

CAPE LOOKOUT LIGHTHOUSE

By Cheryl Shelton-Roberts and Bruce Roberts

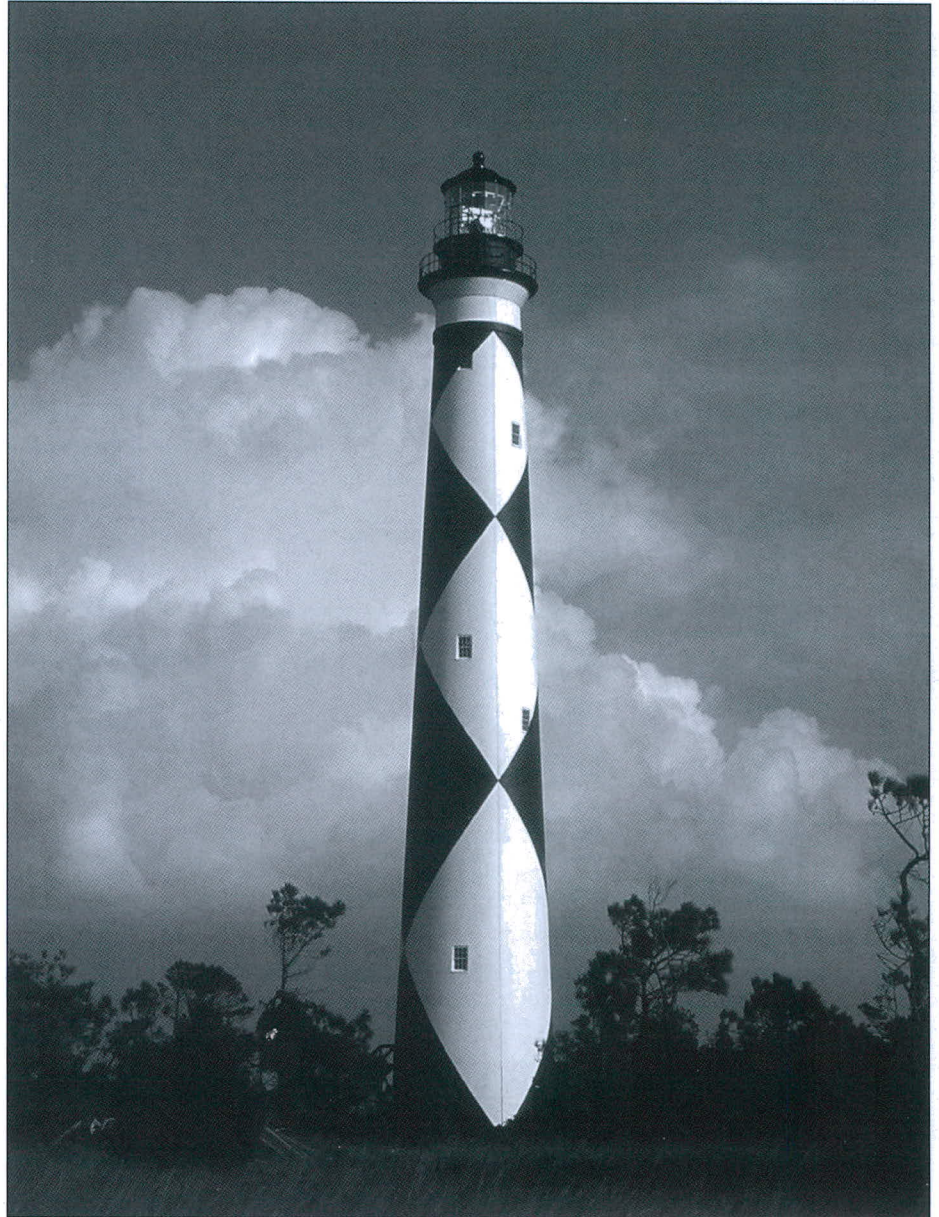
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Standing on “Shell Point,” a spit of land at the tip of Harkers Island, one is embraced by the waters of Core Sound. Looking southeast, the Cape Lookout Lighthouse stands in solitude across a marsh-studded sound on South Core Banks, overlooking Lookout Bight on the west and the Atlantic Ocean to the east. These waters have carried the great people who have lived here: lighthouse keepers, life-saving surfmen, boatwrights, fishermen, net makers, whalers, and all those who formed independent communities that made a living from the sea. South Core and Shackleford Banks were once a contiguous barrier island prior to a hurricane in 1933 and formed the center of local maritime activity beginning in the early 16th century when explorers came in search of the great western sea. Over time, the small groups of people who had resourcefully inhabited “the banks” since the early 1700s were driven away by harsh storms and changes brought by time that even self-reliant islanders had to heed. Like seeds blown upon the wind, these people took root and thrived on nearby islands. To this day, their descendants revere the Cape Lookout Lighthouse and cherish their maritime heritage.

