ANNUAL SEA TURTLE MONITORING REPORT
MAINTENANCE DREDGING/BEACH NOURISHMENT
GULF OF MEXICO COAST
MOBILE DISTRICT
FISCAL YEAR 2007

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FOR GULF OF MEXICO PROJECTS
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INTRODUCTION

This report is submitted in fulfillment of requirements of the Endangered Species Act and the Section 7 Consultation - Biological Opinion concerning Dredging of Gulf of Mexico Navigation Channels and Sand Mining ("Borrow") Areas Using Hopper Dredges by COE Galveston, New Orleans, Mobile, and Jacksonville Districts (Consultation Number F/SER/2000/01287) dated November 19, 2003 and amended on June 24, 2005 and January 9, 2007. Specifically this report, summarizing hopper dredging operations in Fiscal Year (FY) 2007 within the Mobile District, is submitted in compliance with Reasonable and Prudent Measure, Nos. 3 and 9.

The following Mobile District Civil Works hopper maintenance dredging projects were completed in FY 2007. No Civil Works shore protection projects were conducted in FY 2007.

Mobile Harbor	October 03, 2005 - November 11, 2006
	March 07, 2007 to May 26, 2007
	May 26, 2007 to July 17, 2007
	July 20, 2007 to August 10, 2007
	August 05, 2007 - August 30, 2007
Pascagoula Ship Channel	April 27, 2007 to May 1, 2007
Gulfport Harbor	June 01, 2007 to June 8, 2007

No Regulatory hopper dredging work was conducted by the Mobile District in FY 2007.

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

The dredges operating in navigation channels must be highly mobile to rapidly maneuver out of the way of other vessels. Pipeline cutterhead dredges are not self-propelled, and are held into position with

spuds. 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, 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 avoids such a stationary obstruction.

Weather conditions also affect the safety of the dredge and crew. Pipeline dredges were not designed to operate in open-sea conditions (such as the bar areas). Due to the reasons stated above, these dredges cannot rapidly demobilize in harsh weather, for example, as a hurricanes approaches. The pipelines used to transport the dredged material to the placement sites would also be highly susceptible to breaking during rough weather. Even in relatively sheltered bays, cutterhead dredges often stop dredging in rough weather, and during frontal passages. During these periods, only water is pumped to keep tension on the pipelines to prevent breaking. In the open Gulf of Mexico, this precaution would not be effective, even if it were possible to leave the dredge offshore. During relatively calm weather conditions, only the largest cutterhead dredges would be able to operate efficiently. Sea swells make it difficult to control the depth of the cutterhead; consequently, this affects the dredging operation.

Productivity of the dredging operation is important because the purpose of dredging is to remove shoals and provide a safe depth for waterborne traffic. The use of pipeline dredges in the open Gulf of Mexico Ocean would result in frequent relocations, or other interruptions, due to weather and traffic conditions. Consequently, it would take longer to remove shoals, which present a hazard to safe navigation. The longer the time to remove the shoals, the longer a dredge must be on site to maintain the channel. The presence of the dredge and pipeline, themselves, present an obstruction to safe navigation. For these reasons, hopper dredges are used to maintain deep-draft entrance channels and construct many shore protection projects in the Mobile District.

The Mobile District sometimes has to schedule hopper-dredging operations outside of the required December 1 through April 15 window due to the lack of equipment (dredges are on the Atlantic coast during this described period). The Mobile District tries to schedule as much of its hopper dredging during the December 1 through April 15 timeframe as possible. However, it is impossible to schedule all hopper-dredging projects during this time frame, due to the availability of the hopper dredge fleet. Hopper dredging priorities for the Mobile District 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.

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 protected species observer(s) was conducted 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 were described on a separate incident report form. Additionally, all incidents were photographed and diagrams were made of the specimen. Once documentation had been collected, dead specimens were properly discarded by the NMFS-approved protected species observer(s).

A bridge watch for sea turtles and marine mammals was maintained during all daylight hours, except when the observer was off the bridge, cleaning and inspecting the screens and dragheads. All sightings of cetaceans and sea turtles were recorded in a bridge watch logbook.

SCREEN CONFIGURATIONS

Turtle monitoring activities were conducted aboard 3 different hopper dredges during FY 2007. These were the *Bayport*, *Newport* and *Glenn Edwards*. 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

Civil Works Projects in FY 2007

Mobile Harbor – Bay Channels

Glenn Edwards

On October 3, 2006 the *Glenn Edwards* began work under a new contract on the Mobile Harbor- Bay Channel under contract W19278-06-D-0039. The contractor dredged approximately 475,472 cy. The required depth of dredging was 45 feet below Mean Lower Low Water (MLLW) with 2 feet of allowable overdepth dredging and 2 feet of advanced maintenance dredging.

