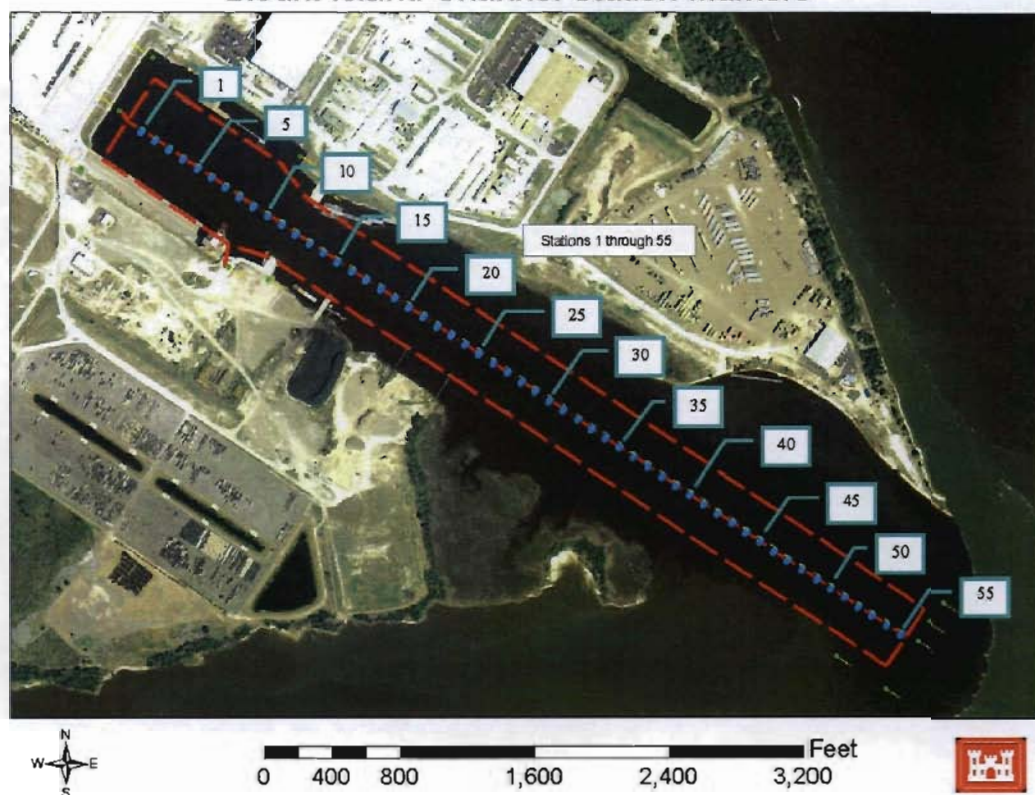


Figure 1 - Blount Island Channel Station Markers

The focus of the proposed blasting work at the Blount Island slipway is 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 5-10 feet 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.” The Corps 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 blasthole. Material must be angular to perform properly (Konya, 2003). For the MCSF-BI project, the geotechnical branch of the District will prepare project specific specifications. In the Miami Harbor project, the following requirements were in the specifications regarding stemming material:

1.22.9.20 Stemming

All blast holes 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 feet 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 subangular, 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 settling 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 blasting at Blount Island would have similar stemming requirements as those that were used for the Miami Harbor project. The length of stemming material will vary based on the length of the hole drilled, however minimum lengths will be included in the project specific specifications. Studies have shown that stemmed blasts have up to a 60-90% 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).

2. The date(s) and duration of such activity and the specific geographical region where it will occur;

The Corps 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 – March 2010, and is expected to take up to two months.

The project is located in Jacksonville, Duval County, Florida, at the MCSF-BI located on Blount Island along the St. Johns River (Figures 2 and 3). Blount Island was created as a byproduct of USACE post-World War II dredging operations in the St. Johns River. A copy of the EA for the Blount Island project is attached to this application. It provides a detailed explanation of project location as well as project implementation.



Figure 2 - Location of MSCF-BI facility along St. Johns River



Figure 3 - Close up of MSCF-BI slipway

3. The species and numbers of marine mammals likely to be found within the activity area;

BOTTLENOSE DOLPHINS

Bottlenose dolphins are very sociable and are typically found in groups of two to 15 individuals, although groups of 100 have been reported. They are opportunistic feeders, taking a wide variety of fishes, cephalopods, and shrimp. There are two forms of bottlenose dolphins: a nearshore (coastal) and an offshore form. Only the coastal form would occur within the project area (NMFS, 2008). In discussions with Dr. Quinton White of Jacksonville University, dolphins are commonly seen in the vicinity of the Dames Point Bridge west and upriver of Blount Island (pers comm. Q. White, 2008).

