DRAFT
ENVIRONMENTAL ASSESSMENT

for

Beach Nourishment and Maintenance Dredging

at

Smith Point County Park and Cupsogue County Park

July 30, 2008

Prepared on Behalf of:

Suffolk County Department of Public Works

Required by and Submitted for

U.S. Department of the Interior
National Park Service
Fire Island National Seashore
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I. Introduction

This document is an Environmental Assessment (EA), which has been prepared on behalf of the National Park Service for the dredging of the Moriches Inlet and the subsequent use of the dredged sand for beach nourishment at three locations along the outer beaches of Smith Point County Park and Cupsogue County Park. Smith Point County Park falls within the boundaries of the Fire Island National Seashore, and any work affecting natural resources within the boundaries of the Fire Island National Seashore, which is not otherwise permitted (such as private development within the recognized communities consistent with federal zoning standards) requires a Special Use Permit from the Seashore. This EA was developed for the National Park Service (NPS) by the Suffolk County Department of Public Works project team as required under the National Environmental Policy Act (NEPA) in order for the NPS to fully evaluate the environmental impacts of the proposed project before the issuance of any permits. The Suffolk County Department of Public Works, and the project consultant team, have had numerous meetings with National Seashore staff to discuss the project and to coordinate the project's approval process and NEPA compliance.

A. Project Setting

Fire Island is a 32-mile long barrier island that separates the Atlantic Ocean from the Great South Bay (GSB). Fire Island National Seashore (FIIS), which was established in 1964, extends along 27 miles of oceanfront beach and approximately 20,000 acres of beach, dune, maritime forest and private hamlets and villages, from Robert Moses State Park eastward to the Moriches Inlet and 1000 feet into open ocean and up to 1.5 miles into the Great South Bay.

Smith Point County Park (SPCP), which lies within FIIS, remains a non-federally owned tract of land, as does much of the 17 communities area within the Seashore. SPCP is located in the town of Brookhaven, Suffolk County at the eastern end of Fire Island. A location Map is presented in Figure 1. Smith Point County Park was established in 1955 as part of the project to rebuild the Smith Point Bridge. Access to SPCP is via the William Floyd Parkway over the Smith Point Bridge. SPCP is comprised of 1,207 acres and is 6.5 miles long reaching from the entrance at William Floyd Parkway to the west and Moriches inlet to the east. Smith Point County Park serves as a multipurpose facility offering many recreational activities such as the main bathing beach, camping grounds, surfcasting and the back bay and outer beach areas.

Cupsogue Beach County Park in Westhampton, NY, which is on the east side of Moriches Inlet (Figure 1), is a 296-acre barrier beach park at the western end of Westhampton Beach, located in the Town of Brookhaven. This section of the barrier island was a part of Fire Island until the 1931 nor'easter, which created the Moriches Inlet. Cupsogue County Park was acquired by Suffolk County in the 1950's and County park facilities were added in the 1970's. This county park, as with Smith Point County Park, is a multipurpose facility offering many recreational activities such as the main bathing beach, camping, fishing and diving. Cupsogue County Park has enjoyed a relatively stable shoreline for the past several years. Neverless, it does have a history of

erosion and breaching. The April, 2006 nor'easter removed large quantities of sand and exposed the dunes to wave attack.

Moriches inlet, which separates Smith Point County Park from Cupsogue County Park, (figure 1) was originally formed during a nor'easter in 1931. Between 1933 and 1938 the inlet widened and deepened due to the tidal flow of both Shinnecock Bay and Moriches Bay, which caused scouring, and widening. During the 1938 hurricane the inlet was widened to 4,000 Feet. This storm also opened Shinnecock Inlet, which cut the tidal flow through Moriches inlet by half, thereby allowing for shoaling and the slow buildup of sand and sediment inside the inlet. The jetties at Moriches Inlet were constructed between 1952 and 1953. Both inlets were constructed and maintained without federal assistance until around the 1980's when Congress passed laws that allowed the U.S Army Corps of Engineers (USACE) to assume responsibility for the maintenance of the inlets. (www2.sunysuffolk.edu/mandias/38hurricane)

