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United States Department of the Interior



NATIONAL PARK SERVICE
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IN REPLY REFER TO:

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Memorandum

To: Superintendent, Cape Hatteras
From: Regional Director, Southeast Region
Subject: Statement for Management, Cape Hatteras National Seashore

Enclosed is your approved Statement for Management.

Enclosure

Handwritten notes and checkmarks:
✓
✓
ML 11/18
copies sent to D. J. Chis, RNO,
all Seashore Dist + Subd supervisors

REVISED

STATEMENT FOR MANAGEMENT

CAPE HATTERAS NATIONAL SEASHORE
NORTH CAROLINA

Recommended *Thomas P. Hartman*
Superintendent

Date 11-4-93

Approved *James W. Coleman*
Regional Director
Southeast Region

Date 11/15/93

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LOCATION

Cape Hatteras National Seashore is located in North Carolina's Third Congressional District, within Dare and Hyde Counties.

PURPOSE AND SIGNIFICANCE

Cape Hatteras National Seashore was the first of a series of national seashores established to preserve significant segments of unspoiled barrier islands. These "outer banks" are part of a dynamic system that is continually changing in response to the forces of wind and wave. Although it is a harsh, demanding environment, the islands have provided resources and habitation for human use before and since European exploration of this continent.

Quite a few events of national significance have occurred on or near Cape Hatteras National Seashore. Those events include:

- Four centuries of shipwrecks that have resulted in enormous economic losses to this and other nations and have affected thousands of lives.
- The elimination of Blackbeard at Ocracoke. This event, which occurred in 1718, was doubtlessly a boon to all colonial shipping.
- The supply of the continental armies during the revolution by the port of Ocracoke.
- The first modern amphibious operation. This resulted in the Union capture of Forts Hatteras and Clark. The victory was important for Union morale and diplomacy, and Union control of the Carolina sounds influenced the outcome of the Civil War.
- Studies by Reginald Fessenden which assisted in the development of wireless communication.
- Torpedo and mine attacks on Allied shipping during World Wars I and II which seriously threatened the Allies' strategic supply line. The elimination of this threat sped Allied victory.
- The bombing experiment of 1923 by Brigadier General Billy Mitchell which proved that aerial bombing was critical in modern warfare.

The purpose of Cape Hatteras National Seashore is to preserve for the benefit and enjoyment of the people designated lands and waters that occupy the major part of the barrier islands from Whalebone Junction to Ocracoke Inlet and to provide for compatible visitor recreational use in suitable areas.

The seashore was authorized by Congressional Act, H. R. 7022 on August 17, 1937, (50 Stat. 669). Of special note is the provision that:

"Except for certain portions of the area, deemed to be especially adaptable for recreational uses, particularly swimming, boating, sailing, fishing, and other recreational activities of similar nature which shall be developed for such uses as needed, the said area shall be permanently reserved as a primitive wilderness and no development of the project or plan for the convenience of visitors

shall be undertaken which would be incompatible with the preservation of the unique flora and fauna or the physiographic conditions now prevailing in this area."

The national seashore was established by Secretarial Order on January 12, 1953.

The Act of June 29, 1940 (54 Stat. 702), amended the 1937 act by changing the name of the area to Cape Hatteras National Seashore Recreational Area and specified that hunting be permitted on Ocracoke Island, on the waters of the sounds within the park boundaries excluding the refuge area and adjacent closed waters, and "within not more than two thousand acres of land in the remaining portion of said national seashore recreational area, as shall be designated by the Secretary of the Interior."

The seashore's resources and history provide opportunities for the development of a number of interpretive themes that can be utilized to inform and orient park visitors. These themes include the natural and cultural history of the outer banks; the relationship of the area to important developments in commerce, industry and communication, and the various recreational opportunities that have been authorized by law or that are compatible with the authorizing legislature and the area's purpose and values. See Appendix B.

INFLUENCES: INVENTORY AND ANALYSISLEGISLATIVE AND ADMINISTRATIVE REQUIREMENTSOverview

Within the seashore, Federal ownership extends from ocean to sound, except that U. S. Coast Guard property and eight village enclaves are excluded from the National Seashore. On the oceanside of the villages, Federal ownership was established as a 500-foot strip measured landward from the mean low water at the time of acquisition. In addition, a larger area seaward of Buxton and Frisco includes portions of Buxton Woods. Pea Island Wildlife Refuge (5,880 acres) at the northern end of Hatteras Island is part of the National Seashore, but it is administered for refuge purposes by the U. S. Fish and Wildlife Service.

The enabling legislation for Cape Hatteras National Seashore (50 Stat.669) makes clear the intent of Congress to provide for recreational use. The legislation states that:

"... certain portions of the area, deemed to be especially adaptable for recreational uses, particularly swimming, boating, sailing, fishing, and other recreational activities of similar nature ... shall be developed for such uses as needed"

This was further clarified when, in 1940, the Act was amended to read "Cape Hatteras National Seashore Recreational Area" and to authorize hunting in certain areas. The designation "Recreational Area" was omitted without comment in the Act of October 11, 1962 (76 Stat. 909), which authorized the expenditure of Interior appropriations on the construction of a bridge across Oregon Inlet.

Equally clear is the intent of Congress to preserve these lands primarily as a primitive wilderness. "Wilderness," in the sense used in the Wilderness Act of 1964, i.e., a large area where man's effects are negligible and his works do not appear, did not exist on these islands at the time of the Act. Although there can be no doubt of the intent of Congress to preserve the flora, fauna, and natural conditions, no part of Cape Hatteras National Seashore has been found to be suitable for wilderness designation under provisions of the Wilderness Act. The presence of the State road and power lines along these narrow islands makes it doubtful that any of the seashore lands will ever fully qualify as wilderness under the Act of 1964.

The general types of recreation to be provided for are outlined in the enabling legislation. The 1940 amendment to this Act stipulates that hunting be permitted in certain areas. Hunting at the seashore is confined to the Island of Ocracoke, 20 blinds on Bodie Island, a marked area around Open Pond in Buxton Woods, and a 250-foot wide strip along the

sound shore of Hatteras Island between the villages. Hunting dates, legal species, and bag limits are prescribed by applicable State and Federal waterfowl hunting regulations.

The enabling legislation provides that "... the legal residents of the (local) villages shall have the right to earn a livelihood by fishing within the boundaries" of the seashore. The Act also gives the Secretary of the Interior the responsibility to establish rules and regulations that he "... may deem necessary in order to protect the area for recreational use as provided for in this Act."

The deed transferring seashore property from the State of North Carolina to the Federal Government reserves to the State the "right to lay out and establish over and upon said lands such other highways and roads as shall be deemed necessary by the State of North Carolina and political subdivisions thereof" Lands acquired directly by the United States through purchase or donation are not included in the deed reservation.

Section 5 of the enabling legislation states that:

"... any migratory bird refuge ... within the boundaries of the national seashore shall continue as such refuge ... for the protection of migratory birds, but such lands and waters shall be a part of the aforesaid national seashore and shall be administered by the National Park Service for recreational uses not inconsistent with the purposes of the refuge"

Pea Island National Wildlife Refuge, located on the north end of Hatteras Island, is administered by the U. S. Fish and Wildlife Service for the protection of migratory waterfowl. However, in keeping with the above legislation, recreational activity administered by the National Park Service (NPS) in such areas is to be such that does not interfere with the wildlife management function of the U. S. Fish and Wildlife Service. A memorandum of understanding defines areas of responsibility and cooperation for the Pea Island area. The NPS provides some of the protection and maintenance services for the many visitors who use Pea Island. This frees the small staff that operates the Pea Island National Wildlife Refuge for their primary duties of wildlife management.

Chapter 257, Public Laws of North Carolina, 1939, and the 1958 deed of conveyance granted concurrent jurisdiction to the United States, but that cession of jurisdiction was not accepted by the Federal Government at that time. This meant that the United States as a property owner held all the rights common to any real property owner and was also empowered to enforce such rules and regulations as may have been necessary for the protection and management of its lands, but that was the extent of the authority. Then, in accordance with Public Law 94-458 and N.C. G.S. 104-11.1, the United States accepted, and the State of North Carolina retroceded, Concurrent Jurisdiction over all NPS areas in the State of North Carolina. These actions conveyed additional authority to the Federal Government and empowered NPS law enforcement personnel to enforce all Federal statutes

and, under authority of the Assimilative Crimes Act, to prosecute violations of State and county laws in the Federal court system. This grant of authority had no effect on the rights and responsibilities of State and county officers to enforce State and county laws.

When the seashore was established, its boundaries were placed at or near the shoreline, except under Oregon Inlet and that portion of Pamlico Sound included in the Pea Island National Wildlife Refuge. There have been significant changes in the shoreline since that time, and usually, where the location of the margin of a body of water constituting the boundary of a tract of land is gradually and imperceptibly changed by accretion or erosion, the margin of the body of water remains the boundary line of the tract. In this instance, however, the deed of conveyance from the State of North Carolina to the United States provided that the NPS would retain jurisdiction over all land and water areas within the perimeter of the boundary described in the 1958 deed. On the other hand, as fast land accretes beyond the established boundaries, that new fast land falls under the jurisdiction of the NPS in accordance with the general rule relating to erosion or accretion.

In December 1991, the park was advised by the State of North Carolina that a title search relative to the possibility of State acquisition of additional lands in Buxton Woods near Frisco had revealed that the United States may own a six-seventh (6/7) interest in an 88.66-acre parcel outside but adjacent to the Cape Hatteras National Seashore boundary. The remaining one-seventh (1/7) interest is held privately. The United States' interest obtained in a 1952 deed was subject to a reverter clause, the status of which is currently being reviewed by the Regional Solicitor.

In 1974, the State of North Carolina passed a State Coastal Area Management Act in response to the Federal 1972 Coastal Zone Management Act (86 Stat. 1280). Although Federal lands are excluded from the 1972 Act, Section 303 of the Act requires that "... all Federal agencies engaged in programs affecting the coastal zone are to cooperate and participate with State and local governments and regional agencies in effectuating the purposes of this title."

The seashore has entered into agreements with several agencies and organizations. These include:

- a. A Memorandum of Understanding dated July 1965, with the U. S. Fish and Wildlife Service relative to planning, administering, development, and use of the Pea Island National Wildlife Refuge within the Cape Hatteras National Seashore, which:
 - (1) Requires mutual cooperation for planning for recreational development and uses.
 - (2) Places responsibility upon the NPS for dune maintenance and for developments for recreational use not inconsistent with refuge purposes.

