

FINAL REPORT

ENDANGERED SPECIES OBSERVER PROGRAM

DREDGE SUGAR ISLAND
NATCO Limited Partnership
Freeport Harbor Channel
Freeport, TX

01/05/97 - 01/26/97

Submitted To:

USACE, Galveston District
P.O. Box 1229
Galveston, TX 77553-1229

Coastwise Consulting, Inc.
173 Virginia Avenue
Athens, GA 30601
706-543-6859

SCOPE OF WORK

Pursuant to a contract with the U.S. Army Corps of Engineers, Galveston District, maintenance dredging was conducted in the Freeport Harbor channel, from 01/05/97 - 01/26/97, using the hopper dredge *SUGAR ISLAND*, operated by NATCO Limited Partnership. Two endangered species observers, approved by the National Marine Fisheries Service (NMFS) and provided by Coastwise Consulting, Inc., lived onboard the *SUGAR ISLAND* to monitor impacts to endangered and protected species, particularly sea turtles, 24 hours per day. The dredge was screened at all points of inflow (where dredged material is discharged into the hopper) in order to detect the presence of sea turtles and/or their parts. Turtle excluder devices (TEDs) were attached to each of the dragheads. Observers worked around the clock cleaning and inspecting the screening and during daylight hours they monitored the water's surface for the presence of turtles and marine mammals.

METHODOLOGY

All points of inflow were screened before the observers boarded the dredge on 01/05. Inflow occurs on the *SUGAR ISLAND* at the end of four pipes, two of which empty into the forward section of the hopper, port and starboard, and two of which discharge at the aft end of the hopper, port and starboard. These points of inflow were screened before the *SUGAR ISLAND* began work in Freeport. Cages were attached directly to the ends of the discharge pipes and were constructed of steel bar-stock, welded in a grid pattern, with openings of approximately 4" x 4". Observers gained access into the top of these cages through hinged trap doors. The aft walls of the cages were hinged and could be opened by hydraulic rams in order to clear the cages of debris after inspection by observers.

Observers inspected and cleaned the inflow screening (cages) at the end of every load. Dragheads and TEDs were also inspected immediately after each load and dredge personnel were informed if the excluders were in need of repair. Data sheets were completed at the end of every load, detailing all biological samples and debris found in the screening and dragheads. Also recorded were the start, end and dump times for each load, the specific location of the dredging area, the type of material being dredged, weather, tide and water temperature data, the condition of the screening and the TEDs and any other pertinent information.

A bridge watch for sea turtles and marine mammals was maintained during all daylight hours (except when the observer was off the bridge cleaning and inspecting the screens, etc.). All sightings of cetaceans and sea turtles were recorded in a bridge

watch logbook. Daily reports and weekly summaries were filed with the Corps of Engineers.

In the event of a turtle take or suspected take, the observers photograph the samples involved, as well as measure and inspect such samples. Samples not positively identified are frozen in the ship's freezer for later analyses. Positively identified samples are weighted with scrap-iron and buried under the tons of dredged material at the disposal site, thus ensuring that the same samples don't wash ashore or get taken by the dredge a second time. However, samples representing a small part of a turtle are routinely frozen and kept for 24 hours for comparison to any samples which might be encountered on subsequent loads. Injured but living turtles are driven to the National Marine Fisheries Services' sea turtle stranding facility in Galveston or to the Gladys Porter Zoo in Brownsville by one of the observers for rehabilitation. Uninjured turtles are photographed, weighed, measured and tagged in accordance with NMFS-approved procedures. The USACE, Galveston District representative, Rob Hauch (409-766-3999), and the NMFS Southeast Regional Office (813-570-5312) are notified by telephone immediately after any incident involving a sea turtle. Incident reports are completed for every event, recording all details surrounding the event.

RESULTS

During the 21 days that observers were onboard the dredge *PADRE ISLAND* in the Freeport Harbor channel, no incidents were documented involving sea turtles. Biological samples increased as the water temperature increased. Samples included cannonball several species of benthic fish, cannonball jellyfish, eels, several species of crabs, mostly blue crabs and various other crustaceans and molluscs. Water temperature ranged between 69°F - 72°F at the surface and 66°F - 70°F at mid-depth. Bottlenose dolphins (*Tursiops truncatus*) were the only species of marine mammal sighted during bridge watch.

