1869. On the survey of 1733, a depth of 21 feet is shown in the Old Ship Channel at mean low water, and in 1869 only 5½ can be found in the same channel."

The condition of the river prior to the opening of New Inlet (which occurred during an equinoctial storm in 1761) is rather uncertain, but old maps indicate that there was a low-water depth of 14 feet across the bar at the mouth, the least depth between Wilmington and the mouth being 7½ feet. There is also some uncertainty as to the conditions in 1829, when the improvement was undertaken by the United States, but the most reliable information is that there was then about 7 to 7½ feet at low water in the river, about 9 feet in Bald Head Channel, 9 feet in Rip Channel, and 10 feet at New Inlet. Work on the bar was begun in 1853, at which time the bar depths at low water were 7½ feet in Bald Head Channel, 7 feet in Rip Channel, and 8 feet at New Inlet, the governing low-water depth in the river having been increased to 9 feet.

The original project of 1827 was to deepen by jetties the channel through the shoals in the 8 miles next below Wilmington. This project resulted in a gain of 2 feet available depth. The project of 1853 was to straighten and deepen the bar channel by dredging, jettying, diverting the flow from the New Inlet, and closing breaches in Zeke's Island. This project was incomplete when the War between the States began. Up to that time, $363,228.92 had been spent on the improvement. The work done during this period was measurably successful. The report of the commission of 1858 referring to it says:

"The works recommended by the board of 1853 were, in the opinion of the commission, entirely efficient, so far as they were carried out, having, as is shown by the Coast-Survey maps, caused an increase in the depth of Oak Island Channel of between one and two feet."

After the war the first project was that of 1870, to deepen the bar channel by closing breaches between Smith's and Zeke's Islands, with the ultimate closure of New Inlet in view. The project of 1873 included that of 1870 and in addition the dredging of the bar channel and the closing of New Inlet. This work was in charge of Gen. J. H. Simpson, U. S. A., who was succeeded in the management of it by Col. William P. Craighill. The main construction was under Maj. Walter Griswold, assistant engineer, whose services were able and highly acceptable. Mention should be made also of Henry Nutt, Esq., chairman

of the Committee on Bar and River Improvements of the Chamber of Commerce, whose activities greatly advanced the work. The *Wilmington Journal* of March 20, 1872, contains the following acknowledgment of his services:

"We are unwilling to give expression to the bright hopes of the future we anticipate for our goodly old town. But whether that success be attained in full or scant measure, the name of Henry Nutt will, and ought to be, held in grateful remembrance by all our people to the last generation, as the earnest, persistent, and enthusiastic friend of this great work."

The project of 1874 was to obtain by dredging a channel 100 feet wide and 12 feet deep at low water up to Wilmington. The project of 1881 was to obtain by dredging a channel 270 feet wide and 16 feet deep at low water up to Wilmington. These projects had been practically completed in 1889. At that time the expenditure since the war amounted to $2,102,271.93.

The project adopted September 19, 1890, was to obtain a mean low-water depth of 20 feet and a width of 270 feet from Wilmington to the ocean. This project has been modified several times.

For the five years ending June 30, 1915, there was expended for river improvements $1,440,844.02, and the commerce on the Cape Fear River at and below Wilmington averaged 929,336 tons, with an average valuation of $50,978,671.06 for the five calendar years. At the close of the year ending June 30, 1915, there had been a total expenditure of $5,974,868.48. The project below Wilmington under execution was adopted in the River and Harbor Act approved July 25, 1912, and provides for a channel depth of 26 feet at mean low water, with a width of 300 feet, increasing at the entrance and curves in the river and widening to 400 feet across the bar. The project is eighty per cent completed, the depth having been secured throughout the entire distance, additional work being required only to widen the channel where the width is deficient. On June 30, 1915, a mean low-water channel 26 feet deep and from 280 to 400 feet wide existed on the ocean bar and 26 feet deep and 300 feet wide in the river channels, excepting at Snow's Marsh Channel, where the 26-foot channel was from 150 to 270 feet wide.

The various projects adopted by the Federal Government involved the closing of New Inlet and the construction of a defensive dike from Zeke's Island, on the south side of New