



In The Park

CAPE HATTERAS NATIONAL SEASHORE | WRIGHT BROTHERS NATIONAL MEMORIAL | FORT RALEIGH NATIONAL HISTORIC SITE

Cape
Hatteras
National
Seashore,
Pgs. 14 to 17



Wright
Brothers
National
Memorial,
Pgs. 18 & 19



Fort Raleigh
National
Historic Site,
Pgs. 20 & 21



SUMMER
2008





Welcome To

In The Park is produced by the National Park Service and funded with the support of Eastern National.



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Cover Photo

Fort Raleigh Junior Ranger Logan Daniels learns more about the native people of Roanoke Island during a clay pot-making activity with National Park Service Ranger Rob Bolling. Photo by Jennifer Brumfield, jennifer@manteobooksellers.com

Published By

One Boat Guides
Michael McOwen
Beth P. Storie, Editor
Nealy B. Hansford, Design

Superintendent's Message



Welcome to the National Park Service Outer Banks Group!

Do you remember the fancies of childhood... wiggling your toes in the foam of an ocean wave... pretending you were an explorer in an uncharted

territory... looking skyward and wishing you could fly? Chances are these childhood dreams and reminiscences were made as you explored the outdoors. Perhaps these experiences happened while playing in your own backyard. Or maybe it was during a family summer vacation to the Outer Banks – an experience that inspired you to bring your own children here, creating generational traditions and memories.

Today people are becoming separated from the natural landscape, and children seem to play indoors rather than go outside. There is growing concern that this disconnection between children and the outdoors will affect the future of the National Park Service. If our youth do not play outside or visit the parks, will they want to continue to

preserve these special places as adults? Continued stewardship of the natural and cultural wonders the National Park Service protects depends upon encouraging young people to connect with the world outside.

You play a crucial role in this effort to cultivate future generations of park stewards. During your visit to the Outer Banks, we encourage you to create new, or perhaps revive old, family traditions and lasting memories by taking your children exploring in the parks – either on your own or with a National Park Service ranger at the family- and kid-oriented programs offered at all three of our park sites.

We thank you for making our nation's heritage a part of your family tradition and look forward to seeing you out in the parks!

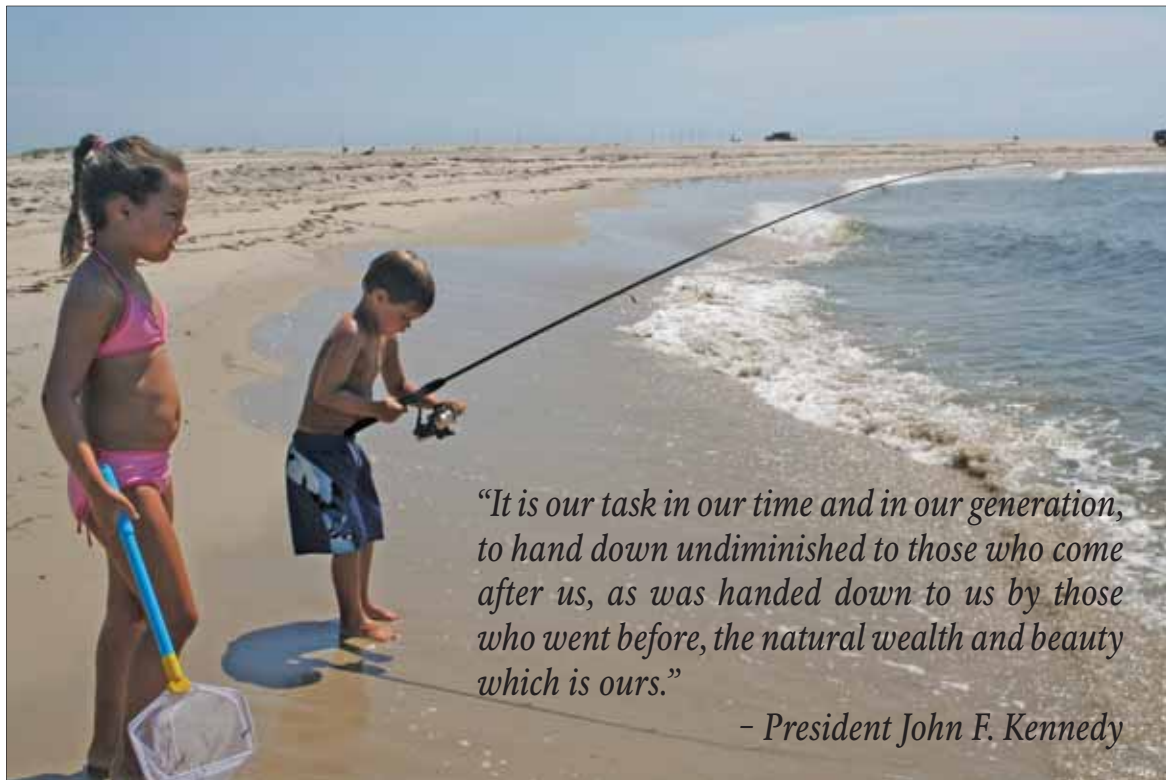


Photo Credit: Quinn Capps

"It is our task in our time and in our generation, to hand down undiminished to those who come after us, as was handed down to us by those who went before, the natural wealth and beauty which is ours."

– President John F. Kennedy

Park Fees

Wright Brothers National Memorial

The entrance fee is \$4 per person. The National Parks Pass, Wright Brothers Pass, Golden Eagle, Golden Age, Golden Access and America the Beautiful Pass holders enter for free. Children 15 and younger enter for free.

The Lost Colony & Elizabethan Gardens

Two non-Federal park partners charge fees at Fort Raleigh National Historic Site. The Roanoke Island Historical Association offers tickets to the outdoor drama *The Lost Colony*; call (252) 473-3414. The Garden Club of North Carolina charges admission to enter *The Elizabethan Gardens*, call (252) 473-3234.

NPS Campgrounds

National Park Service campgrounds include Oregon Inlet, Cape Point, Frisco and Ocracoke. Fees for all campgrounds, except Ocracoke, are \$20 per night. The Ocracoke Campground fee is \$23 per night and is the only National Park Service campground that accepts advance reservations; call (877) 444-6777. America the Beautiful Senior and Access and Golden Age and Access Pass holders pay half-price at any campground.

Cape Hatteras Lighthouse

The fee to climb the lighthouse is \$7 for adults. Children (must be at least 42" tall) younger than 12 and persons possessing Golden Age, Golden Access and America the Beautiful Senior and Access Passes pay \$3.50.

America the Beautiful Passes

America the Beautiful Passes have replaced the Golden Age, Golden Access, Golden Eagle and National Park Passes. America the Beautiful Annual, Senior and Access Passes are available at Wright Brothers National Memorial. Senior and Access Passes are also available at any campground and at the Cape Hatteras Lighthouse.



In The **PARK** The Park



Be A Junior Ranger!



Becoming a Junior Ranger is a fun way to learn more about our parks and how you can help protect them – just like the park rangers that you meet. The Junior Ranger programs at Cape Hatteras National Seashore, Fort Raleigh National Historic Site and Wright Brothers National Memorial are for ages 5 to 13.

Along the Outer Banks, you can actually become three different kinds of Junior Rangers -- a Seashore Ranger at Cape Hatteras National Seashore, a Flight Ranger at Wright Brothers National Memorial and a Roanoke Ranger at Fort Raleigh National Historic Site. Just go to the visitor centers located at these national park sites and a staff person will give you a booklet to get you started. Generally, you will have to finish the booklet and attend some

ranger programs to become a Junior Ranger.

At Cape Hatteras National Seashore, if you attend ranger programs offered during the summer and complete the workbook, you will earn a Seashore Ranger patch and a Junior Ranger badge. Get your booklet from any of the three Seashore visitor centers located at the Bodie Island Lighthouse, at the Cape Hatteras Lighthouse and near the ferry dock in Ocracoke Village. If you complete only the booklet, you will earn a Junior Ranger badge.

You will earn a Flight Ranger patch at Wright Brothers National Memorial when you complete your booklet and attend ranger programs that are offered through the year.

At Fort Raleigh National Historic Site, you can earn a Roanoke Ranger

patch when you attend ranger programs and complete the booklet at any time of the year. You can also become a Fort Raleigh Web Ranger and earn a Junior Ranger badge when you visit the park's website at <http://www.nps.gov/fora>. Just print out your worksheets, answer the questions and mail the worksheets to the park.

Remember to bring your completed booklets back to the national park site where you obtained them so you can get the right type of Junior Ranger award that you had been working toward. If you need someone to help you finish the booklet, ask one of your parents or one of our park rangers.

The North Carolina Beach Buggy Association, the First Flight Society, and Eastern National help us in providing these Junior Ranger programs to you.



Be a Volunteer!

In America, we love our national parks. A recent survey has shown the National Park Service to be the second-highest rated of all federal agencies in positive public perception (the Postal Service being first). Last year, more than 273 million people visited the national parks, and 163,000 volunteers donated more than 5 million hours of service to help preserve and protect our nation's valuable natural and cultural resources.

Volunteers come to our national parks because they, like you, care about these special places and want to make a contribution – sharing their passion and knowledge.

We enthusiastically salute the 150 dedicated volunteers who donated more than 22,000 hours to Cape Hatteras National Seashore, Wright Brothers National Memorial and Fort Raleigh National Historic Site in 2007! Their time and effort helped us meet our mission of protecting resources and providing for the enjoyment, education and inspiration of this and future generations.

If you want to do more to care for national parks, you can visit the federal volunteer website www.volunteer.gov/gov and check out the latest Outer Banks Group parks' volunteer opportunities. Or, if you have specific volunteer activities in mind, call (252) 473-2111.

And if you meet some of our volunteers during your visit, thank them for caring for the national parks too!



Wright Brothers Volunteer Steve Jones receives a Master Volunteer Award from Superintendent Murray.

How Would You Look in a Park Ranger Hat?



Are you a college student who would like a fun and interesting summer job, a local who would like to share your knowledge or a visitor who would like to further your experience in this unique area? Then perhaps you'd enjoy working as a Park Ranger.

If so, visit www.usajobs.opm.gov. This website is where all National Park Service job openings are posted, and you can apply directly on-line. Summer 2009 jobs for Cape Hatteras National Seashore, Wright Brothers National Memorial and Fort Raleigh National Historic Site will likely be advertised in October and November 2008. Or there may be other National Park sites where you might be interested in working . . . Yosemite . . . Grand Canyon . . . Gettysburg . . . Lincoln Memorial. Check the website and maybe we'll be seeing you here next summer as a National Park Service Outer Banks Group employee.

To learn more about other national park sites, visit www.nps.gov. Working for the National Park Service could be the experience of a lifetime!

We want your visit to the Seashore to be safe and enjoyable. By following these guidelines, we can all protect and maintain this spectacular area.

Am I Allowed To Drive On the Beach?

- A four-wheel-drive vehicle is a must, due to the soft sand.
- Vehicles are not allowed on park beaches 10 p.m. to 6 a.m. from May 1 to Sept. 15. Night permit required Sept. 16 to Nov. 15.
- Your vehicle, including ATVs and dirt bikes, must be street legal to operate within the park.
- The driver must possess a valid driver's license.
- All regulations that apply on the streets and highways of the state also apply on the beach.
- The maximum speed limit is 25 m.p.h., unless otherwise posted.
- Driving or parking on the dunes and/or vegetation is strictly prohibited. Access the beach only by designated ramps.
- Please observe all signs, and do not drive in areas where you see a "No Vehicles" sign posted. These areas are closed to protect natural resources such as turtle and bird nests, developing dunes and vegetation.
- If violations of protected species closures results in disturbance or harassment of wildlife or the vandalization of fencing, nests, or plants; the closure is mandated to be expanded 50 m for the first violation, 100 m for the second, and 500 m for the third. Violators are subject up to a \$5,000 fine and/or imprisonment up to 6 months.
- Beach areas in front of the villages of Rodanthe, Avon, Buxton, Frisco and Hatteras, are closed to vehicles from May through September to ensure the safety of the beach goers in these heavy use area.



Where Can We Camp?

Camping on the National Seashore is permitted only in designated campgrounds at Oregon Inlet, Cape Point, Frisco and Ocracoke. Availability is on a first-come, first-served basis except at Ocracoke, where you may make reservations by calling Reserve America at (877) 444-6777. Camping on the beach overnight, whether in a tent or in your vehicle, is not permitted.

Is It Okay To Have a Beer On the Beach?

Some alcoholic beverages are permitted in the Seashore, but consider the following:

- The laws of North Carolina do not permit spirituous liquors — distilled liquors, whiskey, vodka, etc. — or fortified wines to be consumed in public. Ask where you buy your wine if you are unsure what's fortified and what's not.
- The legal drinking age in North Carolina is 21.
- Open containers of alcohol are not permitted within any motor vehicle, including vehicles on the beach.

Please be sure to put all your cans and bottles in the trash so you're not creating a hazard.

Can I Fish at the Seashore?

In a word, yes. But be aware that fishing within Cape Hatteras National Seashore is regulated by state law. It is a state requirement that all people fishing in the National Seashore must obtain a Coastal Recreational Fishing License. Regulations regarding size limits, numbers of fish per day, seasons and licensing requirements are set by the North Carolina Division of Marine Fisheries, which may be contacted at (800) 682-2632. Limit sheets are available through local tackle shops.

What About Launching My Personal Watercraft?

The trailering, launching or landing of personal watercraft of any kind (Jet Skis, Waverunners) is not allowed within the boundaries of Cape Hatteras National Seashore.

How About a Beach Campfire?

Fires are permitted on the park's beaches except 11 p.m. to 6 a.m. year-round. The fires must, however, be at least 100 feet from any grasses or dunes and below the high tide line. Please keep the fires small. Boards containing nails and other debris should not be used in the fire since they create a hazard to bare feet. When putting the fires out, please use water. Burying the embers with sand allows the fire to smolder, making the sand covering the fire very hot — an obvious safety problem.

What About Handicapped Beach Access?

Handicapped-limited beach access permits are available from Cape Hatteras National Seashore Headquarters by calling (252) 473-2111. Beach-capable wheelchairs are available on a first-come, first-served basis. Inquire at the park visitor centers.

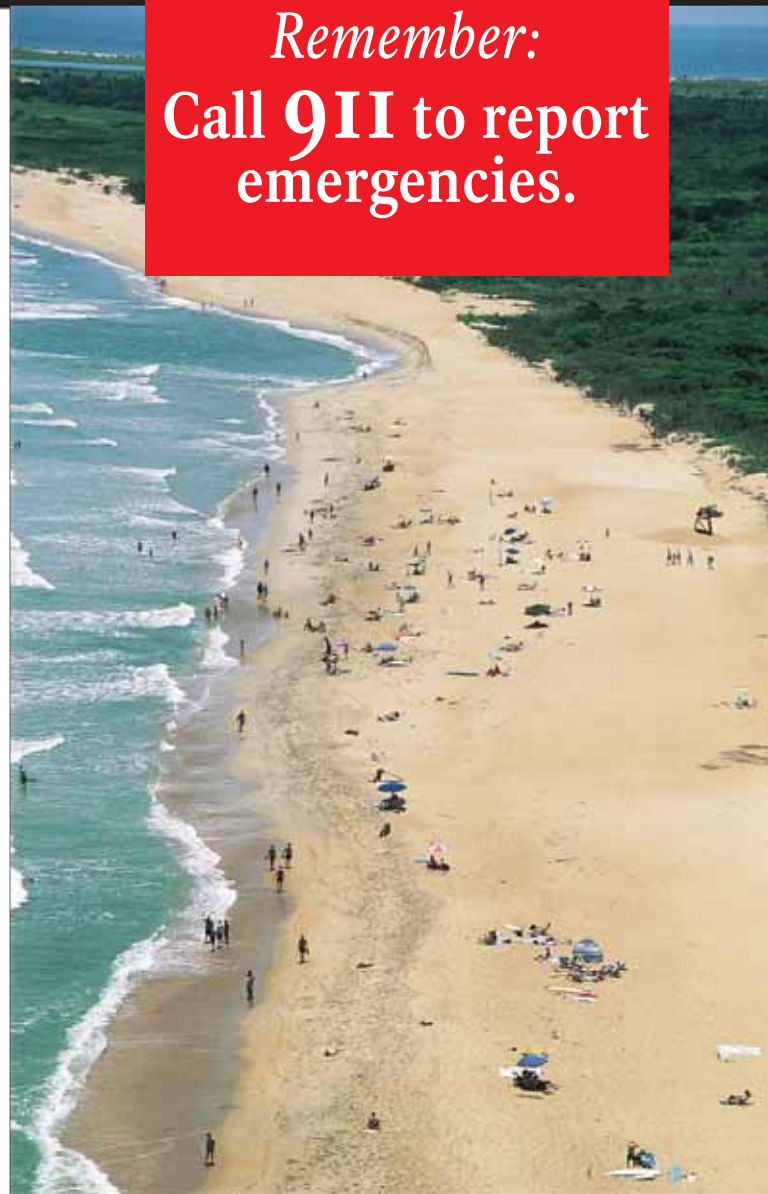
May We Shoot Fireworks?