Dredging began on October 3, 2006 and was completed on November 11, 2006. A total of 280 loads of dredged material were collected during 39 dredging days and deposited in the Mobile North Ocean Dredged Material Disposal Site (ODMDS).

The dredge was equipped with rigid draghead turtle deflectors, and 100% inflow screening with a 4-inch square mesh. NMFS-approved protected species observers provided 24-hour/day monitoring of dragheads and screens for each load cycle. The observers were employed by Coastwise, Inc. under a subcontract to the government. No relocation trawling was conducted during this work.

During the performance of this dredging, no lethal takes were observed.

Detailed information for this project can be accessed from the Corps' Sea Turtle Data Warehouse website – specifically at http://el.erdc.usace.army.mil/seaturtles.

Mobile Harbor – Bay & River Channels

Glenn Edwards

On March 7, 2007 the *Glenn Edwards* began work on the Mobile Harbor - Bay Channel under a new contract W19278-07-D-0001. The contractor dredged approximately 986,844 cy. The required depth of dredging was 45 feet below MLLW with 2 feet of allowable overdepth dredging and 2 feet of advanced maintenance dredging.

Dredging began on March 7, 2007 and was completed on May 26, 2007. A total of 176 loads of dredged material were collected during 48 dredging days and deposited in the Mobile North ODMDS.

The dredge was equipped with rigid draghead turtle deflectors, and 100% inflow screening with a 4-inch square mesh. NMFS-approved protected species observers provided 24-hour/day monitoring of

dragheads and screens for each load cycle. The observers were employed by Coastwise, Inc. under a subcontract to the government. No relocation trawling was conducted during this work.

During the performance of this dredging, no lethal takes were observed.

A sea turtle stranding was reported about 0.25 miles east of Fort Morgan on April 13, 2007 (lat: 30 deg. 13.876' long: -88 deg. 00.483'). According to the Sea Turtle Stranding Network there was blunt trauma to the nachal area behind the neck and rear left leg of the carparse, which may have been caused by a dredge. The *Glenn Edwards* had demobilized on April 8, 2007 and did not return to the Mobile Harbor until May 1, 2007. According to NOAA Fisheries the turtle was at most 2 to 3 days dead when it stranded. The only other reported dredge working in the area during this time period was a small hydraulic cutterhead dredge. This dredge was excavating material from a permitted borrow area north of Dauphin Island in the Mississippi Sound.

Detailed information for this project can be accessed from the Corps' Sea Turtle Data Warehouse website – specifically at http://el.erdc.usace.army.mil/seaturtles.

Pascagoula Harbor – Bar Channel
Glenn Edwards & Newport

On April 27, 2007 the *Glenn Edwards* and *Newport* began work on the Pascagoula Harbor Channel under a new task order to contract W9178-07-D-0001. The contractor dredged approximately 231,573 cy of sand and silt material (139,687 cy by the *Glenn Edwards* and 91,886 cy by the *Newport)*. The required depth of dredging was 38 feet below MLLW with 2 feet of allowable overdepth dredging and 2 feet of advanced maintenance dredging.

Dredging began on April 27, 2007 and was completed on May 1, 2007. A total of 79 loads (37 loads by *Glenn Edwards* and 42 loads by *Newport*) of dredged material were collected during 10 dredging days. Material was disposed of in authorized open water and littoral zone placement sites.

The dredges were equipped with rigid draghead turtle deflectors, and 100% inflow screening with a 4-inch square mesh. Two NMFS-approved protected species observers provided 24-hour/day monitoring of dragheads and screens for each load cycle. The observers were employed by Coastwise, Inc. under a subcontract to the government. No relocation trawling was conducted during this work.

During the performance of this dredging, one lethal loggerhead turtle take was experienced. This take occurred on April 29, 2007, in load No. 19. The water temperature during this take was 26°C.

Detailed information for this project, including incidental take forms can be accessed at the Corps' Sea Turtle Data Warehouse website – specifically at http://el.erdc.usace.army.mil/seaturtles.

Mobile Harbor – Bay Channel
Glenn Edwards

On May 26, 2007 the *Glenn Edwards* began work on the Mobile Harbor Bay Channel under a new task order to contract W19278-07-D-0068. The contractor dredged approximately 1,366,164 cy. The required depth of dredging was 45 feet below MLLW with 2 feet of allowable overdepth dredging and 2 feet of advanced maintenance dredging.

Dredging began on May 26, 2007 and was completed on July 17, 2007. A total of 259 loads of dredged material were collected during 54 dredging days and deposited in the Mobile North ODMDS.