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. She determined there are two resident inshore populations of 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 dolphins inhabit the waters east (seaward) of the MCSF-BI facility, based on Dr. Caldwell's assessment (Figure 4). The estimated size of the Intracoastal south based on Dr. Caldwell's 2001 assessment is 145 animals and 191 animals in the St. Johns River proper. There was significant overlap between these two groups, and she classified them as one Community – the Southern Community. Using the maximum number of animals between the two groups, we will adopt a population size on 191 animals in the Southern Community.



Figure 4 - Boundaries of Southern Community home range from Caldwell, 2001.

The USACE requested that NMFS-SEFSC Marine Mammal Stranding Program at the Southeast Fisheries Science Center in Miami, Florida provide us with data for the last 15 years (1992-2007) for any stranded marine mammals in Duval County recorded by the program (this would exclude manatees as they are not covered by this program). To date, the data request has not been fulfilled.

There is not currently a stock assessment available from NMFS concerning the status of bottlenose dolphins in the inshore and nearshore waters off of Florida (Lance Garrison, pers.com 2008). The stocks of bottlenose dolphins that reside closest to the project area, that have a completed stock assessment report available for review is the western North Atlantic coastal stock and offshore stock of bottlenose dolphins. The assessment for these groups was completed in 2006 and 2005, respectively (NMFS, 2008).

RIGHT WHALE

The North Atlantic right whale (*Eubalaena glacialis*) (NAWR) is a federally listed endangered species and is also listed as a depleted stock under the MMPA. NARW are highly migratory, summering in feeding and nursery grounds in New England waters and northward to the Bay of Fundy and

the Scotian Shelf (NMFS, 2001). They migrate southward in winter to the northeastern coast of Florida. The breeding and calving grounds for the right whale occur off of the coast of southern Georgia and north Florida and have been designated as critical habitat under the ESA in 1994 (59 FR 28793). During these winter months, right whales are routinely seen close to shore in the critical habitat area.

As of NMFS March 2007 Stock Assessment report on the western Atlantic stock of the northern right whale (also called the NARW) minimum population size is currently estimated at approximately 306 animals known alive in 2001 (based on the NE Aquarium sighting catalog). No estimate of abundance with an associated coefficient of variability is available. There is disagreement in the literature as to if the population is growing, stagnant or in decline. Potential Biological Removal (PBR) for the western Atlantic right whale is calculated to be zero whales. A review of the "Large Whale Ship Strike Database" (Jensen and Silber, 2003) found five recorded ship strikes of NARW's offshore of Florida, all between Fernandina and Jacksonville from 1975 – 2002. There have been at least two additional ship strikes (one in 2003 and one in 2006) in that same area since 2002. The minimum estimated population within the north Atlantic region is 179 animals (NARC, 2007). This estimate is based solely on the whales cataloged as alive in 2005 in the New England Aquarium's right whale identification catalog. The conservative middle estimate of population is 296 individual whales. This is based on the 2005 survey data which is the sum of the 330 cataloged whales presumed alive in 2005, the 40 "inter-match" whales that were likely to be added to the catalog, 26 calves from 2004 to 2005 that were also likely to be added to the catalog. The high estimate of the current population of north Atlantic right whales is 591 individuals. This is a sum, based on 2005 survey data, of the 451 cataloged whales, minus known dead individuals; 98 active inter-match animals without calves and 42 calves (2004 and 2005 calves) minus the known dead. These numbers are based on completed analysis of 2005 survey data as of October 10, 2006 and were presented by Dr. Michael Moore of Woods Hole at the annual North Atlantic Right Whale Consortium (NARC) meeting held in New Bedford, MA during November 2006 (NARC, 2007). In 2006 a total of 19 calves were documented, resulting in an average calving interval for the 2006 calving mothers of 3.2 years. There were also five new mothers. The data for the 2007/08 season is not yet available from the NARC.

A complete assessment of NARW recovery efforts and activities is reviewed in the Recovery Plan for the "North Atlantic Right Whale (*Eubalaena glacialis*)" (NMFS, 2005)
http://www.nmfs.noaa.gov/pr/pdfs/recovery/whale_right_northatlantic.pdf.

The USACE requested initiation consultation under the ESA with NMFS regarding potential affect of the proposed project on endangered north Atlantic right whales a January 2009 Biological Assessment with a finding of "may affect, not likely to adversely affect" found in Appendix C of the EA prepared for the project.

4. A description of the status, distribution, and seasonal distribution (when applicable) of the affected species or stocks of marine mammals likely to be affected by such activities;

See responses to Question #3

5. The type of incidental taking authorization that is being requested (i.e., takes by harassment only; takes by harassment, injury and/or death) and the method of incidental taking;

The Corps and MSCF-BI are requesting authorization of incidental taking by harassment only by confined underwater blasting; acoustic harassment.

