

RESOURCES MANAGEMENT

Fire Island is part of one of the world's longest chains of barrier islands, which fringes the Atlantic and Gulf coasts of the United States from Massachusetts to Texas. Collectively, the islands represent one of the nation's most valuable natural and recreational resources as well as one of the most difficult to manage.

Barrier islands are among the most dynamic natural resources because their construction material – sand – is one of the world's most mobile geological materials. Wherever large amounts of sand are available for transport by wind or water, landforms are dynamic. The geographic areas where sand is being molded and remolded into natural landforms have long-term stability, but the individual geomorphic units within these areas may be here today and gone tomorrow. Long Island's barrier-island system has existed since the end of the last ice age, and it will continue to be a coastline feature for ages to come unless it is destroyed by society. However, the system's position in relation to the continental landmass will continue to shift as the barrier islands respond to storms and changes in sea level. We can interdict the natural forces of change, but only for a short time.



Fire Island is perpetuated by some combination of the following sand-moving processes: littoral drift, onshore bottom currents, wind, inlet formation, tidal delta growth, and to a lesser degree, overwash. All are essential if the island is to maintain a dynamic equilibrium with the changing sea level and the natural forces that continually reshape it. Barrier islands differ in the rate of change and the type of sand-moving processes that dominate at a specific time; Fire Island is less dynamic and changes more slowly than other active, high-energy barrier islands.



Sand is carried in the littoral drift, which moves in a westerly direction along the beaches of Fire Island. Some of the sand is washed up on the beach, where it dries out and is picked up by wind. Beach grass and other vegetation that grows on the landward part of the beach trap the blowing sand, which begins to accumulate, eventually forming low dunelets. The perennial dune plants root and grow upward through the accumulating sand. If natural catastrophes or human activities do not interrupt the process, a dune eventually forms. Anything that reduces sand in the littoral drift may deprive the dune system of natural enrichment, thus reducing or eliminating the dunes' protection of the land behind them.

During hurricanes and other severe storms, onshore winds and waves redistribute large volumes of sand. The ocean may sweep over and between the dunes, carrying sand from offshore deposits, beaches, and dunes to the back of the island, forming terraces and increasing the elevation of backshore lands. Storm tides pushed over the island accumulate in the bay. Where the dunes are weak, the land low, and the island narrow, an inlet may form. If an inlet remains open, a tidal delta eventually develops in the form of shoals behind the inlet. As the inlet slowly closes due to the accretion of sand on the updrift side of the inlet,

vegetative stabilization of the deltaic sediments begins the process of tidal-marsh formation. After closure of the inlet, periodic overwash sedimentation may build the bayside of the island. Because the sea level is now slowly rising, Fire Island's bayside may experience increased erosion. Enrichment periodically by new supplies of sediment from overwash and deltaic sedimentation mitigates the erosion process.

Fire Island's resources management plan is based on the following premises:

Fire Island will be managed to preserve the nationally significant natural resources while providing for environmentally compatible recreation.

Fire Island is not a uniformly natural barrier-island system; many island locations have been significantly altered by human activities, although the island environment remains relatively natural in several locations.

Attempts will be made to repair human disturbances of natural geomorphic conditions within certain segments of the island with the idea of then allowing natural processes to maintain these conditions.

Attempts will be made to restore and maintain the dune and beach system by environmentally compatible methods that acknowledge the inevitable erosional transformation of the island, a result of a rising sea level, great hurricanes, and severe northeasters.

Fire Island's resources management strategy must be integrated into a larger management strategy for the entire south shore of Long Island.

The needs of the seashore's exempted communities, as well as the economic interests on Long Island that are directly linked to Fire Island, Great South Bay, and adjacent lands and waters, will be considered in the resources management strategy for the national seashore.

The provisions and components of the resources management plan will be periodically evaluated, and the plan will be modified as necessary to continually reflect new information, changing conditions, and experience gained from management of other similar resources.

