

Planning Division  
Environmental Branch

Mr. David Bernhart  
National Marine Fisheries Service  
Southeast Regional Office  
Protected Resources Division  
263 13<sup>th</sup> Ave South  
St. Petersburg, Florida 33701

Dear Mr. Bernhart:

Please find attached the Fiscal Year 2005 Annual Report for sea turtle monitoring in association with the use of hopper dredges on the Gulf Coast in the Jacksonville District.

This report is submitted in fulfillment of requirements of the Endangered Species Act and the Section 7 Consultation - Biological Opinion for the "Dredging of the Gulf of Mexico Navigation Channels and Sand Mining ("Borrow") Area Using Hopper Dredges by COE Galveston, New Orleans, Mobile and Jacksonville Districts (Consultation Number F/SER/2000/01287) dated November 19, 2003 and revised June 24, 2005. Specifically this report, summarizing hopper dredging operations in Fiscal Year (FY) 2005 within the Jacksonville District, is submitted in compliance with reasonable and prudent measure No. 9 - Dredge Take Reporting.

If you have any questions, please contact Ms. Terri Jordan at 904-232-1817 or by email at [Terri.l.Jordan@saj02.usace.army.mil](mailto:Terri.l.Jordan@saj02.usace.army.mil) or Mr. Eric Gasch at 904-232-3140 or by email at [Eric.K.Gasch@saj02.usace.army.mil](mailto:Eric.K.Gasch@saj02.usace.army.mil).

Sincerely,

Marie Burns  
Chief, Environmental Branch

Enclosure

Copy Furnished:

Dr. Robbin Trindell, Florida Fish and Wildlife Conservation  
Commission, Imperiled Species Management Section, 620 South  
Meridian Street, Mail Stop 6A, Tallahassee, Florida 32399-6000

Jordan/CESAJ-PD-EC/1817  
Gasch/CESAJ-PD-EC/3140  
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L: group/pde/Jordan/Annual Report 2005 Cover letter NMFS  
GRBO.doc

conducted in FY2005. Table #2 summarizes lethal turtle encounters.

**ANNUAL SEA TURTLE MONITORING REPORT  
MAINTENANCE DREDGING  
GULF COAST – Under GRBO  
JACKSONVILLE DISTRICT  
FISCAL YEAR 2005**



Weather conditions also affect the safety of the dredge and crew. Pipeline dredges were not designed to operate in open-sea conditions, 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 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 Jacksonville District.

The Jacksonville District schedules hopper-dredging operations based on the availability of the hopper dredge fleet. Hopper dredging priorities for the Jacksonville 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. Projects constructed under a regulatory permit issued by the Jacksonville District must also compete with the Corps for availability of dredges, as well as being limited by some of the same factors that influence equipment choices on Federal projects including costs, location of dredging site and time of year.

## 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 four different hopper dredges during FY 2005. These were the *B.E. Lindholm*, *R.N. Weeks*, *Bayport*, and *Newport*. 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

### **Projects in FY 2005**

#### **Emergency Beach Restoration in Response to 2004 Hurricane Season**

The rare "clustering" of storm events that occurred in August and September 2004 had serious consequences on Florida's Federal shore protection projects. These storm events included a tropical storm (Bonnie), a strong northeast storm, and four hurricanes (Charley, Frances, Ivan, and Jeanne) of Category 2 through Category 4 strength, which impacted Florida during the six week period from August 12th through September 26th, 2004. The storms' impacts on Federal Shore Protection Projects (SPPs) resulted in a total lost of 8 million CY of sediments from 20 projects. These projects prevented an estimate of \$54 million in average annual damages; there was little or no damage to upland structures from erosion or direct wave impact at these project sites. Congress responded to these storm impacts with an emergency supplemental appropriation for the Corps of Engineers, Public Law 108-324. PL 108-324 provided \$148 million in Flood Control and Coastal Emergencies (FCCE) funding for the repair of Federal SPPs damaged by the storms. In addition, the appropriations act also provided \$62.6 million in Construction General

funding; this allowed the Corps to cost share with the project sponsors on a full restoration of the SPPs if the sponsors desired to completely rebuild the project instead of just repairing the storm damage. One of these projects on the Atlantic coast were rebuilt using a hopper dredge for all or some of project construction.

### **Sarasota County Beach Erosion Control Project**

*B.E. Lindholm*

On June 6, 2005 the contract hopper dredge *B.E. Lindholm* began work on the Sarasota County Beach Erosion Control Project. Contract specifications required dredging an estimated 700,000 CY of beach quality sand to repair damage from hurricanes Charley, Frances and Jeanne. Material was dredged from offshore shoals between 6 and 10 miles northwest of Venice Inlet. An Emergency Project Implementation Report (PIR) for this project was completed on 23 February 2005 by the Jacksonville District.

Dredging began on June 6, 2005 and was completed on August 25, 2005. A total of 307 loads of beach quality (as defined by Florida Department of Environmental Protection (FLDEP)) sand were collected in 73 dredging days and deposited on the Federally authorized shore protection project template.

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 ECOES Consulting, Inc. under a subcontract to the dredging contractor, Weeks Marine.

During the performance of this dredging, one lethal turtle take occurred on June 25, 2005 during load #76 at 0902 hours. The loggerhead of unknown sex was recovered in the front lander. On load 78 on the same day at 1910 hours, additional pieces of this animal were recovered, also from the front lander. Surface water temperature at the time of take was 28.9°C.

