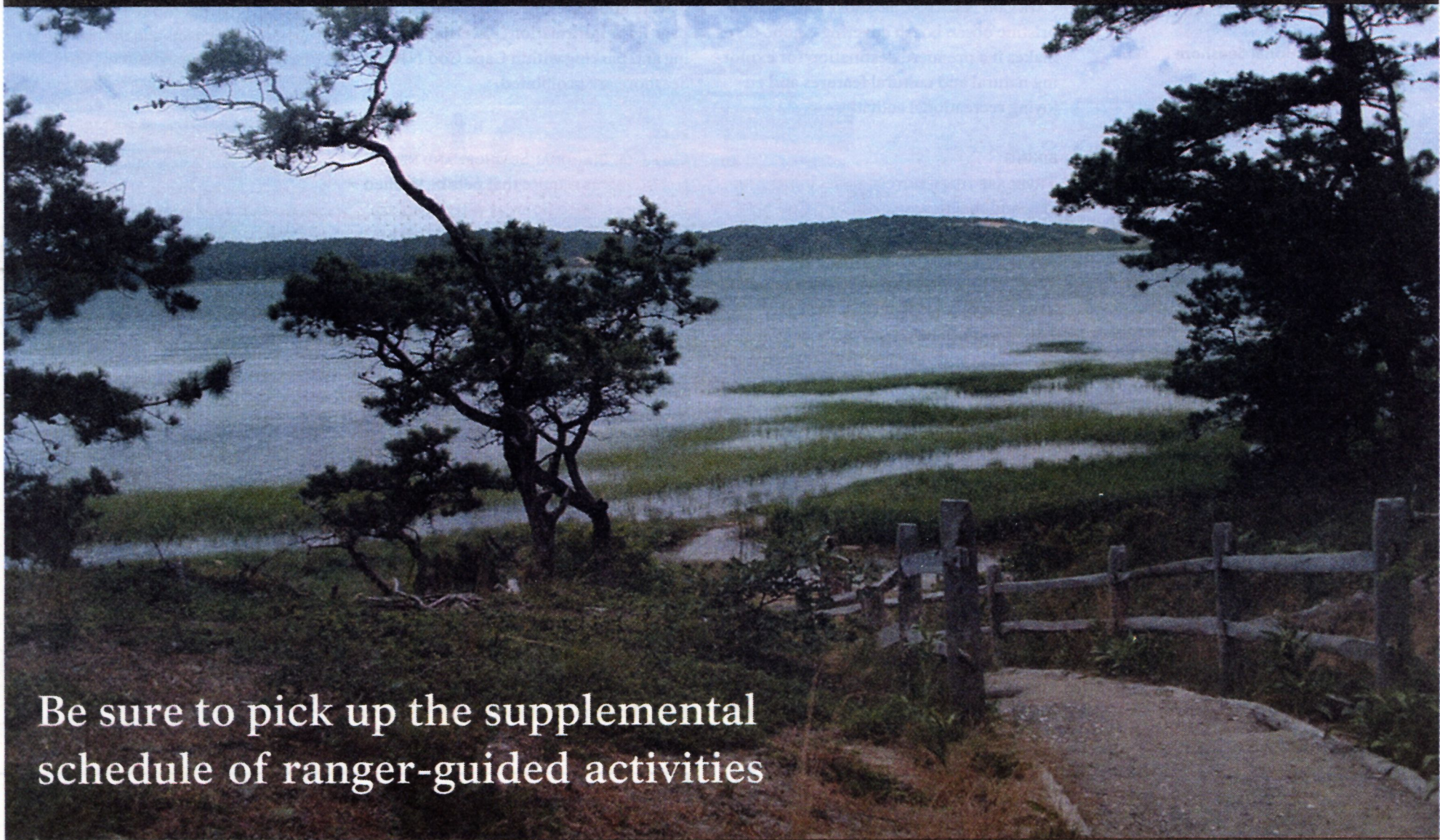




Be sure to pick up the supplemental schedule of ranger-guided activities

Explore Cape Cod National Seashore

VISITOR CENTERS

CAPE COD NATIONAL SEASHORE HAS TWO VISITOR CENTERS: SALT POND IN Eastham and Province Lands in Provincetown. Both centers have staff to assist visitors with orientation and trip planning, and stores featuring books, maps, puzzles, games and other interpretive items provided by the park's education partner, Eastern National.

Salt Pond Visitor Center: A major project to rehabilitate this center began in April 2003 and will be completed in 2004. During the interim period, visitors are being served from a small temporary center and bookstore located in the parking area. The center is open daily from 9 to 4:30 (later during summer). Portable toilets are available. Bus parking is limited. The bicycle trail and most area trails are open during the rehabilitation, but some detours may be in effect. Check at the temporary center. Parking time limits may be in effect. Updates are posted on the park's website: www.nps.gov/caco. Location: Off Route 6, Eastham. Telephone: 508 255-3421

Province Lands Visitor Center: Just two miles from the tip of the Cape in Provincetown, this center is open from 9 to 5 daily, May through October only. A small exhibit and regular showings of park orientation films are provided. The observation deck atop the center offers 360-degree views of the Province Lands dunes, the Outer Beach, and the Atlantic. Restrooms with flush toilets and sinks are available in the parking area year round. Access to the Province Lands bicycle trail is nearby. Location: Off Race Point Road, Provincetown. Telephone: 508 487-1256

WALKING AND HIKING SELF-GUIDING TRAILS

THERE ARE ELEVEN SELF-GUIDING TRAILS AT THE SEASHORE THAT ARE open year round: *in Eastham* - the Fort Hill, Red Maple Swamp, Buttonbush, Nauset Marsh and Doane trails; *in Wellfleet* - the Atlantic White Cedar Swamp and Great Island trails; *in Truro* - Pamet Area Bearberry Hill Overlook, Small's Swamp and Pilgrim Spring trails; and *in Provincetown* - the Beech Forest Trail. Interpretive trail folders with information on natural and historic features are available at some trailheads. Trailside plant identification markers are referenced in the *Common Trailside Plants* guidebook on sale at visitor center bookstores.



Beaches within Cape Cod National Seashore offer opportunities for recreation and scenic views, especially sunsets at bayside locations.

Superintendent's Message

A VISIT TO CAPE COD NATIONAL SEASHORE SHOULD be a relaxing treat, a special time full of lazy days, lots of sun and wonderful seafood. Certainly, precious vacation hours should not be spent sitting in a car stuck in a waiting line at a beach, or tensely poised for that nerve-wracking left turn off Route 6. And yet we know that many a summer holiday is marred by exactly those kinds of experiences.

Enter the summer shuttle! If you're in North Truro or Provincetown, and you get a hankering for the beach, all you have to do is hop on *The Shuttle*. In just a few minutes you, your family, your bike and your picnic cooler are all whisking past the waiting line of cars at Herring Cove beach and heading out onto the sand. And all for a buck or two. Started five years ago as an experiment by the towns of Provincetown and Truro, the Cape Cod Regional Transit Authority and Cape Cod National Seashore, *The Shuttle* has become the single most successful, heavily patronized summer bus system on the entire Cape. People happily use it by the tens of thousands to get to shopping, restaurants, their motel or campground, and the beach. They avoid waiting lines, save parking fees and arrive relaxed.

Heavy use of private vehicles for short-haul trips such as beach jaunts or runs into town to shop for souvenirs has always been a hallmark of a Cape Cod visit. Parking lots right at the beach and the lack of public transit have guaranteed that. In recent years, the trend has been for there to be far more vehicles than overburdened roadway systems, including parking lots, can handle. Hence the lengthy waits and the left-turn accidents each and every year. Add to that the extensive damage we get to fragile roadside heathland vegetation

continued page 2

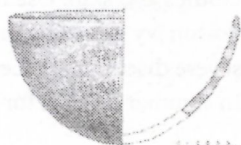
2 & 3 The Basics

- ❖ Visitor Services
- ❖ Beach Activities and Fees
- ❖ General Regulations
- ❖ Visitor Safety
- ❖ Park and area map with lighthouse locations

Look to these pages for general park orientation, brief descriptions of park features, and other useful information to enhance your visit to Cape Cod National Seashore.

