Cape Hatteras National Seashore Fort Raleigh National Historic Site Wright Brothers National Memorial

National Park Service U.S. Department of the Interior

2022



# 150 Years of Light

The Graveyard of the Atlantic has claimed countless ships and lives off the coast of North Carolina. Since 1872, the Bodie Island Lighthouse has warned mariners of the hidden dangers which lie 40 miles to the south, the Diamond Shoals. Ships taking advantage of the southern-flowing Labrador Current were alerted by the light that it was time to begin veering east. Mariners needed to "thread the needle" by easing off the coast far enough to get out of the Labrador Current, but not so far as to enter the northern-flowing Gulf Stream.

The current tower seen today is listed on the National Register of Historic Places and is the third lighthouse to serve this area. It stands nearly 165 feet tall, has a floating staircase containing 219 steps, and still possesses its original first order Fresnel lens. Since being electrified in 1932, the flashing pattern of 2.5 seconds on, 2.5 seconds off, 2.5 seconds on, 22.5 seconds off, can be seen 19 miles away. It is also recognizable after the sun rises by its bold daymark of black and white horizontal bands.

This year on October 1st the Bodie Island Lighthouse is celebrating 150 years of illumination. Since it was first lit, the lighthouse has been continually cared for. The resilient keepers of the U.S. Lighthouse Board occupied a remote position that required constant hard work. The last principal keeper, Lloyd Vernon Gaskill,



The Bodie Island Lighthouse has changed little since this photo was taken in 1893.

would go on to continue his service with the U.S. Coast Guard (USCG) when they became the stewards of the lighthouse in 1939. The USCG transferred the light station grounds to the newly established Cape Hatteras National Seashore in 1953, but kept control of the tower for another 47 years. Today the Bodie Island Lighthouse is cared for by the National Park Service. After undergoing a major restoration in 2013, the lighthouse was opened to the public for climbing. You can celebrate 150 years of history by climbing the lighthouse April 27th – early fall. When weather conditions allow, climbs take place every 20 minutes from 9:00 am – 5:40 pm, four days a week (Wednesday through Saturday). See page 2 for more information about lighthouse climbs.

## Table of Contents

Good Question! FAQs p. 2 Camping Information p. 2 Park Information at a Glance p. 3 Cape Hatteras National Seashore p. 4 Fort Raleigh National Historic Site p. 5 Map p. 6-7 Wright Brothers National Memorial p. 8 Ranger Programs p. 9 NPS Mobile App p. 9 Nesting Season p.10

National Wildlife Refuges p. 10 Things to Do p. 11 Outer Banks Forever p. 11 Safety p. 12 Volunteer With Us p. 12

## Welcome!

Welcome to Cape Hatteras National Seashore, Fort Raleigh National Historic Site, and Wright Brothers National Memorial! The Outer Banks are home to endless opportunities. They provide chances to recreate with family and friends, places to step back in history, and sights of breathtaking beauty. As caretakers of the three national park units located here on the Outer Banks, it's our honor to share these special places with you.

As you visit these national parks, we encourage you to keep safety in mind. Remember that a good day at the beach isn't always a good day to get in the water. Rip currents and rough ocean waves can pose serious safety risks for visitors. Check ocean conditions before heading out to the beach. As the COVID-19 pandemic continues into another season, please take a few minutes to familiarize yourself with the current guidelines before visiting to ensure a safe and healthy visit for you and your family.

Enjoy your visit to your National Parks and stay safe!



Etheridge Point at Fort Raleigh NHS.



National Park Service U.S. Department of the Interior

**Cape Hatteras National Seashore** Fort Raleigh National Historic Site Wright Brothers National Memorial

**Mailing Address** 1401 National Park Dr. Manteo, NC 27954

E-mail CAHA\_Public\_Affairs@nps.gov

Web nps.gov/caha nps.gov/fora nps.gov/wrbr

**Park Information** 252-473-2111

The National Park Service cares for the special places saved by the American people so that all may experience our heritage.



# Good Question!

We want you to have a safe and enjoyable experience while visiting your parks, so here are some answers to frequently asked questions about how you can enjoy your parks safely and responsibly while helping us protect these spectacular areas.

WHY ARE PARTS OF THE BEACH CLOSED?

Some areas of beach are important habitat for threatened and endangered species. When birds and turtles nest on beaches, some areas may be temporarily closed to public use. These protection areas may shrink or expand given the behavior of the wildlife. Although some areas may be temporarily closed, there are many areas that remain open for off-road driving and recreational use. Do not feed or harass wildlife for their safety and yours.

WHAT ABOUT MY PETS? Pets are not allowed in buildings or within any wildlife closure. However, your pets are welcome within the park as long as they remain on a 6' leash at all times.

CAN I DIG FOR TREASURE AT THE PARKS? No. As tempting as the idea of hidden treasure may be, probing, metal detecting, or digging is illegal within all national parks. This includes the beaches and campgrounds.

ARE FIREWORKS ALLOWED? Fireworks are not allowed in any National Park Service area.

**CAN I GO FISHING?** 

Yes, but a NC Coastal Recreational Fishing License is required. These are available at local tackle shops or online at ncwildlife.org.

CAN I LEAVE THINGS ON THE BEACH OVER-NIGHT? When you leave the beach, you must take all of your belongings with you. Be sure to remove umbrellas, canopies, chairs, etc. and fill any holes dug on the beach. This will help prevent injuries to nighttime beachgoers, including sea turtles. Leave your beaches and parks clean by packing out all trash.

