Project Report
ENDANGERED SPECIES PROGRAM

Mississippi River-Gulf Outlet, LA.
Maintenance Dredging
Fiscal Year 1997
Report #1

Operations Technical Support Branch
USCOE-New Orleans District
504-862-2318

MATHIES
CELMN-OD-T

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Introduction

The New Orleans District submits this report summarizing the results of Fiscal Year 1997 maintenance dredging of the Mississippi River-Gulf Outlet (MR-GO), Louisiana, bar channel 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. These activities were conducted as a part of emergency dredging that was necessary to restore project depths following shoaling in the navigation channel caused by Tropical Storm Josephine.

Scope of Work

Maintenance dredging was conducted by the contract hopper dredge EAGLE I. Dredging commenced October 14, 1996, and was completed November 19, 1996. Dredging was conducted between approximate channel Mile 0.0 and Mile -8.0.

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. This work was conducted under Contract DACW97C0003. As per reasonable and prudent measure 3., sea turtle observers were placed on board the dredge and sea turtle observing activities commenced on October 14, 1996. The daily and weekly Endangered Species Reports are attached (Attachment 1).

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). The EAGLE I was equipped with inflow screening, composed of an enclosed screen cage with 4" x 4" openings, for each of its 2 port-side discharge pipes and the

single starboard-side discharge pipe. The EAGLE I had 100 percent inflow screening coverage while working in the MR-GO. The EAGLE I worked between October 14, 1996, and November 19, 1996. Throughout the dredging operations, screening was inspected for sea turtles and sea turtle parts, and debris was cleared by hand.

Draghead deflectors were installed on October 25, 1996, in response to the October 22, 1996, sea turtle take by another dredge working in the EAGLE I's vicinity in the MR-GO.

RESULTS

The dredge EAGLE I commenced maintenance activities in the bar channel on October 14, 1996, and completed dredging on November 19, 1996. A total of 1,500,000 cubic yards of shoal material was removed by dredge and haul operations. The EAGLE I had no documented incidents or sightings of sea turtles. During this same period, there were 4 incidental takes of sea turtles in the MR-GO by government contract dredges. The results of the screen monitoring are summarized in Table 1.

Throughout the dredging operations, wood, trash, rope, nets, crab traps, rubber hose, plastic, and wire were detected during monitoring operations. Biological samples also were collected. The most frequently detected species sampled included stingray, flounder, horseshoe crab, pen shell, and whelk. Other sampled species included cownose ray, red drum, catfish, guitar fish, snake eel, spider crab, and marsh grass.

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

Mid-depth water temperatures ranged from 66 degrees Fahrenheit (F) (18.9 degrees Centigrade (C)) to 72 degrees F (22.2 degrees C). Although required in the project contract, water temperatures were not consistently sampled throughout the project.

During this same period there were 16 sightings of bottlenose dolphins (Tursiops truncatus), with a total of approximately 148-156 individuals being observed. 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 1 documented sampling of an old turtle bone fragment that occurred in the week of October 14-20, 1996. This bone fragment consisted of approximately one-third of a costal plate that was black and weathered in appearance.

DISCUSSION

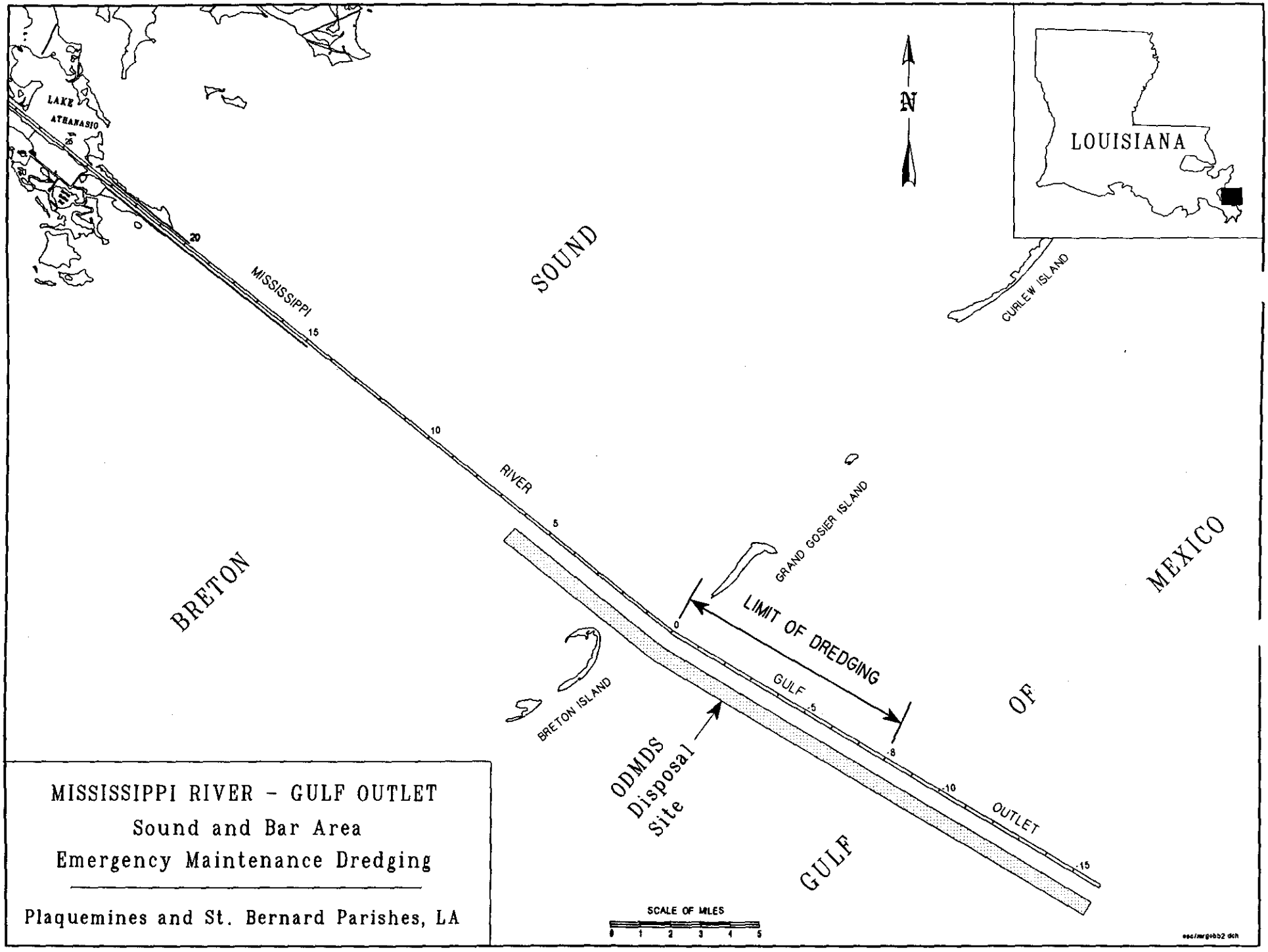
Turtle movements in the Gulf of Mexico have been shown to be correlated to water temperatures. Turtles generally move away from areas of water temperatures below 15-18 degrees C (59-64.4 degrees F) (Renaud et al., 1995). Temperature conditions were above this avoidance threshold. However, no live turtles were sighted in or near the navigation channel by the EAGLE I's observers during maintenance activities, and no sea turtles or sea turtle parts, with the exception of an old bone fragment, were detected during monitoring operations. Additionally, known sea turtle prey items, such as blue crabs and jellyfish, were not encountered in the screen samples. Other crab species, however, were infrequently encountered in the screen samples.

Debris collected in the screens primarily was composed of assorted trash and pieces of wood. Clogging of the screens was not a frequent problem, and it was noted that following the installation of the draghead deflectors, a reduction in the quantities of debris sampled seemed to occur. Overall quantities of material sampled was low throughout this dredging operation.

Sea turtles were neither sighted nor taken during ~~this~~ EAGLE I's dredging operation in the MRGO, from Mile 0.0 to Mile -8.0, that was conducted between October 14, 1996 to November 19, 1996.

REFERENCES

Renaud, M.L., 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.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MISSISSIPPI RIVER - GULF OUTLET
Sound and Bar Area
Emergency Maintenance Dredging
Plaquemines and St. Bernard Parishes, LA

TABLE 1. Summary of Sea Turtle Observer Reports.

DATE	DREDGE	DAILY SUMMARY
14 October 1996	EAGLE I	Screens: whelks, stingrays, spider crabs, wood, trash. Mid-depth Temp: No data. Weather: Clear to Mostly cldy, winds SE 5-20 knots. Other: Dredge equipped with 100% inflow screening.
15 October 1996	EAGLE I	Screens: whelks, pen shells, stingrays, horseshoe crabs, wood, trash. Mid-depth Temp: No data. Weather: Ptly cldy, winds 5-15 knots. Other:
16 October 1996	EAGLE I	Screens: horseshoe crabs, stingrays, spiny dogfish, torpedo, guitar fish, whelks, wood, trash. Mid-depth Temp: No data. Weather: Ptly cldy, winds SE 10-15 knots Other:
17 October 1996	EAGLE I	Screens: horseshoe crabs, spider crabs, whelks, pen shell, wood, trash. Mid-depth Temp: No data. Weather: Clear to Ptly cldy, winds S-SE 10-15 knots. Other: Safety ladders installed on inflow cages.
18 October 1996	EAGLE I	Screens: pen shells, horseshoe crabs, trash. Mid-depth Temp: No data. Weather: Clear to Ptly cldy, winds N 20-30 knots. Other:

19 October 1996	EAGLE I	Screens: stingrays, cownose rays, horseshoe crabs, spider crabs, pen shell, whelks. Mid-depth Temp: No data. Weather: Clear, winds N 12-30 knots. Other: Sighted 12 bottlenose dolphins.
20 October 1996	EAGLE I	Screens: horseshoe crabs, whelks, cownose rays, stingrays, pen shell, wood, rope, trash. Mid-depth Temp: No data. Weather: Clear, winds light. Other: Sighted 26 bottlenose dolphins.
21 October 1996	EAGLE I	Screens: stingrays, horseshoe crabs, sea star, whelks, pen shell, wood, trash, rubber hose. Mid-depth Temp: No data. Weather: Clear to Ptly cldy, winds light to 5-10 knots. Other: Sighted 12 bottlenose dolphins.
22 October 1996	EAGLE I	Screens: stingrays, horseshoe crabs, pen shell, wood, trash. Mid-depth Temp: No data. Weather: Ptly to Mostly cldy, winds S-SE 10-30 knots. Other:
23 October 1996	EAGLE I	Screens: stingrays, horseshoe crabs, red drum, pen shell, wood, trash. Mid-depth Temp: No data. Weather: Clear to cldy, winds light to 10-30 knots. Other: Sighted 8 bottlenose dolphins.

24 October 1996	EAGLE I	Screens: whelks, pen shell, stingray, red drum, wood, trash. Mid-depth Temp: No data. Weather: Clear to Ptly cldy, winds SE light to 5-20 knots. Other: Repaired port inflow cage door.
25 October 1996	EAGLE I	Screens: stingrays, whelks, pen shell, wood, trash. Mid-depth Temp: No data. Weather: Ptly cldy, winds 10-20 knots. Other: Draghead deflectors installed in the afternoon at dock.
26 October 1996	EAGLE I	Screens: stingrays, whelk, wood, trash. Mid-depth Temp: No data. Weather: Ptly cldy, winds 5-20 knots. Other: Repairs made to port cage hydraulic ram.
27 October 1996	EAGLE I	Screens: stingrays, flounder, whelk, pen shell, wood, trash. Mid-depth Temp: No data. Weather: Clear to Ptly cldy, winds 5-10 knots. Other: Sighted 8 bottlenose dolphins.
28 October 1996	EAGLE I	Screens: stingrays, horseshoe crabs, whelks, pen shell, wood, trash. Mid-depth Temp: No data. Weather: Ptly cldy, winds light. Other:

29 October 1996	EAGLE I	Screens: stingrays, pen shell, wood, trash, crab trap mesh. Mid-depth Temp: No data. Weather: Ptly cldy, winds light. Other: Sighted 6 bottlenose dolphins.
30 October 1996	EAGLE I	Screens: flounder, stingrays, whelks, pen shell, wood, trash. Mid-depth Temp: No data. Weather: Ptly cldy, winds W calm to 5-10 knots. Other: Sighted 9 bottlenose dolphins, Port cage door opened about 8" during load 115.
31 October 1996	EAGLE I	Screens: stingrays, rubber hose, plastic, wood. Mid-depth Temp: No data. Weather: Ptly cldy, winds calm. Other:
01 November 1996	EAGLE I	Screens: flounder, stingrays, pen shell, wood, trash. Mid-depth Temp: No data. Weather: Ptly cldy, winds light. Other: Draghead deflectors repaired today.
02 November 1996	EAGLE I	Screens: stingrays, red drum, wood, trash. Mid-depth Temp: No data. Weather: Clear to cldy, winds N 10-30 knots. Other: Port cage door opened about 1' wide during load 133. Starboard dragarm was damaged at the end of load 136.