A Veritable Treasure Island

Core Banks, named for the native Coree Indians, has long been used as a point from which to “look out” for ships, approaching enemies, fishermen returning with the day’s catch, whales, and most anything for which a human looks seaward. Within sight of the cape, a lighthouse has graced this site since 1812 and is now part of Cape Lookout National Seashore. The first humble tower was damaged during the War Between the States but was not destroyed, although Confederates surely gave it a good try. Miraculously, the 1859 lighthouse also survived the war with only interior damage to the stairs.

Fortunately, visitors to the cape in the 21st century can still see and touch this tower and its black-and-white diamond tuxedo.



A dependable compass and accurate coastal charts were not available to navigators until the late 19th century. A lighthouse was one of the only reliable guides that a mariner was offered. The 1859 Cape Lookout Lighthouse was sorely needed in the vicinity of dangerous Lookout Shoals. Painted in 1873, the white “checkers,” or diamonds, indicate east-west and the black diamonds north-south.

This “new” tower holds historical significance since it was one of the first 10 American lighthouses that defined a new genre of tall, coastal sentinels built between 1857-59

by the finest engineers that the Lighthouse Service had to offer. Many of these engineers who took on lighthouse construction were West Point Academy graduates who

- 1804:** Congress authorized a lighthouse at Cape Lookout.
- 1810:** Specifications for construction and request for bids appeared on the front page of the *Boston Patriot*.
- 1811:** Contract awarded to Benjamin Beal Jr., Duncan Thaxter, and James Stephenson of Boston.
- 1812:** The first Cape Lookout Lighthouse was completed and lighted. It was a brick tower inside a wood frame with the light 104 feet above sea level. President James Madison appointed James Fulford the first keeper at a salary of \$300 per year.
- 1845:** Red and white stripes were painted on the wood frame structure to make it more visible in the daytime. Captains reported difficulty seeing the light provided by the 13 whale oil lamps with 21-inch metal reflectors.
- 1851:** Lighthouse was in need of serious repairs, moving sand built up against keeper's house, complaints from seafarers mounted.
- 1852:** Congress put lighthouses under new Lighthouse Service replacing the administration of the fifth auditor of the treasury.
- 1856:** State-of-the-art, first-order Fresnel lens installed in old tower.
- 1857:** In 1857 Congress appropriated \$45,000 to build a new lighthouse.
- 1859:** New tower completed. The first-order Fresnel lens was moved into the 150-foot brick tower and lighted for the first time on Nov 1. Old tower was left standing as daymark.
- 1861:** Confederates, acting on orders of the Confederate Light House Bureau, carefully removed the first-order Fresnel and took it to the state capitol in Raleigh for safekeeping.
- 1863:** After Union forces retook the area, a smaller third-order Fresnel lens was installed.
- 1864:** Confederate raiding party blows away part of the wood stairs in new tower, but the Fresnel lens survived and the light was put back into service.
- 1867:** First-order Fresnel was reinstalled after being repaired in France. Wooden stairs were replaced with cast iron stairs.
- 1870:** Kerosene lamps were introduced in American lighthouses and later became the fuel for the lamp inside the Fresnel lens at Cape Lookout.
- 1873:** The tower was painted with its distinctive diagonal black and white checker (diamond) pattern. New keepers' quarters was completed. The building is still standing today and serves as a visitor's center, bookstore, and exhibit area. Volunteer resident keepers live in the house seasonally.
- 1879:** The last year the old tower appeared on the official *Light List* as a daymark.
- 1914:** The light was changed from fixed white to flashing—a panel revolved on the outside of the lens.
- 1939:** The Coast Guard took over from the civilian Lighthouse Service.
- 1950:** The lighthouse was automated and keepers were no longer needed.
- 1966:** Cape Lookout National Seashore established. Light is still owned and maintained by the U.S. Coast Guard.
- 1972 (October 18):** Lighthouse station, including lighthouse, keepers' quarters, oil house, coal shed, and summer kitchen listed on National Register of Historic Places.
- 1978 (November 29):** Portsmouth Village listed on National Register of Historic Places.
- 1989 (February 1):** U.S. Coast Guard Station complex at cape, including station, galley, equipment building ("garage" with large doors), cisterns, etc. listed on National Register of Historic Places.
- 2000 (June 30):** Cape Lookout Historic District established (runs approximately from lighthouse to Coast Guard Station).
- 2003:** Cape Lookout Lighthouse ownership transferred to the National Park Service. Lighthouse appeared on U.S. postage stamp as one of the five Southeastern Lighthouses.
- 2010 (July 15):** After restoration work, the lighthouse opened for regular, although limited, seasonal climbing to the public. For more information: <http://www.nps.gov/caloc>.

