



# In The Park

## CAPE HATTERAS NATIONAL SEASHORE

Programs and Activities... Page 8-11

## WRIGHT BROTHERS NATIONAL MEMORIAL

Programs and Activities... Page 18-19

## FORT RALEIGH NATIONAL HISTORIC SITE

Programs and Activities... Page 20-21

### WHAT'S INSIDE:

Be a Junior Ranger  
..... page 2

Frequently Asked  
Questions  
..... page 3

Ocean Safety  
..... page 4

Beach Driving Info  
..... page 5

Seashore Protected  
Species  
.....page 6-7

Climbing the Cape  
Hatteras Lighthouse  
..... page 14

Park News  
.....page 16-17

*The Lost Colony!*  
Elizabethan Gardens  
..... page 22

National Wildlife  
Refuges  
..... page 23



SUMMER  
2009



# Welcome To The Park

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



Eastern National is a non-profit organization that provides quality educational products and services to the visitors to America's national parks and other public trusts. Eastern National operates educational outlets in over 170 national parks and public lands in 30 states. Since 1947, Eastern National has donated over \$89 million to the National Park Service. For more information, visit [www.easternnational.org](http://www.easternnational.org). Check out our sales items on the back page, visit our bookstores in the parks or visit us online at [www.eparks.com](http://www.eparks.com).

#### Cover Photo

National Park Service Ranger Liz Schilder and Junior Ranger Julie Paris enjoy a moment together at the 1903 First Flight Sculpture at Wright Brothers National Memorial.

**Photo credit: Joyce Edwards**

#### Published By

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



*Superintendent Michael B. Murray*

## Superintendent's Message

National parks have always been places to recreate, relax and create memories. They are part of our individual pasts and our collective memory as a country. Setting aside public land is a defining characteristic of our national identity. Today, national parks are of growing importance to this nation. The amount of time children spend outdoors is shrinking, along with the amount of open space in our country.

The national parks of the Outer Banks provide endless opportunities to explore, discover, and spend time with loved ones. In these parks, you can share the excitement of colonists who risked everything to discover a new world. You can feel the exhilaration of two brothers when their dream of the impossible became a reality. You can discover the wonders of barrier islands and the creatures that call them home. These are your parks and your places to treasure for years to come. We thank you for making our nation's heritage part of your family tradition and look forward to seeing you out in the parks!



## 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.

Along the Outer Banks, children ages 5-13 can 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. If you complete only the booklet, you will earn a Junior Ranger badge. Get your booklet from any of the three Seashore visitor centers located at the Bodie Island Lighthouse, the Cape Hatteras Lighthouse and near the ferry dock in Ocracoke Village.

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 your Junior Ranger award. 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.

**W**e want your visit to the Seashore to be safe and enjoyable. By following these guidelines, we can all protect and maintain this spectacular 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. The cost is \$20 per site, except at Ocracoke; it is \$23. Oregon Inlet and Frisco campgrounds will close Monday, October 12. Ocracoke will close October 26. 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 12 a.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.

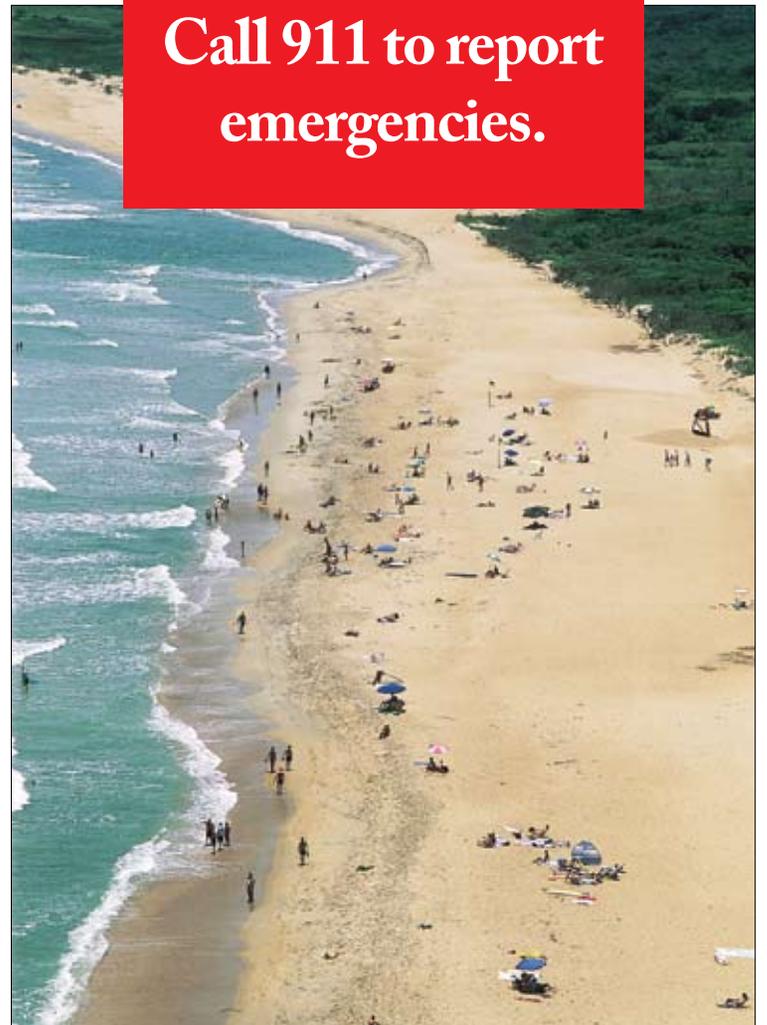
### May We Shoot Fireworks?

No. Fireworks are not allowed in any National Park Service area. Fireworks are not allowed in Nags Head or on Hatteras or Ocracoke Islands.

### 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?

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. 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 NPS campgrounds, where horseback riding is prohibited. Riders are strictly enforced 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 unoccupied seashells 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.

**For information on Beach Driving, see page 5.**

# 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 sand, 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. The surfboard's fin can cut you.
- Always use sunscreen.

## HOT Dangers of Heat

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 10:00 a.m.-5:30 p.m. daily, May 23-Sept. 7 at the following locations [approximate GPS]:

- Cape Hatteras, adjacent to the Old Lighthouse site. [35.254871, -75.523024]
- Ocracoke Island, 1½ miles south of the NPS Campground, or ½-mile north of Ocracoke Village. [35.108025, -75.954001]
- Coquina Beach Day Use Area, located across from Bodie Island Lighthouse. [35.832158, -75.558794]

Lifeguards can answer questions on swimming safety and weather conditions.





## Off-Road Vehicle Management Planning and Regulation

The National Park Service (NPS) is developing an off-road vehicle (ORV) management plan and regulation for Cape Hatteras National Seashore.

The ORV plan is being developed through the required National Environmental Policy Act (NEPA) process. 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. A draft

environmental impact statement is expected to be ready for public review and comment during the fall of 2009. The target date for completion of the plan is December 31, 2010.

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 process that establishes a negotiated rulemaking advisory committee consisting of the agency and interest groups involved in the issue to collaborate on a proposed solution.

In December 2006, the Sec-

retary of the Interior established a negotiated rulemaking committee to assist the NPS with the development of an ORV management alternative and regulation for Cape Hatteras National Seashore. The committee completed its work in March 2009. Although the committee did not reach consensus on an ORV management recommendation, the NPS will consider the committee's work and advice as it prepares the plan through the NEPA process and the regulation through the traditional rulemaking process. The target date for completion of the ORV regulation is April 1, 2011.

### Consent Decree

In October 2007, Defenders of Wildlife and the National Audubon Society, represented by the Southern Environmental Law Center (plaintiffs), filed a lawsuit against the NPS alleging inadequacies in management of protected species at Cape Hatteras National Seashore and failure of the park to comply with the requirements of off-road vehicle (ORV) executive orders and NPS regulations regarding ORV use.

The species identified for 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 species of special concern) and several species of

sea turtles (federally listed threatened and endangered).

In April 2008, a U.S. District Court Judge signed a consent decree to settle the lawsuit. The consent decree was agreed to by the plaintiffs and the NPS and by Dare and Hyde counties and a coalition of local ORV and sport fishing groups (Cape Hatteras Access Preservation Alliance), which participated in the lawsuit as interveners. The consent decree, which is enforceable by the court, provides for specific species protection mandates and requires the NPS to complete an ORV plan and required special regulation by December 31, 2010 and April 11, 2011 respectively.

To meet the legal requirements of the consent decree, the NPS must: (1) increase the frequency and degree of monitoring and protection of certain shorebird and

all sea turtle species; (2) establish and enforce larger protective closure areas around nesting areas; (3) mark, monitor and enforce pedestrian and ORV corridors along the shoreline; and (4) enforce a prohibition of vehicles on seashore beaches between 10 p.m. and 6 a.m., May 1 - November 15, with a permit system to be established for night driving September 16 - November 15.

Under the consent decree, if violations of protected species closures disturb or harass wildlife or vandalize closure fencing, nests or plants, then the closure boundaries are mandated to expand an additional 50 meters for the first violation, 100 meters for the second and 500 meters or more for the third. The penalties of closure violations include a fine of up to \$5,000 and/or imprisonment up to 6 months.

## 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:

- Protected species closure violations that disturb or harass wildlife, or vandalizes fencing, nests, or plants are mandated to expand 50 meters for the first violation, 100 meters for the second, and 500 meters or more for the third. Closure violations may have up to a \$5,000 fine and or imprisonment up to 6 months in jail.
- Drive only four-wheel-drive vehicles on the beach.
- Vehicles are not allowed on park beaches 10 p.m. to 6 a.m. from May 1 to Sept. 15. A night driving permit is required Sept. 16 to Nov. 15.
- 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.
- The maximum speed limit is 25 m.p.h. unless otherwise posted.
- Driving or parking on dunes and/or vegetation is strictly prohibited. Access the beach only by designated ramps.

To keep updated on the planning process, go to <http://parkplanning.nps.gov/caha>. To join the park's ORV planning update list-serve, send an email to [caha\\_orv\\_mgt@nps.gov](mailto:caha_orv_mgt@nps.gov).

# Protecting Nesting Birds at Cape Hatteras National Seashore



*Least tern with eggs in nest.*



*Piping plover with chicks.*



*American oystercatcher feeding.*

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 successful-

ly. 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 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 1800's 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.

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.

## 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 vandalism of fencing, nests, or plants; the closure is mandated to be expanded 50 meters for the first violation, 100 meters for the second, and 500 meters 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. Keep cats indoors. 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.

## Cats and Dogs and Birds on the Beach...

# A Deadly Combination

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.



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 come here to eat, to nest, and just to hang out in the warm waters by the Atlantic Ocean's Gulf Stream.

Unfortunately, all seven species of sea turtles in the world are either threatened or endangered and need special protection. Of these seven species, five can be found in the waters off Cape Hatteras: loggerhead, green, leatherback, Kemp's ridley and

hawksbill. The loggerhead is the most numerous and is known for its big head and appetite for crabs and whelks. Green sea turtles can reach about 400 pounds and are the only sea turtles that are vegetarian. Leatherbacks are the largest of their kind. They 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 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 nest on park beaches.

Loggerhead sea turtles can lay about five nests a season every

other year, once they reach maturity at 20 to 30 years old. These large lumbering turtles crawl out of the ocean onto the beach, dig a hole using their back flippers, and lay their eggs in the hole. They then carefully cover the eggs with sand and slowly, using light cues, return to the sea.

The 100 or so eggs that the turtle lays will incubate for about two months. During that time, the leathery ping pong ball-sized eggs are susceptible to predators, beach erosion, and flooding from ocean waters. The temperature of the sand surrounding the eggs will determine if the hatchlings are males or females.

When the little turtles hatch and start the long climb through the sand to the top of the nest, 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 where they swim until they reach the Gulf Stream and its protecting floats of seaweed. It is estimated that sea turtles spend more than 10 years floating around in these seaweed nursery areas before returning to the coast. Even then, it will be an additional 15 years before they can lay a nest of their own.