03 November 1996	EAGLE I	Screens: stingrays, pen shell, wood, trash. Mid-depth Temp: No data. Weather: Ptly cldy, winds N/E 15-30 knots. Other: Used only port dragarm today. New dragarm put on starboard side.
04 November 1996	EAGLE I	Screens: stingrays, trash. Mid-depth Temp: No data. Weather: Clear to Ptly cldy, winds E/SE 8-20 knots. Other:
05 November 1996	EAGLE I	Screens: stingrays, flounder, wood, trash. Mid-depth Temp: No data. Weather: Ptly cldy, winds SE light to 10-20 knots. Other: Sighted 6 bottlenose dolphins.
06 November 1996	EAGLE I	Screens: 1 cownose ray, 1 wood piece. Mid-depth Temp: No data. Weather: Ptly to mostly cldy w/ light showers, winds light to 8-15 knots. Other:
07 November 1996	EAGLE I	Screens: stingrays, flounder, wood, trash. Mid-depth Temp: No data. Weather: Mostly cldy, light showers, winds 6-15 knots. Other:
08 November 1996	EAGLE I	Screens: stingrays, flounder, pen shell, trash. Mid-depth Temp: No data. Weather: Cldy-rain to clearing, winds W/N 10-30 knots. Other:

09 November 1996	EAGLE I	Screens: stingrays, 1 catfish. Mid-depth Temp: 70°F. Weather: Clear, winds N/NE to 20 knots and diminishing. Other: Sighted 5 bottlenose dolphins.
10 November 1996	EAGLE I	Screens: stingrays, whelks, trash. Mid-depth Temp: 72°F. Weather: Clear, winds N/NE light to 3-10 knots. Other: Sighted 12 bottlenose dolphins.
11 November 1996	EAGLE I	Screens: stingrays, debris. Mid-depth Temp: 71-72°F. Weather: Clear, winds light. Other: Sighted 20-25 bottlenose dolphins.
12 November 1996	EAGLE I	Screens: stingray, red drum, trash. Mid-depth Temp: 68-71°F. Weather: Clear, winds Easterly light to 8-4 knots. Other: Sighted 6-7 bottlenose dolphins.
13 November 1996	EAGLE I	Screens: stingrays, cownose rays, flounders, debris. Mid-depth Temp: 66-67°F. Weather: Clear, winds E/NE 10-18 knots. Other: Sighted 6 bottlenose dolphins.
14 November 1996	EAGLE I	Screens: stingrays, flounder, pen shell, whelk, trash. Mid-depth Temp: 66-67°F. Weather: Clear to Ptly cldy, winds E 8-16 knots. Other: Sighted 2 bottlenose dolphins.

15 November 1996	EAGLE I	Screens: stingrays. Mid-depth Temp: 66°F. Weather: Ptly cldy, winds E 30-40 knots. Other:
16 November 1996	EAGLE I	Screens: stingrays, pen shell, fish, marsh grass, wood, trash, debris. Mid-depth Temp: 66-68°F. Weather: Overcast, winds E 25-30 knots. Other: Sighted 10-12 bottlenose dolphins.
17 November 1996	EAGLE I	Screens: rays, flounder, red drum, starfish, hermit crab, snake eels, marsh grass, wood, lines, nets, rags, debris. Mid-depth Temp: 67.5-68°F. Weather: Overcast-Ptly cldy, winds E/SE 10-20 knots. Other:
18 November 1996	EAGLE I	Screens: stingrays, flounder, red drum, crabs, marsh grass, rope, wire, wood, netting, trash. Mid-depth Temp: 67-68°F. Weather: Ptly cldy-Clear, winds E/SE 5-15 knots. Other: Sighted 1 bottlenose dolphin.
19 November 1996	EAGLE I	Screens: horseshoe crabs, pin wheels, rope, wood. Mid-depth Temp: 68-69°F. Weather: Clear, winds 5 knots. Other:

Project Report

ENDANGERED SPECIES MONITORING

Mississippi River-Gulf Outlet

Bar Channel

Maintenance Dredging

FY 97 Report #2

Operations Technical Support Branch

U.S. Army Corps of Engineers

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 Fiscal Year 1997 maintenance dredging of the Mississippi River-Gulf Outlet (MR-GO), Louisiana, bar channel under contract DACW29-97-C-0004 (Attachment 1). These activities were conducted as part of emergency dredging that was necessary to restore project depths following shoaling in the navigation channel caused by Tropical Storm Josephine. This contract is the second in a series, to date, of five contracts that have been awarded to conduct maintenance of shoaling in the MR-GO attributed to Tropical Storm Josephine. Individual reports will be submitted for each contract and for the government dredge MCFARLAND that conducted maintenance as part of emergency dredging.

Scope of Work

Maintenance dredging was conducted by the contract dredges MANHATTAN ISLAND and PADRE ISLAND under contract DACW29-97-C-0004 commenced October 21, 1996 and was completed November 29, 1996. Dredging was conducted between approximate channel miles -3.8 to -5.0 and miles -6.0 to -8.0.

Maintenance dredging activities were conducted during the time period when sea turtle monitoring was required as described in the ITS dated September 22, 1995. As per reasonable and prudent measure 3. sea turtle monitoring was conducted for the duration of the project. 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. As a result, endangered species monitors for whales, bridge observers, were not required for this contract. 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 the potential presence of sea turtles in the navigation channel and reporting and operating requirements.

Methodology

The dredges worked in both agitation and dredge and haul modes. Material was dumped into the designated Ocean Dredged Material Disposal Site (Figure 1). The MANHATTAN ISLAND was equipped with 4"x 4" intake discharge screening. The PADRE ISLAND was equipped with screened discharge boxed that the observers cleaned and inspected between dredging loads. Throughout the dredging project the MANHATTAN ISLAND and PADRE ISLAND were equipped to provide 100 percent screening of the inflow. The screens, discharge boxes and draghead deflectors were inspected for sea turtles and sea turtle parts and cleared by hand of debris.

Draghead deflectors were installed on the MANHATTAN ISLAND following a sea turtle take on October 22, 1996. The PADRE ISLAND was equipped with draghead deflectors prior to starting work in October 26, 1996.

The dredges worked in both agitation and dredge and haul mode. While working in dredge and haul mode, the shoal material was deposited in the Ocean Dredged Material Disposal Site located south of and parallel to the navigation channel.

RESULTS

The MANHATTAN ISLAND worked from October 21, 1996 to November 29, 1996. The PADRE ISLAND worked from October 26, 1996 to November 9, 1996. A total of 1.5 million cubic yards of shoal material was removed by both dredges in agitation and dredge and haul operations. Shoal material consisted of fine sands and silts.

During this maintenance event there were four documented incidents involving sea turtles. The first sea turtle take was documented on October 22, 1996, on the MANHATTAN ISLAND. Portions of the carapace of a loggerhead sea turtle were retained in the screening. As a result of the October 22, 1996, take, rigid deflector dragheads were installed on the MANHATTAN ISLAND on October 23, 1996, at a Mobile, Alabama, shipyard. The PADRE ISLAND was equipped with rigid deflector dragheads prior to the dredge starting work on October 26, 1996. The second sea turtle take was documented on the PADRE ISLAND on October 26, 1996. Portions of a turtle carapace with attached flipper were recovered in the screening. Due to the state of decomposition of

the sea turtle, the observers were unable to identify the sea turtle to species. The PADRE ISLAND documented a third sea turtle take on October 27, 1996. This take also involved a partially decomposed organism. This turtle was identified as a loggerhead. The fourth sea turtle take occurred on the MANHATTAN ISLAND on November 14, 1996. The anterior portion of a loggerhead sea turtle was recovered before 1:00 am. The posterior portion of the turtle was recovered approximately 12:00 pm and observers were able to identify the sex(female)of the sea turtle.

Throughout the dredging work the amount of biological and non-biological debris was sparse. Debris retained in the screens included woody debris, plastics, fishing line, and metal. The biological material collected included; four sea turtles, skates, rays, flounder, blue crabs, catfish, stingrays, mackerel, shells, algae and salt marsh grass. The results of the screen monitoring are summarized in tables 1 and 2.

Water temperatures ranged from a maximum surface water temperature of 76 degrees F (24.4 degrees C) to a minimum surface water temperature of 66 degrees F (18.8 degrees C). Below mid-depth water temperatures ranged from a maximum below mid-depth water temperature of 76 degrees F (24.4 degrees C) to a minimum mid-depth water temperature of 66 degrees F (18.8 degrees C).

During this same period there were more than 75 sightings of more than 213 Tursiops truncatus, the bottlenose dolphin. The dolphins typically were sighted in the channel or near the navigation channel. The dolphins were observed playing in the wake of the dredge. The sightings of Tursiops truncatus, the bottlenose dolphin may be underestimated, since only screen monitoring was required under the contract. Bridge monitoring was conducted opportunistically, by the screen observers.

During the dredging operations a series of natural and anthropogenic events were documented that could have impacted sea turtles in the area. These conditions included; a red tide event in the interior marshes of Breton Sound, a surface oil slick on October 27, 1996 , transit of a leaking barge carrying vinyl acetate inbound from the Gulf of Mexico through the channel, and commercial fishery activities conducted in the navigation channel in the vicinity of the dredging operations. In two instances, large quantities of dead fish were observed floating on the surface. The first case was noted following the

passage of a fishing trawler and the presence of the surface oil slick. In the second instance large amounts of dead fish floating on the surface were observed, possibly a result of a fish kill, coincided with the passage of the leaking barge in transit to New Orleans.

DISCUSSION

Turtle movements in the Gulf of Mexico have been shown to be correlated to water temperature (Renaud and Carpenter 1995). Temperature conditions during the maintenance dredging event were within the range of sea turtle tolerance.

Four sea turtles takes were documented during work conducted as a part of this contract. Two of the documented takes appeared to be live takes, and two takes were of decomposed sea turtles. While the two takes of decomposed sea turtles cannot be directly attributed to commercial fishing activities. The takes were documented the day of, and the day after the arrival of a commercial fishing vessel in the vicinity of the dredges, and the observation of a surface oil slick. Dead fish were observed floating on the surface during the same time period.

The second live take occurred on November 14, 1996. Due to the lateness of this take, sea turtle observer monitoring was extended beyond November 30, 1996, the date outlined in the ITS. The two live takes were the first live takes documented in the New Orleans District since monitoring began in 1995. The first incidental take in the New Orleans District was documented in the MR-GO bar channel on September 23, 1996. The only part of the sea turtle recovered from the September 23, 1996, take was a decomposed flipper. Based on the state of decomposition of the tissue, the sea turtle observers determined that this take was not of a live sea turtle.

No screen clogging was reported during dredging activities. The light amount of debris collected may be attributed to the use of draghead deflectors from October 23, 1996, to the end of the contract. The second live take occurred after draghead deflectors had been installed.

Table 1 Summary Sea Turtle Observer Reports MANHATTAN ISLAND

DATE	DREDGE	NOTES
20 October 1996	MANHATTAN ISLAND	Screens: stingray Below Mid-Depth Temp: 73 F Surface Temp: 73 F Weather: Clear with winds calm Other: Screening improperly adjusted at start of day after two loads gaps eliminated and 100% intake screening achieved.
21 October 1996	MANHATTAN ISLAND	Screens: stingray, skate, eel, red drum Below Mid-Depth Temp: 72-73 F Surface Temp: 72-73 F Weather: Clear to partly cloudy, Winds variable Other: Debris, plastics
22 October 1996	MANHATTAN ISLAND	Screens: rays, unid crab, loggerhead sea turtle Below Mid-Depth Temp: 72-75 F Surface Temp: 72-75 F Weather: Partly cloudy, Winds S/SW 10-27 knots Other: Debris, plastics, First documented sea turtle take in channel
23 October 1996	MANHATTAN ISLAND	Screens: pen shells, whelks, ray Below Mid-Depth Temp: 71 F Surface Temperature: 71 F Weather: Overcast, Winds NE 18-25 knots Other: Dredge stopped work to sail to Mobile to install draghead deflectors

DATE	DREDGE	NOTES
24 October 1996	MANHATTAN ISLAND	Screens: whelk shells, wood Below Mid-Depth Temp: 69-72 F Surface Temp: 69-72 F Weather: Clear to hazy, Winds SW-E less than 13 knots Other: resumed dredging after installation of deflectors
25 October 1996	MANHATTAN ISLAND	Screens: whelk shells, rays, and skates Below Mid-Depth Temp: 72 F Surface Temp: 72 F Weather: Cloudy, Winds W-SW 2-22 knots, seas 2-8 foot swells Other:
26 October 1996	MANHATTAN ISLAND	Screens: rays, flounder, whelk shells Below Mid-Depth Temp: 72-74 F Surface Temp: 72-74 F Weather: Cloudy, Winds SE-W 2-18 knots, seas 3-8 foot swells Other: Fishing trawlers working in area, dead fish floating on surface, apparently by-catch. PADRE ISLAND start of work on same contract
27 October 1996	MANHATTAN ISLAND	Screens: red drum, flounder, crabs, ray, sea trout Below Mid-Depth Temp: 72-74 F Surface Temp: 72-74 F Weather: Hazy to clear, Winds calm Other: Working in agitation, water surface covered by oil slicks
28 October 1996	MANHATTAN ISLAND	Screens: flounder, stingray, shells Below Mid-Depth Temp: 74-76 F Surface Temp: 74-76 F Weather: Partly cloudy to clear, Winds calm Other: Working in agitation