No. Fireworks are not allowed in any National Park Service area. This includes the beaches in front of the villages.

Where Can I Fly My Kite?

Kite flying and throwing Frisbees or balls is permitted anywhere in the Seashore except within or over any bird closure. These activities can scare birds off their nests, leaving eggs and chicks exposed to predators and deadly heat.

Remember:
Call 911 to report emergencies.



What If My Pet Comes On Vacation Too?

Your pets are welcome at Cape Hatteras National Seashore. Pet must be on a 6' leash at all times and are prohibited within any resource closure. Pets are not allowed on designated swim beaches or in buildings. Please, for your pet's sake, do not leave them unattended. And, for other visitors' sake, clean up after your pet. And, if your pet is a horse ... that's ok too! You may ride them anywhere vehicles are permitted to drive except in campgrounds. Horseback riding is prohibited in NPS campgrounds. Riders are required to use ORV ramps when crossing dunes.



May I Hunt For Hidden Treasure With My Metal Detector?

No. Because of the vast wealth of historic artifacts within National Parks, metal detectors are prohibited by law in all areas, including beaches and campgrounds.

What If I Find Shipwrecks Or Other Treasures On the Beach?

All items found on the beach, with the exception of shells and driftwood, are protected by law and may not be removed from the beach. Please do not disturb any shipwrecks that may wash up or be uncovered by the ocean or wind.



Swimming Safety

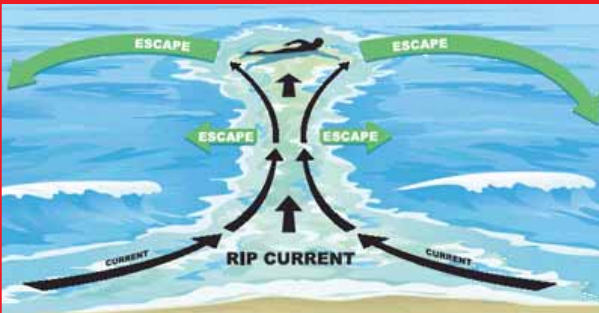
The ocean is a wonderful place to swim — if you are careful. Strong wave energy, rough surf and rip currents can turn a quick dip into a problem.

Clues for Spotting a Rip Current:

- a channel of churning, choppy water
- an area having a notable difference in water color
- a line of foam, seaweed, or debris moving steadily seaward
- a break in the incoming wave pattern



IF CAUGHT IN A RIP CURRENT...



- Don't fight the current.
- Swim parallel to the shore to get out of the current.
- If you can't escape, float or tread water.
- If you need help, call or wave for assistance.

Photo and graphic credit: NOAA and U.S. Lifesaving Association

Bugs!!!

Mosquitoes and other insects serve a purpose in the scheme of things. Nonetheless, they are nuisances and can make your trip an ordeal. Be prepared with mosquito repellent and netting for camping and other island-related activities. After hiking be sure to check yourself for ticks.

Avoid the "Ouch"

Our seashore is beautiful, but often on the beach and in the sound you'll find dangerous debris. You may come across sharp objects such as broken seashells, crabs, cactus and spurs. People add to that with glass, metal, fishhooks and nails. HOT SAND can burn unprotected feet. Think safety before leaving your vehicle. Protect your feet from these hazards.

What to Do During a Hurricane Watch

- Listen regularly to a NOAA Weather Radio or local radio stations for updated information. Hurricanes can change direction, intensity and speed very suddenly. A storm that was a minor threat several hours ago can quickly escalate to a major threat.
- Fill your car's gas tank. If advised to evacuate, you may be caught in traffic, idling for long periods of time. Gas stations along the route may be closed.
- Listen to the advice of local officials and evacuate if they tell you to do so.
- Others will be concerned about your safety, so call a loved one or friend outside of the storm area. Tell them that you are aware of the storm and advise them of your plans.

Warning

- Keep posted to local radio stations for updated information and official instructions. Local officials will advise leaving only if they truly believe your location is in danger. It is important to follow their instructions as soon as possible. It takes many hours for an organized evacuation. Roads may become blocked as the storm conditions worsen, preventing a safe escape.
- Call your check-in contact so someone will know where you will go in case of an evacuation.
- Pack all of your belongings to save time if the evacuation is announced.
- Check before returning to the Outer Banks. The area may remain closed to visitors for several days after a storm passes.

More Safety TIPS

- Due to dangerous currents, never swim in inlets.
- Do not swim alone, at night or near fishing piers. Children should swim only with adult supervision.
- Know the various types of ocean currents and how to get out of them.
- Watch the weather. Storms and squalls come up quickly.
- Don't swim during thunderstorms. Lightning is extremely dangerous and does strike the beach.
- Non-swimmers should use Coast Guard-approved flotation vests, even while wading.
- Be careful at the shore's edge. The force of crashing waves can pick you up and throw you into the sandy bottom, which may result in fractures, dislocations or possibly fatal neck injuries.
- Watch for jellyfish. If stung, seek first aid if needed. Pour on vinegar to stop the stinging, but don't rub.
- Do not swim near surfers. Their surfboard fin can cut you.
- Always use sunscreen.

HOT

Dangers of Heat and Humidity

A combination of high temperature and high humidity creates an even higher and possibly dangerous apparent temperature. With an air temperature of 90°F and a humidity of 80%, the apparent temperature is 113°F. Heat cramps, heat exhaustion and heatstroke are possible during elevated apparent temperatures. Enjoy the beach, but limit your physical activity and exposure during days of high heat and humidity. Drink water often.

Use Lifeguarded Beaches

Lifeguarded beaches will be staffed 9:30 a.m.-6 p.m. daily, May 26-Sept. 1 at the following locations:

- Cape Hatteras, adjacent to the Old Lighthouse Location.
- Ocracoke Island, 1½ miles south of the NPS Campground, or ½-mile north of Ocracoke Village.
- Coquina Beach Day Use Area, located across from Bodie Island Lighthouse.

Lifeguards can answer questions on swimming safety and weather conditions. They'll be glad to help.



Join us to Salute
National Park Service
Volunteers
Every Wednesday
at 8 p.m.
Roanoke Island
Festival Park
North Carolina
School of the Arts
Summer Performance
Festival
June 24 – August 2
2 p.m. and 8 p.m.,
Tuesday – Friday
& 8 p.m. Saturday
Theater, Music,
Dance, Film
Six weeks of
sensational FREE
shows by
North Carolina's
premiere arts
conservatory

NCSASummerFest.org
252.475.1506
2008 season features
ragtime, jazz, a family
musical, Classics for
Kids and much more!



Now Open to the Public – The Hatteras Weather Station

The recently restored Hatteras U.S. Weather Bureau Station, located in the heart of Hatteras Village, is open to the public for the its second consecutive season. Under an agreement with the National Park Service, the Outer Banks Visitors Bureau operates the facility as a welcome center for visitors on the southern end of Hatteras Island, open daily from 9 a.m. to 5 p.m.

The Hatteras U.S. Weather Bureau Station, built in 1901, was the first official U.S. Weather Bureau building on the Outer Banks. From the second floor office and observation room, station staff delivered daily and hourly checks to the U.S. Weather Bureau using specialized equipment. The first floor

served as quarters for the supervisor and his family. The building had been closed to the public since it was decommissioned in the 1940s.

The station was one of 11 such buildings constructed by the U.S. Weather Bureau nationwide – only two others still remain standing. The bright yellow building with its beautiful interior paneling is listed on the National Register of Historic Places and is protected and preserved by the National Park Service.

As well as being open to the public daily, a park ranger leads a tour of the site once a week during the summer months. For details on times refer to the program information on page 15.



Glenn Eure of the Ghost Fleet Gallery in Nags Head, long-time friend of the National Park Service Outer Banks Group and local artist extraordinaire, had the honor of painting the ornaments representing our local national park sites for last year's official White House Christmas Tree, themed "Holiday in the National Parks." Along with many other artists, Eure and his grandsons attended a reception with Laura Bush in the White House Blue Room alongside the 18-foot tall Fraser fir Christmas tree decked-out with 300 ornaments depicting our country's most special places – our national parks.

Graveyard of the Atlantic Museum Now a State Regional History Museum

Get ready to be immersed in shipwreck stories and lore! 2007 was a big year for the Graveyard of the Atlantic Museum. The North Carolina General Assembly authorized the transfer of the museum from the nonprofit board to the state; and the National Park Service completed an agreement with the state's Department of Cultural Resources to allow state use of park lands for the existing museum.

The concept of the museum started as a Hatteras Village grassroots effort in the early 1990s. Through a cooperative agreement, the National Park Service and National Oceanic and Atmospheric Association (NOAA) became partners with the museum board as they looked to construct the building on seven acres

of Cape Hatteras National Seashore lands and obtain shipwreck artifacts from NOAA. The newly constructed building opened in 2003, but the board had difficulty raising the funds to complete exhibits and provide for needed staff.

With the transfer of the building to the Department of Cultural Resources, and state funds authorized this year for annual operating funds and continued construction, the Graveyard of the Atlantic Museum is well on its way to becoming a top Outer Banks destination point. With more than 2,000 shipwrecks off the Outer Banks, the museum will have plenty of exciting stories to tell and artifacts to show. Stay tuned for more over the next several years!



Teachers In The Parks!

The national parks of the Outer Banks Group are fortunate to be seeing an influx of North Carolina teachers . . . thanks to the North Carolina Center for the Advancement of Teaching (NCCAT). This past October, NCCAT opened the doors of its new eastern campus, located in Ocracoke Village, to serve as a state-of-the-art professional development center for North Carolina public school teachers. The second such center in the state, the NCCAT Ocracoke campus will be providing a year-round series of five-day seminars for teachers (pre-kindergarten through 12th grade) to study aspects of the arts, humanities, sciences, technology, health and fitness along with associated teaching methodologies.

Having such a center located here is a local boon for the National Park Service, greatly enhancing the parks' ability to reach into public schools through this developing educational partnership. Already, teachers from NCCAT have learned about flight during a trip to Wright Brothers National Memorial, visited Cape Hatteras National Seashore beaches to learn about climate change impacts and climbed the Cape Hatteras Lighthouse during a seminar on North Carolina lighthouses. And this is just a start! Many more seminars are planned for the coming year.

NCCAT is the only model of its kind in the nation and reflects the high priority and the great investment that North Carolina is making in its teachers -- instilling them with renewed energy, ideas and zeal for their craft. By connecting NCCAT with the parks of the Outer Banks Group, these teachers will also return to the classroom with a better understanding of our national parks and the legacy they preserve.



Off-Road Vehicle Management Planning and Regulation

The National Park Service is in the process of developing an off-road vehicle (ORV) management plan for Cape Hatteras National Seashore. Public input and comments are a key component in the successful development of the plan and associated regulation.

The ORV plan will address resource protection (including protected, threatened and endangered species), visitor safety and potential conflicts among various park users. The plan will also ensure that ORV use is managed within applicable law, including the park's enabling legislation, which provides Congress' intent for the management and use of the park.

This plan will also satisfy Executive

Orders 11644 and 11989, which require the NPS to develop regulations for parks that allow ORV use. Rulemaking is the process used by federal agencies to formulate, amend or repeal a regulation.

In the traditional agency rulemaking process, the agency alone produces a proposed regulation. Negotiated rulemaking is an optional rulemaking process that would establish a negotiated rulemaking committee consisting of the agency and interest groups involved in the issue to collaborate on a proposed solution. At its best, negotiated rulemaking increases citizen participation, results in more creative solutions, eases implementation, increases compliance

by the citizens affected by the regulation and reduces the prospect of future conflict and litigation.

The NPS is using negotiated rulemaking to develop the required ORV regulation at the Seashore.

The Secretary of the Interior has established a negotiated rulemaking committee of 30 primary members to reach consensus on ORV management issues to be the basis for the proposed regulation. Committee meetings are open to the public. The negotiated rulemaking process is occurring concurrently with the required National Environmental Policy Act (NEPA) analysis.

Consent Decree - 2008

In October 2007, Defenders of Wildlife and the National Audubon Society (plaintiffs) filed a lawsuit against the National Park Service (NPS) alleging inadequacies in management of protected species and failure to comply with the requirements of ORV executive orders and NPS regulation at Cape Hatteras National Seashore. The species identified for increased protection included the piping plover (federally-listed threatened), several species of colonial waterbirds (state-listed threatened and species of concern); the American oystercatcher (state-listed significantly rare); and several species of protected sea turtles.

In April 2008, the U.S. District Court Judge signed a consent decree on a settlement agreement reached by the NPS, the plaintiffs and the intervenor-defendants: Dare and Hyde Counties and a coalition of local ORV and fishing groups (Cape Hatteras Access Preservation Alliance). This consent decree gives the settlement agreement the force of a court order which must be implemented.

To meet the legal requirements of the consent decree, the NPS must: increase the frequency and degree of monitoring and protection of certain shorebird and all sea turtle species; establish and enforce larger buffers around nesting areas; mark, monitor

and enforce pedestrian and ORV use corridors along the shoreline; and enforce a new prohibition of vehicles on park beaches between 10 p.m. and 6 a.m., May 1 to Nov. 15, with a permit system to be established for night driving Sept. 15 - Nov. 15. Protected species closure violations that disturb or harass wildlife, or vandalizes fencing, nests, or plants are mandated to expand 50 m for the first violation, 100 m for the second, and 500m or more for the third. Closure violations may have up to a \$5,000 fine and or imprisonment up to 6 months in jail.

Accessing Park Beaches With Your ORV

The National Park Service welcomes visitors to enjoy the beautiful, undeveloped ocean beaches of Cape Hatteras National Seashore.

Some sections of ocean beach, such as those in front of the Hatteras Island villages, receive significant pedestrian use during the summer. These beaches are open to pedestrian use year-round but are temporarily closed to ORV use during the summer.

Although extremely narrow beaches stay open for pedestrian use, they may temporarily close to ORV traffic due to safety concerns.

Some portions of the beach may be temporarily closed to ORV use due to mandated protection of wildlife and plant species, such as protected birds and sea turtles. Closure boundaries may shrink or expand given the specific behavior or requirements of the protected wildlife. In the event of ORV closures, alternate routes or bypasses may be established to maintain access.

For current beach access information, visit one of the Seashore visitor centers.

When taking an ORV on park beaches remember:

- Drive only four-wheel-drive vehicles on the beach. Two-wheel drive or all-wheel drive vehicles do not have adequate traction and are likely to get stuck. Towing is limited and costly.
- Before entering the beach, lower tire air pressure to 20 psi or less. Lowering tire pressure and driving at a slow steady rate of speed are the best ways to provide enough traction for a vehicle to maneuver.
- If stuck, lower tire pressure more. If your wheels start to spin, slowly back up in your tire tracks for several car lengths and then slowly accelerate forward.
- Be aware of tide changes and don't get trapped -- some sections of beach can be cut off by high tides.
- Any law applicable to vehicle use on a paved road in the State of North Carolina also applies to ORV use.
- Avoid driving or parking on the wrack line. The wrack line is a line of stranded natural debris on the beach left by the previous high tide that can be an important food source for protected birds.
- For a comprehensive listing of ORV use tips and regulations, ask for an ORV site bulletin at any park visitor center.

If you would like to keep updated on the planning process, please access the National Park Service planning and public comment website at <http://parkplanning.nps.gov/caha>. To join the park's ORV planning update list-serve, send an email to caha_orv_mgt@nps.gov.

Cats and Dogs and Birds on the Beach...

A Deadly Combination



©2008 Sidney Maddock

Along the Atlantic coast, cats and dogs pose a serious threat to the continued survival of beach-nesting birds such as piping plovers, least terns and American oystercatchers. Many people believe that cats and dogs should be allowed to roam free. People introduced domesticated cats and dogs to this country, and however much we may appreciate them as part of our lives, those animals are not native wildlife or part of a naturally functioning ecosystem. When birds encounter cats and dogs, the birds rarely win.

