

Project Report
ENDANGERED SPECIES PROGRAM

Mississippi River-Gulf Outlet, LA.
Maintenance Dredging Event Number Two
Fiscal Year 1996

Operations Technical Support Branch
USACOE-New Orleans District
504-862-2504

Introduction

This report is submitted to fulfill requirements of the Endangered Species Act and the Incidental Take Statement (ITS) "for sea turtle takes resulting from Hopper Dredging activities" dated September 22, 1995. The New Orleans District submits this preliminary report summarizing the results of the second Fiscal Year 1996 maintenance dredging event of the Mississippi River-Gulf Outlet, Louisiana, bar channel (Attachment 1).

Scope of Work

Maintenance dredging was conducted by the private industry hopper dredge STUYVESANT. Dredging commenced August 22, 1996, and was completed September 25, 1996. Dredging was conducted between approximate channel Miles -3.8 and Mile -9.0.

Maintenance dredging activities were conducted during the time period when sea turtle monitoring was required as described in the Incidental Take Statement dated September 22, 1995. Maintenance dredging activities were conducted during the sea turtle window because maintenance activities previously conducted in the Mississippi River Gulf Outlet bar channel during FY 96 did not restore channel dimensions to the entire bar channel. Previous FY 96 maintenance was conducted with the Government Hopper Dredge MCFARLAND. The MCFARLAND is annually scheduled to conduct maintenance in the Mississippi River Gulf Outlet at the beginning of what is historically the start of the Mississippi River Southwest Pass maintenance dredging season. Scheduling the MCFARLAND to conduct maintenance in the Mississippi River Gulf Outlet at the time, provides a backup dredge for maintenance of the Mississippi River Southwest Pass. As per reasonable and prudent measure 3. sea turtle observers were placed on board the dredge and sea turtle observing activities commenced on August 22, 1996. The daily and weekly Endangered Species Reports are attached (Attachment 2).

In 1995, and previous years the National Marine Fisheries Service determined that listed whales are unlikely to be adversely affected by hopper dredging in the Gulf of Mexico, consequently, endangered species monitors for whales, bridge observers, were not required. Throughout the maintenance event, dredging operations were conducted following the items listed in

reasonable and prudent measures 4. and 6. This included advising the Contractor of potential presence of sea turtles, and reporting, and operating requirements.

Methodology

The dredge worked in the dredge and haul mode. Material was bottom dumped into the designated Ocean Dredged Material Disposal Site (ODMDS) (Figure 1). At the start of the maintenance activities, the STUYVESANT was equipped with both inflow and overflow screening. The STUYVESANT was equipped with four inflow landers. The two mid inflow landers were screened with a large cage with 4"X 4" screening. The STUYVESANT also was equipped for overflow screening with three skimmers screened. On August 22, 1996, the same day the STUYVESANT began dredging the overflow screen started to clog with debris. A section of the overflow screening was removed in an attempt to alleviate the clogging. The following day the remainder of the overflow screening was removed. The STUYVESANT had 100 percent inflow screening coverage while working in the Mississippi River-Gulf Outlet. The STUYVESANT worked between August 22, 1996, and September 25, 1996. The STUYVESANT dredged a total of 2,000,000 CY.

Throughout the dredging operations, screening was inspected for sea turtles and sea turtle parts and cleared by hand of debris as the dredge sailed from the dump site to the dredging site.

RESULTS

The STUYVESANT commenced maintenance activities in the bar channel on August 22, 1996, and completed dredging on September 25, 1996. A total of 2,000,000 cubic yards of shoal material was removed by dredge and haul operations and placed in the ODMDS.

Throughout the dredging operations wood, plastic, metal, crab traps and other debris was detected during monitoring operations. Biological samples also were collected, however in lower abundance than the abiotic debris. The most frequently detected species sampled included hardhead catfish, stingray, and croaker. Other species sampled included; flounder, eel, hammerhead shark, shrimp, silversides, whelk, conch, spider crabs and blue crabs. Species observed in surrounding waters during monitoring activities included; jellyfish and unidentified sharks. A sea turtle bone was recovered September 6, 1996, from the inflow

screening.

