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# **FINAL REPORT**

**Marine Endangered Species Monitoring Program  
Bean Dredging  
Mobile Alabama District  
W91278-04-C-0045**

**Maintenance Project  
Mobile Bay Channel Deepening  
Dates: 07 September – 30 November 2004**

**Submitted by:**

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## **ABSTRACT**

*A twenty-four hour per day marine endangered species monitoring program was conducted onboard the hopper dredge Stuyvestant (07 September through 30 November 2004) during the Mobile, Alabama maintenance project. Endangered and threatened sea turtles Caretta caretta (loggerhead), Chelonia mydas (green), Lepidochelys kempii (Kemp's ridley), Dermochelys coriacea (leatherback) and Eretmochelys imbricata (hawksbill) were the species targeted. No incidents involving sea turtles were detected as result of dredge activity.*

## **INTRODUCTION**

The REMSA Inc. Marine Endangered Species Observer Division was subcontracted by *Bean Dredging* in the Mobile Alabama District to monitor the impact of dredging on endangered sea turtle species in the area of the dredge operation. Pursuant to agreements with the National Marine Fisheries Service (NMFS), two certified observers were required onboard during the months of prime sea turtle activity for that area to document any detected incidents involving target species.

## **SCOPE OF WORK**

*REMSA* provided the necessary trained personnel and equipment to clean and monitor inflow screens onboard the hopper dredge *Stuyvesant*. Monitoring was performed 24 hours each day starting 07 September through project completion 30 November 2004. Observers inspected and cleaned all inflow and overflow screens, and inspected both dragheads each time they were brought on deck for cleaning and maintenance. Any evidence of death or injury involving target species, the loggerhead turtle (*Caretta caretta*), green turtle (*Chelonia mydas*), Kemp's ridley turtle (*Lepidochelys kempii*), leatherback turtle (*Dermochelys coriacea*), and hawksbill turtle (*Eretmochelys imbricata*) was to be identified, logged, measured, and photographed. A load sheet was completed for each load whether or not turtle parts were found. In the case of an incident or take involving a sea turtle, incident report forms were to be completed and the observers are to contact NMFS and the ACOE within twenty-four hours of the incident. Daylight bridge watch was conducted during periods when the observer was not occupied with screen cleaning duties. Observers ensured that dredge crew personnel were aware of the need to avoid incidents involving any endangered animal, and that civil and criminal penalties are possible for harming or harassing endangered species.

## **METHODS**

Dredge coverage began when the observers arrived onboard the Dredge *Stuyvesant* (07 September through 30 November 2004) in Mobile Bay Channel Deepening, Alabama. Two certified observers were present during prime sea turtle activity working 12 hour shifts.

The dredge *Stuyvesant* functioned with 100% inflow screening with sea turtle draghead deflectors being used. The screening baskets were fitted with 4" x 4" screening material to insure that parts of targeted species would not be allowed to flow through into the hopper. All dragheads and screening baskets were checked after each load of the

observers 12-hour shift. The appropriate forms were filled out, noting any incidents regarding targeted species as well as the marine life present in the inflow and overflow boxes.

A bridge lookout was maintained during those daylight hours that the observer was not on deck checking screens. Watch was kept for turtles in the dredging area and dump site.

## **RESULTS**

There were no reported sea turtle incidents during the dredge maintenance monitoring project at Mobile Bay Channel Deepening, Alabama. A sea turtle was sighted (possible loggerhead (*Caretta caretta*)) during the daylight bridge watch conducted by the observers on 26 October 2004. The sighted turtle was observed floating dead when the dredge passed nearby enroute to the dumpsite. This observation was documented and reported immediately to the National Marine Fisheries Services, Army Corp of Engineers and Bean Dredging. This sighting did not cause any adverse affects to the project and there were no incidents involving targeted species during the dredging activity.

On 13 September 2004, Dredge *Stuyvesant* relocated to the western side of the Gulf to avoid Hurricane Ivan. The dredge took cover until 18 September 2004, (when the weather conditions were fair) to continue the dredge maintenance project in Mobile, Alabama. On 16 October 2004, Dredge *Stuyvesant* left the Mobile, Alabama project area to start on an 11 day emergency dredge maintenance project (due to the destruction of Hurricane Ivan) in Boyou Casotte Channel, Mississippi. Dredge *Stuyvesant* completed the emergency project on 26 October 2004, and started back in Mobile Bay Channel, Alabama 27 October 2004.

The dredging area was made up of large clay balls, silt, rock, mud and debris. This caused the discharge boxes to clog immediately. The observers were able to check the content of the discharge boxes by thoroughly digging through the material for any threaten or endangered turtle remains. An abundance of biological by-catch was recorded in the discharged boxes. All species were identified and recorded in daily report sheets to provide information for biological by-catch in the surrounding area (Appendix 1).

The mean sea temperature during this period averaged twenty-three 23 ° Celsius with a fluctuation of +/- 4°C. Many pods of bottlenose dolphin (*Tursiops truncatus*) were spotted throughout the bridge watches and were noted in the daily reports.

## **SUMMARY**

On 07 September 2004, the hopper dredge *Stuyvesant* began dredging in Mobile Bay Channel Deepening, Alabama. On 16 October 2004, Dredge *Stuyvesant* left the Mobile, Alabama project area to start on a 11 day emergency dredge maintenance project (due to the destruction of Hurricane Ivan) in Boyou Casotte Channel, Mississippi. Dredge *Stuyvesant* completed the emergency project on 26 October 2004, and started back in Mobil Bay Channel, Alabama 27 October 2004. Dredging was conducted for a total of eighty-five days with a total of 325 loads. No sea turtle specimens or parts thereof were

collected from the screening baskets, thus there is no evidence that there was any injury or harassment involving targeted species.

Many pods of bottlenose dolphin (*Tursiops truncatus*) were spotted throughout the bridge watches and were noted in the daily reports along with the biological by-catch. Information was recorded and copies were made for the ACOE and NMFS.

If there are any questions regarding this report please feel free to contact me at the number below.

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# **Appendix I**

## **Biological By-Catch**

## Biological By-Catch

The following is a list of species encountered in the screening baskets during the dredging project at Mobile Bay Channel Deepening, Alabama. These species were recorded on the daily load sheets.

Atlantic croaker- *Micropogonias undulates*  
Blue claw crab- *Callinectes sapidus*  
Spider crab- *Loxorhynchus spp.*  
Horseshoe crab- *Limulus polyphemus*  
Black drum – *Pogonias cromis*  
Southern stingray- *Dasyatis americana*  
Squid- *Loligo pealeii*  
Snake Eel- *Ophichthidae*  
Clearnose skate- *Raja eglanteria*  
Spotted scorpionfish- *Scorpaena plumieri*  
Hardhead catfish- *Arius felis*  
Hogchoker- *Trinectes maculatus*  
Goby- *Gobiidae*  
Speckled worm eel- *Myrophis punctatus*  
Channeled whelk- *Busycon canaliculatum*  
Knobbed whelk- *Busycon carica*  
Hard clam- *Mercenaria mercenaria*  
Blue mussel- *Mytilus edulis*  
Jellyfish- *Medusa*  
Hermit crab- *Anomura*  
Stone crab- *Menippe Mercenaria*  
Calico crab- *Hepatus epheliticus*  
Atlantic cutlassfish- *Trichiurus lepturus*  
Sand dollars- *Echinarachnius parma*  
Silver perch- *Bairdiella chrysoura*  
Spotfin tonguefish- *Soleidae*  
Mantis shrimp- *Squilla empusa*  
Yellowfin menhaden- *Brevoortia smithi*