DATE	DREDGE	NOTES
29 October 1996	MANHATTAN ISLAND	Screens: seastar, stingrays Below Mid-Depth Temp: 74 F Surface Temp: 74 F Weather: Clear to partly cloudy, light winds, seas calm Other: debris, wood, netting
30 October 1996	MANHATTAN ISLAND	Screens: crab, penshells, whelks, flounder, stingrays Below Mid-Depth Temp: 74-76 F Surface Temp: 74-76 F Weather: Clear-cloudy, Winds calm Other: debris, wood, netting
31 October 1996	MANHATTAN ISLAND	Screens: penshells, flounder, spotted sea trout, ray, Below Mid-Depth Temp: 76 F Surface Temp: 76 F Weather: Partly Cloudy, SE W 15-28 knots Other:
1 November 1996	MANHATTAN ISLAND	Screens: penshells, flounder, stingray Below Mid-Depth Temp: 75-77 F Surface Temp: 75-77 F Weather: Clear to partly cloudy, Winds calm 10 knots Other:
2 November 1996	MANHATTAN ISLAND	Screens: red drum, whelk, penshell, flounder, stingray Below Mid-Depth Temp: 74-76 F Surface Temp: 74-76 F Weather: overcast-clear, Winds N-NW 8-13 knots Other:

DATE	DREDGE	NOTES
29 October 1996	MANHATTAN ISLAND	Screens: seastar, stingrays Below Mid-Depth Temp: 74 F Surface Temp: 74 F Weather: Clear to partly cloudy, light winds, seas calm Other: debris, wood, netting
30 October 1996	MANHATTAN ISLAND	Screens: crab, penshells, whelks, flounder, stingrays Below Mid-Depth Temp: 74-76 F Surface Temp: 74-76 F Weather: Clear-cloudy, Winds calm Other: debris, wood, netting
31 October 1996	MANHATTAN ISLAND	Screens: penshells, flounder, spotted sea trout, ray, Below Mid-Depth Temp: 76 F Surface Temp: 76 F Weather: Partly Cloudy, SE W 15-28 knots Other:
1 November 1996	MANHATTAN ISLAND	Screens: penshells, flounder, stingray Below Mid-Depth Temp: 75-77 F Surface Temp: 75-77 F Weather: Clear to partly cloudy, Winds calm 10 knots Other:
2 November 1996	MANHATTAN ISLAND	Screens: red drum, whelk, penshell, flounder, stingray Below Mid-Depth Temp: 74-76 F Surface Temp: 74-76 F Weather: overcast-clear, Winds N-NW 8-13 knots Other:

DATE	DREDGE	NOTES
3 November 1996	MANHATTAN ISLAND	Screens: flounder, hardhead, catfish, crab, stingrays Below Mid-Depth Temp: 69-71 F Surface Temp: 69-74 F Weather: Partly cloudy-clear, Winds E/N/NE 8-20 knots Other:
4 November 1996	MANHATTAN ISLAND	Screens: rays, Below Mid-Depth Temp: 69-70 F Surface Temp: 69-70 F Weather: Partly cloudy, Winds E/SE 1-14 knots Other: very light debris
5 November 1996	MANHATTAN ISLAND	Screens: Below Mid-Depth Temp: 71 F Surface Temp: 71 F Weather: Clear- mostly cloudy, Winds calm Other:
6 November 1996	MANHATTAN ISLAND	Screens: seastar, flounder, stingrays Below Mid-Depth Temp: 71 F Surface Temp: 71 F Weather: Clear-mostly cloudy, Winds calm SE 16 knots Other: minimal debris
7 November 1996	MANHATTAN ISLAND	Screens: penshells, rays, skate, founder Below Mid-Depth Temp: 73 F Surface Temp: 73 F Weather: Clear-overcast, Winds SE-W 8-25 knots Other:

DATE	DREDGE	NOTES
8 November 1996	MANHATTAN ISLAND	Screens: stingray, skate, founder, red drum, algae Below Mid-Depth Temp: 71 F Surface Temp: 70-71 F Weather: Cloudy-rain, Winds N/NW 12-35 knots Other: Last day of work PADRE ISLAND
9 November 1996	MANHATTAN ISLAND	Screens: shell, skates, fish parts, rays Below Mid-Depth Temp: 69-70 F Surface Temp: 66-69 F Weather: Clear, Winds N/NW 27 knots Other:
10 November 1996	MANHATTAN ISLAND	Screens: founder, catfish, spotted sea trout, crab Below Mid-Depth Temp: 67-72 F Surface Temp: 66-72 F Weather: Clear, Winds N-W 0-12 knots Other: Leaking barge hauled inbound from Gulf of Mexico
11 November 1996	MANHATTAN ISLAND	Screens: skate, electric ray, flounder, red drum Below Mid-Depth Temp: 66-72 F Surface Temp: 66-72 F Weather: Clear, Winds NE-SE 12 knots Other: hundreds of dead fish floating at surface

DATE	DREDGE	NOTES
12 November 1996	MANHATTAN ISLAND	Screens: stingray, rays, flounder, redfish Below Mid-Depth Temp: 68 F Surface Temp: 68 F Weather: Clear, Winds E-SE 4-18 knots Other: Additional dead fish floating on surface, Times-Picayune reports barge carrying vinyl acetate
13 November 1996	MANHATTAN ISLAND	Screens: whelk, rays, stingrays, penshells Below Mid-Depth Temp: 66-67 F Surface Temp: 67-68 F Weather: Clear-partly cloudy, Winds E-ENE 6-20 knots Other: Dredge moved to different station to dredge because of grounding in channel
14 November 1996	MANHATTAN ISLAND	Screens: penshells, moonsnail, stingrays, mackerel, loggerhead sea turtle Below Mid-Depth Temp: 67 F Surface Temp: 67 F Weather: Cloudy, W S 15-38 knots Other: Loggerhead sea turtle take
15 November 1996	MANHATTAN ISLAND	Screens: stingrays, rays Below Mid-Depth Temp: no data Surface Temp: no data Weather: Partly cloudy-clear, Winds E 10-20 knots Other: ship refueled at Pilot town Anchorage

DATE	DREDGE	NOTES
16 November 1996	MANHATTAN ISLAND	Screens: no data Below Mid-Depth Temp: no data Surface Temp: no data Weather: Partly cloudy, W E 10-20 knots Other: Due to bad weather in Gulf ship remained at Pilot town Anchorage
17 November 1996	MANHATTAN ISLAND	Screens: no data Below Mid-Depth Temp: no data Surface Temp: no data Weather: Overcast, windy Other: Due to bad weather in Gulf ship remained at Pilot town Anchorage until 3:30 pm then sailed back to MR-GO
18 November 1996	MANHATTAN ISLAND	Screens: stingrays, seabass Below Mid-Depth Temp: 70 F Surface Temp: 69-70 F Weather: Partly cloudy, Winds ESE 1-7 knots Other: crew shift one observer
19 November 1996	MANHATTAN ISLAND	Screens: flounder, stingray Below Mid-Depth Temp: 69-70 F Surface Temp: 69-70 F Weather: Partly cloudy, Winds and seas calm Other: Portuguese man-of-war colonies sighted
20 November 1996	MANHATTAN ISLAND	Screens: stingray, catfish Below Mid-Depth Temp: 68-70 F Surface Temp: 70-71 F Weather: Hazy-partly cloudy, Winds variable to calm 8 knots Other: Crew shift second observer, dredge stopped working and anchored mid-day because of fog

DATE	DREDGE	NOTES
21 November 1996	MANHATTAN ISLAND	Screens: stingray, crab, flounder Below Mid-Depth Temp: 68-69 F Surface Temp: 67-70 F Weather: Partly cloudy, Winds calm Other: dredge stopped working and anchored due to fog
22 November 1996	MANHATTAN ISLAND	Screens: stingrays, crab Below Mid-Depth Temp: 68-69 F Surface Temp: 68 F Weather: Partly cloudy, Winds NE-SE 5-20 knots Other:
23 November 1996	MANHATTAN ISLAND	Screens: stingray, flounder, catfish Below Mid-Depth Temp: 67-68 F Surface Temp: 68 F Weather: Cloudy, Winds E-S 1-10 knots Other:
24 November 1996	MANHATTAN ISLAND	Screens: stingray, stonecrab Below Mid-Depth Temp: 68 F Surface Temp: 68 F Weather: Clear to cloudy, rain, Winds S-SE 1-20 knots Other:
25 November 1996	MANHATTAN ISLAND	Screens: stingray, catfish, flounder, fish Below Mid-Depth Temp: 68 F Surface Temp: 67 F Weather: Partly cloudy-rain, Winds N-W 15-30 knots Other:
26 November 1996	MANHATTAN ISLAND	Screens: stingray, flounder, fish Below Mid-Depth Temp: 68 F Surface Temp: 67-68 F Weather: Partly cloudy-cloudy, Winds N-NW 15-25 knots Other:

DATE	DREDGE	NOTES
27 November 1996	MANHATTAN ISLAND	Screens: stingray, catfish, fish, flounder Below Mid-Depth Temp: 68 F Surface Temp: 67 F Weather: Partly cloudy to cloudy, Winds N-NE 10-25 knots Other: dredge moved to more landward work area due to rough sea conditions
28 November 1996	MANHATTAN ISLAND	Screens: fish(unknown), flounder, stingray, catfish Below Mid-Depth Temp: 67-68 F Surface Temp: 66-68 F Weather: Partly cloudy to overcast, Winds NE 5-20 knots Other: Working in vicinity of dredge OUACHITA
29 November 1996	MANHATTAN ISLAND	Screens: stingray, eelgrass Below Mid-Depth Temp: no data F Surface Temp: no data F Weather: Partly cloudy to rain, Winds NE-SE 5-15 knots Other:
30 November 1996	MANHATTAN ISLAND	Screens: stingray, fish (unidentified) Below Mid-Depth Temp: 68 F Surface Temp: 68 F Weather: Partly cloudy to cloudy, Winds N-SW 10-20 knots Other: Contract ended 1841 and new contract started immediately

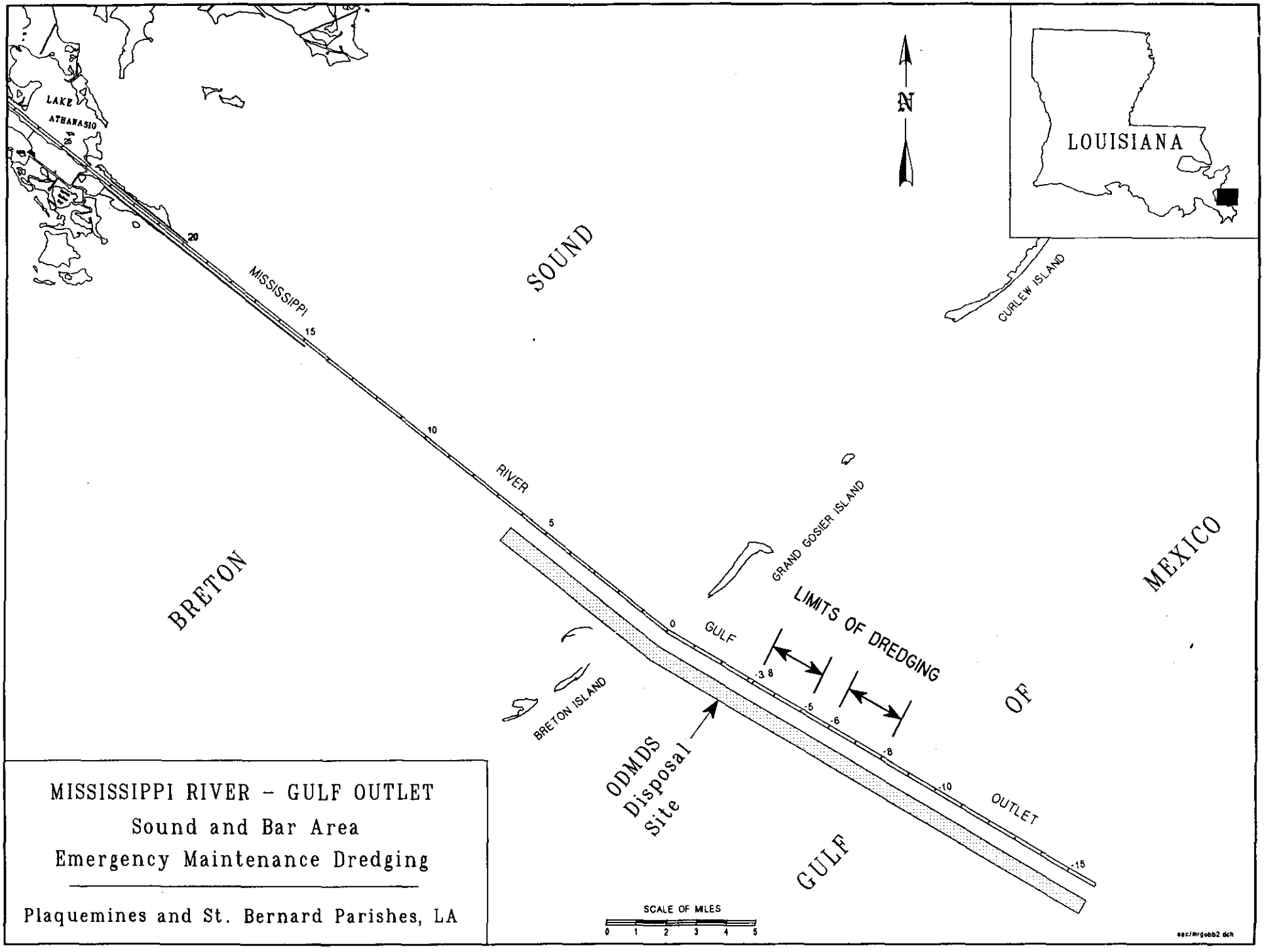
Table 2 Summary Sea Turtle Observer Reports PADRE ISLAND