CAN I HAVE A CAMPFIRE ON THE BEACH? Fires are permitted in designated areas with a free permit. Learn more and download a free permit at nps.gov/caha/

WHAT ABOUT DRONES? The launching, landing, or operating of unmanned aircraft/drones on lands and waters administered by the National Park Service is prohibited.

### AM I ALLOWED TO DRIVE ON THE BEACH?

An Off-Road Vehicle (ORV) permit is required to drive on the beach. Annual permits are \$120 and 10-day permits are \$50. Vehicles must be licensed, insured, and registered. Permits can be obtained online at recreation.gov. UTVs, ATVs, and motorcycles are not permitted.

Going Camping?

campgrounds within the park. All of the campgrounds have tent, trailer, and RV (recreational vehicle) sites. Reservations and payments for camp sites at all four campgrounds can only be made online at recreation.gov or by calling 877-444-6777.

Cape Hatteras National Seashore has four To learn more about camping, visit: nps.gov/caha/planyourvisit/campgrounds.htm or scan this code:





WHAT DOES BEACH ACCESS LOOK LIKE

FOR PERSONS WITH DISABILITIES? Beachcapable wheelchairs are available on a first-come, first-served basis; check with lifeguards for availability (in season). Visitors with disabilities are permitted to drive on the beach in vehicle-free areas in front of villages with an ORV permit and a beach access pass. For more information and to obtain a beach access pass, please call 252-475-9054.

### CAN I CLIMB THE LIGHTHOUSES?

Bodie Island Lighthouse is open for climbing April 27 - early fall on Wednesday through Saturday. Tickets are only available for purchase on recreation.gov. See the box below for more details. Ticket sales begin at 7:00 am and may only be purchased on the same planyourvisit/permitsandreservations.htm. day of your intended climb. Tickets sell out quickly! Save time by creating your account the night before your intended climb. Cape Hatteras Lighthouse is closed for restoration. Additonal climbing opportunities may become available. Visit nps. gov/caha for current climbing information.

> HOW CAN I GET THE LATEST PARK **INFORMATION?** Sign up for our new text alert service. Text NPSOBX to 333111 to receive general park text alerts. Text CAHAORV to 333111 to receive beach access text alerts. You can easily unsubscribe by texting STOP to 333111. Standard

text message and data rates may apply.

# **Tickets and Permits**

If you are looking for off-road vehicle permits, campground reservations, or lighthouse climbing tickets, look no further than recreation.gov. All of these services are only offered through the online booking system; no in-person payment will be necessary. By using the website or app, you can plan your vacation from home and have contactless payments. An account is needed to access these permits for Cape Hatteras NS. Plan ahead by downloading the recreation.gov app on your mobile device.



If you do not have access to a smartphone or computer, you can reach recreation.gov by phone at: 877-444-6777 (877-833-6777 for TDD)

Campgrounds						
CAMPGROUND	LOCATION	SITES	HOOK-UPS?	OPENS	CLOSES	COST
Oregon Inlet	Oregon Inlet Campground Highway 12 Nags Head, NC 27954	107	Water and electric available at 47 sites	Open year- round	Open year- round	\$28 for no utilities/\$35 for utility hookups
Cape Point	46700 Lighthouse Road Buxton, NC 27920	202	No	Apr. 2	Nov. 28	\$20
Frisco	53415 Billy Mitchell Road Frisco, NC 27936	127	No	Apr. 2	Nov. 28	\$28
Ocracoke	4352 Irvin Garrish Highway Ocracoke, NC 27960	136	No	Open year- round	Open year- round	\$28

# Park Information at a Glance

### Cape Hatteras National Seashore

Locations: The Seashore includes roughly 75 miles of beaches along the Bodie Island, Hatteras Island, and Ocracoke Island Districts: the Seashore is accessible from N.C. 12, south of the Town of Nags Head. Ocracoke Island is accessible from the Hatteras-Ocracoke, Cedar Island-Ocracoke, and Swanquarter-Ocracoke ferries

### Park Grounds: open 24 hours

Off road vehicle access: Up to 43 miles of beach-front off road vehicle access routes can be visited after purchasing an ORV permit from *recreation.gov*. Routes are subject to seasonal and wildlife closures. Visit *https://go.nps.gov/beachaccess* to check the current status of ORV routes or text CAHAORV to 333111 to sign up for beach access text alerts

### **Bodie Island District**

Location: The Bodie Island District stretches from Whalebone Junction in Nags Head, N.C. to Oregon Inlet. <u>Visitor Information</u>: Whalebone Junction Welcome Center (8 am-5 pm) and Bodie Island Visitor Center (intermittent)

Things to do during your visit:

- Lighthouse: The Bodie Island
  Lighthouse is open for climbing
  April through October (reservations required at *recreation.gov*)
- Boating: Launch your boat and kayak at the Oregon Inlet.
- Hiking: Hike the Bodie Island Dike Trail - 2 miles - start at Bodie Island

Lighthouse. Hike the marker trail - 1 mile - start at Whalebone Junction Walk the Off-Island Hunt Club

- Road Trail to fish in the sound or go crabbing
- Swimming and Surfing: Swim at the Coquina lifeguarded beach - open 24 hours - lifeguards present 9-5 from Memorial Day through Labor Day

### Hatteras Island District

Location: The Hatteras Island District begins south of Oregon Inlet and includes the Pea Island National Wildlife Refuge. The island continues for 50 miles until it's terminus at Hatteras Inlet and includes the villages of Rodanthe, Waves, Salvo, Avon, Buxton, Frisco, and Hatteras Village.

