



OUR COASTAL WATERS

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A complete inventory of North Carolina's waters which are close kin to the Atlantic.

By BILL SHARPE

An ambitious man could embark at Knotts Island and without portage ply practically all the navigable waters of coastal North Carolina. But he would be a lot older and wiser when he pulled ashore at Calabash on the South Carolina line, 320 ocean-front miles away.

His craft meantime would have sailed over waters 20 or more feet deep, and scraped keel in others; bounced in choppy sounds, and glided on cypress-lined swamp rivers.

Rivers bloated with their loot of silt would muddy its hull; the leachings of nearby pocosins would stain it copper colored; Currituck's fresh water wash it clean, and Bogue Sound would brine it again.

Most Inland Waters

North Carolina has the largest network of inland waters of any state.

Creek, river, sound, bay, estuary, canal, slue, cove, inlet—mile on mile of it—fresh, brackish, salt; blue, green and tawny.

Then 12 to 50 miles to the east of

This picture of Cape Lookout by Roy Eubanks gives many features of the North Carolina coast. Core Banks stretches to the north, and the curve of the ocean is that of Raleigh Bay. To the left is the Bight of Cape Lookout, a tremendous natural deep-water harbor. Leading into it is Barden's Drain (on inlet), connecting Core Sound with the ocean. Land to the left of the drain is the beginning of Shackleford Banks. On the horizon is Harker's Island.

the surf is a river with its source far to the south. It is 160 miles wide; it is indigo blue and warm; boldly flowing, and freighted with exotic fish. The Gulf Stream sweeps up the coast, swings Diamond Lightship against its anchor, then veers away to the northeast.

A stranger might wonder why this intricate system had not developed more commerce. The answer lies in fluid and mischievous geography. And though men have been speculating about it for 400 years, there is not to this day much agreement as to why our coast is like it is.

Water Fronts

The mainland shore, facing the sounds, often is composed of a narrow sandy beach. But sometimes it is a fairly high bank, and often simply low,

swampy ground which gradually sinks to the edge of the water and then extends barely beneath it.

Across the sound (or waterway or slue) lie the banks, barbed by three shipwrecking capes, each cape equipped with shoals of quicksand extending several miles into the ocean.

This easternmost shore is about 320 miles long. After running north and south to Cape Hatteras, it describes three concave circles. The first, called Raleigh Bay, runs from Hatteras to Cape Lookout; the next, from Lookout to Cape Fear, is Onslow Bay; and the third, curving from Cape Fear to Cape Romain in South Carolina, is called Long Bay.

The Banks

The banks are part of a wide belt of sand which girdles the continent, but usually lying deep under water. In North Carolina it surfaces, and no mythological sea monster ever turned sailors from their course more effectively than this yellow serpent of sand, coiled tightly around the paths of commerce.

Lands Part

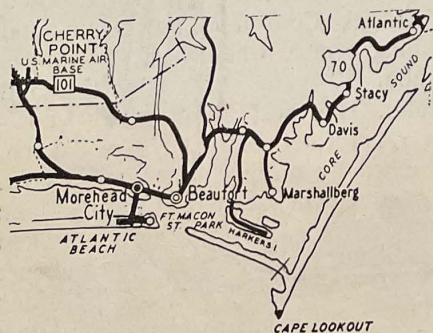
At the North Carolina line, reef and mainland pull apart, and inner and outer shore lines proceed erratically toward the south, the gap between them widening to climax in 30-mile wide Pamlico Sound. Then mainland and banks shrink westward, and narrowing sounds separate the two until White Oak River enters the ocean at Bogue Inlet.

Sounds Narrow

South of this point, the water behind the beach normally is in the form of small sounds, shallow lagoons, salt lakes, and creeks winding through marshes of grass, reeds and stunted shrubs.

Dredging of the Atlantic Intracoastal (Inland) Waterway through this

Location of photograph on opposite page.



section artificially re-established the complete identity of banks and mainland where it had been vague, linking the lagoons via a deep (10-foot) canal. It is a straight, narrow and precise "river," running with uncompromising fidelity through woods, swamp, marsh, sound and other rivers.