became Army Corps of Engineers and future military leaders. This tall guardian reaches an impressive 163 feet into the azure skies over Core Banks and Lookout Shoals, known as "Promontorium Tremendum" or "horrible headland." This ominous nametag, recorded on 16th-century maps, has proven well deserved since Cape Lookout marks Lookout Shoals, part of the Graveyard of the Atlantic. Lookout Shoals lurk just under the sea's surface and can reduce water depth to just a few feet in unexpected shallows. Frequently, mariners were upon the shoals before spotting land, and these wrecks, though close to landfall, were all too often fatal. Early maps, including a 1590 White-DeBry map, emphatically warned of the shoals off Cape Lookout as mariners evidently considered them even more hazardous than Diamond Shoals 70 miles to the north. But Cape Lookout also serves as a welcoming light by beckoning ships to the protective lee of Lookout Bight. The bight is formed by a

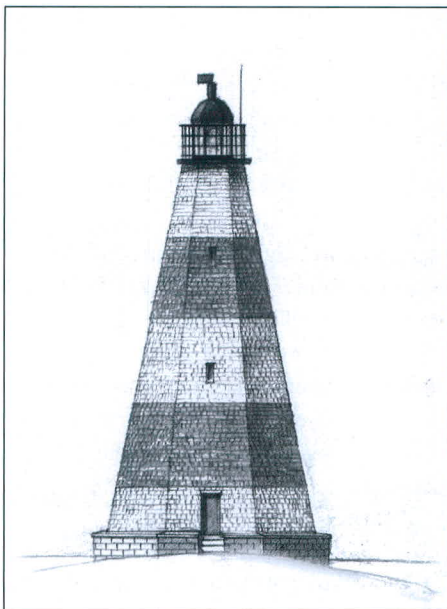
hook of sand, an extension of the cape, that holds the waters of Core and Back Sounds to the west and north like a protective, cupped hand. This refuge is created by the lie of the land off Core Banks and has been valued by mariners for centuries. Historically, Lookout Bight served as a rest stop conveniently midway between major points on the map now known as Charleston and Norfolk.

Today, the bight is a favorite place for fishing, swimming, viewing wild Shackleford horses, boating, and visiting the lighthouse. Graceful sailboats anchor for days at a time while their owners explore the area or just enjoy the simplicity of the undeveloped island surroundings.