<u>Visitor Information</u>: Museum of the Sea (9 am-6 pm) and Hatteras Weather Bureau Station (8 am-4:30 pm).

Things to do during your visit:

- Lighthouse: While the Cape Hatteras Lighthouse is closed for restoration project, it is still worth visiting. Climbing may be available; check at visitor centers.
- Pier Fishing: Fish at the Bonner Pier (24 hrs) or Avon Pier (6 am-10 pm).
  - Hiking: Hike the Buxton Woods Trail, 0.8 miles, start near Cape Hatteras Lighthouse. Hike the Open Ponds Trail, 4.5 miles one-way, connecting Frisco Campground and the British Cemetery.
  - Swimming and Surfing: Swim at the Old Lighthouse and Frisco life-guarded beach - open 24 hours lifeguards present 9-5 from Memorial Day through Labor Day

Ocracoke Island District

Location: Ocracoke Island is roughly 16 miles long starting at the west end of Hatteras Inlet and ending on the north end of Ocracoke Inlet. It is only accessible by private boat, airplane, or the Hatteras-Ocracoke, Cedar Island-Ocracoke, and Swanquarter-Ocracoke ferries. Visit *ncdot.gov* and search for "ferry tickets" to find ferry information and reservations. <u>Visitor Information</u>: Ocracoke Discovery Center (9 am - 4 pm Mon-Fri)

- Lighthouse: Ocracoke Lighthouse closed for climbing, but base is open for viewing periodically April-fall. Check Discovery Center for times.
- Ponies: Visit the Ocracoke Ponies on NC12, 7 miles from village.
- Boating: Launch your boat or kayak from the boat ramps at the Ocracoke Discovery Center.
- Hiking: Hike the Hammock Hills trail, 1 mile, begin across from Ocracoke Campground.
- Swimming and Surfing: Swim at the Ocracoke life-guarded beach - open 24 hours - lifeguards present 9-5 from Memorial Day through Labor Day

## Fort Raleigh National Historic Site

Location of the first English Colony in the U.S. and the site of a Freedmen's Colony during and after the Civil War.

Location: 1401 National Park Drive, Manteo NC 27954 <u>Park Grounds</u>: Open 24 hours <u>Visitor Center</u>: 9 am -5 pm, 7 days a week <u>Time to Visit</u>: 2-4 hours Things to do during your visit:

- Learn about the park and native American history at the Lindsay Warren visitor center
- Walk the grounds to see the earthen fort, waterside theater, Virginia dare monument, and first light of Freedom monument
- Hike the Thomas Hariot Nature Trail
- (0.4 mile) or Freedom Trail (2.25 miles)
- Enjoy the Etheridge Point soundside beach and views of Roanoke Sound
- Watch the Lost Colony every evening from 7-10 pm during May-August (tickets required and available at *www.thelostcolony.org*)

### Wright Brothers National Memorial

Site of the first successful manned, powered, controlled, heavier-than-air, powered flight in human history.

<u>Location</u>: 1000 N. Croatan Highway, Kill Devil Hills NC 27948

Park Grounds: 9 am -5 pm, 7 days a week Visitor Center: 9 am -5 pm, 7 days a week Time to Visit: 2-4 Hours

Things to do during your visit:

- Learn about the story of the Wright Brothers and their flights at the Visitor Center and Museum.
- See a replica of the 1901 Flyer in the Flight Room
- Walk the flight line of the first 4 powered flights
- Stroll to the top of Big Kill Devil Hill, visit the monument and enjoy some of the best views in the Outer Banks.



With miles of shoreline, there's plenty of beach for families to enjoy.



FACEBOOK @CapeHatterasNS @FortRaleighNHS @WrightBrothersNMem



Cape Hatteras National Seashore offers great opportnities for surfing.

INSTAGRAM

@CapeHatterasNPS

@FortRaleighNPS

@WrightBrosNPS



Imagine yourself in the 16th Century at Fort Raleigh National Historic Site.



Kids test their speed against the first flight at Wright Brothers National Memorial.

FLICKR

CapeHatterasNPS FortRaleighNPS WrightBrosNPS





# CAPE HATTERAS NATIONAL SEASHORE Islands of Change

Over thousands of years, forces of water, wind, and storms have shaped these barrier islands known as the Outer Banks of North Carolina. The story of the land is constantly being rewritten by erosion from the wind and waves. Encompassing 75 miles of coastline, Cape Hatteras National Seashore includes three of these dynamic barrier islands: Bodie Island, Hatteras Island, and Ocracoke Island.

Land and sea work in an uneasy alliance, and the plants, wildlife, and people who live here must adapt to the ever-changing landscape. Those that stay find their resilience rewarded. Long stretches of beach, marshes, sand dunes, and maritime forests offer excitement, solitude, and discovery.

Fascinating stories of islanders adapting to the harsh and powerful environment are evident in the lighthouses, shipwrecks, and life-saving stations. Ranger programs, museums, and exhibits throughout the park help to make these stories come alive for park visitors.

An iconic beach vacation destination, recreational opportunities abound on the seashore. Popular activities include kayaking, bird watching, surf fishing, beach driving, and lighthouse climbs. With so many activities, there is something for everyone to enjoy!

To learn more about programs and events that may be happening during your visit, check out www.nps.gov/caha/planyourvisit/ calendar.htm or scan this code:







Above, clockwise from top left: Sunset at South Beach. The Ocracoke Island Lighthouse.





A ranger leads a fishing program. A woman walks her dog on the beach.