4 Cultural Resources Update

The Carns Site: Archaeologist Dr. James W. Bradley summarizes what has been learned so far through excavation and initial analysis of the Carns site materials discovered in 1991 at Coast Guard Beach in Eastham.



5 Natural Resources Update

Salt and Freshwater Flora and Fauna: Park scientist Dr. John Portnoy explains the observable changes at park salt marsh restoration projects.

6 Education Program Update

Parks As Classrooms Program: Take a closer look at park education programs.



National Park Service
U.S. Department of the Interior

Cape Cod National Seashore

Superintendent

Maria Burks

Mailing Address

99 Marconi Site Road
Wellfleet, MA 02667

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Superintendent_CACO@nps.gov

Park Headquarters

508 349-3785

Fax Number

508 349-9052

Salt Pond Visitor Center

508 255-3421

Province Lands Visitor Center

508 487-1256

Race Point Ranger Station

508 487-2100

Oversand Information Line at Race Point Ranger Station

508 487-3698

Nauset Ranger Station

508 255-2112

North Atlantic Coastal Lab

508 487-3262

Web Site

www.nps.gov/caco

Emergencies

9 - 1 - 1

On the cover: A view from the Great Island
Trail, Wellfleet

Visitor Services

CAPE COD NATIONAL SEASHORE'S 40 MILES OF pristine ocean beach covering 44,000 acres makes it a premiere destination for exploring natural and cultural features and enjoying recreational activities.

BIKING

THERE ARE THREE BICYCLE TRAILS UNDER THE care and maintenance of Cape Cod National Seashore: Nauset Trail in Eastham (1.6 miles), Head of the Meadow Trail in Truro (2 miles), and the Province Lands Trail in Provincetown (loop trail 5.45 miles). Massachusetts state law requires children 12 and younger to wear protective helmets when operating a bicycle or riding as a passenger. It is advisable that all riders, regardless of age, wear protective headgear to ensure a safe and enjoyable biking experience.

CAMPFIRE PERMITS

A LIMITED NUMBER OF CAMPFIRE PERMITS PER day, per seashore beach, may be reserved up to three days in advance in person (or by phone) at Salt Pond Visitor Center for Coast Guard, Nauset Light and Marconi beaches, or Province Lands Visitor Center for Head of the Meadow, Race Point and Herring Cove beaches. Permits are free and must be picked up at the reserving visitor center prior to 2 P.M. the day of the fire. Demand often exceeds the number of permits available.

CAMPING

THE NATIONAL PARK SERVICE DOES NOT OPERATE a campground at Cape Cod National Seashore. Camping is available at nearby

private and state-operated facilities (see page 8 for information). Overnight camping and parking within Cape Cod National Seashore are prohibited.

PETS

CAPE COD NATIONAL SEASHORE AND NEIGHBORING towns require that pets be leashed at all times. Specific areas where pets are prohibited are posted. Ask at seashore visitor centers or ranger stations about areas where pets are permitted and restrictions that apply on seashore property.

ACCESSIBILITY

PARK TRAILS AT DOANE ROCK IN EASTHAM AND the Marconi Station Site in Wellfleet have been surfaced to accommodate wheelchairs. Many park facilities and services are accessible to disabled visitors. Large print versions of official park publications, and the Buttonbush Trail are available for those with impaired vision. If you are hearing impaired, scripts or captioning for various park films is available upon request. Coast Guard and Herring Cove Beaches provide accessible parking, restrooms, changing facilities and beach wheelchairs. In addition, Herring Cove beach features showers that accommodate wheelchairs.

Superintendent's Message *continued*

near popular attractions when parking areas are full, the cost of replacing eroding parking lots and the damage to our already fragile air quality from hundreds of idling engines. These are the reasons Cape Cod National Seashore has been in the forefront of the effort to develop public transit systems on the Outer Cape.

This year the park has been able to get federal funds from the Department of Transportation to assist Outer Cape Codders in experimenting with new shuttle services, both summer and year round. We believe strongly that, given the option, many summer visitors, working families, seniors and the transportation challenged of every sort will take to new services that are flexible and sensitively designed. The towns, the Regional Transit Authority and the Cape Cod Commission are currently working together to decide how to spend the \$3.4 million we are providing to jump start the program. Expect to see new services as soon as 2006 – and prepare to enjoy a car-free Cape Cod vacation!

Maria Burks



The seashore lost a valued member of its staff and park family when Roberta Humphrey passed away on May 13, 2004. Roberta (Bert) began her federal service at Camp Wellfleet and transferred to Cape Cod National Seashore at its inception. She worked in administration for many years and at the front desk at Headquarters, greeting visitors with a wonderful smile and tales of days gone by. She will be missed.

Beach Activities and Fees

CAPE COD NATIONAL SEASHORE MANAGES SIX OCEAN BEACHES IN FOUR TOWNS: EASTHAM (Coast Guard and Nauset Light beaches), Wellfleet (Marconi Beach), Truro (Head of the Meadow Beach) and Provincetown (Race Point and Herring Cove beaches). All national seashore beaches include the following facilities and services: showers, paved parking, restrooms, changing rooms, drinking water, water quality testing and lifeguards (late June through Labor Day). Two beaches, Coast Guard in Eastham and Herring Cove in Provincetown, are handicapped accessible and have wheelchairs capable of traveling over sand.

Beach entrance fees are charged. Rates for the 2004 season are:

Daily Vehicle	\$10.00
Daily Individual (bicycle, pedestrian)	\$ 3.00
Cape Cod National Seashore Season Pass	\$30.00
National Parks Pass (accepted at any National Park area)	\$50.00
Golden Eagle Hologram (upgrades National Park Pass for entrance at other Department of Interior sites)	\$15.00
Golden Age Pass (allows entry for those age 62 or older)	\$10.00
Golden Access Pass (allows entry for those legally blind or permanently disabled)	FREE

Fees are collected daily from late June through Labor Day at all six seashore beaches and on week-ends and holidays from Memorial Day to late June, and after Labor Day through Columbus Day at Herring Cove, Race Point, Nauset Light and Coast Guard beaches.

BEACH PARKING LOT CAPACITIES AND TRENDS:

Coast Guard Beach/Little Creek Shuttle, Eastham: 418 spaces. Parking area fills between 11 A.M. and 1 P.M. daily with moderate turnover. Beach access via Little Creek Shuttle and parking area, a half mile away. Drop off and pick up of passengers and belongings at the beach is PROHIBITED. Limited handicapped parking (state issued plate or placard required) at the Coast Guard Station parking area.

Nauset Light Beach, Eastham: 176 spaces. Parking area fills by 10 A.M. daily during the summer with minimal turnover. Drop off and pick up of passengers and belongings at the beach is PROHIBITED.

Marconi Beach, Wellfleet: 530 spaces. Parking area rarely fills during late June and July. Parking area will fill occasionally in August with moderate turnover.

Head of the Meadow, Truro: 365 spaces. Parking area rarely fills.

Race Point, Provincetown: 355 spaces. Parking area rarely fills during June and July. When the parking area does fill, it is usually one to two hours after Herring Cove fills. Access is also available on *The Shuttle*.

Herring Cove, Provincetown: 557 spaces. Parking area fills between 10 A.M. and noon most days throughout the summer. Moderate turnover after 1 P.M. Access is also available on *The Shuttle*. Seasonal snack bar.

OVERSAND PERMITS

PERMITS FOR DRIVING ON SEASHORE OVERSAND ROUTES ARE REQUIRED AND AVAILABLE FOR PURCHASE at Race Point in Provincetown. Bird nesting activity may force some route closures during the spring and summer. Call 508 487-2100 for general information. Call 508 487-3698 for route closure information.