The First Cape Lookout Lighthouse

The first Cape Lookout Lighthouse was appropriated by Congress in 1804 and, on orders of the secretary of the treasury, a four-acre site at the cape was deeded to the

government the following year by Joseph Fulford and Elijah Pigott. A public announcement by Henry Dearborn of Boston, David Geston of New York, and Brian Hellen of Beaufort, North Carolina, was printed in the Saturday, December 22, 1810, *Boston Patriot* for contractors to bid on the specifically described lighthouse. According to the *Patriot*, its dimensions were to be a wooden tower 93 feet tall from the foundation to the bottom of the lantern room and its octagonal walls were to form a "pyramidal" shape that were to be three feet thick with a 55-foot-diameter base sloping upwards to 14 feet and surmounted by a lantern room. The lighthouse was to be painted with three coats alternately white and brown. The interior was to contain a brick well in which the stairs ran up. The outer wooden tower and inner brick well have been described by scholars as two towers, and by all accounts, the stripes were white and red, not brown. What was actually built by Benjamin Beal, Jr., Duncan Thaxter,



This is an artist's rendering of the 1812 Cape Lookout Lighthouse. It was an octagonal tower with an exterior wooded-shingled frame and a brick inner tower that housed a stairwell. Red-and-white-horizontal stripes made up its daymark. Its light was created by 13 lamps with 21-inch parabolic reflectors. The focal plane of the light was 96 feet above above ground level. President James Madison appointed James Fulford as the first keeper at a salary of \$300 a year. Drawing courtesy of the National Park Service.

and James Stephenson of Boston is not exactly known, but the sturdy light made its appearance in 1812.

Upon its completion, the three dangerous shoals of North Carolina had been marked: Frying Pan Shoals at Cape Fear near the first Old Baldy Lighthouse (1795), Cape Hatteras (1803), and Cape Lookout (1812).

Brightness Not Its Forte

From its inception, there was disappointment in the light. In 1817 Winslow Lewis wrote: "Cape Lookout Lighthouse. Situated on Cape Look Out, on the coast of North Carolina. The Lantern is 95 feet above the sea, and contains a fixed light. This light can be seen without the shoals, which extend out from it; [B]ut vessels passing them in the night, ought rather to trust to the lead than the light. The light-house is painted in horizontal stripes, alternately red and white, and appears at a distance like a ship of war with her sails clewed up, and was often taken for such during the late war."

"Trust to the lead" meant for mariners to cast a line with a lead weight on it into the water to find its depth. The 13 lamps that made

The Bogue Banks Lights at Fort Macon marked Beaufort Inlet

North Carolina has had many lost and forgotten lighthouses. A set of range lights once brightened the east end of Bogue Banks Island and marked the entrance to Beaufort Harbor via Beaufort Inlet. By aligning a rear, taller light on land over a shorter front range light in or near the water, a safe channel was determined into port. Both have been gone for more than a century and a half and are lost to time.

During the first half of the 19th century, then busy Beaufort Harbor had been ignored by the Lighthouse Service until 1852 when Congress became determined to improve the American lighting system. The new lighthouse authority, comprised of Navy and Army officers and scientists, launched a massive construction program which included, for the first time, range lights for Beaufort Inlet, then known as Old Topsail Inlet.

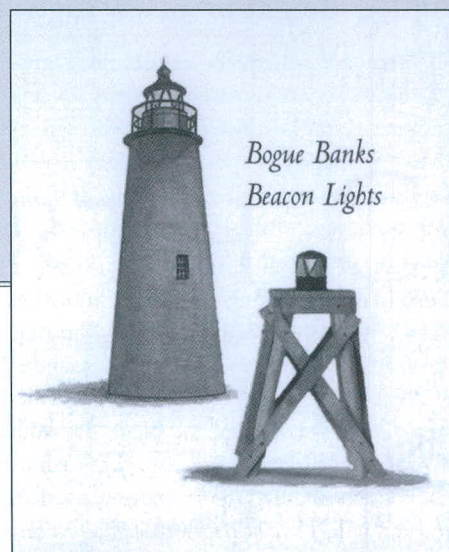
According to ranger and historian Paul Branch at Fort Macon, a historical site and state park, Captain Daniel P. Woodbury of the Army Corps of Engineers was already at Fort Macon engaged in operations to control shore erosion during the summer of 1854. Captain Woodbury received orders to construct range lights at the fort to mark a channel into the busy port at Beaufort. The rear range light, the main tower, had been appropriated for earlier. In August 1854, Congress appropriated an extra \$1,000 to cover the cost of the front range light.