# New Opportunities at Oregon Inlet

Formed by a hurricane in 1846, Oregon Inlet connects the Atlantic Ocean with Pamlico Sound and a maze of inland waterways. Forming a 3,000-square-mile estuary, these nutrient - rich waters offer crucial habitat for commercially important fish, shrimp, and shellfish species. Over 95% of North Carolina's seafood species can be found in Pamlico Sound, thriving in the nutrient rich shallow water.

Named after the first ship to pass through, Oregon Inlet is one of the few regional access points to the Atlantic Ocean, making it a busy thoroughfare for recreational and commercial fishing vessels. Over the past few years, the National Park Service and its partners have made some improvements to the visitor facilities along the inlet to help provide more opportunities to experience and explore this unique part of Cape Hatteras National Seashore.

In 2019, The North Carolina Department of Transportation (NCDOT) completed the Basnight Bridge, replacing the aging Bonner Bridge. This new, state-of-the-art bridge will serve as the main connection and lifeline into Hatteras Island for many decades to come. As part of the replacement project, 1,000 feet of the original Bonner Bridge was retained. Extending into Oregon Inlet from Pea Island, the Bonner Bridge Pier serves as a current training device, helping to

deflect the ocean current into the middle of the channel to help maintain the navigable waterway.

In partnership with NCDOT and Pea Island National Wildlife Refuge, the National Park Service opened the Bonner Bridge Pier to visitor use in October of 2021. This pier has become a popular spot for fishing, walking, and wildlife viewing, while providing one of the best sunrise and sunset locations in the Outer Banks. For more information on the Bonner Bridge Pier, visit https://go.nps.gov/ BonnerPier.

On the other side of the inlet is another new feature. Oregon Inlet has always been a

great gateway to exploring and recreating in Pamlico Sound. In 2021, the National Park Service and Outer Banks Forever opened the Oregon Inlet Kayak Launch, providing safe and easy access for kayakers to enter the waters of Pamlico Sound. Enhanced parking, an accessible approach, and educational signage help locals and visitors alike have a safe and enjoyable kayaking experience. This visitor improvement was funded entirely by Outer Banks Forever, the official non-profit partner of Cape Hatteras National Seashore, Fort Raleigh National Historic Site, and Wright Brothers National Memorial. To learn more about Outer Banks Forever see page 11 or visit www.obxforever.org.



Bonner Bridge Pier stretches into Oregon Inlet.



Visitors can now launch kayaks and paddleboards from the Oregon Inlet area.

# FORT RALEIGH NATIONAL HISTORIC SITE One Island, Many Stories

With a history stretching back more than 400 years, Roanoke Island is home to countless stories. The diverse people who called this land home included Carolina Algonquians, European settlers, Civil War soldiers, and formerly enslaved persons.

Home to the Carolina Algonquians for centuries, Roanoke Island became known to Europeans in the late 1500s. Between 1584 and 1587 England made three voyages to this island and took its first steps toward settling North America by establishing a colony of men, women, and children. What happened to this "lost colony" remains one of the world's most enduring mysteries.

Centuries after the lost colony, Roanoke Island was occupied by Union troops during the American Civil War. Word spread among runaway slaves that on "Roanoke Island, you will find safe haven," and a Freedmen's Colony was established by the army to prepare the formerly enslaved people for life after the war. In the early 20th century, radio pioneer Reginald Fessenden added a technological slant to the rich history of Roanoke Island. He was the first person to transmit the human voice using wireless technology and his experiments helped to pave the way for modern radio.

Learn more about the unique stories and diverse history of Roanoke Island by visiting Fort Raleigh National Historic Site in Manteo.

To learn more about programs and events that may be happening during your visit, check out www.nps.gov/fora/planyourvisit/ calendar.htm or scan this code:



THE FREEDMEN'S COLONY of ROANOKE ISLAND 1862 - 1867

A year after the Civil War began, Roanoke Island fell



Above, clockwise from top left: The Freedmen's Colony Monument. The earthen fort.





The Waterside Theater, home of *The Lost Colony* play. Two hikers enjoy one of the trails.

# Roanoke: New Clues Uncovered in Enduring Mystery



*Above:* Archaeologists carefully excavate a plot. *Below:* Visitors watch progress of the archaeology dig.



As the site of the first English settlement in America, Roanoke Island's sandy soil has a story to tell. Archaeologists with the First Colony Foundation, in partnership with the National Park Service, are working hard to understand what this hallowed ground has to say.

"Indiana Jones aside, archaeology is more forensics than Hollywood fanfare," said Eric Klingelhofer, Vice President of Research at First Colony Foundation. "It's about building a picture of the past by uncovering and carefully evaluating the evidence."

Starting last September, First Colony Foundation conducted a series of permitted archaeology digs to gain a better understanding of how English settlers lived and worked during their brief sojourns in the "New World." Digging centered around the site of a workshop set up in 1585, since dubbed the "science laboratory," where members of the expedition tested ore samples for the presence of gold and other valuable metals and assessed the potential commercial value of plants and herbs. The ground does not yield its story easily. Sometimes the clue is no more than a stain in the soil, like the "features" (as archaeologists call such things) discovered last fall. Soil features are often all that remains of structures made of wood and other perishable, organic materials. On the bright side, though subject to decay, such material can be accurately dated in the laboratory where stone cannot.

With that in mind, samples of the latest finds have been sent for Carbon-14 analysis. At the time of publication, First Colony Foundation was tight-lipped about the results, when queried before all studies are complete, limiting their response to "looking good," but they expect to announce their findings in the spring of 2022 just in time for summer walking tours of the site.