Two months of living on the edge- Piping plovers are vulnerable to wild and domestic animals while they guard their nests on sandy beaches for a month before eggs hatch. Adult plovers will stagger and feign a broken wing to distract predators from their nests and chicks. Unfortunately, the plover ploy backfires when they face predators more nimble than predators in their native environment.

After plover eggs hatch, the tiny chicks spend most of the next month foraging for the food needed to gain weight and develop flight feathers. The flightless chicks face myriad challenges and are simply no match for an agile cat or dog that instinctively sees the chick as something to hunt or chase.

Protecting our environment- We not only have an obligation to protect birds as an important part of our environment, but that protection is also the law. The U.S. Fish and Wildlife Service placed Atlantic Coast piping plovers on the List of Endangered and Threatened Wildlife in 1986 with a “threatened” designation, meaning that without care the species could face extinction.

Monitoring nests and protecting habitat are only part of the piping plover protection story. Plovers need everyone’s help, and vigilant pet owners play an essential role.

What can we do?

- Keep cats indoors.
- On beaches where dogs are allowed, keep your pet on a leash.
- Keep dogs away from areas with nesting and young birds.



Wright Monument Receives a Facelift

Visitors to Wright Brothers National Memorial will notice a new and improved look to the Wright Monument this summer. Visible for nearly 5 miles, the granite pylon towers 60 feet above the summit of the Big Kill Devil Hill sand dune in tribute to the two modest brothers. Although time cannot erase the Wright brothers’ accomplishments, time and the elements have taken a heavy toll on the monument erected in their honor.

After years of weathering Outer Banks salt and storms, the historic and structural integrity of the monument had deteriorated since its dedication in 1932. Major restoration occurred over a decade ago, but many of the previous problems had resurfaced. Earlier

this year, in an effort to preserve the monument, the First Flight Foundation in partnership with the National Park Service undertook a restoration project to prevent further deterioration.

Critical elements in re-establishing the monument’s structural and historical integrity have included cleaning the interior and exterior of the granite pylon, re-pointing the exterior mortar, replacing the HVAC and ducts system, painting the stairs, replacing the exterior lights and renovating the electrical and mechanical systems. The stainless steel doors and all fixtures have been polished and a polymer coating applied to prevent future weathering. The beacon light atop the monument was removed to prevent damage to it during

the restoration project and then it was cleaned.

Through the monument restoration, the National Park Service can continue to protect a fitting memorial to the brothers who presented the world with the gift of flight. Newly preserved, it will continue to serve as inspiration for those who climb the hill and read the inscription carved in the base of the monument that characterize the Wright brothers’ driving spirit:

In commemoration of the conquest of the air by the brothers Wilbur and Orville Wright. Conceived by genius and achieved by dauntless resolution and unconquerable faith.



Technology Takes Search for the Lost Colony to New Dimensions

The first search for the Lost Colony took place in 1590 after John White landed on the deserted Roanoke Island shoreline. The search continues today through archaeological research at Fort Raleigh National Historic Site. This year new technologies are being used to scan below the surface of the ground with the hope of uncovering the fate of the 1587 colonists.

The search has been going on for quite some time. Early archeological methodologies used on the park grounds consisted of test trenches, the first being conducted in the 1890s. The test trench method continued in phases into the 1960s.

In the 1980s, ground penetrating radar (GPR) surveys, which detect one-dimensional images from scans of the ground, were conducted in certain sections of the park. These surveys identified some anomalies, or unex-

plained ground disturbances. One of these anomalies near the Fort Raleigh earthworks warranted further study and the ground was opened, revealing evidence of the 1585 colony.

During January of this year, a new technology, radar tomography (RT), was utilized at Fort Raleigh National Historic Site in an archeological pioneering effort. RT unites the radar surveying capacity of the GPR systems with precise position control and advanced signal processing. RT systems provide high-resolution radar images of the subsurface, covering thousands of square meters with a resolution of centimeters. Such images take on the quality of satellite radar images.

The Fort Raleigh RT scan, which ran along the large parking lot and walkway used for the summer production of The Lost Colony outdoor drama and continued toward the Thomas Hariot

Nature Trail, was conducted under the supervision of Dr. Eric Klingelhofer, an archeologist with the nonprofit First Colony Foundation.

As of the writing of this article, the scan analysis is not yet complete, and it remains to be seen if RT proves to be a viable method in searching for artifacts or markers of prior human habitation. The hope is that results from the survey will help the National Park Service determine where future archeological efforts should take place within the park and identify areas needing protection and preservation.

The nonprofit First Colony Foundation, a park partner, is helping the National Park Service fulfill its mandate to conduct continual research of Roanoke Island’s history and of the Roanoke colonies.

Study of the Islands' Past and Present Offers Insight to the Future

Scientists are presenting compelling evidence that the world's climate is warming and the rate of sea level is rising with a high probability that there will be an increase in hurricane frequency. Simultaneously, human development along the coasts has exploded. A better understanding of North Carolina's barrier islands, including Cape Hatteras National Seashore, is vital in order to understand the impacts of potential changes. The National Park Service is helping to support an ongoing series of studies led by experts at East Carolina University, the U. S. Geological Survey and North Carolina Geological Survey. An enormous number of samples and data have been analyzed and researchers are excited about the information obtained thus far.

Ancient Streams

Ground-penetrating radar, up to 30 feet deep, generates pictures of the older sediments underlying the barrier islands. A feature that can be identified from these pictures is various relic streams that once drained through this area into the ocean more than 5,000 years ago. Wherever the islands sit on top of these ancient mud-filled channels, beach erosion is high since mud erodes more readily than other sediments. Maps have been generated to identify areas of varying erosion rates based on underlying strata.

Sea Level Rise

Low-lying barrier islands are born and die in response to sea level fluctuations. Sea level has risen more than 300 feet in the past 10,000 years due to the melting of vast continental glaciers. There is evidence that today's barrier islands were preceded by others. Early barrier islands formed on the continental shelf when large sand supplies were encountered and then migrated with sea level change. When sea level rose dramatically, these island chains disappeared or collapsed only to form again whenever and wherever sea level allowed. The present barrier system is the youngest of the series. Scientists have found these young barrier islands have kept up with sea level rise by fol-

lowing a dynamic cycle of change. It begins with the islands building width and elevation as beach sand is redistributed across the island by successive storm overwash. Higher islands, no longer prone to overwash, become vegetated. In time, the now "stable" land begins to narrow as the island width recedes in the absence of new overwash sediments. Inlets eventually break through narrow island segments. Subsequent ocean tides will move massive sand volumes inward through these inlets each day and deposit the sand on the sound side of the inlet. Thus, the island widens again as a new flood-tide delta shoals merges onto the back side of the island. Finally, the inlets close as they become choked with sand, and the cycle is ready to begin again as subsequent overwash events rebuild elevation on low island segments.

Aging the Barrier Islands

Studies have found that large portions of today's island chain are young, having been created a mere 500 years ago. Rolling westward in front of the rising seas, the islands sometimes ran into and merged with older land remnants. All the Outer Banks village sites sit on such complex features where younger sediments are fused onto 3,000- to 5,000-year-old backshore landforms. Buxton Woods is the most highly developed of these complex formations due to an available earlier sand supply fed from the now submerged Diamond Shoals. Although the complex segments of the islands are relatively stable, many of the younger parts of the island are showing signs of collapse.

Future Inlets

It is now known that 75% to 80% of the Outer Banks have been inlets in the past. Scientists can not say with absolute certainty where future inlets will be created, but they can now make an educated prediction concerning the likelihood that an inlet might form at any given location given specific storm types and sizes. An Inlet Vulnerability Index rates

sites as having a high, moderate or low likelihood of inlet formation. High risk areas may see inlets after a major storm or several smaller storms in any given year. Low risk areas may not see major changes for several decades. On Pea Island National Wildlife Refuge alone, seven potential inlet sites have been identified.

Shoreline Change

To measure how shorelines reacted to storms and various wave patterns over a five-year period, numerous surveys were done at low tide between Corolla and Cape Point. A customized beach buggy equipped with Global Positioning System mapped the shoreline location and the beach slope. The very

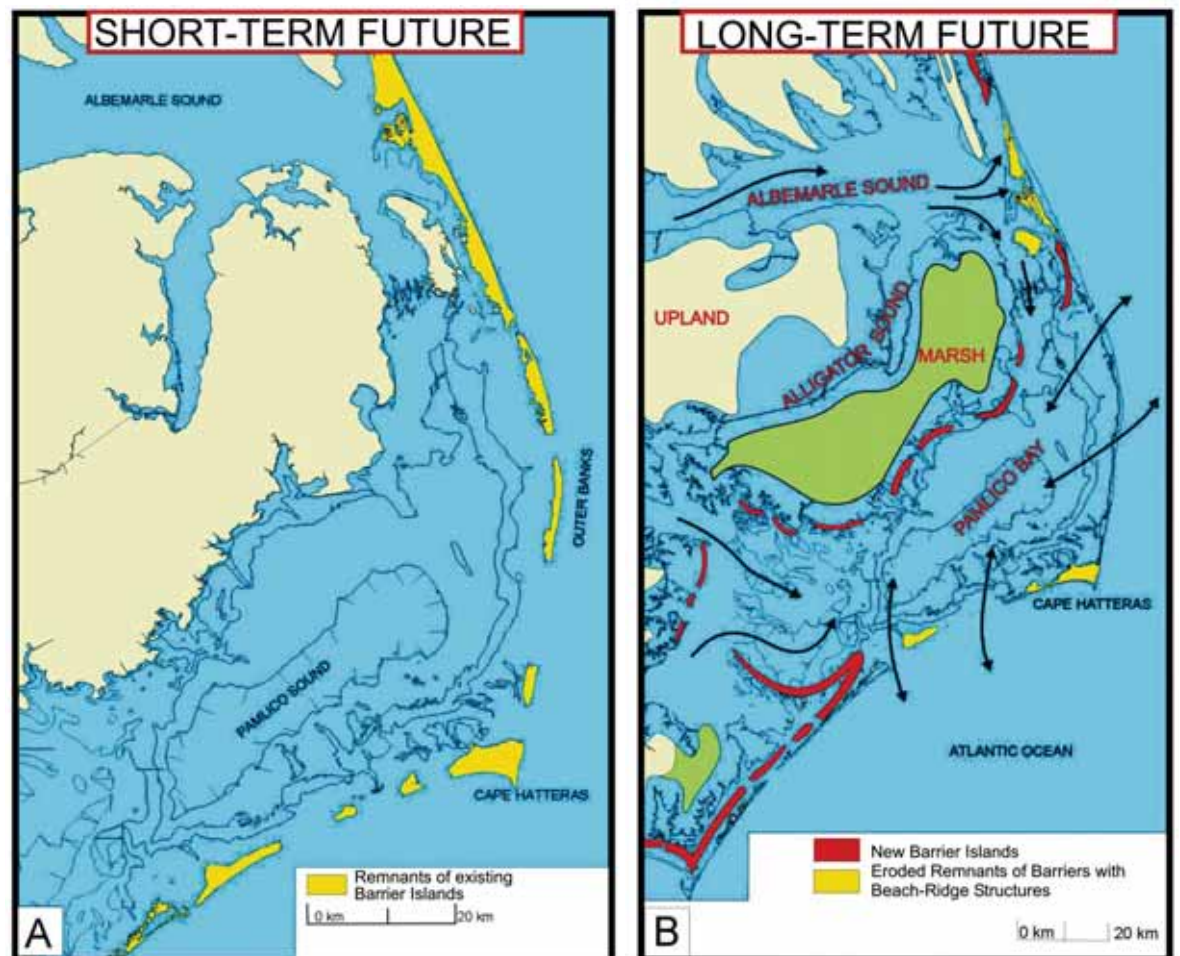
precise sensors were able to produce accuracies up to 4 centimeters. Also, the surveys could measure shoreline changes to single storm events. Geologists are now working on creating models from this information that will help predict shoreline changes in response to future wave patterns and storms.

Human Impacts

Survey maps generated in the 1850s, along with aerial photos taken in the 1930s and 1940s, depict natural barrier island systems. These have been digitized and compared with more recent aerial photographs taken after people began to severely modify the landscape. One such human impact was the construction and maintenance of the artificial dune ridge in order to buildings and roadways. The dune ridges have interrupted the vital role of storm overwash. Consequently, most of Cape Hatteras National Seashore's sound-side shorelines are eroding without the influx of fresh sand supplied by

overwash that is essential for building island width on the estuarine side of the islands. In addition, preventing the opening of inlets and artificially closing inlets that do open has eliminated sand movement into the sounds by another important method of island widening.

Change is constant. It is a given that the islands will continue to see more storms and rising seas will persist to drown more shoreline. Scientists will continue to unravel the complex story of how these barrier islands function. These insights will allow people to better live with these ever moving and sometimes ephemeral landforms. Knowledge and understanding will help land managers make informed decisions on where, and more importantly, where not to build structures, roads and parking lots. Through understanding, the public can learn that by protecting the dynamic coastal processes, we are ensuring the future of these barrier island landforms.



If 1) sea level continues to rise at either the present rate or greater, 2) the quantity and magnitude of storms that have characterized the 1990s continues or increases, or 3) one or more very large coastal storms (category 4 or 5 hurricanes) directly impact the Outer Banks, portions of the barrier islands will collapse. PANEL A. The short-term (i.e., next few decades) and PANEL B. long-term (i.e., next few centuries) future character of the barrier islands and associated estuaries within northeastern North Carolina.

Turtle Tales



Cape Hatteras National Seashore is a beautiful and unique place. People come here from all over the world to experience the long beaches, catch fresh seafood and play in the surf. But did you know that another kind of animal comes here for the exact same reasons? Sea turtles, some of the oldest and largest reptiles on earth, are found on the Outer Banks of North Carolina for about seven months of the year. They come here to eat, to nest and just to hang out in the warm waters by the Gulf Stream.

Sea turtles live in the ocean and salt-water sounds of temperate and tropical waters. These large animals range from

70 to 2,000 pounds when they are full grown and have flippers rather than feet. All sea turtles are migratory, and many travel thousands of miles in a year, riding the ocean currents.

Of the seven species of sea turtles in the world, five kinds can be found in the waters off Cape Hatteras National Seashore: loggerhead, green, leatherback, Kemp's Ridley and Hawksbill. The loggerhead is the most numerous and is known for its big head and its appetite for crabs and whelks. Green sea turtles can reach about 400 pounds and are the only ones that are vegetarian, or herbivorous. Leatherback sea turtles can reach 2,000 pounds and live primarily on jellyfish. The most

endangered sea turtle in the world, the Kemp's Ridley, also feeds here, but only nests in parts of the Gulf of Mexico. The Hawksbill sea turtle, so named for its hawk-like beak, is a rare but beautiful sight in these waters. Loggerheads, greens and the occasional leatherback are known to nest on the park's beaches.

When visiting the park during summer, you may be treated to one of the magical experiences that this seashore has to offer: a sea turtle laying her eggs. Loggerhead sea turtles can lay about five nests a season every other year. When the time is right, these large lumbering turtles crawl out of the ocean onto the beach and dig a hole using their back flippers. They lay their eggs in the hole and then carefully cover them up with sand. Slowly, they then use light cues to find the ocean and return to the sea once more.

The 100 or so eggs that the female turtle lays will have to incubate in the sand for about two months. During that time, the leathery ping pong ball-sized eggs will be susceptible to being eaten by predators and washed out by storms. The temperature of the sand will determine if the hatchlings are males or females. If the sand is colder, most of the baby turtles will turn out to be males; if it is warmer, most of them will be females. After the two months of incubation, the little turtles will hatch from their shells and start the long climb to the top of the nest. When they get there, they will wait until it is dark and quiet and then pop up out of the sand. Hatchlings use the brighter horizon to the east to find their way to the ocean. Once they get there they swim for 24 to 36 hours until they reach the Gulf Stream in the Atlantic, where floating seaweed will protect them as they get bigger. It is estimated that sea turtles spend more than 10 years floating around in these nursery areas before they return to the coast. They will have to survive over a quarter of a century before they can lay a nest of their own. Many turtles attempt to return to the beach they came from in order to lay their own nests, but after 25 years, many beaches have changed.

What Can I Do to Help?