DISCUSSION

The screening on the *PADRE ISLAND* was difficult due to the build up of clay in the cages. Observers worked constantly to keep the cages clear though there were three days, 04/09 - 04/11, when the accumulation of clay became so great that the starboard discharge cages had to be opened periodically during loading, thus reducing inflow screening to levels of ~50% on those days. Turtle deflectors remained in good condition throughout the project.

FINAL REPORT

ENDANGERED SPECIES OBSERVER PROGRAM

DREDGE EAGLE I
Bean Dredging Corporation
Freeport Harbor Channel
Freeport, TX

01/25/97 - 02/22/97

Submitted To:

USACE, Galveston District
P.O. Box 1229
Galveston, TX 77553-1229

Coastwise Consulting, Inc.
173 Virginia Avenue
Athens, GA 30601
706-543-6859

SCOPE OF WORK

Pursuant to a contract with the U.S. Army Corps of Engineers, Galveston District, maintenance dredging was conducted in the Freeport Harbor channel, from 01/25/97 - 02/22/97, using the hopper dredge *EAGLE I*, operated by Bean Dredging Corporation. Two endangered species observers, approved by the National Marine Fisheries Service (NMFS) and provided by Coastwise Consulting, Inc., lived onboard the *EAGLE I* to monitor impacts to endangered and protected species, particularly sea turtles, 24 hours per day. The dredge was screened at all points of inflow (where dredged material is discharged into the hopper) in order to detect the presence of sea turtles and/or their parts. Turtle excluder devices (TEDs) were attached to each of the dragheads. Observers worked around the clock cleaning and inspecting the screening and during daylight hours they monitored the water's surface for the presence of turtles and marine mammals.

METHODOLOGY

All points of inflow were screened before the observers boarded the dredge on 01/25. Inflow occurs on the *EAGLE I* at the end of two pipes, port and starboard, which discharge at the aft end of the hopper. There are also large openings midway down each pipe which allow for discharge into the mid-section of the hopper (secondary points of inflow). These points of inflow were screened before the *EAGLE I* began work in Freeport. Cages were attached directly to the ends of the discharge pipes and at the mid-hopper openings and were constructed of steel bar-stock, welded in a grid pattern, with openings of approximately 4" x 4". Observers gained access into the top of these cages through hinged trap doors. The aft walls of the cages were hinged and could be opened by hydraulic rams in order to clear the cages of debris after inspection by observers.

Observers inspected and cleaned the primary and secondary points of inflow (cages) at the end of every load. Dragheads and TEDs were also inspected immediately after each load and dredge personnel were informed if the excluders were in need of repair. Data sheets were completed at the end of every load, detailing all biological samples and debris found in the screening and dragheads. Also recorded were the start, end and dump times for each load, the specific location of the dredging area, the type of material being dredged, weather, tide and water temperature data, the condition of the screening and the TEDs and any other

pertinent information.

A bridge watch for sea turtles and marine mammals was maintained during all daylight hours (except when the observer was off the bridge cleaning and inspecting the screens, etc.). All sightings of cetaceans and sea turtles were recorded in a bridge watch logbook. Daily reports and weekly summaries were filed with the Corps of Engineers.

In the event of a turtle take or suspected take, the observers photograph the samples involved, as well as measure and inspect such samples. Samples not positively identified are frozen in the ship's freezer for later analyses. Positively identified samples are weighted with scrap-iron and buried under the tons of dredged material at the disposal site, thus ensuring that the same samples don't wash ashore or get taken by the dredge a second time. However, samples representing a small part of a turtle are routinely frozen and kept for 24 hours for comparison to any samples which might be encountered on subsequent loads. Injured but living turtles are driven to the National Marine Fisheries Services' sea turtle stranding facility in Galveston or to the Gladys Porter Zoo in Brownsville by one of the observers for rehabilitation. Uninjured turtles are photographed, weighed, measured and tagged in accordance with NMFS-approved procedures. The USACE, Galveston District representative, Rob Hauch (409-766-3999), and the NMFS Southeast Regional Office (813-570-5312) are notified by telephone immediately after any incident involving a sea turtle. Incident reports are completed for every event, recording all details surrounding the event.