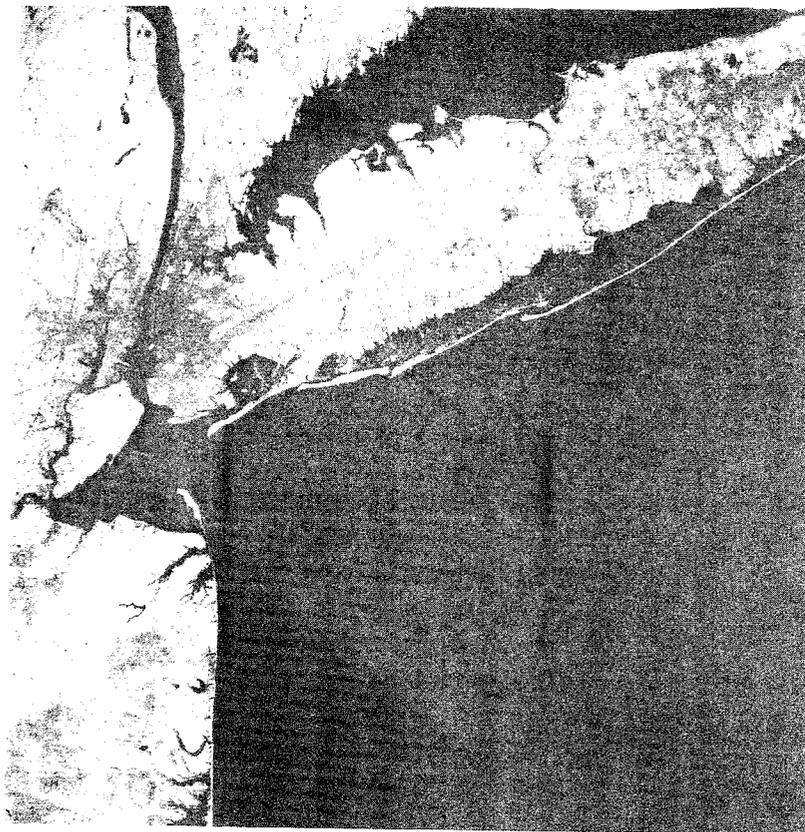
The National Park Service will continue to comment on actions outside the authorized boundary that may impact lands within the national seashore.

BEACHES, DUNES, AND INLETS

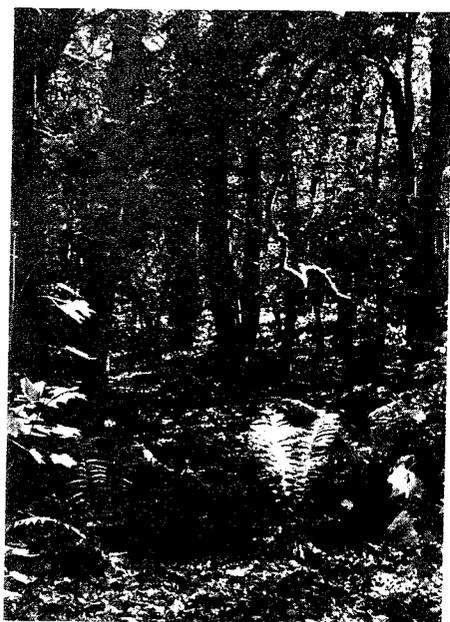
Man's activities on and adjacent to Fire Island have resulted in widespread impacts on the resource. Interference with the littoral drift at inlets along the south shore



Impacts of groins upon beach erosion at Ocean Beach



Aerial view of barrier islands in the Long Island and Greater New York area



Sunken Forest, Fire Island National Seashore's maritime holly forest



Dune crossing within Fire Island National Seashore

of Long Island has resulted in a pirating of sediments from the littoral drift into the inlets. Sand is trapped in the throat of the inlets and the bay areas behind the island. Consequently, downdrift of the inlets, a reduction occurs in the size of the offshore bar, and widespread erosion of the beach and in places the ocean-facing dunes also occurs. Interruption of the drift has played a major role in the acceleration of erosion of Fire Island's beaches.

The natural geomorphic processes need to be restored in order for the offshore bar, beach, and island system to reestablish some degree of equilibrium. Resources management efforts will be initiated to increase the sand supply in the littoral drift, to repair damage to the ocean-facing dunes, and to further study the physical and economic feasibility of direct sand nourishment on Fire Island's beaches and dunes.