- (3) Emphasizes that the dominant use will be wildlife management.
 - (4) Requires the NPS to recognize U. S. Fish and Wildlife Service, as appropriate, in signs on land within the refuge.
- b. A Public Use Management Plan for Pea Island National Wildlife Refuge dated March 1977, which details specific responsibilities and lists the public use facilities maintained by the NPS on the refuge.
 - c. A cooperative Fire Control Agreement dated March 1973, with the North Carolina Forest Service which requires both parties to:
 - (1) Assist the other in preventing fires on lands protected by the two agencies.
 - (2) Assist the other in detecting and reporting fires.
 - (3) Assist, when called, in suppression on lands protected by the other agency.
 - (4) Waive costs, claims, etc., pursuant to the agreement.
 - d. A Memorandum of Agreement dated April 22, 1977, with the Dare County Civil Preparedness Agency which requires the NPS to:
 - (1) Provide personnel and resources, when necessary, for the orderly evacuation of the area.
 - (2) Train selected personnel in evacuation duties.
 - (3) Provide personnel to man temporary shelters.
 - e. A Memorandum of Agreement dated December 16, 1976, with Cape Lookout National Seashore which provides for mutual use of the Office of Aircraft Services plane leased and operated by Cape Hatteras National Seashore and specifies a reimbursement rate for its support.
 - f. A Memorandum of Agreement dated November 27, 1979, with the U. S. Fish and Wildlife Service and the State of North Carolina which requires the seashore to cooperate, as appropriate for each agency, in the development of guidelines for planning, development, protection, administration and use of the Mountains-to-the-Sea Trail. (L5817-SER-PC, 12/5/79)

- g. Memoranda of Understanding with the U. S. Coast Guard for use of lands on Bodie Island for housing and a support facility, at Buxton for housing and a support facility, at Hatteras for a support facility, and at Ocracoke for housing.
- h. Mutual assistance agreements with neighboring village volunteer fire departments for cooperation in fire control activities in areas of mutual concern.
- i. A Memorandum of Understanding dated October 23, 1989, with the Ocracoke Preservation Society, Inc., which details specific responsibilities in reference to the David Williams house, which is owned by the Society but located on park land. This house is being restored by the Society and serves as the Society's center for the interpretation of Ocracoke Island's history and culture.
- j. A Memorandum of Understanding dated September 6, 1991, with Graveyard of the Atlantic Museum Committee for the Committee to use a tract of land near the Hatteras Village for the purpose of operating and maintaining a Graveyard of the Atlantic museum.

Rights of Way and Special Use Permits are issued in accordance with NPS policy. These range from utility line Rights of Way to permits that authorize governmental, commercial, and private uses. The seashore is also the beneficiary of use agreements issued by other governmental entities.

Issues

Sport and commercial fisheries are both authorized by law. Conflicts have at times arisen as competing users attempt to harvest the same waters. A compromise was instituted during the winter of 1975-76 when the Secretary ruled that commercial fishing would be prohibited in the vicinity of Cape Point on weekends (Friday, 12 midnight, through Sunday, 12 midnight) from October 1 to April 30. Conflict arose at Bodie Island and again at Cape Point during the last 2 years. Equitable and accepted resolution of this conflict was achieved through public workshops.

A majority of the vehicles that use highway N. C. 12 are probably occupied by park visitors. Because of this situation, the State Department of Transportation has mentioned the possibility of NPS participation in the cost of maintaining the highway.

Boundary lines are difficult to establish and maintain in a dynamic area where acres of fast land can be lost to erosion as a result of one major storm. Even if the land is not lost to the sea, its form is ever changing as the winds continually reshape and move the dunes.

The NPS has no authority to proceed with acquisition of the remaining one-seventh (1/7) undivided interest in the 88.66-acre parcel lying outside

park boundaries. NPS would accept a donation of the outstanding interest in the parcel if the State could acquire it and clear all outstanding claims. This would be by virtue of the Burton authority (PL 95-42) for boundary changes through the donation of adjacent lands. No action is anticipated until the question of ownership of the six-sevenths (6/7) interest in the parcel is resolved.

Objectives

Conduct public workshops as needed to mediate and resolve sport-commercial fisheries controversy in seashore locations and to maintain a balance of uses consistent with legislation.

Request clarification of the NPS position regarding sharing maintenance costs for N. C. 12 and, if the decision is favorable, garner the support of the State and the Congressional delegation to meet this responsibility.

Identify seashore boundary. Approaches could include:

1. Issuance of sub-regional boundary surveying and marking contracts that would be used to resolve boundary problems on a priority basis.
2. Development of a new means of monumenting and of locating and identifying submerged (and buried) boundary markers.

Seek Solicitor determination of United States' interests in lands outside the park boundary near Frisco.

RESOURCES - NATURAL

Overview

Cape Hatteras National Seashore is part of the east coast barrier island system. The seashore contains 30,318.88 acres of land and 70 miles of virtually unspoiled beach. Barrier islands, however, are a dynamic system, and the system's very existence depends upon its ability to move and shift in response to changing sea levels and the actions of wind and waves. These factors play a major part in all planning and management decisions since, on a barrier island, the only true constant is change.

One of the most important influences at Cape Hatteras is the weather, particularly storms. Two general categories of storm strike the outer banks region: tropical storms (hurricanes) and extra-tropical storms (northeasters). Either can cause great damage, whether the storm center crosses the coast or passes miles offshore.

Hurricanes with wind velocities from 75 to 150 miles per hour can easily destroy structures and push water high on the beach, flooding both lands and facilities. The cyclonic nature of these storms often causes sound water to be piled up toward the mainland, and then when the storm center passes, the wind reverses and pushes the flood back onto the islands, sometimes creating new inlets. On the other hand, the very frequency of

the extra-tropical storms (average 34 per year) as opposed to hurricanes (0.5 per year) actually makes the extra-tropical storm a more potent agent of shoreline change.

In addition to the hurricanes and northeasters, the area is vulnerable to extreme south/southwestern winds which can also bring flooding. An event of this type occurred in March 1993, when the "Storm of the Century" inundated Hatteras and Bodie Islands causing major destruction including almost one million dollars in property damage in the park.

Seashore vegetation is living evidence of harsh and changeable growing conditions: storms, salt spray, windblown sand, and saltwater overwash. Each physiographic zone has its representative plant community depending upon exposure to or protection from salt spray and flooding. In addition to the beach, these zones include upland interdune meadows and shrub thickets, maritime forest and associated freshwater marshes, and salt marshes. These zones have value for wildlife habitat, development, nature study, and the like. They also reflect ecological changes resulting from previous management and use practices. For instance, the creation and maintenance of an artificial dune line resulted in reduced overwash and a successional shift to shrub cover. The vegetation management plan has explored methods to restore and maintain a more natural vegetative cover. Several controlled burns have been conducted to reduce shrub growth and promote herbaceous vegetation in its place. Reduction of the invasive species Phragmites has been attempted through applying salt and covering with plastic sheets.

Seabeach amaranth, a pioneer species listed as threatened in 1992, exists within the park on both Hatteras and Ocracoke islands. The population at Cape Point is one of the largest left of the species and consists of over a thousand plants. Present management actions to protect nesting colonial birds also protect seabeach amaranth.

The seashore provides habitats for a wide variety of wildlife, including over 350 avian species. Its position along the Atlantic Flyway makes it a valuable resting and wintering place for large numbers of migratory waterfowl. Black ducks (declining in numbers nationally) and gadwalls nest within the seashore. Pelagic birds, seldom seen over land, are sometimes brought inshore by storms. Endangered avian species found in the seashore include American and Arctic peregrine falcons (migrants) and bald eagles (migrant). The piping plover, considered threatened on the Atlantic Coast, nests at several locations in the seashore.

Least terns, common terns, black skimmers, and other ground nesters use the beaches in significant numbers. These ground nesters, along with brown pelicans, herons, ibis, and egrets, also nest in significant numbers on offshore dredge spoil and estuarine islands (not managed by the seashore). All of these birds use the seashore for feeding and resting. The seashore has cooperated with the State in the development of a comprehensive management plan for colonial nesting birds.

Seashore marshes, especially near inlets, contribute to primary estuarine productivity and provide habitat for numerous wildlife species and unique plant communities. Bodie Island contains a significant brackish to fresh marsh area utilized by thousands of wading birds and wintering waterfowl. Jennette's sedge, which lies in part within the seashore boundaries, has been described by biologists as one of the best examples of a fresh water wetland to be found on any barrier island.

Of the terrestrial mammals occurring in the park, gray squirrels, nutria, muskrats, cottontails, and deer are most frequently seen. Marine species, whales, porpoises, and occasionally seals, are seen washed upon the beach or swimming near shore.

The 20 or so species of reptiles found in the seashore include two poisonous snakes, the cottonmouth moccasin and the canebrake rattlesnake. Of the four species of marine turtles that have been recorded, only the loggerhead (threatened) nests here. The seashore is the northern limit of loggerhead nesting, averaging 45 nests per year (counting Pea Island Wildlife Refuge). In 1988, a single green turtle successfully nested on Hatteras Island. This documented the northernmost nesting record for the species.

Buxton Woods, with its maritime forest, marshes and immediate environs, occupies nearly 9 square miles of old dunes and interdunal low grounds. It includes the only real timber in the park as well as unique plant and animal communities not duplicated in maritime forests north or south. Many of its plant and animal species occur nowhere else in the park. Yet, less than one-third of this maritime forest is within the park. In 1988, concern over private development within Buxton Woods was voiced by a newly organized citizens group, the Friends of Hatteras Island. Their efforts resulted in purchase by the State of North Carolina of 638 acres within Buxton Woods. This same impetus also led to more stringent zoning adopted by the county which restricts lot size for development to a 40,000 square foot minimum and regulates the amount of understory clearing within individual lots. These measures taken together will provide improved protection for the maritime forest and wetland complex. However, the park resources will continue to be threatened by the increasing Hatteras Island development, and the real potential (indeed planned) increase in drawdown of the fresh water aquifer.

In areas of the forest outside the park and State properties, clearing, draining, filling, and building are occurring at a rapid pace. It is likely that within two decades, most of the privately owned woods will have been destroyed as wildlife habitat and natural communities. Preservation of these elements will then depend on the park and adjacent State holdings. Water table depletion associated with development threatens fresh water plant communities within the woods.