- 1. Beach Lighting:** If you are staying in a beachfront house, turn off all outdoor lights from dusk to dawn and turn off all interior lights when you go to bed to avoid confusing turtles and hatchlings.
- 2. Beach Furniture:** Turtles can become entangled by chairs, tents and umbrellas, so please take everything in at the end of the day.
- 3. Trash:** Always dispose of your garbage properly. Turtles have been known to eat things such as plastic bags thinking they were food and die as a result. Balloons look like food to many marine creatures. Avoid releasing balloons into the air at any time.
- 4. Don't Walk on the Dunes:** Walking on the dunes tramples the vegetation that holds the dunes in place. Eroding dunes can make sea turtle nests unsuccessful.
- 5. Boating:** Stay alert while boating. If you see a turtle, avoid it so that it is not hit by the boat or propeller.
- 6. Closures:** Be aware of turtle closures in your area. Never walk or drive under a closure string or past a closure sign. You could crush a turtle nest or hatchling without even knowing it.
- 7. Don't Feed the Wildlife (including feral cats):** Increases the population of animals that prey on sea turtle eggs and hatchlings.
- 8. Playing on the Beach:** Deep holes in the sand or tall sandcastles can be a hazard to nesting sea turtles and hatchlings. At the end of each day, please fill in your holes and jump on your sandcastles.
- 9. If violations of turtle closures results in disturbance or harassment of wildlife or the vandalization of fencing, nests, or plants; the closure is mandated to be expanded 50 m for the first violation, 100 m for the second, and 500 m for the third. Violators are subject up to a \$5,000 fine and/or imprisonment up to 6 months.**
- 10. Beach fires are prohibited 11 p.m. to 6 a.m. to protect nesting turtles and hatchlings.**

Development of beaches, artificial lighting and other human disturbances can change where and when turtles lay their nests, sometimes making the nests unsuccessful.

Unfortunately, all seven species of sea turtles in the world are either threatened or endangered. In many parts of the world, sea turtles and their eggs are still hunted for food or traded for money. In the United States nesting beaches have become extremely developed, and the worldwide commercial fishing industry accidentally kills thousands of turtles a year. It is estimated that only one in 1,000 hatchlings survives to maturity, and the actual survival rate may be even lower.

Cape Hatteras National Seashore is

committed to ensuring that sea turtles have a safe environment in which to nest and hatch. Park beaches are closed to vehicle use 10 p.m. to 6 a.m. during turtle nesting season. Every morn-



ing from May to September, park staff use ATVs to look for sea turtle tracks and find nests. All the nests are then protected from pedestrians and off-road vehicles by closing the area with four posts. On day 50 of incubation, the nest's closure is enlarged, going all the way to the water line in order to protect emerging hatchlings.

After the hatchlings have emerged, the closure is removed. You can help make sure that these majestic creatures continue to visit this Seashore as they have done for thousands of years.

What If I See a Sea Turtle?

- 1 Stay Back:** Always stay at least 100 feet away from a nesting sea turtle. She needs her space to lay a successful nest.
- 2 Turn Off Lights:** Turn off all flashlights and headlights from vehicles, and do not use flash photography.
- 3 Call the Park:** Reporting a nesting turtle means faster protection of that nest site. Report nesting turtles by calling (252) 216-6892.
- 4 Dead Sea Turtles:** If you see a dead sea turtle on the beach or in the sound please call and report the location of the stranding. It is important to collect samples from strandings to determine how the turtle died and what condition it was in when it was alive. Call and leave a message at (252) 996-6968. A turtle that has orange spray paint on it has already been reported.

Ocracoke Ponies- *Would You Adopt One?*



While on Ocracoke Island, visit Ocracoke's pony pasture, located halfway between the Hatteras Ferry docks and Ocracoke Village.

Legends and theories abound as to how the ponies came to these islands. No one knows for certain, but the Spanish explorers, such as De Soto, brought horses to the New World. Small and powerful, these present-day animals are full-grown horses whose ancestors roamed the islands for hundreds of years. They are often referred to as Banker Ponies as their original range included most of the Outer Banks.

When the early colonists settled Ocracoke, they used the ponies to help make life easier on the island by pulling carts to haul freight and fish. The U.S. Lifesaving Service used them to patrol the beach looking for shipwreck

victims. As time progressed, the families that lived on the island claimed the ponies, holding pony penning in the summer. Riders would start early in the morning at the north end of the island and drive the ponies into the village where holding pens had been constructed. Once in the pens they would sort out the ponies and brand the new ones. Some ponies would be broken for riding or sold, and the rest were turned loose to roam free again.

After World War II, automobiles and ferry service came to the island, followed by paving of the highway in the late 1950s. For protection of the herd, the National Park Service fenced the ponies in a pasture. The park assumed the care of the ponies in the mid 1960s at the request of the Ocracoke natives.

Taking care of the Ocracoke herd takes both time and money. An unex-

pected illness to just one of the ponies can cost hundreds of dollars in veterinarian fees. The fences in the pasture, hay, grain and customary care from the veterinarian and blacksmith are funded in large part by donations from the donation box at the viewing platform.

You can help protect the Ocracoke ponies by adopting the pony of your choice through the Adopt a Pony program at the Ocracoke Visitor Center. For a donation of \$25, you will receive a photograph and certificate in a presentation folder, attesting that you are one of the adoptive parents of that pony. You may also adopt by mail or visit the park's website for information on pony adoption. The Ocracoke Visitor Center is located next to Silver Lake and the Cedar Island/ Swan Quarter Ferry terminal in the village of Ocracoke.

New From the Vault

The National Park Service is the custodian of irreplaceable and priceless museum collections representing important natural and cultural resources in the United States. The Outer Banks group museum collections hold approximately 193,000 items, artifacts and archives related to our parks. Every year we receive new items in our collections that have either been donated to the parks or have been found on park grounds. New to our collections this year are 1800s pottery, pipes and glass from a recent archeology dig at Fort Raleigh National Historic Site in February 2008 and 1500s Spanish coins recovered from a shipwreck on Cape Hatteras National Seashore in January 2008.

You can get a behind-the-scenes look at our museum collection by going on a guided tour of the museum collections storage facility. Check the Fort Raleigh program schedule on page 20 for information on this first-come, first-served tour. On the tour, you will see such items as archival materials of the Wright brothers' early aeronautical experiments, an herbarium housing plant specimens collected from Cape Hatteras National Seashore and archeological objects of various periods recovered from Fort Raleigh National Historic Site.

If you can't attend the tour, you can still see many of our fascinating collection items on display at the various park visitor centers.



Recent Fort Raleigh artifacts from the 1800s.



Spanish coins found at Cape Hatteras in January.

Emergency Stabilization Completed At Bodie Island Lighthouse

The National Park Service, as steward of many of America's most important cultural resources, is charged to preserve them for the enjoyment of present and future generations. Coastal environs take a heavy toll on the historic structures located in the parks of the Outer Banks Group. Through years of enduring the harsh maritime elements and storms, the Bodie Island Lighthouse has become badly deteriorated, especially the metal components. National Park Service preservation planning is under way for a major restoration currently scheduled for 2009.

In 2007, as an interim measure, contractors temporarily stabilized the tower's gallery, located at the top of the structure. The addition of cables and securing of the gallery's steel belt will provide anchorage to the structural metal and protection to the lens until future restoration can begin. Funding assistance for this stabilization was provided by the Outer Banks Lighthouse Society and the Town of Nags Head.

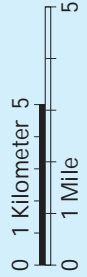
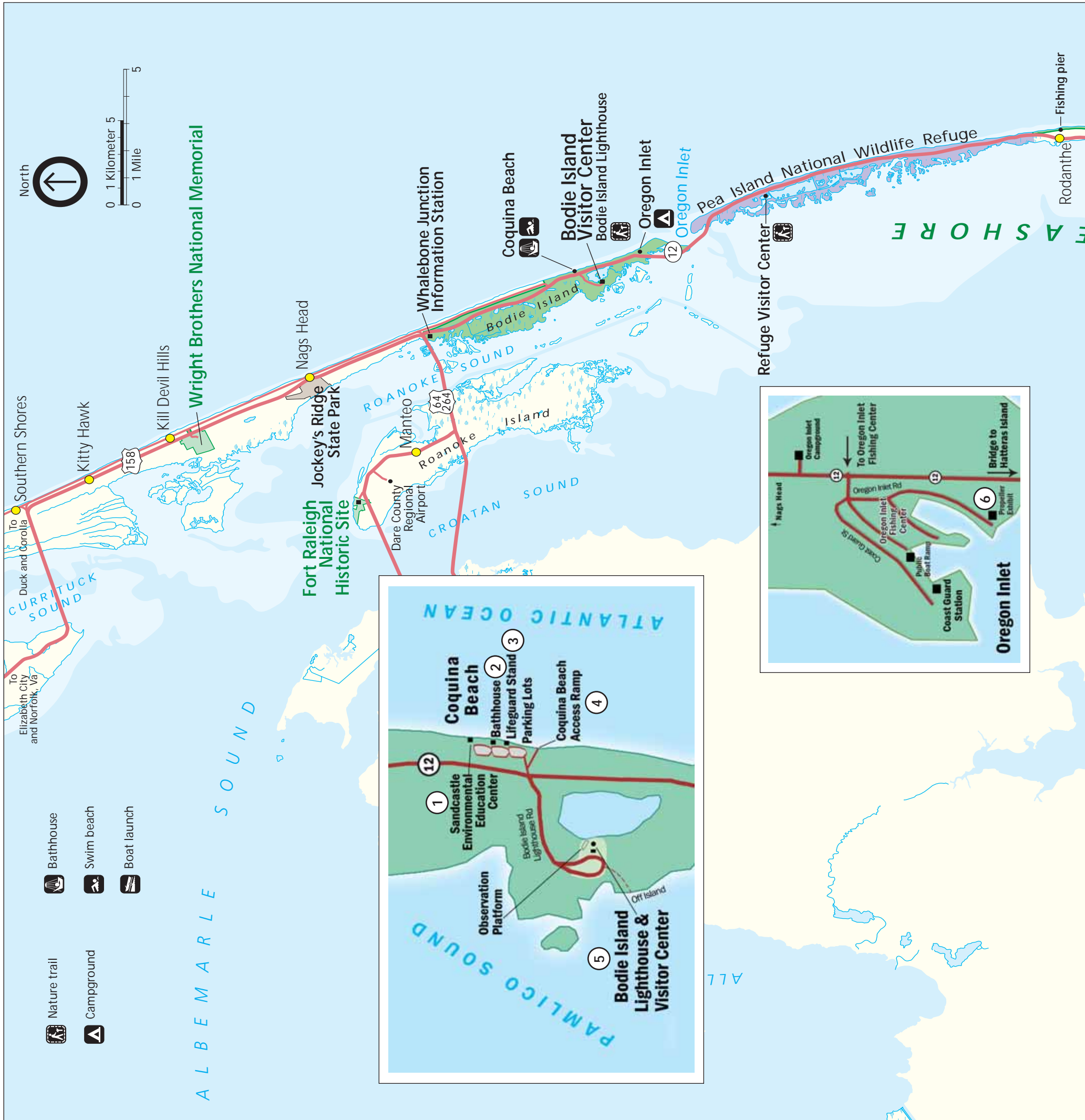
The scheduled 2009 restoration project will further correct structural and safety problems and restore the structure by:

- Strengthening the support of its 10 flights of spiral staircase and replacing 21 cracked stair treads;
- Repairing or replacing corroded metal features in and around the gallery and lantern decks;
- Repairing masonry and stone;
- Repairing or replacing where necessary the marble and slate at the bottom floor, the roof, windows and the framing in the attached oil house;
- Removing lead paint and repainting interior;
- Replacing electrical lines, conduit, interior lights and lightning protection;
- Installing a fire detection and suppression system.

The 156-foot brick tower reflects a standard and design used by the U.S. Light-House Board for several coastal first-order lighthouses during the 19th century. The lighthouse, transferred from the U.S. Coast Guard to the National Park Service in 2005, still retains its original 1871 first-order Fresnel lens. The operation of the lens lamp continues, making the lighthouse still on duty as an active aid to navigation.

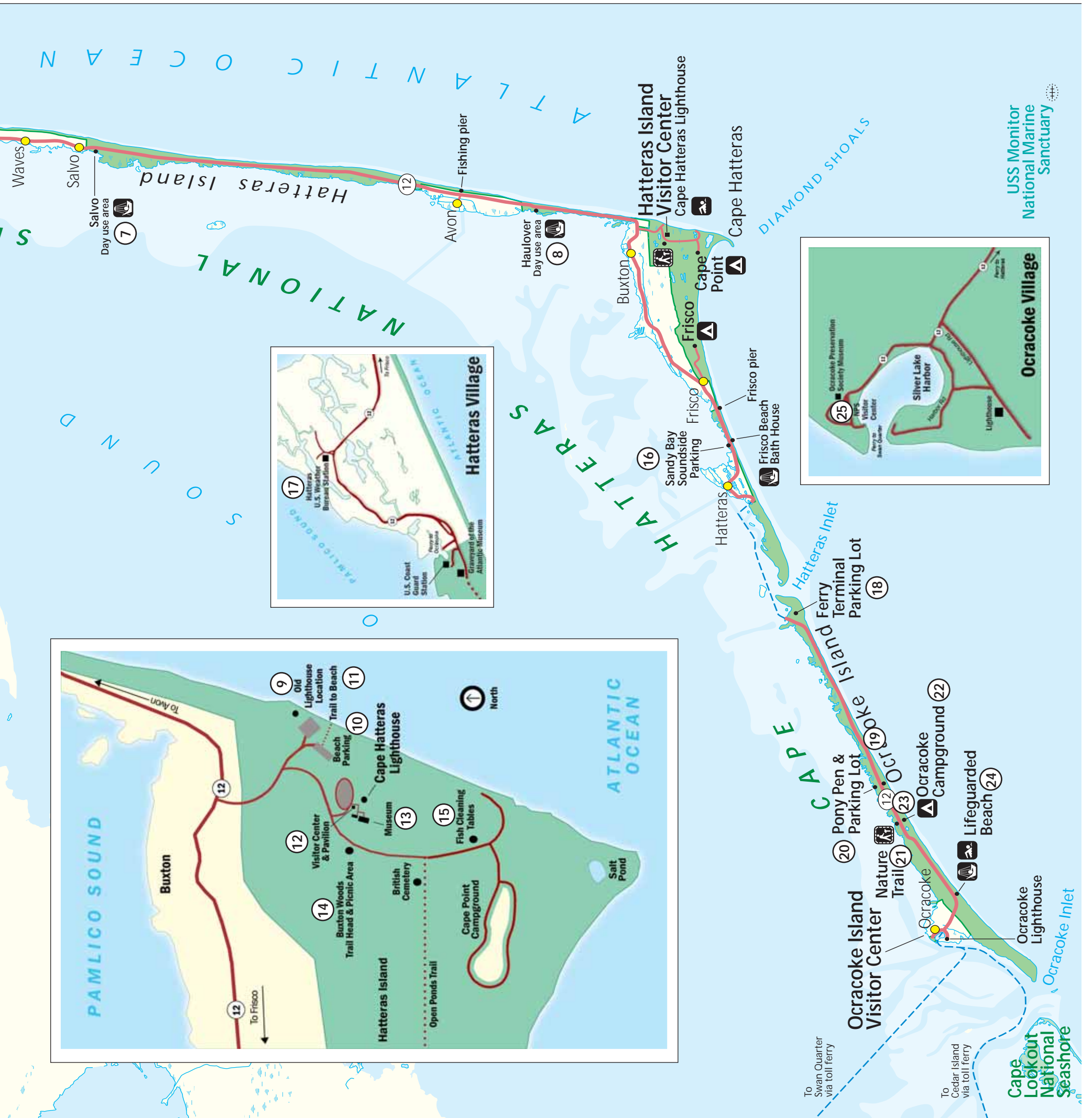
This beautiful structure, listed on the National Register of Historic Places, is a favorite of park visitors. Preservation of the Bodie Island Lighthouse is a top priority for the park.





- Nature trail
- Campground
- Bathhouse
- Swim beach
- Boat launch





Cape Hatteras National Seashore Summer 2008 Program Information

Programs listed will be offered from May 23 to Sept. 1, 2008. The program schedule is subject to change without notice. Programs are subject to weather.