 The National Park Service, working with the Corps of Engineers and state and local governments, will encourage the immediate installation of an already authorized sand-bypass system at Moriches Inlet and authorization and installation of a sand-bypass system at Shinnecock Inlet. Sand presently being trapped in the inlet will thus be returned to the littoral drift by means of a mechanical bypass system. Dredging necessary for the bypass systems will be sufficient to provide navigable channels for access to the ocean from the bays, and for proper water exchange between the ocean and the bays. Maintenance by dredging of Fire Island and Moriches Inlets is vital in assuring sufficient salt content in bay waters to maintain shellfish habitat. The Corps of Engineers will consult with the National Park Service for suggestions on the placement of dredged material from Shinnecock and Fire Island Inlets (outside national seashore boundaries) as these inlets are part of the Fire Island geomorphic system.

 No new inlets will be opened artificially within the national seashore boundaries. Should new inlets open naturally within the boundaries, they will be immediately evaluated for effects on Fire Island's ecosystem, the regional economy, access, and navigation. When adverse impacts outweigh benefits, new inlets will be closed by the Corps of Engineers. 

Recent planning activities conducted by the National Park Service, the Corps of Engineers, New York State, and interested local concerns have explored the concept of sand nourishment of eroding beaches and dunes. Experts in coastal geomorphology and ecology have been consulted throughout the planning process. More recently an erosion control district has been proposed that would extend from Watch Hill west to Robert Moses State Park and would contain 61,550 feet of the seashore. Many vital questions regarding impacts of sand nourishment on certain beach and dune segments remain unanswered. The National Park Service will continue to analyze new information and improvements in coastal zone management techniques to determine the following: Should sand nourishment be initiated; to what height should the dune and berm be reconstructed; does a suitable borrow area exist in the ocean or bay 

for dredging large amounts of sand; what is a fair federal, state, and local cost allocation system; what are the long-term cost and probable benefits; and will current ocean dredging methods be improved so that this technique can be used at Fire Island.



Following the completion of current studies by the Corps of Engineers and their consultants, National Park Service managers and planners will determine the feasibility of sand nourishment. If sand nourishment is begun, the large federal tract east of Watch Hill would not be included in the project area. Adequate time would be necessary for the Park Service to determine results and impacts. All sand nourishment activities would be closely monitored by the Park Service and Corps of Engineers. Also, sand nourishment projects would not be permitted until the Moriches Inlet and Shinnecock Inlet sand-bypass systems are operational.

Fire Island resources management policy will include a general prohibition on installation of additional groins, bulkheads, revetments, and other artificial beach-stabilization devices (except for existing inlet jetties). Snow fences will be permitted for stabilization purposes in areas where vegetation is sparse and rapid erosion is occurring.



Ocean-facing dunes will be repaired or restored as needed. Planting with native, perennial dune-stabilizing species to encourage revegetation will be initiated throughout the seashore. Dune blowouts and other naturally occurring bare-sand areas will be repaired or replanted in the seashore district when compelling considerations – such as threat to major developments – dictate such action (the seashore district includes all federal and non-federal public recreational lands outside the exempted communities). In the development district, dune blowouts that endanger homes during extreme high tides or moderate-intensity storms may be filled and replanted, following evaluation of the need for such action. Such measures will be undertaken by affected communities.

Man-caused damage to the dune system will be minimized through the establishment of a dune district. A definition of the dune district and associated regulations are listed in the zoning section of the plan (see pp. 100-107).

DUNE CROSSINGS AND UNPAVED SAND TRAILS

All public pedestrian dune crossings in the seashore will be elevated boardwalks, which minimize localized impacts on the dunes. Vehicular dune crossings will be eliminated wherever possible. Closed crossings will be repaired and possibly revegetated with native, perennial vegetation. Dune crossings that are essential for management or emergency purposes will be stabilized with suitable materials. All active dune crossings will be numbered, and maps will be made available to the public.

Vehicular travel on unpaved sand trails will be limited to that necessary for essential access and management. Park managers will designate specific trails to be used. Other trails will be returned to a natural condition. A discussion of vehicle management, permit categories, and objectives begins on page 38.

TIDAL MARSHES

The establishment and maintenance of ditches in Fire Island tidal marshes as means of mosquito population control are extremely disruptive to the natural evolutionary processes of the ecosystem. Furthermore, the effectiveness of the grid drainage system for mosquito control is generally believed to be of little, if any, value. Considering the National Park Service's mandate to preserve Fire Island's natural environment and the lack of knowledge of ditching effects, the maintenance of existing ditches will be terminated on all Park Service owned lands. Ditching activities on other lands within the legislated boundary of Fire Island National Seashore should also be terminated with the exception of designated experimental sites. The cessation of ditching as a mosquito control method will remain in effect until its utility can be proven and its effectiveness is shown to outweigh the associated environmental degradation.