The Bogue Banks Range Lights were completed by Captain Woodbury in the spring of 1855 and lighted for the first time on May 20. The 1860 census listed Thomas Delmar as lighthouse keeper. During the next half-dozen years the lights worked well and Beaufort Harbor became the state's second largest port after Wilmington.

The 50-foot red brick tower, the rear range light, stood about 200 yards northwest of Fort Macon on the edge of what is now property of the U.S. Coast Guard. In the lantern room was a fourth-order Fresnel lens. The smaller front range light was a timber platform which housed a sixth-order Fresnel lens 30 feet above sea level. It was located about 50 yards southeast from the front of the fort in the beach area. Ship navigators lined up the pair of lights with an outer channel buoy to mark the way into the harbor. Anyone having entered a harbor with the use of range lights, now modern optics on buoys, can witness their effectiveness and accuracy to reliably mark a safe channel through shoaling sounds and rivers and inlets for which North Carolina's coast is notorious.

To offset the shoaling sand and, thus, changing channel, the buoy was moved from time to time. If the channel changed significantly, the timbered platform of the front range light could also be moved.

War came to Fort Macon in 1862 after Union forces had landed on the Outer Banks. Confederates, who had taken over the ungarrisoned Fort Macon at the outset of hostilities in 1861, toppled both towers to clear a line of fire for the fort's guns. The Fresnel lenses were saved and recovered after the war. But the young towers, only six-years-old, were never rebuilt. There are no known photographs of these two lost lights of North Carolina.



up the lighting apparatus were not bright enough, and Winslow, the man who installed the lighting system, emphasized the danger of the changing shoals and that the light should not be the sole factor in navigating quicksand-like Lookout Shoals. Figuring that the shoals form shallow waters that extend seaward 10 miles as well as 40 menacingly miles long, it is easy to conclude that many ships attempting to pass Cape Lookout were doomed from the beginning. The lighthouse was fitted with the same system of lamps and parabolic silver reflectors for the duration of its service. Although the equipment was refitted a couple of times, more light was needed.

During a lighthouse inspection trip along the East Coast in 1851, Lieutenant David D. Porter (USN) had little else but criticism

Determined to improve the American lighting system, Congress ordered Captain Daniel P. Woodbury of the Army Corps of Engineers, already at Ft. Macon, to control shore erosion during the summer of 1854 and to construct range lights at the fort to mark a channel into the busy port of Beaufort. The shorter, front range light could be moved as the channel shifted. Both exhibited sixth-order Fresnel lenses; however, they were taken down when war came to the coast early in 1861. Drawing by Mike Litwin.



Cape Lookout is a fine example that lighthouses are perched on the edge of safety and danger. To the left is the protection of "the bight," the lee side of the island that many ships sought for safety; to the right is the Atlantic Ocean and its shallow areas of Lookout Shoals. Note in the distance is Cape Lookout Lighthouse.

for Southern lights. He reported that when approaching during the day, the Cape Lookout Light was enshrouded in early morning mist or fog and, as dawn approached, the light was nearly impossible to find.

Added Height or a New Light

There are infrequent entries in Lighthouse Service records for repairs at Cape Lookout. Noteworthy is a job reported in 1854: "At Cape Lookout some slight repairs were made to the keeper's dwelling, and, on two occasions, drift-sand removed." Sand blowing around the foundation proved a constant headache. Keepers had to dig their way out of and into the keeper's quarters and the tower. There was little

sea grass and few trees on the island to coax the tiny grains to stay put.

The first *Annual Report* of the Lighthouse Service in 1852 convened under the instructions for the secretary of the treasury "to inquire into the condition of the Light-House Establishment of the United States, under the act of March 3, 1851." The new board announced 38 lighthouses that were recommended to be elevated and equipped with a first-order Fresnel lens. Cape Lookout was number 15 on the list. It did receive a lens in 1856, but the tower, still plagued by piled sand, was not given added height like that at Cape Hatteras. Its outmoded

construction with a center-brick tower and wooden outer frame would not reliably accommodate added height.