DATE	DREDGE	NOTES
26 October 1996	PADRE ISLAND	Screens: ray, sea turtle Mid-Depth Temp: 73 F Surface Temp: no data Weather: Hazy, Winds SW 4 knots, seas 4 foot swells Other: Sea turtle badly decomposed. As noted in MANHATTAN ISLAND daily report fishing trawlers working in area, dead fish floating on surface, apparently by-catch
27 October 1996	PADRE ISLAND	Screens: Loggerhead sea turtle Mid-Depth Temp: 73 F Surface Temp: no data Weather: Clear, Winds S 5-10 knots Other: Sea turtle decomposed. As noted in MANHATTAN ISLAND daily report water surface covered by oil slicks
28 October 1996	PADRE ISLAND	Screens: shell Mid-Depth Temp: 73 F Surface Temp: no data Weather: Clear, Winds S 5 knots Other:
29 October 1996	PADRE ISLAND	Screens: shells, skates, rays Mid-Depth Temp: 73 F Surface Temp: no data Weather: Clear, Winds S 10-15 knots Other: light amounts of debris
30 October 1996	PADRE ISLAND	Screens: whelk shell Mid-Depth Temp: 75 F Surface Temp: 73-77 F Weather: Partly cloudy-clear, Winds S 5-10 knots Other:

DATE	DREDGE	NOTES
31 October 1996	PADRE ISLAND	Screens: whelk shell Mid-Depth Temp: 75 F Surface Temp: 75 F Weather: Mostly clear, Winds variable to 10 knots Other: light amounts of debris
1 November 1996	PADRE ISLAND	Screens: whelk shell Mid-Depth Temp: 75 F Surface Temp: 73 F Weather: Mostly clear, Winds SW-NW 5 knots Other: light amounts of debris
2 November 1996	PADRE ISLAND	Screens: whelk shell, skates Mid-Depth Temp: 73-75 F Surface Temp: 70 -75 F Weather: Cold front blew in choppy seas Other:
3 November 1996	PADRE ISLAND	Screens: skates, rays, flatfish Mid-Depth Temp: 68 F Surface Temp: 66 F Weather: Clear, Winds N/NE 20 knots Other:
4 November 1996	PADRE ISLAND	Screens: whelk shells, skates, rays, marsh grass Mid-Depth Temp: 70 F Surface Temp: 68-70 F Weather: Variable, Winds N/E 10 knots Other:
5 November 1996	PADRE ISLAND	Screens: whelk shells, skates, rays, marsh grass Mid-Depth Temp: 71 F Surface Temp: 71 F Weather: Partly cloudy, Winds E 5-15 knots Other:

DATE	DREDGE	NOTES
6 November 1996	PADRE ISLAND	Screens: skates, rays, flounder, catfish, salt marsh grass Mid-Depth Temp: 71 F Surface Temp: 71 F Weather: Cloudy, rain showers Winds E 5-10 knots Other:
7 November 1996	PADRE ISLAND	Screens: whelk shells, rays, skate, flounder, 2 blue crab Mid-Depth Temp: 71-73 F Surface Temp: 71-73 F Weather: Clear, Winds to 20 knots Other: Evening front blew through
8 November 1996	PADRE ISLAND	Screens: skates, rays, flounder Mid-Depth Temp: 68 F Surface Temp: 68 F Weather: Clear, Winds NW 15-20 knots Other: Last day for PADRE ISLAND

Attachment 1



MISSISSIPPI RIVER – GULF OUTLET
Sound and Bar Area
Emergency Maintenance Dredging

Plaquemines and St. Bernard Parishes, LA

Project Report

ENDANGERED SPECIES MONITORING

Mississippi River-Gulf Outlet

Bar Channel

Maintenance Dredging

Fiscal Year 1997 Report #3

Operations Technical Support Branch
U.S. Army Corps of Engineers
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 Fiscal Year 1997 maintenance dredging of the Mississippi River-Gulf Outlet (MR-GO), Louisiana, bar channel under contract DACW29-97-C-0006. These activities were conducted as a part of emergency dredging that was necessary to restore project depths following shoaling in the navigation channel caused by Tropical Storm Josephine. This contract is the third in a series, to date, of five contracts that have been awarded to conduct maintenance of shoaling in the MR-GO attributed to Tropical Storm Josephine. Individual reports will be submitted for each contract and for the government dredge MCFARLAND that conducted maintenance as part of emergency dredging.

Scope of Work

Maintenance dredging conducted by the contract dredge EAGLE I under contract DACW29-97-C-0006 commenced November 19, 1996, and was completed January 21, 1997. The EAGLE I completed work under DACW29-97-C-0003 on November 18, 1996, and immediately began work under DACW29-97-C-0006. The dredge was assigned to work between approximate channel miles -6.2 to -7.4, miles -6.5 to -8.4, and miles -1.5 to -2.5.

Maintenance dredging activities were conducted during the time period when sea turtle monitoring was required as described in the ITS dated September 22, 1995. As per reasonable and prudent measure 3., sea turtle monitoring was conducted until November 30, 1996. The daily and weekly Endangered Species Reports are attached (Attachment).

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. As a result, endangered species monitors for whales, bridge observers, were not required for this contract. 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 the potential presence of sea turtles in the navigation channel and reporting and

operating requirements.

Methodology

The dredge worked in both agitation and dredge and haul modes. Material was dumped into the designated Ocean Dredged Material Disposal Site (Figure 1). The EAGLE I was equipped with inflow screening, composed of an enclosed screen cage with 4"x 4" openings, for each of its two port-side discharge pipes and the single starboard-side discharge pipe. The EAGLE I was equipped with 100 percent inflow screening. The EAGLE I worked between November 19, 1996, and December 10, 1996 in the MR-GO. The dredge was then reassigned to the Mississippi River, Southwest Pass and worked on the Mississippi River, Southwest Pass from December 11, 1996 to January 11, 1997. On January 11, 1997, the EAGLE I was reassigned to the MR-GO. The EAGLE I worked on the MR-GO until January 21, 1997, the end of the contract. Between November 19, 1996 and November 30 1996, the EAGLE I was equipped to provide 100 percent screening of the inflow. The screens, cages and draghead deflectors were inspected for sea turtles and sea turtle parts and cleared by hand of debris until November 30, 1996. Following the ITS of 1995, screens and observers would not be required in any of the New Orleans District channels after November 30.

Due to the lateness of the sea turtle take on November 14, 1996, in the MR-GO, the New Orleans District, in consultation with NMFS, extended sea turtle monitoring on 50 percent of the dredges working in the MR-GO beyond November 30. Sea turtle monitoring on the EAGLE I was eliminated after November 30.

Following a sea turtle take on October 22, 1996, all dredges working on the MR-GO were equipped with draghead deflectors. The EAGLE I had been equipped with deflectors while working in the MR-GO under a previous contract. The deflectors remained installed through the completion of the contract.

The dredge worked in dredge-and-haul mode in the MR-GO. While working in dredge-and-haul mode the shoal material was deposited in the MR-GO Ocean Dredged Material Disposal Site located south of and parallel to the navigation channel. While working in Southwest Pass the dredge worked in both dredge-and-haul and agitation mode.

RESULTS

A total of 2.3 million cubic yards of shoal material was removed by the dredge in agitation and dredge-and-haul operations from both the MR-GO and Southwest Pass. Material removed from the MR-GO was deposited in the MR-GO Ocean Dredged Material Disposal Site located south and parallel to the navigation channel. Shoal material consisted of fine sands and silts.

During this maintenance event there were no documented incidents involving sea turtles for this contract. However, there were five documented incidents involving sea turtles by other dredges working in the MR-GO during October, November and December.

Throughout the dredging work the amount of biological and non-biological debris was sparse. Debris retained in the screens included woody debris, rope, and metal. The biological material collected included; stingrays, cownosed rays, pinfish and flounder. The results of the screen monitoring are summarized in Table 1.

Water temperatures ranged from a maximum surface water temperature of 74 degrees F (23.3 degrees C) to a minimum surface water temperature of 55 degrees F (12.7 degrees C). Below mid-depth water temperatures ranged from a maximum below mid-depth water temperature of 70 degrees F (21.1 degrees C) to a minimum mid-depth water temperature of 59 degrees F (15.0 degrees C).

During this same period there were more than 14 sightings of Tursiops truncatus, the bottlenose dolphin, for a total of 84 individuals observed. The dolphins typically were sighted feeding near the navigation channel. The sightings of Tursiops truncatus may be underestimated, since only screen monitoring was required under the contract. Bridge monitoring was conducted opportunistically by the screen observers.

DISCUSSION

Turtle movements in the Gulf of Mexico have been shown to be correlated to water temperature (Renaud and Carpenter 1995). Temperature conditions during the maintenance dredging event were within the range of sea turtle tolerance.

No sea turtle takes were documented as a part of the work

conducted under this contract. However four sea turtles takes were documented in the MR-GO during October and November of 1996 and prior to the start of this contract. Two of the documented takes appeared to have been live takes, and two takes were of decomposed sea turtles. While the two takes of decomposed sea turtles cannot be directly attributed to commercial fishing activities, these takes were documented the day of and the day after the arrival of a commercial fishing vessel in the vicinity of the dredges. A surface oil slick and dead fish were observed floating on the surface during the same time period. A third live take was documented on the MR-GO on December 8, 1996. Numerous commercial fishing vessels were documented working in the vicinity of the dredge two days before the fifth sea turtle take.

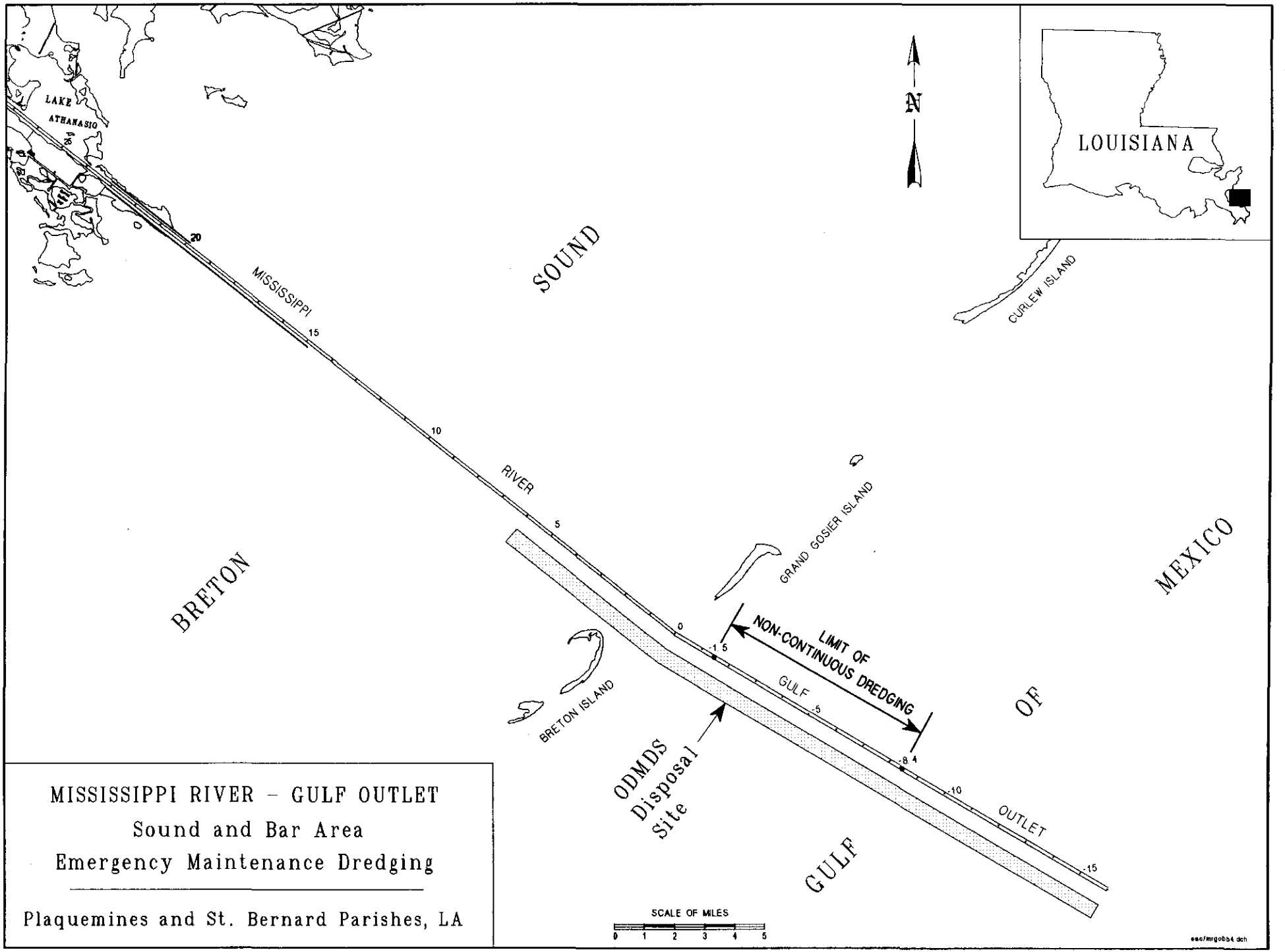
Due to the lateness of the second live take, on November 14, 1996, sea turtle observer monitoring was extended on 50 percent of the dredges working in the MR-GO beyond November 30, 1996. However, monitoring was not extended beyond November 30 on this contract.