Many sea turtles attempt to return to the beach they hatched from to lay their own nests but, after 25 years, the beach may

### What Can I Do to Help?

- 1. Beach Lighting:** To avoid confusing nesting turtles and hatchlings, turn off all outdoor lights in beachfront houses from dusk to dawn, and turn off all interior lights when you go to bed.
- 2. Beach Furniture:** Turtles can become entangled by chairs, tents and umbrellas left on the beach. Please take everything in at the end of the day.
- 3. Trash:** Dispose of your garbage properly. Turtles have been known to eat things such as plastic bags thinking it was food and then die as a result. Don't release balloons outside because deflated balloons look like food to many marine creatures.
- 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 to avoid hitting turtles with 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 hatchlings. Violations will result in expanded closures.
- 7. Don't Feed Wildlife:** Feeding wildlife, including feral cats, increases the population of animals that prey on sea turtle eggs and hatchlings to an unnatural level.
- 8. Playing on the Beach:** Deep holes in the sand or tall sandcastles can be hazards to nesting sea turtles and hatchlings. At the end of each day, fill in your holes and jump on your sandcastles.
- 9. Beach fires:** Fires are prohibited from 12 a.m. to 6 a.m. to protect nesting turtles and hatchlings.

have changed. Development of beaches, artificial lighting and other human disturbances can change where and when turtles

lay their nests, sometimes making the nests unsuccessful. There are other risks for sea turtles as well. In many parts of the world, sea turtles and their eggs are still hunted for food or traded for money. Worldwide, the commercial

fishing industry accidentally kills thousands of turtles a year. It is estimated that only one in 1,000 hatchlings survives to maturity.

Cape Hatteras National Seashore is committed to ensuring that sea turtles have a safe environment in which to nest



and hatch. Every morning, park staff looks for sea turtle tracks and nests. All sea turtle nests are protected from the impacts of pedestrians and off-road vehicles by closing the nest area with posts and string. On day 50 of incubation, the nest's closure is extended to

the surf to protect the hatchlings and their journey to the ocean's edge. After the hatchlings have emerged, the closure is removed.

### 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 a Ranger:** 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, call and report the location. It is important that park personnel collect samples 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 dead turtle that has orange spray paint on it has already been reported.

# Cape Hatteras National Seashore Ranger Programs • Summer 2009

Programs listed below will be offered **May 22 - September 7, 2009**. The schedule may change without notice. Programs are subject to weather. Sunscreen and bug repellent are recommended for all outdoor programs.

## Program Locations:

(number in circle corresponds to program location number on map, pages 12 & 13)

- program offered on Bodie Island, see schedule on page 9
- program offered on Hatteras Island, see schedule on page 10
- program offered on Ocracoke Island, see schedule on page 11
- \* - indicates that you need to sign up in advance.



### Banker Ponies **20** (30 minutes)

Learn more about their mysterious origin, unique physical attributes and survival skills.

### Barrier Island Nature **5 12 25** (30-45 minutes)

Learn how to protect unique seashore resources such as nesting shorebirds and sea turtles and their precious habitats. Check at the visitor center to learn the topic of the day.

### Cast Netting **\*** (1 hour)

Casting a net from shore is one of the oldest methods of fishing. Give it a try or just come to observe the action. You're welcome to bring your own cast net. Wear wading shoes. Limited to 25 participants. Pre-register at the Hatteras Island Museum beginning the Saturday prior to the program.

### Coast Guard Station Tour **\*** (1 hour)

The U.S. Coast Guard and its predecessor, the U.S. Life-Saving Service, have a long and heroic history on the Outer Banks. Join us to tour an active U.S. Coast Guard Station. Limited to 20 participants. Pre-register at the Bodie Island Visitor Center beginning the Saturday prior to the program.

### Crabbing with a Ranger **\* \*** (1½ hours)

Learn all about blue crabs and try your hand at catching them! Limited to 25 participants. Pre-register, based on program location, at either the Bodie Island or Ocracoke Island Visitor Center. Bring bait (raw fish or chicken parts) and wading shoes.

### Especially for Kids **1 12 25** (30-45 minutes)

Hands-on activities allow kids to have fun and learning about the seashore. Check at the visitor center to learn the topic of the day.

### Evening Campfire **4 11 22** (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 blanket, flashlight and bug spray.

### Explore the Shore **2 23** (1 hour)

Join a ranger for a walk along the beach to explore these ever-changing barrier islands. Wear wading shoes.

### Fish with a Ranger **\*** (2 hours)

Learn the sport of surf casting and fishing. We have poles but you **MUST** bring the bait! Limited to 15 participants. Pre-register in person at the Hatteras Island Museum beginning the Saturday prior to the program.

### Graveyard of the Atlantic **5 12** (30 minutes)

Countless ships have met their end off the Outer Banks. Learn how storms, shoals, war and commerce have contributed to the wreckage, and hear stories of those who risked their lives to save the victims.

### Moonlight Climb **\*** (1 hour)

Join us for a guided tour of the Cape Hatteras Lighthouse... at NIGHT! You will need to pre-purchase Moonlight Climb tickets in person between 8:15 a.m. and 5:30 p.m. at the lighthouse ticket booth on the day of the climb. Each program is limited to 15 participants. Tickets are nonrefundable and children must be at least 42" tall. Bring a flashlight -- there are no lights inside the tower. For prices and climbing tips, see page 14.

### Morning Bird Walk **15 18** (1½ to 2 hours)

The Outer Banks is well known for its abundant bird life. Come explore their beach and salt marsh habitats. Beginner and experienced birders are welcome. Binoculars are available.

### Night Lights **2 9 24** (1 hour)

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 constellations. Find out why protecting the dark is valuable to both people and wildlife.

### Old Days at the Weather Station **17** (45 minutes)

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

### Outer Banks History **5 25** (30 minutes)

Hear of life along the Outer Banks. Topics can include shipwrecks, the Civil War, German U-boats or hurricanes. Check at the visitor center to learn the topic of the day.

### Pirates! **5 12 25** (30 minutes)

In the 1700s, pirates frequently visited the Outer Banks. Find out why the area was so attractive to pirates and how the golden age of piracy dramatically ended.



### Seashore Arts **\*** (1 hour)

Bring a cotton T-shirt or pillow case to create a seashore-inspired masterpiece. Limited to 16 participants. Pre-register at the Hatteras Island Museum beginning the Saturday prior to the program.

### Sentinel of the Shore **5 12** (30 minutes)

Learn about the rich history of, and future plans for, the park's majestic lighthouses.

### Soundside Seining **6 8 16 19** (1 to 1½ hours)

Join a ranger and discover the wonders of the Pamlico Sound. We use seining nets to seine, or scoop, creature from the water. Wear wading shoes.

### Soundside Snorkel **\*** (1½ hours)

The shallow waters of the Pamlico Sound are home to an array of small fish, shrimp and crabs. Limited to 20 participants. Pre-register at the Hatteras Island Museum beginning the Saturday prior to the program.

### Village Walking Tour **25** (1 to 1½ hours)

Stroll through the streets of Ocracoke and discover the history of the village. This ranger-led walk will cover approximately one mile and many of Ocracoke's historic sites. Wear comfortable shoes and bring water.

# Things to Do on Bodie Island

(see map pages 12 & 13 for locations) [approximate GPS]

## • Spend a Day at the Beach

The Coquina Beach Day Use area, located across from the entrance to the Bodie Island Lighthouse on NC-12, is the perfect place to spend a beach day with your family. This area offers showers, changing rooms, restrooms, parking, and a boardwalk for easy accessibility. Life-guards are on duty until Labor Day from 10 a.m. to 5:30 p.m. [35.832158, -75.558794]

## • Go Fishing

Surf fishing is a popular activity along the seashore, and most of the beach and sound is open to fishing. You will need a NC Coastal Recreational Fishing License, which can be purchased at one of the numerous local tackle shops while finding bait, equipment, and fishing tips.

## • Bodie Island Lighthouse and Visitor Center

You can visit the grounds of the Bodie Island Lighthouse day or night. At night, you can witness the beauty and craftsmanship of the historic Fresnel lens, shipped from Paris in 1871. During the day, be sure to see the visitor center and Eastern National bookstore in the historic Double Keeper's Quarters. [35.818614, -75.563514]

## • Go Birding

Whether you are a beginner or an expert, the marshes and ponds behind the Bodie Island Lighthouse offer a variety of species. There are boardwalks and observation decks overlooking the area. [35.818614, -75.563514]

## • Oregon Inlet Fishing Center

Tuna? Wahoo? Want to see what's biting today? The charter fishing boats return to the marina between 3 p.m. and 5 p.m. and display the catch of the day. [35.797331, -75.547829]

## • Propeller Exhibit

At the end of the Oregon Inlet Marina parking area, you will find a large propeller that belonged to the *Dionysus*, a Liberty ship built in Baltimore in 1944. This ship served in the Pacific during WWII and in the Korean War. In 1978, the ship was sunk southeast of Oregon Inlet as part of an artificial reef program. [35.794625, -75.548193]

## • Pea Island National Wildlife Refuge

South of the Oregon Inlet bridge is Pea Island National Wildlife Refuge. The refuge visitor center is 8 miles south of Bodie Island Lighthouse and has much to offer about the wildlife of the area. Across from the refuge visitor center, you can see the *Oriental*, a civil war steamer that wrecked in 1862. [35.716731, -75.493830]

## • Explore the Sound

New Inlet opened during a 1933 hurricane, but, soon after a bridge was erected, the inlet closed. Now, this soundside access is great place to put in a kayak or explore the sound. If you want to know more about the things you find in the sound, join a ranger for a seining program. [35.675265, -75.481052]



BODIE ISLAND							
(circled number is location code ~ see map pages 12 & 13)							
(#) Program is ADA Accessible • [approximate GPS]	Sun	Mon	Tue	Wed	Thurs	Fri	Sat
<b>Crabbing with a Ranger</b> <i>Pre-register - see page 8</i>				8:30		8:30	
<b>Explore the Shore</b> 2 Coquina Beach Bathhouse [35.832158, -75.558794]					9:30		
<b>Especially For Kids</b> 1 Sandcastle Environmental Education Center (located at north end of Coquina Beach parking lot past bathhouse) [35.833750, -75.559148]		2:00	9:30	9:30	2:00	11:00	
<b>Graveyard of the Atlantic</b> (#) 5 Bodie Island Visitor Center [35.818292, -75.564115]	2:00		11:00			10:00	
<b>Sentinel of the Shore</b> (#) 5 Bodie Island Visitor Center [35.818292, -75.564115]		11:00	3:00	11:30	11:00		11:00
<b>Outer Banks History</b> (#) 5 Bodie Island Visitor Center [35.818292, -75.564115]	11:00					3:00	
<b>Pirates!</b> (#) 5 Bodie Island Visitor Center [35.818292, -75.564115]			2:00				
<b>Soundside Seining</b> 6 Far end of the Oregon Inlet Marina charter boat parking area (park by the propeller) [35.794625, -75.548193]				2:30			
<b>Barrier Island Nature</b> (#) 5 Bodie Island Visitor Center [35.818292, -75.564115]	3:30	3:30		3:30	3:00	2:00	2:00
<b>Coast Guard Station Oregon Inlet Tour</b> <i>Pre-register - see page 8</i>	4:00			4:00			
<b>Evening Campfire</b> 4 Beach Access Ramp - S. end of Coquina Beach Parking Lot [35.830009, -75.557817]					8:00p.m.		
<b>Night Lights</b> 2 Coquina Beach bathhouse [35.832158, -75.558794]		8:45p.m.					