GENERAL REGULATIONS:

- Do not disturb natural or cultural features; all are protected by federal law.
- Glass containers, flotation devices (rafts, rubber tubes), snorkel, and masks are prohibited on any lifeguard-protected beach.
- Pets must be leashed and under control at all times. Leashes may not exceed six feet. Pets are not permitted in public buildings, picnic areas, on protected beaches or on designated trails.
- Public nudity is prohibited.
- No license is required for saltwater fishing. A state license is required for freshwater fishing.
- Town licenses for shellfishing are required. Regulations and fees vary by town.
- Surfing and windsurfing are permitted in waters outside lifeguard-protected areas.
- Permits are required for all beach fires. They may be obtained on a first come, first served basis at Salt Pond and Province Lands visitor centers. Do not bury coals.
- Sand collapses easily. Climbing slopes or digging deep holes above knee level is hazardous and prohibited.

Visitor Safety

BE SAFE! OBSERVE THE FOLLOWING SUGGESTIONS:

- ◆ Rip currents and undertow are common, dangerous conditions along ocean beaches. Stay safe by swimming in lifeguard-protected areas.
- ◆ Use sunscreen to avoid sunburn. Use a waterproof sunscreen if you intend to go swimming.
- ◆ Take precautions to avoid contact with insects. Deer ticks may carry Lyme disease. Mosquitos may carry encephalitis or the West Nile virus. Brown-tail moth "tents" cause skin irritation. Stay on trails, out of tall grasses and inspect clothes and skin. Use repellent and wear proper clothing.
- ◆ Poison ivy is prolific in many locations. The rash it produces can cause severe discomfort. "Leaves of three, let it be."
- ◆ In summer be alert for heavy traffic, bicycles, and pedestrians on narrow roads.

Park and Local Area Map

Rules of the Road

Motorist Warning: Wear your seat belt. It's the LAW. Massachusetts state law provides pedestrians the right of way in a cross walk. Be aware of pedestrians, bicyclists and other park users, and share the road.

Bicyclist Warning: Massachusetts state law requires children 12 and younger to wear protective helmets when operating a bicycle or riding as a passenger. It is advisable that all riders, regardless of age, wear protective headgear to ensure a safe and enjoyable biking experience. Bike trail speed limit is 10 mph. Ride single file and stay to the right. All bike trails have two-way traffic, heavy traffic times and may have sand on them.

Lighthouses within Cape Cod National Seashore



Long Point Light, Provincetown
This light was established in 1827 at the isolated tip of Cape Cod. Two Civil War harbor-defense batteries stood nearby.

Wood End Light, Provincetown
This unusual, square lighthouse, established in 1873, was the center of a thriving fishing community until the late 1800s.

Race Point Light, Provincetown
This light was built in 1876 to replace one established in 1816. Dangerous currents and offshore shoals caused many shipwrecks off Race Point.

Highland (Cape Cod) Light, Truro
The light at Highland was the first seen by ships traveling from Europe. The first light was placed here in 1798. The current light was moved back from the eroding cliff in 1996.

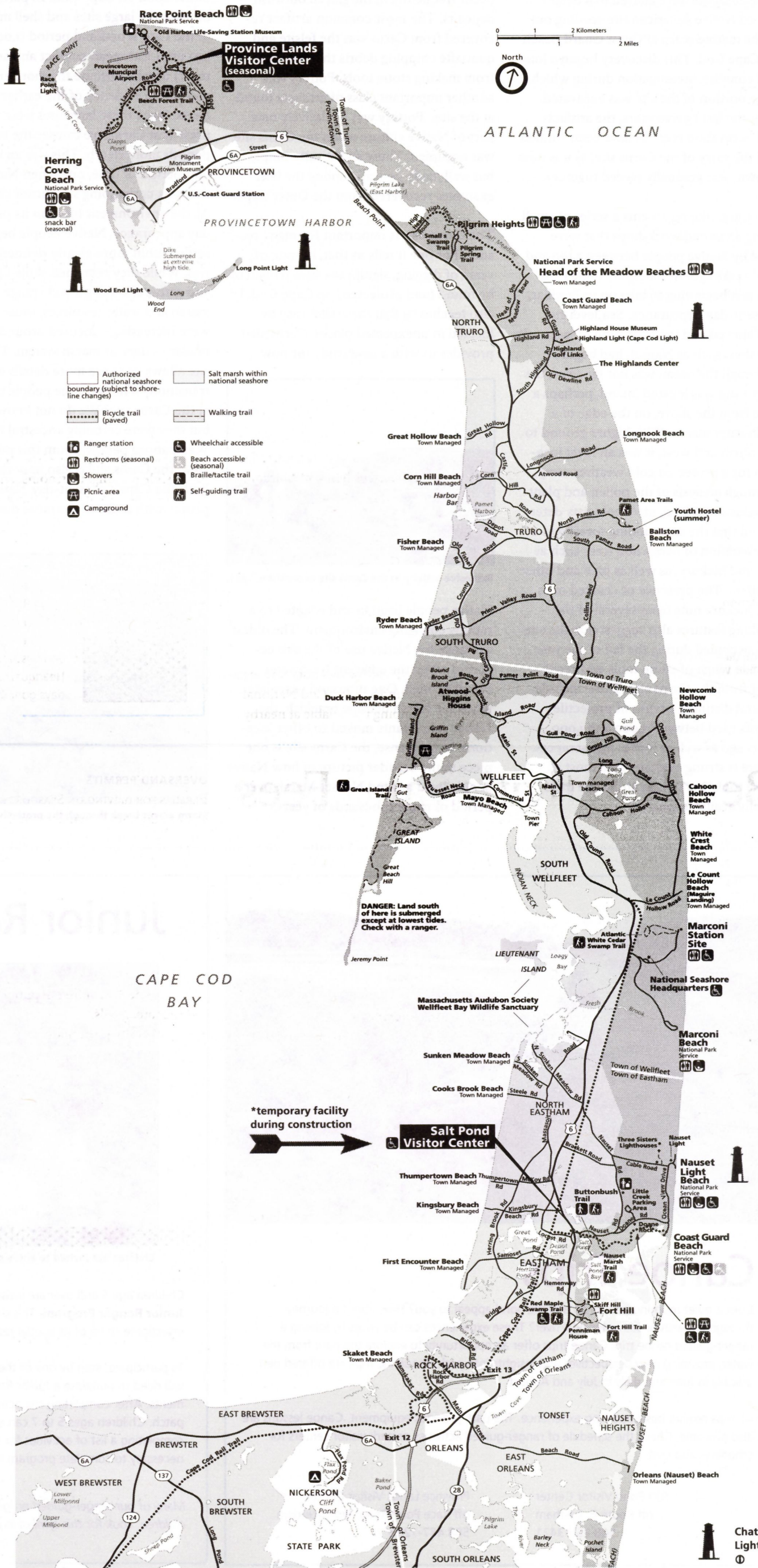
Nauset Light, Eastham
In 1923, the "twin lights of Chatham" were separated, with one light remaining in Chatham and the other moved to Eastham to replace an earlier light. It was moved back from the eroding cliff in 1996. **The Three Sisters** lighthouses are within walking distance.

Chatham Light, Chatham
First established in 1808, this lighthouse is still operated by the United States Coast Guard. The present tower is the "twin" to Eastham's Nauset Light.

Other historic buildings are described on page 8.

Bookstores at both visitor centers carry books and other items related to lighthouses.

A variety of research projects will be ongoing over the next few months related to visitor use. The University of Vermont will be conducting visitor surveys on hunting and off-road vehicles. If asked, please participate in these surveys as they will assist the park in understanding visitor needs.



A Summary of the Carns Archaeology Site by James W. Bradley, PhD.

In November 1990, National Park Service archaeologists were alerted to a deeply buried Native American site eroding out of the marine scarp at Coast Guard Beach on Cape Cod. This discovery began a long and complex investigation during which a large portion of the site was excavated. Over the last twelve years, the artifacts and excavation records have been studied and the story of the Carns site, as it is now known, was gradually pieced together.

