

U. S. COAST AND GEODETIC SURVEY.

F. M. Thorn, Superintendent.

State: *North Carolina.*

DESCRIPTIVE REPORT.

Topographic Sheet No. *1756*

LOCALITY:

Coast of North Carolina.

Federal Pt. to Smith's Id.

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Bald Head & Caswell Pt.

1887.

CHIEF OF PARTY:

D. B. Wainwright.

Work begun March 2-1887

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Report
Resurvey Mouth Cape Fear River N.C.

A report on the two surveys at the mouth of Cape Fear River can be well covered in one report. As the change since the last surveys owe their origin to the same cause - viz the Dam or Breakwater from Federal Point to the salt marsh forming a part of Smith Island - practically closing New Inlet.

Before the Dam existed the Cape Fear River reached the sea by two mouths forming an inverted Δ or including the marshes N. of Smith Island a Δ .

The bar at New Inlet was after heavy storms liable to change both as to its position and depth. The barwell entrance did not have sufficient depth of water which the commerce of the Cape Fear River demanded. The larger class of vessels were unable to enter.

Wilmington the principal City on ^{the} river not long ago led all other ports in the amount of tar and resin. And turpentine exported. Owing to various causes she has now retrograded to second or third place.

It was determined upon in 186- to close New Inlet and turn the volume of the River into the mouth at Caswell.

This Dam is now nearly completed.

All that remains to be done is the facing. Zecks Island has been increased in length to the southward by a line of rock.

The consequences of this engineering work has been to shut off nearly all the water which formerly passed through New Inlet, and the formation of a low strip of beach from Federal Point nearly nearly to the new southern end of Zecks Island. and on the line of what was formerly Carolina Shoal. This leaves a large lagoon between the beach and

the Breakwater. As the chinks between the rock of the latter have not yet been closed by the Rivers' silt, there is still a current through the Dam where the water is above half tide.

To the westward of Rocks Island the beach, as shown in previous surveys is still broken by several small Inlets.

But since that. The beach has largely increased in length, and in some places also in breadth. Consequently the inlets are very much narrowed and at low water the width of the stream passing through is very small.

There are four of these breaks. But the only one of importance is the "Corn Cake" or the "Gold Leaf". The original Corn Cake Inlet is farther to the westward but is now nearly closed. It lost its necessary area of drainage when the Gold Leaf ~~was~~ opened during a storm, and its name as well as its depth of water has been transferred to the latter

The value of the Inlet is that it has sufficient depth of water at high tide to allow the entrance of a small schooner from 5 to 7 tons, and thence go by the way of Muddy Slue to Wilmington - thus saving the trip around the cape. Besides the increase of length of this broken beach it has been driven inwards toward the north for quite a distance. At the same time the marsh, especially to the westward, is extending its limits.

Eventually the great shoals Northeast of Bald Head will increase in size and height. Thereby cutting off the water from Oyster Bay and the Muddy Slue. The beach and marsh will continue to approach each other until they close and present a common front to the ocean.

Fort Caswell Point has been somewhat eroded by the increased outflow, but is protected by rock ring dams. Farther west at Oak Island High Light it is cutting.

away at quite a large rate each year.
Portions of the old Light can now
be seen between high and low water.

At Bald Head, a large point
has been entirely cut away, and the
Light itself was threatened until a
small breakwater was built in its
vicinity. The sand is siliceous, and
beaten hard. Any vessel except of small
size would survive several storms within
the limits of this resurvey. There is
no possibility of reclaiming the salt
marshes in the vicinity.

N. B. Vainwright

Asst. C. & S. Survey

To accompany plan table sheet
"Federal Point to Smiths Id" and
"Bald Head & Caswell Points"

Resurveyed in 1887 — When — began ?
" " " finished ?