# Things to Do on Hatteras Island

(see map pages 12 & 13 for locations) [approximate GPS]

## • Cape Hatteras Lighthouse

Climbing the tallest lighthouse in the country is a unique experience. The Cape Hatteras Lighthouse is open for climbing until October 12, 2009. See page 14. [35.250543, -75.529021]

## • Visit the Old Lighthouse Site

In 1999, the Cape Hatteras lighthouse was moved 2900 feet. Today, the original site for this lighthouse is marked with granite blocks engraved with the names of the former lighthouse keepers. [35.254871, -75.523024]

## • Spend a Day at the Beach

Located near the Old Lighthouse Site, the Lifeguarded Beach offers lifeguards until Labor Day from 10 a.m. to 5:30 p.m. Seashore beaches are ideal for fishing and shell hunting. Please do not take shells with the animals still in them. Take only empty shells. [35.254871, -75.523024]

## • Go Birding

Whether you are a beginner or an expert, Hatteras Island is a great place to see a variety of bird species. The ponds along the road entering the lighthouse area are a good place to start, or join a ranger for Morning Bird Walk.

## • Hatteras Island Visitor Center/Bookstore

Located near the lighthouse, the visitor center and bookstore is your stop for orientation and educational sales items. The visitor center is open 9 a.m. to 6 p.m. May 22 to Labor Day, and 9 a.m. to 5 p.m. the remainder of the year. [35.25124, -75.52842]

## • Hatteras Island Museum

The Hatteras Island Museum is located inside the Double Keeper's Quarters next to the Cape Hatteras Lighthouse. Learn about shipwrecks, U-boats, the U.S. Life-Saving Service and more. The museum has the same hours as the visitor center. [35.251222, -75.530008]

## • Buxton Woods Trail

Take a break from a beach day by exploring the Buxton Woods Trail, a ¾-mile loop, located near the entrance road to Cape Hatteras Lighthouse parking lot. Enjoy the shade and experience a maritime forest with its variety of birds, dragonflies, and other creatures. Picnic tables are available. Bring bug spray. [35.252913, -75.528989]

## • Explore the Sound

Join a ranger for a seining program or explore the sound side of the islands on your own. Salvo Day Use Area and Haulover Day Use Area offer parking, restrooms, and access to the water.

## • Hatteras Island U.S. Weather Bureau Station

Located in the heart of Hatteras Village, the U.S. Weather Bureau built this station in 1901. Now an Outer Banks Visitors Bureau Welcome Center, it is open to the public daily from 9 a.m. to 5 p.m. You may also enjoy the ranger-led program held on site. [35.220486, -75.690576]

## • Civil War Markers

The barrier islands hold a rich and unique Civil War history. Visit various markers on Hatteras Island including those located in the parking area of the Graveyard of the Atlantic Museum [35.206285, -75.703772] and across from the Weather Station in Hatteras Village. [35.220486, -75.690576]



HATTERAS ISLAND							
(location code number ~ see map pages 12 & 13)							
(#) Program is ADA Accessible • [approximate GPS]	Sun	Mon	Tue	Wed	Thurs	Fri	Sat
<b>Morning Bird Walk</b> <b>15</b> Fish cleaning tables near Ramp 44 [35.233018, -75.530319]				8:00			
<b>Fish with a Ranger</b> Pre-register - see page 8			8:00		8:00		
<b>Soundside Seining</b> <b>8 16</b> See specific day location [H 35.299230, -75.513979; SB 35.220963, -75.656710]		8:30 <sup>(8)</sup>				8:30 <sup>(16)</sup>	
<b>Cast Netting</b> Pre-register - see page 8				9:30			
<b>Graveyard of the Atlantic</b> (#) <b>12</b> Hatteras Island Visitor Center Pavilion [35.251025, -75.528222]	10:00	10:00	10:00	10:00	10:00	10:00	10:00
<b>Especially For Kids</b> (#) <b>12</b> Hatteras Island Visitor Center Pavilion [35.251025, -75.528222]	11:00	11:00	11:00		11:00	11:00	11:00
<b>Seashore Arts</b> (#) Pre-register - see page 8				11:00			
<b>Sentinel of the Shore</b> (#) <b>12</b> Hatteras Island Visitor Center Pavilion [35.251025, -75.528222]	12:00 5:00	12:00 5:00	12:00 5:00	12:00 5:00	12:00 5:00	12:00 5:00	12:00 5:00
<b>Soundside Snorkel</b> Pre-register - see page 8		2:30				2:30	
<b>Barrier Island Nature</b> (#) <b>12</b> Hatteras Island Visitor Center Pavilion [35.251025, -75.528222]	3:00	3:00	3:00	3:00	3:00	3:00	3:00
<b>Old Days at the Weather Station</b> <b>17</b> Hatteras U.S. Weather Bureau Station [35.220486, -75.690576]			3:30		3:30		
<b>Pirates!</b> (#) <b>12</b> Hatteras Island Visitor Center Pavilion [35.251025, -75.528222]	4:00	4:00	4:00	4:00	4:00	4:00	4:00
<b>Evening Campfire</b> <b>11</b> Lifeguarded Beach [35.254871, -75.523024]			8:00p.m.				
<b>Moonlight Climb</b> Pre-register - see page 8					8:00p.m. 9:00p.m.		
<b>Night Lights</b> <b>9</b> Old Lighthouse site parking lot [35.254871, -75.523024]				8:45p.m.			

Video Presentations Shown | 10:30 | 12:00 | 12:30 | Daily at the Hatteras Island Museum



# Things to Do on Ocracoke Island

(see map pages 12 & 13 for locations) [approximate GPS]

## • Ocracoke Island Visitor Center/Bookstore

In the village by the ferry docks, the visitor center has exhibits on key moments in island history and an excellent selection of bookstore items.

[35.116240, -75.986250]

## • Bask at the Beach

The Ocracoke Day Use Area, just north of the village, offers showers, changing rooms, restrooms, parking, and a boardwalk for easy accessibility. Lifeguards are on duty until Labor Day from 10 a.m. to 5:30 p.m.

[35.108025, -75.954001]

## • Ocracoke Lighthouse

The oldest (1823) operating lighthouse in North Carolina has very limited parking, so try biking or walking there.

[35.108438, -75.984907]

## • Go Birding

Ocracoke is a great place to enjoy birding! Try South Point Road or the ponds at the north end of the island near the ferry docks.

## • Ocracoke Ponies

The Banker ponies are an important part of island history. The pony pens are seven miles north of the village. Picnic tables are available. [35.148113, -75.871496]

## • Hammock Hills Nature Trail

From the forest to the salt marsh, this ¾-mile signed loop trail identifies unique plants and animals. The trailhead is across from the NPS campground. Bring bug spray. [35.126262, -75.923896]

## • Ocracoke Preservation Museum

Island history and artifacts are preserved here by the Ocracoke Preservation Society. Entrance is

free. Check for hours and talks. [35.116258, -75.986166]

## • Springer's Point Trail

Within this NC Coastal Land Trust nature preserve, a 1/2-mile loop trail begins on Loop Road, passes through old maritime forest and leads to the Pamlico Sound. Teach's Hole Channel, a popular fishing spot, is where Lt. Robert Maynard killed the pirate Blackbeard. There is no parking at the trailhead.

## • Civil War Memorial

Located in the grassy area at the end of the public parking lot, one marker panel commemorates Fort Ocracoke; the other, Portsmouth and Ocracoke soldiers from both sides of the war.

## • British Cemetery

Here lay the remains of four British sailors whose bodies washed ashore after their WWII ship was attacked by a German submarine. This land was donated to Britain and is maintained by the U.S. Coast Guard.

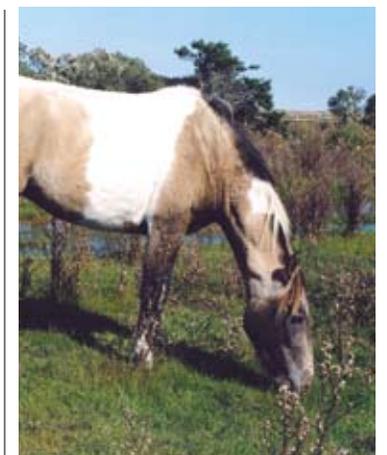
[35.11625, -75.981344]

## • Howard Street

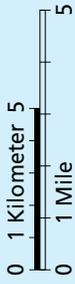
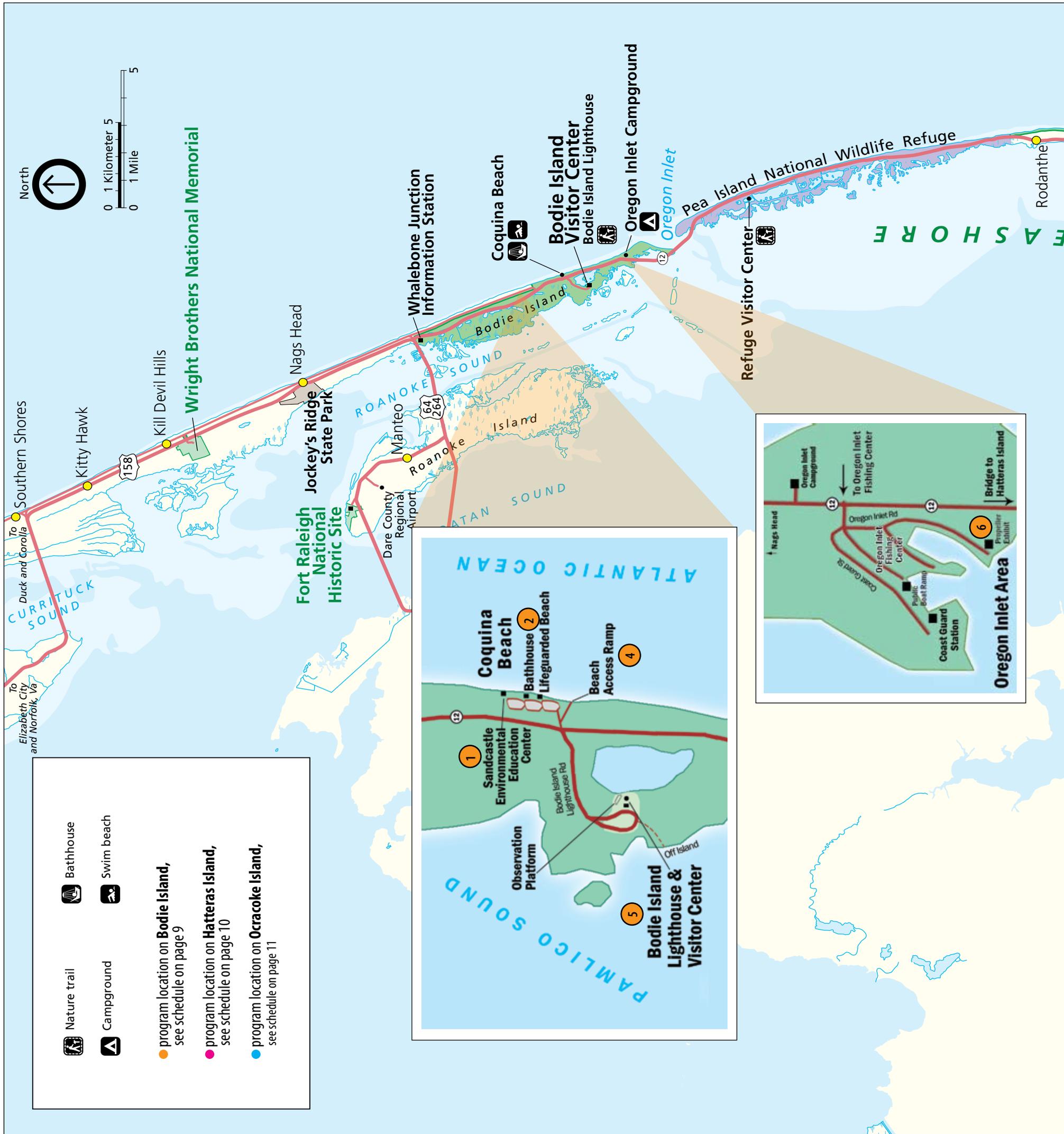
Stroll down one of our oldest streets. In seeing the large live oaks and feeling the oyster shells under foot, you will get a sense of Ocracoke of old.