No screen clogging was reported during dredging activities. The light amount of debris collected may be attributed to the use of draghead deflectors throughout this contract.

Reference

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.

FIGURE 1



MISSISSIPPI RIVER – GULF OUTLET
Sound and Bar Area
Emergency Maintenance Dredging

Plaquemines and St. Bernard Parishes, LA

Table 1. Summary Sea Turtle Observer Reports EAGLE I

DATE	DREDGE	NOTES
19 November 1996	EAGLE I	Screens: rays, wood Below Mid-Depth Temp: 70 F Surface Temp: 72 F Weather: Cloudy, winds calm less than 5 knots Other: Starboard draghead repaired and returned to service
20 November 1996	EAGLE I	Screens: pinwheels, sting rays Below Mid-Depth Temp: 68-70 F Surface Temp: 71-74 F Weather: Mostly cloudy, Winds less than 2 knots Other:
21 November 1996	EAGLE I	Screens: sting rays, wood, rope Below Mid-Depth Temp: 68-69 F Surface Temp: 72-73 F Weather: Clear-partly cloudy, Winds 0-10 knots Other:
22 November 1996	EAGLE I	Screens: sting rays, pinwheels Below Mid-Depth Temp: 67-68 F Surface Temperature: 65-70 F Weather: Overcast, Winds 5-8 knots Other:
23 November 1996	EAGLE I	Screens: sting rays Below Mid-Depth Temp: 65-67 F Surface Temp: 68-69 F Weather: Cloudy, Winds 1-15 knots Other:
24 November 1996	EAGLE I	Screens: wood Below Mid-Depth Temp: 67-68 F Surface Temp: 69-70 F Weather: Storms, Winds 1-40 knots, seas 2-6 foot swells Other:

DATE	DREDGE	NOTES
25 November 1996	EAGLE I	Screens: pinwheels, wood Below Mid-Depth Temp: 66-67 F Surface Temp: 67 F Weather: Most cloudy, Winds strong 20-40 knots, Other:
26 November 1996	EAGLE I	Screens: Below Mid-Depth Temp: 67 F Surface Temp: 69 F Weather: Winds 15-40 knots Other: Went to dock to refuel
27 November 1996	EAGLE I	Screens: stingrays, flounder Below Mid-Depth Temp: 62-64 F Surface Temp: 55-64 F Weather: Mostly cloudy, Winds 10-20 knots Other:
28 November 1996	EAGLE I	Screens: flounder, stingrays, sea bass, pinwheels, catfish Below Mid-Depth Temp: 59-62 F Surface Temp: 64-65 F Weather: Partly to mostly cloudy, Winds 5-15 knots Other:
29 November 1996	EAGLE I	Screens: stingrays, flounder, pinwheels Below Mid-Depth Temp: 63-65 F Surface Temp: 67-68 F Weather: Mostly cloudy, Winds 3-20 knots Other:

DATE	DREDGE	NOTES
30 November 1996	EAGLE I	Screens: stingrays, rope Below Mid-Depth Temp: 63 F Surface Temp: 65 F Weather: Overcast-partly cloudy, Wind 15-30 knots, 2-6 foot swells Other: Due to high waves observers made observations from bridge. Last day of monitoring

Project Report

ENDANGERED SPECIES MONITORING

Mississippi River-Gulf Outlet

Bar Channel

Maintenance Dredging

Fiscal Year 1997 Report #4

Operations Technical Support Branch

U.S. Army Corps of Engineers

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 (NOD) submits this preliminary report summarizing the results of Fiscal Year 1997 maintenance dredging of the Mississippi River-Gulf Outlet (MR-GO), Louisiana, bar channel under contract DACW29-97-C-0009. These activities were conducted as a part of emergency dredging that was necessary to restore project depths following shoaling in the navigation channel caused by Tropical Storm Josephine. This contract is the fourth in a series, to date, of five contracts that have been awarded to conduct maintenance of shoaling in the MR-GO attributed to Tropical Storm Josephine. Individual reports will be submitted for each contract and for the government dredge MCFARLAND that conducted maintenance as part of emergency dredging.

Scope of Work

Maintenance dredging was conducted by the contract dredge OUACHITA under contract DACW29-97-C-0009 commencing on November 28, 1996, and completed on February 23, 1997. The OUACHITA was assigned to work non-continuously between channel miles 16.0 and -7.0. Due to the extensive shoaling caused by Tropical Storm Josephine and emergency nature of the dredging, the OUACHITA conducted maintenance in the MR-GO bar channel and in Breton Sound, a section of the waterway further landward than typically maintained by hopper dredges.

Maintenance dredging activities were conducted during the time period when sea turtle monitoring was required as described in the ITS dated September 22, 1995. Following an incidental take in the MR-GO on November 14, 1996, in consultation with the National Marine Fisheries Service (NMFS), the NOD extended the period for sea turtle monitoring in the MR-GO beyond November 30, the date specified in the ITS. Sea turtle monitoring was conducted on 50 percent of the hopper dredges working in the MR-GO until December 31. Sea turtle monitoring on the OUACHITA was extended to December 31, 1996. The daily and weekly Endangered Species Reports are attached (Attachment).

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. As a result, endangered species monitors for whales, bridge observers, were not required for this contract. 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 the potential presence of sea turtles in the navigation channel and reporting and operating requirements.

Methodology

The dredge worked in both dredge-and-haul and continuous pump out modes. While working in the bar channel the dredge would dredge-and-haul material to the designated Ocean Dredged Material Disposal Site (ODMDS) (Figure 1). Material was then bottom dumped over the designated ODMDS. The dredge also worked in continuous pump out mode. While working in Breton Sound, the dredge would deposit material on the south and north side of the channel.

The OUACHITA was equipped with inflow screening. The OUACHITA worked between November 28, 1996, and February 23, 1997 in the MR-GO. Between November 28, 1996 and December 31, 1996, the OUACHITA was equipped to provide 100 percent screening of the inflow. The screens, cages and draghead deflectors were inspected for sea turtles and sea turtle parts and cleared by hand of debris until December 31, 1996.

Following a sea turtle take on October 22, 1996, all dredges working on the MR-GO were equipped with draghead deflectors. The OUACHITA was equipped with draghead deflectors for the entire maintenance period.

RESULTS

The OUACHITA worked from November 28, 1996, to February 23, 1997. A total of 2 million cubic yards of shoal material was removed by the dredge via dredge-and-haul and pump out operations. Shoal material consisted of fine sands and silts.

During this maintenance event there was one documented take of a loggerhead sea turtle on December 8, 1996. Portions of the front right quarter of a loggerhead sea turtle were recovered from the screens.

The biological material collected during screen monitoring was very diverse. Although not quantified, qualitatively biological material exceeded the amount of non-biological sampled. The amount of non-biological debris was sparse and included: woody debris, plastic, rope, and metal. The biological material collected by the OUACHITA had a higher species diversity than biological material sampled by the other dredges monitoring during the same period. Biological material sampled included known sea turtle prey items such as shrimp, mantis shrimp, blue crabs, and spider crabs. Other biological material collected included: stingrays, cownose rays, flounder, redfish, menhaden, croaker, bull sharks, whelks, sea stars and eels. The results of the screen monitoring are summarized in Table 1.

Water temperatures ranged from a maximum surface water temperature of 70 degrees F (21.1 degrees C) to a minimum surface water temperature of 48.7 degrees F (9.3 degrees C). Below mid-depth water temperatures ranged from a maximum below mid-depth water temperature of 72 degrees F (22.2 degrees C) to a minimum mid-depth water temperature of 54.5 degrees F (12.5 degrees C).

During this same period there were more than 64 sightings of Tursiops truncatus, the bottlenose dolphin, for a total of over 235 individuals. The dolphins were observed playing in the wake of the dredge. The sightings of bottlenose dolphin may be underestimated, since only screen monitoring was required under the contract. Bridge monitoring was conducted opportunistically by the screen observers.

DISCUSSION

One sea turtle take was documented during this contract. Four sea turtle takes were previously documented by other dredges working in the MR-GO during October and November. Of those four takes, two takes were of live and two takes were of decomposed organism. While the two takes of decomposed sea turtles cannot be directly attributed to commercial fishing activities, these takes were documented the day of and the day after the arrival of a commercial fishing vessel in the vicinity of the dredges. An oil slick and dead fish were observed floating on the surface during the same time period. On December 6, 1996, two days before the sea turtle take, eleven shrimp boats were observed working in the vicinity of the dump site.

Although the take occured outside the time period of highest

sea turtle abundance in Louisiana coastal waters, water temperature and screen monitoring indicated that temperatures were suitable for sea turtles and sea turtle prey items were available, perhaps abundantly so.

We are unable to determine what contributed to the increase in diversity and apparent abundance of biological material sampled during monitoring. Although the OUACHITA conducted maintenance in both the bar channel and Breton Sound during this contract, the OUACHITA worked solely in the bar channel during monitoring activities. The deflectors were frequently repaired, and the state of repair, or the configuration of the deflectors, may have contributed to the amount of material sampled.

No screen clogging was reported during dredging activities. However, overflow cleaning was common and can likely be attributed to the abundance of biological organisms sampled during monitoring.

Reference

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 Sea Turtle Observer Reports OUACHITA

DATE	DREDGE	NOTES
28 November 1996	OUACHITA	Screens: crab, shrimp, rays, red fish, flounder, wood, plastic rope Below Mid-Depth Temp: 64 F Surface Temp: 63 F Weather: Partly cloudy, winds 10-18 knots Other: Starboard draghead needed minimal repairs
29 November 1996	OUACHITA	Screens: menhaden, shrimp, stingray, flounder, tongue fish Below Mid-Depth Temp: 64-64.5 F Surface Temp: 61-63 F Weather: Partly cloudy, Winds less 6-20 knots Other: Repaired Starboard draghead chains
30 November 1996	OUACHITA	Screens: sting rays, flounder, stingray Below Mid-Depth Temp: 64 F Surface Temp: 64 F Weather: Partly sunny to overcast, Winds 10-25 knots Other: Starboard draghead chains several repairs
1 December 1996	OUACHITA	Screens: menhaden, sting rays, flounder Below Mid-Depth Temp: 64.3-66 F Surface Temperature: 61-64 F Weather: Heavy rain to clear, Winds 12-30 knots Other:

DATE	DREDGE	NOTES
2 December 1996	OUACHITA	Screens: sting rays, flounder, whelk, pen shell Below Mid-Depth Temp: 64-66 F Surface Temp: 56.5-65 F Weather: Mostly cloudy, Winds 5-18 knots Other: Repairs port and starboard deflectors
3 December 1996	OUACHITA	Screens: tongue fish, ray, flounder, whelk Below Mid-Depth Temp: 64-64.5 F Surface Temp: 57-64 F Weather: Clear, Winds 6-10 knots, seas calm Other: Starboard deflector minor repairs, 14 inch length decomposed intestine unknown origin
4 December 1996	OUACHITA	Screens: Below Mid-Depth Temp: 64.2 F Surface Temp: Weather: Clear, Winds 10 knots Other: Only dredged one load and then traveled to dock to refuel
5 December 1996	OUACHITA	Screens: rays, penshells, blue crabs, shrimp, menhaden, red fish, tongue fish, flounder, spider crabs Below Mid-Depth Temp: 60-63 F Surface Temp: 60-61 F Weather: Overcast, showers, fog, Winds 8-20 knots Other:

DATE	DREDGE	NOTES
6 December 1996	OUACHITA	Screens: blue crabs, eels, cutlass fish, spider crabs, flounder, shrimp, menhaden, stingrays, flounder, mantis shrimp Below Mid-Depth Temp: 64.2 F Surface Temp: 57 F Weather: Fog to partly cloudy, Winds 7-10 knots Other: Dredging stopped for fog and later for broken hopper door, overflow screening cleaned after every load
7 December 1996	OUACHITA	Screens: blue crab, flounder, numerous menhaden, spider crabs, mantis shrimp, stingray Below Mid-Depth Temp: 68-72 F Surface Temp: 66-68 F Weather: Fog to clear, Winds 12-26 knots Other: resumed dredging after hopper door repaired
8 December 1996	OUACHITA	Screens: sea turtle, blue crabs, flounder, cutlass fish, menhaden, mantis shrimp, spider crab, red fish Below Mid-Depth Temp: 64.2-69 F Surface Temp: 59-62.5 F Weather: Clear, Winds 14-26 knots Other: Loggerhead sea turtle take, repairs to starboard and port deflectors
9 December 1996	OUACHITA	Screens: blue crabs, cutlass fish, rays, flounder, menhaden, mantis shrimp, shark, yellowfin tuna Below Mid-Depth Temp: 64.3-67 F Surface Temp: 57.8-66 F Weather: Clear, Wind 3-22 knots, 0-3 seas Other: center overflow cleaning required seven times