In addition, though the workshop area has been heavily excavated over the years, September's dig also uncovered an assortment of Native American and Elizabethan-era pottery, flint possibly used to start work fires in the science workshop, and part of a stoneware crucible vessel used in testing minerals.

"Archaeology opens a window on the past that helps us better understand how we, as Americans, can appreciate the struggles of people in the past," said Jami Lanier, Cultural Resource Manager, with the National Park Service. "You never know what a shovel full of soil will reveal. It's all part of the adventure."

The First Colony Foundation, formed in April 2003, is dedicated to conducting archaeological and historical research, combined with public education and interpretation, relating to the story of America's beginnings with the attempts by Sir Walter Raleigh to establish English colonies at Roanoke Island in the 1580s, under his charter from Queen Elizabeth I.

"The Lost Colony story is really a mystery within a mystery," Lanier says. Because it's not only a question of where those 117 men, women and children went — tragically hopeful, as they had been of a new life in a new land — but where they lived and worked while on Roanoke Island.

So the search continues. Because the soil of Roanoke Island indeed has a story to tell.









Above, clockwise from top left: A volunteer swears in two new Junior Rangers. First Flight





Sculpture. Wright Brothers Monument and bust of Orville. Wright Brothers Visitor Center.

# WRIGHT BROTHERS NATIONAL MEMORIAL **Why Kitty Hawk?**

Have you ever wondered why two brothers from Dayton, Ohio would travel all the way to the Outer Banks of North Carolina to try and fly? Travel wasn't easy or expedient in the early 1900s (this is pre-airplane after all, and pre-highway as well) so there must have been a good reason why Wilbur and Orville would make the journey.

As much as Wilbur and Orville Wright loved their hometown of Dayton, when it came to their flying and gliding experiments, Dayton was lacking three key things that they needed: wind, sand, and isolation. So they began researching a suitable location until they learned about a town named Kitty Hawk.

Located on wind-swept barrier islands with rolling sand dunes and a small population of hospitable locals, Kitty Hawk, North Carolina would be ideal for their experiments. Upon their arrival in Kitty Hawk in 1900, they were told about a group of sand dunes called the Kill Devil Hills. Wilbur and Orville chose these sand dunes to conduct their gliding experiments and set up camp during their next two trips in 1901 and 1902.

On December 17, 1903, when Wilbur and Orville were finally ready to try their powered flyer, the first successful flights of human history took place on the soft, flat sand right outside of their camp buildings.

Located in present-day Kill Devil Hills, you can visit the site where these worldchanging events took place by visiting Wright Brothers National Memorial on your own journey to the Outer Banks.

To learn more about programs and events that may be happening during your visit, check out www.nps.gov/wrbr/planyourvisit/ calendar.htm or scan this code:



# Big Kill Devil Hill's "New" Look

When Wilbur and Orville Wright made the trek from Dayton to Kitty Hawk each year from 1900 to 1903 to test their gliders and their flyer, they relied on the sand dunes known as Kill Devil Hills to provide the ideal testing ground. But sand dunes are constantly shifting, and by 1928, the 25th anniversary of the first flight, the landscape looked a lot different than what the brothers first saw. Big Kill Devil Hill, the tallest of the sand dunes (and the same one the brothers leapt from hundreds of times), had migrated about 450 feet southeast with the help of the strong winds that drew Wilbur and Orville here.

To honor the brothers' achievement, a national memorial in Kill Devil Hills

was established, and the call came to construct a monument atop Big Kill Devil Hill. But to build a massive 60-foot-tall granite monument on top of the dune, it had to be stabilized first. Grasses and shrubs were planted so their roots could plunge deep into the sand and prevent further movement, and the art-deco-style monument was completed in 1932.

Due to mowing safety restrictions, Big Kill Devil Hill became so stabilized by the grasses and shrubs that trees have been able to take root and grow up to 10 feet tall, obstructing the view from both the top and the bottom of the hill. Other dense vegetation also crowded the walking paths that lead up to the monument. To restore the hill to its 1930s condition, the maintenance team at Wright Brothers National Memorial employed some new technology and a crew of specialists. They started by using a remote-controlled lawn mower, roughly the size of a shopping cart, that can mow, chip, and mulch the dense vegetation on the steep hillsides where a riding lawn mower wouldn't be safe to use. This cleared the grasses and small shrubs, but the mower wasn't designed for large bushes or trees. That's where the North Carolina Conservation Corps Women+ Sawyer Crew came in. These highly trained advanced chainsaw specialists arrived on site in December 2021 and made short work of the remaining overgrowth, clearing the north side of the hill in a few days.

The work is meaningful to the park and the crew alike. "Just seeing that and knowing that you're making a difference is... indescribable" said sawyer Harlee Craddock.

Now when you look up to the monument from the bottom of the hill, it looks much like it did when the grasses were freshly planted, without the forest. Keeping the dune clear of vegetation will be an uphill battle, as the grasses and shrubs will always keep growing, but the maintenance team is now much better equipped to handle the job. If you see them mowing, give them a little extra room so you can both be safe. And enjoy the view from the top – no more trees will be in your way!



The remote-controlled mower easily cuts through thick brush and vines on the hillside.  $\overline{8}$  In The Parks



The chainsaw crew and Wright Brothers maintenance team load branches into the chipper.

# Ranger Programs

Want to dive deeper into the history and biodiversity of these amazing parks? Visitors to Cape Hatteras National Seashore, Fort Raleigh National Historic Site, and Wright Brothers National Memorial can enrich their visit by attending one of our ranger-led programs! Ranger Programs are a great way to learn about what makes a park special, whether it's learning how historic people lived, discovering geologic processes at work, or seeing things you wouldn't have found on your own. They include talks, guided walks, and hands-on activities. Programs will be offered throughout the summer and early fall at a variety of locations throughout the parks.