## • Cape Lookout National Seashore

Just south of Ocracoke lies Portsmouth Island, part of Cape Lookout National Seashore - known for its pristine beaches. The last residents left Portsmouth Village in the 1970s - it is now a historic community preserved by the National Park Service. For a boat shuttle, call Austin Boat Tours (252) 928-4361.

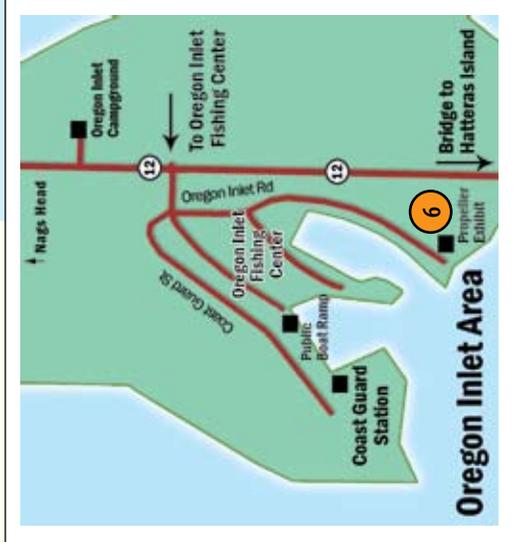
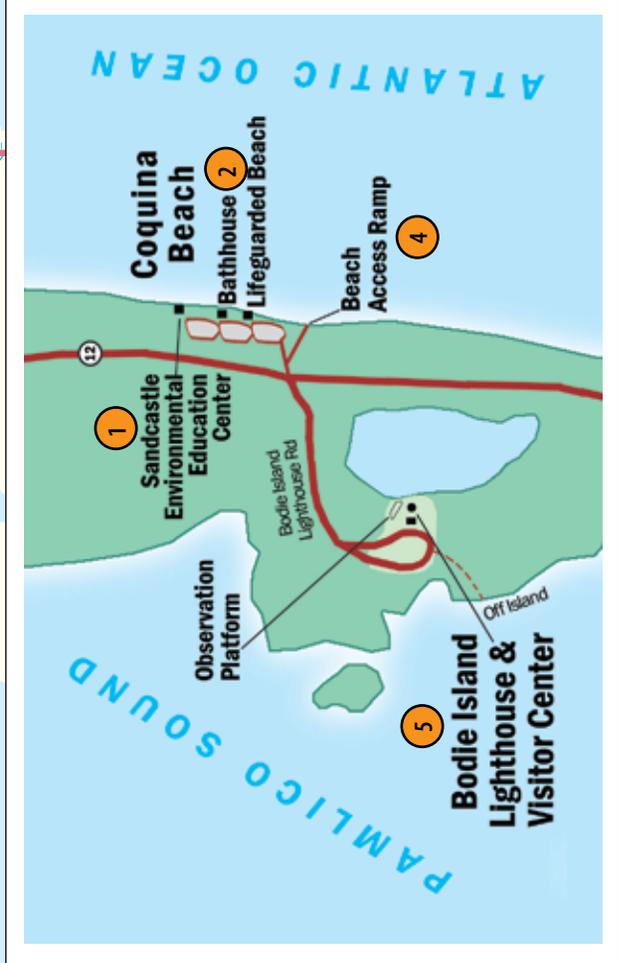


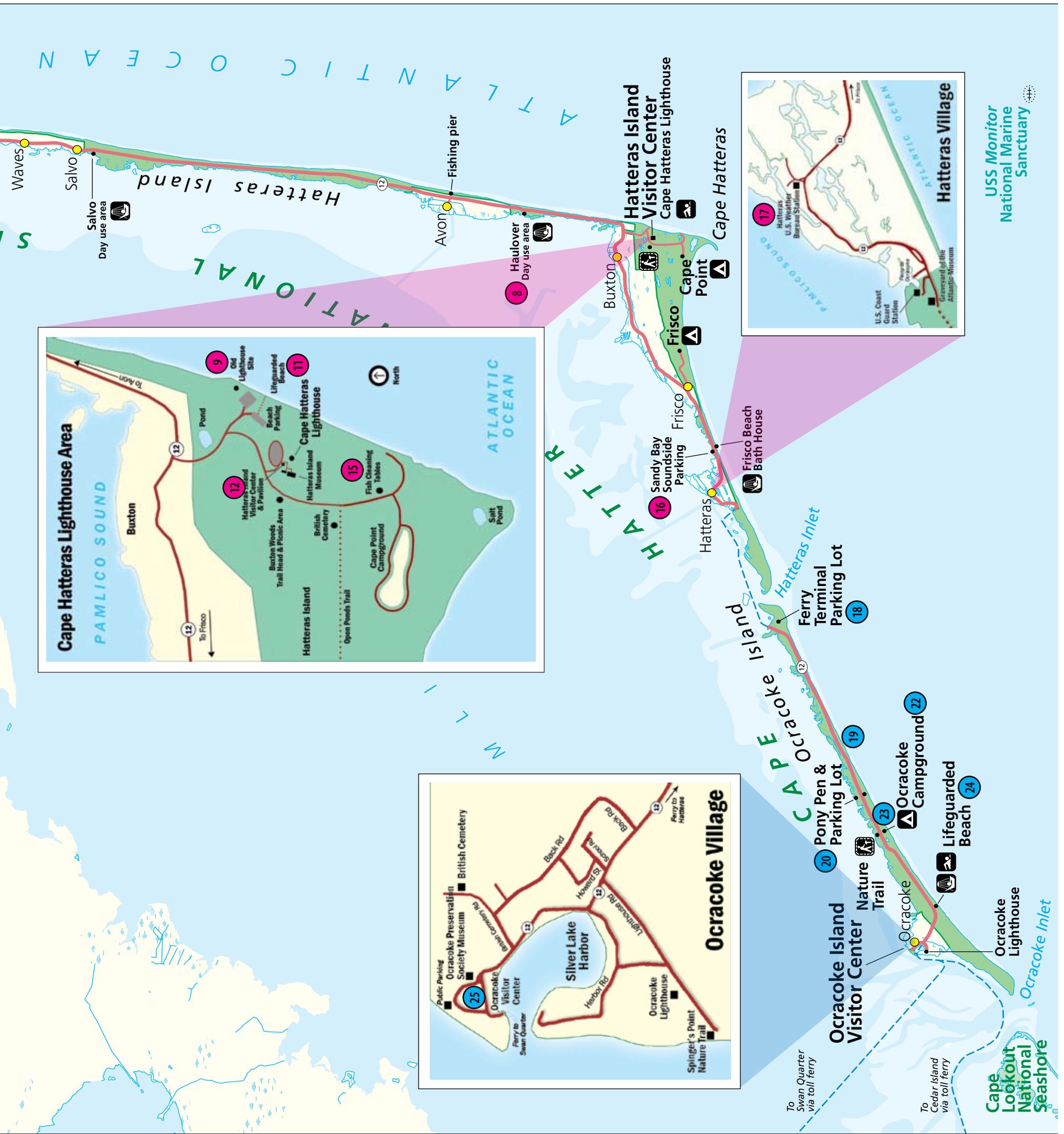
OCRACOKE ISLAND							
(circled number is location code ~ see map pages 12 & 13)							
(#) Program is ADA Accessible • [approximate GPS]	Sun	Mon	Tue	Wed	Thurs	Fri	Sat
<b>Morning Bird Walk 18</b> Hatteras Ferry parking lot on north end of Ocracoke Island [35.189176, -75.779217]				8:00			
<b>Crabbing with a Ranger</b> Pre-register - see page 8			9:30		9:30		
<b>Explore the Shore 23</b> Ocracoke Campground Parking Lot [35.124858, -75.921965]		9:30		10:30		9:30	
<b>Outer Banks History (#) 25</b> Ocracoke Visitor Center [35.116240, -75.986250]		11:00	11:00	11:00	3:30		
<b>Barrier Island Nature (#) 25</b> Ocracoke Visitor Center [35.116240, -75.986250]	11:00		3:00		2:00		11:00
<b>Especially For Kids (#) 25</b> Ocracoke Visitor Center [35.116240, -75.986250]				4:00	11:00	11:00	
<b>Pirates! (#) 25</b> Ocracoke Visitor Center [35.116240, -75.986250]		2:00		1:00		2:00	
<b>Banker Ponies (#) 20</b> Ocracoke Pony Pens [35.148113, -75.871496]	3:00		2:00		3:00		3:00
<b>Soundside Seining 19</b> Parking lot 0.7 miles north of Pony Pens [35.151986, -75.859652]				2:30			
<b>Village Walking Tour 25</b> Ocracoke Visitor Center [35.116240, -75.986250]			5:30p.m.				
<b>Evening Campfire 22</b> Ocracoke Campground Beach [35.124858, -75.921965]				8:00p.m.			
<b>Night Lights 24</b> Ocracoke Lifeguard Beach Parking Lot [35.108025, -75.954001]						8:45p.m.	



-  Nature trail
-  Campground
-  Bathhouse
-  Swim beach

- program location on **Bodie Island**, see schedule on page 9
- program location on **Hatteras Island**, see schedule on page 10
- program location on **Ocracoke Island**, see schedule on page 11





Waves  
Salvo  
Salvo Day use area  
Hatteras Island  
Atlantic Ocean

### Cape Hatteras Lighthouse Area

**9** OM Lighthouse Site  
**11** Lifeguarded Beach  
**12** Hatteras Island Visitor Center & Pavilion  
**15** Fish Cleaning Tables  
**16** Sandy Bay Soundside Parking  
**17** Hatteras U.S. Weather Bureau Station

Buxton  
Pond  
Cape Hatteras Lighthouse  
Hatteras Island Museum  
British Cemetery  
Cape Point Campground  
Salt Pond  
Open Ponds Trail  
Buxton Woods  
Trail Head & Picnic Area  
Frisco  
Frisco Beach Bath House

Atlantic Ocean

### Ocracoke Village

**25** Ocracoke Visitor Center  
**20** Pony Pen & Parking Lot  
**23** Nature Trail  
**22** Ocracoke Campground  
**24** Lifeguarded Beach

Public Parking  
Ocracoke Preservation Society Museum  
British Cemetery  
Silver Lake Harbor  
Ocracoke Lighthouse  
Springer's Point Nature Trail

Back Rd  
Special Rd  
Howard St  
Lighthouse Rd  
Harbor Rd

### Hatteras Village

**17** Hatteras U.S. Weather Bureau Station  
U.S. Coast Guard Station  
Gravesyard of the Atlantic Museum

USS Monitor National Marine Sanctuary

Cape Lookout National Seashore

## 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. Please plan accordingly and allow for extra time.

## 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 Hammock Hills Trail. 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.

## The Cape Hatteras Lighthouse

The Cape Hatteras Lighthouse is the tallest brick lighthouse in the world. Constructed in 1870, it stands 198.5 feet tall. 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.

### Climbing the Lighthouse - What You Need to Know

The climb is strenuous! Climbing to the top is equal to a 12 story building. There is no air conditioning or electricity in the lighthouse. It may be humid, warm and dim inside. Watch your step. Visitors with heart and other medical conditions are strongly discouraged from climbing!

9 a.m. to 5:30 p.m. May 22 to Sept. 7

9 a.m. to 4:30 p.m. Sept. 8 to Oct. 12

\$7 per adult and \$3.50 for seniors, age 62 and older, the disabled, and children younger than 12.

Children MUST be at least 42" tall to climb.

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 ¾-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.

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. The 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 to you 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.

