

Bogue Inlet Channel Erosion Response Project
Final Environmental Impact Statement

1.2.1 Initial Authorization

In the 1970's and 1980's both the shallow depths and the uncertain location of the natural channel prompted the local government, specifically the Onslow County government to pursue Federal authorization to annually dredge the channel in anticipation of a more efficient and safe navigation. Federal authorization to conduct channel maintenance was authorized on September 7, 1983 under authority of Section 107 of the Rivers and Harbors Act of 1960 (P.L. 86-645) based on a Detailed Project Report dated May 1983. The authorized channel extends from the inlet gorge through the ocean bar and measures 150 feet wide at a depth of 8 feet mean low water. The Bogue Inlet project is a side channel of the Atlantic Intracoastal Waterway. Under Section 107 (Continuing Authority), specific Congressional authorization is not required. The inlet channel connects with a 6-foot MLW x 90-foot wide channel that extends from the inlet gorge to the Intracoastal Waterway. This connecting channel was authorized on November 29, 1963 under Section 107 and was based on a Detailed Project Report dated April 1963.

Under the current project authority, the U. S. Army Corps of Engineers (USACE) Navigation Branch follows the deep water channel that exists at the time maintenance dredging is performed. Accordingly, no attempt is made to maintain a fixed channel location or alignment.

The USACE Navigation Branch maintains Bogue Inlet channel using a U.S. Government dredge plant, primarily sidecast dredges. Sidecast dredges pick material up from the bottom of the channel using drag-arms and discharge the material off to the side of the vessel in open water. Between 1984 and 1999, the average amount of material removed from the bar channel was 151,500 cubic yards/year. The rate of dredging has increased substantially over the last three years (2000 to 2002) averaging 514,200 cubic yards/year. Maintenance of this channel, which is normally combined with the removal of shoal that form at the confluence of the channel and the AIWW, entails the removal of between 50,000 cubic yards and 100,000 cubic yards with this material being pumped to the ocean shoreline on the west end of Emerald Isle. Disposal of this material normally begins at a point 1,500 feet east of the inlet shoulder and is spread over 1,000 to 2,000 feet of shoreline.

1.2.2 Supplemental Appropriation

Funds for maintenance dredging of both the ocean bar channel and Atlantic Intracoastal Waterway connecting channels are included in the general O&M budget developed each year by the USACE - Wilmington District. Between

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1984 and 1999, the average amount expended on maintenance of the Bogue Inlet project was \$432,000 per year (unadjusted for inflation). The average amount expended between 2000 and 2002 (a period of increased maintenance activity) was \$1,223,400.

1.3 PROJECT OBJECTIVES

The Town of Emerald Isle, which covers approximately the western 11.2 miles of Bogue Banks, is suffering from the erosive effects of the eastward migration of the Bogue Inlet ocean bar channel. The bar channel began its eastward trek around 1984 and has moved steadily to the east at an average rate of 93 feet per year. The eastward migration of the inlet channel has been accompanied by erosion of the inlet shoreline that borders the Pointe subdivision located on the extreme west end of the Town of Emerald Isle. Inlet shoreline erosion rates have varied between 60 and 90 feet per year since the mid 1980's.

Presently, seven homeowners and the Town of Emerald Isle have responded to the erosion threat by constructing temporary sandbag revetments to protect threatened homes and infrastructure. The existing sandbag revetment covers approximately 700 feet of the inlet shoreline and has been effective in protecting the threatened homes and roads albeit not without some maintenance. State of North Carolina coastal management rules and regulations will only allow the sandbag revetments to remain in place for two years, if they are protecting homes, and five years if it is protecting large structures or roads. The eventual removal of the existing sandbag revetments will result in the immediate loss of these seven threatened homes and a resumption of the inlet shoreline erosion. Accordingly, the Town of Emerald Isle is seeking a more permanent means of addressing the erosion threat.