Complaints from mariners influenced the decision to replace it because early in 1857 the decision to build a new lighthouse at Cape Lookout was on the books. It had achieved priority on the Lighthouse Service's "top 10" list in importance to aid mariners. Instead of destroying the old lighthouse, it appeared on the *Light List* through 1879 as an added daymark with its red and white stripes before it was razed. Ruins of this old tower's foundation still remain near its taller companion.

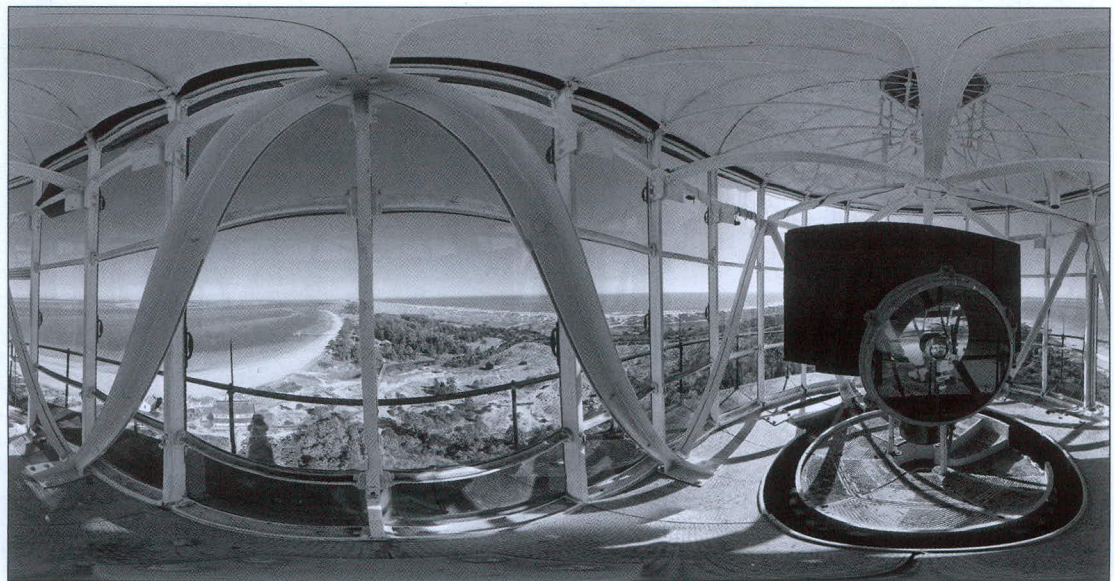
The Second Cape Lookout Lighthouse

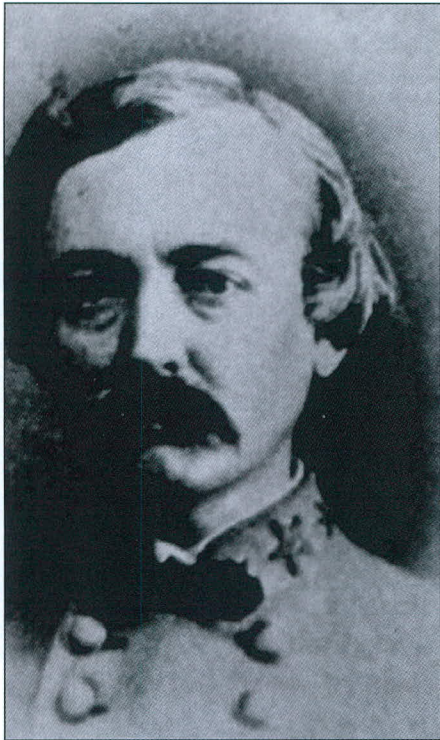
To date, many documents on the 1859 tower have not been located; however, existing letter index cards along with a few other documents offer tantalizing clues as to what happened during lighthouse construction.

In a letter written April 28, 1858, Captain W.H.C. Whiting, Army Corps of Engineers, based in Wilmington, wrote a letter relating "to the non-necessity for pilings" for the new tower. This indexed letter could reveal the exact nature of the foundation but can only suggest that the tower possibly rests on a pine timber grillage.