RESULTS

During the 29 days that observers were onboard the dredge *EAGLE I* in the Freeport Harbor channel, no incidents were documented involving sea turtles. Few biological samples were collected during the course of this work. What samples were documented were mostly molluscs and crustaceans. Water temperature ranged between 52.4°F - 59.7° at the surface and 56.5°F - 59.0°F at mid-depth. Bottlenose dolphins (*Tursiops truncatus*) were the only species of marine mammal sighted during bridge watch.

DISCUSSION

Two days into the project it became apparent that the screening on the *EAGLE 1* was going to be problematic. Not that the screening system was faulty, the *EAGLE 1* has one of the better inflow screening systems in the industry, but the Freeport channel contains large deposits of very dense clay which tends to plug screening. Despite the best efforts of the observers and the dredge crew, the screening continually clogged and was damaged to the point that 100% effectiveness was not possible. Most of this job, 01/27 - 02/19, was conducted with screening reduced by 20% - 80%. Repairs were made and less clay was encountered toward the end of the job. By 02/19, 100% screening was achieved. Turtle deflectors remained in good condition throughout the project.

FINAL REPORT

ENDANGERED SPECIES OBSERVER PROGRAM

DREDGE PADRE ISLAND
NATCO Limited Partnership
Freeport Harbor Channel
Freeport, TX

04/01/97 - 04/21/97

Submitted To:

USACE, Galveston District
P.O. Box 1229
Galveston, TX 77553-1229

Coastwise Consulting, Inc.
173 Virginia Avenue
Athens, GA 30601
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SCOPE OF WORK

Pursuant to a contract with the U.S. Army Corps of Engineers, Galveston District, maintenance dredging was conducted in the Freeport Harbor channel, from 04/01/97 - 04/21/97, using the hopper dredge *PADRE ISLAND*, operated by NATCO Limited Partnership. Two endangered species observers, approved by the National Marine Fisheries Service (NMFS) and provided by Coastwise Consulting, Inc., lived onboard the *PADRE ISLAND* to monitor impacts to endangered and protected species, particularly sea turtles, 24 hours per day. The dredge was screened at all points of inflow (where dredged material is discharged into the hopper) in order to detect the presence of sea turtles and/or their parts. Turtle excluder devices (TEDs) were attached to each of the dragheads. Observers worked around the clock cleaning and inspecting the screening and during daylight hours they monitored the water's surface for the presence of turtles and marine mammals.

METHODOLOGY

All points of inflow were screened before the observers boarded the dredge on 04/01. Inflow occurs on the *PADRE ISLAND* at the end of four pipes, two of which empty into the forward section of the hopper, port and starboard, and two of which discharge at the aft end of the hopper, port and starboard. These points of inflow were screened before the *PADRE ISLAND* began work in Freeport. Cages were attached directly to the ends of the discharge pipes and were constructed of steel bar-stock, welded in a grid pattern, with openings of approximately 4" x 4". Observers gained access into the top of these cages through hinged trap doors. The aft walls of the cages were hinged and could be opened by hydraulic rams in order to clear the cages of debris after inspection by observers.

Observers inspected and cleaned the inflow screening (cages) at the end of every load. Dragheads and TEDs were also inspected immediately after each load and dredge personnel were informed if the excluders were in need of repair. Data sheets were completed at the end of every load, detailing all biological samples and debris found in the screening and dragheads. Also recorded were the start, end and dump times for each load, the specific location of the dredging area, the type of material being dredged, weather, tide and water temperature data, the condition of the screening and the TEDs and any other pertinent information.

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RESULTS

During the 20 days that observers were onboard the dredge *SUGAR ISLAND* in the Freeport Harbor channel, no incidents were documented involving sea turtles. Few biological samples were collected during the course of this work. There were enormous amounts of plastic trash and monofilament found in the dragheads and screens. Water temperature ranged between 48°F - 56° at mid-depth. Bottlenose dolphins (*Tursiops truncatus*) were the only species of marine mammal sighted during bridge watch.

DISCUSSION

The screening on the *SUGAR ISLAND* worked fairly well despite the build-up of clay. Observers worked constantly to keep the cages clear of debris, no small feat given the amount of plastic debris and clay encountered in the Freeport. No screening was conducted on 01/22 - 01/23, due to winter storm conditions. Seas made it unsafe to work on top of the cages. This was not considered to be a great loss given the water temperature. Turtle deflectors remained in good condition throughout the project.