The use of insecticides, herbicides, and other chemical and petroleum products as widely applied flora and fauna control methods on federally owned tidal marshes and other lands will not be allowed. Use of these substances on non-federally owned lands within the legislated boundary of Fire Island National Seashore will be discouraged. In the event of an officially declared health emergency as determined by the U.S. Public Health Service, the Director of the National Park Service must approve use of any pesticide or other chemical control substance, and application procedures shall be in accordance with Environmental Protection Agency (EPA) regulations and other applicable laws.

A long-term tidal marsh research program will be initiated to answer basic ecological questions concerning the effectiveness of ditching and the application of chemicals for mosquito control. Under cooperative agreements with the towns of Babylon and Islip, Suffolk County, and New York State, the study will include Long Island's only remaining unditched salt marsh (north and west of Oak Beach), the ditched marshes on Captree Island, and the ditched marshes on East Fire Island within the national seashore.

The desirability of artificial tidal marshes created by utilizing suitable dredged materials on the bayside of Fire Island is being evaluated at the recently established small experimental tidal marsh in the vicinity of Barrett Beach. Additional artificial marshes along this shoreline will not be constructed until the

experimental model is evaluated and its effects over a long-term period are determined. If environmental benefits from artificially created tidal marshes can be demonstrated, future marshes might be recreated along the shoreline east of the Sunken Forest unit, which has historically been a tidal marsh area.

ARTIFICIAL ISLANDS

Artificial islands in the bay waters adjacent to Fire Island have been made by the accumulation of dredged materials that resulted from the Corps of Engineers' dredging operations. These islands have coincidentally become prime breeding habitats for colonial water birds such as gulls and terns. Many of these species formerly utilized areas of Fire Island for breeding, but man's expanded activities on the island have reduced the availability of these areas, and the artificial islands now serve as a relatively undisturbed breeding area for the birds.

Artificial islands at Moriches Inlet are owned by the town of Brookhaven, and the National Park Service proposes a cooperative management and research agreement with the town for the maintenance and protection of these valuable habitats. Utilization of these islands would be restricted to research activities and general visitation would be excluded, except by special permission.

Material from dredging operations will be used to enlarge existing islands, extend marshes, or create new artificial islands. The location, and perhaps size and shape, of any new islands will be determined through a cooperative program between the Corps of Engineers and the National Park Service. If the location of new islands occurs in areas not under federal jurisdiction, but of vital interest to the preservation of Fire Island's natural environment, cooperative management and research agreements with the appropriate owners will be initiated.



Ultimately, Brookhaven or other owners of existing or newly created artificial islands may wish to donate them to Fire Island National Seashore for use as bird sanctuaries.

WATER QUALITY

The water quality of Great South Bay and of aquifers underlying the Fire Island area is a major concern of residents, visitors, and seashore managers. A high priority of the resource management plan will be to guard against contamination of potable water supplies and closure of shellfish beds because of pollutants, and to prevent health hazards to boaters, swimmers, hunters, and other water-contact recreationists. Maintenance of a high standard of water quality is vital to the preservation of the resource and the assurance of a quality visitor experience.

Exempted communities will be encouraged to upgrade their sewage systems and treatment methods. Boat marinas in these communities should have adequate pumping stations for evacuating boat sewage holding tanks and should dispose of these wastes in an environmentally acceptable manner.

New York State has established a program for monitoring water quality in the vicinity of Fire Island. The National Park Service will not duplicate this program but will contribute to an expanded monitoring effort through cooperative activities with the state. The National Park Service will collect water samples from areas under federal jurisdiction, such as marinas, offshore anchorages, near sewage treatment facilities, in wells, and at any other sampling sites established by agreement with the state monitoring agency. These samples will be collected for laboratory analysis by the state agency under a previously agreed upon sampling schedule so that remedial actions can be taken and health hazards prevented. In turn, the New York Department of Environmental Conservation will provide accurate water quality data for the National Park Service so that future management decisions can be reached.

