

**MARINE MAMMAL COMMISSION**  
4340 EAST-WEST HIGHWAY, ROOM 905  
BETHESDA, MD 20814

14 June 2004

Mr. P. Michael Payne  
Chief, Marine Mammal Conservation Division  
Office of Protected Resources  
National Marine Fisheries Service  
1315 East-West Highway  
Silver Spring, MD 20910

Dear Mr. Payne:

The Marine Mammal Commission, in consultation with its Committee of Scientific Advisors, has reviewed (1) the application submitted by the U.S. Army Corps of Engineers–Jacksonville District under section 101(a)(5)(D) of the Marine Mammal Protection Act to take small numbers of bottlenose dolphins by harassment incidental to activities related to expanding and deepening the Alafia River Navigation Channel in Tampa Harbor, Florida, and (2) the National Marine Fisheries Service’s 25 May 2004 *Federal Register* notice announcing receipt of the application and requesting comments on a proposal to issue the authorization, subject to certain conditions. The Service’s notice also requests comments on the Corps’ application for regulations to govern the activity under section 101(a)(5)(A) of the Act.

Marine Mammal Commission Recommendation

The Marine Mammal Commission’s comments on this application are essentially the same as those provided in its 10 March 2004 letter to the Service on the application submitted by the U.S. Army Corps of Engineers–Jacksonville District under section 101(a)(5)(D) of the Marine Mammal Protection Act to take small numbers of bottlenose dolphins by harassment incidental to activities related to deepening the inner harbor portion of the Brunswick Harbor in Glynn County, Georgia. That is, the Marine Mammal Commission recommends that—

- prior to the applicant’s initiating blasting, the Service review and approve the applicant’s specific blasting plan, including the maximum weight of the explosives that will be used for each explosive event, the number of holes that will be drilled, the amount of explosive that will be used for each hole, the number of blasts per day, and the number of days anticipated to complete the construction to ensure that it is within the ranges of the project provided by the applicant to the Service as an example;
- prior to the applicant’s initiating blasting, the Service evaluate whether the proposed monitoring activities and observer effort are adequate to detect any marine mammals that may be within the danger or caution/safety zones calculated for a particular explosion;  
and

- all of the mitigation and monitoring activities proposed in the application and the Service's *Federal Register* notice be incorporated into the incidental harassment authorization for this project.

### Proposed Activity

The U.S. Army Corps of Engineers is requesting authorization to take small numbers of bottlenose dolphins by harassment incidental to confined blasting activities during dredging of the Alafia River Navigation Channel in northern Tampa Bay. The proposed activities may have adverse impacts on bottlenose dolphins and manatees residing near or in the Alafia River channel in the northern portion of Tampa Bay. A blasting plan has not yet been prepared for the proposed project; however, the Corps has provided the Service with a description of a completed project in San Juan Harbor, Puerto Rico, as an example of what the requested activity would entail. Dredging activities are scheduled to begin in February 2005 and to continue for 24 months.

The Service states that the potential impacts to marine mammals from explosive detonations include both lethal and non-lethal injury, as well as non-injurious harassment. The Service notes, however, that the applicant has adopted the U.S. Navy's conservative formula for protecting human divers from underwater explosives in order to calculate safety zones designated to ensure that no marine mammal or sea turtle would be seriously injured or killed as a result of the detonations. Consequently, the Service states that no take by injury or death is anticipated and that taking by harassment should be at the lowest level practicable due to incorporation of the mitigation measures proposed in the Service's *Federal Register* notice. Further, the Service has preliminarily determined that the proposed blasting and dredging activities should result, at most, in short-term, temporary modification of bottlenose dolphin behavior (including temporarily vacating the area in the vicinity of the blasting operations) to avoid the blasting activity, and the potential for minor visual and acoustic disturbance resulting from dredging and detonations. Therefore, the Service has preliminarily determined that the proposed action will have a negligible impact on the animals.