## Study of the Islands' Past & 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 following a dynamic cycle of change. Islands build 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 nar-

row 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 shoal 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

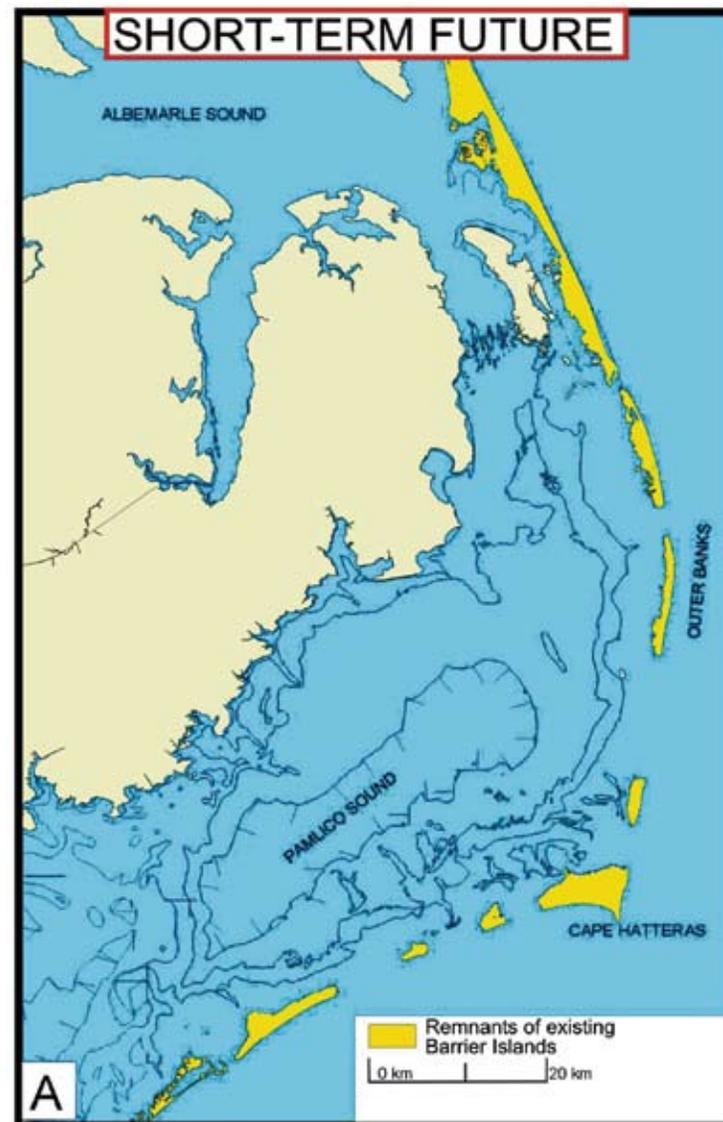
be created, but they can now make an educated prediction concerning the likelihood that an inlet might form at any given location given specific storm types and sizes. An Inlet Vulnerability Index rates sites

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.

Through understanding, the public can learn that by protecting the dynamic coastal processes, we are ensuring the future of these barrier island landforms.



Over the next few decades 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.

### 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 protect 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.

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 where not to build structures, roads and parking lots.

## Be a Volunteer!

Last year, more than over 175,000 volunteers provided more than 5 million hours of service to help preserve and protect the national parks – keepers of our nation's valuable natural and cultural resources.



We enthusiastically salute the 100 volunteers who donated 18,383 hours to Cape Hatteras National Seashore, Wright Brothers National Memorial and Fort Raleigh National Historic Site in 2008! 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.

### Park Watch!

Volunteers are vital to two new programs at Cape Hatteras National Seashore: the Beach Ambassador program, which started in 2007, and the Park Watch program, new this year.

Beach Ambassador volunteers help educate park visitors about potential hazards associated with beach recreation and ocean swimming safety, like rip currents.

Park Watch volunteers will assist in monitoring suspicious, inappropriate, or illegal activities in the park, and also compliance with beach resource closures. This program is intended to help prevent incidents of vandalism, crime and misuse of park resources and properties. For information, contact the park at (252) 473-2111.



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](http://www.usajobs.opm.gov). This website is where all National Park Service job openings are posted, and you can apply directly online. Summer 2010 jobs for Cape Hatteras National Seashore, Wright Brothers National Memorial and Fort Raleigh National Historic Site will likely be advertised in October and November 2009. 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](http://www.nps.gov). Working for the National Park Service could be the experience of a lifetime!



## Restoring the 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.

This past spring, the National Park Service received funds for a restoration project on the 1871 first-order Fresnel lens. The 344 glass prisms will be removed from the lens and carefully packed out of the tower for cleaning. The metal catadioptric panels that hold the prisms and the metal pedestal that supports the lens will be cleaned and restored in place.

The National Park Service also anticipates receiving funds this year for a major restoration project for the Bodie Island Lighthouse to correct structural and safety problems 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, the windows and the framing in the attached oil house;
- Removing lead paint and repainting the interior;
- Replacing electrical lines, conduit, interior lights and lightning protection; and
- Installing a fire detection and suppression system.

The restoration projects for the lens and the tower will each take approximately 18 months to complete. The beacon will not be active during the project period.

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.

## 13th Annual Wings Over Water Festival



A Celebration of  
Wildlife & Wildlands  
in Eastern North  
Carolina

November 3-8, 2009  
(252) 216-WING  
[www.wingsoverwater.org](http://www.wingsoverwater.org)

## Fort Raleigh Archeology Update, 2009

Recent archeological excavations conducted at Fort Raleigh National Historic Site provided discoveries that may help answer some of the many questions regarding the 1587 lost colony – perhaps America's great enigmatic mystery.

In January 2008, ground-penetrating radar and radar tomography surveys were completed to provide a more accurate picture of possible artifacts buried beneath the soil surface. In May 2008, a team of archeologists and geophysicists led by the First Colony Foundation began excavation work within the park. This work included a series of test trenches and two large open area block-style excavation sites.

By June 2008, more than 200 artifacts were recovered. Most were American Indian items from 800-1600 A.D. as well as artifacts that are grouped in a time period that includes the late 16th century – the timeframe of Raleigh's explorers and colonists. These artifacts consisted of broken pottery sherds (both Indian and European), 14 copper alloy square plates, 17 milky-white glass beads, one copper rolled tubular bead (or aiglet), and a red clay Indian tobacco pipe.

Also among the sherds were one crucible sherd from a melting pot used for metallurgy and one sherd from a red Martincamp-type stoneware flask. Red Martin-

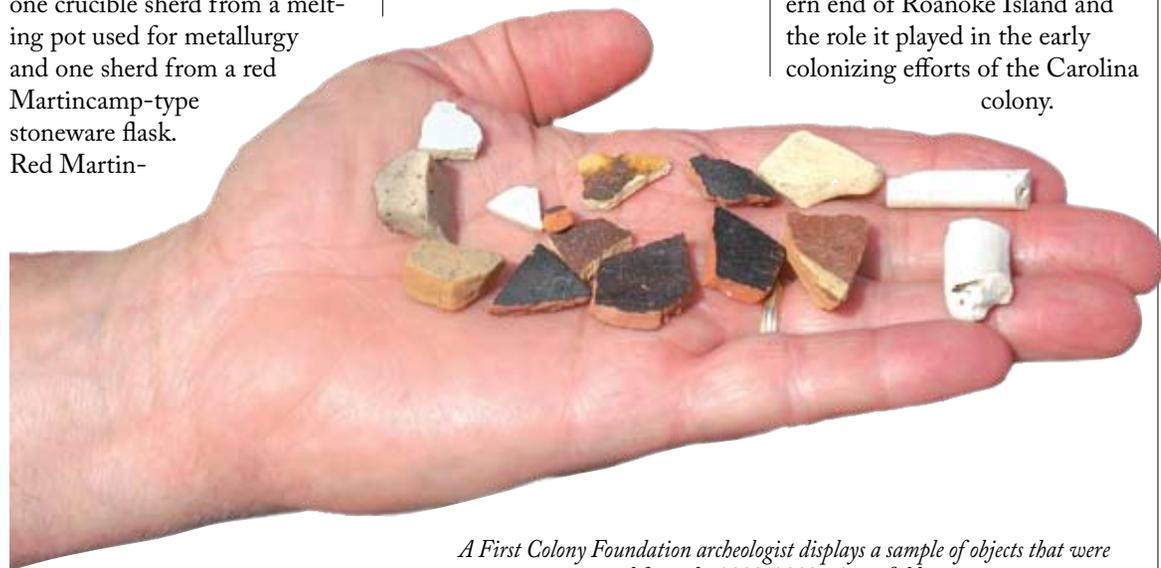
camp stoneware sherd/flasks have been found at Jamestown in the early 1607-1610 context. Additional research and analysis is being done on the sherd found within our park.

The 14 copper alloy square plates were found buried near several oyster shells. The plates were pierced at opposite corners and were lying corner to corner as if they were strung together to drape like a necklace. Interestingly, some dark leather or wood organic material covered the copper plates and was apparently preserved by the copper salts of the plates.

These copper artifacts have the potential to provide important knowledge regarding Indian-European trade patterns and supply networks during the 16th and 17th centuries along the east coast of North America. Scientific analysis of the chemical composition of the copper alloy square plates and the aiglet recovered by the First Colony Foundation will establish their elemental "fingerprint," which will indicate the geographical origins of the metal used to manufacture the artifacts and, in turn, provide insight into both American Indians and European trade networks.

Following up on these discoveries, the First Colony Foundation conducted a focused archeological survey in the Thomas Hariot Nature Trail area of Fort Raleigh in late 2008 into early 2009. The project goal was to define the extent of artifact concentrations and to understand the complex soil stratigraphy in the locality. It was learned that the 16th century ground surface is present throughout all the surveyed areas and beyond, raising the possibility of finding other sites of significance.

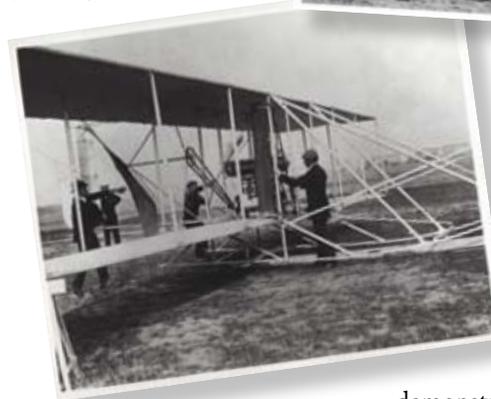
During this winter project, artifact concentrations of late 17th to early 18th century were found within a late English colonial trash midden, or refuse trash heap. Within the midden, First Colony Foundation archeologists recovered several fragments of pottery, hand wrought nails, brass furniture tacks, brass buttons, smoking pipes, lead shot, gunflints and numerous food remains including peach pits, fish, pig and cattle. This 17th-century midden found at Fort Raleigh National Historic Site is significant because it is one of the earliest found permanent English-use sites on the Outer Banks. The discovery reinforces the significance of the northern end of Roanoke Island and the role it played in the early colonizing efforts of the Carolina colony.



*A First Colony Foundation archeologist displays a sample of objects that were recovered from the 2008-2009 winter field survey.*

## The Wrights Fly for the World in 1909

December 17, 1903 marks the date that Wilbur and Orville Wright lived the dream of powered human flight at Wright Brothers National Memorial. But had the brothers stopped after their success here, the rest of the world might have slumbered through this winged dawn. Rather, it was the brothers' subsequent efforts to globalize their aviation technology that shook the world awake. Thus, 1909 -- 100 years ago -- marks



the year that the dream of flight became a waking reality for the whole world.

In 1909, the Wrights concentrated efforts to negotiate a contract with the U. S. government. To do so, they had to

demonstrate the ability to fly two people 125 miles at up to 40 mph. Orville successfully completed the demonstration on August 2, 1909, and shortly thereafter the Wrights sold the first military aircraft to the U. S. government -- one airplane for \$30,000. Once again, the Wrights achieved another aviation milestone, the first flying machine purchased and put into use by any government.

