

ANNUAL SEA TURTLE MONITORING REPORT
SAVANNAH DISTRICT
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 Savannah District, is submitted in compliance with reasonable and prudent measure No. 6 – Reporting found in the August 25, 1995 Opinion.

The following hopper maintenance dredging projects (or the portion of the project that used a hopper dredge) were completed in FY 2006.

Brunswick Harbor Bar Channel	10 March 2006 – 20 March 2006
Savannah Harbor Bar Channel	21 March 2006 – 4 April 2006

The Savannah District schedules hopper-dredging operations during the winter months (1 December through 31 March), as recommended by SAD, when water temperatures are cool and the risk of taking sea turtles is low.

TURTLE MONITORING PROGRAM

As result of the consultation process, the requirement to document turtle takes by the dredges was devised. In order to accomplish this task, before hopper dredging operations commenced, they are equipped such that all inflows and overflows are 100% screened with a 4" X 4" mesh size. The configuration and location of the screens depends upon the construction of the dredge. Additionally, 24-hour monitoring by NMFS-approved turtle observers is conducted to identify any turtles or turtle parts that may be caught on these screens. Draghead deflectors are 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, when plowing at approximately a 6" depth, a sediment wave is created ahead of the draghead cushioning any contact with benthic-oriented turtles and thereby preventing injuries. As a component of the project specifications, the contractor is required to submit drawings of the turtle deflector attachment to the draghead as well as the approach angles that are necessary to attain the required 6" plowing depth for the given project depths. These submittals are reviewed and inspected prior to commencement of hopper dredging projects.

The observers inspect and clean all inflow and overflow screening at the end of each load. Dragheads and deflectors are also inspected immediately after each load, and dredge personnel are informed of any necessary repairs. Data sheets are completed daily, detailing all biological

samples and debris found in the screening and dragheads. The observers also record 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 are described on a separate incident report form. Additionally, all incidents are photographed and diagrams are made of the specimen sampled. Once documentation has been collected, observers coordinate with the Savannah District office in order share the specimens with the North Carolina Wildlife Commission and the National Marine Fisheries Service lab in Beaufort, NC to be used for scientific purposes.

A bridge watch for sea turtles and marine mammals is maintained during all daylight hours, except when the observer is off the bridge, cleaning and inspecting the screens and dragheads. All sightings of cetaceans and sea turtles were recorded in a bridge watch logbook. Specific sightings of right whales are reported separately and forms are sent to the District office for reporting purposes.

SCREEN CONFIGURATIONS

Turtle monitoring activities were conducted aboard the *Atchafalaya* during FY 2006. This vessel was required to have rigid draghead deflectors, and 100% inflow screening or overflow screening with openings starting at 4" x 4."

PROJECTS

Brunswick Harbor Channel, Glynn County, GA *Atchafalaya*

Contract #W912HB-06-C-0014 included maintenance dredging for both Brunswick and Savannah Bar Channels. The Brunswick work included only the navigation channel from the bridge to Station 0+000 (no work in the bar). The contract was awarded on 2/10/06 and NTP issued on 3/1/06. The contractor B+B Dredging performed the work in Brunswick using the *Atchafalaya* from 3/10/06 through 3/20/06 for a total of 10 days (239 hours) of dredging time. A total of 61 loads were performed and approximately 57,507 cubic yards of sands and silts was excavated from the channel and placed in Brunswick Harbor nearshore feeder berm "D" south of the channel. A sea turtle compliance inspection was performed in accordance with the "COE Sea Turtle Inspection Checklist for Hopper Dredges (Attachment 3)." The dredge's one dragarm was equipped with a rigid draghead turtle deflector. Inflow screening was in place and, during normal flow conditions, was 100%. NMFS-approved turtle observers, East Coast Observers, provided 24-hour/day monitoring of dragheads and screens for each load cycle. Relocation trawling was not conducted at Brunswick Harbor under this contract. Copies of the observer reports were provided to Craig Theriot, a CSC contractor at the U.S. Army Engineer Research and Development Center (ERDC). No sea turtle takes occurred during the dredging operation.

