

FINAL REPORT

**THE MONITORING OF IMPACTS TO PROTECTED SPECIES
DURING DREDGING FOR THE DEWEY BEACH / REHOBOTH BEACH, DELAWARE
STORM DAMAGE REDUCTION PROJECT**

and

THE NORTH SHORES, DELAWARE BEACH RESTORATION PROJECT

SUMMER 2005



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INTRODUCTION

Coastwise Consulting, Incorporated (CCI) provided the USACE, Philadelphia District, with monitoring of impacts to endangered and threatened species during dredging for the 2005 Dewey Beach / Rehoboth Beach, Delaware Storm Damage Reduction Project. Great Lakes Dredge & Dock Company (GLDD) was contracted to perform beach restoration using hopper dredges for this project. The GLDD hopper dredges *Dodge Island* and *Manhattan Island* were used to dredge sand from borrow sites 2-3 nautical miles (NM) offshore of the Indian River Inlet and then place the sand approximately 8 NM away, on the above-mentioned beaches, from near-shore pump-out stations. Monitoring was also provided during beach restoration at the nearby North Shores, DE project.

A National Marine Fisheries Service (NMFS)-approved observer was placed onboard each dredge and began 12-hour per day endangered species monitoring on 06/01/05, to meet the requirement that there be 50% monitoring for impacts to endangered and threatened marine mammals and sea turtles during hopper dredging in the Philadelphia District from June through November. Observers lived onboard and provided monitoring during periods of day and night.

Observers on this particular project were not only required to be NMFS-approved but they were required to have at least 120 days experience at-sea monitoring hopper dredges. This experience was necessitated by the unusual draghead screening required for this project. The project area is known to contain unexploded ordinance (UXO) from past military exercises. The dragheads on the dredges were screened with bar-steel to provide for openings of only 1.5 inches to exclude any UXO that might be encountered. Experienced observers are more likely to notice unusual objects (potential UXO) in the draghead or inflow screening and are also more likely to correctly identify smaller sea turtle parts, especially viscera, that are successfully captured by the inflow screening system while larger parts might be excluded by the draghead screening.

When observers began monitoring the on 06/01/05, the *Manhattan Island* was digging load number 296 and the *Dodge Island* was digging load number 106. The *Manhattan* was monitored at 72% for 28 days, until she left the project on 06/28/05. The *Dodge* was monitored at 58% for 33 days, 06/01 – 07/04, at the Dewey Beach / Rehoboth Beach project site before she moved the North Shores project site and began work on 07/04. The *Dodge Island* was monitored at 59% for 14 days at the North Shores site, until 07/17/05. There were no documented impacts to endangered or threatened species during these projects.

METHODS

On each dredge, rigid turtle deflectors were installed on the dragheads before monitoring began. Screens of heavy bar-steel with longitudinal openings of 1.5 inches were welded over the openings of the dragheads to reducing the potential for UXO being entrained into the dredge pumps. All points of hopper inflow were screened with cages designed to capture entrained sea turtles and their parts. These cages were constructed of steel bar-stock, welded in a grid pattern, with openings of approximately 4" x 4".

At the end of each load the observers checked for the presence of any sea turtles or sea turtle parts lodged in the draghead screening and checked the condition of the draghead turtle deflectors. The observer then cleaned and inspected the hopper inflow screening. Load data sheets were completed at the end of each load cycle, detailing everything found in the screening or the dragheads, as well as the condition of the screens and the deflectors. Also recorded was the start, end and pump times for each load, the specific location of the dredging area, the type of material being dredged, weather, tide and water temperature data (surface and mid-depth), and any other pertinent information.

Observers maintained a bridge watch for protected species during daylight hours and kept logbook of all sightings of turtles and marine mammals, especially large whales. Coastwise contracted sea turtle observers with at-sea large whale identification experience, and given the efficiency of screening apparatus on the dredges, the observers had no problem checking screening and providing an effective bridge watch for marine mammals. The bridge watch noted date, time, location, species, number of animals, distance and bearing from dredge, direction of travel and any other information available on all sightings. Sightings were summarized on the Daily Reports. Daily Reports and Weekly Summaries were filed with GLDD.

No turtles were taken on this project. Had there been a documented take, the protocol is as follows: observers photograph and measure the samples involved. All turtles taken are sampled for genetic analyses. The protocol for biopsy sampling is attached as Appendix 1. Samples are then frozen until they can be transferred to the USACE, NMFS or sent ashore to be handled by the local sea turtle stranding network. Injured but living turtles are turned over to the stranding network and transferred to a facility that can provide rehabilitation to injured turtles. In this case the Marine Education, Research and Rehabilitation Institute in Lewes, Delaware or to the National Aquarium in Baltimore. Such turtles are secured in a cooler, or box, lined with moistened padding. Every effort is made to maintain a relatively constant temperature in the cooler during transport that approximates the columnar water temperature where the turtle was taken.

Typically, the dredging contractor, the USACE and Coastwise Consulting is notified by telephone after any incident involving a sea turtle, or any other protected species. This notification is made within 2 hours. Incident reports are completed for every event, recording all details surrounding the event and a diagram is made of injuries sustained by each turtle sampled. Inquiries concerning incidents should be directed to Chris Slay, Coastwise Consulting, Inc. (706-543-6859 office; 706-540-6655 cell). All data concerning a turtle take is mailed in original form to Beth Brandreth, Environmental Resources Branch, USACE, Philadelphia District.

RESULTS

Observers began monitoring the *Manhattan Island* and the *Dodge Island* on 06/01/05. Monitoring began on the *Manhattan* with load 296 and continued through the last load, 420, when she left the Dewey / Rehoboth project on 06/28/05. Of the 125 loads dredged during this 28-day period, 91 were observed, yielding 72% observer coverage for the Manhattan Island at Dewey / Rehoboth.

Monitoring began on the *Dodge* with load 106 and continued through the last load, 247, when she left the Dewey / Rehoboth project early on 07/04/05 for the North Shores Project. Of the 142 loads dredged during this 33-day period, 83 were observed, yielding 58% observer coverage for the *Dodge Island* at Dewey / Rehoboth.

Between both dredges, 267 loads were dredged from 06/01/05 – 07/04/05. Of these, 174 loads were observed and documented, providing 67% observer coverage. Sightings of bottlenose dolphins were common but no impacts to that species were observed. No evidence of sea turtle take was found during the 2005 Dewey Beach / Rehoboth Beach, Delaware Storm Damage Reduction Project and no incidents of concern were noted by observers during work on this project.

Monitoring for the North Shores, DE project began on the *Dodge Island* on 07/04/05. Of the 59 loads that were dredged for this project, 35 were observed and documented, yielding 59% observer coverage. Sightings of bottlenose dolphins were common but no impacts to that species were observed. No evidence of sea turtle take was found during the North Shores Project and no incidents of concern were noted by observers during work on this project.