

Project Report  
**ENDANGERED SPECIES MONITORING**  
Mississippi River-Gulf Outlet  
Bar Channel  
Maintenance Dredging  
01-2-MRGO

Operations Technical Support Branch  
US Army Corps of Engineers  
New Orleans District  
504-862-2521

## **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 (FY) 2001 maintenance dredging of the Mississippi River-Gulf Outlet (MR-GO), Louisiana, bar channel by the Government Dredge, MCFARLAND.

The NOD normally schedules dredging in the MR-GO bar channel, so that the majority of the maintenance work is conducted between December 1 and March 30, the time period when sea turtles are predicted to be the least abundant in nearshore gulf waters. However, the McFarland required more time to complete channel maintenance and some work was conducted after March 30. Sea turtle observers were placed on board the dredge and sea turtle monitoring was conducted as necessary from April 18, 2001 through May 29, 2001 and from June 9, 2001 through June 13, 2001.

## **Scope of Work**

Maintenance dredging of the MR-GO bar channel was conducted by the hopper dredge, MCFARLAND from approximate channel Mile (-) 3.3 to Mile (-) 7.5 (Figure 1). The dredging work was performed between April 18, 2001 and May 29, 2001, and between June 9, 2001 and June 13, 2001.

Maintenance dredging activities were conducted by the MCFARLAND during the time period when sea turtle monitoring was required as described in the ITS dated September 22, 1995. Sea turtle observers were on board the hopper dredge conducting monitoring. The results of the monitoring are summarized in Table 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. 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 MCFARLAND worked in dredge and haul mode. Material was deposited in the Ocean Dredged Material Disposal Site located south of and parallel to the navigation channel (Figure 1). The MCFARLAND was equipped with 4"x 4" inflow screens and sea turtle observers were on board monitoring for sea turtle takes from April 18, 2001, to May 29, 2001, and from June 9, 2001, to June 13, 2001. The screens were inspected for sea turtles and sea turtle parts and

cleared by hand of debris. Draghead deflectors were in use throughout dredging operations. Glynn Banks of the U.S. Army Corps of Engineers, Environmental Research and Development Center (ERDC) was on board the dredge from June 9 through June 13, 2001, to provide expertise in helping to avoid the incidental taking of sea turtles. From June 9 through June 13, 2001, the MCFARLAND did not dredge between midnight and dawn due to the presence of large waves and to reduce the probabilities of taking sea turtles.

## **RESULTS**

The MCFARLAND worked in the MR-GO bar channel from April 18, 2001 to May 29, 2001, and from June 9, 2001 through June 13, 2001. Dredging was not performed on May 10, 2001, or from May 30, 2001 through June 8, 2001. Approximately 788,375 cubic yards of shoal material was removed by dredge and haul operations.

During this maintenance event there were eleven documented incidental sea turtle takes. A Kemp's ridley sea turtle was taken on April 24, 2001. Loggerhead sea turtle takes were documented on April 27, April 29, May 2, May 4, twice on May 25, May 26, May 28, May 29, and June 10, 2001. Loggerhead sea turtles were sighted on April 29 (2 individuals), June 9 (2 individuals), and June 12, 2001 (1 individual). Two unidentified individuals were sighted on May 15, 2001. Copies of the Endangered Species Reports are provided as Attachment 1. Throughout the dredging work, only biological debris was recovered from the screens. This included sea worms, conch, pen shell, whelk, sharks, redfish, flounder, starfish, rays, blue crabs, sea stars, shrimp, whelk egg casing, and unidentified bone. The results of the screen monitoring are summarized in Table 1. The light amount of debris collected may be attributed to the use of draghead deflectors throughout the contract and to the need for dredging over the same channel bottom areas more than once.

Water temperatures ranged from a maximum below mid-depth water temperature of 84° F (28.9°C) to a minimum below mid-depth temperature water temperature of 72° F (22.2°C). Surface water temperatures were not sampled beyond the first day of dredging; the single entry recorded was 71° F (21.7°C) on April 18, 2001.

Bridge monitoring was conducted opportunistically.

