

**ANNUAL SEA TURTLE MONITORING REPORT
MOBILE DISTRICT
FOR GULF OF MEXICO PROJECTS
MAINTENANCE DREDGING AND BEACH NOURISHMENT - FISCAL YEAR 2006**

INTRODUCTION

This report is submitted in fulfillment of requirements of the Endangered Species Act and the Section 7 Consultation – Regional Biological Opinion for the “Use of Hopper Dredges to Dredge Navigation Channels and Borrow Use Sites in the Southeastern U.S. and the Gulf of Mexico” dated November 19, 2003. Specifically this report, summarizing hopper dredging operations in Fiscal Year (FY) 2006 within the Mobile District, is submitted in compliance with Section 9.0 Reasonable and Prudent Measure, Nos. 3 and 9 – Reporting found in the November 19, 2003 Opinion.

The following hopper maintenance dredging/shore protection projects (or the portion of the project that used a hopper dredge) were started in FY 2005, but extended into FY 2006.

Panama City Beach Shore Protection Project: 15 April 2005 to 24 March 2006

Mobile Harbor: 4 May 2005 to 16 October 2005

Pensacola Naval Air Station Channel: 13 September 2005 to 27 December 2005

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

Pascagoula Harbor: 9 October to 20 October 2005

Gulfport Harbor Navigation Channel (Bar Channel): 4 November 2005 to 13 December 2005

Mobile Harbor: 16 October 2005 to 3 April 2006

27 January to 30 March 2006

25 April to 11 June 2006

07 June to 11 July 2006

15 July to 18 July 2006

Orange Beach/Gulf State Park/Gulf Shores Beach Restoration Project:

19 March 2006 to 13 May 2006

The following hopper maintenance dredging/shore protection project was stated in FY 2006 but will be completed in FY 2007.

No dredging to report.

The use of hopper dredges to maintain these navigation and shore protection 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), and most shore protection projects borrow areas require vessels that can operate in open-sea conditions. Due to the reasons stated above, these dredges cannot rapidly demobilize in harsh weather, for example, as a hurricane 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 turtle inspectors 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 would be described on a separate incident report form. Additionally, all incidents would be photographed and diagrams would be made of the specimen. Once documentation has been collected, dead specimens are discarded by the NMFS-approved observer and disposed of at the dredged material placement site, thereby ensuring that these same samples would not wash ashore or be taken again by the dredge.

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 8 different hopper dredges during FY 2006. These were the MacFarland, Eagle I, B.E. Lindolm, Bayport, Newport, Columbia, Glenn Edwards, and Atchafalaya. 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

Continued from FY 2005

Panama City Beach Shore Protection Project

B.E. Lindolm

The *Beach Builder*, a hydraulic pipeline dredge began dredging on April 15, 2005 and continued through September 22, 2005, for a total of 91 dredging days. During this period, the dredge shut down due to swells from hurricanes Dennis (July 6, 2005 – July 15, 2005), Katrina (August 27, 2005 – September 31, 2005) and Rita (September 22, 2005 – October 4, 2005) and spent time in port for repairs on May 18-19, 2005 and June 10-14, 2005. The dredge *B.E. Lindolm* was brought to the project to increase production. She dredged from October 5, 2005 through March 24, 2006, for a total of 139 dredging days. Contract specifications for the hopper dredge required dredging an estimated 3 million cubic yards of beach quality sand to repair damage from hurricane Ivan. Material was dredged from three borrow areas (I, III, and 5c) which were located offshore of the beach in water depths in excess of 25 feet. A total of 738 loads of beach quality (as defined by Florida Department of Environmental Protection (FDEP)) sand were collected and deposited on the Federally authorized shore protection project template.

The hopper 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 East Coast Observers, Inc. under a subcontract to the dredging contractor, Weeks Marine, Inc. 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, 64 turtles and 8 Gulf sturgeon were successfully relocated (no evidence of serious injury or mortality).