DATE	DREDGE	NOTES
10 December 1996	OUACHITA	Screens: Additional parts of sea turtle taken December 8, anemone, cutlass fish, blue crabs, rays, flounder, menhaden, mantis shrimp, shrimp, horseshoe crab, rock sea bass Below Mid-Depth Temp: 63.5-68 F Surface Temp: 59-67 F Weather: Clear-partly cloudy, Wind 8-14 knots, 0-2' seas Other: Parts of sea turtle taken December 8 recovered
11 December 1996	OUACHITA	Screens: blue crabs, cutlass fish, rays, flounder, mantis shrimp, spider crab, spadefish Below Mid-Depth Temp: 66-70 F Surface Temp: 63.5-68 F Weather: Clear-mostly cloudy, Wind 10-17 knots, 0-3' seas Other: center overflow cleaning required five times
12 December 1996	OUACHITA	Screens: anemone, blue crabs, cutlass fish, rays, flounder, hardhead catfish, menhaden, spider crab, shrimp Below Mid-Depth Temp: 68-70 F Surface Temp:63.5-69 F Weather: Clear-partly cloudy, Wind 8-15 knots, 1-2' seas Other: center overflow cleaning required two times
13 December 1996	OUACHITA	Screens: anemone, blue crabs, cutlass fish, flounder, mantis shrimp, spider crab, eels, shark Below Mid-Depth Temp: 70-72 F Surface Temp: 67.5-70 F Weather: Foggy- clear, Wind 5-12 knots, 1-3' seas Other: center overflow cleaning required two times

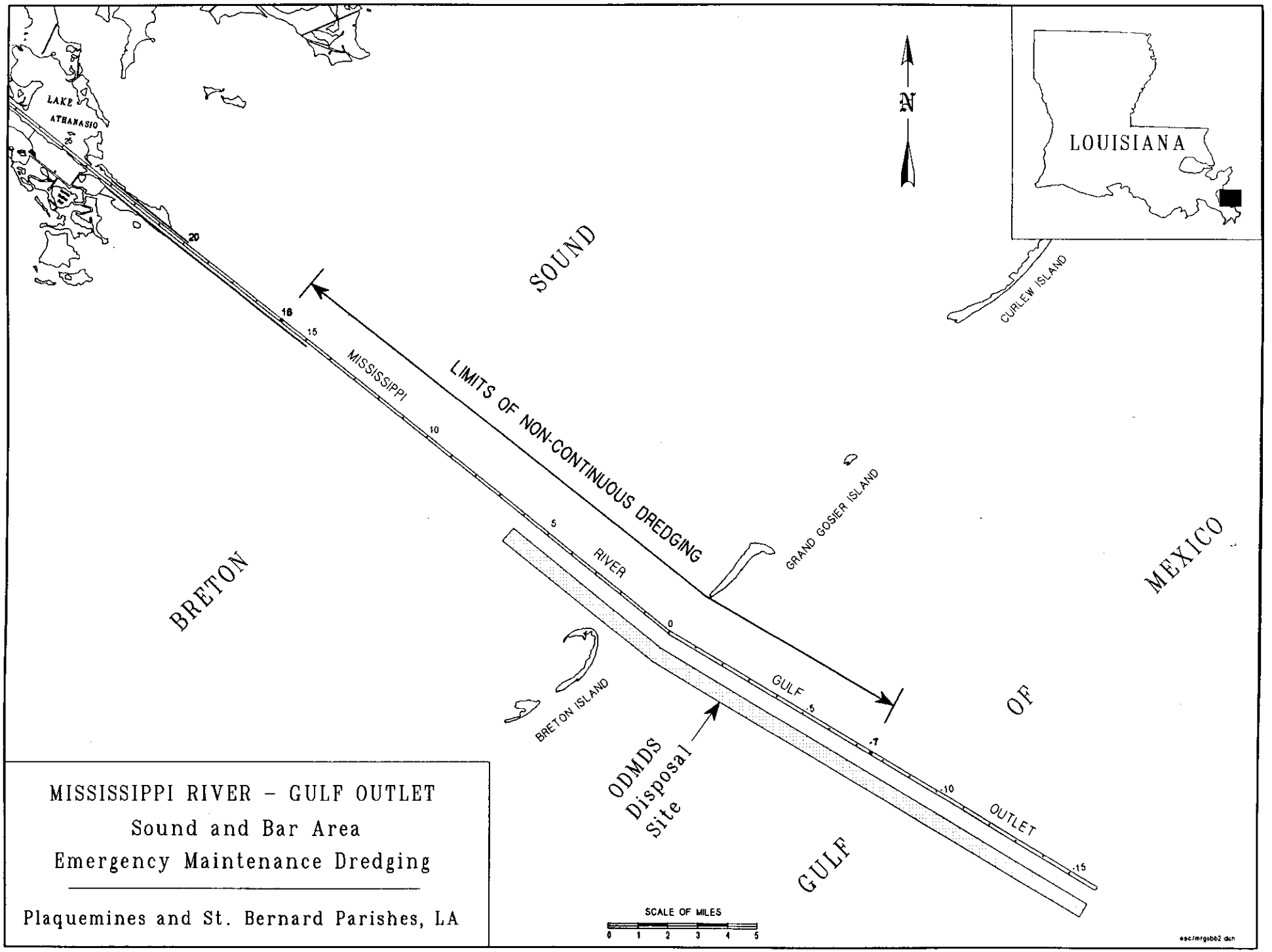
DATE	DREDGE	NOTES
14 December 1996	OUACHITA	Screens: anemones, cutlass fish, sting ray, blue crabs, sea star, rays, mantis shrimp, spider crab, pipefish, bull shark Below Mid-Depth Temp: 69-70 F Surface Temp: 63.4-69 F Weather: Clear-partly cloudy, Wind 6-16 knots, 1-3' seas Other: center overflow cleaning required five times
15 December 1996	OUACHITA	Screens: anemones, cutlass fish, flounder, ray, blue crabs, sea star, rays, menhaden, mantis shrimp, brown shrimp, eels, rock sea bass Below Mid-Depth Temp: 68 F Surface Temp: 67 F Weather: Clear-mostly cloudy, Wind 12-16 knots, 2-3' seas Other: center overflow cleaning required four times
16 December 1996	OUACHITA	Screens: sea cucumbers, eels, spider crab, menhaden, flounder cutlass fish, blue crabs Below Mid-Depth Temp: 67 F Surface Temp: 62-65 F Weather: Partly cloudy-overcast, Wind 8-42 knots, 2-5' seas Other:
17 December 1996	OUACHITA	Screens: croakers, blue crabs, flounder, menhaden, ray, spider crab, shrimp, eel, tarpon Below Mid-Depth Temp: 65-65.5 F Surface Temp: 58.5-64 F Weather: Overcast-partly cloudy, Wind 11-30 knots, 1-5' seas Other:

DATE	DREDGE	NOTES
18 December 1996	OUACHITA	Screens: anemones, sea star, blue crabs, rays, flounder, menhaden, mantis shrimp, sharks Below Mid-Depth Temp: 63-65 F Surface Temp: 55.8-64 F Weather: Heavily overcast-partly cloudy, Wind 12-30 knots, 1-3' seas Other:
19 December 1996	OUACHITA	Screens: anemones, croaker, cutlass fish, sting ray, blue crabs, sea star, rays, mantis shrimp, spider crab, flounder, octopus Below Mid-Depth Temp: 58.9-68 F Surface Temp: 48.7-62 F Weather: Partly cloudy, Wind 12-40 knots, 1-6' seas Other:
20 December 1996	OUACHITA	Screens: anemones, croakers, cutlass fish, sting ray, blue crabs, flounder, menhaden, mantis shrimp, rays, eels, shrimp, spotted sea trout Below Mid-Depth Temp: 55.8-58 F Surface Temp: 49.5-57 F Weather: Partly cloudy-clear, Wind 10-20 knots Other: Minor repairs to chains on deflectors, port drag arm cable broke

DATE	DREDGE	NOTES
21 December 1996	OUACHITA	Screens: anemones, croaker, cutlass fish, sting ray, sea star, blue crabs, eel, flounder, rays, menhaden, shrimp, mantis shrimp, spider crab, pipefish, bull sharks dead finned Below Mid-Depth Temp: 55.9 F Surface Temp: 51.7 F Weather: Partly cloudy-Clear, Wind 10-18 knots, 1-2' seas Other: center overflow cleaning required two times
22 December 1996	OUACHITA	Screens: sting ray, blue crab, eel, flounder, mantis shrimp, spider crab, spadefish, shrimp, bull shark Below Mid-Depth Temp: 54.5-55.2 F Surface Temp: not measured Weather: Clear-mostly cloudy, Wind 6-20 knots, 2-4' seas Other: chains of starboard and port deflectors repaired, center overflow cleaning required two times
23 December 1996	OUACHITA	Screens: croaker, cutlass fish, sting ray, blue crabs, eel, flounder, menhaden, mantis shrimp, Below Mid-Depth Temp: 54.5 F Surface Temp: not measured Weather: Clear-mostly cloudy, Wind 5-12 knots, 2-4' seas Other: center overflow cleaning required one time, deflector chain repairs

DATE	DREDGE	NOTES
24 December 1996	OUACHITA	Screens: anemones, croaker, cutlass fish, sting ray, blue crabs, eel, menhaden, mantis shrimp, sheepshead, eel Below Mid-Depth Temp: 55.2-56.8 F Surface Temp: not measured Weather: Fog-mostly cloudy, Wind 8-30 knots, 2-6' swells Other: Port deflector repaired three times, center overflow cleaning required once
25 December 1996	OUACHITA	Screens:, sting ray, blue crab, eel, flounder, sea star, rays, mantis shrimp, tonguefish, cowfish Below Mid-Depth Temp: 55.1-57 F Surface Temp: not measured Weather: Partly cloudy-clear, Wind 14-30 knots, 2-6' seas Other: center overflow cleaning required once
26 December 1996	OUACHITA	Screens: anemone, croaker, stingray, blue crabs, eel, flounder, ray, tonguefish, menhaden, mantis shrimp, hermit crab Below Mid-Depth Temp: 56.5 F Surface Temp: not measured Weather: Clear-partly cloudy, Wind 10-12 knots, 2-3' seas Other:
27 December 1996	OUACHITA	Screens: Below Mid-Depth Temp: Surface Temp: Weather: Fog Other: Dredge idle at dock due to fog

DATE	DREDGE	NOTES
28 December 1996	OUACHITA	Screens: Below Mid-Depth Temp: Surface Temp: Weather: Fog Other: Dredge idle at dock due to fog, repairs made to deflector chains
29 December 1996	OUACHITA	Screens: little debris Below Mid-Depth Temp: 56.2 F Surface Temp: not measured Weather: Thick fog-partly cloudy, Wind 9-14 knots, 1-2' seas Other: Dredge at anchor until 1200 due to fog
30 December 1996	OUACHITA	Screens: croaker, stingray, blue crabs, eels, flounder, menhaden, mantis shrimp, spider crab, purse crab, sea star, pufferfish Below Mid-Depth Temp: 58.5 F Surface Temp: not measured Weather: Thick fog-partly cloudy, Wind 10-14 knots, 1-2' seas Other: center overflow cleaning required once
31 December 1996	OUACHITA	Screens: croakers, stingrays, sea star, blue crabs, menhaden, mantis shrimp, spider crab, eels Below Mid-Depth Temp: 62 F Surface Temp: not measured Weather: Fog, Wind 10 knots, 1-2' seas Other: Last day of monitoring



MISSISSIPPI RIVER – GULF OUTLET
Sound and Bar Area
Emergency Maintenance Dredging

Plaquemines and St. Bernard Parishes, LA

FIGURE 1

Project Report

ENDANGERED SPECIES MONITORING

Mississippi River-Gulf Outlet

Bar Channel

Maintenance Dredging

Fiscal Year 1997 Report #5

Operations Technical Support Branch

U.S. Army Corps of Engineers

New Orleans District

504-862-1337

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 (NOD) submits this preliminary report summarizing the results of Fiscal Year 1997 maintenance dredging of the Mississippi River-Gulf Outlet (MR-GO), Louisiana, bar channel under contract DACW29-97-C-0011. These activities were conducted as a part of emergency dredging that was necessary to restore project depths following shoaling in the navigation channel caused by Tropical Storm Josephine. This contract is the fifth in a series, to date, of five contracts that have been awarded to conduct maintenance of shoaling in the MR-GO attributed to Tropical Storm Josephine. Individual reports will be submitted for each contract and for the government dredge MCFARLAND that conducted maintenance as part of emergency dredging.

Scope of Work

Maintenance dredging was conducted by the contract dredge MANHATTAN ISLAND under contract DACW29-97-C-0011 commencing on November 29, 1996, and completed on February 21, 1997. The MANHATTAN ISLAND completed work under DACW29-97-C-0004 on November 29, 1996, and immediately began work under DACW29-97-C-0011. The dredge was assigned to work between approximate channel miles -5.0 TO -6.2, miles -3.0 to -4.0, miles -0.3 to -1.5, and miles -0.7 to -3.8.