The Carns site represents a series of small living areas and workshops that were used by Native people between 2,100 and 1,100 years ago. At that time, Cape Cod was just beginning to take on its familiar, present-day appearance. Sea level rise had slowed and the formation of large salt marshes, such as Nauset, had begun. Although the ocean was not far away, the Carns site was located inland, perhaps a mile from the shore, on the edge of a freshwater marsh. With higher ground to the north and west, it was an ideal location for a protected cold weather camp. Through analysis of the pollen and plant remains recovered, archaeologists determined that the surrounding forest was a combination of hardwood trees such as oak and hickory, as well as pine and other conifers. The presence of charred oaks and hickory nuts from several of the cooking features also suggest that the site was occupied during the fall of the year. A wide range of stone tools was recovered from the Carns site. These include several distinctive types of projectile points used between 3,000 and 1,000 years ago as well as knives and scrapers. There is strong evidence that most of these tools were made at the site from locally available material.

Fist-sized cobbles of felsite and quartzite occur frequently in the glacial outwash deposits. The most common artifact recovered from Carns was the felsite and quartzite chipping debris that resulted from making stone tools. Pottery was another important class of artifacts found at the site. Pottery was a relatively new part of Native culture when the Carns site was occupied. These stylistically simple but well made pots are among the best examples recovered from the Outer Cape.

The Carns site is important for many reasons. For one it tells us that, in spite of years of digging, significant sites remain to be found (and protected) on Cape Cod. It also teaches us that these sites may be located in unexpected places. Carns also provides us with a case study for how



Extensive activity at the Carns site excavation, 1991.

Native people lived in and adapted to a rapidly changing environment. The oldest evidence for Native use of the site occurred when the adjacent freshwater marsh formed. One thousand years later, when the marsh became brackish, the Native inhabitants moved to other locations. In this sense, the Carns site is one piece in the broader picture of how Native people lived around Nauset Marsh over a period of many thousands of years.

Finally, Carns gives us a new and different view into the life of the Cape's first people. The period between 2,100 and 1,100 years ago, or what archaeologists call the end of the Early Woodland period and the Middle Woodland period, are not well understood on Cape Cod. In part, this is because the large sites and shell middens of the Late Woodland period (1,000 years ago until European contact and settlement) usually obscure the more elusive and subtle evidence of the earlier components. Since these later sites were not present at Carns, we can see the earlier periods more clearly. This was an important period of time, one when Native culture was undergoing significant change. As the environment took on its present-day appearance, Native people began to settle within more clearly defined territories. While they remained skilled hunters and gatherers, using a wide range of land, marsh and water resources, those activities were increasingly focused around a particular estuary or marsh system. The Carns site allows us to see more details of this transition. Who were the people that lived at the Carns site? We do not know exactly, but they were certainly ancestral to Wampanoag people. From this point of view, the Carns site is also important as it links the Cape's present-day Native people with those of the more distant past.



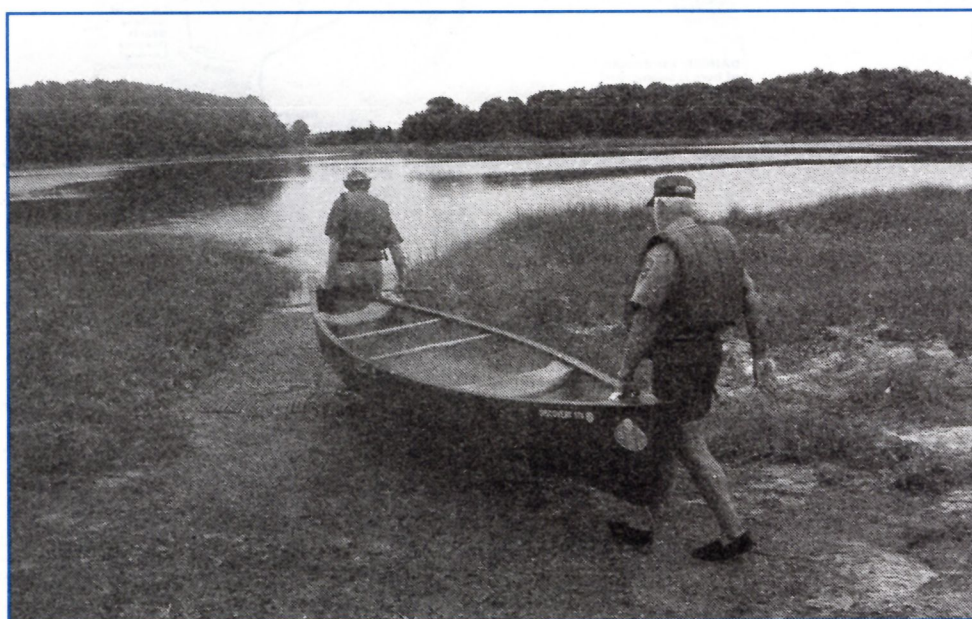
Archeologists working at the Carns site, 1991.

James W. Bradley, Ph.D., is the founder and president of **ArchLink**, an independent, individually-owned business linking archeology with education and preservation. He has served on the staff of the Massachusetts Historical Commission, and was director of the Robert S. Peabody Museum of Archeology in Andover, MA from 1990 to 2001.

All cultural features are protected by federal law and must not be disturbed or removed.



Storm waves break through the protective berm at the Carns site excavation, 1991.



Canoe Trips

Does a quiet morning paddle on a kettle pond appeal to you? How about a journey through a marsh or saltwater tidal river? These experiences can be yours by joining a ranger-guided canoe trip. Canoe trips offer an opportunity to explore the park from the water, providing new perspectives and insights into park resources. Trips are offered periodically in June and daily in July and August.

All trips require basic paddling experience. The park provides equipment. Canoe lessons are also available. Check the schedule of ranger-guided activities or park visitor centers for schedules and cost.

Salt Pond Visitor Center
off Route 6, Eastham
508 255-3421

Province Lands Visitor Center
off Race Point Road, Provincetown
508 487-1256

Junior Ranger Program



Children are invited to enjoy programs and become Junior Rangers.

Children age 5 and over are invited to participate in **Cape Cod National Seashore's Junior Ranger Program**. This program encourages children to explore the park and investigate some of its special resources.

To participate, stop by one of the visitor centers. Families with children 8 years and over will need to purchase a Junior Ranger Activity Book (\$2.05) and request a list of requirements. After completing the activities, each youngster will receive a free Junior Ranger patch. Children ages 5 to 7 can earn a special Junior Ranger souvenir by obtaining and completing a list of activities for their age group. In general, a visit of two or more days is necessary to complete program requirements.

Many of our ranger-guided programs are especially suited for families and children. Look for this symbol in park schedules of ranger-guided activities.