Program Locations: (See Map on Pages 12 & 13)

(1) Sandcastle Environmental Education Center (located at north end of Coquina Beach parking lot past bathhouse); (2) Coquina Beach bathhouse; (3) Coquina Beach lifeguard stand; (4) first beach access at Coquina Beach parking lot before bathhouse; (5) Bodie Island Visitor Center; (6) far end of Oregon Inlet Marina charter boat parking area (park by propeller); (7) Salvo Day Use Area; (8) Haulover Day Use Area; (9) Old Lighthouse site parking lot; (10) Buxton Swim Beach parking lot; (11) Buxton Swim Beach; (12) Hatteras Island Visitor Center Pavilion; (13) Museum of the Sea, Double Keepers' Quarters; (14) Buxton Woods Nature Trail; (15) meet at fish cleaning tables near Ramp 44; (16) Sandy Bay soundside parking lot; (17) Hatteras U.S. Weather Bureau Station; (18) oceanside parking lot at north end of Ocracoke Island by Ocracoke-Hatteras Ferry dock; (19) oceanside parking lot 0.7 miles north of the Pony Pasture; (20) Pony Pasture; (21) Hammock Hills Nature Trail parking lot; (22) Ocracoke Campground parking lot; (23) Ocracoke Campground beach; (24) Ocracoke lifeguard stand; (25) Ocracoke Island Visitor Center amphitheatre.

(* Pre-register at the Bodie Island Visitor Center (#) Pre-register at the Hatteras Island Visitor Center

(+ Pre-register at the Ocracoke Island Visitor Center (A) Program is handicapped accessible

BODIE ISLAND							
Program	Sun	Mon	Tue	Wed	Thur	Fri	Sat
Morning Bird Walk (2)			8:00				
Explore the Shore (2)					9:30		
Crabbing with a Ranger (*)				8:30		8:30	
Especially for Kids (1)		2:00		9:30	2:00	11:00	
Ocean Safety Demo (3)				10:30			
Outer Banks History (5) (A)		11:00				3:30	
Sentinel of the Shore (5) (A)		11:00	3:00	11:30	11:00		11:00
Graveyard of the Atlantic (5) (A)	2:00		11:00			10:00	
Soundside Seining (6)				2:30			
Pirates! (5) (A)			2:00				
Barrier Island Nature (5) (A)	3:30	3:30		3:30	3:00	2:00	2:00
Coast Guard Station Oregon Inlet Tour (*)	3:00			4:00			
Lighthouse Marshes (5)					4:00		
Evening Campfire (4)					8 p.m.		
Night Lights (2)		8:45 p.m.					

Banker Ponies (30 minutes)

The Banker Ponies are definitely an Ocracoke must-see! Learn more about their mysterious origins, unique physical attributes, survival skills, and the circumstances that led the Park Service to care for them. Sunscreen is recommended.

Barrier Island Nature (30 - 45 minutes)

Sea turtles, shorebirds, seashells and shoreline migration. Join a ranger for a talk about the wild side of the Outer Banks. Topics will vary daily.



Cast Netting (1 hour)

Casting a net from shore is one of the oldest methods of catching fish still being practiced around the world today. Try your hand at it with the help of a coach or just come to observe the action. You are welcome to bring your own cast net. Wear wading shoes. Sunscreen is recommended. Sign up at the Hatteras Island Visitor Center beginning the Saturday prior to the program.

Coast Guard Station Hatteras Inlet Tour (1 hour)

The U.S. Lifesaving Service has a long history on the Outer Banks and was predecessor of today's U.S. Coast Guard. Sign up for this tour of a modern Coast Guard Station. This program is limited to 20 participants and sign-up is on a first-come, first-served basis. You must pre-register in person at the Hatteras Island Visitor Center beginning the Saturday prior to the program.

All Visitor Centers are Open 9 a.m. to 6 p.m. May 23 to Labor Day

9 a.m. to 5 p.m. the rest of the year

Coast Guard Station Oregon Inlet Tour (1 hour)

The U.S. Lifesaving Service had a long history on the Outer Banks and was predecessor of today's U.S. Coast Guard. Join us to tour a modern Coast Guard Station. Program is limited to 20 participants. You must pre-register in person at the Bodie Island Visitor Center beginning the Saturday prior to the program. Program starts May 28.

Crabbing with a Ranger (1 1/2 hours)

Learn all about blue crabs, and try your hand at catching them. Pre-register at visitor center. Limited to 25 participants. Bring bait (fish or chicken parts), sunscreen, bug repellent, and wading shoes.

Especially for Kids (30 - 45 minutes)

Hands-on activities allow kids to have fun while learning about the seashore. Check at the Visitor Center to learn the program of the day.

Evening Campfire (1 hour)

Spend an evening under the stars hearing stories of the Outer Banks. Topics may include shipwrecks, pirates, sea life, and legends. Bring a beach chair, a warm blanket, a flashlight, and insect repellent.

Explore the Shore (1 hour)

Join a ranger for a walk along the beach to explore an ever changing world. Wear sunscreen and wading shoes.

Graveyard of the Atlantic (30 minutes)

Countless ships have met their ruin off the Outer Banks. Learn how storms, shoals, currents, war, and commerce have contributed to the wreckage and

Photo Credit: Paula Balassini



about those who risked their lives to save victims onboard.

Journey of the Loggerhead (30 minute video)

Learn about the lives of Loggerhead turtles and what people are doing to help them survive. Programs are limited to the first 25 people.

Lighthouse Marshes (1 hour)

Experience the sights and sounds of the island's fresh water marshes. Birds, dragonflies and butterflies are among those that hunt and gather in this rich habitat. Binoculars are provided but bring your own if you have them. Sunscreen and insect repellent is recommended.

Maritime Forest Walk (1 hour)

Explore one of the oldest sections of the islands as we venture into maritime forest habitat. Discover why the maritime forest is important to the plants, animals, and people of the islands.

Morning Bird Walk (1 1/2-2 hours)

The Outer Banks is well known for

Photo Credit: Quinn Capps



HATTERAS ISLAND							
Program	Sun	Mon	Tue	Wed	Thur	Fri	Sat
Morning Bird Walk (15)				8:00			
Take Me Fishing (#)			8:00		8:00		
Cast Netting (#)				9:00			
Soundside Seining (see specific day location)			2:30 (7)		2:30 (16)		2:30 (8)
Explore the Shore (10)		10:00				10:00	
Sentinel of the Shore (12) (A)		10:00		10:00		10:00	10:00
Outer Banks History (12) (A)	10:00		10:00		10:00		
Piping Plover (13)	10:30		10:30		10:30		10:30
Ocean Safety Demo (11)				10:30			
Journey of the Loggerhead (13)		10:30		10:30		10:30	
Especially for Kids (12) (I may vary)	11:00	11:00	11:00	11:00	11:00	11:00	11:00
Seashore Arts (#) (A)				11:00			
Rip Currents (13)	12:00	12:00	12:00	12:00	12:00	12:00	12:00
Move of the Century (13)	12:30	12:30	12:30	12:30	12:30	12:30	12:30
Barrier Island Nature (12) (I may vary)	2:00	2:00		2:00	2:00	2:00	2:00
Maritime Forest Walk (14)			2:00				
Coast Guard Station Hatteras Inlet Tour (#)				3:00			
Old Days at the Weather Station (17)				4:00			
Soundside Snorkel (#)		2:30				2:30	
Pirates! (12) (A)			3:00		3:00		
Graveyard of the Atlantic (12) (A)		4:00		4:00		4:00	
Evening Campfire (11)				8 p.m.			
Night Lights (9)					8:45 p.m.		

Old Days at the Hatteras Weather Station (45 minutes)

Join a ranger for a tour of the restored Hatteras Weather Station and hear about villagers who worked there during both tranquil and stormy times.

Outer Banks History (30 minutes)

Come learn about life along the Outer Banks. Possible topics include shipwrecks, early settlers, German U-Boat activity along the coast during World War II, and hurricanes. Check at the Visitor Center to learn the program of the day.

Piping Plover: Before it's too late (15 minute video)

Learn about this protected shorebird living along the beach and what you can do to help it survive. Limited to the first 25 people.

Pirates! (30 minutes)

The Outer Banks was a popular place for pirates during the early 1700's. Find out why the area was so attractive to pirates and how the golden age of piracy dramatically ended.

Rip Current (7 minute video)

Find out how to identify and avoid dangerous rip currents. Learn how to swim and surf our oceans more safely. Program is limited to the first 25 people.



Photo Credit: Quinn Capps

Seashore Arts (1 hour)

Get in touch with your artistic side and create a lasting memory of the Seashore. Bring a T-shirt, pillow case or scarf to create a seashore-inspired masterpiece. Program is limited to 16 participants on a first come first serve basis. Sign up at the Hatteras Island Visitor Center beginning the Saturday prior to the program.

Sentinel of the Shore (30 minutes)

Learn about the history, present status and future plans for the park's majestic lighthouses.

Soundside Seining (1 to 1 1/2 hours)

Interested in learning about Pamlico Sound and the creatures found there? Join a ranger and discover the wonders of the sound with a seining net. Wear wading shoes. Sunscreen and insect repellent are recommended.

Soundside Snorkel (1 1/2 hours)

It's not the Caribbean, but the shallow waters of Pamlico Sound are home to an array of small fish, shrimp and crabs. Program limited to 20 people on a first-come, first-served basis. You must pre-register in person at the Hatteras Island Visitor Center beginning the Saturday prior to the program.

Take Me Fishing (2 hours)

Join members of the Cape Hatteras Anglers Club to learn the art of surf casting and fishing. We have poles, but you MUST bring the bait. This program is limited to 60 participants and sign up is on a first come, first served basis. You must pre-register in person at the Hatteras Island Visitor Center beginning the Saturday prior to the program.



its abundant bird life. Come explore their beach and salt marsh haunts. Beginner and experienced birders welcomed. Binoculars are available if you don't bring your own. Sunscreen is recommended.

Move of the Century (1 hour video)

What can you do in 23 days? We moved a lighthouse. Programs are limited to the first 25 people.

Night Lights (1 hour)

Take back the night! Leave those artificial lights behind and experience the natural lights on the beach after dark. Join a ranger for a short walk to search

the tide line for glowing marine plankton and the sky for planets and star constellations. Find out why protecting the dark of night is valuable to both people and wildlife. Insect repellent and foot protection is recommended.

Ocean Safety Demonstration (1 hour)

Ocean swimming can be hazardous. Come to one of the three National Park Service lifeguarded beaches where guards will demonstrate water rescue techniques. You will learn how to protect yourself against rip currents, pounding waves and more.



Photo Credit: Quinn Capps

OCRACOKE ISLAND							
Program	Sun	Mon	Tue	Wed	Thur	Fri	Sat
Morning Bird Walk (18)				8:00			
Soundside Seining (19)				2:00			
Explore the Shore (22)		9:30				9:30	
Crabbing with a Ranger (+)			9:30		9:30		
Ocean Safety Demo (24)				10:30			
Especially for Kids (25) (A)		3:00	4:00		11:00	11:00	
Outer Banks History (25) (A)			11:00		3:30		2:00
Banker Ponies (20) (A)	3:00		2:00		3:00		
Pirates! (25) (A)		2:00		11:00		2:00	
Graveyard of the Atlantic (25) (A)	11:00			3:30			
Barrier Island Nature (25) (A)	2:00	11:30	3:00		2:00		11:00
Maritime Woods Walk (21)						3:00	
Evening Campfire (23)				8 p.m.			
Night Lights (22)					8:45 p.m.		

Quiet and Shady World of the Maritime Woods



If you want to visit maritime wooded trails, stop by any National Park Service Visitor Center for more information. On Ocracoke, ask for information about Springer's Point, woodlands protected by the North Carolina Coastal Land Trust. On Hatteras Island, the Buxton Woods Nature Trail is found near the Cape Hatteras Light Station. For a lengthier experience, ask about the Open Ponds Trail. At Bodie Island, a pond trail leads from the lighthouse. Please be sure to check yourself for ticks after your walk through grasses or shrubbery.

Seashore visitors enjoy basking on the sandy beaches, visiting historic lighthouses and riding the ferry across Hatteras Inlet. One memorable experience that is often overlooked is a peaceful stroll in the shade of the maritime woods, a forest community shaped by the coastal elements. Two ¼-mile loop

trails, the Ocracoke Island Hammock Hills Trail located across from the Ocracoke Campground and the Hatteras Island Buxton Woods Nature Trail located near the Cape Hatteras Light Station, traverse through some of the most beautiful sections of maritime forest on the Outer Banks.

The maritime woods of these trails developed on the oldest and most relatively stable sites on the islands, comprised of ancient dune ridges that formed 3,000 to 5,000 years ago. The higher elevation of these ridges protects the habitat from saltwater tides and storm-driven overwash, allowing oaks, cedars, loblolly pines and yaupon holly to survive.

The increased width of the islands at these trail locations gives additional protection to the forest by providing distance from the ocean's wind-born salt spray, which can alter plant growth. But even with the greater distance, you will see conspicuously stunted and twisted branching patterns in some trees that attest to the fact that no plant can totally escape the effects of salt spray. This pattern of growth is most exaggerated at the forest edge where salt air is more constant. You will find that the protected trees and shrubs living in the woods' sheltered interiors grow straighter and taller. Maritime forests become more resistant with age – these trails will take you under tight interlocking branches that create a shield-like canopy of evergreen leaves that screen out salts and deflect wind. These wider areas of the barrier islands are also often wooded because these sections can store vital rain-fed groundwater that is not available to vegetation on the narrower strips of island.

Other examples of these woodland pockets can be seen in the older sections of any local village where early Outer Bankers first settled, taking advantage of the natural protection provided from the coastal wind and flooding. In a walk through these maritime woods settlements, one can easily see aged twisted live oaks and red cedars lining the roadways and old home sites.

We invite you to try an alternate barrier island recreational experience. Take a break from the bright sun and hot breeze and experience a unique natural treasure -- the quiet, shady world of the maritime woods.

Tips from a Lighthouse Ranger



If you are planning a day trip to come climb the Cape Hatteras Lighthouse, here are some helpful tips to make the experience enjoyable.

- 1 Check the weather** – The lighthouse can close due to extreme heat, thunder or lightning, excessive rain or wind and due to medical emergencies.
- 2 Have a backup plan** – If the lighthouse is closed, it's helpful to have a backup plan. Here are a few ideas: Attend a ranger program, watch a park movie or video, hike the Buxton Woods trail, visit the Graveyard of the Atlantic Museum (Hatteras Village), the Frisco Native American Museum (Frisco) or Chicamacomico Lifesaving Station (Rodanthe). Those are just a few ideas; be sure to ask any park staff member for other activities that are available.
- 3 Bring water** – Although bottled water is available on site-food is not. Consider bringing your own water and other supplies you might need during your visit. Supplies are available in local stores in nearby communities.
- 4 Be flexible and allot more time** – The lighthouse tends to be the busiest from 10 a.m. until 2 or 3 p.m. Sometimes there can be up to an hour wait to climb the lighthouse during these times. Also, note that in the busy summer season there is often a long waiting time to get on the ferry to or from Ocracoke as well as busy traffic on Highway 12, which can cause delays in your schedule, so please plan accordingly and allow for extra time.

Visit the Cape Hatteras Lighthouse

The Cape Hatteras Lighthouse is the tallest brick lighthouse in the world. It stands 198 feet tall and was constructed in 1870. It was built to help ships navigate around Diamond Shoals off Cape Hatteras, one of the most dangerous sites on the Atlantic Coast. The shoals are a complex of underwater sand bars that constantly move and shift. Ships caught in heavy seas and wind would be washed upon the shoals. Waves breaking on the shoals would simply rip the ships apart. Hundreds and possibly thousands of shipwrecks in this area have given it the reputation as the "Graveyard of the Atlantic."

The lighthouse was moved in 1999 when threatened by the encroaching sea.

Cape Hatteras Lighthouse

9 a.m. to 5 p.m. daily April 18th-June 7th;
9 a.m. to 6 p.m. daily June 8th-Sept. 1st;
9 a.m. to 5 p.m. daily Sept. 2nd-Oct. 13th, 2008

\$7 for adults and \$3.50 for seniors, age 62 and older, the disabled, children under 12 and pass holders. Tickets may be purchased 20 minutes before closing.

Freshwater Wetlands – *An Oasis on the Coastal Edge*



Surrounded by the salty sea, these sandy barrier islands comprising Cape Hatteras National Seashore might seem at first glance to suffer from a shortage of freshwater. But look closer and you'll find that the narrow islands are infused with unexpected freshwater habitats supporting a stunning display of biodiversity. At these island oases, herons, egrets and ibis comb the shallows for minnows and frogs. Black ducks nibble on aquatic snails. Dragonflies dart over the water. Osprey perch on the snags of dead trees bordering the marsh. Even deer wander through to quench their thirst and browse on emerging vegetation.