Fine grained material, silt and sand, were excavated during maintenance of this channel.

Mid-depth water temperatures ranged from 78 degrees F (25.5 degrees C) to 82 degrees F (27.7 degrees C). Although required in the project contract, water temperatures were not consistently sampled throughout the project.

During this same period there were more than 392 sightings of more than 50 Tursiops truncatus, the bottlenose dolphin. Bridge monitoring was not required, but was conducted opportunistically by the screen observers, and, as a result, the number of bottlenose dolphin sightings may be underestimated.

During this dredging activity there was one documented incidental take of a sea turtle. One partially decomposed sea turtle rear flipper of unknown species was recovered in screen material on September 23, 1996. Ms. Colleen Coogen of the Protected Species Division was notified on September 23, 1996, of the sea turtle take. Ms. Coogen concurred with the sea turtle observers' determination that it was not likely a taking due to hopper dredging activities because of the state of decomposition of the tissue. As a result of this determination, the rigid draghead deflectors were not installed on the dragheads. Dredging operations were completed on September 25, 1996, without additional takes or sightings. The results of the screen monitoring are summarized in Table 1.

DISCUSSION

Turtle movements in the Gulf of Mexico have been shown to be correlated to water temperatures. Turtles generally move away from or avoid water temperatures below 15-18 degrees C (Renaud and Carpenter 1995). Temperature conditions were above this avoidance threshold. However, no live turtles were sighted in or near the navigation channel during maintenance activities and only one decomposed turtle fragment and one turtle bone were detected as a result of monitoring. Based on the state of decomposition of turtle fragment it is likely the turtle was dead prior to its entrainment by the dredge. The lack of sightings of live turtles both during this and the previous maintenance events conducted in 1995 and 1996, suggests that turtles may be uncommon in this area. Additionally, known sea turtle prey items

including blue crabs and jellyfish, were infrequently encountered in the screened samples.

The amount of debris collected in the screens was mainly comprised of wood, plastic, and metal. The build up of debris resulted in continued clogging of overflow screening, and the removal of this overflow screening on the STUYVESANT. In other instances of clogging, debris became trapped at the seams of screening cages, and leakage and possible loss of debris resulted. Due to the cooperation of the dredging crew with the sea turtle observers, it appears that clogging problems were efficiently resolved and minimal data was lost. Biological debris was recovered throughout the monitoring, so although clogging did occur, it appears the screening was adequate for monitoring purposes. The abundance of biological debris was low in the spring and appeared to increase during the summer to the end of the project. However, the overall low abundance of known sea turtle prey items collected in the screens during monitoring suggests that sea turtle food availability is low in this area.

The New Orleans District has conducted sea turtle monitoring during two full dredging seasons, Fiscal Year 1995 and 1996. During these two seasons a total of three sea turtles were sighted during monitoring and only one sea turtle take has been documented. The sea turtle sightings did not occur at the Mississippi River Gulf Outlet. When comparing the results of the New Orleans District monitoring to that of adjacent Galveston District, it appears sea turtles are more abundant in other regions of the Gulf of Mexico than the waters off eastern Louisiana. For example during Fiscal Year 1995 and 1996, the same time period New Orleans District has had one incidental take, Galveston District has had ten documented incidental takes and additional sea turtle sightings.

REFERENCES

Renaud, M.L., and Carpenter, J.A., and Williams, J.A. 1995. "Movement of Kemp's ridley sea turtles Lepidochelys kempii near Bolivar Roads Pass and Sabine Pass, Texas, and Calcasieu Pass, Louisiana (May 1994 through December 10, 1995). Preliminary Report submitted to the U.S. Army Corps of Engineers, New Orleans District.