The new lighthouse was a gift to mariners that would keep on giving from the 19th century into the new millennium. The most modern architectural logic for the time went into its design: added height to put the beam of light out across Lookout Shoals and tall enough to rise above the morning mists and fogs; conical style to offer less resistance to wind; solid-brick construction that tapered

This is a 360-degree-by-180-degree equirectangular image taken from the lantern room at Cape Lookout Lighthouse. The left side of the image begins where the right side ends. It is a composite of 10 images taken by a high quality digital SLR camera utilizing a fisheye lens and a spherical panoramic head. The images were merged with specialized panoramic software. Photo by Dr. Lad-die Crisp, Jr.





The year 1852 was a benchmark for the U.S. Lighthouse Service. A Light-House Board took control of all lighthouse construction, hiring trained Topographical and Army Corps of Engineers graduates from West Point Academy. W.H.C. Whiting, top of his 1845 class, became Fifth District engineer headquartered in Wilmington, N.C., signed architectural plans for Cape Lookout Lighthouse, and oversaw its construction. Photo courtesy of the Outer Banks History Center.

from eight feet at the base to two feet at the top for strength and insulation; and an iron lantern room that accommodated the Fresnel lens from the old tower, one of the earliest first-order Fresnel lenses to be brought into the country from France.

Improvements continued through the years, including a new keeper's house in 1873, although it still was too small to house three keepers and their families. That same year, the lighthouse received its black and white checkered pattern, called "diamonds" by locals. The black diamonds face north-south while the white diamonds face east-west, a unique daymark for any American tower. As needed, storehouses were erected in 1889, a separate oil house was added in the 1890s for fire safety, and a second keepers' quarters was built in 1907.

A Lightship for Lookout Shoals

Around 1903 an old lightship was stationed on Lookout Shoals to warn approaching ships of the danger. Like other lightships braving the raw conditions and tough storms along the

coast, it was blown off station several times. In December 1904, a proud, new \$90,000 lightship, LV 80, took up its vigil eight miles south-southeast from the outer end of Lookout Shoals. This placed the two-masted schooner approximately 18 miles from the lighthouse, anchored by a three-and-one-half-ton mushroom anchor which had proven more successful at keeping the ship on station during storms than earlier anchors. The light vessel had one white and one red mast. She certainly was a colorful addition to the area as her hull was red from the bow to the pilot house and from the mainmast aft; it had a bright yellow midship section with bold letters "Cape Lookout Shoals" on each side and #80 on each bow. For bad weather, she was equipped with a steam chime whistle or a fog bell that could be struck by hand. Since lightships were chained sentinels with no intentions of travel, it likely was comforting to the crew to at least be heard when fog made the lightship invisible. The lightship dependably stood watch until 1933, when the last of the Lookout Shoals Lightships stationed there was pulled from service.

Nature Rules

The year 1933 was a milestone for the Cape Lookout area as the Depression brought lean times to the entire country. Also, Mother Nature did some extreme housekeeping by brutally delivering a Category 3 hurricane to the doors of quiet fishing villages along Shackleford and Core Banks.

As human presence dwindled, the area evolved into a premier example of a coastal wilderness area allowed to remain natural. On March 10, 1966, President Lyndon Johnson authorized Cape Lookout National Seashore, and it was officially established in 1976. Although the park was formed relatively late in comparison to other national parks, it continues as a world example of how barrier islands are dynamic ribbons of sand. The world will see an answer to a hotly debated subject: allowing barrier islands to remain natural versus permitting hardening of the coast and continuing to develop beachfronts.

The park forms a sheltered boundary for approximately 28,500 acres of undeveloped barrier islands. Touched by no bridges or paved roads, it has never been a large center of population. The seashore is comprised of Shackleford Banks, Core Banks that is broken into northern and southern barrier islands by New Drum Inlet, Portsmouth Village, and dozens of islets within the glimmering waters of Core, Back, and Pamlico Sounds. Similar to the Outer Banks north of Ocracoke, the slender barrier islands are predominantly empty beaches punctuated by low-lying dunes and tremendous areas of salt marsh along the sounds. Native grasslands are some of the only ones remaining in the eastern United States. The dune grass anchors precious sand along the wind-blown beaches and marshland water, and marsh grasses are nurseries for shrimp, clams, crabs, and a wealth of fish and



After 150 years of service, the lighthouse received repairs including replacing the exterior entry wood stairs and landing to match those constructed in 1859; strengthening the cast-iron spiral stair treads; repairing treads that were cut to install the 1916 clockwork mechanism to turn the first-order Fresnel lens; and replacing the handrail on the gallery, including adding safety mesh to make the gallery safe for children.