Foresters consider the gypsy moth to be a serious threat to southern forests, and areas that host travel trailers from northern states are especially likely to have infestations. Buxton Woods is the area of greatest concern within the seashore due to the importance of these woods

to the plant and animal communities found therein. The risk is significant at this location due to the proximity of the NPS Cape Point and Frisco campgrounds and of privately owned campgrounds in the same general area. The Plant Protection and Quarantine Section, U. S. Department of Agriculture, and the Plant Industry Division of the North Carolina Department of Agriculture set traps in Dare and Hyde Counties each summer to intercept incoming moths. Male moths have been found in widely scattered parts of Dare County, and in 1984, egg masses were found in a private campground in Frisco. In 1989, egg masses were found in the Village of Ocracoke in Hyde County. In 1993, egg masses were found on Roanoke Island. The U. S. and N. C. Departments of Agriculture are increasing their trapping efforts throughout the seashore.

Issues

The most important natural resource issue facing management at present is the effect that development is having on water quality and quantity. Development of the village enclaves results in increased withdrawals of ground water and return to the soil and marsh waters of sewage effluent through septic systems. The cumulative effects on surface and ground waters of these impacts is not fully understood or documented. There could also be long-term impacts on the flora and fauna.

Another issue involves the succession of high marsh and dune grasslands to shrub thickets as a result of the dune lines that were created by the Federal Government in years past. This succession is altering wildlife habitats, increasing fuel loads, and changing the visual characteristics of the seashore.

Recreational and commercial uses (such as commercial fishing) and the ecological impacts of such uses are issues that will require continual attention in years to come. Additional information is needed to determine what types and amounts of use can and should be accommodated, whether additional use limits should be established, and whether some current uses should be phased out or new ones accommodated. The impact of ORV use and other recreational activities on piping plover habitat is not thoroughly understood. U. S. Fish and Wildlife Service is considering delineation of certain areas of the seashore as critical habitat for the piping plover. Research is ongoing, but expanded and intensified study is needed to identify appropriate management protection alternatives.

There is presently only minimal observance by visitors in areas accessible only by ORV of the requirement to have dogs on a leash. Free-ranging dogs frequently run into the posted waterbird nesting areas and disturb the wildlife.

The seashore continually needs, gathers, and uses more and more data and continually receives requests for all kinds of data. Most of the information that has been accumulated is not easily retrievable or useable without substantial expenditures of time and effort. There is a need to move from the manual manipulation of all data to electronic recall and

manipulation systems. A park-based GIS system is currently being developed to address part of this issue.

A corollary issue involves the need for retention and preservation of specimens collected in the research efforts. Adequate documentation and storage are needed to comply with collections requirements.

The gypsy moth has been slowly expanding its range southward down the east coast. This exotic insect could substantially impact the floral and faunal resources of the seashore--particularly in Buxton Woods. Egg masses have been found in the area, and it is probably just a matter of time until an infestation occurs. At that time, there will be intense pressure from many sources to take action to control the spread of the insect.

Possible hazardous material dumps from past practices exist at Bodie Island and Buxton maintenance storage sites. These must be assessed and appropriate cleanup/remediation actions taken.

Objectives

Monitor park water quality adjacent village boundaries.

Expand the Buxton Woods hydrological monitoring study in order to provide a comprehensive understanding of the water regime and the effects of drawdown.

Research historic vegetation cover and develop vegetation management guidelines to assess various management techniques, such as prescribed fire, that can be implemented to control or at least to reduce artificially induced successional changes within the seashore.

Monitor visitor uses and the impacts of use with focus upon sea turtle nesting, water and neo-tropical bird use areas, vegetation growth and succession. Increased off-road vehicle use must be a key component of this study area.

Expand visitor outreach, contact efforts to promote compliance with the dog leashing regulation.

Develop GIS database to provide readily retrievable information necessary for resource management analysis.

Maintain current inventory and documentation of research specimens on NPS collections program.

Monitor gypsy moth spread and assess control or eradication measures proposed by other agencies. Develop a contingency plan for gypsy moth control or for cooperative efforts with other agencies.

Conduct site assessments for hazardous materials at Bodie Island and Buxton. Perform cleanup/remediation as necessary.

RESOURCES - CULTURAL

Overview

The human history of the outer banks is the story of islanders adapting their lives to a harsh, demanding environment. The cultural resources of the seashore reflect this relationship.

Thousands of shipwrecks occurred along the coast, and this indicates not only the importance of maritime commerce, but also the needs for a rescue organization and for lighthouses as aids to navigation. Twelve stations of the United States Life Saving Service once existed on the lands now contained within the seashore boundaries. Of the stations still in existence, the NPS owns the Bodie Island Station, the Little Kinnakeet Station, and two structures at the Chicamacomico Station. The Bodie Island main station has been rehabilitated for adaptive use, but the boat house remains in need of stabilization and rehabilitation. Planning for restoration of the Little Kinnakeet complex has been completed, and funds are being sought to accomplish the restoration. The park intends to make necessary repairs and then transfer the Chicamacomico boathouse and stable to the Chicamacomico Historical Association in order to place management of the complex under a single organization. Park interpretation of the rescue service will then focus on the intact Little Kinnakeet station.

Another part of the story of "Man and the Sea" is that of the U. S. Lighthouse Service. The importance of the shipping lanes off the Cape, combined with the treacherous shoals and weather conditions, made dependable aids to navigation such as lighthouses an absolute necessity. The current Cape Hatteras Lighthouse, built in 1870 and the tallest brick lighthouse in the United States, and the Bodie Island Lighthouse, built in 1872, are located within the seashore. The former is owned by the NPS.

Preservation/stabilization work on the Cape Hatteras Lighthouse was completed in 1992. The Bodie Island Lighthouse is exhibiting many of the same structural problems seen at the Cape Hatteras Lighthouse, but that structure is owned by the U. S. Coast Guard, and that agency is responsible for its maintenance.

When the Cape Hatteras Lighthouse was built, it was located 1,500 feet from the ocean. Today, the lighthouse is approximately 160 feet from the water's edge. The issue of lighthouse protection appeared to be resolved in 1985 when the NPS adopted a Corps of Engineer's proposal to construct a revetment encircling the base of the structure. Private citizens interested in moving the structure, however, caused reconsideration of the alternatives. The NPS asked the National Academy of Sciences (NAS) to review the feasibility of relocation. NAS reported that the move was technically possible. After further public review of alternatives, the NPS decided upon relocation as the most appropriate means of long-term protection. The NPS also stated, however, that relocation would not occur until the threat of loss of the structure to the sea equaled or exceeded the threat of possible loss by a move. The park continues to work with

the U. S. Army Corps of Engineers to implement recommended, temporary protective actions including repair/expansion of the sandbag buffer and groinfield.

The NPS also owns and has completed rehabilitation of the Principal Keepers and the Double Keepers Quarters at the Cape Hatteras Light Station and the Keepers Quarters at the Bodie Island Light Station. The Hatteras Double Keepers Quarters and the Bodie Island Keepers Quarters have been opened to the public as visitor centers. The Hatteras Principal Keepers Quarters remains closed pending design and preparation of exhibits.

Other historic structures owned by the NPS include the Bodie Island Coast Guard Station, four Civilian Conservation Corps cabins at Buxton, and the Hatteras Weather Bureau Station. The Cabins and the Weather Bureau Station are being used as housing for park personnel. The General Management Plan calls for the Bodie Island Coast Guard Station to be moved to Whalebone Junction where it will serve as the Entrance Station for the north entrance to the seashore. The General Management Plan also calls for the Weather Bureau Station to be used, following restoration, as a visitor center with exhibits that relate to the history of the U. S. Weather Bureau. At present, however, the need continues to exist to utilize the structure as housing. A preliminary inspection of the Weather Bureau Station indicates that major work will be needed to bring the structure to standard. Rehabilitation of the Civilian Conservation Corps cabins has been completed under the Service's HUDAT initiative.

The NPS also maintains the Ocracoke Light Station Double Keepers Quarters and has performed significant preservation work on both the lighthouse and the quarters. Both of these structures are owned by the U. S. Coast Guard. The Coast Guard has expressed its interest in transferring the Ocracoke Light Station lands, lighthouse, quarters, and sheds to the NPS. Currently, the NPS uses the Light Station Keepers Quarters as employee housing under a Special Use Permit from the Coast Guard. The NPS would accept transfer of the Light Station property in order to continue to meet NPS housing needs and to improve interpretive opportunities for visitors to the lighthouse. The park has requested determination by the Regional Solicitor of the legal means of transfer of these properties.

Six cultural landscapes have been identified within seashore properties or areas the park manages: Bodie Island Light Station, Little Kinnakeet Life Saving Station, Cape Hatteras Light Station, Civilian Conservation Corps cabins, Hatteras Weather Bureau Station, and the Ocracoke Light Station. A Historic Grounds Report was completed in 1988 for the Little Kinnakeet complex. Cultural Landscape Reports are needed for the other five sites.

The Ocracoke horse herd once numbered several hundred free-ranging animals. Now, a small, managed herd, maintained for its possible historic value, is contained in a 170-acre fenced pasture. The herd has been tentatively identified as a cultural resource since it may be descended from mustangs that were brought to the New World in the 16th century by Spanish explorers. Genetic research has been completed as part of the effort to define the significance of these horses.

Four small cemeteries are located within the seashore boundaries. The Scarborough Cemetery, located in a wooded area behind the Ocracoke Visitor Center, contains at least two graves. A cemetery located near the Open Pond Road in the Buxton area is being maintained by the U. S. Coast Guard. It contains the remains of four men who washed ashore during World War II, only two of whom have been identified. There is also a small cemetery located about 100 feet from the sound near Little Kinnakeet Life Saving Station. The fourth cemetery is an inholding in the Salvo campground. Because of its location, the NPS has agreed to maintain the fence around this cemetery.

The seashore has 14,912 artifacts that have been accessioned into its museum collection. Most of these items relate to the Life Saving and Lighthouse Services, and many of the items will eventually be utilized in exhibits that help interpret the history and significance of those organizations. The park does not have adequate secure storage space for all artifacts, and an addition to the museum collection storage building located at Fort Raleigh is needed.

Issues

Several of the seashore structures that are listed on the National Register are severely deteriorated due to corrosion, rot, and insects. In addition, changing shorelines due to oceanic encroachment threaten some structures. Monitoring of the shoreline is needed in front of the Cape Hatteras Lighthouse so that relocation, if necessary, can occur in a timely manner.

The major issues in reference to cultural resource management are: (1) the establishment of valid priorities for preservation based on the condition and significance of each structure, and (2) accomplishment of the required work on a timely basis.

The size of the museum collection storage building is inadequate to meet park needs.

Research needs to be continued in order to determine the significance of the Ocracoke horse herd and thereby form the basis necessary to determine the manner in which the herd should be managed.

