ONE OF THE FINEST RIVERS IN THE SOUTH:  
Corps of Engineers Improvements on the  
Cape Fear River Below Wilmington, 1870-1881.  

Richard H. Rayburn

In 1865 there began a period of political reconstruction in North Carolina, in order to readmit the seceded state to the Union. This era was a turbulent one, with the state being divided into military districts, and political battles raging between Conservatives and Republicans over who would control the state and its voters. While the reconstruction of North Carolina was gaining force and momentum, there began another kind of reconstruction: the physical rebuilding of the state. This process began in the 1870’s, and as Lefler and Newsome state in their work, North Carolina: The History of a Southern State, “The decade of the 1870’s was marked by transition, expansion, and the real beginnings of the Industrial Revolution in North Carolina. The ‘gospel of salvation through manufacturing’ was preached throughout the state, and profits made the gospel real.”

This revolution would have the greatest implications for North Carolina’s largest city in 1870. This city was Wilmington, the head of several railroad networks, which had the largest port in the state and over 10,000 inhabitants. With reconstruction would come the federal government’s involvement with improvements on the Cape Fear River. These improvements began in 1870 and continue to the present day. They would prove to be beneficial to the commercial and economic position of Wilmington in comparison to other regions in the state.

The federal involvement came in the form of the United States Army Corps of Engineers, who performed all the major improvements on the river after the Civil War. The Corps had originally begun working on the Cape Fear before the Civil War, as early as 1827, when a project was undertaken to deepen the channels eight miles below Wilmington by the use of jetties. The river had been steadily deteriorating since 1761, when a fierce storm caused an inlet to be opened into the river at the site of the New Inlet.

Although the records available are unclear, apparently the river had shoaled from 14 feet to 9 feet at the entrance by 1827. The project of 1827 lasted two years but seemed to have little effect on the river.

After a lapse of twenty-four years the Corps began improvements again in 1853. This project was in the charge of Captain Woodbury and involved dredging, jettying, closing the beaches of Zeke’s Island, and diverting the flow of water into the river at New Inlet. The depth of the river at the start of the project was 9 feet and the entrance channels were measured at 7 feet. The project of 1853 was never finished, however, and was abandoned with the start of the Civil War in 1861. During the war no improvements were made on the river by the Confederate government and it deteriorated even further.

The decrease in the depth of the Cape Fear had some bad effects on the trade and commerce of the city. With bigger and heavier draft ships coming into use, many would not be able to navigate the shallow Cape Fear; and its competitive position among Southern ports would, and did, decline. This did not go unnoticed by the citizens of Wilmington, who sought in 1870 to have the federal government and the Corps of Engineers begin improvements again.

The efforts of the citizens were led by two men: Alexander Strauze and Senator Joseph C. Abbott. Strauze, who had been a member of the United States Coastal Survey Department, was among the first to act, developing a proposal for the improvement of the river and laying it before the representatives in Washington. Senator Abbott took up the proposal and helped Strauze through the different departments, whose approval of the plan was needed before it could be introduced into the Congress. Strauze was successful in getting the approval of the Coastal Survey Department for a plan of dredging.

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LOWER CAPE FEAR HISTORICAL SOCIETY, INC.

BULLETIN

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PRESIDENT’S MESSAGE

A more detailed President’s Report will be presented at the Annual Meeting, May 13, but I would like to take this opportunity to share a few thoughts with you via the Bulletin.

As the 1983-1984 fiscal year draws to a close, the Society finds itself in respectable financial shape, thanks to the hard work of many who made a variety of projects successful. The Wassail Bowl, Old Wilmington by Candlelight Tour, and Christmas Shop were well patronized and generated record attendance and revenue. The Historic Wilmington Tour brought in more visitors than ever, which resulted in better receipts and increased sales in publications.

We have appreciated the dedication of our volunteers who have assisted in the Latimer House Tours, but as the tourist season arrives we will need even more help to assist with large tour groups. Please call Mrs. Scott at 762-0492 or Mrs. Pike at 762-8077 if you would be willing to volunteer.

The Board has allocated funds to implement Rudy Favretti’s Victorian garden plan. William Seyle has submitted his plan for the restoration of Latimer House, which is being studied. It will provide sound directives which can be phased into a long range program tied to our budget.

This has been an interesting and productive year and I urge you to support our membership drive and to assist us in the many projects which lie ahead.