Native Salt Marsh Plants and Animals

Flora and Fauna Respond to Restoration Projects

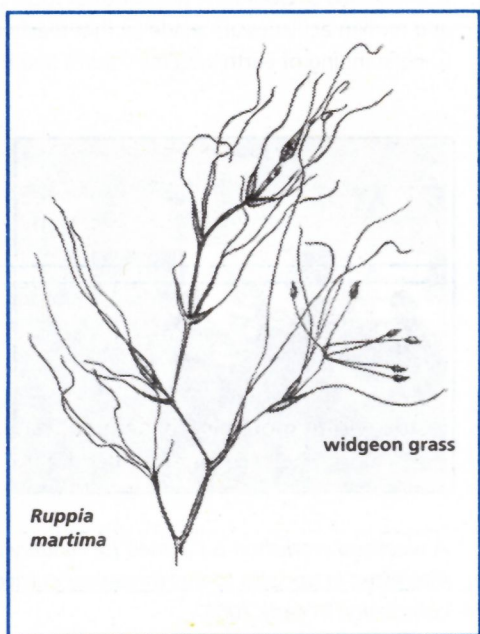
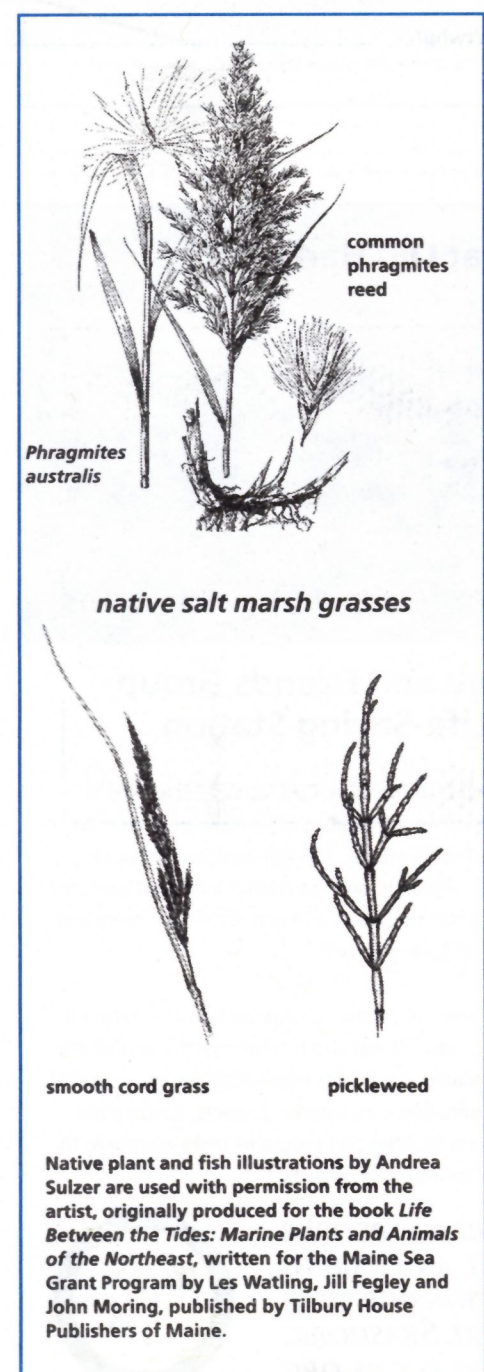
by John Portnoy, PhD., Park Ecologist

Cape Cod National Seashore has an active program of estuarine restoration for the nearly 2500 acres of Outer Cape coastal marshes altered profoundly since the construction of tide-restricting dikes and causeways during the nineteenth and early twentieth century. Tides were restricted by roads and railways built across coastal wetlands, and by dikes intended to limit floodwater mosquito breeding and to promote lowland agriculture. With tide restoration under way since 1999 at 90-acre Hatches Harbor in Provincetown, and just beginning in 700-acre East Harbor (also referred to as Pilgrim Lake) in Truro, both native and introduced plants and animals are responding.

PLANTS

The blockage of seawater over many decades has had varying effects on plants depending chiefly on site-specific differences in marsh surface elevation and distance from the ocean. Some diked salt marsh plant communities that are low in elevations, near creek banks and/or just upstream of leaky tide gates, still receive some seawater, and salt marsh grasses (e.g. smooth cord grass, *Spartina alterniflora*) persist.

Further upstream, and at slightly higher elevations, the water is only brackish. The common phragmites reed (*Phragmites australis*), a highly invasive exotic plant, has typically invaded this region, crowding out native grasses.



At even higher elevations, and where ditch drainage has lowered the water table, the normally waterlogged peat has become perennially drained, allowing the near-total displacement of wetland plants by upland herbs, trees and shrubs.

With the return of the tides at Hatches and East harbors, native salt marsh plants are also returning. Unnoticed by most of us, a slow and silent territorial battle is raging among the plants of the marsh surface. By restoring high salinity and water levels, we tip the battlefield in favor of native salt marsh vegetation by stressing and killing the recent invaders with seawater flooding.

Just above the Hatches Harbor Dike, where until recently vigorous *Phragmites* stood 10 feet high, it now stands brown and stunted over an intensely green carpet of native salt marsh plants recolonizing the area: seablite (*Suaeda*), pickleweed (*Salicornia*), and *Spartina* -all native salt marsh plants.

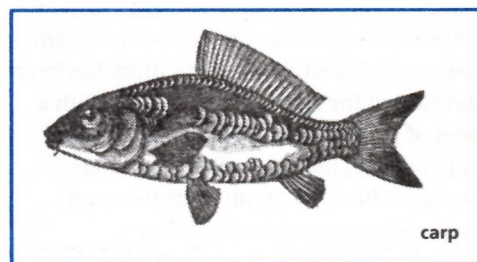
Much less conspicuous, but at least as important to estuarine fish and shrimp, has been the sudden appearance last summer of large beds of widgeon grass (*Ruppia maritima*) under the shallow waters of East Harbor. The plant emerged after the seashore and the Town of Truro partially restored the harbor's native salinity, reduced by diking since 1868.

Ruppia is most abundant at moderate salinities. At East Harbor, it teems with estuarine fish, shrimp and other invertebrates. As its name suggests, widgeon grass attracts and feeds several species of migratory and wintering waterfowl. Black ducks have become very frequent in *Ruppia* beds, even in summer.

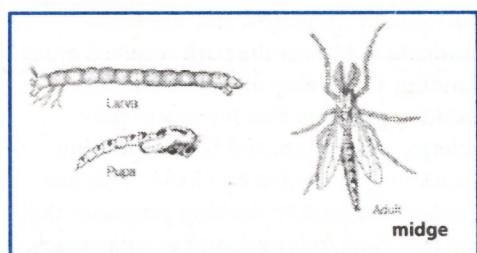
ANIMALS

Tide restrictions also reduce or eliminate the marine connection for animals, hindering estuarine and near-shore fish, crustacean, shellfish, and benthic invertebrate migrations that are essential to their life histories and contribute to fish and shellfish production. Tide restrictions also severely disturb natural chemical cycling in estuaries, with damaging effects on water quality and fish habitat.

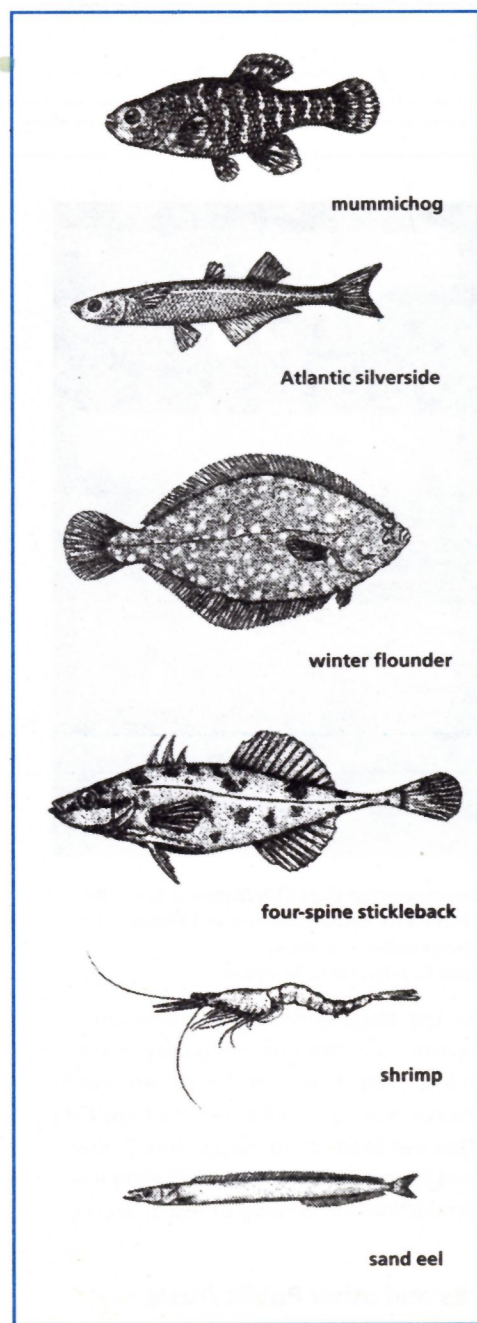
With the reintroduction of salt water, the big change at East Harbor has involved fish and nuisance insects. Before the partial restoration of tidal flushing and salinity, East Harbor was dominated by exotic common carp. These hulking bottom feeders churned up sediment, mud-