Additional information is needed about the persons who were buried in the cemeteries within the park, and determinations made of the manner in which the cemeteries will be managed and maintained.

Archeological resources have not been comprehensively surveyed. In order to fully appreciate the rich human history of the outer banks and to identify the most appropriate sites for future development, such a survey would be most valuable. The survey data should be incorporated into the park's GIS program.

Objectives

Monitor the shoreline in front of the Cape Hatteras Lighthouse. Relocation planning, environmental compliance, and contract specification development are required prior to implementation of the selected long-term protection method.

Update Development/Study Package Proposals (10-238's) for historic structures as needed. These cover the requirement for Historic Structures Reports, Historic Furnishings Reports, Cultural Landscape Reports, Historic Structure Preservation Guides, and preservation/restoration work.

Perform cyclic and routine maintenance in accordance with the Historic Preservation Guides and the Secretary of the Interior's Standards for Rehabilitation.

Complete study of the need for secure storage space to adequately house all collections and the need for museum services staff.

Continue research on the historic significance of the Ocracoke horse herd in order to provide guidelines for herd management.

Research history of the park cemeteries and prepare a maintenance schedule in order to properly preserve these cemeteries.

Conduct a comprehensive archeological survey of the seashore in order to identify cultural resources.

LAND USES AND TRENDSOverview

The recreational resources of the outer banks make the tourism industry the economic cornerstone of Dare County and a valuable asset to Hyde County. The area is experiencing intensive development in compact, localized areas associated with beach accessibility, while the mostly rural character of the remaining land is unaffected. Agriculture is minimal and confined in any appreciable degree to the mainland. More mainland areas may be cleared and drained for agriculture; however, much appears incapable of anything but timber production. The U. S. Fish and Wildlife Service has received a major portion of mainland Dare County and smaller segments of neighboring counties as wildlife habitat. Despite the development of a major commercial fishing industrial park on the southern end of Roanoke Island, commercial fishing activity has declined in relative importance due to the instability of Oregon Inlet and increased employment opportunities in construction, tourism, and government. Promotion and advertisement of the outer banks encourages increased influx of visitors and the demand for even more facilities and services (motels, rental cottages, restaurants, gift shops). Residential development is proceeding at a rapid rate for both vacation cottages and full-year residences. All of this growth has taxed existing levels of available

utilities and created increased demands for water, electricity, sewage treatment, garbage collection and disposal, and public services.

Eight village enclaves exist within, but are excluded from, the seashore's authorized boundary. All but a 0.55-acre cemetery is owned by the United States, although substantial acreages are under the jurisdiction of other agencies. See appendix C. The Salvo cemetery is held in common by the inhabitants of the village of Salvo.

Growth within the village enclaves has stressed existing utilities and led to increased demands for additional public services. A special permit was issued for the construction of a water line across seashore land between Buxton and Avon to alleviate deteriorating water quality due to community growth. The Cape Hatteras Water Association which serves the communities of Hatteras, Frisco, Buxton, and Avon has proposed expanding its water supply to meet current and future demands. The increased pumping would draw from the aquifer which underlies Buxton Woods, one-third of which lies within the park. Research is ongoing to determine the effects of current and proposed drawdown on flora and fauna.

Cape Hatteras Electric Membership Cooperative has proposed to upgrade its transmission facilities from 34.5kV to 115kV. Transmission is presently accomplished via pole suspended overhead wire which is a visual intrusion on the natural and cultural scene. The proposed upgrade will also use suspended overhead wire. Undergrounding the transmission cable would greatly improve the aesthetics of the seashore but appears prohibitively expensive with present technology.

The U. S. Coast Guard maintains several stations within the seashore boundaries which provide a base of operations for their activities and responsibilities on the outer banks. Three of these stations are under special use permit with the NPS; the other is on property that is under Coast Guard jurisdiction. Their activities are critical to the health and safety of visitors and residents of the area, and their presence is an integral part of the cultural tradition of the outer banks.

The Department of the Navy used 49 acres of seashore land on Hatteras Island during the period from 1956 to 1982 to construct and operate a Navy Base. That base was decommissioned July 1, 1982, and the structures and facilities constructed thereon were unused until the NPS issued a Memorandum of Understanding to the U. S. Coast Guard which authorized that agency's use of the base. There are no plans at present to amend this arrangement.

The villages and the seashore are serviced by N. C. 12, a hard-surface, two-lane transportation corridor reserved by the State of North Carolina (100-foot right-of-way) which traverses the seashore for approximately 50 miles. The State has relocated sections of N. C. 12 on four occasions due to washout by storms. The State establishes location and standards of construction and maintenance. State-operated ferry boats connect Hatteras and Ocracoke Islands and Ocracoke Island to mainland North Carolina. The roads and ferries are heavily congested during the summer peak visitation

periods. The State also manages the Billy Mitchell airstrip, near Frisco campground and the Ocracoke airstrip, near Ocracoke Village.

Two major inlets transverse the seashore, and another is located on the southeastern tip of the park. The inlets are major points of ingress and egress to and from the Atlantic Ocean for commercial fishing craft, charter and party boats, headboats, and craft owned by local and visiting sport fishermen and the U. S. Coast Guard. Periodic dredging by the U. S. Army Corps of Engineers is required to maintain channels to soundside ports. The N. C. Department of Transportation performs additional dredging to maintain ferry channels in the sound. Frequently, the only available upland disposal sites for spoil material have been on seashore lands which has created pressure for use of park lands. Requests are received and acted upon on the basis of the NPS policy in such situations.

The U. S. Army Corps of Engineers has developed a proposal to structurally stabilize Oregon Inlet, an opening in the North Carolina outer banks bordered by Cape Hatteras National Seashore and Pea Island National Wildlife Refuge. The Corps' proposal includes construction of large stone jetties on each side of the inlet and a sand bypass system to move sand intermittently across the inlet for beach replenishment. Alternatives for stabilization are still under discussion, including a dredging-only alternative. The Department of the Interior has stated its objection to the jetty project. In essence, the Department has stewardship responsibilities for both the seashore and the wildlife refuge, and legal requirements as well as the Department's analysis of information provided by the Corps of Engineers preclude administrative authorization of the project. In 1985, the Assistant Secretary for Fish, Wildlife, and Parks stated that the Department would consider other proposals for maintenance of a navigational channel through Oregon Inlet, provided the Department's mandated responsibilities and environmental concerns were upheld. Without such other proposals, the Department would remain opposed to the construction of jetties and would continue to support the dredging alternative. Due to continuing erosion at Oregon Inlet, Hatteras Island residents feared the southern terminus of the Bonner Bridge would be undermined. This would break the only transportation link from the island to points north. As a result, the State requested and was given permission by the Department of the Interior Secretary to build a groin at the north end of Pea Island Wildlife Refuge. This work was completed in 1990. The State is required to monitor erosion south of the groin to ascertain whether erosion has accelerated due to the groin construction.

Offshore tanker traffic, sound barge traffic, and proposals for offshore oil and gas exploration require the seashore to work with the State of North Carolina and the U. S. Coast Guard in reviewing proposals and preparing contingency planning to assure maximum protection for seashore resources.

The Ocracoke Preservation Society has expressed strong interest in acquisition by the NPS of an 82-acre privately owned parcel identified as Springer's Point. The tract is contiguous with NPS land but is not within the currently authorized boundary. The tract is undeveloped and includes

both marsh and maritime forest and may have been a prominent site in the history of the village. The owners have presently listed 42 acres of this site for sale and have stated their willingness to sell to the NPS. This portion listed is not adjacent NPS land. The NPS has not conducted a study of the suitability and feasibility of inclusion of the site in the NPS system.

Issues

Increasing urbanization, particularly at the northern end of the seashore but also in the village enclaves, will have significant impacts upon park resources.

Inside the seashore's authorized boundary, the non-Federal land that exists poses no known threat to park resources or administration. Federal lands administered by the U. S. Coast Guard, U. S. Fish and Wildlife Service, and the N. C. Department of Transportation additionally pose no known threat to the mission of the NPS.

North Carolina Highway 12 faces increasing threats from erosion at a number of sites along its entire length. Although the highway has been relocated or buffered by sandbags in some sections, this problem will continue to recur. The State of North Carolina, Department of Transportation, conducted a study to assess N. C. 12 and predict those sections which are the most threatened and review alternatives for their protection.

The Herbert C. Bonner Bridge spanning Oregon Inlet is projected to be of useful service only until 1999. The North Carolina Department of Transportation is planning for its replacement and has elected to construct a new bridge as close to the alignment of the existing bridge as possible. The current planning does not take future relocation of North Carolina 12 into consideration. Proposed construction techniques are not environmentally attractive.

The Oregon Inlet jetties proposal, should it become reality, will necessitate the transfer of jurisdiction over park lands to the Department of Defense. Jetty construction will influence sand migration patterns along the shore, building sand deposits on the north side and increasing erosion of the beach on the south side.

Proposed oil and gas exploration as well as existing tanker and barge traffic pose the possibility of severe adverse effects on the seashore. The park needs to be abreast of the issues and involved in emergency response planning.

The Ocracoke Preservation Society desires to protect Springer's Point from development and suggests NPS acquisition of the tract for this purpose.

Objectives

Monitor changes in land use, zoning regulations, and building codes along the park perimeter, as outlined in the Resource Management Plan, and consult with the appropriate State and local agencies regarding effects on park resources.

Participate in deliberations of future N. C. 12 alignments to assure that resource mitigation is a factor in highway protection planning.

Track issues and legislation pertinent to the Oregon Inlet jetty proposals and consult with appropriate officials regarding concerns.

Track issues and legislation pertinent to oil and gas exploration proposals and prepare for appropriate emergency response to spills from existing conditions.

Study the suitability and feasibility of inclusion of Springer's Point in the NPS system.

VISITOR USE ANALYSISOverview

Private ownership of oceanfront land north of the seashore limits public access to area beaches. Public beaches in nearby metropolitan areas such as Virginia Beach tend to be crowded. Parking for beach access on the seashore is limited.

Cape Hatteras National Seashore provides access to some of the finest surf fishing and off-shore fishing in the world. Crabs are plentiful in the quieter waters of the sounds. Sport and commercial fishermen take a wide variety of species including bluefish, trout, and drum. A one-time world record Atlantic blue marlin taken in the nearby Gulf Stream was landed by a boat from the Oregon Inlet Marina.