The National Park Service will assist the state in enforcing any closure of shellfish beds in areas under federal jurisdiction where contamination occurs because of disposal of boat wastes into bay waters. Park visitors arriving by boat and other water-oriented recreationists will be informed at visitor-contact stations, such as marinas and docks, of waters that are closed to shellfishing. The detrimental effects of dumping boat wastes and the health hazards associated with eating contaminated shellfish will be emphasized as a means of encouraging visitors to refrain from utilizing closed areas.

In keeping with the National Park Service's objective of maintaining a high level of water quality in the Fire Island National Seashore region, the need for adequate sewage treatment systems is recognized. The establishment of new treatment facilities and improvement of existing facilities will preclude the addition of pollutants to regional waters. Low-density visitor-use areas will utilize established septic tank systems, which will be rehabilitated as necessary to provide treatment that meets or exceeds EPA standards. Sewage treatment at the four moderate-density visitor-use areas of Smith Point West, Watch Hill, Sunken Forest, and Fire Island Lighthouse will be more demanding because of the sewage volume, and septic tank treatment alone will be inadequate.

Several secondary and tertiary treatment systems were analyzed for potential use on Fire Island, including the transportation of sewage sludge to the mainland for treatment and the feasibility of using Clivus Multrum systems. Because of the unusual wastewater treatment problems existing at federal activity areas on Fire Island, physical/chemical treatment systems will be used at these areas unless

more suitable techniques are developed. Regardless of the treatment systems used, air quality, space limitations, and visual, noise, and odor factors will be important considerations in establishing sewage treatment facilities at these sites. Adequate facilities for pumping out boat sewage tanks will be provided at all federally operated marinas, and boaters will be strongly encouraged to utilize these facilities. Boat sewage that contains toxic preservatives detrimental to domestic sewage treatment facilities will be treated by a physical/chemical process at each major federal activity area on Fire Island.

The National Park Service opposes all oceanic or other sewage treatment plant outfalls that fail to recharge treated effluent into Magothy and Lloyd aquifers. Although available data do not indicate any present problems in obtaining sufficient fresh water for most of Suffolk County, if oceanic discharge continues, eventual saltwater intrusion into these aquifers may occur, contaminating Fire Island's water supply. Ongoing groundwater quantity and quality studies under the auspices of the Nassau-Suffolk County Planning Board with assistance from the Geological Survey and Princeton University Department of Geology should provide additional information on the water regime of Long Island's south shore.

VEGETATION AND WILDLIFE

Management of the Sunken Forest unit will emphasize preservation of the outstanding maritime holly forest as directed by the enabling legislation.

The outstanding natural area of Fire Island located between Watch Hill and Smith Point West will be managed in accordance with the enabling legislation directive to preserve and maintain the diversity of natural habitats and the native flora and fauna. Within the confines of this area, a high dune management unit will be established. Hiking will be permitted on the beach and designated trails behind the dunes.

Hunting, fishing, and shellfishing activities are authorized in the enabling legislation as appropriate recreational uses on lands and waters of Fire Island National Seashore. The harvesting of these resources will be governed by New York State regulations and applicable federal laws. The National Park Service may seasonally or permanently close areas within the national seashore to recreational hunting and/or fishing activities if these pursuits are potentially injurious to the flora and fauna, as determined by a cooperative wildlife management agreement between the Park Service and the New York Department of Environmental Conservation.

Recreational boating in Great South Bay waters within the 4,000-foot National Park Service jurisdiction will be managed so as to preclude detrimental impacts on the shellfish resources.

No intentional introduction of nonnative animals will be permitted within the seashore boundaries. No introduction of new exotic plants or proliferation of existing exotic plants will be permitted on federal lands. The National Park Service will encourage exempted communities to preserve native vegetation wherever it occurs, particularly the maritime forests in Point O'Woods, Cherry Grove, Fire Island Pines, and the Clam Pond salt marsh in Saltaire.

The inventories of existing floral and faunal populations on Fire Island will be completed. Additional research on natural resources will be conducted as necessary to establish management practices for these biological resources.

NATIONAL REGISTRY OF NATURAL LANDMARKS

The National Park Service recognizes the outstanding ecological value of the maritime holly forest in the community of Point O'Woods and the unditched tidal marsh north of Oak Beach, owned by the town of Babylon. These natural resources appear to meet the criteria for natural landmarks. The cooperation of administering landowners will, therefore, be sought in preparing papers for their nomination to the National Registry of Natural Landmarks.