Maintenance dredging activities were conducted during the time period when sea turtle monitoring was required as described in the ITS dated September 22, 1995. As per reasonable and prudent measure 3., sea turtle monitoring was conducted until November 30, 1996. The daily and weekly Endangered Species Reports are attached (Attachment).

In 1995, and previous years, the National Marine Fisheries Service (NMFS) determined that listed whales are unlikely to be adversely affected by hopper dredging in the Gulf of Mexico. As a result, endangered species monitors (bridge monitors) for whales were not required for this contract. 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 sea turtle

presence in the navigation channel, and reporting and operating requirements.

Methodology

The dredge worked in dredge and haul mode. Material was dumped into the designated Ocean Dredged Material Disposal Site (ODMDS) located south of, and parallel to, the navigation channel (Figure 1). The MANHATTAN ISLAND was equipped with 100 percent inflow screening, composed of an enclosed screen cage with 4"x 4" openings. The screens, discharge boxes and draghead deflectors were inspected for sea turtles and sea turtle parts and cleared by hand of debris.

The MANHATTAN ISLAND worked between November 29,1996, to December 31, 1996, in the MR-GO. Following a sea turtle take by the MANHATTAN ISLAND on October 22, 1996, all dredges working on the MR-GO were equipped with draghead deflectors. Thus, the MANHATTAN ISLAND had already been equipped with deflectors while working in the MR-GO under a previous contract. The deflectors remained installed through the completion of the contract. Following the ITS of 1995, screens and observers would not be required on any of the NOD channels after November 30. However, due to the lateness of the MR-GO sea turtle take on November 14, 1996, the NOD, in consultation with NMFS, extended sea turtle monitoring on 50 percent of the dredges working in the MR-GO beyond November 30. Sea turtle monitoring was extended on the MANHATTAN ISLAND to December 31.

RESULTS

The MANHATTAN ISLAND worked from November 29, 1996 to December 31, 1996 in the MR-GO. A total of approximately 2 million cubic yards of shoal material was removed by the dredge in dredge and haul operations from the MR-GO. Material removed from the MR-GO was deposited in the MR-GO ODMDS. Shoal material consisted of fine sands, silts, and clays.

There were five documented incidents involving sea turtles by dredges working in the MR-GO from October through December 1996. During this maintenance event there were no documented incidents involving sea turtles for this contract, although a carapace segment of an unidentified sea turtle estimated to have died 1-2 weeks earlier was recovered on December 26, 1996.

Throughout the dredging work, the amount of biological debris, with the exception of seagrass, was sparse. Amounts of non-biological debris retained in the screens varied from light to heavy throughout the dredging reach. Non-biological debris included wood, rope, plastic, fabric, netting, and metal. The biological material collected included stingrays, various finfish, starfish, and an octopus. The results of the screen monitoring are summarized in Table 1.

Surface water temperatures ranged from a maximum of 68°F (20.0°C) to a minimum of 52°F (11.1°C). Below mid-depth water temperatures ranged from a maximum of 68°F (20.0°C) to a minimum of 52°F (11.1°C).

During this same period there were 43 sightings (189-191 individuals total) of Tursiops truncatus, the bottlenose dolphin. The dolphins typically were sighted near the navigation channel. The sightings of T. truncatus may be underestimated, since only screen monitoring was required under the contract. Bridge monitoring was conducted opportunistically by the screen observers.

DISCUSSION

Turtle movements in the Gulf of Mexico have been shown to be correlated to water temperature (Renaud and Carpenter 1995). Temperature conditions during the maintenance dredging event were within the range of sea turtle tolerance.

Although a carapace segment of the pelvic/vertebral area of an unidentified sea turtle (estimated to have died approximately 1-2 weeks prior) was recovered during dredging operations, no sea turtle takes were documented as a part of the work conducted under this contract. However, four sea turtles takes were documented in the MR-GO during October and November of 1996, prior to the start of this contract, and one sea turtle take was documented in the MR-GO on December 8, 1996. Three of the documented takes appeared to be live takes, and two takes were of decomposed sea turtles.

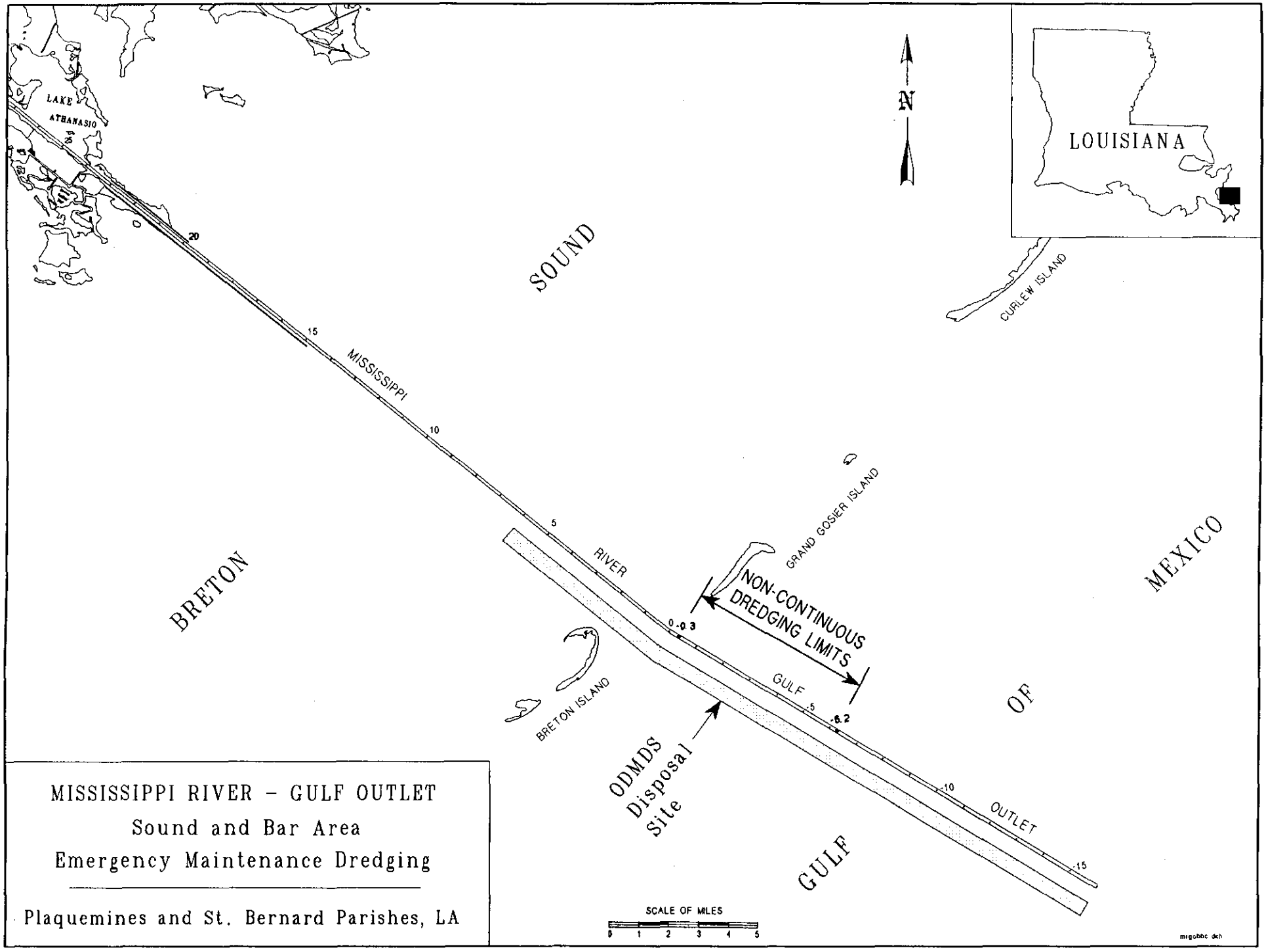
While the two takes of decomposed sea turtles cannot be directly attributed to commercial fishing activities, they were documented the day of, and the day after, the arrival of a commercial fishing vessel in the vicinity of the dredges. An oil slick and dead fish were observed floating on the water surface

during this same time period. Numerous commercial fishing vessels were documented working in the vicinity of the dredge two days before the December 8, 1996 take.

No screen clogging was reported during dredging activities. The light amount of debris collected may be attributed to the use of draghead deflectors throughout this contract.

Reference

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.



MISSISSIPPI RIVER – GULF OUTLET
Sound and Bar Area
Emergency Maintenance Dredging

Plaquemines and St. Bernard Parishes, LA

FIGURE 1

Table 1. Summary Sea Turtle Observer Reports MANHATTAN ISLAND.

DATE	DREDGE	NOTES
1 December 1996	MANHATTAN ISLAND	**Screens**: Stingrays, flounder, seagrass, wood, shells, rope, fabric, metal, wire, coral. **Below Mid-Depth Temp**: **Surface Temp**: **Weather**: Ptly Cloudy-Cloudy w/rain, Winds NE 10-25 knots, Seas 3-6'. **Other**:
2 December 1996	MANHATTAN ISLAND	**Screens**: Stingrays, seagrass, wood, shell, plastic, fishing line. **Below Mid-Depth Temp**: 64-66 F **Surface Temp**: 63-65 F **Weather**: Ptly cloudy, Winds NE 5-20 knots, Seas 1-5'. **Other**:
3 December 1996	MANHATTAN ISLAND	**Screens**: Stingrays, wood, rope, shell, fabric, metal, plastic. **Below Mid-Depth Temp**: 62-66 F **Surface Temp**: 60-65 F **Weather**: Ptly cloudy, Winds NE 1-10 knots, Seas 1-3'. **Other**:
4 December 1996	MANHATTAN ISLAND	**Screens**: Stingrays, octopus, starfish, rope, shell, wood, fabric, plastic. **Below Mid-Depth Temp**: 66 F **Surface Temperature**: 62-66 F **Weather**: Ptly cloudy-cloudy, Winds NE to NW 5-20 knots, Seas 1-4'. **Other**:

DATE	DREDGE	NOTES
5 December 1996	MANHATTAN ISLAND	**Screens**: Stingrays, flounder, wood, shell, rope. **Below Mid-Depth Temp**: 62 F **Surface Temp**: 62 F **Weather**: Ptly Cloudy-Cloudy w/rain, Winds NE to NW 1-10 knots, Seas calm-3'. **Other**: Dredge dropped anchor at 2320 hrs due to fog. Dragtender informed of weak weld on port deflector.
6 December 1996	MANHATTAN ISLAND	**Screens**: Stingrays, fish, wood, rope, shell, fabric, net, plastic. **Below Mid-Depth Temp**: 62-64 F **Surface Temp**: 60-63 F **Weather**: Ptly cloudy-cloudy w/rain, Winds NW to NE 3-10 knots, Seas calm-3'. **Other**: Dredging continued at 0424 due to fog lifting.
7 December 1996	MANHATTAN ISLAND	**Screens**: Seagrass, wood, plastic, shell, fabric, netting, rope, boot. **Below Mid-Depth Temp**: 64-68 F **Surface Temp**: 62-68 F **Weather**: Clear to hazy, Winds NE to NW strong 1-20 knots, Seas 1-3'. **Other**: Dredge was at anchor from 0128 to 0737 due to fog.
8 December 1996	MANHATTAN ISLAND	**Screens**: Seagrass, plastic, wood, rope, shell, wire. **Below Mid-Depth Temp**: 68 F **Surface Temp**: 68 F **Weather**: Clear, Winds NW to NE 10-30 knots, Seas 1-4'. **Other**:

DATE	DREDGE	NOTES
9 December 1996	MANHATTAN ISLAND	**Screens**: Stingray, fish, starfish, seagrass, rope, shell, cable, plastic, wood, metal, fabric. **Below Mid-Depth Temp**: 62-67 F **Surface Temp**: 61-65 F **Weather**: Clear, Winds NW to NE 1-20 knots, Seas 1-4'. **Other**:
10 December 1996	MANHATTAN ISLAND	**Screens**: Fabric, wood, shell, metal, plastic, rope, chain, net, cable, tire. **Below Mid-Depth Temp**: 62-64 F **Surface Temp**: 61-66 F **Weather**: Clear, Winds NE to NW 1-10 knots, Seas calm-3'. **Other**:
11 December 1996	MANHATTAN ISLAND	**Screens**: Seagrass, shell, wood, rope, plastic. **Below Mid-Depth Temp**: 61-65 F **Surface Temp**: 61-64 F **Weather**: Cloudy, Winds variable 1-15 knots, Seas 1-3'. **Other**:
12 December 1996	MANHATTAN ISLAND	**Screens**: Seagrass, shell, wood. **Below Mid-Depth Temp**: 68 F **Surface Temp**: 68 F **Weather**: Ptly cloudy, Winds NE to NW 1-10 knots, Seas 1-3'. **Other**:
13 December 1996	MANHATTAN ISLAND	**Screens**: Seagrass, shell, wood. **Below Mid-Depth Temp**: 64 F **Surface Temp**: 64 F **Weather**: Clear to ptly cloudy, Winds NE 1-10 knots, Seas 1-3'. **Other**: Dredge at anchor from 0020-0915 due to fog.