## **DISCUSSION**

A total of eleven sea turtle incidental takes, comprised of one Kemp's ridley and ten loggerhead sea turtles, were recorded during the MCFARLAND's maintenance dredging work in the MR-GO bar channel performed between April 18, 2001, and May 29, 2001, and between June 9, 2001, and June 13, 2001. In addition, five loggerhead sea turtles and two unidentified sea turtles were sighted in the channel during this time. Temperature conditions during the maintenance event were well within range of sea turtle tolerances.

Glynn Banks of ERDC noted that the MCFARLAND experienced difficulties in maintaining

its hull alignment with the direction of its dredging cuts when moving in an upriver direction due to rapidly changing sea currents. This often resulted in the dredge having to proceed along the forward direction of its cut with its bow at an angle. This meant that one of the MCFARLAND's dragarms (the one located on the upriver side of the dredge) would drift under the dredge as it was forced to "crab" up the channel. The dragarm drifting beneath the vessel would have to be raised quickly to prevent it from being torn off of the dredge. Apparently, the pumps were not being shut off during raising of the dragarm. It is Mr. Banks' opinion that this action is the cause of most of the incidental sea turtle takes experienced by this hopper dredge. Following Mr. Banks' assessment of the situation, the MCFARLAND began dredging with only one dragarm (the dragarm located on the downriver side of the dredge) to avoid this problem and reduce the probabilities of taking sea turtles.

This problem also was experienced by the MCFARLAND during its maintenance dredging of the MR-GO bar channel in FY 98, and similar procedures were implemented to reduce the chances of additional sea turtle takes at that time. Although personnel on board the MCFARLAND assured NOD that they were following the dragarm operating protocols developed during the FY 98 dredging event to reduce chances of sea turtle takes, the dredge did not do so during the FY 01 dredging event until advised to implement this procedure by Mr. Banks. Future maintenance dredging of the MR-GO bar channel by the government hopper dredge MCFARLAND will require that it implement single dragarm dredging whenever it experiences sea currents that necessitate its movement up the channel with its bow at an angle to the direction of the dredge cut.