RESTORATION OF IMPACTED AREAS

Certain locations within the national seashore have been degraded by random and careless disposal of waste material (old cars, household appliances, construction materials, etc.), which has created unsightly conditions and has damaged vegetation. The National Park Service is removing waste materials, particularly within the federal bay-to-ocean strips on the western end of the island. The national seashore staff will work cooperatively with residents of communities to deter disposal of additional waste on federal lands. Impacted areas will be allowed to revegetate. Structures and any remaining debris will be transported from the high dune management unit and impacted areas will be revegetated.

VEHICLE USE AND REGULATIONS

The use of vehicles within the boundary of the national seashore has generated extensive debate among opponents, proponents, the National Park Service, and

local governmental enforcement agencies. Presently, the requirements of *Code of Federal Regulations*, Title 36, Section 7.20 (36 CFR Section 7.20) establish the permit system for vehicular travel on the seashore, and they stipulate the times and types of travel allowable. Park Service staff have developed certain criteria that will be used as supplemental guidelines. These criteria will be public information prior to implementation of revisions to existing regulations. The purposes for revising the regulations remain the same as for the original Section 7.20: to protect federal lands and interests in lands within Fire Island National Seashore, to protect members of the public using such properties, and to provide such use of seashore lands by motor vehicle operators for recreational and other purposes as will not conflict with the conservation of the natural resources of the area.

Revisions to vehicle regulations will result in changes in periods and times of travel to further limit vehicle operation during the visitor-use season on all seashore lands; to limit the general operation of all classes of vehicles on Fire Island, including those of public utility companies, to certain sections of the national seashore and to certain hours during periods of high visitor use; and to provide for vehicular ingress and egress by residents and property owners only during those periods when alternate public transportation methods are unavailable or unreasonable. The number of vehicle permits for residents will be set at the existing number, and no additional permits will be granted. Certain unnecessary dune crossings will be closed, and occupants of properties outside exempted communities will be required to use designated dune crossings and trails (segments of the Burma Road) until the expiration of private property ingress/egress agreements. Vehicles will not be permitted on the beach during periods of high water when the surf is near the seaward base of the primary dune. A requirement that all vehicles on Fire Island be of the four-wheel-drive type is presently in effect.

Additional research on vehicle use on Fire Island will be conducted to determine ecological and erosional effects that may result from this activity, and such data will be used to provide further guidance for vehicle management. A study to determine impacts of vehicle use will be initiated during the 1977 season.

Vehicle checkpoints at Fire Island Lighthouse and Smith Point West have been relocated to increase efficiency of operations (see figures 5 and 10). Checkpoint stations will be operated on a year-round basis to assure compliance with established regulations. Proper enforcement will depend upon cooperation and assistance from local governmental agencies and the Suffolk County Police Department, which have enforcement responsibility within the communities.

Vehicular-use permits are issued by category of use, with certain considerations pertaining to each category. By definition, a motor vehicle is any self-propelled

land vehicle. All vehicles other than police vehicles must have a permit to be operated across seashore lands. The categories and objectives for vehicular regulations discussed below will be promulgated in the *Federal Register* following issuance of the general management plan.

Official Vehicle Permits

The objective for the official vehicles category is to limit official vehicular travel to an absolute minimum.

Utility Vehicle Permits

The objective of this category is to limit utility vehicle trips to those that are absolutely necessary. Because present use of the beach by utility vehicles is excessive and unwarranted, utility companies will be encouraged to have their employees travel to the island by private boat or ferry and to utilize maintenance equipment stored within the island communities.

Construction/Service/Contractor Vehicle Permits

The objective for this category of use is to minimize travel by construction/service/contractor vehicles. Because present use of the beach for access by this group is unnecessary, national seashore officials will initiate regulations that will require such users to barge needed materials to the island from Long Island. Sufficient time will be given for contractors and others to arrange appropriate water transport prior to implementation of the regulations.

Residents' Vehicle Permits

The objective for this category is to minimize impacts of vehicles within the island swale, with a gradual reduction in the number of vehicle permits.

Vehicle Permits for Residents With Special Health Problems

This category proposes no change from existing use.

