



## St. Lucie Inlet Federal Maintenance Dredging Project

The St. Lucie Inlet serves a vital role in Martin County’s economy, ecosystems, and lifestyle of its residents. Commercial, sport, and recreational fishing define life in this community and each relies on safe and dependable use of the inlet.

St. Lucie Inlet is one of the widest in Florida, nearly a half mile (2,362 feet), making this

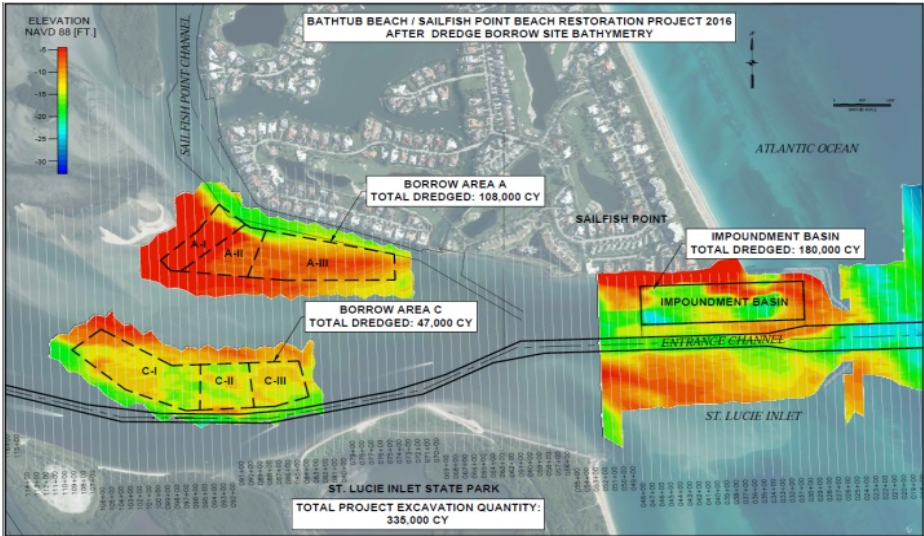
shallow draft inlet vulnerable to elevated sea states. It became a federal project in 1913 through the Rivers and Harbors Act. The table at right provides a detailed outline of activities since the inlet’s opening by locals in 1892. The St. Lucie Inlet Management plan was adopted by the state 1995 and updated in 2016. It identified a preliminary bypass goal of 195,000 cy/yr. with 161,000 cy/yr. to the south and 34,000 cy/yr. to the north. Placement has frequently been in the Hobe Sound National Wildlife Refuge, focusing on the area of Peck Lake (1996 breach at Peck Lake is shown below). The plan also required extensive monitoring, which could generate the data necessary to fine tune the Inlet’s sediment budget.



**1969 Breach at Peck Lake** has a design life of 3-4 years and once full sand begins to spill into the navigation channel, impeding navigation (See “Shoaled Condition, October 2011”). Since adoption of the Management Plan a combination of direct beach placements (1995, 1998, 2007, 2012, 2014, 2016) and nearshore placements (2000, 2002) have resulted in the bypass of over 3.6 MCY. The 3 bypass methods used to accomplish this include: 1) hydraulic dredge with direct placement, 2) mechanical dredge barging material down the ICWW and pumping across the barrier island to shore and, 3) hydraulic dredge to split hull barge or hopper dredge for ocean placement.