During this dredging event, a strong red tide moved into the project area. Dead and dying fish were noted. On August 18, 2005, a sea turtle was noted by the project observers to be floating at the surface, but unable to swim. The observers contacted Mote Marine Laboratory, who dispatched a rescue crew to recover the animal. The turtle was taken to Mote Marine Laboratory for rehabilitation. No information has been provided about the status of that animal.

## **Projects Begun in FY2005 – Continuing into FY2006**

### **Pensacola Beach Renourishment Project**

*RN Weeks, B.E. Lindholm*

On June 25, 2005 the contract hopper dredges *RN Weeks* and *B.E. Lindholm* began work on the Pensacola Beach Nourishment Modification project conducted under Department of the Army Permit #200105838 (IP-MBH). From the beginning of dredging on June 25, 2005 through September 30, 2005 (the end of Fiscal year 2005) an estimates 1.54 million CYs of beach quality sand had been placed on the beaches of Pensacola Beach.

Dredging began on June 25, 2005 and was has continued into Fiscal year 2006. Between June 25, 2005 and September 30, 2005 a total of 560 loads of beach quality (as defined by FLDEP) sand were collected and deposited on the permitted renourishment project template between Natural Resource Monuments R-107 and R-151. The *RN Weeks* began dredging on June 25, 2005 and continued through the end of the fiscal year for a total of 61 dredging days. During this period, the dredge shut down due to swells from hurricanes Dennis (July 6, 2005 – July 19, 2005) and Katrina (August 27, 2005 – September 3, 2005) and spent time in port for repairs from September 12, 2005 – September 26, 2005. The dredge *B.E. Lindolm* was brought to the project to increase production. She dredged from September 8, 2005 through October 3, 2005 for a total of 20 dredging days. She was shut down due to the swells from hurricane Rita (September 21, 2005 – September 26, 2005). A total of 81 dredging days were completed on the project in FY 2005.

Both dredges were 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 Consulting, Inc. under a subcontract to the dredging contractor, Weeks Marine.

During the performance of this dredging in Fiscal Year 2005, no lethal takes have been reported for this project.

### **Town of Longboat Key Renourishment Project**

*Bayport, Newport*

On May 1, 2005 the contract hopper dredges *Bayport* and *Newport* began work on the Town of Longboat Key beach renourishment project conducted under Department of the Army Permit #199100296 (IP-MN). From the beginning of dredging in May through September 30, 2005 (the end of Fiscal year 2005) 594,000 CY of beach quality sand had been placed on the beaches of Longboat Key.

Dredging began on June 4, 2005 and has continued into Fiscal year 2006. Between June 4, 2005 and September 30, 2005 a total of 258 loads of beach quality (as defined by FLDEP) sand were collected and deposited on the permitted renourishment project template. The Bayport began dredging on June 4, 2005 and continued through September 10, 2005 for a total of 96.8 dredging days. During this period, the dredge shut down due to swells from tropical storm Arlene, as well as hurricanes Dennis and Katrina. The dredge *Newport* was brought to the project to increase production. She dredged from August 7, 2005 through August 27, 2005 for a total of 19.7 dredging days. A total of 116.5 dredging days were completed on the project in FY 2005.

Both dredges were 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 Consulting, Inc. under a subcontract to the dredging contractor, Mason Construction Company.

During the performance of this dredging, two lethal takes occurred on November 4, 2005 and January 25, 2006, but since those takes occurred in FY 2006, they will be reviewed in the upcoming FY 2006 Hopper Dredge annual report for the Gulf Regional Biological Opinion.

## COSTS

The costs incurred in performing the turtle-monitoring program during FY 2005 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. Table #1 depicting the costs of monitoring, relocation trawling and dredge inspection for FY 2005 for Federal dredging projects. However, this table does not include costs of administration and oversight activities conducted by SAJ staff, or 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. The Corps also does not capture the costs associated with projects permitted by the Corps' Regulatory Division in its permitting of private projects that utilize hopper dredges.

## SUMMARY

During Fiscal Year 2005, three beach re-nourishment projects were constructed using hopper dredges that were in the action area defined by the GRBO. One turtle was taken lethally by the projects

TABLE #1  
 COSTS ASSOCIATED WITH PROTECTION OF SEA TURTLES  
 DURING HOPPER DREDGING  
 JACKSONVILLE DISTRICT  
 MAINTENANCE DREDGING/BEACH RENOURISHMENT  
 GULF COAST PROJECTS  
 FY2005

<b>PROJECT</b>	<b>COST OF MONITORING</b>	<b>COST OF RELOCATION EFFORTS</b>	<b>COSTS OF INSPECTIONS</b>
Sarasota County Beach Erosion Control Project	\$29,200		\$3,000
Town of Longboat Key	NT	NT	\$3,000
Pensacola Beach	NT	NT	\$3,000
<b>TOTAL</b>	<b>\$29,200</b>		<b>\$9,000</b>

\*NT = Not Tracked

TABLE #2  
 INCIDENTAL TAKES OF SEA TURTLES  
 JACKSONVILLE DISTRICT  
 MAINTENANCE DREDGING/BEACH RENOURISHMENT  
 GULF OF MEXICO COAST PROJECTS

FY 2005

Date Taken	Project	Dredge	Channel Reach/Borrow Area	Water Temp. (°C)	Species and Authorized Incidental Take per Fiscal Year			
					Kemp's ridley 3	Loggerhead 5	Green 3	Hawksbill 1
25 June 2005	Sarasota Beach – Venice	<i>B.E. Lindholm</i>	Site 7 27°06.25N/ 82° 34.34W	28.9		1		
TOTAL TAKE					0	1	0	0
ALLOWABLE TAKE REMAINING					3	4	3	1