Off-road vehicles (ORV's) are being used in increasing numbers by recreationalists. These visitors seek fishing, surfing, and sunbathing opportunities at areas removed from highway paved access. ORV's must be street licensed and must enter and exit seashore and sound sites by park established routes. The majority of the park ocean shore is open to ORV traffic during the peak fishing season. All of Pea Island National Wildlife Refuge, however, is closed to ORV traffic. In addition, areas fronting protected beaches, campgrounds, the Cape Hatteras lighthouse, and villages are closed to ORV's during the heavy pedestrian season (mid-May to mid-September). Other areas are closed as needed to protect nesting birds, turtle nests, and vegetation.

Littering of the beaches by visitors, off-shore boats, fishermen, and others is a continual occurrence. Littoral drift also brings trash down the coast from the north.

Concentrated use of seashore lands results in the destruction of vegetation and this in turn leads to wind and water erosion. These results are particularly noticeable along the dune line near campgrounds and other areas of concentrated use. Camping is permitted only in designated campgrounds. The number of campers is limited to design capacity and the length of stay to fourteen days between May 1 and Labor Day. Surfing is prohibited at heavily used swimming beaches in summer and near fishing piers for safety reasons. Certain areas of beach (on all three islands) are closed to both vehicles and pedestrians in the summer to protect nesting terns and plovers, but visitors can normally pass seaward of such nesting sites. Visitor use of the Wildlife Refuge impoundments is limited to paths along the dikes to avoid disturbing the waterfowl.

During the summer, the seashore normally operates three lifeguard-protected swimming beaches. These beaches are located at Oregon Inlet, Cape Point, and Ocracoke. In 1993, however, funding limitations allowed operation of only one lifeguard-protected beach, which was at Ocracoke.

June, July, and August are the months with the highest visitation, but there are significant levels of travel from May through November. January and February have the lowest visitation. (See Appendix D.)

The average annual visitation during the period 1980 through 1983 was 1,860,013 visits. Then during 1984, new studies were conducted of the passengers-per-vehicle ratio, and it was determined that the ratio needed to be reduced from 2.8 persons per vehicle (peak season) to 2.1 persons. This was a 25 percent decrease. Using the new ratio, the average annual visitation during the period 1984 through 1992 was 1,890,428. This level means that local overcrowding of visitors or vehicles often occurs in certain areas, especially on holiday weekends. However, if visitation were more evenly distributed geographically within the park, visitors could still be accommodated throughout most of the season without feeling crowded.

In 1992, there were 145,135 overnight stays within the seashore. Of this number 126,385 people stayed in campgrounds and 18,750 were in boats harbored at the NPS docks at Ocracoke.

Ranking of Activities by Popularity

<u>Activity</u>	<u>Visitor Participation Percent</u>
Sightseeing\Beachcombing	27
Visitor centers/lighthouses	23
Fishing	18
Swimming (at protected and unprotected beaches)	13
Surfing	7
Self-guided tours	4
Picnicking	3
Lectures	3
Outboard boating	2
Hunting	0.1

Windsurfing, although not listed above, has been growing dramatically as an area sport in the last several years. Canadian Hole, just north of Buxton, has ideal water and wind conditions for this activity. The parking lot stays heavily congested throughout warm weather periods.

Issues

Seasonal overcrowding already occurs, and this condition will probably worsen as private and commercial interests continue to promote and develop the outer banks. In addition, as use increases, the impacts on the natural and cultural resources, facilities, equipment, and the quality of user experience will increase in direct proportion, and this could result in resource and experience degradation unless counter measures are taken.

As local landfills reach capacity and the region constructs new landfills in conformance with current standards, contract costs to the park for trash removal will increase dramatically.

Litter, in all its forms, arrives by sea and by land. The debris problem on the beach is not yet as acute at Cape Hatteras as it is in more urban seashores or in oil and natural gas production areas. Heavy concentrations of litter along roadsides immediately north and south of the village enclaves, however, have become a major problem. Volunteers aid the park staff in conducting periodic cleanup campaigns on both the beach and the roadshoulders.

Objectives

Assess recreational carrying capacity. The study should identify and examine the feasibility of various approaches to solution of the problem and must incorporate user perceptions as well as environmental concerns in the analysis.

Seek ways to accomplish trash removal without adversely impacting other park operations.

Promote Americans' pride in the appearance of their park. Programs such as the North Carolina Beach Buggy Association's "Operation Beach Respect" help, but in many cases, they do not reach, or are ignored by confirmed litterers. Search for new, more effective ways of reaching and informing Americans and of changing their attitudes about trash and the impacts of trash on scenic and natural resource values.

FACILITIES AND EQUIPMENT ANALYSIS

Overview

Access within the seashore via N. C. 12 is adequate for normal traffic loads. However, if a Category Three, Four, or Five Hurricane were to coincide with peak visitation, the highway could prove to be inadequate. Such a threat could thwart Civil Defense efforts to evacuate the islands quickly, even though advance planning by park, State, and local authorities has done much to solve this problem. At present, access to and from Ocracoke is primarily limited by the capacity of the Hatteras Inlet ferries. Ferries between Ocracoke and the mainland towns of Cedar Island and Swanquarter have done little to relieve this situation. The number of touring bicyclists that visit the park each year is increasing, even though high-speed traffic, commercial vehicles, and soft (and often low) shoulders on NC 12 make such use dangerous. It is also difficult to evacuate bicyclists rapidly because of their slow rate of travel, unless they are transported out on another vehicle.

The three visitor centers and associated parking areas are often inadequate for peak visitor loads. The Bodie Island and Hatteras Island visitor centers are historic structures, and each has been recently rehabilitated. The park does not have base funding, however, to adequately provide routine maintenance of these rehabilitated structures. Exhibits have been designed and installed in the Hatteras facility, but no exhibits have yet been provided at Bodie Island. The visitor center at Ocracoke is a recently constructed building that also provides limited office space for interpretive personnel. It is considered temporary, however, and is inadequate to accommodate the groups of visitors who disembark from the ferries.

In accordance with the Historic Sites Act of 1935 (Public Law 74-292, 49 Statute 666), the Historic Preservation Act of 1966, and Executive Order 11593, the seashore has the responsibility to preserve and interpret other historic sites and structures within the seashore, specifically sites and structures related to the United States Life Saving Service, the United States Lighthouse Service, the United States Coast Guard, and the National Weather Service.

One of the structures, the Cape Hatteras Lighthouse, was closed to the public because of corrosion of cast iron structural members and cracks in the masonry. The NPS contracted with an architect-engineer firm to do a complete structural analysis and to develop plans for preservation and maintenance of the structure. This study was completed, and the resulting

preservation/stabilization contract was awarded in 1990. The contract work was concluded in 1992, and the structure was reopened to the public on Memorial Day weekend, 1993. Visitor orientation and safety information are provided at the lighthouse by volunteers.

There are five family campgrounds in the park, and they all provide restrooms and cold showers. There are also a number of nearby private campgrounds which can usually care for any visitation overflow. Funding restrictions sometimes require that one or more campgrounds remain closed during the travel season or that the period of operation be reduced. Campground facilities and utility systems are being replaced as funds permit.

There are four concession facilities located at Cape Hatteras National Seashore: a marina on Bodie Island and three fishing piers on Hatteras Island. The marina is operated by Oregon Inlet Fishing Center, Inc., and it offers a (breakfast only) restaurant, tackle shop, charter boat, docking, and fish cleaning services. Hatteras Island, Inc., at Rodanthe, and Cape Hatteras Fishing Pier, Inc., at Frisco offer pier fishing, sale or rental of various types of fishing equipment, and clothing items related to fishing. Thornton Limited Partnership at Avon offers the same plus a restaurant serving breakfast, lunch, and dinner. Since fishing is a major recreational activity at the seashore, concession operations provide needed services. Land use assignments for these concessions are in compliance with present policy. Service is generally adequate and no expansion is contemplated. While not considered a major problem, the fact that two of the fishing piers are accessible to use only through private property or via the beach creates difficult procedures when renewing or transferring contracts.

Park housing for seasonal personnel is limited and in poor condition. In this resort area, summer housing outside the park, when available, is prohibitively expensive. This works against the return of highly qualified seasonals with consequent loss of their experience and training. Permanent housing is also in short supply and in several cases, inadequate in size or condition.

The General Services Administration provides the seashore's motor vehicle fleet, but the principal effect of operation in a sand and salt environment is rapid deterioration. Vehicle downtime is frequent, often extended, and has a major impact on park operations. Covered storage is not available for most of the park-owned heavy equipment, so it is exposed to the corrosive environment on a year-round basis. Metal parts of other equipment, instruments, tools, supplies, are also subject to corrosion and therefore have a shortened useful life.

ROADS:

The park owns and maintains the following:

23.832 miles of asphalt-paved primary and secondary roads and parking areas.

1.03 miles of graded stone or gravel roads which includes driveways, access roads to water systems, and one roadside parking lot.

0.74 miles of graded dirt roads to maintenance storage areas.

The figures given above include more than 27,000 sq. yds. of parking space for 1.9 million visitors per year.

These roads are maintained to safety standards through roadway patching, shoulder maintenance of blow-outs and ruts, and routine mowing. Major repairs, including surface overlays and major shoulder stabilization projects, are subject to availability of funding through such programs as FLHP.

TRAILS

There are three nature trails in the seashore. One is located at Buxton, another is at Ocracoke near the campground, and the third is a 3-mile loop circling the Bodie Island Lighthouse.

The trail at Buxton has a foot bridge extending over a fresh water marsh, and the Ocracoke trail incorporates boardwalk segments and a wood overlook structure. Three other wood overlook structures are located at Bodie Island, adjacent ponds at the lighthouse area, and along the park entrance road. The nature trail at Bodie Island is part of the North Carolina Mountains-to-the-Sea Trail.

There are 7.2 miles of boardwalk within the park at various locations. They are primarily located within or near the four northern-most campgrounds, on nature trails, and at pedestrian beach accesses from vehicular parking pull-offs.

There are 0.44 miles of concrete walks located at the Oregon Inlet Marina and the Hatteras visitor center/lighthouse area.

The park maintains an off-road vehicle access program which includes 22 oceanside access roads, 15 soundside access roads, and 18 flexible wood or Geo-Web dune-crossing ramps. Due to heavy use, these ramps require replacement on a 5-year rotating cycle. Two of the access roads are routinely graded by the park, and the rest are on an "as needed" basis.

BUILDINGS:

The Headquarters facility is located at Fort Raleigh, but within the seashore, the NPS maintains 46 non-historic structures for public use, 10 historic structures for public use, 31 structures for program support (5 are historic structures), and 41 structures that serve as quarters (7 are historic structures). See Appendix E for detailed listing.

VEHICLES (and equipment):

The park operates 52 GSA vehicles and 45 pieces of park-owned equipment. See Appendix E for detailed listing.