Recreational Vehicle Permits

The objectives of this category are to limit use of recreational vehicles and to ensure that such vehicles are used in appropriate areas to minimize damage to the resources. National seashore managers will initiate the following regulations:

Recreational vehicle use will be limited to a specific number of vehicles at a given time within federal property between Smith Point West and Long Cove.

Recreational vehicles will continue to be restricted to driving on the seaward side of the beach and will not be permitted behind the dunes in the island swale.

RESEARCH ACTIVITIES

Numerous research investigations have been conducted at the national seashore since its establishment in 1964, as well as on the other Atlantic coast barrier islands. Most research efforts have been directed toward description of the natural environment and evaluation of ecological and geological processes that are important in the perpetuation of the island's life-forms and landforms. The research findings have been instrumental in permitting development of an environmentally sound management philosophy for Fire Island. Current research projects – mostly federally funded and university sponsored – should be continued and expanded as necessary to provide information needed to manage the island and to perpetuate it. Research projects that will be undertaken by the National Park Service are discussed below.

The National Park Service proposes to begin research on the effects of various types of manipulation of the tidal-marsh environment, including closure of mosquito-control ditches by various methods. The Oak Beach marsh and marshes on Captree Island would be used as unmanipulated control areas for these experiments. East Fire Island is geographically isolated and contains one of the seashore's finest tidal marshes. Although extensively ditched for mosquito control, its marshes still retain outstanding ecological value. If the mosquito ditches were closed, the island would, together with the Oak Beach and Captree Island marshes, provide a laboratory for studying and interpreting the ecological changes resulting from this action.

Research on the use of dredged material for constructing artificial tidal marshes on the Great South Bay shoreline of Fire Island east of the Sunken Forest management unit will be conducted by constructing a small experimental tidal marsh near the Barrett Beach area. The suitability of dredged material for constructing these marshes will be determined and the ecological alterations caused by these marshes will be evaluated. No other artificial tidal marshes will be constructed until the long-term effects of the experimental marsh have been evaluated, and then additional marshes will be constructed only if positive ecological benefits can be achieved.

The National Park Service will complete the inventory of plants and animals that inhabit Fire Island National Seashore. Additional research on Fire Island flora and fauna will be conducted as needed to provide data for management of these biological resources.

Research on the use of vehicles on Fire Island will be conducted by the National Park Service. Their use, compatibility with other seashore activities, and impacts on natural resources and the sociological environment will be evaluated. Some

studies will be initiated during the 1977 season and will be continued for the next two seasons.

Research on the effects of coastal engineering projects will not be initiated by the National Park Service. However, data from these kinds of research projects conducted by the Corps of Engineers, other agencies, and institutions will be collected and evaluated to aid in management of Fire Island National Seashore.

Support facilities for the variety of research projects intended for Fire Island National Seashore are desirable. However, establishing several fixed facilities at widely dispersed locations to achieve coverage for research projects scattered throughout the seashore area is not desirable. A single houseboat-type floating facility is proposed to meet support facility needs. Self-contained water and sewage facilities, limited laboratory space and equipment, and limited overnight accommodations for researchers would be included in the design of this floating facility. This self-contained facility concept precludes environmental degradation that would be associated with research activities in areas where no housing or water and sewage systems exist. Furthermore, the mobility of a floating facility permits a single unit to support any or all research areas.

The William Floyd Estate has potential value as an archaeological site, perhaps containing artifacts from Revolutionary, Colonial, or pre-Colonial times. Archaeological studies are being conducted prior to development for public use, and no area will be disturbed if it is determined to have significant archaeological value. Archaeological studies are being conducted in conjunction with planning activities for the estate. The National Park Service has also begun a historical survey of the William Floyd Estate. This survey will include the availability of existing artifacts and the conditions of structures.

Archaeological studies are underway for the 90-acre Fire Island Lighthouse tract. When the studies are completed, the resulting data will be considered in future site development. National Park Service architectural historians will survey existing structures on the site and make recommendations for their maintenance or restoration.

The New York State historic preservation officer has been requested to provide information on other structures or sites within the seashore that may be eligible for nomination to the National Register of Historic Places. If such structures or sites are identified, the National Park Service will prepare the necessary materials to nominate them and will ensure that any potential sites on existing federal property are not disturbed or in any way altered until their significance has been assessed and their eligibility for designation to the National Register has been determined. If they are determined to be eligible, the Park Service will ensure that the sites are preserved and made available to the public for interpretation.