The dredge was equipped with rigid draghead turtle deflectors, and 100% inflow screening with a 4-inch square mesh. NMFS-approved turtle observers provided 24-hour/day monitoring of dragheads and screens for each load cycle. The observers were employed by Coastwise, Inc. under a subcontract to the government. No relocation trawling was conducted during this work.

During the performance of this dredging, no lethal takes were observed.

Detailed information for this project can be accessed from the Corps' Sea Turtle Data Warehouse website – specifically at http://el.erdc.usace.army.mil/seaturtles.

Gulfport Harbor Navigation Channel – Bar Channel
Newport

On June 1, 2006 the *Newport* began work on the Gulfport Harbor Bar Channel under a new task order to contract W91278-07-D-0068. The contractor dredged approximately 200,828 cy of shoal material. The required depth of dredging was 38 feet below MLLW with 2 feet of allowable overdepth dredging and 2 feet of advanced maintenance dredging.

Dredging began on June 1, 2007 and was completed on June 8, 2007. A total of 204 loads of dredged material were collected during 8 dredging days and deposited in the authorized littoral zone placement site between 14 and 22 feet below MLLW.

The dredge was equipped with rigid draghead turtle deflectors, and 100% inflow screening with a 4-inch square mesh. Two NMFS-approved protected species observers provided 24-hour/day monitoring of dragheads and screens for each load cycle. The observers were employed by Coastwise, Inc. under a subcontract to the government. In addition, relocation trawling was conducted around the clock during hopper dredging. All trawling was properly conducted and supervised (i.e., observing trawl speed and tow-time limits, and taking adequate precautions in the release of captured animals). In all, 1 loggerhead, 1

leatherback, and 1 Kemps ridley sea turtle was successful relocated (no evidence of serious injury or mortality). Sea turtle tagging and relocation reports are on file. During the performance of this dredging, no lethal takes were observed.

Detailed information for this project, can be accessed from the Corps' Sea Turtle Data Warehouse website – specifically at http://el.erdc.usace.army.mil/seaturtles.

Mobile Harbor – Bay Channel
Glenn Edwards

On July 20, 2007 the *Glenn Edwards* began work on the Mobile Harbor Bay Channel under a new task order to contract W91278-07-0087. The contractor dredged approximately 546,213 cy. The required depth of dredging was 45 feet below MLLW with 2 feet of allowable overdepth dredging and 2 feet of advanced maintenance dredging.

Dredging began on July 20, 2007 and was completed on August 10, 2007. A total of 94 loads of dredged material were collected during 22 dredging days and deposited in the Mobile North ODMDS.

The dredge was equipped with rigid draghead turtle deflectors, and 100% inflow screening with a 4-inch square mesh. NMFS-approved turtle observers provided 24-hour/day monitoring of dragheads and screens for each load cycle. The observers were employed by Coastwise, Inc. under a subcontract to the government.

During the performance of this dredging, no lethal takes were observed.

Detailed information for this project can be accessed from the Corps' Sea Turtle Data Warehouse website – specifically at http://el.erdc.usace.army.mil/seaturtles.

Mobile Harbor –Bar Channel
Bayport and Newport

On August 5, 2007 the *Bayport* began work on the Mobile Harbor Bar Channel under a new task order to contract W91278-07-D-0087. The *Newport* began work on the Mobile Harbor Bar Channel on August 11, 2007. The contractor dredged approximately 1,011,998 cy (796,004 by *Bayport* and 215,954 by *Newport*). The required depth of dredging was 47 feet below MLLW with 2 feet of allowable overdepth dredging and 2 feet of advanced maintenance dredging.

Dredging began on August 5, 2007, and was completed on August 30, 2007. A total of 476 loads (363 by *Bayport* and 113 by *Newport*) of dredged material were collected during 36 dredging days and deposited in

the Sand Island Beneficial Use Disposal Area.

The dredge was equipped with rigid draghead turtle deflectors, and 100% inflow screening with a 4-inch square mesh. NMFS-approved turtle observers provided 24-hour/day monitoring of dragheads and screens for each load cycle. The observers were employed by Coastwise, Inc. under a subcontract to the government. In addition, relocation trawling was conducted around the clock during hopper dredging for the time period of August 4, 2007 to August 20, 2007. All trawling was properly conducted and supervised (i.e., observing trawl speed and tow-time limits, and taking adequate precautions in the release of captured animals). No sea turtles or Gulf sturgeon were relocated during this work.

During the performance of this dredging, no lethal takes were observed.

Detailed information for this project can be accessed from the Corps' Sea Turtle Data Warehouse website – specifically at http://el.erdc.usace.army.mil/seaturtles.

Regulatory Projects in FY 2007

No hopper dredging work was preformed under the Mobile District Regulatory program during FY 2007. A short non-hopper project with relocation trawling due to the use of a bed leveler/I-beam equipment to lay fiber optic cable was conducted during the last week of the FY 2007. The observers were employed by Coastwise, Inc. under a contract to the permittee, BP Exploration and Product, Inc. In all, 1 Kemps ridley sea turtle was successful relocated (no evidence of serious injury or mortality).