UTILITY SYSTEMS:

Electrical:

The seashore is serviced by three separate power companies. Bodie Island is serviced by North Carolina Power, Hatteras Island is serviced by Cape Hatteras Electric Membership Corporation, and Ocracoke Island is serviced by Tideland Electric Membership Corporation. The seashore maintains no power systems of its own. The park owns emergency generators ranging from 5 KW to 35 KW to operate gasoline pumps, water systems, HVAC systems, radios, and housing utilities at approximately one-third of its facilities.

Telephone:

The park owns the Headquarters telephone system which includes a PBX, individual desk sets, and the wiring. Maintenance is provided by Comtel under a GSA POTS contract. The field is serviced by Carolina Telephone and Telegraph Company. Long distance services are provided by Carolina Telephone and Telegraph Company and by AT&T.

Water:

The park owns and operates four water systems within the seashore. The system at the Pea Island Refuge comfort station serves that one building only. The system at Salvo Campground served two comfort stations, four shower facilities, and two trailer units but has been inoperable since the pumps were damaged by the March 1993 "Storm of the Century" flooding. The system at Buxton serves the Principal Keepers Quarters and the Double Keepers Quarters at the Lighthouse area, the maintenance area, seven park quarters, nine park house trailers, two trailer sites, the District Offices, a research laboratory, a U. S. Coast Guard housing area, a Coast Guard support facility, and the Cape Point campground with four comfort stations and shower units. The system at Frisco campground serves the campground only with four comfort stations and four shower facilities.

The Pea Island Overlook system consists of two vertical shallow well points, a liquid chlorination system, a pump, and approximately 100-gallon storage.

The Salvo system consists of a single PVC horizontal well, two well pumps, approximately 1,460 feet of supply line to the pumphouse, a ground storage and treatment tank, a liquid chlorination system, and supply lines to the facilities.

The Buxton system consists of four vertical wells with submersible pumps; a treatment plant with two green-sand filters with permanganate feed system, two water softeners with brine feed system, liquid chlorination system; pumphouse with lift pump to elevated tank; a 200,000-gallon ground storage tank, a 75,000-gallon elevated storage tank and appurtenant supply lines to the facilities in the area.

The Frisco system consists of three active vertical wells, a pumphouse housing pumps and a liquid chlorination system, a 200,000-gallon ground storage tank and appurtenant supply lines to the facilities.

The remainder of the seashore facilities are serviced by municipal water systems. Bodie Island is served by the Town of Nags Head. Other Hatteras facilities are served by the Cape Hatteras Water Association, and Ocracoke is served by the Ocracoke Municipal Water System.

Sewage:

All sewage systems within the seashore are park-owned and maintained. The systems are of the septic tank and field type. Sizes vary from 750-gallon to 10,000-gallon capacity. There are only six systems in the seashore which carry whole complexes. These systems are located at Coquina Beach, Oregon Inlet Marina Complex, Bodie Island visitor center, Silver Lake Marina Complex at Ocracoke, the seasonal trailer area at Buxton, and the Ocracoke Campground. The Oregon Inlet Marina Facility and the Ocracoke Campground utilize lift systems; the Coquina facility is a dosing system.

Issues

The extent of deterioration of the park's historic structures was not fully realized until restoration actually began on the Cape Hatteras Lighthouse Double Keepers Quarters. An aggressive program of condition assessment and rehabilitation/restoration has been implemented over the past decade, but several structures remain in severely deteriorated condition awaiting necessary funding.

The seashore is becoming a very popular area for touring bicyclists because of its level terrain, scenic beauty, visitor activities, and readily accessible facilities for camping and eating. The competition with motorized vehicles for space on N. C. 12 results, not only in anger on the part of motorists and fear on the part of bicyclists, but also in a very real danger to life and limb for the bicyclists. The State Department of Transportation has widened portions of N. C. 12 within the villages and from Ocracoke campground to the Village of Ocracoke to provide paved bicycle lanes on each shoulder. There is no accommodation of bicyclists on the remainder of N. C. 12.

Many of the non-historic facilities are near or have exceeded their estimated useful life. Facilities do not last as long in the sand/salt environment as they would in many other areas, and many of the structures presently in place do not adequately serve the public or the park staff that utilizes them. The Bodie Island maintenance facility in particular has suffered extreme metal decay and is in need of replacement. This facility is also subject to storm overwash.

Presence of excessive trihalomethane (THM) in the Buxton water supply required public notice of the problem and correction. The park is working with the State and the Denver Service Center to bring the THM level within allowable limits.

Park housing, especially for seasonal employees and essential park personnel, is a necessity in an area where a summer cottage may rent for from \$1,200 to \$4,500 per week. Much of the seasonal housing consists of trailers, and the corrosion of metals, roofs, and framing is extensive. The housing at Bodie Island, which includes four permanent structures, is threatened by ocean encroachment. Design development and contract specifications have been completed for housing at Ocracoke, Buxton, and Salvo and will be completed for Bodie Island in 1994.

The motor vehicle fleet and heavy equipment quickly deteriorate in the seashore environment. Most of this equipment cannot be stored inside due to the lack of space.

Objectives

Complete and implement Historic Structure Reports and Historic Preservation Guides for the park's historic structures.

Seek means of providing safe corridors for bicyclists on the park-owned northern entrance road and on the park-owned roads within the Cape Point complex. Participate with the State in planning for safe bicycle corridors on N. C. 12 from Nags Head to Ocracoke.

Intensify the maintenance and replacement schedules for administrative and visitor facilities to adequately respond to the climatic rigors of the seashore environment.

Coordinate efforts with the State and Denver Service Center to bring the Buxton water supply to standard.

Provide employee housing which will withstand the area's prevalent storm, corrosion, insect infestation, and wood-rot conditions.

Seek storage of park-owned equipment in a manner which protects the equipment from environmental conditions when not in use.

MANAGEMENT ZONING

Four management zones, historic, development, natural, and special use, are used by the seashore.

A. Historic Zone

This zone is managed to preserve historic or archaeological resources and their settings. Not all cultural resources are classified in this zone; rather, it is applied to lands containing significant or numerous cultural resources. Preservation of historic structures may be accomplished adaptively using the structures for interpretive, park administrative, or residential purposes, or by leaseback agreement.

Four historic zones have been identified throughout the seashore. In addition, the NPS manages a part of the Chicamacomico Lifesaving Station in Rodanthe, a turn-of-the-century Weather Bureau Station in Hatteras Village, and the Light Station Double Keepers Quarters in Ocracoke. Twenty-three structures have been nominated to the National Register of Historic Places.

1. The Bodie Island Lifesaving and Coast Guard Station contains three structures. The original station, built in 1878, has been moved twice to escape the encroaching ocean. It is currently used as lodging for official travel. A boathouse, built about the turn of the century, is now being used for storage. The new station, built in 1925, is vacant.
2. The Bodie Island Light Station consists of 15 acres containing four historic structures. The lighthouse and oil house are owned and operated by the U. S. Coast Guard along with a parcel of land 100 feet square surrounding the structures. The Keepers Quarters and a storage shed were transferred to the NPS in 1953. All structures were built in 1871-1872. The site of the Bodie Island Light Station still retains much of its historic appearance although the surrounding area has grown up in thickets of wax myrtle and other shrubs. A stand of pines planted by the NPS along the road to the lighthouse screens the view from north and west. The Keepers Quarters has been adapted for use as a visitor center, but the storage shed is still being used for its original purpose. Rehabilitation of both the Keepers Quarters and storage shed has been completed. Additional funding is needed to design and provide exhibits. A separate restroom was constructed adjacent visitor parking east of the historic zone.
3. The Little Kinnakeet Lifesaving and Coast Guard Station is the only virtually intact station that is owned by the park. The boathouse was built in 1874 by the same construction company that built the Chicamacomico boathouse. It was moved from the beach to its present location in 1904. At that time, the main

building was constructed. The kitchen predates the main building, but it was modified in 1934. The structures are currently unoccupied. The historic zone is a circular area of approximately 10 acres centered on the main building. The park has surrounded the complex with a high chain link fence for security purposes. Except for this fence and the encroachment of shrubby vegetation, the zone's appearance is essentially unchanged. Restoration planning is complete, and funding to accomplish this restoration is being sought.

4. The Cape Hatteras Light Station consists of four structures on 10 acres of land. The 208-foot lighthouse began operation in 1870. The oil house, built in 1894, stands separate but near the base of the light. This oil house now shelters a generator to provide emergency power to the light in the event of loss of line-power, and it is maintained by the U. S. Coast Guard. The Double Keepers Quarters, erected in 1854, has been restored for use as a visitor center. The Principal Keepers Quarters, dating from 1871, has been restored for use as a house museum but has not been opened to the public pending design and acquisition of furnishings. An Environmental Assessment and Development Concept Plan was prepared for the lighthouse and adjacent structures in 1989. Relocation was selected by the NPS as the most appropriate long-term protection alternative.
5. At Chicamacomico Lifesaving and Coast Guard Station, NPS property is limited to a narrow segment of beach and two structures. The NPS does not own the land upon which the structures rest. The boathouse was constructed in 1874, and the stable/garage was constructed about 1911. These have been placed on the National Register of Historic Places, along with the other structures which are owned by the Chicamacomico Historical Association.
6. The Weather Station in Hatteras Village consists of a 1-1/2 story wood frame building, two board and batten storage sheds, and a metal flag mast (all owned by the NPS). The main building, built in 1901, has been converted to quarters for park staff. The storage buildings are still used for their original purpose. The basic historic fabric of the structure is essentially intact but severely deteriorated. Some changes in the exterior appearance have been caused by the addition of metal window frames, asphalt roof shingles, asbestos shingles on the upper story, and the removal of the widow's walk.
7. Ocracoke Lighthouse built in 1823, is owned by the U. S. Coast Guard. The NPS has a special use permit to admit visitors on conducted tours into the lower level of the light structure. The Keepers Quarters is used by the NPS under special use permit and serves as quarters for park staff. The Coast Guard has expressed its desire to transfer ownership of the Light

Station to the NPS, and the NPS has expressed its willingness to accept this transfer.

