

**ANNUAL SEA TURTLE MONITORING REPORT
MAINTENANCE DREDGING
ATLANTIC COAST – Under SA RBO
CHARLESTON DISTRICT
FISCAL YEAR 2006**

ANNUAL SEA TURTLE MONITORING REPORT

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CHARLESTON DISTRICT - FY 2006 (Cont'd.)

CHARLESTON DISTRICT
FOR ATLANTIC PROJECTS
MAINTENANCE DREDGING - FISCAL YEAR 2006

INTRODUCTION

This report is submitted in fulfillment of requirements of the Endangered Species Act and the Section 7 Consultation - Biological Opinion for the "Continued use of hopper dredging of channels and borrow areas in the southeastern United States" (No Consultation Number provided) dated September 25, 1997 (that incorporates the August 25, 1995 Biological Opinion for these activities). Specifically this report, summarizing hopper dredging operations in Fiscal Year (FY) 2006 within the Charleston District, is submitted in compliance with reasonable and prudent measure No. 6 – Reporting found in the August 25, 1995 Opinion.

The following 2 hopper maintenance dredging projects (or the portion of the project that used a hopper dredge) and the 1 beach nourishment job were completed in FY 2006.

Georgetown Harbor Entrance Channel	24 Dec. 2005 - 12 Feb. 2006
Charleston Harbor Entrance Channel	15 Dec. 2005 - 22 Jan. 2006
Debidue Beach	24 Feb. 2006 - 06 Apr. 2006

There were no hopper maintenance dredging projects started in FY 2006, that extended into FY 07.

The use of hopper dredges to maintain the navigation projects and perform the work of beach nourishment is necessary because of three factors: safety, weather conditions and productivity. These factors are closely interrelated; however, the emphasis is placed on productivity.

With regard to channels, the dredges operating in the channels must be highly mobile to rapidly maneuver out of the way of other vessels. Pipeline cutterhead and clamshell dredges are not self-propelled, and are held into position with spuds or anchors. Furthermore, the swing of the cutterhead is controlled by cables attached to the cutterhead arm. These cables are anchored along the outer limits of the channel to be dredged. Prior to moving the dredge, tenders must raise the anchors, and a towboat must be fastened to the dredge. These characteristics prevent the pipeline dredge from quickly moving out of the channel when other vessels approach. From a practical standpoint, dredges are generally not relocated for normal ship traffic; rather,

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dredging may be interrupted, but the dredge remains a stationary obstruction in half of the channel. This situation is encountered in inland bays and waterways. The use of hopper dredges along the Atlantic coast avoids such a stationary obstruction. With regard to beach nourishment work, the use of a hopper dredge is primarily for productivity.

The Charleston District schedules hopper-dredging operations during the required December 1 through March 30 window, for the Georgetown Harbor Entrance Channel and Charleston Harbor Entrance Channel. However, it is difficult to schedule all hopper-dredging projects during this time frame, due to the availability of the hopper dredge fleet. Hopper dredging priorities are developed in concert with other Corps of Engineers Districts that conduct these operations along the Atlantic and Gulf Coasts. The priorities are determined after considering the dredging needs and resident sea turtle populations within the various Districts. In addition to COE work, private and public entities obtain permits to dredge channels and nourish beaches which further restricts the availability of the existing hopper dredge fleet.

TURTLE MONITORING PROGRAM

A result of the consultation process was the requirement to document turtle takes by the dredges. In order to accomplish this task, before hopper dredging operations commenced, they were equipped such that all inflows and overflows would be screened. The configuration and location of the screens depends upon the construction of the dredge. The starting mesh size of this screening is 4-inches by 4-inches. Additionally, around-the-clock monitoring by NMFS-approved turtle inspectors was conducted in December to identify any turtles or turtle parts that were caught on these screens. Draghead deflectors were also deployed to deflect any turtles that may happen to be in, or near, the path of the draghead during excavation. The design of the deflectors is such that a sediment riffle is created ahead of the draghead, cushioning any contact with turtles thereby preventing injuries.

The observers inspected and cleaned all inflow and overflow screening at the end of each load. Dragheads and deflectors were also inspected immediately after each load, and dredge personnel were informed if repairs were necessary. Data sheets were completed daily, detailing all biological samples and debris found in the screening and dragheads. The observers also recorded the start, end and discharge times for each load, the specific location of the dredging area, the type of material being dredged, weather, tide and water temperature data, the condition of the screening, and any other pertinent information. Any sea turtle encounters or takes would be described on a separate incident report form. Additionally, all incidents would be photographed and diagrams would be made of the specimen sampled. Once documentation has

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been collected, dead specimens are discarded by the NMFS-approved observer and disposed of at the dredged material placement site (if not requested by SC DNR), thereby ensuring that these same samples would not wash ashore or be taken again by the dredge. In the case of the Debidue Beach work, had a take occurred, samples are sent ashore to be handled by the local Sea Turtle Salvage and Stranding Network (STSSN).