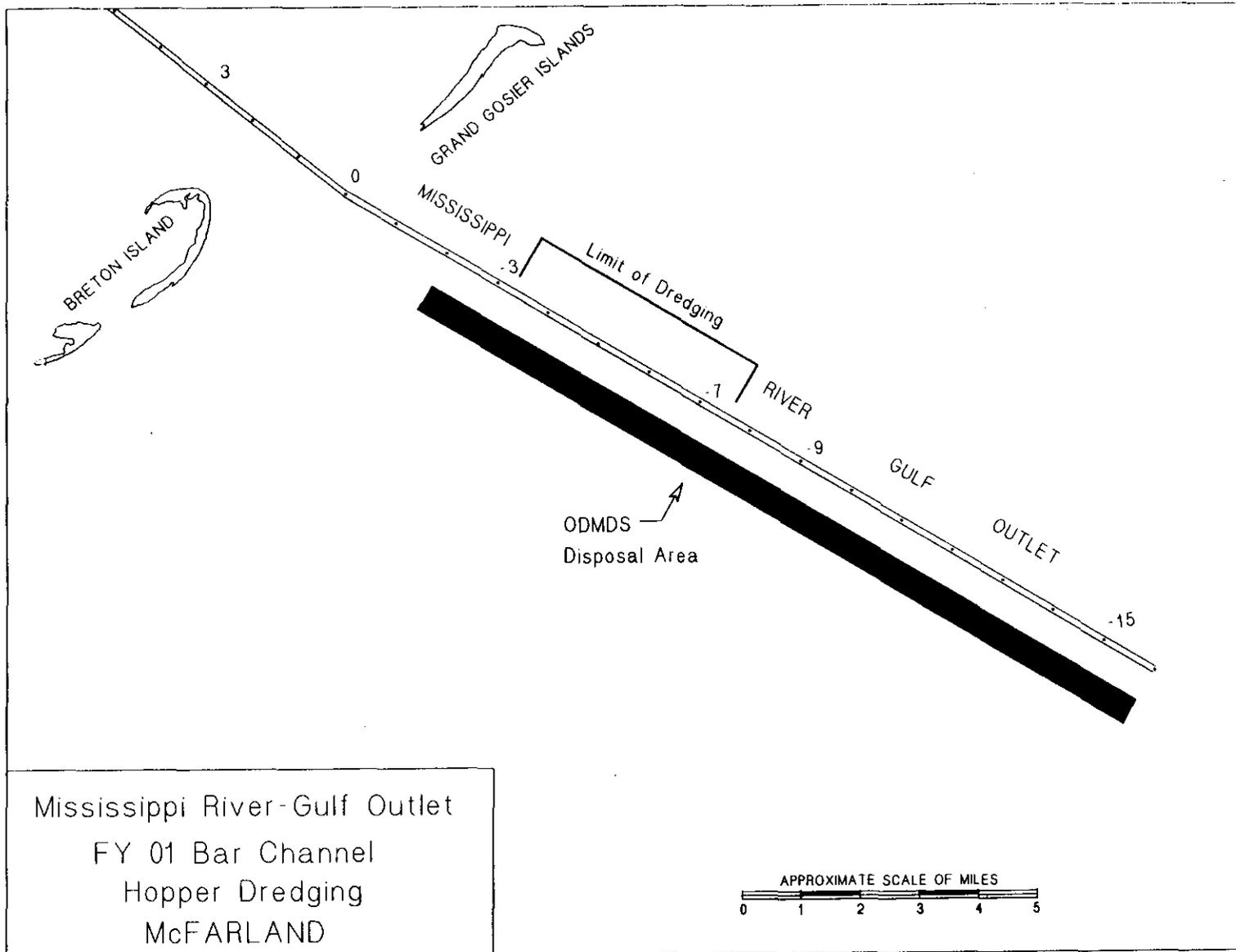


Figure 1

Mississippi River-Gulf Outlet  
 FY 01 Bar Channel  
 Hopper Dredging  
 McFARLAND

Table 1. Summary: Sea Turtle Observer Reports & Incident Reports- McFarland

DATE	DREDGE	NOTES
18 Apr 2001	McFarland	Screens: 2 small Sea Stars Below Mid-Depth Temp: 79°F Surface Temp: 71° F Weather: Clear, wind from less than 5 knots to 17 knots; BBS: 2'-5' Other:
19 Apr 2001	McFarland	Screens: 2.5 Sting Rays, 1 Sea Star, 1 Hardhead Catfish Below Mid-Depth Temp: 78°F - 79°F Surface Temp: Weather: Sunny, wind SE from 2 to 10 knots, NW from 2 to 5 knots, W at 18 knots, N at 18-24 knots; BBS: 2'-3' Other:
20 Apr 2001	McFarland	Screens: 2 Sea Stars and 2 Sea Worms Below Mid-Depth Temp: 76°F - 78°F Surface Temp: Weather: Clear, wind S from 5 to 15 knots; BBS: 3'-4' Other:
21 Apr 2001	McFarland	Screens: 1 Southern Sting Ray Below Mid-Depth Temp: 77°F - 78°F Surface Temperature: Weather: Clear, wind S from 7 to 18 knots to SE 16 knots; BBS: 3'-5' Other:
22 Apr 2001	McFarland	Screens: No biological findings. Below Mid-Depth Temp: 78°F Surface Temp: Weather: Partly cloudy, winds S from 10 to 20 knots, BBS: 3'-5' Other: Large swells were noted.