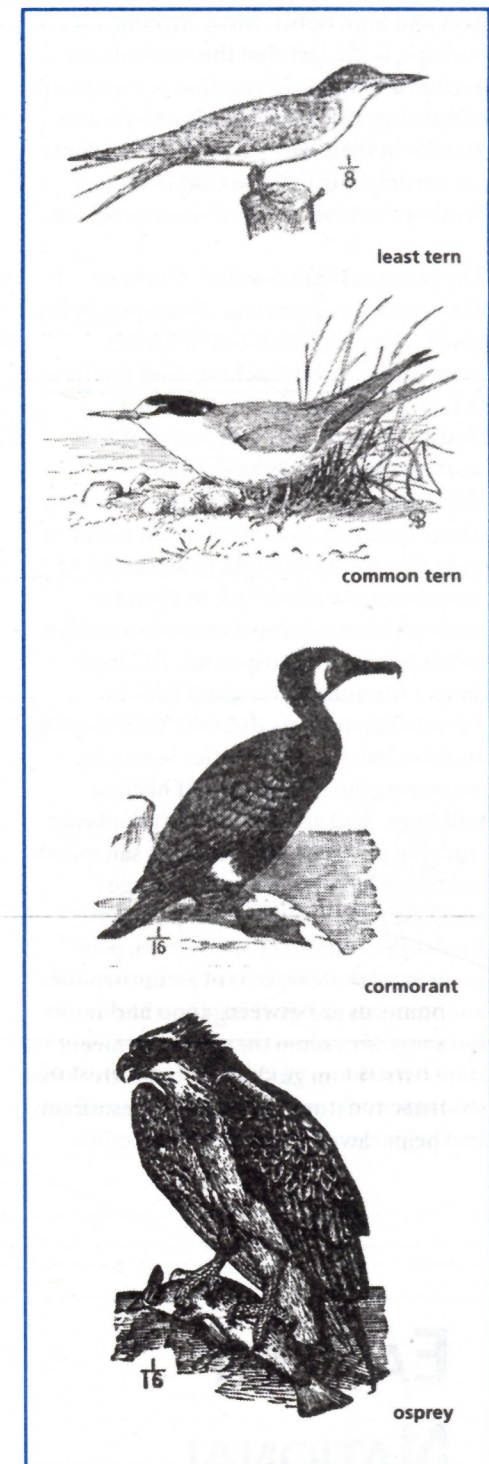
died the shallow water column and contributed to chronic summer oxygen depletions, to which they are largely immune. Low salinity, no tidal flushing and organically rich bottom sediments led to massive midge (a small non-biting fly) emergences that episodically blanketed



nearby homes and motels and even obscured visibility on adjacent U.S. Route 6. As expected, partial restoration of the harbor's tidal flow has caused the demise of most salt-sensitive carp and nuisance midges. The reestablishment of native estuarine fish has greatly exceeded expectations. Where once only introduced carp, alewives, American eels and white perch could be found, East Harbor now supports a variety of native estuarine fish: mummichog, Atlantic silverside, winter flounder, nine-spine and four-spine stickleback, sand and shore shrimp and sand eels by the thousands.



The modest increase in tidal exchange between East Harbor and Cape Cod Bay has triggered a profound recovery of estuarine animals. Besides the usual flock of gulls that have used the harbor for decades, it's now common to see least and common terns, cormorants and ospreys, ever watchful for new opportunities, hunting the newly abundant mummichogs, silversides and shrimp. Even river otters, normally associated with freshwater environments, continue to fish East Harbor, having apparently made the dietary switch from carp to perch and flounder.



Scientific research conducted here and salt marshes damaged by historic tide restrictions can, to some degree, recover simply through the reestablishment of tidal flow. Our management approach is to restore the marine connection, and then to allow nature to repair itself. Implicit in this approach is the understanding that we have much to learn about salt marsh restoration. To maximize what we learn, and to actively manage any unanticipated problems, tide-restoration projects are accompanied by intensive environmental monitoring. Through systematic monitoring we are seeing some dramatic, and often surprising, examples of the recovery of salt marsh flora and fauna.

Although plant and animal response to tidal restoration has so far been rapid and encouraging, final results are not yet in. Seashore scientists, along with town, state and university cooperators, will continue to monitor these restoration sites, as well as other marshes, both undisturbed and human altered, throughout Cape Cod.

Cape Cod National Seashore's *Parks as Classrooms* Program

Mention "field trip" to most 4th graders, and you will likely hear enthusiastic talk about a "day off" and a bus trip to a distant place. Mention "field trip" to 4th graders at Eastham Elementary School near Cape Cod National Seashore, and conversation includes measuring sticks, dichotomous keys and mud boots. Most striking, perhaps, is the fact that the students are excited about a field trip that is a mere 10-minute bus ride from the classroom and literally in their backyard. These students are participants in Cape Cod National Seashore's *Parks as Classrooms* program.

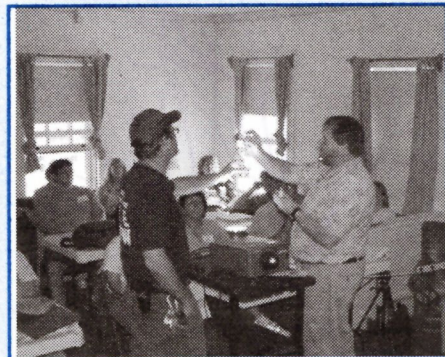
The National Park Service's *Parks as Classrooms* program was developed in the 1990s. The program is based on the premise that good teaching does not have to happen within the confines of a classroom. Teachers and park staff can work collaboratively to develop curriculum, and national parks are places where teaching and learning can occur in ways that are meaningful to students. At Everglades National Park in Florida, students learn concepts related to habitat by studying park ecosystems. At Great Smoky Mountains National Park in Tennessee, students discover their heritage and also have a mathematics lesson by measuring the dimensions of historic buildings. And at Cape Cod, students are studying plants and animals at a salt marsh near their home to measure change resulting from a restoration program. Across the National Park System, park rangers, educators, school administrators and students are working together to develop curriculum that not only meets state curriculum guidelines, but introduces students to natural and cultural resources and helps develop a stewardship ethic.

Cape Cod's *Parks as Classrooms* program has many dimensions. Curriculum has been developed for several grade levels, with a goal of providing a progression of age-appropriate, hands-on field experiences. Some of the curriculum units focus on cultural stories, such as whaling (represented by the Captain Penniman House) and early 19th-century communication technology (represented by the Marconi Site). Several programs involve long-term data collection to monitor local ecosystems in response to local and global change. The programs have been developed collaboratively with park researchers and educators to ensure that they are scientifically accurate, meet curriculum standards, and appeal to students. Last year the park received grant funding to develop an ambitious and exciting program that integrates park science, education, and remote sensing technology provided by NASA. This has allowed the park to develop programs that are real-time, relevant, and in some cases, result in significant research being conducted by educators and students. Much of the curriculum being designed will eventually be available via the internet and adaptable to other areas. In this way, schools located some distance from the park that are unable to participate in or be accommodated by the park's on-site program, can participate independently.

Considering the breadth of the National Park System, there's a very good chance that a park near you is offering a *Parks as Classrooms* program. Check it out!

Teachers Learn at Cape Cod National Seashore

Cape Cod National Seashore's education staff and research scientists are working with local teachers to develop a multi-grade level coastal ecosystem curriculum unit using remote sensing data and ground reference protocols to monitor ecological change at the local scale. Connections between the responses of local coastal ecosystems to environmental processes and human activities are made so that teachers and students will have a greater understanding of earth systems science and how climate change is affecting Cape Cod.



