

PROJECT: Jupiter Inlet Management Plan - Raising North and South Jetty Elevations/Extend South Jetty

PURPOSE/GOAL: Sediment bypass; navigational safety; reduce sedimentation in Loxahatchee Estuary.

PROJECT LOCATION: Inlet Mouth

PROJECT STATUS: Completed, 1997-98.

DESCRIPTION:

This action involved raising the seaward end of the two jetties by 2 feet, and lengthening the south jetty by 200 feet. The additional length of the jetty continues in the same alignment as before for about 100 feet, before curving to the southeast. The jetty was also redesigned to include the installation of two parallel sheet-pile walls with sand backfill and a reinforced concrete deck to enhance pedestrian access. Additional modifications included granite riprap extensions at the western ends of each jetty to prevent flanking and to afford protection to newly planted vegetation (south jetty) and a small swimming beach (north jetty).

The extension of the south jetty has reduced beach erosion immediately downdrift of the inlet by virtue of enlarging the region sheltered against wave action, and by reducing the transport of (sand-laden) water around the jetty occurring with each flood tide. Similarly, raising the jetties has reduced the transport of sand over each, which occurs with significant storms. Any reduction of sand influx into the inlet will also result in a proportional reduction into the Loxahatchee Estuary.

In 2006, the Jupiter Inlet District undertook remedial repairs to the jetties, including the addition of armor stone and, for the north jetty, demolition of the old sheet pile core and repair to cracking concrete. The armor stone was added where stone loss was observed to have occurred with the passage of Hurricanes Frances and Jeanne, in 2004.