Detailed information for this project can be accessed from the Corps' Sea Turtle Data Warehouse website – specifically at http://el.erdc.usace.army.mil/seaturtles.

SUMMARY

During Fiscal Year 2007, 7 maintenance-dredging projects were constructed using hopper dredges. In FY 2007, 1 turtle was taken lethally by the dredging of these projects. Relocation trawling was conducted during 2 of the 7 civil works dredging projects and during one Regulatory non dredging project. In all, 4 turtles were successful relocated (no evidence of serious injury or mortality). Table #1 summarizes some of the costs associated with implementation of the Terms and Conditions of the GRBO. Table #2 summarizes lethal and nonleathal turtle encounters. Table #3 summarizes the catch per unit effort for relocation trawling efforts associated with projects utilizing a hopper dredge.

TABLE #1
FY 2007 COSTS ASSOCIATED WITH PROTECTION OF SEA TURTLES
DURING MOBILE DISTRICT HOPPER DREDGING

PROJECT	COST OF OBSERVER	COST OF RELOCATION EFFORTS
Mobile Harbor	$48,600.00	$50,000.00
Pascagoula Harbor	$3,600.00	$19,525.00
Gulfport	$4,050.00	0
Total	$56,250.00	$69,525.00

TABLE #2
FY 2007 INCIDENTAL TAKES OF SEA TURTLES &GULF STURGEON
MOBILE DISTRICT MAINTENANCE DREDGING/BEACH RENOURISHMENT

Date Taken	Project	Dredge/Trawl	Water Temp. (°C)	Gulf sturgeon	Kemp's ridley	Loggerhead	Green	Leatherback
4/29/2007	Pascagoula	Newport	26		1			
6/1/2007	Gulfport	Bayport/Capt. Wick	26					1*
6/6/2007	Gulfport	Bayport/Capt. Wick	26			1*		
6/8/2007	Gulfport	Bayport/Capt. Wick	26		1*			

*Non lethal/Non injurious incidentally taken during relocation efforts

TABLE #3
FY2007 CATCH PER UNIT EFFORT – TRAWLING VS SEA TURTLES &GULF STURGEON
MOBILE DISTRICT MAINTENANCE DREDGING/BEACH RENOURISHMENT

Project Name	Number of Tows	Number of Turtles Captured	Number of Gulf sturgeon Captured	Catch per Unit Effort
Gulfport	211	3	0	0.016
Mobile Harbor	398	0	0	0
TOTALS	609	3	0	0.005

ANTICIPATED FISCAL YEAR 2008 HOPPER DREDGING

Civil Works Anticipated Hopper Dredging Projects for FY 2008

Schedule For FY-08 Dredging Work for Mobile District
South Atlantic Division

SAM Dredging Program

Hopper
Bucket
Pipeline
Existing Contract
FY 08
Updated Sep 2007

Project	Contractor & Dredge	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
Mobile Bay/Bar (Rental) Hopper	Manson - Glenn E.														
Mobile Bay/Bar (Rental) Hopper	Bid Opening by Amendmen														
Mobile Bay/Bar (Rental) Hopper	Bid Opening by Amendmen														
Mobile Bay/Bar (Rental) Hopper	Bid Opening by Amendmen						Hurricane Contingency Solicitation								
Panama City Beach Nourishment (Unit Price) Hopper	TBD 500,000 CY														
Mobile Harbor Extensions 1200/2100 (Unit Price) Bucket	Bid Opening 15 Nov 07														
Gulfport Harbor Improvements (Unit Price) Bucket/Hopper	Bid Opening 8 April 5.4Mcy														
Mobile River Bucket/Pipeline (Unit Price)	Bid Opening TBD 800Kcy														
Pascagoula Harbor Improvements Bucket/Hopper	Bid Opening 17 June 8.0Mcy														
Pascagoula Sound/Horn Island Pass/Gulfport Pipeline (Unit Price)	Weeks Ellefson	Pasc	Gulfport		Pasc		Theodore								
BWT/GIWW/Ala River (Rental) Pipeline	Mike Hooks E. Stroud	Ala River		GIWW			Biloxi								
Harrison County Beaches (Unit Price) Pipeline	800KCY Gulf Sand and Gravel														
BWT/Alabama River (Rental) Pipeline	Bid Opening TBD														
Tenn-Tom/GIWW (Rental) Pipeline	Bid Opening TBD														

Regulatory Anticipate Hopper Dredging Projects for FY 2008

No Regulatory hopper dredging projects are anticipated for FY 2008.