B. Park Development Zone

This zone includes areas that have been developed for park administrative offices, ranger stations, maintenance facilities, employee residences, and visitor use. This includes:

1. The Bodie Island Maintenance/Residence/Storage areas,
2. The Buxton District Offices/Laboratory/Storage complex,
3. The Buxton Maintenance/Residence complex,
4. The Ocracoke Village Development zone,
5. Major utility developments not contained in the park recreational development or administrative/residential development areas, and
6. The following recreational developments:
 - a. The Whalebone Information Station,
 - b. The Coquina Beach Day Use Facility,
 - c. The Oregon Inlet Campground,
 - d. The Oregon Inlet Marina and small boat ramp,
 - e. The Pea Island Restroom,
 - f. The Salvo Campground and Day Use Facilities,
 - g. The Cape Point Campground and Day Use Facilities,
 - h. The Frisco Campground,
 - i. The Sandy Bay Restroom,
 - j. The Ocracoke Campground,
 - k. Three Fishing Piers.

C. Special Use Zone

This zone encompasses areas within the park boundary where NPS interests are secondary to those of other Government agency or private land users. This includes:

1. N. C. 12 and the adjacent utility corridor,

2. The Billy Mitchell airstrip,
3. The Ocracoke airstrip, and
4. Three areas that are used exclusively by the U. S. Coast Guard. These are the Coast Guard Station at Oregon Inlet, the former Navy facility adjacent to the Cape Hatteras Light Station, and the Hatteras Inlet Coast Guard Station at Hatteras Inlet.

D. Natural Zone

The Natural Zone occupies the remainder of the park. Lands and waters classified in the Natural Zone are managed to conserve natural resources and processes while accommodating visitor uses and experiences that do not adversely affect the natural systems. This includes the:

1. Buxton Woods protected area,
2. The 170-acre area that has been fenced for the "Banker" horse herd,
3. The Pea Island National Wildlife Refuge, and
4. The remainder of the seashore.

MAJOR ISSUES

Maintenance of the Seashore's Access Corridor: (Purpose and Significance, pages 2 and 3, and Land Use and Trends, page 20)

Maintenance of Water Quality: (Resources - Natural, page 12, and Land Use and Trends, page 18)

Vegetation Management: (Resources - Natural, pages 10 and 13)

Wildlife Management: (Resources - Natural, pages 10, 12, and 13)

Data Management: (Resources - Natural, page 12)

Ocean Encroachment: (Resources - Cultural, pages 14 and 17, and Facilities and Equipment Analysis, page 29)

Historic Structures Preservation: (Resources - Cultural, pages 14, 15, and 16) and Facilities and Equipment Analysis, pages 24 and 28)

Park Housing: (Facilities and Equipment Analysis, pages 25 and 29)

Bicycle User Recognition and Protection: (Facilities and Equipment Analysis, page 24)

MANAGEMENT OBJECTIVES

The NPS will manage Cape Hatteras National Seashore in accordance with the legislated mandate to preserve the seashore's natural and cultural resources while providing compatible recreational opportunities.

Long-Term Objectives

The following long-term objectives will be used to guide management and operation of the seashore:

A. Resource Objectives

1. Cultural Resource Preservation: To identify and preserve cultural resources of the outer banks, particularly those relating to man adapting to life at the ocean's edge.

To cooperate with the Chicamacomico Historical Association, Ocracoke Preservation Society, and other local and civic organizations to preserve the unique cultural traditions and historic structures of the outer banks.

2. Natural Resource Management: To manage Cape Hatteras National Seashore in ways that support the natural processes of barrier island dynamics and the succession of native vegetation and wildlife and mitigate the impacts of human interference with these processes.

To integrate planning and management for Cape Hatteras National Seashore into regional planning and economic considerations.

3. Access and Circulation: To cooperate with the Department of Transportation of the State of North Carolina in maintaining a transportation link through the national seashore.
4. Lands: To cooperate with landowners, other Federal agencies, State and local governments, and the private sector to appropriately manage land for public use or protect it for resource conservation.

B. Visitor Protection and Safety Objectives

To provide the visitor a park experience that will protect his person and possessions.

C. Interpretive and Visitor Service Objectives

1. To foster awareness, understanding, and appreciation of the natural and cultural resources of the outer banks and their interrelationships.
2. To help the visitor associate the environmental relationships he observes in the park with his own responsibility and relationship with the environment, thus provoking an environmental conscience.

3. To introduce recreational and interpretive resources to visitors who may be generally unaware of the opportunities afforded by the seashore.
4. To encourage visitors to safely pursue compatible recreational activities in the seashore and surrounding areas.
5. To promote understanding of, and support for, NPS goals and policies.

D. Maintenance

1. To ensure that facilities and systems are maintained to a decent, safe, and sanitary level and do not detract from the park's scenic values.
2. To provide handicapped accessibility as required by the Architectural Barriers Act of August 12, 1968, amended in 1978.

Short-Term Objectives

1. To resolve visitor use conflicts by equitable distribution of resource access appropriate within applicable legislation.
2. To determine whether NPS bears responsibility for any portion of maintenance costs for N. C. 12.
3. To obtain accurate establishment of park boundary lines.
4. To clarify Federal interests in Frisco property outside the park boundary.
5. To continue and enhance the park's water quality and hydrology monitoring program.
6. To develop a comprehensive vegetation management program.
7. To monitor impacts of visitor use on seashore resources and to complete an off-road vehicle management plan which will preserve the values of the seashore as required by Executive Order 11644, as amended.
8. To improve visitor compliance with pet leash laws.
9. To enhance the GIS natural and cultural resources database.
10. To maintain current inventory and documentation of research specimens.
11. To identify appropriate responses to gypsy moth populations.

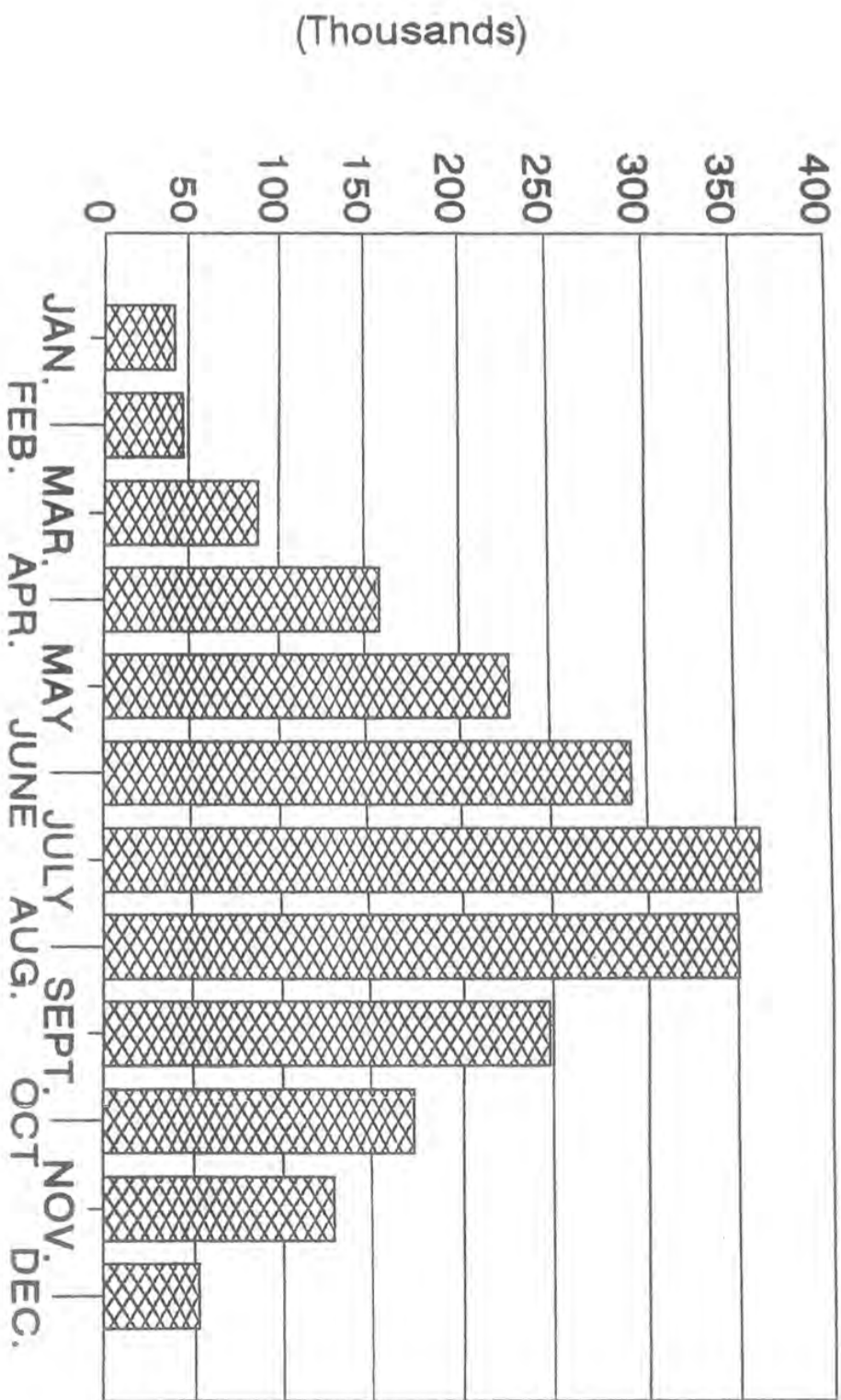
12. To conduct site assessments and cleanup as necessary at suspected hazardous material sites.
13. To monitor erosion at the Cape Hatteras Lighthouse and plan for lighthouse long-term protection.
14. To maintain current Development/Study Package Proposals (10-238's).
15. To stabilize and maintain the park's historic structures.
16. To incorporate preservation skills training in the development plan for all employees engaged in work on historic structures.
17. To investigate the need to expand the museum collections storage building and the need to provide a museum services staff.
18. To continue research into the origins and significance of the Ocracoke horse herd.
19. To complete the cemetery preservation plan.
20. To conduct a comprehensive archeological survey.
21. To continue monitoring changes in land use that could impact park resources.
22. To participate with the State in planning for N. C. 12 improvements.
23. To continue tracking issues and legislation pertinent to the Oregon Inlet jetties proposal.
24. To continue tracking issues and legislation pertinent to oil and natural gas exploration proposals.
25. To study the suitability and feasibility of inclusion of Springer's Point in the NPS system.
26. To assess park resource carrying capacity.
27. To enhance visitor pride in park appearance.
28. To seek safe corridors for bicyclists.
29. To maintain park administrative and visitor facilities in decent, safe, and sanitary levels.
30. To bring the Buxton water supply to standard.
31. To provide decent, safe, and sanitary employee housing.
32. To store equipment in a manner which protects it from loss due to environmental conditions.