That same month, Orville traveled to Germany to negotiate a contract with the German government. After a series of successful exhibition flights on October 15, Orville fulfilled the contract, thus creating the German Wright Company.

At the Hudson-Fulton Celebration in New York City, in September of 1909, Wilbur electrified more than a million New Yorkers as they got their first glimpse of an airplane in flight. Setting the bar once again, Wilbur flew from Governors Island and around the Statue of Liberty, winning the \$15,000 prize put up by the Hudson-Fulton Commission.

Finally, on November 22, 1909, with a capital stock issue of one million dollars, the brothers were at last able to incorporate a Wright Company in the United States. Wilbur Wright served as president. Orville Wright and Andrew Freedman, a New York financier, were elected as vice-presidents. The board of directors included August Belmont, Robert Collier, Cornelius Vanderbilt and Russell Alger. J. P. Morgan served in the background as a silent partner.

In 1909, the Wright brothers shook the world awake to their aviation achievement and its applications. Just 100 years ago, the Wrights gave the world a new dream – that everything was possible.

*Top Picture: Captivated viewers at Fort Meyer watch the Wrights take to the sky on July 2, 1909. The tower shown in this picture was a catapult that helped launch their 1909 Signal Corps machine.*

*Bottom Picture: As two men turn the propellers, Orville Wright (center, right) starts the engine of the 1909 Flyer, readying for a flight at Templehof Field in Berlin, Germany.*

# Things to Do at Wright Brothers National Memorial

- **Visitor Center –**  
*Park staff and volunteers welcome you to the park!*

Learn about the Wright brothers, the 1903 Wright Flyer and one of the greatest scientific achievements of the 20th century, as told through exhibits and interpretive programs. On display are reproductions of the 1902 glider, 1903 Flyer, the Wrights' first wind tunnel and the original engine block from the 1903 flying machine. Don't miss the original Flyer cloth that Neil Armstrong carried 40 years ago as he walked on the moon. Educational items and memorabilia are available in the bookstore.

- **First Flight Centennial Pavilion –**

*Want to learn more?* Curious about the large bubble-shaped buildings? The Centennial Pavilion houses exhibits dealing with the Outer Banks at the turn-of-the-century, the evolution of aviation, the challenges of flight and NASA-sponsored space exhibits. Visit the Centennial Pavilion and expand your knowledge of our nation's aviation heritage.

- **Reconstructed Buildings –**

*A sense of time and place.* Stroll down a walking path next to the visitor center leading to the first flight area. Stop at the reconstructions of the 1903 wooden living quarters and hangar where the Wright brothers conducted their experiments. The living quarters are furnished with items like those the Wrights would have used, and the hangar replicates the building where the Wrights stored their 1903 Flyer.

- **First Flight Boulder & Markers –**

*The site of the historic first flight!*

Stand on the same spot where the Wright brothers lifted off in the world's first airplane, marked today by the six-ton First Flight Boulder. Journey along the flight path to the numbered markers that indicate where the world's first airplane landed after each of its four flights on December 17, 1903.

- **Wright Brothers Monument and Big Kill Devil Hill –**

*Our nation acknowledges the Wrights.*

Big Kill Devil Hill offers a magnificent view of the Atlantic Ocean, Albemarle Sound, and surrounding scenery. From this old sand dune the Wrights conducted more than 1,000 glider flights. Climb the paths to the top of the hill and visit the 60-foot Wright Monument, which commemorates the Wrights and their achievements in aviation.

To be able to go up the tower itself is a unique experience altogether! Check the schedule on this page for program times. Please walk on the paved walkways – there are lots of spiny cacti on the hill!

- **Airstrip and Pilot's Booth –** *Flight today.*

Love to watch airplanes take off and land? Then, visit the Pilot Facility adjacent to the 3,000-foot First Flight Airstrip. The facility features a computerized weather briefing system, route planning software, navigational charts and restrooms. Picnic tables are available here too.



- **December 17, 1903 Sculpture –**  
*The first flight replicated in life-sized art.*

Recreating the first flight scene, a 10,000-pound bronze and stainless steel sculpture is located behind Big Kill Devil Hill. It offers a new perspective on the famous photograph of the first flight. The sculpture is designed to be hands on, so feel free to explore and climb on the world's first airplane. Just use caution as you climb aboard!

- **August 19, 2009 –**  
*National Aviation Day*

Celebrate the event and the men who gave us the gift of flight. Join us for a fun day as we honor the Wright brothers, flying pioneers and heroes. Pay tribute to the industry that has given man the ability to cross oceans and continents in a matter of hours and probe the reaches of outer space. Activities include guest speakers from the Smithsonian National Air and Space Museum, the Discovery of Flight Foundation and NASA as well as fun and games for the children.

- **July 11th & 12th –**  
*Annual Wright Kite Festival*

It all started here with the Wrights and a kite. Join the National Park Service and Kitty Hawk Kites as we create a feast for the eyes. You'll find enjoyment for all ages with a spectacular kite show put on by larger-than-life kites. See a 100-foot Octopus, a 50-foot scuba diver and many others dance in the air. There will also be stunt kite demos, games, kids kite making and contests. Hours are 10 a.m. to 4 p.m.

## Visitor Center

Open 9 a.m. to 6 p.m.  
May 22 to Labor Day

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

### Summer 2009 Ranger Programs

#### For Kids: Experiments with Flight (30-45 min) 4

Come and explore why and how things fly and the principles that enabled the Wright brothers to get their aircraft off the ground.

#### First Flight Tour (30 min) 2

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) 1

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.

#### For Kids: Fun in Flight (30 min) 4

Experience the fun of building a gliding machine. Design and construct a paper airplane and test the winds of the Outer Banks.

#### For Kids: Wright Kite (30-45 min) 4

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.

#### Life at Kitty Hawk (30 min) 3

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) 1

Follow the progress of Wilbur and Orville and their invention after the first flight. Learn about the Wrights' 1909 historic accomplishments and their impact on future aviation.

#### For Kids: Family Night with Flight (2 hrs) 4

Peak your curiosity! Get an introduction to flight through gadgets and toys, much 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.

#### Monument to the Dream Tour (2 hrs) (Pre-registration required)

Climbing to the top of the Wright Brothers Monument is a unique experience! This tour is limited to 30 participants, and pre-registration begins the Saturday prior to the program by calling the park at (252) 441-7430 x 230. Visitors with heart, respiratory or other medical conditions or who have trouble climbing stairs should use their own discretion as to whether to participate in this tour.

## Park Activities • Summer 2009

Programs listed will be offered from May 22 to Labor Day. The schedule may change without notice. Programs are subject to weather. Sunscreen and bug repellent are recommended for all outdoor programs.

### Program Locations:

(1) Visitor Center Flight Room (2) Visitor Center Rear Patio (3) Reconstructed Camp Buildings (4) First Flight Pavilion Auditorium

WRIGHT BROTHERS NATIONAL MEMORIAL							
(#) Program is ADA Accessible	Sun	Mon	Tue	Wed	Thurs	Fri	Sat
<b>Flight Room Talk (#) 1</b>	10:00 12:00 1:00 2:00 4:00	10:00 11:00 12:00 2:00 4:00	10:00 11:00 12:00 2:00 4:00	10:00 11:00 12:00 2:00 4:00	10:00 11:00 12:00 2:00 4:00	10:00 11:00 12:00 1:00 3:00 4:00	10:00 12:00 1:00 2:00 4:00
<b>First Flight Tour (#) 2</b>		11:30 3:30	11:30 3:30	11:30 3:30	11:30 3:30	11:30 3:30	
<b>Life at Kitty Hawk (#) 3</b>			1:30		1:30		
<b>For Kids: Wright Kite (#) 4</b>	11:00	10:30	10:30		10:30	10:30	11:00
<b>For Kids: Experiments with Flight (#) 4</b>	3:30	1:00	1:00	3:30	3:30	3:30	3:30
<b>For Kids: Fun in Flight (#) 4</b>	1:30	3:30	3:30	1:30	1:30	1:30	
<b>The Wrights Brothers 100 Years Ago (#) 1</b>				1:00	1:00		
<b>For Kids: Family Night with Flight (#) 4</b>			6:30p.m.	6:30p.m.			
<b>Monument to the Dream Tour</b> <i>Pre-register - see program description</i>		8:30a.m.			8:30a.m.		

Video presentations are shown hourly from 10 a.m. to 5 p.m. every day at the First Flight Pavilion Auditorium and are subject to the availability of the auditorium.



# Things to Do at Fort Raleigh National Historic Site

- **Visitor Center -**  
*Your home base at the Fort!*

At the Lindsay Warren Visitor Center, helpful and knowledgeable park rangers and volunteers will acquaint you with stories of Roanoke Island through exhibits, artifacts, and a 17-minute park video.

- **The Earthen Fort -**  
*Reflect on 425 years of a changed America.*

A silent witness of time, the small restored fortification is associated with England's first New World settlement that was sponsored by Sir Walter Raleigh. The trench of the earthen fort is a tangible trace of part of the infrastructure that was built during the 1585-1586 time period. Nearby, an unmarked spot has confirmed evidence of metallurgical activity from the 1585 exploration expedition.

- **The Thomas Hariot Nature Trail -**  
*Take a walk!*

This 20-minute pocket wilderness experience of the island's natural setting offers a glimpse of what Thomas Hariot and the explorers witnessed during their time here. On the trail, wayside signs relate what the English observed of the New World's natural resources and the commodities that could be made from them.

- **Freedmen's Colony Memorial Marker -**  
*An American evolution of freedom for all.*

Located at the corner plaza outside of the visitor center, wayside signs and a memorial marker describe Roanoke Island's role in the Underground Railroad and

discuss one of the first transformations of African Americans from slavery to freedom in a slaveholding state. Learn what happened after the Battle of Roanoke Island during the Civil War.

- **The Freedom Trail -**  
*Take a hike!*

The Freedom Trail leads 1¼ miles one way from the nearby Elizabethan Gardens through the park land to the island's western edge, offering a viewshed that the native Algonquians enjoyed from their island home. At the trail's west end, signs discuss the Civil War Battle of Roanoke Island.

- **Picnic tables -**  
*Bring something to eat!*

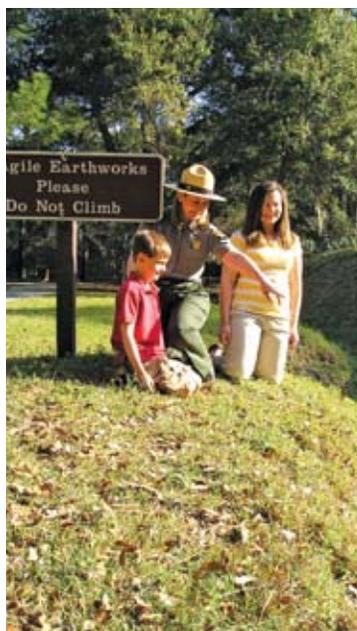
The scenic park grounds are excellent for a family picnic! Several tables are near the visitor center, providing trash receptacles and shade from the summer sun. Whether having a mid-day snack or early evening meal, the facilities are available on a first-come, first-served basis.

- **August 18 -**  
*Virginia Dare's Birthday*

Celebrate Virginia Dare's 422nd birthday as The Elizabethan Gardens, The Lost Colony and Fort Raleigh National Historic Site join together to present a full day of activities your family is sure to enjoy. No birthday is complete without cake and ice cream!

- **Waterside Theater/  
The Lost Colony**  
See information on page 22.

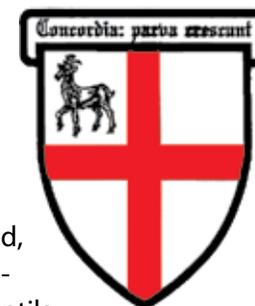
- **The Elizabethan Gardens**  
See information on page 22.