B. Purpose and Need

The purpose of the project is to provide interim remediation to protect existing park facilities while a longer-term strategy to manage Long Island's barrier island shorelines is being developed The need for this project stems from the major loss of sand experienced on the beaches of Smith Point County Park during the nor'easter of April 2007. This project is intended to add sand to these beaches to protect the existing recreational opportunities, such as fishing, sunbathing, swimming, etc., along the ocean beaches and to also protect the county facilities at each of the two county parks and to protect the Flight 800 Memorial. The need for the project is that the current loss of the beachfront is reducing the areas available for existing recreation and threatening damage and loss of existing public facilities at the two County parks. It is considered to be an interim, one time carry-over action, pending resolution of a permanent solution by the Corps of Engineers.

This environmental assessment is prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, regulations of the Council on Environmental Quality, 40 CFR 1508.9, and the Directors Order #12, Conservation Planning, Environmental Impact, and Decision Making (DO-12), and accompanying DO-12 Handbook (May, 2001). The assessment evaluates 2 alternatives to meet the FIIS management objectives allowing for county owned facilities and infrastructure, storm protection efforts while protecting natural and cultural resources and values and providing recreational opportunities and access on Fire Island. Analysis of the alternatives focuses on the impact that beach stabilization/ replenishment may have on natural and cultural resources and values of Fire Island National Seashore, as well as its effect on the visitor experience and park operations. The purpose of this EA is to support an NPS decision on whether or not to issue a Special Use Permit for the proposed beach nourishment project in accordance with DO-53.

The proposed project is for the nourishment of the Smith Point Park and Cupsogue Beach with up to 460,000 cubic yards of dredged material from Moriches Inlet. This sand will be excavated from; A - Outer Channel through the outer bar; B - Mid-channel between the jetties; and C - Inner channel segment. The yield from these areas are as follow; A -

~340,000 cubic yards; B - ~ 105,000 cy; and C - ~15,000 cy. The total volume available within the proposed dredge template in February 2008 was an estimated 460,000 cy (Figure 2 and 3). A permit for excavations up to 460,000 cy is requested based on the uncertainty of shoaling volumes available at the time of construction.

Suffolk County Department of Public Works (DPW) proposes to place the dredge material, as follows: Area A - Smith Point County Park beginning at State Survey Marker F71 (Pavilion) and extending 4,000 linear feet to the east; Area B - East Fire Island beginning approximately 3 miles from the western terminus of the Smith Point County Park (SPCP) and extending 9,000 linear feet to the east; and Area C - Cupsogue County Beach beginning 500 linear feet east of the east jetty of Moriches Inlet and extending 6,000 linear feet to the east. The proposed maximum fill volume and average fill density for each Area are as follows: Area 1 – 76,000 cubic yards (~19 cy/ft); Area 2 - Up to 234,000 cy (~26 cy/ft); and Area 3 - Up to 150,000 cy (~25 cy/ft) (Figure 4)

The second benefit of this project will be the dredging of Moriches Inlet, which due to current conditions in the inlet is a difficult and dangerous inlet to navigate. However, through a scheduled dredging protocol this inlet can be made safer for the boaters and fishermen that utilize this waterway.

a. Background/Context

Fire Island, like most barrier islands, was formed many thousands of years ago. The sediments comprising Fire Island were initially deposited at the end of the last Ice Age, 18,000 years ago. There are two source types: the glacial till (boulders to clay-sized material) exposed at least 30 miles to the east, near Montauk Point, and glacial outwash sand that was deposited offshore by meltwater. During the period of sea level rise with glacial retreat over the last 18,000 years, waves have eroded, transported, and re-deposited the sediment along the coast. Sea level rise during glacial periods slowed about 9,000 years ago and is believed to have formed the ancestral barriers, which were augmented about 4,000 years ago when further sea level rise favored more growth of barrier islands environments (Schwab et al. 2000). Many of these barriers are now migrating shoreward in response to the most recent increases in relative sea level rise rates.

The unusual oblique East-West geographic orientation of Fire Island on the Atlantic Coast results in different beach and dune responses to northeast coastal storms than the more usual east-facing beaches. This south-facing shoreline responds to storms occurring well to the south, including offshore hurricanes. Regional storms also have beach change and flooding impacts on Fire Island beaches due to local wind-generated waves and storm surge.