Sincerely,

Frank Conlon

GIFTS TO THE SOCIETY

Gifts to the Latimer House Garden Restoration
Mrs. Albert Perry—Latimer House Landscape Garden Design Plan by Mr. Rudy J. Favretti of the University of Connecticut.
Dr. and Mrs. John Cashman—“Pink Perfection” camellia given in memory of Mrs. Roy Douglas Cobb.

Gifts to the Latimer House
Mrs. Ann Burr—Black taffeta corded cape with jet beads and standing black velvet collar, which was made in Paris and given by Mrs. Fannie Latimer to Mrs. Burr’s aunt.
Dame Catherine Carpenter—19th C. earthenware pitcher, two 19th C. pudding molds, pair of 19th C. lace panels.
Mr. and Mrs. Jim Cross—Fourteen coin silver spoons from Ohio and New York.


Mrs. Mary Lou Herst—Liner for 19th C. slop jar, peel.
Mrs. Paul Jemnwein—Two dozen wooden clothes pins.
Mrs. John Robert Lane, Jr.—19th C. set of scales, material for bedroom curtains.
Mrs. Donald E. Pike—Liner: bedroom curtains.
Mrs. Jane Rhett—Set of lobster crackers and picks, which were original to the Latimer House.

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MEETING

Date: Sunday, May 13, 1984
Time: 4:00 P.M.
Place: Thalian Hall
Speaker: Ms. Angela Barnett
Executive Director, Historic Wilmington Foundation
Topic: “New Directions in the Restoration of the deRosset House”

Note: At this meeting new officers and directors of the Society will be elected. Also, the annual Clarendon Award will be presented.
the river and erecting jetties to deepen the channels. He and Abbott had figured the initial cost to be $100,000, to which the Coastal Survey Department agreed. They did not receive the approval of the Corps of Engineers, however; for the Corps recommended closing New Inlet, and would not begin work until a careful survey of the river had been made. Abbott and Strauze, seemingly, decided to go ahead with the proposal for $100,000; and with assurances from the bureaus and members of Congress, and Abbott’s confidence that the bill would pass the Committee on Commerce, they went ahead and submitted the proposal. The bill was read before the Senate on March 18, 1870. In his reading, Senator Abbott stressed the importance of the Cape Fear River as a trade outlet, and the need to appropriate the sum before the river became much more difficult to navigate. He also stated that the costs could run to $1,200,000, and made mention of the Corps of Engineers disapproval of the project. The Congress was favorable towards the bill and $100,000 was appropriated to begin work on the Cape Fear.

The Corps of Engineers also acted on the Cape Fear, for on August 11, 1870, it was reported that J. H. Simpson had arrived in Wilmington to conduct a survey of the river. His survey showed the feasibility of closing New Inlet first, instead of dredging the river, since water from this point would just bring sand and debris into the river. The Corps was successful in changing the plans of Abbott and Strauze, who agreed to a jetty to close New Inlet. The work was undertaken by Major Walter Griswold, who began closing breaches in the beach at Zeke’s Island with wooden jetties filled with stone.

From 1870 onward, the Corps of Engineers would be extensively involved in works on the river, in an effort to extend the depth of the river and thus improve trade and commerce on the Cape Fear. With the initial work having begun to close the breaches at Smith’s and Zeke’s Islands, an effort was made to have more money appropriated so that work could continue on the river. Again Senator Abbott rose in the Senate to stress the importance of the Cape Fear River to Wilmington and North Carolina. Abbott stated that the Cape Fear served a vast area of the interior of North Carolina as the artery of export for two-thirds of all the naval stores produced in the United States, together with great quantities of cotton, lumber, shingles, rice, and other products. He stressed that if Wilmington had equal facilities to those at Norfolk or Savannah, it could compete successfully on the Southern seaboard. Abbott also made it clear that the closing of New Inlet would be costly, involving perhaps $500,000; but he felt that Wilmington warranted the sum, and pointed out that the government had appropriated $600,000 to the Great Lakes, and barely any money to the Southern ports, which were all in bad condition.