DATE	DREDGE	NOTES
14 December 1996	MANHATTAN ISLAND	**Screens**: Seagrass, wood, shell, plastic, rope, net, fabric. **Below Mid-Depth Temp**: 68 F **Surface Temp**: 68 F **Weather**: Clear, Winds NE 5-15 knots, Seas, 1-3'. **Other**:
15 December 1996	MANHATTAN ISLAND	**Screens**: Seagrass, shell, wood, rope, plastic, metal. **Below Mid-Depth Temp**: 67-68 F **Surface Temp**: 67-68 F **Weather**: Clear, Winds SW to NE 5-15 knots, Seas 1-2'. **Other**:
16 December 1996	MANHATTAN ISLAND	**Screens**: Stingray, fish, seagrass, wood, shell, plastic, rope. **Below Mid-Depth Temp**: 67-68 F **Surface Temp**: 66-68 F **Weather**: Mostly cloudy, Winds SW to NE 5-35 knots, Seas 1-4'. **Other**:
17 December 1996	MANHATTAN ISLAND	**Screens**: Seagrass, wood, shell. **Below Mid-Depth Temp**: 67 F **Surface Temp**: 68 F **Weather**: Cloudy, Winds NE to WNW 10-25 knots, Seas 1-4'. **Other**:
18 December 1996	MANHATTAN ISLAND	**Screens**: **Below Mid-Depth Temp**: **Surface Temp**: **Weather**: **Other**: Dredge in for refueling.
19 December 1996	MANHATTAN ISLAND	**Screens**: **Below Mid-Depth Temp**: **Surface Temp**: **Weather**: **Other**: Dredge in for refueling.

DATE	DREDGE	NOTES
20 December 1996	MANHATTAN ISLAND	**Screens**: Stingray, fish, seagrass, wood, shell rope, plastic, fabric. **Below Mid-Depth Temp**: 54 F **Surface Temp**: 54 F **Weather**: Clear, Winds ENE to NE 5-15 knots, Seas 1'. **Other**:
21 December 1996	MANHATTAN ISLAND	**Screens**: Fish, seagrass, wood, shell. **Below Mid-Depth Temp**: 52 F **Surface Temp**: 52 F **Weather**: Clear, Winds NE 5-10 knots, Seas 1-2'. **Other**:
22 December 1996	MANHATTAN ISLAND	**Screens**: Seagrass, wood, shell, plastic, metal, fabric, rope. **Below Mid-Depth Temp**: 52 F **Surface Temp**: 52 F **Weather**: Ptly cloudy, Winds SE to SW 5-15 knots, Seas 1-3'. **Other**:
23 December 1996	MANHATTAN ISLAND	**Screens**: Seagrass, wood, shell, plastic, rope, fabric, metal, net. **Below Mid-Depth Temp**: 55 F **Surface Temp**: 55 F **Weather**: Clear to ptly cloudy, Winds SE 5 knots, Seas 1-4'. **Other**:
24 December 1996	MANHATTAN ISLAND	**Screens**: Stingrays, seagrass, wood, shell, plastic, metal, rope, fabric. **Below Mid-Depth Temp**: 56 F **Surface Temp**: 56 F **Weather**: Ptly cloudy, Winds variable 5-25 knots, Seas 2-5'. **Other**:

DATE	DREDGE	NOTES
30 December 1996	MANHATTAN ISLAND	**Screens**: Seagrass, wood, shell, plastic, rope, fabric, fishing line, metal. **Below Mid-Depth Temp**: 62 F **Surface Temp**: 58 F **Weather**: Cloudy, Winds variable 5-

DATE	DREDGE	NOTES
25 December 1996	MANHATTAN ISLAND	**Screens**: Stingrays, sea cucumber, seagrass, plastic, rope, wood, fabric, metal, shell. **Below Mid-Depth Temp**: 56 F **Surface Temp**: 56 F **Weather**: Clear, Winds NE 15-30 knots, Seas 2-6'. **Other**:
26 December 1996	MANHATTAN ISLAND	**Screens**: Section of carapace/ vertebrae/pelvic region of unidentified sea turtle (1-2 weeks old), seagrass, wood, shell, metal, plastic, rope, fabric. **Below Mid-Depth Temp**: 55 F **Surface Temp**: 55 F **Weather**: Clear to cloudy, Winds variable 5-10 knots, Seas 1-4'. **Other**:
27 December 1996	MANHATTAN ISLAND	**Screens**: Seagrass, wood, shell, rope, plastic, fabric, fishing line, metal, chain. **Below Mid-Depth Temp**: 58 F **Surface Temp**: 56 F **Weather**: Cloudy w/rain, Fog, Winds SE to NW 5-15 knots, Seas 1-2'. **Other**: Starboard dragarm not used on Load 202 due to repairs, dredge at anchor at 2335 because of fog.
28 December 1996	MANHATTAN ISLAND	**Screens**: **Below Mid-Depth Temp**: **Surface Temp**: **Weather**: **Other**: Dredge at anchor due to fog.
29 December 1996	MANHATTAN ISLAND	**Screens**: Seagrass, wood, shell, plastic, rope, fabric. **Below Mid-Depth Temp**: 62 F **Surface Temp**: 56 F **Weather**: Cloudy, Winds variable 5-10 knots, Seas 1-2'. **Other**: Dredging resumed at 1302.

Project Report
ENDANGERED SPECIES MONITORING
Mississippi River-Gulf Outlet
Maintenance Dredging
Fiscal Year 1997 Report #6

Operations Technical Support Branch
U.S. Army Corps of Engineers
New Orleans District
504-862-2504

ENCLOSURE

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 (NOD) submits this preliminary report summarizing the results of Fiscal Year 1997 maintenance dredging of the Mississippi River-Gulf Outlet (MR-GO), Louisiana, conducted by the government dredge MCFARLAND (97LMN915). These activities were conducted as a part of emergency dredging that was necessary to restore project depths following shoaling in the navigation channel caused by Tropical Storm Josephine. This report is the sixth and final report for maintenance of shoaling in the MR-GO attributed to Tropical Storm Josephine. Reports #1 through #5 previously were submitted to NMFS. This report addresses work conducted by the government dredge MCFARLAND.

Scope of Work

Maintenance dredging was conducted by the government dredge MCFARLAND under work order 97LMN915. Dredging activities began November 23, 1996, and were completed on February 10, 1997. The MCFARLAND was assigned to work non-continuously between channel miles 16.1 and 3.5. Due to the extensive shoaling caused by Tropical Storm Josephine and emergency nature of the dredging, the MCFARLAND conducted maintenance in the MR-GO Breton Sound reach, a section of the waterway further landward than typically maintained by hopper dredges.

Maintenance dredging activities began on November 23, 1997, during the time period when sea turtle monitoring was required as described in the ITS dated September 22, 1995. Following an incidental take in the MR-GO on November 14, 1996, in consultation with the National Marine Fisheries Service (NMFS), the NOD extended the period for sea turtle monitoring in the MR-GO to December 31, 1996, for 50 percent of the dredges working in the MR-GO. Originally the MCFARLAND was selected as one of the dredges that would be equipped to conduct sea turtle monitoring until December 31, 1996. However, when it became apparent that additional contract dredges would be working in the waterway, the MCFARLAND would be operating in a side-casting mode, and the MCFARLAND would not begin work until the last week in November, sea turtle monitoring requirements were shifted from the MCFARLAND to contract dredges. Throughout the work, the

MCFARLAND was equipped with draghead deflectors.

The captain and crew of the MCFARLAND were advised of the potential presence of sea turtles in the project area and the need to report any sightings or interactions with sea turtles that may occur during dredging operations.

Methodology

The dredge worked in the side-casting mode. In side-casting mode, effluent is continuously discharged from the dredge and bypasses the hopper. Material was deposited a distance of 250 feet from the centerline of the channel.

The MCFARLAND was equipped with deflectors, but was not equipped with inflow or overflow screening. The MCFARLAND worked between November 23, 1996, and February 10, 1997, in the Breton Sound between Miles 16.6 and 3.5 of the waterway (Figure).

RESULTS

The MCFARLAND worked from November 23, 1996, to February 10, 1997, and removed a total of 5.6 million cubic yards of shoal material removed from the channel. Shoal material consisted of fine sands and silts.

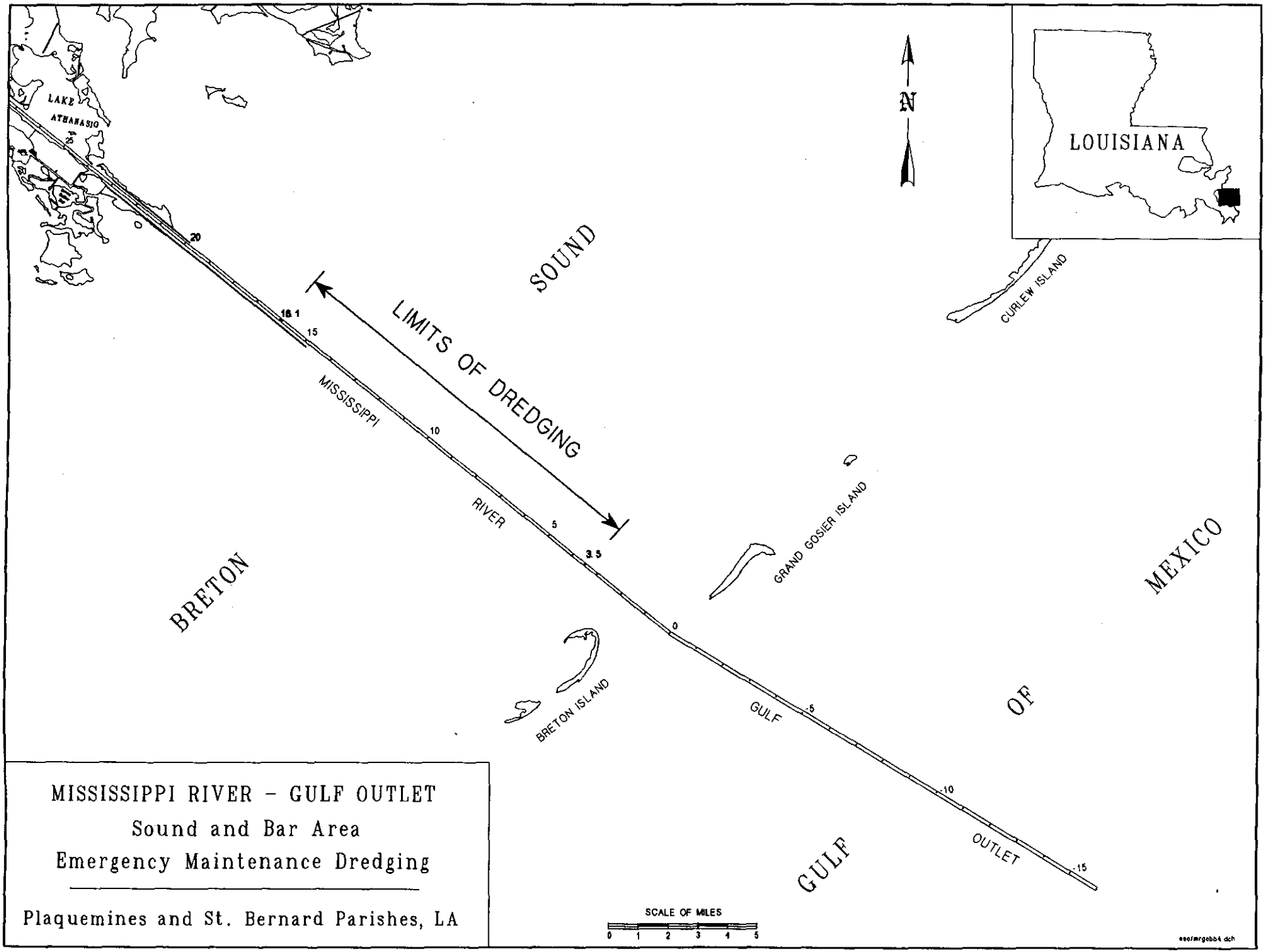
No documented incidents or sightings of sea turtles occurred during these dredging activities. During this time period, the contract dredge OUACHITA documented one loggerhead sea turtle take on December 8, 1996, in the bar channel. Portions of the front right quarter of a loggerhead sea turtle were recovered from the OUACHITA.

DISCUSSION

No sea turtles incidents or sighting were documented as a part of the MCFARLAND dredging activities. However, five sea turtle takes were previously documented by other dredges working in the MR-GO bar channel during Fiscal Year 1996 and 1997 maintenance. Of those five takes, three takes were of fresh and two takes were of decomposed organisms. While the two takes of decomposed sea turtles could not be directly attributed to commercial fishing activities, these takes were documented concurrent with or following commercial fishing vessel activity

in the vicinity of the dredges.

Although the fifth take on December 8, 1996, occurred outside the time period of highest sea turtle abundance in Louisiana coastal waters, water temperature and screen monitoring indicated that temperatures were suitable for sea turtles and sea turtle prey items were available, perhaps abundantly so.



MISSISSIPPI RIVER – GULF OUTLET

Sound and Bar Area

Emergency Maintenance Dredging

Plaquemines and St. Bernard Parishes, LA