APPENDICES

- A. Legislation
- B. Interpretive Themes
- C. Acreage Data
- D. Visitation Statistics
- E. Facilities and Equipment
- F. Status of Planning

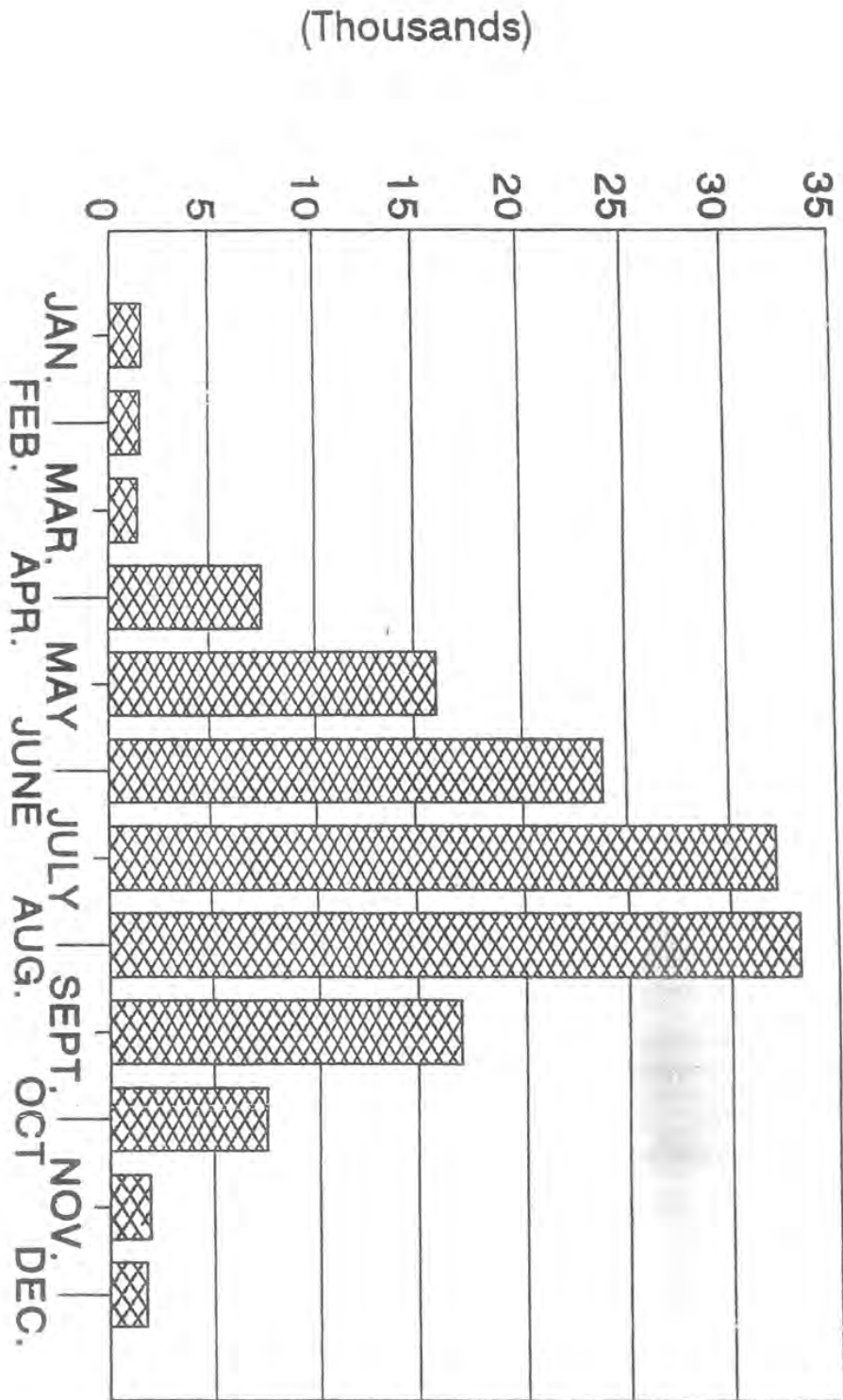
VISITATION 1992

RECREATION & NON-RECREATION



OVERNIGHT STAYS 1992

CAMP GROUNDS & BOATS



FACILITIES AND EQUIPMENT

Buildings (Administrative)

The park headquarters is located at Fort Raleigh National Historic Site on Roanoke Island. It has 9,505 sq. ft. of floor space providing for management and administrative support of the seashore, Wright Brothers, and Fort Raleigh.

Buildings (Public Use) (Non-Historic)

(1) Whalebone Information Station	710	sq. ft.
(2) Coquina Beach Day Use Area	1,008	sq. ft.
(3) Comfort Stations, 21 units	7,930	sq. ft.
(4) 5 kiosks for 5 campgrounds	712	sq. ft.
(5) 18 shower buildings for 5 campgrounds	1,971	sq. ft.
	<hr/>	
46 buildings - Total	12,331	sq. ft.

Buildings (Public Use) (Historic)

(1) Bodie Island Coast Guard Station, Bldg. #102 GMP calls for renovation and use as a visitor contact station	4,250	sq. ft.
(2) Bodie Island Light Station Keepers Quarters, used as a visitor center	2,764	sq. ft.
(3) Cape Hatteras Light Station Double Keepers Quarters, used as a visitor center	3,756	sq. ft.
(4) Cape Hatteras Light Station Principal Keepers Quarters; closed awaiting furnishings	1,392	sq. ft.
(5) Cape Hatteras Light House and Oil House		
(6) Chicamacomico Life Saving Station garage - proposal to transfer to Chicamacomico Historical Association	537	sq. ft.
(7) Chicamacomico Life Saving Station Boat House - awaiting preservation maintenance prior to transfer to Chicamacomico Historical Association	2,040	sq. ft.

(8)	Little Kinnakeet Station (Main House) - awaiting restoration for use as interpretive facility	3,383	sq. ft.
(9)	Little Kinnakeet Station (Kitchen) - awaiting restoration	499	sq. ft.
(10)	Little Kinnakeet Station (Boat House) - awaiting restoration	2,687	sq. ft.
		<hr/>	
	10 Structures	21,308	sq. ft.
		<hr/>	
	Total Public Use - 56 Structures	33,639	sq. ft.
Buildings (Support) (Non-Historic)			
(1)	5 Maintenance Buildings	24,206	sq. ft.
(2)	3 District Office complex buildings, Buxton	9,698	sq. ft.
(3)	Ranger Office - Ocracoke	1,152	sq. ft.
(4)	16 Support Buildings - various construction, primarily maintenance, ranger, and interp. storage	5,149	sq. ft.
		<hr/>	
	Total - 25 Structures	40,205	sq. ft.
Buildings (Support) (Historic)			
(1)	3 Buildings (Ocracoke Lighthouse Area) - Coast Guard owned, park maintained	565	sq. ft.
(2)	2 Storage Buildings (Hatteras Weather Station)	525	sq. ft.
(3)	Bodie Island Life Saving Station (Garage) Building 100A - Quarters Storage	617	sq. ft.
		<hr/>	
	Total - 6 Structures	1,707	sq. ft.
		<hr/>	
	Total Support - 31 Structures	41,912	sq. ft.
Buildings (Residential Trailers)			
(1)	5 Duplex Units	2,240	sq. ft.
(2)	20 - 2- and 3-bedroom trailers	12,312	sq. ft.
(3)	2 campers	384	sq. ft.
		<hr/>	
		14,936	sq. ft.

STATUS OF PLANNING

APPENDIX F

Title	Current and Approved	Incomplete or needs Revising/ Updating	Needed
<u>PLANNING DOCUMENTS</u>			
Preauthorization & Authorization			
Statement for Management (SPM)	07/91	X	
Outline of Planning Requirements (OPR)	03/88	X	
General Management Plan (GMP)	01/84	X	
Development Concept Plan (DCP)	01/84	X	
Resource Management Plan (RMP)	06/93		
Interpretive Prospectus (IP)	12/88		
<u>SERVICEWIDE INVENTORIES, LISTS, CATALOGS AND REGISTERS</u>			
Cultural Resources Bibliography (CRBIB)		X	
Cultural Sites Inventory (CSI)	10/86	X	
List of Classified Structures (LCS)	11/85	X	
National Catalog of Museum Objects	10/89	X	
National Register of Historic Places	01/77	X	
<u>BASIC CULTURAL RESOURCE DOCUMENTS</u>			
Archeological Overview & Assessment		X	
Archeological Identification Studies			
Archeological Evaluation Studies			
Ethnographic Overview & Assessment			
Ethnographic Oral Histories & Life Histories			X
Ethnographic Program			
Historic Resource Study (HRS)	06/85	X	
Scope of Collection Statement	02/86	X	

Title	Current and Approved	Incomplete or needs Revising/ Updating	Needed
<u>SPECIAL RESOURCE STUDIES AND PLANS</u>			
Archeological & Ethnographic Collections Studies			
Archeological Data Recovery Studies			X
Collection Management Plan	06/89		
Collection Storage Plan	Underway		
Collection Condition Survey			X
Cultural Landscape Reports (CLR): Little Kinakeet Life Saving Station (Historic Grounds Report) Bodie Island Light Station Complex Cape Hatteras Light Station CCC CABINS Hatteras Weather Bureau Station Ocracoke Light Station	08/88		X X X X X
Ethnohistory			
Exhibit Plans: Bodie Island Light Station Cape Hatteras Light Station, Double Keeper's Quarters Ocracoke Visitor Center	X		X X
Historic Furnishings Reports: Little Kinakeet Station Life Saving Station Cape Hatteras Light Station, Principal Keeper's Quarters	07/91 07/91		
Historic Structure Preservation Guides (HSPG): Bodie Island Light Station Complex Bodie Island Life Saving/Coast Guard Station Complex Little Kinakeet Life Saving Station - Main House Kitchen & Boathouse Cape Hatteras Light Station Complex - Double Keepers's Quarters Principal Keeper's Quarters Lighthouse CCC Cabins Hatteras Weather Bureau Station Ocracoke Light Station Complex	Underway Underway Underway		X X X X X X X

Title	Current and Approved	Incomplete or needs Revising/ Updating	Needed
Social Impact Study			
Special History Studies: Operations Study, Little Kinakeet Life Saving Station Socio-Cultural/Folklife History of the Outer Banks Wars on the Outer Banks (Civil and World Wars I & II) History and Impacts of CCC/WPA on the Outer Banks			X X X X
Traditional Use Study			
Administrative History			X
<u>BASIC NATURAL RESOURCE DOCUMENTS</u>			
Bodie Island Vegetation Management Plan		X	
Fire Management Plan	03/86		
Off-Road Vehicle Management Plan		X	
Land Protection Plan	04/92		