The people of Wilmington and the Corps of Engineers were also becoming involved with the appropriation process, and the work going on down river. A report from Henry Nutt to William Harris, the President of the Chamber of Commerce, praised the Engineers’ efficiency in the work and boasted of the port’s position on the southeastern coast, and in the state. He also stated that he hoped the Congress would see fit to appropriate more money, so that the work could continue, and improve Wilmington’s commerce. After this initial report there began a series of monthly reports, the first one taking place on April 20, 1871, when Engineer Griswold took a party of Wilmington dignitaries down the river to view the progress of the works. Among these people were George French and Henry Nutt, who spoke of Abbott’s work in glowing terms. French stated that political divisions could be cast aside and that the people of Wilmington could unite and work together in regard to the river improvements.

The Corps would also become involved with the funding process, for a letter from William P. Craighill, who was in charge of the project, to the Chief of Engineers, Andrew Humphreys, said that Wilmington’s importance as a port had been proven beyond a doubt in the Civil War, and that it was an important stopping place and point of commerce on the coast. The foreign commerce in Wilmington, in 1871, had involved 128 ships, with a total of 32,000 tons of material. This was an increase from 1868, when 59 ships and 12,000 tons of material had entered Wilmington. The largest export for 1871 had been spirits of turpentine, which totaled over a million gallons exported, worth over $600,000. The Chief of Engineers must have taken Craighill’s statement into account; for on March 3, 1871, $75,000 was awarded to continue improvements on the river. The works on the jetty at Smith’s and Zeke’s Islands were thus continued, and the jetty was extended 600 feet over the most difficult part of the closure. Griswold also began a project to protect the sandhills and dunes on Zeke’s Island from wind and water erosion, using sand-catch fences and shrubs, building a stronger beach in case of future storms.

In 1872 it was proposed to go ahead and close New Inlet, and a Board of Engineers met in Wilmington to consider the proposal. This Board reviewed the commercial progress of the river and its potential for growth; because in a project of such a nature as the closure of New Inlet the government had to be sure that in view...
the project would be beneficial to the area and worth the amount spent on the improvement. The Board’s report was favorable to the closure, and the legislative process was, once again, put into action; except that this time it was conducted under a new Senator, Matthew Ransom, and Congressman Alfred O. Dockery. They were given a $100,000 appropriation to carry on the work without a struggle. Their efforts were supported in Wilmington by the Chamber of Commerce and Henry Nutt, who wrote a letter to the Committee on Commerce urging them to see the wisdom in finishing the improvement with the utmost urgency. He also stressed that the money appropriated for the work would be in no way squandered; “...we have no doubt it will prove in the end the surest economy, and we shall reap the rich benefits inevitably flowing from it.” Mr. Nutt’s actions were praised by the Wilmington Journal, which acclaimed him for hard work and devotion to the improvement project. The Wilmington Post, however, could not say the same for the people of Wilmington, or even the Chamber of Commerce, declaring that it regretted the fact that the Chamber did not visit the works with more regularity, and that the people of the city had lost interest in what was being done down river for their benefit.

The work that was going on down the river was steadily advancing, for the jetty at Smith’s and Zeke’s Islands had now reached a length of 2,900 feet and sand was accumulating around it very rapidly. The jetty was having a positive effect on the depth of the channels in the river, for all were becoming deeper. Engineer Griswold reported that the entrance channel at Bald Head Bar was moving towards its old bed, indicated on maps before 1761, and that the initial jetty at the Islands should place it in its old position when completed. During the next year another appropriation of $100,000 was made to begin the work on New Inlet, but not before its sponsors received a scare in the Senate, when an amendment was introduced to pare the amount down to $50,000. Senator Ransom defended the original grant, stressing the need for the money to complete the project and the Cape Fear’s importance to trade in the region. He was supported by many members of the Senate, who voted the amendment down. In Wilmington interest in the project had faded, now that the works were becoming old news; but Henry Nutt and the Chamber were still keeping an eye on the happenings at New Inlet and the other jetties.

The work that began at the New Inlet in 1873 was really experimental in nature, with the main emphasis being placed on finishing the jetty at Smith’s and Zeke’s Islands, which was completed during the year of 1873. The completed work at the Islands was 4,400 feet long and protected from currents by sunken flats and 30,000 sandbags. Engineer Charles Phillips reported that shoals were forming around the jetty, which provided it even more protection. He also reported that the sand traps on Zeke’s Island were working, and with the jetty in place it was resuming the shape it had had before the storm of 1761. The plan for New Inlet was to sink an experimental cribwork along a line of shoals 1700 feet long to the deep water of New Inlet channel, to see what would happen, and then decide what kind of actions to take. Phillips asked for an appropriation of $150,000 to continue the work into 1875, saying that with the closure of New Inlet the Cape Fear would be one of the finest rivers in the South.