The Town of Emerald Isle has permits to nourish approximately 10 miles of its 12 mile ocean shoreline. The Emerald Isle beach nourishment project is part of an island-wide project sponsored by Carteret County. The County project covers approximately 16.8 miles of ocean shoreline and begins at the east town limits of the Town of Pine Knoll Shores and ends at a point 6,500 feet (1.25 miles) east of Bogue Inlet. Phase 1 of the Bogue Banks project, which was completed in April 2002, included the shorelines fronting the towns of Pine Knoll Shores and Indian Beach as well as the shoreline fronting the unincorporated village of Salter Path. The Town of Emerald Isle has divided its portion of the project into two phases. As shown on Figure No. 2, Phase 2 covers the eastern 31,100 feet of the town's shoreline and Phase 3 the western 23,831 feet. Phase 3 consists of a 21,300 foot main fill

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section, a 531 foot taper on the east end to tie to the end of Phase 2, and a 2,000 foot taper on the west end. Phase 2 of the beach nourishment project was constructed between January 14 and March 27, 2003. The work was accomplished by a combination of ocean certified pipeline dredge and hopper dredge using direct pump-out with material being obtained from the approved offshore borrow areas. A total of 1,867,726 cubic yards was distributed along the 31,100 feet of shoreline associated with Phase 2 of the project. The design template for Phase 3 of the beach nourishment project calls for 35.2 cubic yards in place per linear foot of beach or a total in place volume of 794,300 cubic yards. Some controversy has occurred regarding the quality of the beach nourishment material obtained from the offshore borrow area, which had a relatively high shell content. As a result, the Town of Emerald Isle is seeking alternative borrow sources that would yield high quality beach nourishment for Phase 3 of its project.

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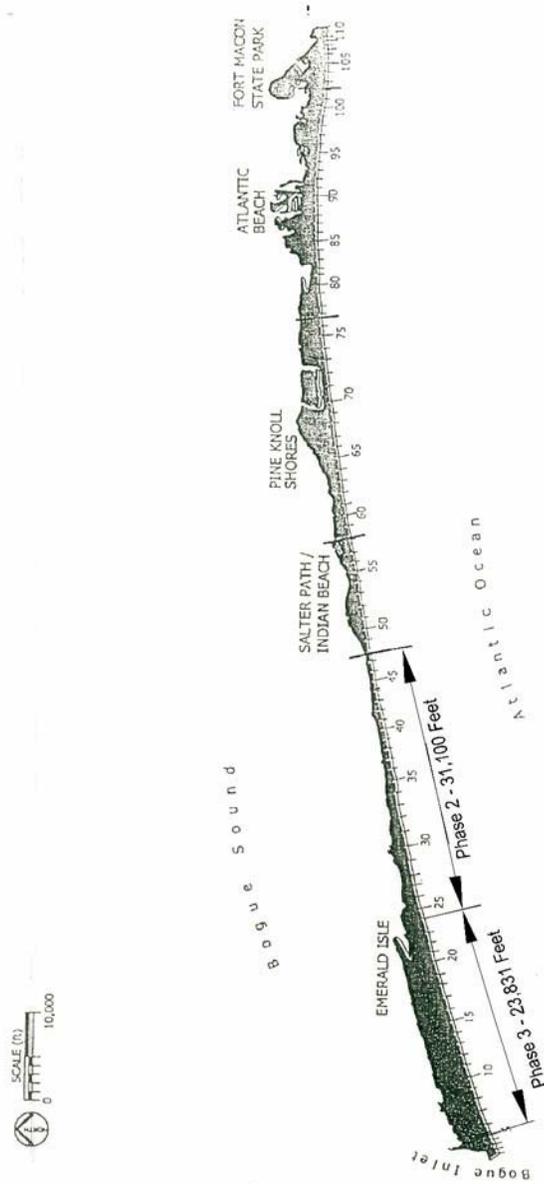


Figure No. 2 – Phase 2 and 3 of the Emerald Isle Beach Nourishment Project