Large rivers issue into the inland seas, two of which—Currituck and Albemarle — are thus kept fresh. All these rivers are navigable, and with one or two exceptions have mouths so wide that they are in fact estuaries of the waters they feed.

Mostly Shallow

Excepting only Albemarle, which averages around 20 feet, the sounds and lagoons are naturally shallow, with an estimated average depth of 8 feet, and ridden with shoals and bulkheads. Channels, mostly dredged, make them navigable for small vessels.

How did the barrier reef and shallow sounds originate?

The coastal plains have alternately been ocean bottom and dry land. Cobb supposes that during one invasion of the sea, there were vast water-covered flats extending to the present surf line. The surf broke on the edge of these tidal flats, and surf and undertow, by mutual reaction, heaped up sand and created a ridge along the shore line, separating the ocean from its former shallows.

Another theory is that at one time the rivers entered the Atlantic where they now enter the sounds. When the ocean retreated, large plains of alluvial deposits were uncovered. The rivers cut valleys across this flat floor and made new mouths, which today are represented by the inlets.

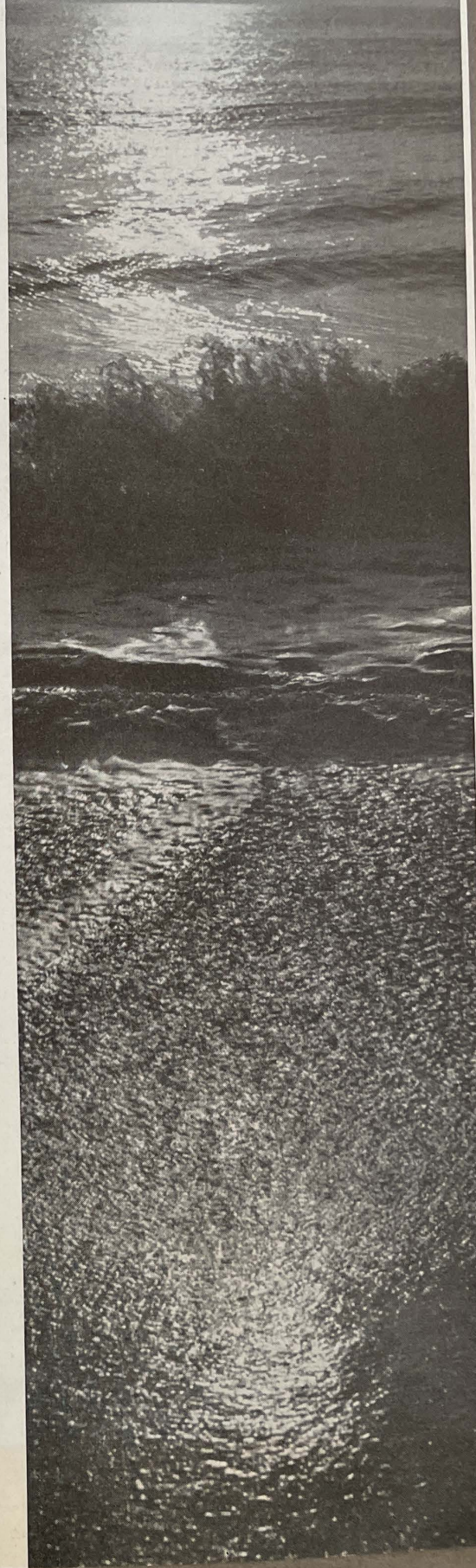
On this ancient seashore, wind piled sand up into ridges, just as dunes are formed today, and when the ocean again swept inland and drowned out the old river mouths, the sand dunes remained as the nuclei of our present banks.

Some believe earth convulsions caused a sinking of the sound areas, the thin reefs rising in a compensatory movement. There are other theories, all inconclusive.

Varied Terrain

The banks are by no means uniform. They are elongated islands, from 4 miles to a few hundred yards wide. Usually, though, the beach is bor-

(Continued on page 71)



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OUR COASTAL WATERS

(Continued from page 5)

dered by a low ridge. Behind the crown of the beach, a wide sand plain may extend almost or entirely to the sound, gradually declining to enter the water as marsh.