During the next two years operations by the Corps of Engineers on the river were very hectic but beneficial. The work on New Inlet proved to be more difficult than the Corps had expected and was held for further consideration, after progressing only 500 feet. It was decided to use any remaining funds to dredge the channels of the river at Horseshoe shoal, the Baldhead Bar, and the “Log,” a submerged Cypress stand seven miles below Wilmington which presented a serious threat to navigation. All of these channels were to be dredged to 12 feet at an estimated cost of $260,000, of which $150,000 was appropriated on June 23, 1874.

Work on this project was begun in 1874 and carried on through 1875, when it was reported that the channels were nearing the 12 foot depth, with many difficulties being encountered in pulling the Cypress stumps at the “Logs,” most of which required blasting. Phillips stated that the improvements were having a good effect on the river, its depth having increased three feet since 1870.

From 1876 to 1881 work was done in earnest on the jetty at New Inlet and some corollary work was done on the channels to keep them free for navigation. The project for closing New Inlet was especially difficult, because of the depth of the water and the amount of stone which had to be piled on top of the wood mattresses. It was estimated in 1876 that 62,000 cubic yards of stone would be required, just to raise the dam to the low water mark, and that with the erosion that occurred ahead of the dam when it was laid down even more would be needed. An interesting project was also undertaken in 1876 when it was decided by the Engineers to clear the river channels of old Confederate obstructions. These were placed near the Brunswick River in two lines totaling about 1,500 feet in length. The obstructions were of two types of construction; one type consisted of rows of grillage, forming a triangle with one side extending outward. These devices were made with 10 by 10 lumber and loaded down with stone, with the extended side being sharpened and covered with iron to penetrate the hulls of ships. It was noticed that these obstructions were anchored but were able to move upward as a ship passed over, thus keeping the points from just breaking off in the ship and slowing it down considerably. The other type of obstruction was made of railroad iron arranged in an “X” shape and pointed at the ends. These were placed at both sides of the channel, allowing for a narrow passageway for ships to go through. These objects proved to be very difficult to remove from the channel. The iron obstructions were removed, but the points could only be broken off the grillages, leaving the base of them in the river.

By 1879 the construction of the jetty at New Inlet had progressed substantially under the direction of Assistant Engineer Henry Bacon. Contracts for delivery of stone had been awarded to various companies in Wilmington and companies from the North. Most of this stone was rip-rap, which was placed along the length of the dam. The amount of rip-rap needed was continually rising, because scouring of the mud and sand beside the dam increased the depth of the water. The effect of the scouring made the slopes of the dam steep, and it was suggested by Bacon that more rip-rap be used to widen the
slopes, thus giving the dam extra strength against the action of the waves and currents in the inlet. More rip-rap was added, and by the close of 1879 the jetty had been built to the high water mark for its entire length of 4,800 feet; and one small part of the middle which had been left open for navigation was closed, so that the dam would be safe from storms. This closing caused quite a stir in Wilmington, where petitions were signed to stop the Corps from closing the inlet. It seems that the channel at New Inlet had been heavily used by small schooners, called Corn-Crackers, because they hauled cargoes of corn. The closure of the inlet would cause these small vessels to make the hazardous journey around Frying Pan Shoals, which many were not willing to take. The citizens of Wilmington wanted to protect this source of trade, but were not successful in their efforts to keep the inlet open. Indeed, the Corps had to close the inlet to enable Wilmington to receive the benefits of expanding trade in the future. It is hard to know exactly what effect the closing of the channel had upon commerce, because these schooners were usually too small to have to register at the port and no accurate records were kept of the amount of corn they brought into Wilmington for export.

By 1879, 122,000 cubic yards of stone had been placed on the dam and more was expected to be needed to raise the dam to two feet above high water. Bacon was suggesting to Chief Engineer Craighill that heavy capstones be used on top of the dam to give it extra security in case of future storms. This suggestion proved to be a valid one; in August of 1879, a storm swept the top off of the whole dam and required the use of more rip-rap to rebuild the dam. Bacon did not disdain this mishap, saying that the dam needed widening around the foundation and the storm had done the job for him. This storm had shown a definite need for the heavy stone, so a contract was awarded to Ross and Pennypacker, of Wilmington, for the stone, 7,000 tons of which was placed on the dam. Bacon commented that, when laid, the stone had a good appearance, with a horizontal surface and sloping sides.