With the Outer Banks being up to 30 miles from mainland lakes and rivers, what is the secret source of the islands' freshwater wellsprings? How have would-be windswept sandscapes been transformed into wildlife wonderlands?

Beneath these barrier islands, an underground aquifer of freshwater that is fed by rainfall "floats" on saltwater-laden sands below. In low-lying areas, the land intersects this groundwater aquifer giving rise to freshwater habitats -- swales, ponds and marshes. The presence of these island wetlands, and the teeming ecosystems they support, depends on a complex set of factors including not only fluctuations in rainfall and groundwater levels but also trends in sea level rise and nearby ocean shoreline movement.

Young wetlands emerge on the backside of the beaches as a result of change created by coastal dynamics. As powerful ocean overwash drives inland during storms, massive amounts of sand are rearranged, raising elevation in some sites, lowering it in others. Pockets of freshwater marsh often form in these open, changing landscapes as new dips in the landscape are created. Looking out from the top of the Cape Hatteras Lighthouse, you can see a young wetland forming behind the beach.

Where the islands are widest, highest and therefore most stable, the oldest and most established wetlands are found tucked away between relic dune ridges. A great example is Jeannette's Sedge in Buxton Woods. You can find other long-lived wetlands along the Hammocks Hill and Bodie Island Nature Trails as well.

So after exploring the shore, seek out a freshwater island oasis. Enjoy the wetland life that thrives around you – wings beating, fish splashing, leaves swaying and paws pitter-pattering to an island heartbeat made possible by freshwater life-blood.

Protecting Nesting Birds at Cape Hatteras National Seashore

Park visitors are not the only summer beach-goers. Each summer, scores of coastal birds find the beaches of Cape Hatteras National Seashore the ideal place to find mates, nest and raise their young. As you spend your day at the beach, keep an eye and ear open for these beach-nesting birds!

Colonial Nesters

Some coastal birds nest in colonies on the open beach. Safety comes in numbers, providing protection from potential predators. Colonial nesting waterbirds at Cape Hatteras include the Least Tern, Common Tern, Gull-billed Tern and Black Skimmer. Terns can be identified by pale gray or white feathering, forked tails and black caps. Black Skimmers stand out with black plumage and large orange and black beaks.

Terns and skimmers nest on the upper beach, out of reach of most tidal waters. Their nests are merely scrapes in the sand where two or three pale speckled eggs are laid, blending perfectly with the surroundings. Chicks are born fully feathered and begin walking after two days. Parents bring meals of small fish to their chicks. After three to four weeks the young begin to fly.

Terns are extremely agile flyers with keen sight, catching fish near the water's surface. Black Skimmers fly low over the water, day or night, and catch fish by skimming their long narrow lower bill just below the water surface.

Solitary Nesters

Many shorebirds, such as the American Oystercatcher and the threatened Piping Plover, are solitary nesters. These birds will actively chase away any other birds of their own species that enter their breeding territories. The American Oystercatcher is a large, prominent shorebird with dark brown and white plumage, orange chisel-like bill and loud call. The small, pale, buff-colored Piping Plover is more inconspicuous, blending with the sandy habitat. Its soft, plaintive "peep-lo" call is often heard before the bird is seen.

Both species need large undisturbed beaches to breed successfully. They lay a clutch of well-camouflaged eggs in the sand. The chicks are born fully feathered and can run short distances within hours of hatching. Parents may move the young over long distances for food and protection. Plover chicks feed on insects and small marine invertebrates. They can fly

What YOU can do to help protect beach nesting birds:

- Do not enter posted nesting areas. Eggs and chicks are well camouflaged and can be inadvertently crushed. If violations of protected species closures results in disturbance or harassment of wildlife or the vandalization of fencing, nests, or plants; the closure is mandated to be expanded 50 m for the first violation, 100 m for the second, and 500 m for the third. Violators are subject up to a \$5,000 fine and/or imprisonment up to 6 months.
- Observe birds from a safe distance. If they take flight or act agitated you are too close.
- Keep pets on a leash and away from nesting sites. Pets can kill chicks, crush eggs or scare adults off nests.
- Do not fly a kite near a nesting area. Kites scare birds off nests, leaving eggs and chicks exposed to deadly heat and predators.
- Remove all your trash. Predators such as gulls, raccoon, fox and feral cats are attracted to trash and can have devastating effects on eggs, chicks and incubating adults.



Least tern with eggs in nest.



Piping plover with chicks.

at four to five weeks. Oystercatcher chicks usually begin to fly at five weeks but remain dependent on adults for their shellfish diet during their first two months.

Population Threats

In the 1800s populations of beach nesting birds declined due to unregulated market hunting. These birds were prized for their eggs, meat or ornamental feathers to adorn women's hats.



American Oystercatcher feeding.

Today these birds are protected by state and federal laws. They face many threats on their nesting, migrating and wintering grounds such as habitat loss, human disturbance, predation and storms. At Cape Hatteras National Seashore, beach closures are established to provide undisturbed habitat needed by breeding birds to successfully nest and raise their young.

WRIGHT BROTHERS NATIONAL MEMORIAL

Passenger Flight --

Another First for Wright Brothers National Memorial



News correspondents watched the Wrights from a distance near the Kitty Hawk area, hoping to disprove rumors of a manned flying machine. To his amazement after seeing the first passenger flight of May 14, 1908, one reporter, Bryan Newton of the New York Herald, wrote in his diary: "Some day Congress will erect a monument here to these Wrights."

Tom D. Crouch
National Air and Space Museum
Smithsonian Institution

Every day two million people board airliners in the United States – some flying to a nearby city, others to the far side of the world. Passenger air travel has become commonplace in our daily lives. It all began 100 years ago, on May 14, 1908, at Wright Brothers National Memorial, when Charles Furnas, the Wright brothers' mechanic, became the world's first airplane passenger.

The brothers had made the world's first airplane flights on December 17, 1903, near a low range of dunes known as the Kill Devil Hills, four miles south of the little fishing village of Kitty Hawk, North Carolina. On the best of those flights, Wilbur flew 852 feet in 59 seconds. With success in hand, the Wrights spent the next two years continuing their work near their home in Dayton, Ohio, improving their design and increasing their time in the air. On October 5, 1905, Wilbur Wright flew 30 circles over an Ohio pasture in their third airplane, covering 24.5 miles and remaining aloft for more than 39 minutes.

The next step was to market their revolutionary flying machine. In the spring of 1908, after repeated trips to Europe and protracted negotiations with the U.S. government, the Wrights were at last ready for the first public demonstrations of their airplane. That summer, Wilbur would travel to France to show the Europeans what their craft could do, while Orville demonstrated the machine to U.S. Army officials at Ft. Myer, Virginia.

The brothers had not flown since the fall of 1905. Before they faced the public, they had to fine-tune their flying skills, accustom themselves to a new upright seating arrangement and new controls and try flying with a passenger for the first time, something both their American and French contracts required. They rebuilt their 1905 airplane with upright seats and the new controls and traveled back to the North Carolina dunes, where the conditions were ideal to test their craft.

The brothers made the first flight from their old campsite near Kitty Hawk on May 1, 1908. By May 14, they were at last ready to venture aloft with a passenger. At 8 a.m., Wilbur took Charlie Furnas up for a hop that covered only 656 feet. Orville kept him aloft longer on the second try. The world's first passenger flight lasted just over four minutes. Not a very impressive performance by modern standards, but it was enough. The age of air transport was under way.

First Flight in Europe - 1908

At the turn of the twentieth century, France - not the United States, was the main center of powered airplane flight attempts made by aspiring inventors. The news of the Wright brothers' flights at Kitty Hawk in December 1903 was considered by the French, and the rest of the world, to be a hoax fabricated by two unknown bicycle mechanics and perpetuated by the American press. Thus, in 1908, human flight was considered by most to be a standard of impossibility with no forward progress in sight. Little did the world know that the Age of Flight was already here.

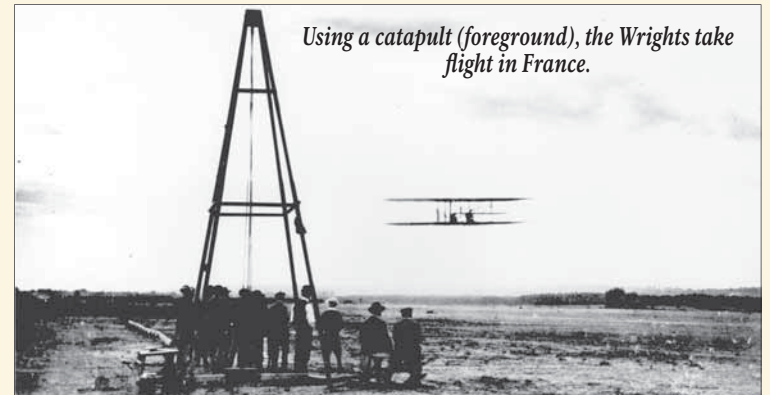
In early 1908, the Wright brothers signed two contracts: one with the U.S. Army and the second with a group of French businessmen to form the French Wright Company. It was decided that Orville would conduct the Army tests, and Wilbur would demonstrate in Europe where a Wright Flyer already lay crated, having been sent over to France in July of 1907. Wilbur arrived in France during late May of 1908 and, after various delays, completed the assembly of the 1907-built Flyer in

Le Mans, France. Wilbur was so confident in the machine and his ability to fly that he did not make any secret flight tests. Instead, in the face of intense and widespread interest, suspicion and skepticism, Wilbur announced his first flight in France and invited the public to attend.

On the late afternoon of August 8, 1908, the most critical and technical of audiences gathered at a race course near Le Mans to witness just another attempt to fly . . . or so they thought! Little did they know that what they were to witness would change their lives, and the world,

forever. Wilbur Wright shocked the crowd with a series of graceful flight maneuvers, exhibiting a mastery of flight never before seen in Europe and not, until that day, believed possible. The world changed that afternoon in France as mankind was no longer chained to the earth and men would literally jump into the air. The Wright brothers had taken the world by storm!

This year marks the 100th anniversary of that historic moment. For more information on the centennial celebration of the Wrights' flights in France visit www.wright2008.com.



Using a catapult (foreground), the Wrights take flight in France.

Wright Flight!!!



By Nags Head Elementary School
Teacher Nancy Nance

Over the past eight years, fifth graders in Dare County have participated in a program called "Wright Flight" that uses the motivational power of aviation to help students improve their performance in school.

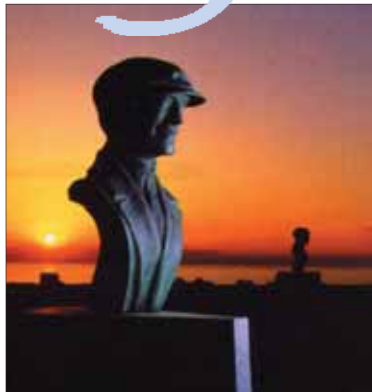
Wright Flight is a non-profit 501(c)(3) corporation that was founded by Colonel Robin Stoddard. Colonel Stoddard, a former Air Force fighter

pilot, noted the profound effect that airplanes have almost universally on youngsters. He decided to use that interest to motivate children to do better in school. Colonel Stoddard developed program materials and organized a group of volunteers and pilots to teach the program and provide airplane flights to successful students. In Dare County, National Park Service staff at Wright Brothers National Memorial provide fun, interactive flight history programs for Wright Flight students.

To participate in Wright Flight, students agree to a contract with three requirements. First, students must pass the Wright Flight History of Aviation exam with at least an 85% score. Second, students pledge to avoid drugs, alcohol, and tobacco products. Third, students improve their performance in some school area as defined by the student and teacher. By meeting these criteria, students earn the reward of flying with a qualified pilot over the place where humans first flew. To date, close to 1,200 fifth graders have earned this privilege in Dare County. Students do not just ride in the plane, they take the controls!

Taking control is the key to this program. Wright Flight encourages students to take control of their learning so that they can be successful in life. The program emphasizes the principle that privileges are earned by rewarding students' hard work. What Wright Flight teaches our children is that with dedication and determination, the sky is the limit!

Summer 2008 Program Descriptions



Evenings with Wil and Orv (1 hr 30 min) (C)

Ever wondered what the Wright brothers did after a full day of experimenting with their flying machine? Swap stories, and engage in conversation and activities at the Wright brothers' camp. Bring a lawn chair or a blanket and mosquito repellent. Free admission to the park after 6 p.m. for this evening program.

Experiments with Flight (30-45 min) (D)

Come and explore why and how things fly and the principles that enabled the Wright brothers to get off the ground. A family science activity designed for kids.

Family Night with Flight (2 hr) (D)

Family activities designed for the kids. Peak your curiosity; get an introduction to flight through gadgets and toys, such as Wilbur and Orville did as children. Experience the fun of building a gliding machine.

Free admission to the park after 6 p.m. for this evening program.



First Flight Tour (30 min) (B)

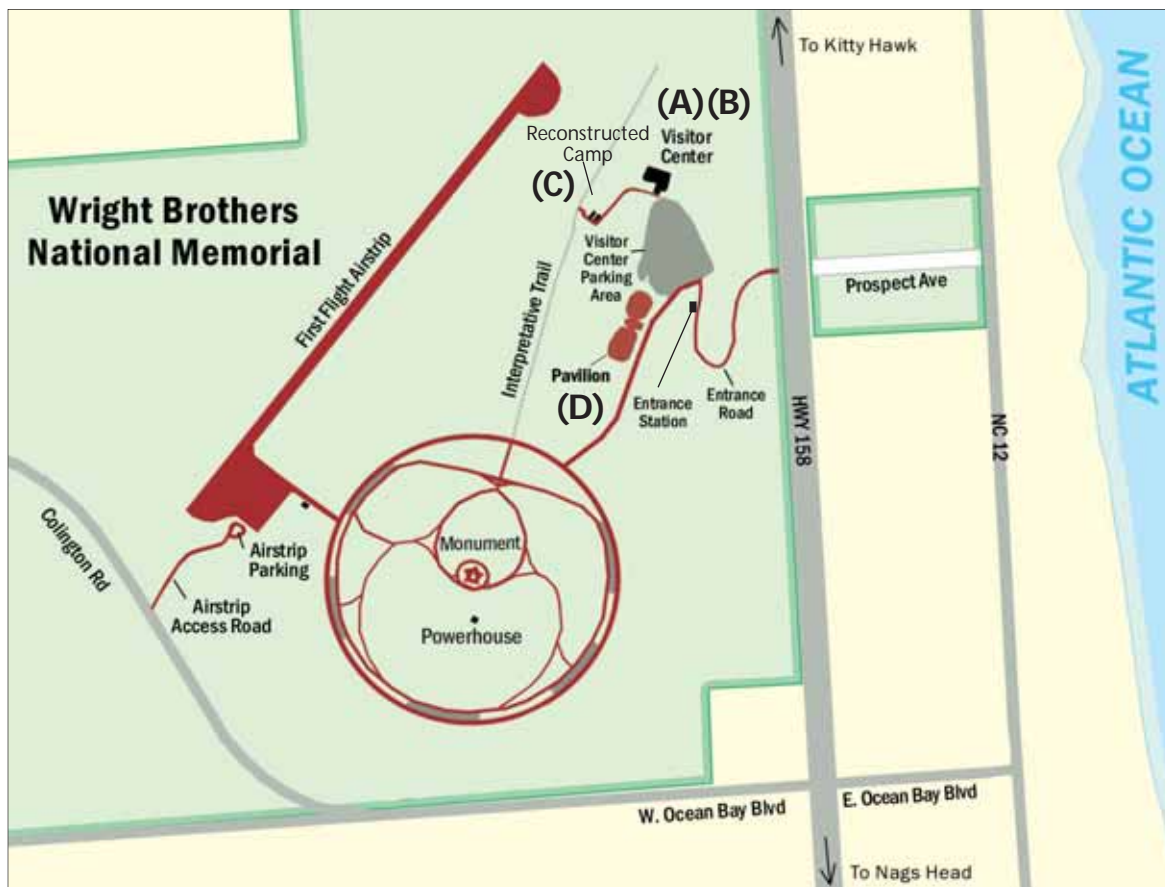
Step back in history during this short walk to the actual site of the Wrights' first powered flights. Learn about the first flight and the events of that historic December day.