Paul Adams (standing right), NASA Project Globe Aerosol specialist, explains to workshop participants how to measure aerosols using a simple "Sun Photometer." Teachers and students from around the world participate in this project by submitting data to the NASA Project Globe on-line aerosol program (www.nasa.gov) to track global transport of airborne particles. Locally, aerosols can be natural ones like salt spray in the air, dust from volcanoes erupting thousands of miles away, ash from wildland fires or man-made-like particles emitted from factories and power plants. Large aerosol particles can be harmful to breathe, and they block sunlight from reaching the earth's surface.

A weekend workshop is planned for January 2005 for a limited number of teachers interested in updates to this three-year curriculum development project, scheduled for completion in early 2006.

Education Internet Resources for Teachers:

Learn NPS: www.nps.gov/learn

If you are a teacher searching for classroom materials, a student doing research or a person looking for a place to spend some time, have some fun and learn in the process - here you'll find curriculum, games, a guide to park Junior Ranger programs and a host of other educational media created by the National Park Service and its partners.

Links to Learning: www.nature.nps.gov/edures

Park environmental education resources on line for student and teachers.

Park as Classrooms: www.nps.gov/learn/grschoolzone/grpac/grpac.htm

Parks as Classrooms (PAC) programs and materials provide on- and off-site learning opportunities. PAC resources include: curriculum-based education programs, audio-visual materials including videos, accredited teacher training and workshops, traveling trunks and kits, teacher and student resources and/or curriculum guides.

Views of the NPS: www2.nature.nps.gov/synthesis/views#

Virtual experiences and Knowledge Centers relating to National Park Service resources. CD available upon request.

Web Ranger: www.nps.gov/webangers

Bring national park fun to your computer. Learn more about your national parks before a visit, or even if you can't visit them.

Teaching with Historic Places: www.cr.nps.gov/nr/twhp/

Cultural resources and history-based lesson plans.

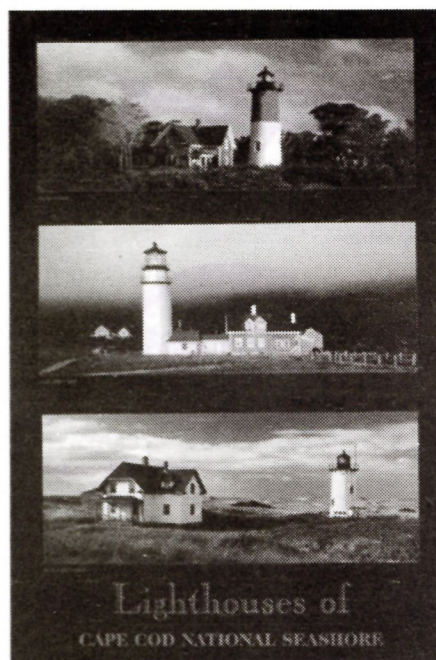
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Eastern National is a private, non-profit organization that provides quality educational products and services to park visitors. Proceeds are donated directly to Cape Cod National Seashore to support interpretive and educational programs, including the production and printing of this publication.

There's Something New at Old Harbor...



Cape Cod National Seashore and Friends Group Join Forces at Old Harbor Life-Saving Station

The National Park Service, in partnership with *Friends of the Cape Cod National Seashore*, is undertaking a project to conduct research and install new exhibits and furnishings at the Old Harbor Life-Saving Station at Race Point Beach in Provincetown. The National Park Service's education partner, *Eastern National*, is funding the research, and the *Friends* will raise funds for exhibits. The goal of the project is to introduce visitors to Cape Cod's rich maritime history and the exciting chapter represented by Old Harbor Life-Saving Station.

Friends of the Cape Cod National Seashore is a vibrant and thriving organization committed to the support and promotion of historical, scientific, educational and recreational projects of the seashore for which there are no federal funds available. Among its many activities are: assisting with the maintenance of public hiking trails, coordinating conservation projects, funding the preservation of historic structures, making seashore facilities and programs more accessible to the handicapped and administering special funds for research projects.

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Scenic Routes and Overlooks

At Cape Cod National Seashore opportunities for inspiration, reflection and renewal abound. Use this guide in conjunction with the park map to discover the drama of the ocean surf or the subtle beauty of a cultural landscape. Allow 15 to 30 minutes at each site to take in the view or walk to a scenic overlook.

The "Self-Guiding Nature Trails" folder provides additional information for some locations.



Eastham

Fort Hill Area -off Route 6. Open fields, views of Nauset Marsh, historic Penniman House (seasonally-scheduled free tours and open houses). Limited parking. Seasonal restrooms. Access to Red Maple Swamp Trail.

Coast Guard and Nauset Light beaches, Nauset and Three Sisters Lighthouses -off Route 6 at the traffic light at Nauset Road at the Salt Pond Visitor Center. Ocean View Drive in Eastham affords ocean and marsh views, and an opportunity to see historic light-houses (seasonally-scheduled free tours and open houses). Seasonal restrooms at beaches. Seasonal beach fees may apply. Highly congested in summer; spring and fall use recommended.

Wellfleet

Marconi Station Site - off Route 6, at the traffic light at Marconi Station area. High sand cliffs above the ocean and the history of Marconi and his wireless radio station. Interpretive exhibit. Observation platform. Seasonal restrooms. Access to Atlantic White Cedar Swamp Trail.

Atwood Higgins House - inquire at visitor centers for directions. 18th-century Cape house (seasonally-scheduled free tours and open houses) accessed from true "back roads" to Bound Brook Island. *Caution:* Circuitous, narrow roads. Limited parking.

Truro

Highland Lighthouse (Cape Cod Light) and Highland House -off Route 6, at the North Highland Road exit, North Truro. The oldest lighthouse on Cape Cod and adjacent museum (open seasonally, fees). Observation platform. Seasonal restrooms.

Pilgrim Heights - look for National Park Service sign off Route 6, North Truro. Viewpoint overlooks kettle hole with distant views of the sand dunes of the Province Lands. Access to Pilgrim Heights Trail. Picnic area. Seasonal restrooms.

Provincetown

Race Point Road - off Route 6 at Race Point Road traffic light. Scenic 2-mile road through beech and oak forest and the Province Lands dunes. Connects Race Point Beach to Province Lands Road. Herring Cove Beach loop (additional two miles). Access to Beech Forest Trail, Province Lands Bicycle Trail and Province Lands Visitor Center (seasonal).

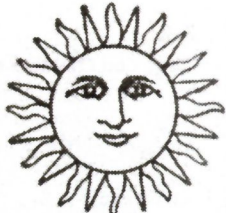
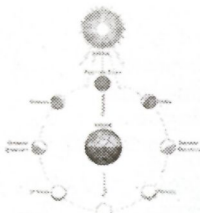
Old Harbor Life-Saving Station - at Race Point Beach, off Race Point Road. Historic structure at Race Point Beach (seasonally-scheduled free open houses) with dune and ocean views. Seasonal beach fees may apply.