During the performance of this dredging, three lethal turtle takes occurred on March 4, 5, and 22, 2006 during load numbers #656 at 2110 hours, #657 at 2215 hours, and #724 0518 hours. The loggerhead taken on March 4, 2006 was a juvenile of unknown sex. The take was recovered in the fore lander. Surface water temperature at the time of the take was 60°F. The Kemps ridely taken on March 5, 2006 was a juvenile of unknown sex. The take was recovered in the fore lander. Surface water temperature at the time of the take was 64°F. The Kemps ridely taken on March 22, 2006 was of unknown sex. The take was recovered in the forward lander. Surface water temperature at the time of take was 57°F.

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/project.cfm?Id=409&Code=Project>

Mobile Harbor – Bay Channel

Columbia

On May 4, 2005 the *Columbia* began work on the Mobile Harbor Bay Channel. The contractor dredged approximately 2,029,000 CY, of which 234,000 was dredged in FY05. 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 May 4, 2005, and was completed on October 16, 2005. During this period, the dredge shut down due to swells from tropical storm Cindy (July 06, 2005), hurricanes Dennis (July 09, 2005 – July 10, 2005), Katrina (August 27, 2005 – September 05, 2005) and Rita (September 22, 2005 – September 25, 2005) and spent time in port for repairs on July 29-30, 2005. A total of 661 loads of dredged material were collected during 154 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 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/project.cfm?Id=420&Code=Project>.

Pensacola Naval Air Station Channel

Bay Port and Newport

The *Bay Port*, began dredging on September 13, 2005 and continued through September 28, 2005, for a total of 15 dredging days. During this period, the dredge shut down due to swells from hurricane Rita (September 22, 2005 – September 26, 2005). The dredge *Newport* arrived on September 30, 2005 and began dredging on October 3, 2005. Newport dredged until October 7, 2005 and did not recommence dredging until December 11, 2005. Dredging was completed on December 27, 2005. A total of 282 loads (approximately 120,000 cubic yards) of dredged material were collected during 35 dredging days and deposited in the nearshore disposal site just southwest of the Pass. The required depth of dredging was 42 feet below Mean Lower Low Water (MLLW) with 2 feet of allowable overdepth dredging and 2 feet of advanced maintenance dredging.

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. In all, 1 loggerhead was successful relocated (no evidence of serious injury or mortality).

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/project.cfm?Id=420&Code=Project>.

Projects in FY 2006

Pascagoula Harbor

On October 9, 2005, the Newport hopper dredge began work on the Pascagoula Harbor Bar Channel. The contractor dredged approximately 121,000 cubic yards of shoal dredged material. The required depth of dredging was 44 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 9, 2005, and was completed on October 20, 2005. A total of 110 loads of dredged material were collected during 12 dredging days and deposited in the Pascagoula Ocean Dredged Material Disposal Site (ODMDS) located south of the Safety Fairways. No material was placed on the beach.

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 takes occurred during the operations.

Orange Beach/Gulf State Park/Gulf Shores Beach Restoration Project

On March 19, 2006, due to grounding of the booster barge during a storm event, the Eagle I Hopper Dredge began dredging to complete West Beach Re-nourishment, approximately one mile, in Gulf Shores. The contractor dredged approximately 423,728 cubic yards of sand from borrow area number 3 for placement along the beach.

Dredging began on March 19, 2006, and was completed on May 13, 2006. A total of 142 loads of dredged material were collected during 42 dredging days and deposited along the remaining one-mile stretch of West Beach in Gulf Shores.

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 East Coast Observers under to the applicant's prime contractor. Advance trawling occurred within 6 hours of actual dredging in order to minimize the potential for takes.

During the performance of this dredging, no lethal takes were observed. Advance trawling resulted in the relocation of 39 turtles and 4 Gulf sturgeon. The relocation reports for the 42 captures on

the file.

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/project.cfm?Id=420&Code=Project>.

Gulfport Harbor Navigation Channel – Bar

MacFarland

On November 4, 2005 the government hopper dredge *MacFarland* began work on the Gulfport Harbor Bar Channel. The contractor dredged approximately 390,000 cubic yards (CY) of shoal material. The required depth of dredging was 38 feet below Mean Lower Low Water (MLLW) with 2 feet of allowable overdepth dredging and 2 feet of advanced maintenance dredging.