More often, behind the crown of the beach are grassy dunes, represented either by a continuous sand ridge of varying height or by isolated dunes.

On some beaches, such as Longs, or near Salterpath, the dunes may be right at the edge of the high-water mark; at others (near Nags Head or at Corolla) they stand far back from the water, are bare, and are 100 or more feet high.

In a few places (at Holdens for one) there are sometimes double rows of dunes, one near the beach, the other near the sound, with a trough between.

Stripped of Woods

There is evidence that the banks once were heavily wooded in most places. Cutting of timber and the browsing of cattle stripped the surface of protective vegetation.

There is no soil, gravel or rock on the banks too large for the wind to lift, and so it may be said that every inch of exposed surface is in continual movement.

Since the strongest winds come from the northeast, the sands are blown toward the west, and in most places sound waters adjacent to the banks are badly shoaled by this wind-blown material.

Any obstruction accumulates wind-blown sand, so fences have created artificial dunes and slowed down wind erosion. But unless dunes are protected by vegetation (as Kill Devil was) they will continue to move ponderously toward the southwest. The great Whaleshead Barchane of Corolla is said to have moved 20 feet in one year. In a few places, wind erosion has been ameliorated by accretion to the beach through deposits by the waves.

Nevertheless, most informed observers think the barrier reef will join the mainland some ages hence.

Inlets

The waters of the land, after their staging periods in the sounds, pass on to the ocean through inlets which cut the banks into uneven links. Twenty-three inlets and the mouth of Cape Fear permit this flow.

The inlets once were somewhat deeper, with Ocracoke, Beaufort (Old Topsail) and the mouth of the Cape Fear the most useful. Tinkering—both by men and nature—has had a hand in closing some inlets, shoaling others.

Old Roanoke Inlet (shown on the map on page 32) apparently closed because the ditches running on each side of Roanoke Island deepened and widened into sounds, and discharge through these sounds to the south weakened the natural scour of Albemarle Sound through Roanoke Inlet. An attempt to reopen the inlet was approved about 1842; in 1858 its failure was recorded by Edmund Ruffin.

In 1761, as another example, a storm opened New Inlet eight miles north of the mouth of Cape Fear. This passage diverted some of the current of the Cape Fear River, and its mouth began to silt up. (See Cape Fear Section.)

Certain sections of the bank seem more susceptible to inlets than others. "New" inlets are merely the reappearance of older inlets under new names. For example, Oregon Inlet, born under that name in 1846, actually is at the site of inlets which have appeared at the same spot since before 1585.

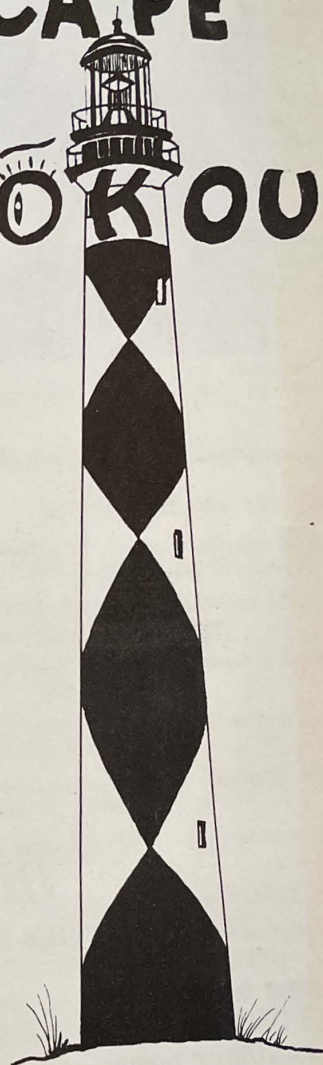
A Fluxing Coast

It is a dynamic geography, and has been from earliest recorded history. A glance at the Mouzon map on page 32 shows some of the changes in 150 years.

In 1806, a certain William Tatham, a government surveyor, was an eye witness to the death of one inlet and the birthing of a new one. Anyone in this generation might see a deep, new inlet opened—and live also to see it closed, and to build a cottage upon its site.

The articles which follow tell what one traveler saw of this geography as it was in the past 12 months, and as you will see it, if you do not delay your visit too long.

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