These Shackleford Banks horses stand where Diamond City once existed, a whaling community that developed during the early 19th century and was the namesake for the lighthouse's paint pattern. By the 20th century, the community became known for mullet fishing and processing. Today, the wild horses, proven descendants of Spanish mustangs, are the only residents and are legislatively protected as one of the last wild horses in the U.S. They are monitored by the NPS and the Foundation for Shackleford Horses, Inc.

waterfowl. The national seashore does a balancing act to allow visitors to enjoy the rich history and scenery of "the Banks," as locals call the area, and yet to protect dwindling numbers of creatures and plants that make this a unique place on our planet. Amidst the natural beauty, the Cape Lookout Lighthouse is centerpiece for the park.

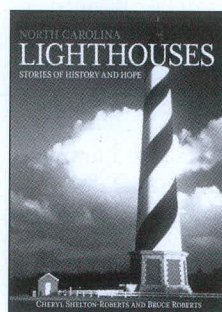
Wind, wave action, and tides with underwater rivers of natural currents keep the barrier islands a dynamic system that is always in flux. The islands are akin to a living creature in that over time its wounds from harsh storms slowly heal. With natural overwash, sand on the soundside waxes as a storm may cause the beachside to wane as much as 30 feet after a storm. But due to the east-west lay of the land in the bight, it is estimated that 1,000 feet of beach between the lighthouse and sound eroded away between 1940 and 1979. Since then, erosion has waxed and waned but continues to threaten the keeper's quarters.

At one time, all the islands were heavily

forested; however, trees have disappeared from virtually all the banks except for remnants of maritime forests such as Guthrie's Hammock on Shackleford Banks. A few magnificent stands of ancient live oaks and cedars huddle together in protective groups here and there. When the islands were populated, most of the trees were cut for boat making and building houses. Little did the islanders know that by cutting the trees they were taking away the very foundation from under their feet. Other forces constantly at work, as if in a slow-motion video, are time, tide, and salt-water spray that cause the death of a forest on one side of a dune as new vegetation takes root on the protected side away from harsh elements. Like a slow-crawling creature, the sand builds up against whatever tenacious vegetation takes root near the high-tide line, grows, traps more sand, is suffocated by it, spills over to spread out and moves until it hits something else upon which to build.

Just as the Cape Lookout Lighthouse was the first of its type in North Carolina in 1859, these forever-wild ribbons of sand will demonstrate firsthand that the only way to sustain the health of barrier islands is to leave them unhardened, undeveloped, and allow them to move as wildly and freely as the Shackleford Banks horses.

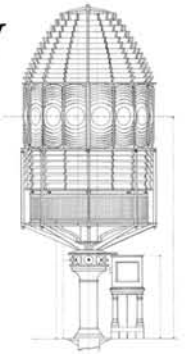
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1124, Morehead City, NC 28557; or email broberts2@ec.rr.com; or orders may go to the publisher, Globe Pequot Press, P.O. Box 480, Guilford, CT 06437.



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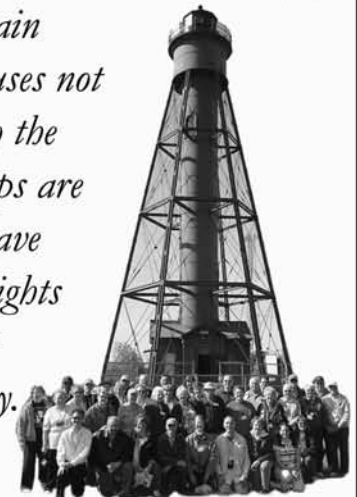
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