6. By age, sex, and reproductive condition (if possible), the number of marine mammals (by species) that may be taken by each type of taking identified in paragraph (a)(5) of this section, and the number of times such takings by each type of taking are likely to occur;

Bottlenose Dolphin - Since there is currently no status review or stock assessment available concerning the St. Johns River bottlenose dolphin population, we are unable to provide information concerning age, sex and reproductive condition of the animals proposed to be taken. In 2001 Dr. Martha Caldwell documented 191 individual animals residing within the boundaries of the Southern Community. She also documented that 4% of the animals in the Southern Community were neonates. She conducted sex determination for only 29 animals in her study by genetic analysis, but due to the limited size of that sampling effort, the results were not significant when compared to the entire study effort.

North Atlantic Right Whale - It is highly unlikely that a right whale would enter the river and swim 10 river miles upstream and be found adjacent to the slipway.

7. The anticipated impact of the activity upon the species or stock;

Due to the implementation of the monitoring plan and the safety zones employed during the blasting operations, the COE does not anticipate an adverse impact to marine mammals in the construction area.

8. The anticipated impact of the activity on the availability of the species or stocks of marine mammals for subsistence uses;

No subsistence use of the marine mammals that occur in or near the St. Johns River or the MSCF-BL Slipway is planned as part of this project.

9. The anticipated impact of the activity upon the habitat of the marine mammal populations, and the likelihood of restoration of the affected habitat;

Bottlenose Dolphins - The COE is unable to determine if dolphins in the area utilize the MSCF-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 MSCF-BI slipway, thus their presence in the waters adjacent to the slipway is expected. The slipway is a man-made, deadend slip with concrete walls and a rock and sand bottom. The bottom of the river adjacent to the slip is rock and sand. The COE acknowledges that while the MSCF-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 – It is highly unlikely that a right whale would enter the river and swim 10 river miles upstream and be found adjacent to the slipway.

10. The anticipated impact of the loss or modification of the habitat on the marine mammal populations involved;

There is no expected loss or modification of habitat for the populations of marine mammals in the St. Johns River located adjacent to the MSCF-BI slipway.

11. The availability and feasibility (economic and technological) of equipment, methods, and manner of conducting such activity or other means of effecting the least practicable adverse impact upon the affected species or stocks, their habitat, and on their availability for subsistence uses, paying particular attention to rookeries, mating grounds, and areas of similar significance;

As previously stated – the Corps and MSCF-BI plan to remove a sill consisting of 875,000 sq feet of reinforced concrete and 130,000 CYs of hard rock from the MSCF-BI slipway using the same confined blasting technique as utilized with at the Port of Miami project in 2005 and reviewed in Jordan, et al., 2007 and Hempen et al., 2007 (attached to this 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 –

$$\text{Danger Zone radius} = 260 (\text{lbs/delay})^{1/3}$$

$$\text{Safety Zone radius} = 520 (\text{lbs/delay})^{1/3}$$

The watch zone will be three times the Danger Zone radius.

The following standard conditions will be incorporated into the project specifications to reduce the risk to protected species within the project area.

1. In the MSCF-BI slipway where blasting is required to obtain channel design depth, the following marine mammal protection measures shall be employed, before, during and after each blast:
 - a. 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:

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

(260 times the cube root of the weight of the explosive charge in pounds)

where:

r = radius of the danger zone in feet.

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

The area described by the above equation shall be known as the danger zone.

2. A marine mammal watch will be conducted by no less than six qualified observers from a small watercraft/aircraft, at least ½ hour before and 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).
3. 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 animals(s) move(s) out of the danger zone on its own volition.
4. In the event a marine mammal or marine turtle is 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. National Marine Fisheries Service Regional Office at 727-570-5312
- c. USFWS – Vero Beach Office at 772-562-3909

12. Where the proposed activity would take place in or near a traditional Arctic subsistence hunting area and/or may affect the availability of a species or stock of marine mammal for Arctic subsistence uses, the applicant must submit either a "plan of cooperation" or information that identifies what measures have been taken and/or will be taken to minimize any adverse effects on the availability of marine mammals for subsistence uses.

N/A – the project does not take place in or near a traditional Arctic subsistence hunting area, nor will it affect availability of a species or stock of marine mammal for Arctic subsistence uses.

13. The suggested means of accomplishing the necessary monitoring and reporting that will result in increased knowledge of the species, the level of taking or impacts on populations of marine mammals that are expected to be present while conducting activities and suggested means of minimizing burdens by coordinating such reporting requirements with other schemes already applicable to persons conducting such activity. Monitoring plans should include a description of the survey techniques that would be used to determine the movement and activity of marine mammals near the activity site(s) including migration and other habitat uses, such as feeding. Guidelines for developing a site-specific monitoring plan may be obtained by writing to the Director, Office of Protected Resources; and

The Corps and MSCF-BI will rely upon the same monitoring protocol developed for the Port of Miami project in 2005 and published in Jordan et al., 2007 and attached to this application.

14. Suggested means of learning of, encouraging, and coordinating research opportunities, plans, and activities relating to reducing such incidental taking and evaluating its effects.

The Corps and MSCF-BI plan to coordinate monitoring with the appropriate federal and state resource agencies, and will provide copies of any monitoring reports prepared by their contractors.