## Construction Zone!

During the summer of 2009, preparations will be underway for the start of a major renovation project at Fort Raleigh National Historic Site. The park's visitor center, the National Park Service Outer Banks Group Headquarters office and The Lost Colony Activities Building will be closed, likely in late summer, and repairs started to fix interior and exterior structural damage, removal of asbestos tile and insulation, replacement of ventilation and HVAC systems, and removal of mold and mildew. The project will last approximately 12-14 months. Temporary facilities will be established onsite to serve as office space, visitor contact station, and bookstore.

The park will remain open to visitors during the construction, but some services may be curtailed.



## Visitor Center

Open 9 a.m. to 6 p.m.  
May 22 to Labor Day

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

### Summer 2009 Ranger Programs

#### 1584: The Scouting Expedition (30 min)

The first contact between the English and Carolina Algonquian Indians occurred during this voyage. Join us to examine why England considered New World colonization and decided to start a colony on Roanoke Island.

#### 1585-86: The Exploration Expedition (30 min)

During this expedition, English explorers established an outpost on Roanoke Island and remained for eleven months surveying the New World. Share the experience of their discoveries through the eyes of an explorer.

#### 1587: The Colony (30 min)

Men, women and children leave England for the New World to begin a new way of life. The colonists were forced to land at Roanoke and began to struggle in order to survive. "Where did the Lost Colonists go?" Examine with us the theories of their fate to continue the search.

#### Roanoke Island History: The Algonquians (30 min)

Learn what an English scientific team reported to Europe regarding these native peoples. This program presents the original residents of Roanoke Island.

#### Roanoke Island History: The Drama Remembers (30 min)

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 min)

Another type of colony was established on Roanoke Island during the Civil War. The Bureau of Refugees, Freedmen, and Abandoned Lands offered a profound beginning for the island's newest residents.

#### Kids Activity: The Power of Archeology (45 min)

What has been done to find where the colonists had been? This activity for kids will learn about the science of archeology, and the responsibility of protecting what has yet to be learned from people of long ago.

#### Kids Activity: Life in the Roanoke Tribe (45 min)

This activity 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.

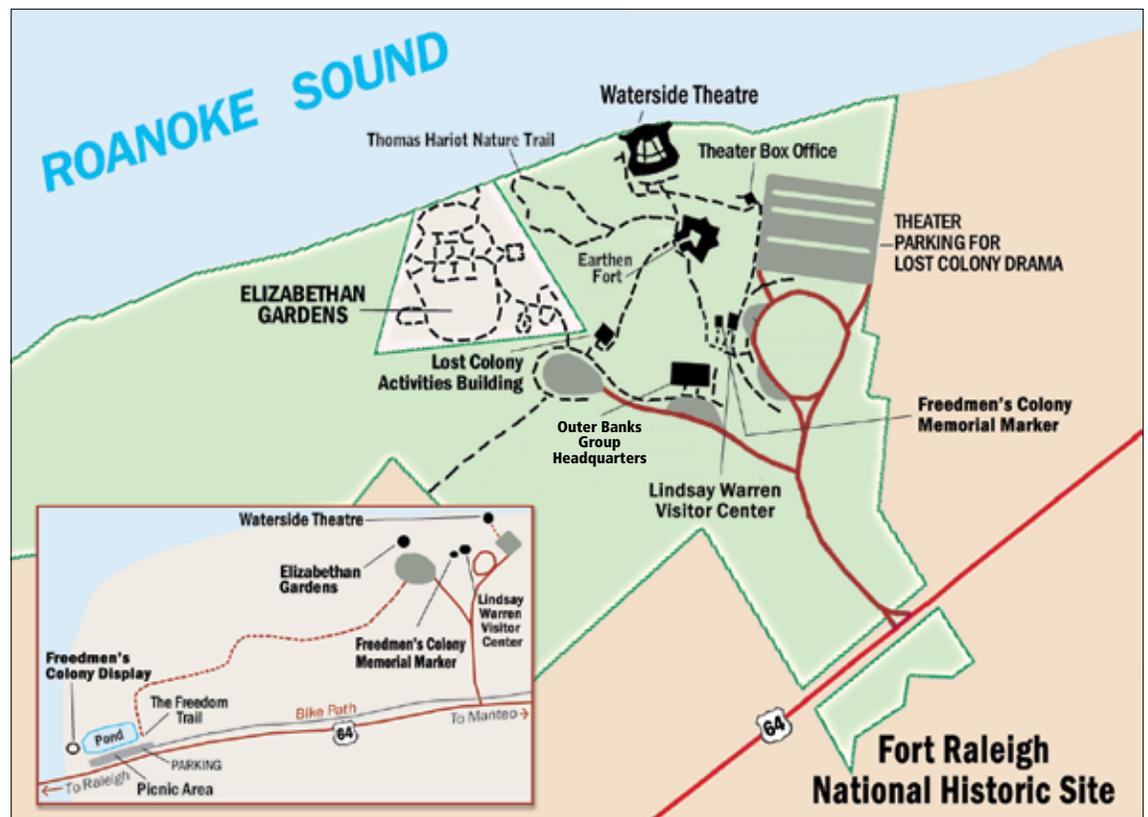
#### Kids Activity: Roanoke Explorers (45 min)

## Park Activities • Summer 2009

Programs listed will be offered from May 22 to Labor Day. All programs start at park visitor center. The schedule may change without notice. Programs are subject to weather. Sunscreen and bug repellent are recommended for all outdoor programs.

FORT RALEIGH NATIONAL HISTORIC SITE							
(#) Program is ADA Accessible	Sun	Mon	Tue	Wed	Thurs	Fri	Sat
1584: The Scouting Expedition (#)	10:00						10:00
1585-86: The Exploration Expedition (#)	2:00	2:00	2:00	2:00	2:00	2:00	2:00
1587: The Colony (#)	3:00	3:00	3:00	3:00	3:00	3:00	3:00
Roanoke Island History: The Algonquians (#)			4:00		11:00	4:00	
Roanoke Island History: The Freedmen (#)		11:00		11:00			
Roanoke Island History: The Drama Remembers (#)	4:00						4:00
Kids Activity: Life in the Roanoke Tribe (#)		1:00	10:00	1:00		1:00	
Kids Activity: The Power of Archeology (#)				10:00	10:00		
Kids Activity: Roanoke Explorers (#)		10:00	1:00		1:00	10:00	
Nature Trail Walk				4:00	4:00		
Tour of the Collection (#)			11:00				

The video Roanoke: The Lost Colony is shown daily at 30 minutes past the hour in the visitor center auditorium beginning at 9:30 a.m., except during programs.



This hands-on program will offer an activity that links us to people who have lived on Roanoke Island. Whether it is documenting the New World or making a civil war musket cartridge, re-live history and bring home something for keeps.

#### Nature Trail Walk (1 hr)

Meet at the park visitor center for a half-mile walk to witness the New World through an Explorer's eyes. Bring water, sunscreen, and insect repellent.

#### Tour of the Collection (1 hr)

Examine evidence of English colonization and Roanoke Island history through a visit to the park's museum collection building. Limited to 16 participants. Pre-register at the visitor center.



Photo Credit: Quinn Capps

## The Elizabethan Gardens

*Where the Old World and New World Grow Together*

Don't miss this garden for all seasons -- where history, mystery and beauty reign all year. During your visit, the entire family can explore garden rooms and naturalized trails containing 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.

Seasonal kaleidoscopic changes bring an exciting array of flowering plants, shrubs and trees that draw visitors to return again and again. 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, The Elizabethan Gardens is one of the finest examples of gardens of the period. Truly, it stands out as a crown jewel of Roanoke Island.

The following programs are offered throughout the summer at the gardens and are free with admission.

### Wild Wednesdays

Learn of the flora and fauna of the Gardens from birds to predators to butterflies.

Wed. 2 p.m. (2 hr) June 10 - Aug. 5

### Discovery Thursdays

Discover interactive activities that your family can enjoy as you tour the Gardens.

Thurs. 2 p.m. (2 hr) June 11 - Aug. 6

### The Diary of Adam and Eve

A one-act comedy from the Broadway musical *The Apple Tree*.

Tues. 2:30 p.m. (1 hr) July 7 - Aug. 11

### A Snake in the Grass

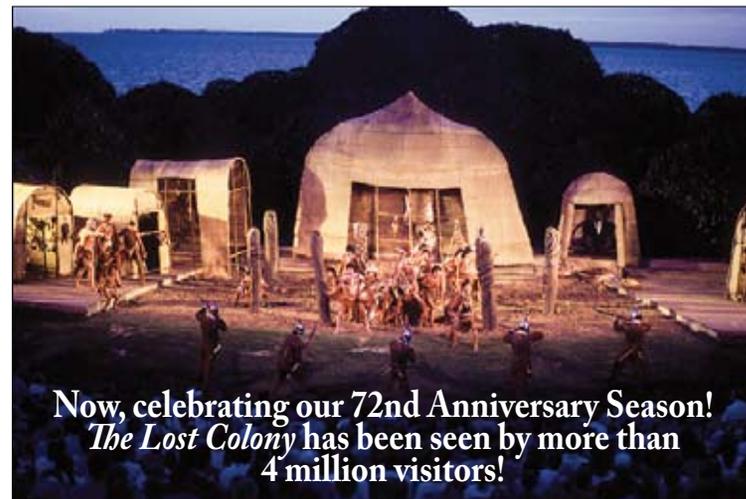
An activity especially for younger children.

Tues. 2:30 p.m. (1 hr) July 7 - Aug. 11

## The Lost Colony Music, Dance, Drama & More!

*The Lost Colony* is America's #1 outdoor drama and the perfect pinnacle to your Outer Banks experience. See this compelling unsolved mystery of America's beginnings and other productions at Waterside Theatre in Manteo on Roanoke Island. Pulitzer Prize-winning playwright Paul Green's *The Lost Colony* tells the story of the events leading to the disappearance of the English colonists who settled here more than 400 years ago.

Experience the splendor and intrigue that has made *The Lost Colony* a family favorite since 1937. The production features music, dance, drama, riveting action and special effects with lavish costumes and sets designed by five-time Tony Award-winner William Ivey Long. Meet the cast for autographs and photos after the production.



Now, celebrating our 72nd Anniversary Season!  
*The Lost Colony* has been seen by more than  
4 million visitors!

### Experience the Excitement of Waterside Theatre

#### Tickets and Information:

Call the box office at (252) 473-3414 or visit online at [www.thelostcolony.org](http://www.thelostcolony.org) (service fees apply, no discounts available for online purchases).

#### Dramatic Savings!

Children 11 and younger are free on Monday and Friday and half-price on Saturday with a paying adult (valid for tickets to *The Lost Colony* production only, not valid with other discounts).

Discounts are not available with online purchases.

### Program Locations:

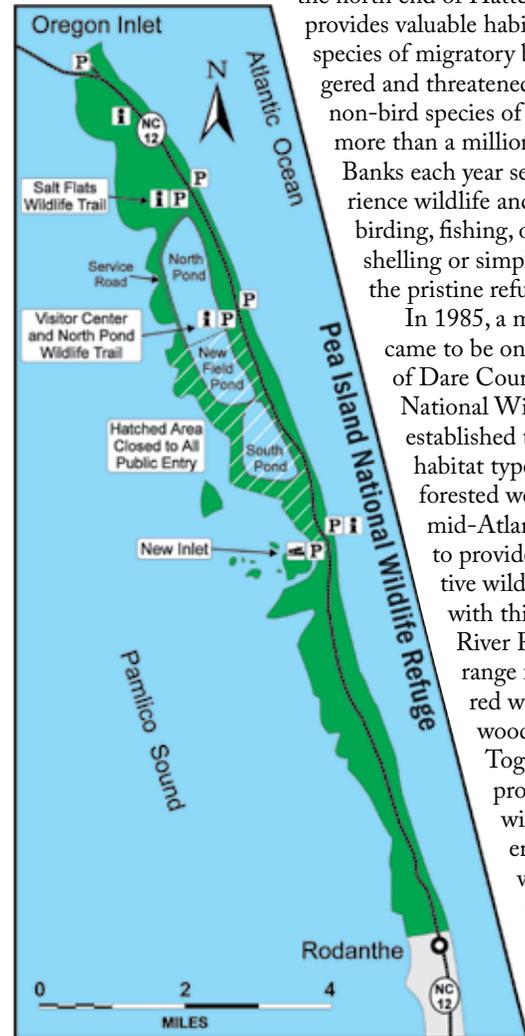
All programs require a ticket purchase and begin at the Waterside Theatre located within Fort Raleigh National Historic Site. \*Advance purchase ticket discounts.