23 Apr 2001	McFarland	Screens: 1 Sea Star and 1 Conch Below Mid-Depth Temp: 74°F - 78°F Surface Temp: Weather: Partly cloudy & windy, SW 10 to 30 knots, SE 6 to 10 knots; BBS 2'-3' Other:
24 Apr 2001	McFarland	Screens: 1 Sting Ray Below Mid-Depth Temp: 74°F - 78°F Surface Temp: Weather: Clear to overcast to rainy, winds SE 2 to 10 knots with BBS: 1-3; N at 10-20 knots with BBS: 4'- 5' Other: <b>Kemp's Ridley Sea Turtle take</b>
25 Apr 2001	McFarland	Screens: 1 Sting Ray Below Mid-Depth Temp: 77°F - 80°F Surface Temp: Weather: Windy, NE 17 to 25 knots; BBS: 5'-6' Other: <b>Kemp's Ridley Sea Turtle parts hanging from underside of basket-is attributed to yesterday's take.</b>
26 Apr 2001	McFarland	Screens: 5 Sting Rays and 2 Blue Crabs Below Mid-Depth Temp: 76°F - 78°F Surface Temp: Weather: Clear & windy, NE 5 to 25 knots with BBS: 5'-6'; NW 8 to 10 knots with BBS: 3' Other:
27 Apr 2001	McFarland	Screens: 7 Blue Crabs, 4 Sting Rays, 1 misc. crab Below Mid-Depth Temp: 74°F - 78°F Surface Temp: Weather: Clear & sunny, NE 5 to 10 knots; BBS 2'- 3' Other: <b>Loggerhead Sea Turtle Take</b>
28 Apr 2001	McFarland	Screens: 3 Southern Sting Rays Below Mid-Depth Temp: 77°F - 78°F Surface Temp: Weather: Partly cloudy, winds NW 14 to 20 knots, BBS: 3'-4'; sunny, winds NE to E, 12 to 20 knots, BBS: 4'-5'; clear, winds SE, 12 knots, BBS: 4' Other:

29 Apr 2001	McFarland	Screens: 4 Southern Sting Rays, Below Mid-Depth Temp: 74°F - 78°F Surface Temp: Weather: Clear, winds SE 8 to 28 knots; BBS: 2'- 4' Other: Two loggerhead sea turtle sightings before take occurred; <b>Loggerhead Sea Turtle Take</b>
30 Apr 2001	McFarland	Screens: 1 Southern Sting Ray Below Mid-Depth Temp: 75°F - 77°F Surface Temp: Weather: Winds, SE 18 knots, BBS: 5'; clear & windy, winds ESE, 24 to 28 knots. Other:
1 May 2001	McFarland	Screens: 1 Saw-toothed Pen Shell, 1 large, knobbed Whelk, sea turtle viscera Below Mid-Depth Temp: 75°F - 77°F Surface Temp: Weather: Partly cloudy to cloudy to clear, winds SE 10-15 knots; BBS: 3'- 4' Other: Viscera thought to be remains of 29 Apr 01 take.
2 May 2001	McFarland	Screens: 1 Southern Sting Ray, 1 Bonnet head Below Mid-Depth Temp: 75.5°F - 79.5°F. Surface Temp: Weather: Cloudy to partly cloudy to clear, winds SE 2 to 12 knots; BBS: 1'- 3' Other: <b>Loggerhead Sea Turtle Take</b>
3 May 2001	McFarland	Screens: 1 Cownose Ray Below Mid-Depth Temp: 74°F - 78°F. Surface Temp: Weather: Winds N at 10-12 knots & BBS: 3'- 4' , then clear with winds SW at 12 knots, turning sunny with winds SE 12-20 knots & BBS: 4'- 5' Other:
4 May 2001	McFarland	Screens: 1 Southern Sting Ray Below Mid-Depth Temp: 76°F - 77°F. Surface Temperature: Weather: Clear, winds SSW 5 to 12 knots & BBS: 2'- 4'; partly cloudy, winds SE 10 to 15 knots & BBS: 3'- 4' Other: <b>Loggerhead Sea Turtle Take</b>

