

dwelling invertebrate sediments, or water quality in the vicinity of the borrow pits.

Spadoni, R.H. and T.J. Campbell (1981) "Environmental Monitoring for the Delray Beach Maintenance Nourishment Project", Arthur V. Strock and Associates, Inc., Delray Beach, Florida.

The 1978 Beach nourishment program at Delray Beach, Florida comprised the placement of 700,000 cubic yards of beach fill along approximately 1.7 miles of shoreline.

This report presents the result of a monitoring program to document any adverse environmental effects of this project. Of specific concern is a coral reef located 4,000 ft offshore and parallel to the general orientation of the shoreline. The borrow area was in excess of 6,000 ft long located inside the coral reef and at one location was within 400 ft of the reef. The major concern was the possibility of sedimentation due to the dredging operation damaging the reef. The monitoring program extended from November, 1977 to April, 1979, a period of 18 months. The dredging operations had been conducted from January 30, 1978 to May 25, 1978. Field techniques included: sedimentation rates as determined by collection in jars, repeated photographs of the reef in selected areas, collection and later analysis of water samples, and wave and current observations.

Findings of this monitoring project included: (1) a strong correlation of sedimentation rate with wave height, (2) with one exception no increase in sedimentation rate over the reef area monitored during the dredging period as compared to the pre- and post-dredging period, (3) the turbidity of all water samples collected over the reef during dredging operations were less than 1.0 NTU. On one occasion during a storm prior to dredging the turbidity exceeded 1.0 NTU, (4) turbidity near the disposal area exceeded 50 JTU the State of Florida standards; however these high values of turbidity were localized, (5) the only reef damage was a one acre area and was due to an anchor inadvertently dropped on the reef during demobilization. Within one year after the damage, the coral reef has begun to repopulate with native benthic invertebrates.