*Savannah Harbor Bar Channel, Chatham County, GA
Atchafalaya*

Contract #W912HB-06-C-0014 included maintenance dredging for the Savannah Harbor bar channel. The contractor B+B Dredging performed the work in the Savannah bar channel using the Atchafalaya from 3/21/06 through 4/4/06 for a total of 12 days (271 hours) of dredging time. A total of 141 loads were performed and approximately 88,194 cubic yards of sands and silts was excavated from the channel and placed in Savannah Harbor nearshore feeder berm "5" south of the channel. Four sea turtle takes occurred during the project (see Table 2, below). On 27 March, after the second project take of a Kemp's, the District told the Contractor to stop dredging and coordinated with SAD. SAD concurred in resuming dredging with relocation trawling. Relocation trawling was begun at 2130 on 28 March 06 and dredging recommenced at 2331 on 28 March 06. A total of 159 tows were made, with the last one ending on 4/4/06 at 0524. Two Atlantic Sturgeon were captured by the trawler, one on tow #135 near buoy #6 (FL 133 cm) at 0635 and one on tow 148 between buoys 6 and 8 (FL 115 cm) at 1852. One juvenile Kemp's Ridley Sea Turtle was captured on tow #84 between buoys 6 and 8 at 0518. Copies of the observer reports were provided to the U.S. Army Engineer Research and Development Center (ERDC) for uploading to the "Sea Turtle Data Warehouse."

Turtle takes were as follows:

On 22 March, during load #71 ending at 1852, Kemp's ridley sea turtle parts of unknown age were found in the forward lander screen. Water temperature (surface) at the time of take was 57 degrees Fahrenheit. Dredging continued.

On 27 March, during load #123 ending at 0408, a sub-adult Kemp's sea turtle was found in both landers and the turtle box. Water temperature (surface) at the time of take was 57 degrees Fahrenheit. Additional parts were found in load #125 that ended at 0719 on 27 March. Dredging operations halted by District after being informed of second Kemp's take. Dredge placed on stand-by. A risk assessment concluded work could resume with relocation trawler. Dredging operations resumed with arrival of trawler at 2331 on March 28 (load #126). Trawler was F/V Sara Ann, captained by Terry Paa and Brad Bennett.

On 1 April, during load #174 ending at 2315, parts of a loggerhead sea turtle of unknown age were found in the middle and aft lander screen. Dredging continued.

On 4 April, during load #202 ending at 0539, a juvenile Kemp's was found in the aft lander. Project was terminated upon take of third Kemp's ridley.

COSTS

The costs incurred in performing the turtle-monitoring program during FY 2006 include the costs for equipping and maintaining screens and draghead deflectors on contractor-owned dredges, as well as providing NMFS-approved observers. In addition to the direct costs are District costs for administration and oversight. Table #1 depicts the costs of monitoring and dredge inspection for FY 2006. However, this table does not include costs of administration and

oversight activities conducted by SAS staff, the costs for equipping and maintaining screens and draghead deflectors, the unquantifiable costs associated with decreased dredging efficiency which may result from the use of the 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.

SUMMARY

During Fiscal Year 2006, two maintenance-dredging projects were performed using hopper dredges. Four turtles were taken lethally by the projects conducted in FY2006. Table #2 summarizes lethal turtle encounters. Relocation trawling was performed between 28 March and 4 April in association with the Savannah Harbor hopper dredging project in FY2006. Two Atlantic Sturgeon and one juvenile Kemp' Ridley Sea Turtle were relocated.

TABLE #1
 COSTS ASSOCIATED WITH PROTECTION OF SEA TURTLES
 DURING HOPPER DREDGING
 SAVANNAH DISTRICT
 MAINTENANCE DREDGING
 FY2006

PROJECT	COST OF MONITORING (\$500/day)	COST OF TRAWLING EFFORTS	Dredge Stand-by Cost	COSTS OF INSPECTIONS
Brunswick Harbor Ocean Bar, GA	\$5,100	NA		\$600
Savannah Harbor Ocean Bar, GA	\$6,300	48,000	17,505	\$600
TOTAL	\$11,400	\$48,000	\$17,505	\$1,200

TABLE #2
 INCIDENTAL TAKES OF SEA TURTLES
 SAVANNAH DISTRICT
 MAINTENANCE DREDGING
 FY 2006

Date Taken	Project	Dredge	Channel Reach	Water Temp. (°C)	Species and Authorized Incidental Take per Fiscal Year			
					Kemp's ridley 7	Loggerhead 35	Green 7	Hawksbill 2
22 Mar 2006	Savannah Harbor Bar	Atchafalaya	40+000 to 46+500	13.9	1			
27 Mar 2006	Savannah Harbor Bar	Atchafalaya	40+000 to 46+500	13.9	1			
1 Apr 2006	Savannah Harbor Bar	Atchafalaya	40+000 to 46+500	13.9		1		
4 Apr 2006	Savannah Harbor Bar	Atchafalaya	40+000 to 46+500	15.6	1			
TOTAL TAKE					3	1	0	0