Program	Date	Time
<i>The Lost Colony</i>	Mon. - Sat. May 29 - Aug. 20	8:00 p.m.
Backstage Tours	Mon. - Sat. May 29 - Aug. 20	6:00 p.m.
<i>Charlotte's Web</i>	Tues. & Thur. June 18 - Aug. 13	9:30 a.m.
Charlotte's Brunch	Tuesdays	Begins after the play
Waterside Art Wednesday	Wednesday June 17 - Aug. 12	2:00 p.m.
Tea with the Queen	Thursdays June 25 - Aug. 13	3:00 p.m.
Simon's Pirate Adventure	Thursdays June 25 - Aug. 13	3:00 p.m.
<i>Jesus Christ Superstar</i> *	July 11 & July 18	8:00 p.m.
<i>Oklahoma!</i> *	Aug. 8 & 15	8:00 p.m.
Virginia Dare Faire	Aug. 18	11a.m.- 2 p.m.



# 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 2009 Summer Schedule

### Birds and Their Adaptations

Why do many shorebirds have long legs? How can a duck stay afloat in the water? If you ever wondered about these and other facts about birds, come out and discover the many ways birds adapt to their habitat. You can even create your own bird to take home. **June/July/August, 2:30 - 3:30 p.m. on Friday at the Visitor Center.**

### Family Canoe Tour

This tour is designed especially for kids and others who want to explore the marshes, islands and creeks of Pamlico Sound. It 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. Hats, sunscreen and drinking water are recommended. Reservations and wading shoes are required. Call (252) 475-4180. Co-sponsored by the Coastal Wildlife Refuge Society. **June/July/August, 10 a.m. - 12 p.m. on Wednesday and Friday at New Inlet; 3 miles south of the 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. Hats, sunscreen and drinking water are recommended. Reservations and wading shoes are required. Call (252) 475-4180. Co-sponsored by the Coastal Wildlife Refuge Society. **May through September 3, 9 a.m. - 12 p.m. on Thursday at New Inlet; 3 miles south of the Visitor Center.**

### Bird Walks

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, although some field guides and binoculars will be available for participants. **May through September 4, 8-9:30 a.m. on Wednesday, Thursday and Friday at the Visitor Center.**

### Turtle Talk

What's the difference between sea turtles and land turtles? Why are sea turtles endangered? What can you do to help save these gentle giants? Learn more about the lives of sea turtles with a hands-on activity. Find out about their conservation and how you can be a part of the solution. **June/July/August, 2:30-3:30 p.m. on Tuesday at the Visitor Center.**

### What's Eating You?

What drilled that hole in the clam shell you saw yesterday? Why do some barnacles spend their lives standing on their heads? Can this creature really push its stomach out through its mouth to digest food? Learn the unique habits sea critters use to survive. A short hike across the dunes may be included. **June/July/August, 2:30-3:30 p.m. on Wednesday at the Visitor Center.**

### Soundside Adventure

Discover what lies beneath the water during this hands-on exploration of Pamlico Sound. Why are critters so small on the soundside? What's that slimy stuff? What is it like to be a crab? 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, 2:30-3:30 p.m. on Thursday at New Inlet; 3 miles south of the Visitor Center.**

## Alligator River 2009 Summer Schedule

### 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 what makes the Refuge such a good home for our largest mammal. After the presentation, tour Wildlife Drive to look for bears and other wildlife. **June/July/August, 6-7:30 p.m. on Wednesday at Creef Cut Wildlife Trail parking lot (Milltail Road).**

### Who Goes There?

Clues are everywhere, but what does the evidence tell us? Join refuge staff on an investigative trek down Creef Cut Wildlife Trail to discover the variety of species

using this trail. Tracks and scat will be identified. Maybe you'll spot an animal that left the track behind! **June/July/August, 10-11 a.m. on Tuesday at Creef Cut Wildlife Trail parking lot (Milltail Road).**

### Alligator River Canoe Tour

Really get out into the wild! The Milltail Creek Paddling Trails take you deep into the heart of Alligator River Refuge. Paddle the shady blackwater canals; learn about the history of the area; 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) 475-4180. Co-sponsored by the Coastal Wildlife Refuge Society. **June/July/August, 9 a.m. - 12 p.m. on Wednesday, Thursday and Friday at the south end of Buffalo City Road (off U.S. Highway 64 in East Lake).**

### Red Wolf Howling Safari

Red Wolf Coalition and Refuge staff offers you the experience of a lifetime! Come and learn about red wolves and participate in a howling. The program will occur except with lightning, heavy wind or rain, or impassable road conditions. The decision to cancel will be made no later than 1 1/2 hours before the program. Summer Howling Safaris cost \$5 per person. Registration is required. Visit [www.redwolves.com](http://www.redwolves.com) or call (252) 796-5600 to register. **June 10 - September 2, 7:30 p.m. on Wednesday at Creef Cut Wildlife Trail parking lot (Milltail Road).**

### Purple Martin Madness

The Outer Banks is home to one of the largest Purple Martin roosts in the eastern U.S. Although this large roost is not on Alligator River Refuge, refuge lands and the water systems surrounding it support this spectacular roost of migratory birds. Come see 100,000 martins in flight over Croatan Sound. Learn more about the fascinating lives of these birds and why they roost here. Visit [www.purplemartinroost.com](http://www.purplemartinroost.com) to learn more. Co-sponsored by Coastal Carolina Purple Martin Society. **July 23 - August 13 on Thursday (check the website for exact times) at the parking lot at the western end of the old Manns Harbor/U.S. Highway 64 Bridge. Look for the Purple Martin house and kiosk.**

# Eastern National

**SERVING AMERICA'S NATIONAL PARKS & OTHER PUBLIC TRUSTS**



**Lighthouse Growth Charts**

Watch your children grow and mark their progress against one of the

seashore lighthouses!

Available in Bodie Island, Cape Hatteras and Ocracoke. \$9.95

**Lighthouse Stacking Blocks**

This set is a delightful way for your child to learn about the lighthouses



of Cape Hatteras National Seashore and the birds and sea life found here. Made of heavy duty cardboard, these blocks feature the Bodie Island, Cape Hatteras and the Ocracoke lighthouses on three sides with a map of the Outer Banks on the fourth. Blocks are also available for Wright Brothers National Memorial featuring historic aircraft and the Wright Brothers Monument. \$19.95

**"Ask Me What I Saw" T-shirts for Kids**

These colorful shirts help your children relive their visit to the Outer Banks. Shirts are available for Wright Brothers National Memorial or Cape Hatteras National Seashore. The Wright Brothers shirt is available in red



and yellow; the Cape Hatteras shirt comes in white only. Sizes 2-4, 6-8, 10-12 and 14-16. \$10.95

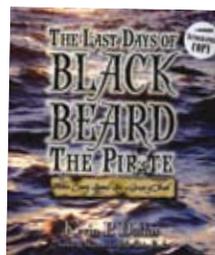
**The Hotshot Paper Airplane Kit**

Everyone loves a paper airplane! More than 45 specially designed sheets of colored paper are included in this kit as well as 50 stickers, clear step-by-step instructions, folding symbols and techniques. \$8.99



**The Last Days of Blackbeard**

by Kevin Duffus



book brings him to life with recent historical research. Autographed copy \$32.95

The pirate Blackbeard is one of the most widely recognized figures of the golden age of piracy. This new

**Timeline of Aviation**

by Jim Winchester



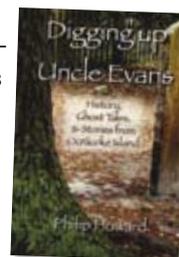
history of aviation at a glance, with a running timeline identifying key events on every page. It features many archival photographs as well as a full-color double-sided timeline poster to cut out and keep. Hardback \$21.95

This book provides the complete

**Digging Up Uncle Evans History, Ghost Tales and Stories from Ocracoke Island**

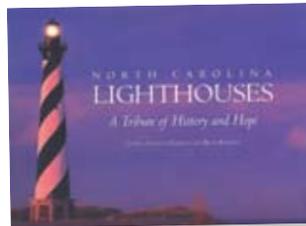
by Phillip Howard

Ocracoke Island is a magical place. In this volume you will encounter compelling island history, eerie ghost stories, intriguing maritime legends and gripping local tales all collected and told by the author, an eighth-generation descendant of William Howard, Blackbeard's quartermaster and the last colonial owner of Ocracoke Island. \$14.95



**North Carolina Lighthouses: A Tribute of History and Hope**

by Cheryl Shelton-Roberts and Bruce Roberts

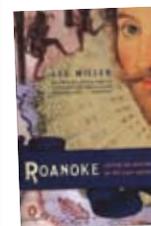
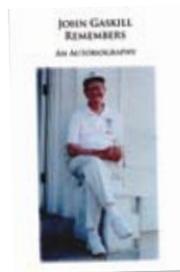


For more than 200 years, North Carolina's lighthouses warned seamen of the dangers of our treacherous and ever-changing coastline. This book details with beautiful color photographs and insightful text each lighthouse, its history, specifications and keepers. It also details the move of the Cape Hatteras Lighthouse in 1999, the U.S. Life-Saving Service, "Torpedo Junction" and the Graveyard of the Atlantic. \$29.95

**John Gaskill Remembers**

by John Gaskill  
The son of the last light keeper at the Bodie Island Light

Station, John Gaskill brings to life a time when Bodie Island was surrounded by water and the life of the keeper's family was isolated and difficult. Yet his memories of conversations with shipmates and infrequent visitors paint a vivid portrait of a time when lighthouses were a necessary part of coastal survival. Autographed copy \$15.95



**Roanoke: Solving the Mystery of the Lost Colony**

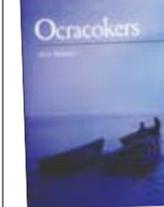
by Lee G. Miller

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." \$16.00

**Ocracokers**

by Alton Ballance



North Carolina's Ocracoke Island has produced a remarkably cohesive community of islanders. For more than two centuries, these Ocracokers lived in relative isolation, enjoying the beauty and battling the destructive forces of the Atlantic. Now discovered by tourists, the author captures the story of Ocracoke and its people from the perspective of a native before it was forever altered. \$15.95

**Mail This Order Form to:**  
Eastern National • P.O. Box 427, Kill Devil Hills, NC 27948  
Phone: (252) 441-6181 • Fax: (252) 441-9852



Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
Phone (day) \_\_\_\_\_

**Postage & Handling:**  
Up to \$20: \$4.50 — \$20-\$40: \$7.00 — Over \$40: \$9.00  
• All prices subject to change.  
• Posters shipped separately and require additional shipping.

**Ordering Information**

Qty	Description	Price Ea.	Total

Method of payment: Check - Money Order  
- Credit Card (Make check or money order payable to Eastern National)  
Credit Card # \_\_\_\_\_ Expiration Date \_\_\_\_\_

Subtotal \_\_\_\_\_  
North Carolina residents please add 7% sales tax \_\_\_\_\_  
Total \_\_\_\_\_

VISA • Mastercard • American Express • Discover  
Please allow 4 to 6 weeks for delivery