Take a guided walk with a ranger at Fort Raleigh to explore the mystery of the Lost Colony of Roanoke. Fly a kite and test the Kitty Hawk winds like Wilbur and Orville at Wright Brothers. Discover the creatures onshore and off that call Cape Hatteras home. Hear stories about the pirates of Ocracoke Island. Ranger-led programs are open to visitors of all ages. No matter your interests, ranger-led programs offer something for everyone.

Ranger Programs are subject to change due to weather and staffing. To see what programs and events are happening during your visit, check out our online calendars at www.nps.gov/caha, www.nps.gov/fora, and www.nps.gov/wrbr, or use your smart phone to scan these QR codes.

*Top right:* Bring your own bike to the Bicycle Program at Wright Brothers National Memorial. *Right:* Hear the Lost Colony story at Fort Raleigh National Historic Site. *Bottom right:* Learn more about barrier island ecology in the Hatteras Island District. *Bottom center:* Meet the ponies in the Ocracoke Island District. *Bottom left:* Go crabbing with a ranger in the Bodie Island District. Cape Hatteras National Seashore



Fort Raleigh National Historic Site



Wright Brothers National Memorial











# The Official NPS App Has Arrived!

Plan your trip to the Outer Banks with confidence using the official app of the National Park Service. The NPS mobile app, which was released in 2021, is available for free download in the iOS App Store and Google Play Store. The app gives the public up-to-date information about all 423 national parks in one easy-to-use app. Download the app in advance and use it offline at any park.

An excting feature of the NPS mobile app is the new audio tours available for Cape Hatteras National Seashore, Fort Raleigh National Historic Site, and Wright Brothers National Memorial. These walking audio tours lead visitors to the major highlights of each area and are a great way to learn about the rich history and natural resources of the three parks. The NPS mobile app is also the best place to find up-to-date information on rangerguided interpretive programs for the upcoming summer season. By using the calendar within the app, visitors can see all options to explore their national park sites with a park ranger. This summer's offerings will include ranger talks, guided walks, bicycle tours and more.

To download the NPS mobile app, search "National Park Service" in the app stores or use this QR code:





# Nesting Season on the Outer Banks

Humans aren't the only creatures that flock to the beaches of the Outer Banks in the summertime. The sandy dunes and ever-changing shorelines play host to more than 300 bird species and dozens of reptiles. In the spring and summer, seven species of shorebirds make their nests in Cape Hatteras National Seashore. Some like the piping plover and American oystercatcher are solitary nesters, while others like the black skimmer, gull-billed tern, and least tern nest in large colonies on the open beach. All require large sections of undisturbed beach above the high tide line and below the dunes to safely hatch and fledge their chicks.

In addition to the shorebirds, five species of sea turtle have been confirmed nesting on the beaches of Cape Hatteras National Seashore: loggerhead, green, Kemp's ridley, hawksbill, and leatherback. Loggerhead turtles make up roughly 95% of the sea turtle nests each year, with green turtles being the next most common at 3-5%. All five species are federally protected and face numerous threats from human disturbance to light pollution to depredation by coyotes, ghost crabs, and others.

For shorebirds and sea turtles alike, one of the biggest threats comes from loss of nesting habitat. "For sea turtles in particular, with potential sea level rise, you [are likely to] see higher erosion rates, which in a lot of cases is that sea turtles' direct nesting habitat being lost," says Supervisory Biological Science Technician William Thompson. Sea level rise coupled with urbanization, storm damage, and human disturbance reduce the amount of suitable habitat available for nesting.

Every year, the National Park Service works to protect crucial habitat for all of the species that nest in Cape Hatteras National Seashore. Pre-nesting closures are put in place by March 15th for the solitary nesting shorebirds, followed by the colonial nesting species. Shorebirds will begin nest-building at the end of March, though nesting can continue into July if earlier nests fail. Biological Science Technicians, or Bio Techs for short, will closely monitor the nesting areas on a daily basis, adjusting the boundaries as needed and gathering data on the success of the nests. Many birds will also be banded, which allows scientists to track them over time.

Sea turtle patrols also begin in the spring, with Bio Techs rising before dawn to check for the telltale tracks that indicate a female sea turtle has laid her eggs in the sand. A small closure area is posted around each nest, which, like the shorebird nesting areas, is closely monitored. Turtle eggs will incubate for 50-65 days depending on the average sand temperature and will hatch anywhere from mid-July to early October, at which point park staff will excavate and inventory the nests.

Visitors to Cape Hatteras National Seashore can help protect all nesting species by respecting closure areas and keeping the beach clean from trash and debris. Don't release balloons and try to limit the use of disposable plastics to keep those materials from ending up in the ocean. Help cut back on light pollution, which keeps the female turtles away from the beach in nesting season and disorients newly hatched turtles in hatching season. "It all starts with being responsible while utilizing our public lands," says Thompson. "Pack it in, pack it out. Go in with the mentality of being conscious that there's more than just humans around you."

.....



*Top:* Park scientists install pre-nesting closure areas. *Middle:* Green sea turtle hatchlings make their way to the ocean. *Bottom:* Least tern chicks, one hatching and one resting.