A bridge watch for sea turtles and marine mammals was maintained during all daylight hours. All sightings of cetaceans and sea turtles were recorded in a bridge watch logbook.

SCREEN CONFIGURATIONS

Turtle monitoring activities were conducted aboard three different hopper dredges during FY 2006. These were the *Eagle 1*, *Atchafalaya*, and *R. N. Weeks*. Each of these vessels was required to have rigid draghead deflectors, and 100% inflow screening or overflow screening with openings starting at 4" x 4."

PROJECTS

Charleston Harbor Entrance Channel O&M - Contract W912HN-06-C-0003

Eagle 1

The trawler *Winds of Fortune* conducted two trawls prior to the initiation of dredging in Charleston Harbor. They caught no sea turtles. They did capture and release an Atlantic sturgeon at the end of the first day (14 December, 2005). No turtles were netted. Details on the sturgeon are as follows:

An Atlantic sturgeon was captured on 12/14/05 by the trawler *Winds of Fortune* at 0557 hours local time during sea turtle assessment trawling prior to dredging at the Charleston Harbor Entrance.

Tow # 12

Start: 0515 at N32°42.838 x W079°47.688

End: 0557 at N32°43.097 x W079°47.955

Released at approx at 0610 hours at approx N32°42.2 x W079°47.3

The sturgeon was positively identified by trawl supervisor Carrie Singer as an Atlantic sturgeon (*Acipenser oxyrinchus*). Out of concern for getting the fish back in the water as soon as possible and because they were fighting awful sea

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conditions, the fish was quickly measured, the trawler moved offshore and to the south and the fish was released in good condition

Wind was NE at 20 - 25 knots
Seas were 6' - 7'
Sea Surface Temp: 55° F / 12.7° C
Tide was Ebbing

Sturgeon was 101cm fork length. No tags or pics.

Dredging started on 15 December, 2005 and was completed on 22 January, 2006. No sea turtles were impacted. There were no sightings, collisions, or injuries to Manatees or Right Whales. A total of 352 loads of dredged material were collected by the *Eagle 1* and deposited in the EPA designated Ocean Dredge Material Disposal Site (ODMDS). The *Eagle 1* left on 22 Jan. 06.

The dredge was equipped with rigid draghead turtle deflectors, and 100% inflow screening with a 4-inch square mesh.

Georgetown Harbor Entrance Channel O&M - Contract W912HN-06-C-0002
Atchafalaya

On December 24, 2005 the contract hopper dredge *Atchafalaya* began work on the Georgetown Entrance Channel Operations and Maintenance Dredging project. Dredged material was placed in an EPA designated ODMDS. Work was completed on February 12, 2006.

Onboard endangered species monitors were on the *Atchafalaya*. There were no incidents. There was 100% inflow screening. A total of 431 loads were dredged. Some of the water temperatures recorded and provided to this office are as follows:

12/26/05, 50.0F, 12/30/05, 50.8F, 1/8/06, 53.6F, 1/15/06, 52.0F, 2/5/06, 53.0F, 2/3/06, 53.0F, and 2/7/06, 53.0F.

The dredge was equipped with rigid draghead turtle deflectors, and 100% inflow screening with a 4-inch square mesh.

During the performance of this dredging there were no takes, trawls, or relocations. There was, however, a Northern Right Whale sighting on January 27, 2006 at 9:57 AM. That whale sighting report is attached as an appendix.

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Debidue Beach Restoration Project – Permit Number 2003-1W-309-P (REVISED)

R.N. Weeks

This regulatory permitted project involved the excavation of approximately 600,000 cubic yards of beach-quality sand from one or all of three offshore borrow areas listed in the following table:

Target Section	Minimum Distance Offshore	Acreage	Estimated Volume
Area 1A	3.0 miles	149.3	1.16 MCY
Area 1B	3.2 miles	241.6	2.40 MCY
Area 2A	3.9 miles	178.0	1.72 MCY

The trawler *Winds of Fortune* was contracted to perform the trawling at Debidue. The *WOF* owner and captain, Wayne Magwood, of Mt. Pleasant, SC, began at the Debidue borrow site at 0715 hours on 02/21/06 and continued until 0724 hours on 02/23/06. During this 48hour period, 58 consecutive tows were made. No sea turtles or shortnose sturgeon were captured, although two Atlantic sturgeon were captured and safely relocated from the borrow site.