Flight Room Talk (30 min) (A)

Learn about the Wrights and how they developed the first successful airplane. See a demonstration of their control system on a reproduction of the 1903 Flyer.

Fun in Flight (30 min) (D)

A family activity designed for the kids. Experience the fun of building a gliding machine. Design and construct a paper airplane and test the winds of the Outer Banks.



Visitor Center

Open 9 a.m. to 6 p.m.
May 23 to Labor Day

9 a.m. to 5 p.m.
the rest of the year

Park Activities • Summer 2008

Programs listed will be offered from May 23 to Sept. 1.

Program Locations:

(A) Visitor Center Flight Room (B) Visitor Center Rear Patio
(C) Reconstructed Camp Buildings (D) First Flight Pavilion Auditorium
All programs are handicapped accessible.

Program	Sun	Mon	Tue	Wed	Thur	Fri	Sat
Flight Room Talk (A)	10:00	10:00	10:00	10:00	10:00	10:00	10:00
	12:00	11:00	11:00	11:00	11:00	11:00	12:00
	1:00	12:00	12:00	12:00	12:00	12:00	1:00
	2:00	2:00	2:00	2:00	2:00	1:00	2:00
	4:00	3:00	3:00	3:00	3:00	2:00	4:00
		4:00	4:00	4:00	4:00	3:00	
First Flight Tour (B)		11:30 3:30	11:30 3:30	11:30 3:30	11:30 3:30	11:30 3:30	
Life at Kitty Hawk (C)			1:30		1:30		
For Kids: Wright Kite (D)	11:00	10:30	10:30		10:30	10:30	11:00
For Kids: Experiments With Flight (D)	3:30	1:00	1:00	3:30	3:30	3:30	3:00
For Kids: Fun in Flight (D)	1:30	3:30	3:30	1:30	1:30	1:30	
The Wright Brothers 100 Years Ago (A)				1:00	1:00		
Evenings with Wil and Orv (C)			7 p.m.				
For Kids: Family Night with Flight (D)			7 p.m.				
Video presentations	Shown hourly from 10 a.m. to 5 p.m. daily and are subject to the availability of the First Flight Pavilion Auditorium.						

The program schedule is subject to change without notice. Programs are subject to weather.

Life at Kitty Hawk (30 min) (C)

Learn why the Wrights chose Kitty Hawk and get a taste of "vacationing" on the Outer Banks in the early 1900s.

The Wright Brothers 100 Years Ago (30 min) (A)

Follow the progress of Wilbur and Orville and their invention after the first flight. Learn about the Wrights' 1908 historic accomplishment and their impact on future aviation.

Wright Kite (30-45 min) (D)

Calling all kids!! See a demonstration of kite building and join in the fun of flying a homemade kite (or bring your own). Then test the winds of Kitty Hawk just like Wilbur and Orville.



FORT RALEIGH NATIONAL HISTORIC SITE

Visitor Center

John White and the Year of the Armada



In August 1587, Governor John White departed his newly planted settlers on Roanoke Island and sailed for England for more supplies. Unknown to the fledgling colony and their governor, an impending invasion of England would prevent their relief. The imminent war with Spain would require the island nation's every resource to fight.

John White was still hopeful that his colony could be aided even after learning of this trouble upon his return to England in November. Meeting with Sir Walter Raleigh, the sponsor of the colonizing effort, plans proceeded for a re-supply voyage. By March 1588 Sir Richard Grenville's fleet was ready to sail, but the Queen's Government sent instructions "to forbear to go his intended voyage," ordering his ships to the English Navy for service against Spain. White was instead given permission to use two smaller vessels, the *Brave* and the *Roe*, for the relief effort.

In April 1588, Governor White departed England on the 30-ton *Brave* with seven men and four women to join the colony. The *Roe* also carried four or five colonists. The two pinnaces were small and poorly equipped and provisioned. To worsen matters, the privateer captain of the *Brave*, Arthur Facy, was intent upon prize-taking.

Before leaving European waters, crews of the two pinnaces boarded and raided four vessels. But they would soon be the ones pursued. On May 6, the *Brave* was overtaken by a large

French ship. Savage fighting followed and the *Brave* was left half-crippled. White and three of the colonists were wounded and their supplies were seized. White recounted:

"...the fight continued without ceasing one hour and a half... they robbed us of all our victuals, powder, weapons, provision, saving a small quantity of biscuit to serve us scarce for England. Our Master and his Mate were deadly wounded, so that they were not able to come forth of their beds. I my self was wounded twice in the head, once with a sword, and another time with a pike, and hurt also in the side of the buttock with a shot... Being thus ransacked... we determined to return for England..."

Thus, White's courageous effort to provision his colonists was thwarted by circumstances beyond his control.

Meanwhile, eyes were on the southwest coast of England and the approaching Spanish Armada. When the two naval powers met on August 8, 1588, the English vessels' maneuverability and favorable winds won the day for their nation. It was Queen Elizabeth's finest hour.

Three thousand miles across the Atlantic along the wind-swept coast of the Outer Banks, 116 men, women, and children never knew of their Governor's travails or the English victory. Their promised supplies never arrived. Separated forever from family and friends, the colonists faced an uncertain future in a New World, 420 years ago.

Park Activities • Summer 2008

Programs listed will be offered from May 23 to Sept. 1.

Program Locations:

All programs start at park visitor center: (*) Program has limited attendance capacity; sign up in person at the park visitor center, (A) Program is handicapped accessible.

Open
9 a.m. to 6 p.m.
May 23 to
Labor Day

9 a.m. to 5 p.m. the
rest of the year

Program	Sun	Mon	Tue	Wed	Thur	Fri	Sat
1584: The Scouting Expedition (A)	10:00						10:00
1585-86: The Exploration Expedition (A)	2:00	2:00	2:00	2:00	2:00	2:00	2:00
1587: The Colony (A)	3:00	3:00	3:00	3:00	3:00	3:00	3:00
Roanoke Island History: The Algonquians (A)			4:00		11:00	4:00	
Roanoke Island History: The Freedmen (A)		11:00		11:00			
Roanoke Island History: The Drama Remembers (A)	4:00						4:00
Kids' Activity: Life in the Roanoke Tribe (A-may vary)		1:00	10:00	1:00		1:00	
Kids' Activity: The Power of Archeology (A-may vary)				10:00	10:00		
Kids' Activity: Roanoke Explorers (A-may vary)		10:00	1:00		1:00	10:00	
Nature Trail Walk				4:00	4:00		
Tour of the Collection (*) (A)			11:00				
Video: "Roanoke: The Lost Colony" Shown daily at 30 minutes past the hour in the visitor center auditorium beginning at 9:30 a.m.							

The program schedule is subject to change without notice. Programs subject to weather.

We Want to Know What You Think

The National Park Service is in the process of developing a general management plan (GMP) for Fort Raleigh National Historic Site that will lay a foundation for the long-term direction of the site. Input from park visitors will help us draft the best possible plan.

A GMP provides a vision for the future of a park and a practical framework for decision making. It represents the broadest level of planning conducted by the National Park Service. The intention of a GMP is to provide guidance for making informed decisions about the future of the park and specify resource conditions and visitor experiences to be achieved. A GMP provides guidance on how to best protect park resources, how to provide for quality visitor experiences and how to manage visitation and visitor use. It involves identifying goals based on the legislative intent of the park, analyzing existing conditions and future possibilities and determining the best course of action to accomplish these goals.

Public involvement is a key component in the preparation of the GMP. To find out how to provide your input, visit the park's website at www.nps.gov/fora.

Summer 2008 Program Descriptions



1584: The Scouting Expedition (30 minutes) (A)

The first contact between the English and Carolina Algonquian Indians occurred during this voyage. What motivated Englishmen to consider having a colony in this New World? Why was the choice made to stay at Roanoke Island instead of other places? Join us to examine these questions.

1585-86: The Exploration Expedition (30 minutes) (A)

During this expedition, English explorers established an outpost on Roanoke Island and remained for 11 months surveying the New World. Their expedition began with promise and ended in tragedy. Share the experience of their discoveries through the eyes of an explorer.



1587: The Colony (30 minutes) (A)

Men, women and children left England for the New World to begin a new way of life. Instead of arriving at the Chesapeake Bay, the colonists were forced to land at Roanoke Island. The turn of events grew worse as these colonists struggled to survive. "Where did the Lost Colonists go?" Examine with us the theories of their fate to continue the search.

Kids' Activity: Life in the Roanoke Tribe (45 minutes) (A - may vary)

This activity for kids will offer remembrance of the native people of Roanoke Island. Leave with something tangible from the park, such as paint marks worn by the native people, or practice making a small pot.

Kids' Activity: Roanoke Explorers (45 minutes) (A - may vary)

This activity for kids will offer the experience of witnessing strange and new things and how to report your discoveries. How would you put strange spoken sounds on paper? What tools would you need to navigate and document a New World?

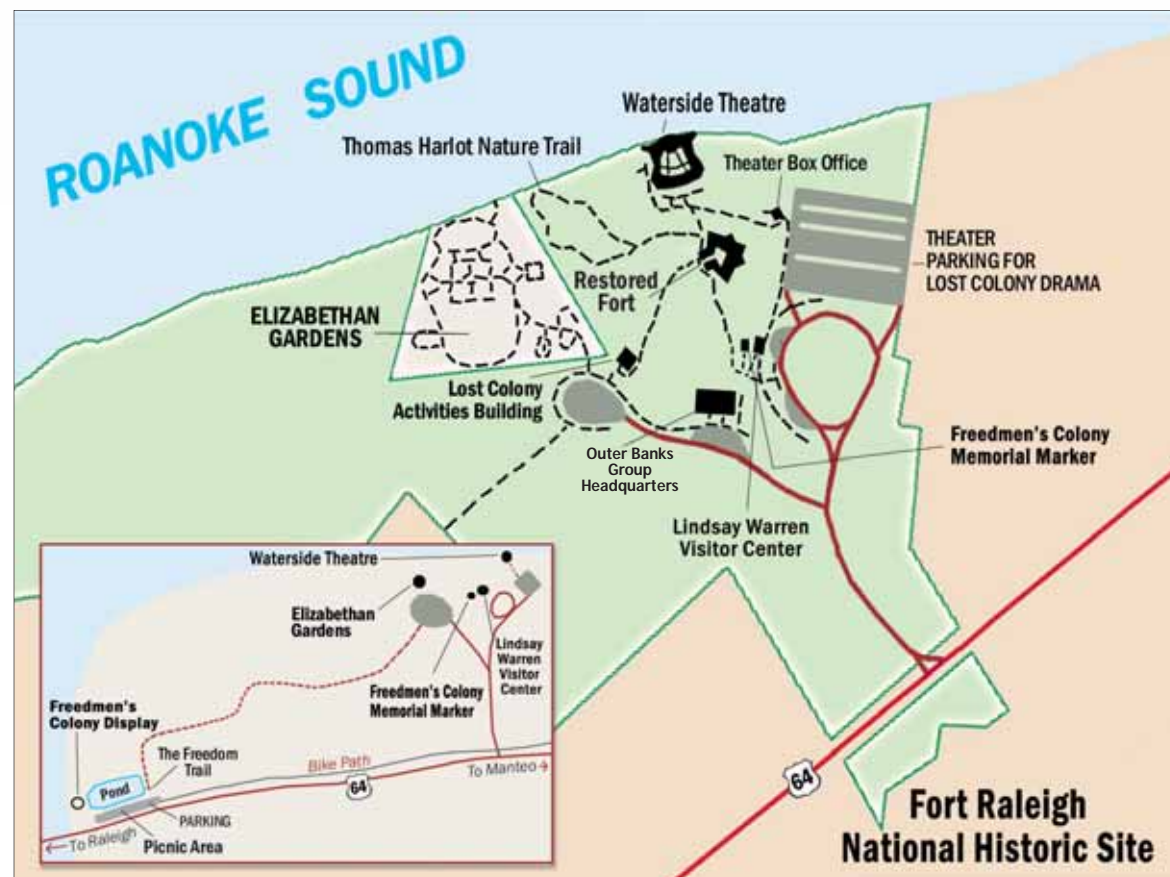


Kids' Activity: The Power of Archeology (45 minutes) (A - may vary)

Very special answers to questions are in the ground. If found, would you keep the answers to yourself or would you share them with others? What has been done to find where the colonists had been? In this activity, kids will learn about archeology and the responsibility of protecting what has yet to be learned from people of long ago.

Nature Trail Walk (1 hour)

Meet at the park visitor center for a half-mile walk to witness the New World through an explorer's eyes. This



program discusses how natives and colonists used the available natural resources. Bring insect repellent and water. Physical demands involve walking on a trail that has exposed roots and gentle slopes.

Roanoke Island History: The Algonquians (30 minutes) (A)

Native residents of the New World and English explorers observed and formed impressions of each other. Learn what an English scientific team reported to Europe regarding these native peoples. This ranger-guided program presents the original residents of Roanoke Island.

Roanoke Island History: The Drama Remembers (30 minutes) (A)

The Lost Colony is a tribute to the Roanoke colonists that disappeared so long ago. Before you attend the play, learn the story behind America's longest-running outdoor symphonic drama and the establishment of this national historic site.

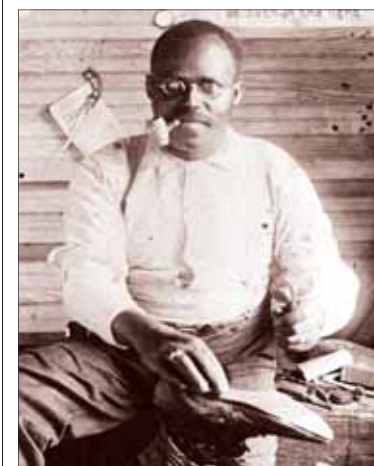
Roanoke Island History: The Freedmen (30 minutes) (A)

Learn about another type of colony established on Roanoke Island during the Civil War. The Bureau of Refugees,

Freedmen, and Abandoned Lands offered the promise of a profound beginning for the island's newest residents.

Tour of the Collection (1 hour) (*) (A)

Examine evidence of English colonization and Roanoke Island history through a visit to the park's museum collection building. To participate and for more information, sign up at the Lindsay Warren Visitor Center. Maximum program attendance is limited; first-come, first-served.



In The
PARK

A 400 Year-Old Mystery Theater Under the Stars!

Photo Credit: Quinn Capps



Growing Family Traditions For Over Fifty Years: The Elizabethan Gardens

Don't miss this garden for all seasons--where history, mystery and beauty reign all year. Located within Fort Raleigh National Historic Site next to The Lost Colony's Waterside Theater, The Elizabethan Gardens encompasses ten acres of botanical and sculptural delights.

Here, the entire family can explore a series of garden rooms and naturalized trails embellished with a wide diversity of plants well-suited to this unique coastal environment. Follow your children as they play Garden Detective with a checklist of plants and animals, select an heirloom plant or gift from The Gardens' Nursery and Shop as a lasting reminder of your visit, or just take the time to relax and enjoy a garden full of inspiration.

Our Family Fun Summer Series is highlighted by *The Diary of Adam and Eve*, a one act play from the Broadway Musical *The Apple Tree*. The performances in The Gardens air-conditioned theatre run Tuesdays at 2:30 pm July 8-August 12. Based on a short story by Mark Twain and set to words and music by the team of Harnick and Bock who created *Fiddler on the Roof*, this light comedy is the perfect story for a garden setting. Younger family members can enjoy a concurrent program, *A Snake in the Grass*, if they choose not to see the play. Family Fun continues with hands-on activities on Wild Wednesday and Discovery Thursday in the air-conditioned Theatre June 11-August 14. All family fun activities, including *The*

Diary of Adam and Eve, are free with paid admission to The Gardens.

Seasonal kaleidoscopic changes bring an exciting array of flowering plants, shrubs and trees that draw visitors to return again and again. A monumental bronze sculpture of Queen Elizabeth I, ancient marble Italian statuary and the solitary figure of Virginia Dare provide continuity to constantly changing flora. Horticultural collections are extensive and annual color planted every season gives The Gardens a different perspective throughout the year. Special period features are a Sunken Garden and beautiful 16th century style gazebo providing breathtaking views of Roanoke Sound.