## Cape Hatteras Lighthouse Restoration Project

The lighthouse is located on a barrier island along the Atlantic coast and is exposed to salt air, high winds, and intense sunlight. Consequently, repairs are needed to maintain the integrity of this national treasure. The National Park Service has received funding for a major repair project that will include repairs to deteriorated masonry, metal components, windows, marble flooring, and the lantern. Important architectural components, including missing pediments over the lighthouse windows and missing interior doors will also be restored. Additionally, the project will include new paint coatings on the interior and exterior of the lighthouse.

Cape Hatteras National Seashore (Seashore) is proud to be entrusted with the stewardship of the Cape Hatteras Lighthouse. It is the mission of the National Park Service to preserve cultural resources such as this lighthouse for the benefit of current and future generations. Updates on this exciting project can be found at www.nps.gov/caha/news/learn.

# PEA ISLAND AND ALLIGATOR RIVER National Wildlife Refuges

Pea Island National Wildlife Refuge is often called a birder's paradise, and while that's certainly true, this small barrier island refuge is much more than that! Nested in the center of Cape Hatteras National Seashore on the north end of Hatteras Island, Pea Island provides valuable habitat for more than 300 species of migratory birds, several threatened and endangered species, and a variety of reptiles, amphibians, mammals, and marine life.

In 1985, a much larger refuge came to be on the mainland portion of Dare County. Alligator River National Wildlife Refuge was established to protect a unique habitat type – pocosins, forested wetlands unique to the mid-Atlantic coastal area – and to provide habitat for the native wildlife species associated with this habitat. Alligator River Refuge wildlife species range from black bear and red wolves to red-cockaded woodpeckers and alligators.

Together, the two refuges provide a wide variety of wildlife-related experiences for you to enjoy while vacationing on the Outer Banks. Whether you're a birder, a kayaker, a fisher, or a hiker, there's something for everyone. So while you're here, take some time to take a walk on the wild side!

For information about current refuge programs, visit www.fws.gov/refuges, call 252-473-1131 or scan this code:





Pea Island is home to more than 370 bird species.



Alligator River offers several paddling trails.

# Things to do on the Outer Banks

### HIT THE BEACH

With roughly 75 miles of coastline, Cape Hatteras National Seashore is the perfect place to spend a beach day with your family. Lifeguarded beaches are found at Coquina Beach, Cape Hatteras Lighthouse Beach, Frisco Beach, and Ocracoke Beach. Lifeguards will be on duty May 23rd through September 7th, 9:00 am to 5:00 pm daily. Check out our tips on page 12 to have a safe beach experience.



**EXPERIENCE THEATRE UNDER THE STARS** The Waterside Theater at Fort Raleigh National Historic site, is home to *The Lost Colony*, the nation's premier and longestrunning outdoor symphonic drama. First staged in 1937, *The Lost Colony* opens May 27, 2022 and is produced by the Roanoke Island Historical Association. To learn more or to purchase tickets, visit www.thelostcolony.org.

#### STAND WHERE HISTORY WAS MADE

Visiting the site where Wilbur and Orville Wright made the first successful flights of human history is an absolute must while in the Outer Banks! From the First Flight Boulder, you can look down the Flight Line to see where the Wright Brothers landed on their historic flights of December 17, 1903.

#### **BECOME A JUNIOR RANGER**

Kids of all ages and kids at heart can earn a Junior Ranger badge by completing a free activity booklet at any of the three parks. Pick up a booklet from a park visitor center or ask a ranger on the lighthouse grounds.

### EXPLORE THE VILLAGES

Travel on NC-12, a National Scenic Byway, to explore beach villages. Stop in at Chicamacomico Life Saving Station in the Village of Rodanthe or visit Hatteras Village, home to the Graveyard of the Atlantic Museum, a State of North Carolina maritime museum of shipwreck history. Take a ferry to Ocracoke, whose historic village honors a seafaring history that stretches from the days of Blackbeard to World War II and present day.

### ΤΑΚΕ Α ΗΙΚΕ

Take a break from your normal beach day and explore a different side to these barrier islands. Walk the nature trails at Fort Raleigh National Historic Site or take a hike on one of the three designated hiking trails found within Cape Hatteras National Seashore: the <sup>3</sup>/<sub>4</sub> mile Hammock Hills Nature Trail on Ocracoke Island, the <sup>3</sup>/<sub>4</sub> mile Buxton Woods Trail across from Cape Hatteras Lighthouse, or the 4.5 mile (one way) Open Ponds Trail that runs between the British Sailor Cemetery on Lighthouse Road in Buxton and the Frisco Campground. Bring bug spray and water as you explore these hiking trails.

#### VISIT THE PONIES

The Banker Ponies, believed to have come off of shipwrecks, are an important part of Ocracoke Island history. The pony pens are located seven miles north of Ocracoke Village on NC-12. Picnic tables are available across from the pony pens.



#### GO BIRDING

Whether you are a beginner or an expert, the seashore is a great place to experience a variety of bird species. At the Bodie Island Lighthouse there is a boardwalk and an observation deck overlooking the surrounding marshes and ponds. Good birding areas along Hatteras Island are abundant and the ponds along the road leading to the Cape Hatteras Lighthouse are a great place to start. On Ocracoke Island, try South Point Road or the ponds on the north end of the island near the Hatteras ferry docks.

### DISCOVER THE FREEDMEN'S COLONY

Learn what happened after the Battle of Roanoke Island during the American Civil War. A memorial marker located in the plaza outside the Fort Raleigh National Historic Site visitor center describes Roanoke Island's role in the Underground Railroad and discusses one of the first transformations from slavery to freedom in a slaveholding state.

