

five months following the disposal. Dye and drogue studies were carried out to determine the current and flushing regime at this site. The benthic studies encompassed the dredge and disposal areas and control areas near the bay mouth. The primary disruption was found to be limited to the dredge areas, disposal areas and those areas to which the material had migrated. It was concluded that some recruitment of benthic invertebrate occurred within the five month study period. High ambient turbidity and energetic currents were listed as significant unique characteristics of the site.

Naqvi, S.M. and E.J. Pullen (1982) "Effects of Beach Nourishment and Borrowing on Marine Organisms", U.S. Army, Corps of Engineers, Coastal Engineering Research Center, Miscellaneous Report No. 82-14, 43 pages.

A literature review is presented of the biological effects in the nourished and borrow areas. The manner in which beach nourishment may effect the benthic environment includes direct burial, modification of beach interface and an increase in turbidity. The compatibility of the placed sand is important to the minimization of impact. The generally energetic and unstable nature of the beach system and the associated high motility of the resident fauna contribute to their survival and rapid recruitment. Motile animals, such as fish, can leave the area and are affected least, although their food supply may be affected. Hard corals are more susceptible to sedimentation than soft corals although studies have shown the ability of corals to recover from limited sedimentation damage. The quality of the sediment placed is important to turtle nesting. Fill with excessive fines will tend to become partially cemented and be less suitable for turtle nesting. Proper timing of nourishment to avoid nesting season (April to September) will lessen any impact to turtles. Assessments of recovery in the nourishment and borrow sites are made. Recommendations are presented relating to the use of various types of dredging equipment and positioning capabilities.

Nelson, D.A. (Undated Working Draft) "The Use of Tilling to Soften Nourished Beach Sand Consistency for Nesting Sea Turtles", U.S. Army Waterways Experiment Station.

An evaluation was conducted of the effectiveness of tilling a beach nourishment project. The test was conducted at Delray Beach, FL and effectiveness was based on reduction in shearing resistance as measured by a cone