In 1881 the closure of New Inlet was completed for all practical purposes. By the end of this year over one million dollars had been appropriated for improvements on the Cape Fear, of which $475,000 was spent on New Inlet. Upon completion the total length of the dam was 4,800 feet; it had an average height of around 37 feet and a base of from 75 to 125 feet. The amount of stone used to complete the dam was 171,000 cubic yards of rip-rap and 17,000 tons of heavy stone. The dam was now being covered with sand and shools were rising in New Inlet, converting it into a sound. Bacon considered the closing a success, saying that the dam was being cemented together with oysters and barnacles, and soon would become one huge rock. Dredging of the channels had also been completed and maintained to 12 feet, and the dredge Woodbury was working to gain 16 feet on other channels. Most of the river was gaining depth with the closure, and it was moving back towards the shape it had possessed in 1761.

The closure of New Inlet was considered a success; as such it had not succeeded in making the Cape Fear River one of the finest in the South. Rather, the work only brought it back to a condition which had been valuable to the area when light draft steamers and wooden ships were being used. However, with the deepening of the river, trade had been increasing; whereas in 1876 it was reported that 493 ships had arrived in Wilmington, with an estimated tonnage of 200,000 tons, in 1880 586 vessels docked at Wilmington with a total tonnage of 220,000 tons. The expanding cotton trade, with its greater margin of profit, had increased the total dollar value of commerce by nearly five million dollars from 1870 to 1880. It was this new commerce, in cotton, which made it imperative for the Corps, and the citizens of Wilmington, to have the improvements continued; for ships carrying cotton in the 1880’s would draw from 14 to 18 feet of water. The Corps had improved the river; but much more work would be done in the future to raise the standards of navigation and help Wilmington regain the status as a shipping port which it had lost in the Ante-Bellum period. Continuing even today, these efforts have always been beneficial to the people of Wilmington and the Cape Fear region.

NOTES

2Ibid., pp. 312-313.
4Ibid.
5The Wilmington Post, 17 February 1870.
6Ibid., 6 March 1870.
7Ibid., 27 March 1870.
8Ibid.
10Ibid.
11Wilmington Post, 11 August 1870.
12Corps of Engineers, Annual Reports, 1870, p. 442.
14Wilmington Post, 12 March 1871.
15Ibid., 20 April 1871.
16Corps of Engineers, Annual Reports, 1875, p. 79.
19The Congressional Globe, 42nd Congress, 2nd Sess., 10 June 1872, pp. 814-816.
20Wilmington Post, 18 February 1872.
22Annual Reports, 1872, p. 698.
24Annual Reports, 1873, pp. 789-791.
25Ibid., pp. 789, 791.
26Annual Reports, 1874, p. 68.
27Annual Reports, 1875, pp. 98-101.
28Annual Reports, 1876, pp. 308-317.
29Ibid., pp. 300-301.
30A contract was awarded to William H. French in 1876 and George Z. French in 1879. One was also awarded to Ross and Pennypacker in 1880. Annual Reports, 1876, p. 477; Annual Reports, 1879, p. 556; and Annual Reports, 1880, p. 704.
31Rip-rap, composed of rock, ballast stone or rubble, was used to reinforce or form the foundation of the dam; Annual Reports, 1879, pp. 550-556.
32Annual Reports, 1879, p. 563.
Harry Hayden. RAH! RAH! Carolina—And Three Confluent Rivers Cape Fear And Cape Fear Cape. (Wilmington: privately printed, 1966), pp. 85-86.

The financial reports that the Corps included in the yearly reports usually included only ships of 100 tons and over. The Corps got and gave rough estimates from owners of ships under 100 tons. It is assumed that these schooners were smaller than 100 tons.

Annual Reports, 1879, pp. 557-560; Annual Reports, 1880, pp. 704-711.

Annual Reports, 1881, pp. 918-927.

Commerce in 1873 was estimated to be worth $11,899,491, while in 1880 it was valued at $17,216,130; Annual Reports, 1875, p. 61, Annual Reports, 1877, p. 350; and Annual Reports, 1880, pp. 712-713.

James Sprunt, Chronicles of the Cape Fear River, p. 501.