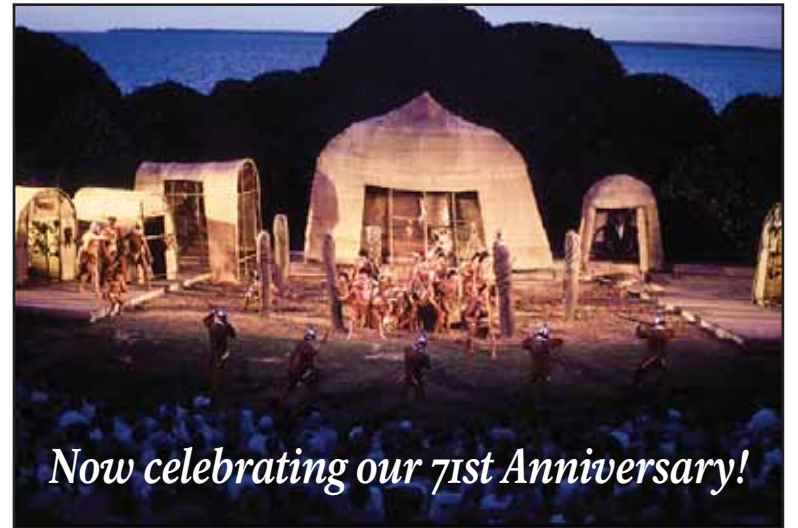
Founded and supported by the Garden Club of North Carolina and featured in many landscape books and calendars, The Elizabethan Gardens is one of the finest examples of gardens of the period. Truly, it stands out as the crown jewel of Roanoke Island.



Marsha Warren stars in *The Diary of Adam and Eve*, Tuesday July 8-August 12.

Before Jamestown and Plymouth, a group of men, women and children settled on Roanoke Island in 1587—and then vanished mysteriously. Pulitzer prize-winning playwright Paul Green captured their haunting story in his play, *The Lost Colony*, now performed on the very site they settled more than 400 years ago.

Witness their hopes and dreams come to life in a dazzling spectacle of song, dance, drama, comedy and special effects. Rejoice with the colonists at the birth of Virginia Dare. Connect with their struggles as they strive to survive. Delight in the fabulous costumes fashioned by an award-winning Broadway designer. Empathize with their story—an unsolved mystery that captivates all ages. Experience the splendor and intrigue that has made *The Lost Colony* a family favorite since 1937.



Now celebrating our 71st Anniversary!

The Lost Colony—an American legacy that has been seen by more than 4 million visitors!

Get Your Ticket to an Enchanting Evening Now!

Now, *The Lost Colony* brings you more! More than just a play, *The Lost Colony* brings you nine other entertaining events. See for yourself why millions have made us part of their vacation plans since 1937! For all tickets, call the box office at 252.473.3414. Tickets are also available online at www.thelostcolony.org (service fees apply).

SPECIAL OFFER! Each child accompanied by a paying adult is admitted FREE on Mondays and for half-price on Fridays & Sundays (valid for tickets to *The Lost Colony* production only; not valid with other discounts). Discounts are not available with online purchases.

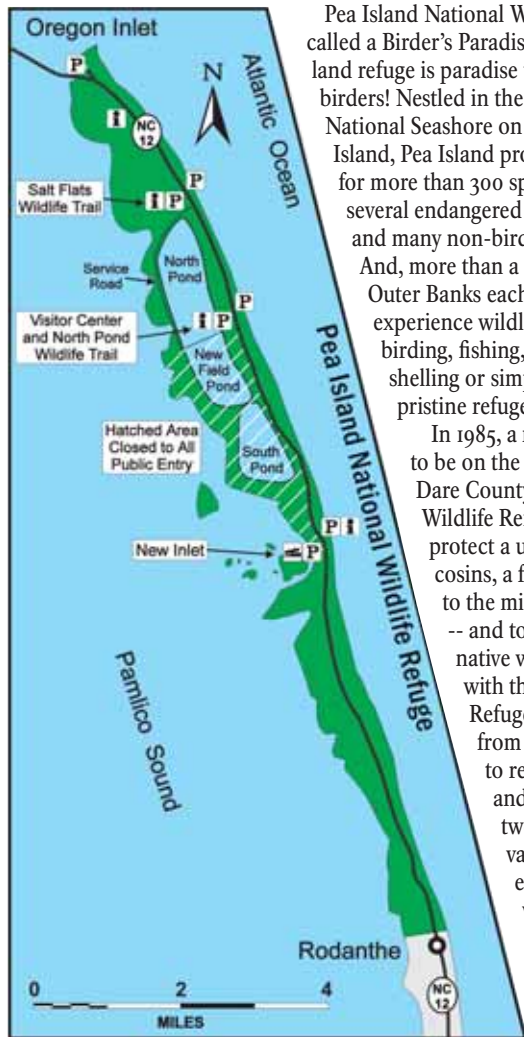
Program Locations:

All programs are located inside of Fort Raleigh National Historic Site at the Waterside Theatre. *Advance purchase ticket discount.

Program	Date	Time
<i>The Lost Colony</i>	Sun. - Fri. May 30 - Aug. 20	8:30 p.m.
Backstage Tours	Sun. - Fri. May 30 - Aug. 20	6:30 p.m.
<i>Sleeping Beauty</i>	Tues. & Thur. June 19 - Aug. 14	9:30 a.m.
Tea with the Queen	June 26; July 3,10,17, 24 & 31; Aug. 7 & 14	3 - 5 p.m.
Waterside Art Tuesday	Tuesdays June 10-Aug.12	1-2:30 p.m. (Backstage)
Waterside Craft Wednesday	Wednesdays June 11-Aug. 13	1-2:30 p.m. (Backstage)
<i>Into the Woods</i> *	June 29 & July 13	8:15 p.m.
<i>A Funny Thing... Forum</i> *	Aug. 3 & 10	8:15 p.m.
<i>Reaching for the Stars</i>	Aug. 16	8:15 p.m.
Virginia Dare Faire	Aug. 18	All day



Welcome to Pea Island and Alligator River National Wildlife Refuges!



Pea Island National Wildlife Refuge is often called a Birder's Paradise. But, this tiny barrier island refuge is paradise to far more than birds and birders! Nestled 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 endangered and threatened species and many non-bird species of native wildlife. And, more than a million visitors to the Outer Banks each year seek this refuge to experience wildlife and wildlands...whether birding, fishing, observing wildlife and shelling or simply finding solace on the pristine refuge beaches.

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, a forested wetland 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. So, while you're here, take some time to take a walk on the wild side!

Pea Island 2008 Summer Schedule

Bird Walks

Pea Island is for the birds...literally! Pea Island National Wildlife Refuge is home to nearly 400 species of birds. Come out and meet our summer residents. We welcome all bird enthusiasts on our walks. Whether you're a beginner or an expert, you'll enjoy this casual stroll beside North Pond. Field guides, binoculars, sunscreen and insect repellent are recommended, though some field guides and binoculars will be available for participants.

April through October Wed., Thurs. and Fri., 8-9:30 a.m. at Pea Island Visitor Center

Soundside Discovery

What lived in those shells? What's that slimy stuff? What is it like to be a crab? Kids can discover the answers to these questions and many more through hands-on exploration of the Pamlico Sound. Come pull the seine net and see what we catch! Wading shoes are required; sunscreen and hats are recommended for this wet and wild activity. Children must be accompanied by an adult.

June/July/August Thurs. 2:30-3:30 p.m. at New Inlet; 2 miles south of Pea Island Visitor Center

Turtle Talk

Why are sea turtles endangered? What can you do to save these gentle giants? Learn more about the lives of sea turtles and their conservation at this presentation for all ages.

June/July/August Tues. 2:30-3:30 p.m., Pea Island Visitor Center

Wildlife and Their Adaptations

Birds of prey have special adaptations and behaviors that make them efficient hunters. Ducks and other water birds (and even some mammals) have webbed feet for swimming. Come and learn about lots of ways that animals have adapted to survive in their environments! This is a Show & Tell program with a hands-on approach! Insect repellent and sunscreen are recommended.

June/July/August Wed. 2:30-3:30 p.m., Pea Island Visitor Center

Family Canoe Tour

Designed especially for kids, this tour includes lots of wading and hands-on exploration. Cost is \$25 for adults and \$15 for children 12 and younger.

Children must be accompanied by an adult. Wading shoes are required. Hats, sunscreen, insect repellent and drinking water are recommended. Reservations are required. Call (252) 475-4266. Co-sponsored by the Coastal Wildlife Refuge Society.

June/July/August Wed. and Fri., 10 a.m. to noon at New Inlet (2 miles south of Pea Island Visitor Center)

Pea Island Canoe Tour

Visit the quiet side of Pea Island. Explore the marshes, islands and creeks of Pamlico Sound. Look for birds, crabs, terrapins, skates and more! Cost is \$35 for adults and \$20 for children 12 and younger. Wading shoes are required. Hats, sunscreen and drinking water are recommended. Reservations are required. Call (252) 475-4266. Co-sponsored by the Coastal Wildlife Refuge Society.

May through October Thurs., 9 a.m. to noon at New Inlet (2 miles south of Pea Island Visitor Center)

Alligator River 2008 Summer Schedule

Alligator River Canoe Tour

Really get out into the wild! The Milltail Creek Canoe Trail system takes you deep into the heart of the Alligator River Refuge. Paddle the shady blackwater canals; watch and listen for the Refuge's secretive wildlife. Cost is \$35 for adults and \$20 for children 12 and younger. Wading shoes, hats, sunscreen, bug repellent and drinking water are recommended. Reservations are required. Call (252) 475-4266. Co-sponsored by the Coastal Wildlife Refuge Society.

May Wed.; June/July/August Wed., Thurs. and Fri., September/October Wed., 9 a.m.-noon south end of Buffalo City Road (off U.S. Hwy. 64 in East Lake)

Bear Necessities

Alligator River is home to the largest population of black bears in eastern North Carolina and one of the largest in the eastern United States! Learn more about our largest mammal and what makes the Refuge such a good home for these animals. After the presentation, tour the Wildlife Drive to look for bears and other wildlife.

June/July/August Wed., 6-7:30 p.m. Creef Cut Wildlife Trail parking lot (Milltail Road)



**WINGS
Over
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November 4-9, 2008

North Carolina's
Outer Banks
Call (252) 441-8144

www.wingsoverwater.org

Purple Martin Madness

The Outer Banks is home to one of the largest purple martin roosts in the eastern US. Although our roost of 100,000 martins is not on the Alligator River Refuge, the refuge lands and the water systems surrounding it support this spectacular collection of migratory birds. Come see the sky filled with martins in flight over Croatan Sound and learn more about the fascinating lives of these birds and why they roost here.

Visit www.purplemartinroost.com to learn more. Co-sponsored by Coastal Carolina Purple Martin Society.
July 24 to August 14 Thurs., 7:30-8:30 p.m. (July 24 & 31) 7:15- 8:15 p.m. (August 7 & 14) west end parking area of old Mann's Harbor/Hwy. 64 Bridge (on Mann's Harbor side). By the purple martin house and kiosk.

Red Wolf Howling Safari

Red Wolf Coalition and Refuge staff offer you the experience of a lifetime! Come learn about red wolves and participate in a howling. The program will occur except with lightning, heavy wind or rain, or impassable road conditions. Decision to cancel will be made no later than 1.5 hours before program. Howling Safaris cost \$5 per person. Registration is required. Meet at Creef Cut Wildlife Trail parking lot (Milltail Road). Visit www.redwolves.com or call (252) 796-5600 to register.

June 11 to September 3 Wed., 7:30-9:30 p.m. Creef Cut Wildlife Trail parking lot (Milltail Road)

Red Wolf Tracking

Spend an hour on Alligator River National Wildlife Refuge catching up on the Red Wolf Recovery Program and learning how biologists track the movements of these endangered animals.
June/July/August Thurs., 10-11:00 a.m. Creef Cut Wildlife Trail parking lot (Milltail Road)

Eastern National

SERVING AMERICA'S NATIONAL PARKS & OTHER PUBLIC TRUSTS

Nature Guide to the Carolina Coast by Peter Meyer

An entertaining, practical, reader-friendly guide to common plants, animals and the physical environment of the NC/SC coast. Fully illustrated - more than 100 color photographs, plus additional diagrams and drawings with in-depth information on each subject. A beachcomber's handbook, a valuable companion for seaside explorers of all ages. Scientifically accurate, yet written in language beginners can understand. \$13.95



Ocracoke Album by Jack Dudley

A photographic history of Ocracoke Island, from the 1890s through the 1960s. Detailing the spectrum of Ocracoke society, including the first post office and mail boats, the six-room school that served as the village's only public education building until 1971, meeting houses, the fishing industry of the island and, of course, the famous Ocracoke lighthouse. Beautifully designed and easily readable, Ocracoke Album is a delight not only for fans of the village but also for fans of photography and the old ways of life. \$40.00



Wind and Sand

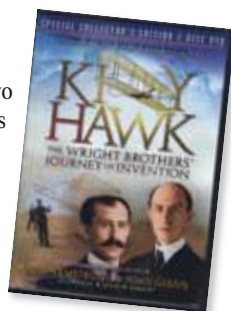


by Lynanne Wescott & Paula Degen
The story of the Wright Brothers at Kitty Hawk as told through their own words and photographs.

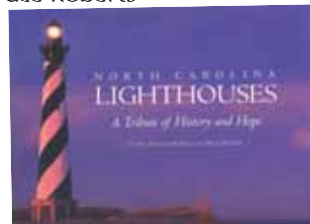
Contains key historic photographs and excerpts from the brothers' journals. Get a feel for how the brothers thought and their experiences with life at Kitty Hawk at the turn of the century as well as process of experimentation and invention. \$10.95

DVD Kitty Hawk

Special Collector's Edition, 115 minutes on two disks. Features hundreds of rare and unpublished photographs plus commentary from leading Wright experts. Costumed actors recreate life at Kitty Hawk and the brothers' experiments. Footage includes replicas of various Wright Flyers as well as original footage in Europe and America. \$24.95



North Carolina Lighthouses: A Tribute of History and Hope by Cheryl Shelton-Roberts and Bruce Roberts



For more than 200 years, North Carolina's lighthouses warned seamen of the dangers of our treacherous and ever-changing coastline. The seven surviving sentinels are revered as an integral part of North Carolina's maritime history and a symbol of pride for its residents. This book details with beautiful color photographs and insightful text each lighthouse, its history, specifications and keepers. It also details the move of the Cape Hatteras Lighthouse in 1999, the U.S. Life-Saving Service, "Torpedo Junction" and the Graveyard of the Atlantic. \$29.95



First Flight By Tom Crouch

Part of the National Park Handbook series: #159. Full of colorful illustrations and packed with lots of information about the quest for flight, the Wright brothers and the legacy they left. A great resource for school projects; includes information about both the Wright Brothers National Memorial and Dayton Aviation Heritage National Historical Park. \$6.00

War Zone: WWII Off North Carolina's Outer Banks

Directed by Kevin Duffus
In 1942, the United States suffered one of its worst defeats of WWII, not in Europe or the Pacific but along the nation's eastern seaboard. For six months, more than 65 German U-boats hunted Allied ships practically unopposed within view of Outer Banks communities. In all, 397 ships were sunk or damaged, and nearly 5,000 sailors and civilians were killed. Take a historic journey through time and explore the battles on the home front with award-winning director Kevin Duffus. \$19.98

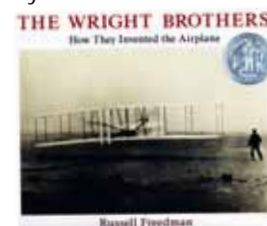


Roanoke: Solving the Mystery of the Lost Colony by Lee G. Miller
What really happened to the colonists of Roanoke Island? There are many theories of the fate of the colonists, due to lack of physical evidence. Ms. Miller, an

ethnohistorian and anthropologist, draws her own conclusions on the fate of the famous "lost colonists." She paints a remarkable picture of betrayal, treachery and murder. \$16.00



The Wright Brothers: How They Invented the Airplane By Russell Freedman



A Newbery Honor Book loaded with key photographs and informative text for all ages of readers. Learn the story of how the Wrights discovered flight and brought their dreams to life through both their struggles and the victories that chronicled their remarkable tale of discovery, experimentation and invention of powered, controlled flight. \$14.95

Wright Brothers National Seashore Pin and Patch

(America's National Parks Collector Series)
A century ago, wind, sand, and a dream of flight brought Wilbur and Orville to the Outer Banks of North Carolina. Here the first successful airplane flight took place on December 17th, 1903. Magnets and decals also available. \$5.95



Cape Hatteras National Seashore Patch & Pin (America's National Parks Collector Series)

Cape Hatteras National Seashore was established by Congress as America's first national seashore. Magnets and decals also available. \$5.95

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- All prices subject to change.
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