TABLE 1. Summary of Sea Turtle Observer Reports

DATE	DREDGE	DAILY SUMMARY
22 August 1996	STUYVESANT	Screens: wood, plastic, detritus, hardhead catfish Mid-Depth Temp: No data Weather: Ptly cldy, winds 14-20 knots Other: Dredge equipped with 100% inflow, 75% overflow
23 August 1996	STUYVESANT	Screens: wood, rocks, plastic, shells, hardhead catfish, other fish Mid-Depth Temp: No data Weather: Ptly cldy, winds 6-14 knots Other: Due to clogging all overflow screening removed
24 August 1996	STUYVESANT	Screens: wood, vegetation, rock, plastic, catfish, stingray Mid-Depth Temp: No data Weather: Ptly cldy, wind 0-2 knots Other:
25 August 1996	STUYVESANT	Screens: wood, plastic, hardhead catfish Mid-Depth Temp: No data Weather: Overcast, thunderstorms Other:
26 August 1996	STUYVESANT	Screens: wood, plant material, rope, hammerhead shark, hardhead catfish, two spider crabs Mid-Depth Temp: No data Weather: clear to overcast, thunderstorms, winds calm to 7 knots Other:

27 August 1996	STUYVESANT	Screens: wood, 1 croaker Mid-Depth Temp: No data Weather: hazy to sunny, winds variable less than 9 knots Other:
28 August 1996	STUYVESANT	Screens: wood, debris, plant material, netting, eel, croaker, flounder Mid-Depth Temp: No data Weather: sea calm to light chop winds variable Other:
29 August 1996	STUYVESANT	Screens: wood, wire, plant debris, netting, croaker, stingray Mid-Depth Temp: No Data Weather: Ptly cldy, winds calm Other:
30 August 1996	STUYVESANT	Screens: wood, crab baskets, metal, plastics, shells, 1 croaker Mid-Depth Temp: No data Weather: cldy, t-storms, winds variable to 20 knots Other: Aft screening damaged to be repaired 8-31
31 August 1996	STUYVESANT	Screens: wood, netting, crab trap, plant materials, shells Mid-Depth Temp: No data Weather: cloudy, t-storms, winds variable Other: Aft screening repaired
1 September 1996	STUYVESANT	Screens: wood, plastic, netting, plant material, shrimp, unidentified fish fry Mid-Depth Temp: No data Weather: rain to clear, winds variable Other:

2 September 1996	STUYVESANT	Screens: wood, sheet metal, plastic, netting, shells, plant material Mid-Depth Temp: No data Weather: Clr to ptly cldy, winds moderate Other: no biological specimens incidentally taken
3 September 1996	STUYVESANT	Screens: wood, plastic, sheet aluminum Mid-Depth Temp: 79.5 F Weather: clear, ptly cldy, wind variable Other: No biological specimens incidentally taken
4 September 1996	STUYVESANT	Screens: wood, metal, rope, plastic, shell Mid-Depth Temp: 78-81 F Weather: Mtly clear, winds to 10 knots Other: No biological specimens incidentally taken
5 September 1996	STUYVESANT	Screens: netting, wire, cable, metal, rope, plastic sheets, plant material Mid-Depth Temp: 78-81 F Weather: rain, ptly cldy, winds variable. Other: No biological specimens incidentally taken
6 September 1996	STUYVESANT	Screens: wood, netting, shell, rocks, cement, plant material Mid-Depth Temp: 78-81 F Weather: clear to rain, winds calm Other: center inflow screening basket repaired, one old pleural bone from loggerhead turtle found

7 September 1996	STUYVESANT	Screens: wood, shell, plastic, cloth, rope Mid-Depth Temp: 78-81 F Weather: clear, winds calm to moderate Other: No biological specimens incidentally taken
8 September 1996	STUYVESANT	Screens: shells, plastic, wood, cloth, rope, plant material Mid-Depth Temp: 78-82 F Weather: clear, winds calm Other: No biological specimens incidentally taken
9 September 1996	STUYVESANT	Screens: wood, wire, plastic, shells, 1 ray, 1 flounder fry, 1 croaker Mid-Depth Temp: 79-82 F Weather: Clr-cldy, winds calm Other:
10 September 1996	STUYVESANT	Screens: wood, rope, plastic, shell, wire, cloth, 1 ray Mid-Depth Temp: 79-82 F Weather: Clr to hazy, winds calm Other:
11 September 1996	STUYVESANT	Screens: wood, shell, rope, steel cable, steel sheeting, cloth, plant material Mid-Depth Temp: 79-82 F Weather: sky clear, winds calm Other: No biological specimens incidentally taken
12 September 1996	STUYVESANT	Screens: wood, rock, shell, plastic Mid-Depth Temp: 79-82 f Weather: sunny to hazy, winds calm Other:

13 September 1996	STUYVESANT	Screens: wood, shell, plastic, rock, wire, metal, plant material, 1 shark, 1 croaker Mid-Depth Temp: 79 -82 F Weather: sunny to cldy, wind light variable Other:
14 September 1996	STUYVESANT	Screens: wood, steel, wire, plastic, shell, plant material, numerous silversides, 1 croaker, 2 hardhead catfish Mid-Depth Temp: 79-82 F Weather: cldy, rain to clear, winds calm Other:
15 September 1996	STUYVESANT	Screens: wood, shell, steel, cable, rock, 2 hardhead catfish Mid-Depth Temp: 79-82 F Weather: Mtly cldy, rain, winds moderate 20 knots Other:
16 September 1996	STUYVESANT	Screens: wood, rock, metal, cable, plastic, ray Mid-Depth Temp:79-82 F Weather: Cldy-clear, winds to 20 knots Other:
17 September 1996	STUYVESANT	Screens: shell, plastic, wood, croaker, hardhead catfish Mid-Depth Temp: 79-82 f Weather: cldy-clear, wind moderate Other:

<p>18 September 1996</p>	<p>STUYVESANT</p>	<p>Screens: fishing line, rope, crab traps, wood, shells, steel, plastic, rock, plant material, ray, croakers, hardhead catfish, jack, 1 blue crab Mid-Depth Temp: 79-82 F Weather: Ptly cldy-clear, winds light to moderate Other:</p>
<p>19 September 1996</p>	<p>STUYVESANT</p>	<p>Screens: wood, plastic, metal, crab traps, fishing line, rays, hardhead catfish, croakers, blue crabs Mid-Depth Temp: 79-82 F Weather: Clear to overcast, winds light variable Other:</p>
<p>20 September 1996</p>	<p>STUYVESANT</p>	<p>Screens: plastics, wood, rock, steel cable, shels, plant material, jellyfish, croaker, hardhead catfish Mid-Depth Temp: 79-82 F Weather: Clear to overcast, rain, winds moderate Other:</p>
<p>21 September 1996</p>	<p>STUYVESANT</p>	<p>Screens: wood, rope, rebar, crab trap, plastic, rock, shells, hardhead catfish, rays Mid-Depth Temp: 79-82 F Weather: cldy, rain, winds light to moderate Other:</p>

<p>22 September 1996</p>	<p>STUYVESANT</p>	<p>Screens: steel, wood, rock, plastic, fishing line, shells, hardhead catfish, blue crab, atlantic ray Mid-Depth Temp: 79-82 F Weather: Ptly cloudy to clear, winds moderate to strong Other: tear in forward section of inflow basket identified to be repaired 23 September</p>
<p>23 September 1996</p>	<p>STUYVESANT</p>	<p>Screens: wood, shell, steel, plastic, rubber, crabtrap, rock, blue crab, ray, eel, left hindflipper sea turtle Mid-Depth Temp: 79-82 F Weather: Other: Tear in inflow basket repaired. Partially decomposed sea turtle rear flipper recovered from screens.</p>
<p>24 September 1996</p>	<p>STUYVESANT</p>	<p>Screens: wood, shell, rock, fish net, metal, rope, blue crab, crab unknown, ray, hardhead catfish Mid-Depth Temp: 79-82 F Weather: Clear to cloudy, winds light and variable Other:</p>
<p>25 September 1996</p>	<p>STUYVESANT</p>	<p>Screens: wood, shell, steel, fish netting, plastic, rock, plant matter Mid-Depth Temp: 70-82 F Weather: Cloudy to ptly cloudy, winds light Other: Maintenance completed today</p>