### GO FISHING

Fishing is a popular activity throughout the seashore and at Fort Raleigh, and most of the beach and sound-side is open to fishing. You will need a NC Coastal Recreational Fishing License, which can be purchased at any of the numerous local tackle shops while also picking up bait, tackle and helpful fishing tips. Visit the Avon Fishing Pier to enjoy a day of pier fishing - no fishing license required. For more information, visit koruvillage.com/pages/avon-pier. Visit the Oregon Inlet Fishing Center to learn about the variety of 1/2 day or full day fishing charters available. You can also come by the docks daily from 3 pm - 5pm to watch boats return with their daily catch. Visit the fishing center in person, online at www. oregon-inlet.com, or call (800) 272-5199 to book your trip. Fishing is also a popular activity at the new Bonner Bridge Pier (see page 4 for more).



# Protecting Our Parks: Meet Outer Banks Forever



We hope you are enjoying your visit to the Outer Banks, a place known as "the land of firsts." These unique barrier islands are home to the site of the first English colony in the "New World," the first all African American lifesaving station crew in the United States, the first successful heavierthan-air powered flight, the first National Seashore, and more. Each of our three Outer Banks national parks protects these important stories. But did you know that there is a nonprofit organization that helps you protect our Outer Banks national parks?

Outer Banks Forever is the official nonprofit partner of Cape Hatteras National Seashore, Fort Raleigh National Historic Site and Wright Brothers National Memorial, with a mission to preserve and enhance these special places through public engagement, education, and project support.

Since launching in 2019, Outer Banks Forever has helped our national parks complete exciting projects such as:

- Expanding digital aviation education at Wright Brothers National Memorial
- Installing a live-feed webcam on top of

the Cape Hatteras lighthouse

• Building a mobility-friendly kayak launch at the Oregon Inlet Fishing Center

Additionally, Outer Banks Forever offers an "Adopt a Sea Turtle Nest" program that supports projects that enhance the Seashore habitat of endangered sea turtles, as well as an "Adopt a Pony" program that provides for the care and feeding of the Ocracoke Island ponies.

With your help, Outer Banks Forever can provide vital resources that help our national parks become more accessible and engaging, while protecting the history, culture, and environment that are vital to our island community. To learn more about Outer Banks Forever and how you can help preserve and enhance our Outer Banks national parks, visit www.OBXForever.org or scan this code:



Connect with Outer Banks Forever on social media: Facebook: www.facebook.com/obxforever Instagram: @obxparksforever Twitter: @OBXparksforever YouTube: Outer Banks Forever





Join our team! Volunteers-In-Parks (VIPs) are Very Important People! Explore, learn, and share your time and talent while helping us protect this special place! From assisting with lighthouse climbs, to serving as campground hosts, to helping with the sea turtle nesting program... and everything in between, the work our volunteers do makes a difference!

Opportunities are available for both highly skilled professionals and for beginners with little or no experience. Check each park's website calendar for drop-in volunteer events or days of service such as National Public Lands Day in September. Visit www. volunteer.gov for current volunteer opportunities.





# Six Tips for Staying Safe in the Outer Banks

1) LOVE THE BEACH, RESPECT THE OCEAN While every day may be a beautiful day to be at the beach; it may not always be a good day to enter the water. Here are some ocean and beach safety tips: Learn about the dangers of rip currents and how to escape if you're caught in a current (see infographic below).

- Watch for red flags at lifeguarded beaches. Red flags are flown to indicate dangerous water conditions. Never enter the water in red flag conditions.
- Never swim alone, and don't let children swim unsupervised. At minimum, have a safety spotter on the shore.
- Be careful at the shore break. The force of crashing waves can pick you up and throw you onto the sandy bottom, which may result in severe injuries.
- Watch for jellyfish in the water. If stung, pour on vinegar to stop the stinging, but don't rub. Seek first aid if needed.
- Be safe by being seen! Swim near a

lifeguard. See the map on pages 6 and 7 for lifeguarded beaches on Cape Hatteras National Seashore. For more information, check out LoveTheBeachRespectTheOcean.com

#### 2) CROSS AT THE CROSSWALKS

No shortcut is worth risking your life. Always cross at marked cross walks, and if you must walk at night, make sure to bring lights or reflective clothing.

# 3) SIGN UP FOR TEXT ALERTS FROM THE NATIONAL WEATHER SERVICE

Text OBXBEACHCONDITIONS to 77295 to receive daily rip current alerts to help you make safe swimming decisions. (Don't worry, you can unsubscribe when you head home.)

Not into text alerts? Then check out the rip current forecast by visiting www. weather.gov/beach/mhx or get twitter updates @NWSMoreheadCity

# stinging, but don't rub. Seek first aid, **4) PLAN FOR HIGH HEAT AND SUNSHINE**

The high temperatures and high humidity over the summer months in the Outer Banks can lead to a dangerously high heat index. This type of environment can lead to heat cramps, heat exhaustion, and heatstroke. So enjoy the beach, but limit your physical activity and time outside during high heat and humidity days. Apply sunscreen early and often. And don't forget to drink plenty of water!

### 5) WATCH FOR BAD WEATHER

Storms can pop up suddenly here. When thunder roars, head indoors! If you can hear thunder, you are close enough to be struck by lightning. Don't be outside or in the ocean during a thunder or lightning storm.

### 6) AVOID THE OUCH, STAY ON THE PATH!

Whether ticks in the woods, venomous snakes near the marshes, or prickly-pear cacti and sandspurs in the grass, staying on designated paths and trails can help you avoid what could be a painful experience. Avoid wandering into tall grasses, marshy water, or heavy underbrush.



12 In The Parks