St. Lucie Inlet Maintenance History and Improvement Milestones	
1892	St. Lucie Inlet, located at the south end of Hutchinson Island, reported to have been cut through the barrier island by local residents. Initially the inlet was 30 feet wide and 5 feet deep.
1913	The 1913 River and Harbor Act provided initial appropriation of funds for experimental dredging of a channel 18 feet deep across the reef and ocean bar.
1916	Federal construction of the channel seaward from the mouth of the inlet began.
1929	Local interests build a 3,325-foot coquina stone jetty on the north shoreline of the inlet between 1926 and 1929.
1948	A 10 by 200-foot channel about 750 feet across the seaward bar and reef was constructed under authorization of the 1945 River and Harbor Act
1966	Federal legislation was passed modifying the St. Lucie Inlet project to include maintenance of a 6 by 100-foot channel along the best natural deep water alignment between the Federal bar-cut channel and the Intracoastal Waterway.
1974	Extension of the north jetty and modification for a weir section, excavation of impoundment basin, construction of a south training jetty with fishing walkway, a 10 by 500-foot channel through the bar-cut tapering to 150 feet through the inlet, and a 7 by 100-foot channel to the Intracoastal Waterway were authorized by Congress.
1982	Construction of the project was carried out with a 650 foot dogleg extension added to the north jetty, a 1,400 foot long south jetty, a 400 foot long detached breakwater, an entrance channel 16 feet deep by 300 feet wide, an inlet throat channel 10 feet deep by 150 feet wide, an interior channel 7 feet deep by 100 feet deep by 150 feet wide, an interior channel 7 feet deep by 100 feet wide, and the dredging down to rock of a 2,500 foot long by 450 foot wide impoundment basin.
1994	Construction by non-Federal interests of a sand tight groin about 450 feet long at an elevation of about 4 feet NGVD located about 50 feet north of and parallel to the north jetty.
1998	Martin County Flood Shoal Removal project, removing 714,00 cy placed on Jupiter Island Beaches. Material was barged down the ICW and pumped to beaches from two offloading sites
2000	Corps Emergency Maintenance Dredging with nearshore disposal of ≈ 220,000 cy sand
2002	Deepening of the Impoundment Basin and Maintenance Dredging with ≈ 292,000 cy of sand placed in the nearshore and 300,000 cy of rock placed offshore to create a 40 acre artificial reef site.
2007	Maintenance Dredging with ≈ 600,000 cy placed on the beaches of the Hobe Sound National Wildlife Refuge, R-59 to R-69
2009	North Jetty Improvements raising the seaward 450 feet of the north jetty
2012	Maintenance Dredging with ≈ 474,000 cy placed on the beaches of the Hobe Sound National Wildlife Refuge R-60 to R-72
2014	Maintenance Dredging with ≈ 373,974 cy placed on the beaches of the Hobe Sound National Wildlife Refuge R-60.9 to R-70
2016	Martin County Bathtub Beach/Sailfish Point Joint project to remove ≈325,401 cy of material from Borrow areas A&C as well as the impoundment basin and navigation channel.

The future of federal funding for this shallow draft inlet is questionable. Locally, efforts are ongoing to identify adequate and dependable funding sources to allow future bypass operations to occur on a regular basis, independent of federal funding. These efforts are focused not only on moving the sand south and safeguarding the economic engine of maritime interests, but also on preserving the critical and fragile ecosystems supported by the Inlet. The project is bounded on the west by a part of the Indian River Lagoon (IRL) that is managed as the Jensen Beach Jupiter Inlet Aquatic Preserve.



This estuary is dependent on the flushing provided by the inlet to maintain and expel excess fresh water and pollutants carried with it and to introduce clean ocean water to maintain the salinity balance. To the east of the Inlet lies the northern extent of the Florida Reef Tract (the St. Lucie Inlet State Preserve) whose residents rely on access to the IRL for at least part of their life cycle for spawning, as a nursery or for foraging.

A maintenance project is planned for the summer of 2017. The plan proposes the use of a hopper dredge or hydraulic dredge pumping to split hull barges to excavate sand from the impoundment basin and transport it offshore for placement in Borrow Area B.

### Project Statistics

Construc tion Year	Volume	Down Drift Placement	Construction Method
1996	625,000	R-59 to R65 & R-75 to R-82	ICW & Crossroads Mechanical
1998	714,000	R-73 to R-84 & R-92 toR-103	Mechanical – barged down ICWW
2000	221,000	Nearshore	Mechanical – split hull scows
2002	292,000	Nearshore	Hydraulic (GLDD Texas) spider barge to split hull scows
2007	560,000	R-59 to R-69	Hydraulic (GLDD Alaska)
2012	474,000	R-61 to R-70	Hydraulic (Norfolk/ Charleston)
2014	373,974	R-60 to R- 70	Mechanical – barged down ICWW
2016	325,401	R-34.5 to R-49.5	Hydraulic (Molly Hill)



Project Layout (offshore storage)



Project Layout (hydraulic placement)