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5 May 2001	McFarland	Screens: 8 Blue Crabs Below Mid-Depth Temp: 77°F - 78°F. Surface Temp: Weather: Clear, winds SW 3 to 5 knots, BBS: 1'- 2'; partly cloudy to cloudy, winds W 8 to 12 knots; winds E 15 knots, BBS: 4'; overcast, winds SE 10 to 15, BBS: 3'- 4' Other:
6 May 2001	McFarland	Screens: 2 Blue Crabs Below Mid-Depth Temp: 76°F - 78°F. Surface Temp: Weather: Clear, SE winds 7 to 12 knots, BBS: 1'- 4' Other:
7 May 2001	McFarland	Screens: 2 Blue Crabs Below Mid-Depth Temp: 77°F - 79°F. Surface Temp: Weather: Clear & sunny to partly cloudy, winds SSE to SE, 2 to 15 knots, BBS: 2'- 4' Other:
8 May 2001	McFarland	Screens: 1 Southern Sting Ray, 1 sea turtle bone Below Mid-Depth Temp: 77°F - 79°F. Surface Temp: Weather: Clear then cloudy, winds SW then SE, 15 to 20 knots, BBS: 4' Other: <b>Sea Turtle Take Incident Report completed but not recorded as a take.</b>
9 May 2001	McFarland	Screens: 1 Blue Crab Below Mid-Depth Temp: 77°F - 78°F. Surface Temp: Weather: Sunny, winds, SW 10 - 18 knots, BBS: 4' Other:
11 May 2001	McFarland	Screens: No biological findings. Below Mid-Depth Temp: No temperature data given. Surface Temp: Weather: Clear, winds 1 to 3 knots, BBS: 1' Other:
12 May 2001	McFarland	Screens: 1 Hardhead Catfish, 1 Blue Crab Below Mid-Depth Temp: 82°F - 83°F. Surface Temp: Weather: Partly cloudy to sunny, winds N 1 to 8 knots, BBS: 1' Other:

13 May 2001	McFarland	Screens: No biological findings. Below Mid-Depth Temp: 81°F - 83°F. Surface Temp: Weather: Clear, NE winds 5 to 16 knots, N at 18 knots, BBS: 1'- 4' Other: Numerous sharks and 3 rays sighted.
14 May 2001	McFarland	Screens: No biological findings. Below Mid-Depth Temp: 82°F Surface Temp: Weather: Clear, winds E 5 to 18 knots, BBS: 1'; winds switched to N to NE to NW & ranged from 1 to 12 knots, BBS: 2' Other:
15 May 2001	McFarland	Screens: No biological findings. Below Mid-Depth Temp: 82°F - 83°F. Surface Temp: Weather: Clear, winds NNE 18 knots, then SE 10 - 15 knots; NW at 8 knots, then SSE at 8 to 15 knots, then NE at 10 knots. Other: 2 sea turtle sightings.
16 May 2001	McFarland	Screens: 1 Hardhead Catfish, 1 unidentified scapular bone Below Mid-Depth Temp: 81°F - 84°F. Surface Temp: Weather: Clear, winds NE, 8 to 15 knots Other:
17 May 2001	McFarland	Screens: No biological findings. Below Mid-Depth Temp: 83°F Surface Temp: Weather: Clear, winds NE to NNE, 1 to 15 knots, BBS: 1'- 2' Other:
18 May 2001	McFarland	Screens: 2 Blue Crabs Below Mid-Depth Temp: 82°F Surface Temp: Weather: Clear, winds NE 1 to 10 knots, BBS: 1'- 2'; winds shifting to NNE 10 to 20 knots, BBS: 5' Other:

19 May 2001	McFarland	Screens: 1 Southern Sting Ray Below Mid-Depth Temp: 81°F - 83°F. Surface Temp: Weather: Clear, winds N to NW, 8 knots, BBS: 2'; winds SW, 8 to 10 knots, BBS: 1' Other:
20 May 2001	McFarland	Screens: No biological findings. Below Mid-Depth Temp: 75°F - 82°F Surface Temp: Weather: Clear, NW to NNW winds, 15 knots, BBS: 1'; Partly cloudy, NNE to NE winds 8 to 15 knots Other:
21 May 2001	McFarland	Screens: 36 Redfish, 1 Flounder Below Mid-Depth Temp: 75°F - 83°F Surface Temp: Weather: Clear to partly cloudy, winds NNE to NNW to NW to NE to E, 8 to 18 knots, BBS: 1' - 2'; Other:
22 May 2001	McFarland	Screens: 1 small Shark Below Mid-Depth Temp: 74°F Surface Temp: Weather: Clear to rainy, overcast, then clearing, winds NE 5 to 15 knots, then NNE to N, 8 to 20 knots, BBS: 3' Other:
23 May 2001	McFarland	Screens: 1 Starfish, Below Mid-Depth Temp: 72°F - 75°F Surface Temp: Weather: Clear, winds NNW to N to WSW, 6 to 12 knots, BBS: 2' Other: Sighted 2 Hammerhead Sharks, 3 Sea Turtles, 1 Atlantic Manta, 12 <i>Tursiops truncatus</i> , 10 Cownose Rays, 10 <i>Caranx hippos</i> .
24 May 2001	McFarland	Screens: 1 Southern Kingfish, 1 Gulf Flounder Below Mid-Depth Temp: 74°F Surface Temp: Weather: Clear, winds E then N to W, 6 to 12 knots Other:

25 May 2001	McFarland	Screens: 3 Blue-clawed Crabs, 1 Southern Sting Ray, 1 Sea Whelk, 1 Gulf Flounder Below Mid-Depth Temp: 75°F - 76°F Surface Temp: Weather: Clear turning overcast & drizzly, winds SSE then N, 10 to 20 knots, BBS: 2' Other: <b>2 Loggerhead Sea Turtle Takes</b>
26 May 2001	McFarland	Screens: 1 Sea Star Below Mid-Depth Temp: 77°F Surface Temperature: Weather: Clear, winds NNE 9 to 14 knots, then WSW 3 to 8 knots Other: <b>Loggerhead Sea Turtle Take</b>
27 May 2001	McFarland	Screens: 1 Gulf Flounder Below Mid-Depth Temp: 79°F - 80°F Surface Temp: Weather: Clear, winds NNW 1 to 11 knots, BBS: 1'; changing to overcast, winds 8 to 16 knots Other:
28 May 2001	McFarland	Screens: 1 Sea Star Below Mid-Depth Temp: 81°F Surface Temp: Weather: Clear to cloudy, winds N 8 to 20 knots Other: <b>Loggerhead Sea Turtle Take</b>
29 May 2001	McFarland	Screens: 1 Blue Crab Below Mid-Depth Temp: 77°F Surface Temp: Weather: Clear to partly cloudy, winds at 8 to 14 knots Other: About 230 Southern Sting Rays sighted. <b>Loggerhead Sea Turtle Take</b>
9 Jun 2001	McFarland	Screens: 1 Blue Crab, about 33 Sea Stars, 1 shrimp, 1 whelk egg casing, 1 Hermit Crab Below Mid-Depth Temp: 84°F Surface Temp: Weather: Overcast, winds NNE 3 to 26 knots, BBS: 2' Other: 2 Loggerhead Sea Turtles sighted.

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10 June 2001	McFarland	Screens: 3 Blue Crab, more than 9 Sea Stars. Below Mid-Depth Temp: 84°F Surface Temp: Weather: Rainy, winds S from 2 to 30 knots. Other: <b>Loggerhead Sea Turtle Take</b> , dredging postponed at 22:00 hours this date to avoid another turtle take occurrence & because of bad weather (high winds).
11 June 2001	McFarland	Screens: 1 Blue Crab, 1 Sea Star Below Mid-Depth Temp: 82°F Surface Temp: Weather: Overcast, E winds at 26 knots to NW at 16 to 20 knots; then clear with SW to SSW winds at 16 to 22 knots Other: Dredging resumed late morning.
12 June 2001	McFarland	Screens: Several Sea Stars, 1 shrimp, 1 Blue Crab Below Mid-Depth Temp: 82°F- 84°F Surface Temp: Weather: Clear, SSE winds at 8 to 18 knots; winds SSW 14 to 25 knots Other: 1 Loggerhead sighting
13 June 2001	McFarland	Screens: No biological findings. Below Mid-Depth Temp: 82°F Surface Temp: Weather: Sunny, winds SSW 5 to 8 knots Other: End of project, dredge departs at 10:30 AM.

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