### Discussion

As with the Corps' proposed blasting/dredging activity in Brunswick Harbor, the currently proposed activity establishes a caution zone (referred to as the danger zone in the application) and a safety zone around the site of any detonations. These zones would be estimated according to the U.S. Navy's Diver Formula for protecting human divers from underwater explosives, with the key variable being the weight of the charge. The caution zone is the radius beyond which mortality is not expected to occur from an open-water blast. The safety zone is the radius beyond which "non-serious" injury (Level A harassment) to marine mammals is not expected to occur from an open-water blast. The Service and the applicant consider these estimates to be very conservative because they are based on human sensitivity. Further, they are based on unconfined (open water) charges, while the proposed detonations will be confined (buried). As noted in the Commission's letters of 4 April 2003 and 10 March 2004 (enclosed) commenting on similar requests from the Corps, if the proposed zones are sufficient to provide assurance that marine mammals are not exposed to sound pressure or energy levels that could

cause lethal injuries, then authorization under section 101(a)(5)(D) would be appropriate. However, given that the formulae for determining the caution and safety zones are based on theoretical considerations and modeling of the sound/pressure levels to which animals would be exposed, the Commission believes that the applicant should collect empirical data during its operations that could be used to assess the accuracy of the model.

According to the Service's notice, monitoring for marine mammals and sea turtles would be carried out by no fewer than two qualified observers from a small watercraft and/or an elevated platform on the explosives barge. Observations would be conducted from at least 30 minutes before to 30 minutes after each detonation to ensure that there are no animals in the area at the time of detonation. The monitoring would take place in a circular area (called the watch zone) that would be three times the radius of the caution zone. Particular attention would be focused on a circular area with a radius of two times the caution zone (the marine mammal safety zone). Any marine mammal observed in the caution zone, marine mammal safety zone, or watch zone would not be forced to move out of those zones by human intervention. Detonation would not occur until the animal moves out of the caution zone and safety zone on its own volition. The Commission notes that the observer monitoring activities described in the Service's notice are more detailed than those described in the application and recommends that the more rigorous monitoring activities be required as part of any authorization.

The Commission notes that more than 300 manatees (approximately 10 percent of Florida's manatee population) may be found in cold winter weather at the nearby Tampa Electric Company plant. Before and after periods of severe cold weather, manatees may move past the mouth of, or even enter, the Alafia River. Between about mid-November and the end of March, the operators should take extra precautions that the activities are conducted in a manner that does not affect manatees in or just outside of the Alafia River.

The Commission concurs with the general scientific assumption that the type of blasting proposed is unlikely to cause significant, long-lasting problems or changes in habitat use by marine mammals unless the animals are close to the source of a blast or exposure to blasting is frequent. We note, however, that it would be useful if the Service or the applicant conducted pre- and post-blast marine mammal surveys and monitored and mapped the distribution of high-intensity sound resulting from the shallow-water blasts.

The Commission understands that the applicant has consulted with the Fish and Wildlife Service under section 7 of the Endangered Species Act and will be required to conduct monitoring for blasting and dredging effects on manatees in the project area. A monitoring plan will be completed as a condition of the consultation process. Authorization for taking of manatees incidental to the planned activities seemingly would also be needed. As such, the Commission recommends that the National Marine Fisheries Service and the Fish and Wildlife Service coordinate their reviews of the proposed activities and any incidental taking authorizations.

Also, as noted in previous correspondence to the Service, the Commission believes that, an across-the-board definition of temporary threshold shift (TTS) as constituting no more than Level B harassment inappropriately dismisses possible injury and biologically significant

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behavioral effects (e.g., an increased risk of natural predation or ship strikes) that can result from repeated TTS harassment and from the cumulative effects of long-term exposure. The Commission therefore reiterates its recommendation that TTS be considered as having the potential to injure marine mammals (i.e., Level A harassment).

If you have any questions concerning these comments, please let me know.

Sincerely,

A handwritten signature in black ink that reads "David Cottingham". The signature is written in a cursive style with a long horizontal flourish extending to the right.

David Cottingham  
Executive Director

cc: David L. Hankla  
Stephen A. Williams