Dredging began on November 4, 2005, and was completed on December 13, 2005. A total of 189 loads of dredged material were collected during 39 dredging days and deposited in the West Ocean Dredged Material Disposal Site (ODMDS) on the west side of the Bar Channel. No material was placed on the beach.

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, one lethal take was observed. The take occurred on 12 December 2005 and was an unknown age loggerhead turtle of unknown sex found 1510 hours in load #184. Surface water temperature at time of take was 59°F.

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/project.cfm?Id=420&Code=Project>.

Mobile Harbor – Bay Channel

Columbia

On October 16, 2005 the *Columbia* began work under a new contract on the Mobile Harbor Bay Channel. The contractor dredged approximately 1,744,000 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 16, 2005, and was completed on April 3, 2006. During this period, the

dredge spent time in port for repairs on October 24, November 11 and November 6-24, 2006. A total of 662 loads of dredged material were collected during 148 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 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/project.cfm?Id=420&Code=Project>.

Mobile Harbor – Bay Channel

Newport

On October 21, 2005 the *Newport* began work on the Mobile Harbor Bay Channel. The contractor dredged approximately 141,000 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 21, 2005, and was completed on November 27, 2005. During this period, spent time in port for repairs on October 27, November 7, and November 12, 2005. A total of 228 loads of dredged material were collected during 35 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 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/project.cfm?Id=420&Code=Project>.

Mobile Harbor –Bar Channel

Atchafalaya

On April 28, 2006 the *Atchafalaya* began work on the Mobile Harbor Bar Channel. The contractor dredged approximately 488,000 CY. The required depth of dredging was 47 feet below Mean Lower Low Water (MLLW) with 2 feet of allowable overdepth dredging and 2 feet of advanced maintenance dredging.

Dredging began on April 28, 2006, and was completed on June 11, 2005. A total of 558 loads of dredged material were collected during 44 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. 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, 2 turtles were successfully relocated (no evidence of serious injury or mortality).

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/project.cfm?Id=420&Code=Project>.

Mobile Harbor – Lower Bay Channel

Glenn Edwards

On June 7, 2006 the *Glenn Edwards* began work on the Mobile Harbor Lower Bay Channel. The contractor dredged approximately 51,000 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 June 7, 2006, and was completed on June 11, 2006. A total of 9 loads of dredged material were collected during 4 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 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.ercd.usace.army.mil/seaturtles/project.cfm?Id=420&Code=Project>.

Mobile Harbor – Lower Bay Channel

Glenn Edwards

On June 15, 2006 the *Glenn Edwards* began work under a new contract on the on the Mobile Harbor Lower Bay Channel. The contractor dredged approximately 994,000 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 June 15, 2006, and was completed on July 18, 2006. A total of 209 loads of dredged material were collected during 33 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 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.ercd.usace.army.mil/seaturtles/project.cfm?Id=420&Code=Project>

Gulf Shores Beach Restoration

INSERT INFORMATION LINDA

Projects Begun in FY2006 – Continuing into FY2007

No dredging to report.

SUMMARY

During Fiscal Year 2006, 11 maintenance-dredging or beach re-nourishment projects were constructed using hopper dredges. In FY2006, 4 turtles were taken lethally by the dredging of these projects. Relocation trawling was conducted during 4 of the 11 dredging projects. In all, 101 turtles and 11 gulf sturgeon were successful relocated (no evidence of serious injury or mortality). Table #1 summarizes seaturtle and Gulf sturgeon encounters.

Table

	SEATURTLES		GULF STURGEON	
	Lethal Takes	Non Lethal/Non Injurious Takes	Lethal Takes	Non Lethal/Non Injurious Takes
Panama City Beach Shore Protection Project	3	64		8
Pensacola Naval Air Station Channel		1		
Gulfport Harbor Navigation Channel – Bar	1			
Mobile Harbor –Bar Channel		2		
Gulf Shores Beach Restoration		34		5

**ANNUAL SEA TURTLE MONITORING REPORT
MAINTENANCE DREDGING/BEACH NOURISHMENT
GULF OF MEXICO COAST – Under SA RBO
MOBILE DISTRICT
FISCAL YEAR 2006**