photo: view from Marconi Beach staircase, Wellfleet by Barry Donahue

Coast Guard Beach, Eastham
HIGH TIDES

Average time difference from Coast Guard Beach, Eastham for high tide at locations on Cape Cod Bay: -0:30 for Pleasant Bay +1:15 for Nauset Marsh	July		August		September		October	
	AM	PM	AM	PM	AM	PM	AM	PM
1	11:20	11:32	1	12:15	12:57	1	1:44	2:11
2	-----	12:17	2	1:10	1:49	2	2:32	2:55
3	12:28	1:13	3	2:03	2:39	3	3:19	3:39
4	1:23	2:08	4	2:55	3:28	4	4:07	4:24
5	2:19	3:03	5	3:46	4:17	5	4:57	5:12
6	3:14	3:57	6	4:38	5:06	6	5:50	6:03
7	4:10	4:51	7	5:32	5:55	7	6:46	6:58
8	5:07	5:44	8	6:27	6:47	8	7:46	7:56
9	6:05	6:38	9	7:25	7:41	9	8:44	8:53
10	7:04	7:31	10	8:24	8:35	10	9:38	9:46
11	8:03	8:23	11	9:21	9:29	11	10:27	10:35
12	9:00	9:14	12	10:14	10:19	12	11:10	11:19
13	9:55	10:02	13	11:02	11:06	13	11:49	-----
14	10:46	10:49	14	11:45	11:49	14	12:00	12:27
15	11:32	11:32	15	-----	12:25	15	12:41	1:04
16	-----	12:14	16	12:30	1:03	16	1:21	1:42
17	12:14	12:55	17	1:09	1:39	17	2:03	2:21
18	12:55	1:33	18	1:48	2:16	18	2:48	3:03
19	1:34	2:11	19	2:29	2:54	19	3:35	3:50
20	2:14	2:49	20	3:11	3:34	20	4:27	4:42
21	2:54	3:28	21	3:56	4:18	21	5:25	5:40
22	3:36	4:08	22	4:46	5:06	22	6:28	6:44
23	4:21	4:51	23	5:40	6:00	23	7:35	7:51
24	5:09	5:37	24	6:40	6:59	24	8:41	8:58
25	6:02	6:28	25	7:44	8:02	25	9:44	10:01
26	7:00	7:22	26	8:50	9:06	26	10:40	10:58
27	8:00	8:20	27	9:54	10:09	27	11:30	11:50
28	9:03	9:19	28	10:53	11:08	28	-----	12:16
29	10:05	10:19	29	11:48	-----	29	12:38	12:59
30	11:05	11:18	30	12:03	12:38	30	1:23	1:40
31	-----	12:03	31	12:55	1:26	31	1:26	1:26

Moonrise & Moonset Phases of the Moon Sunrise & Sunset



July

1	8:10 pm	3:43 am	new moon..... 17th	1	5:09	8:20
7	11:56 pm	11:08 am	first quarter.... 25th	7	5:12	8:19
14	2:30 am	6:35 pm	full moon..... 2nd & 31st	14	5:18	8:12
21	9:21 am	10:40 pm	last quarter..... 9th	21	5:24	8:10
28	5:48 pm	1:29 am		28	5:30	8:03

August

1	9:07 pm	6:14 am	new moon..... 15th	1	5:34	7:59
7	11:26 pm	1:18 pm	first quarter.... 23rd	7	5:41	7:52
14	3:55 am	7:29 pm	full moon..... 30th	14	5:48	7:42
21	11:47 am	10:15 pm	last quarter..... 8th	21	5:55	7:32
28	7:04 pm	3:47 am		28	6:02	7:20

September

1	8:41 pm	8:47 am	new moon..... 14th	1	6:07	7:14
7	11:48 pm	3:16 pm	first quarter.... 22nd	7	6:13	7:03
14	6:08 am	7:11 pm	full moon..... 28th	14	6:20	6:51
21	2:34 pm	11:05 pm	last quarter..... 6th	21	6:27	6:39
28	6:43 pm	6:27 am		28	6:35	6:27

October

1	7:53 pm	9:52 am	new moon..... 14th	1	6:38	6:22
7	12:30 am	3:28 pm	first quarter.... 21st	7	6:45	6:11
14	7:20 am	6:20 pm	full moon..... 28th	14	6:53	6:00
21	3:05 pm	2:34 am	last quarter..... 7th	21	7:01	5:49
28	5:54 pm	7:36 am		28	7:09	5:39



National Park Service
U.S. Department of the Interior

Cape Cod National Seashore
99 Marconi Site Road
Wellfleet, MA 02667



Eastern National
PO Box 518
Eastham, MA 02642



Friends of the
Cape Cod National Seashore
PO Box 550
Wellfleet, MA 02667

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Local Area Information

Chambers of Commerce:

Cape Cod Chamber of Commerce:
Website: www.capecodchamber.org
Email: info@capecodchamber.org
Phone: 1- 888 33-capecod or 508 362-3225

Chatham:
Website: www.chathamcapecod.org
Email: chamber@chathamcapecod.org
Phone: 1-800 715-5567
Info
Booth: 508 945-5199

Orleans:
Website: www.capecod-orleans.com
Email: info@capecod-orleans.com
Phone: 1-800 865-1386
Info
Booth: 508 240-2484

Eastham:
Website: www.easthamchamber.com
Phone: 508 240-7211
Info
Booth: 508 255-3444

Wellfleet:
Website: www.wellfleetchamber.com
Email: info@wellfleetchamber.com
Phone: 508 349-2510

Truro:
Website: www.virtualcapecod.com/chambers/truro
Email: trurococ@capecod.net
Phone: 508 487-1288

Provincetown:
Website: www.ptownchamber.com
Email: info@ptownchamber.com
Phone: 508 487-3424

Outer Cape Bicycle Rentals:



Arnold's, Provincetown	508 487-0844
Bayside Bicycles, Truro	508 487-5735
Black Duck, So. Wellfleet	508 349-9801
Gale Force, Provincetown	508 487-4849
Idle Times, Eastham	508 255-8281
Idle Times, Wellfleet	508 349-9161
Little Capistrano, Eastham	508 255-6515
Nelson's, Provincetown	508 487-8849
Provincetown Bikes	508 487-8735

Whale Watching in Provincetown:

Dolphin Fleet	1- 800 826-9300
Portuguese Princess	508 487-2651



Dune Tours in Provincetown:

Art's Dune Tours	508 487-1950
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Outer Cape Campgrounds, RV Parks, State Parks:

Atlantic Oaks, Eastham	508 255-1437
Maurice's, So. Wellfleet	508 349-2029
Paine's, So. Wellfleet	508 349-3007
Horton's, No. Truro	508 487-1220
North of Highland, No. Truro	508 487-1191
North Truro, No. Truro	508 487-1847
Dune's Edge, Provincetown	508 487-9815
Coastal Acres, Provincetown	508 487-1700
Nickerson State Park, Brewster	508 896-3491

Historic Buildings at Cape Cod National Seashore

The Penniman House, Eastham

The Penniman House, completed in 1868, was styled after the French Second-Empire period. It included every known comfort of the day and many innovative ideas. The Captain Edward Penniman family enjoyed this fine home for nearly 100 years. *Off Route 6, approximately one mile north of the Orleans rotary at Fort Hill in Eastham. Limited parking.*



The Three Sisters lighthouses, and Nauset Light, Eastham

Lighthouses have served as guides to mariners off Cape Cod shores since the 1700s. This aspect of maritime history is interpreted at the Three Sisters and Nauset Light. The wooden Three Sisters, off Cable Road, are now arranged in their original configuration. *Take Route 6 to the traffic light at Salt Pond Visitor Center at Nauset Road, Eastham. Turn onto Nauset Road and follow signs to Coast Guard and Nauset Light beaches. Park at Nauset Light Beach. The Three Sisters are located 1/4 mile west on Cable Road. (Beach fees may apply.)*



Atwood-Higgins House, Wellfleet

The Atwood-Higgins House is a fine example of a properly-framed Cape Cod cottage, which grew from a half-house in the early 1700s to a full-Cape with eight rooms by the 19th century. *Take Route 6 to Pamet Point Road in Wellfleet (the last road in Wellfleet before crossing the town line into Truro). Take Pamet Point Road and follow signs to Atwood-Higgins. Limited parking.*

Pamet Cranberry Bog House, Truro

This building, located among former cranberry bogs in the Pamet Valley, was built around 1830, moved to its present site around 1888-89, and modified in the mid-1890s. It supported the cranberry harvesting that occurred there until the 1960s. *Friends of the Cape Cod National Seashore maintains a small demonstration bog nearby. Views of the house can be seen from atop Bearberry Hill. Follow North Pamet Road (Truro), off Route 6, to its end. Limited parking.*

Old Harbor Life-Saving Station, Provincetown

At Old Harbor, the National Park Service interprets the dramatic story of shipwrecks and the role of the US Life-Saving Service in preventing shipwrecks and performing rescues off the Outer Cape. During the summer months, reenactments of the historical breeches buoy drill are performed weekly. *Take Route 6 to Race Point Road. Park at Race Point Beach. (Beach fees may apply).*