Atlantic Sturgeon Capture Data, Trawler *Winds of Fortune*

Date	Tow	Start Time	End Time	Captured	Released	Water Temp	Total Length
2/21/2006	8	1245	1325	33°19.918 79°05.935	33°14.715 79°05.037	12°	84.5cm
2/21/2006	14	1848	1928	33°19.987 79°05.630	33°17.658 79°03.249	12°	120.7cm

COSTS

The costs incurred in performing the turtle-monitoring program during FY 2004 include the costs for equipping and maintaining screens and draghead deflectors on contractor-owned dredges, as well as providing NMFS-approved observers and relocation trawling. In addition to the direct costs are District costs for administration and oversight. Below is a table depicting the costs of monitoring and relocation trawling for FY 2006. However, this table does not include costs of administration and oversight activities conducted by SAC staff, or the unquantifiable costs associated with impacts on dredging efficiency which may result from the use of the

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draghead deflectors, and downtime experienced during cleaning of excessively fouled screens. Estimates of these increased costs are anticipated by the potential contractors during the preparation of bids, and there is no way to determine the actual value of these costs.

PROJECT	COST OF MONITORING/ COMPLIANCE EFFORTS	COST OF TRAWLING/ RELOCATION EFFORTS
Charleston Harbor Entrance Channel	\$18,500	\$ 3,000
Georgetown Harbor Entrance Channel	\$37,500	None
Debidue Beach Restoration Project	\$24,000*	\$ 9,000*
TOTAL	\$80,000	\$12,000

* Approximate Values provided by Coastwise Consulting, Inc. on October 18, 2006.

SUMMARY

During Fiscal Year 2006, two maintenance-dredging projects and one beach restoration project were completed by hopper dredges. No turtles were taken at any of these jobs, but 3 Atlantic sturgeon were captured and relocated, and a Northern Right Whale was sighted at Georgetown Harbor. One sturgeon was captured from the Charleston Harbor Entrance Channel project and two sturgeon from the Debidue Beach borrow areas.

Whale Sighting Report
Georgetown Harbor Dredging

ENDANGERED SPECIES OBSERVER PROGRAM

Large Whale Observation Data

(Append to Daily Report)

Vessel M/V Atchafalaya (B+B Dredge Co.)

Project Georgetown Entrance Channel (SC)

Date 01 / 27 / 06

Time: Start 0812 End 0913 Duration 1000
 Location (lat/long) 33°12.947' N X 79°11.249' W Bear Sea State 4-5 @ sighting area
 Direction NE Speed 15-20 kts Cloud Cover (%) 60 Surf Temp 50°F

Time of Sighting 0957 Vessel location (lat/long) 33°10.888' N X 79°06.172' W
 Vessel heading to sighting 140° magnetic Estimated distance 50 meters
 Species observed Northern Right Whale # of animals 1
 Vessel heading 120.2° True Animal's heading South @ 180.3° T

Estimated length of whale(s) 15 meters
 Coloration black (broad smooth back - finless)
 Flippers observed black fluke with smooth concave margin
 Blows observed V-shaped blow, arching breach with fluke visible
 Breach intervals (time and distance) on or just partially beneath surface during sighting

Ending Time 1000 Vessel location (lat/long) 33°10.877' N X 79°06.159' W
 Duration of observation 3 minutes

Comments (was whale's behavior effected by vessel? how far and in what direction did whale(s) move during sighting? who was notified?)

Dredge en route to disposal area. Observer spotted V-shaped blow above wave crests 2 crests off port bow & alerted mate. Whale then became visible in trough of wave. Dredge slowed from 4 knots to 2 knots and maneuvered to avoid whale. Whale was moving slowly southbound (to ship's starboard). Mammal appeared unaffected by ship's passage and continued southbound on or just beneath the surface for 3 minutes before showing fluke and diving. USACE Insp. Richard Thomas was on bridge & photographed whale. He also called his office to report sighting. USCG Station Georgetown notified immediately on VHF Ch. 16 & 22A. They broadcast a Notice to Mariners within minutes of our report. Area marine mammal team called also & advised they would send observation aircraft (Allison Glass, Wildlife Trust - Charleston). B+B Project Mgr. D. J. Briley & Dredge's Capt. D. Pilgram were on bridge during sighting.

Observer on Duty: Brad Davis East Coast Observers, Inc.