The principal forces of concern are the storm-induced, extreme tides and waves that could cause flooding and damage to structures and the dune complex within Smith Point County Park and Cupsogue County Park. The fundamental causes of the shoreline change experienced at Fire Island are storms, the location of off-shore bars and breaks in the bars, the natural patterns of littoral drift, and rising sea levels. In the most severe scenario, overwash, breaching and inundation of the human infrastructure in the project

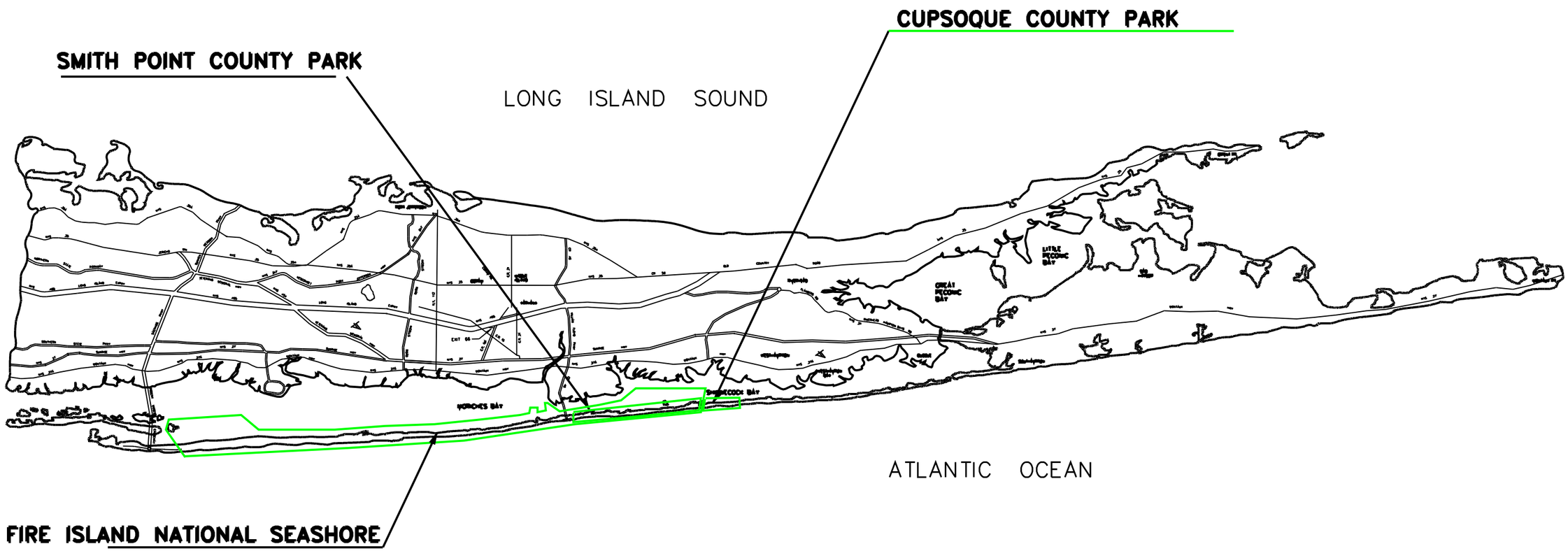


FIGURE 1
PROJECT LOCATION

area could subject the county park system to socioeconomic losses. At Smith Point, all of these factors are exacerbated by the partial littoral barrier resulting from the maintenance of Moriches Inlet.

In 2005 the Suffolk County Department of Public Works, Division of Bridges Structures and Waterways contracted Greenman-Pedersen, Inc (GPI) to obtain permits for the beach nourishment of several sections of the Smith Point County Park. Permit applications were submitted to the NYSDEC, New York State Department of State (NYSDOS), the U.S. Army Corps of Engineers (USACE) and Fire Island National Seashore (FIIS).

The Suffolk County Department of Parks was deemed the Lead Agency for the project under NYS Environmental Quality Review Act regulations. A Negative Declaration was prepared by Suffolk County.

Any project within a New York State coastal zone must submit a Federal Coastal Consistency Review to the New York State Department of State. This Coastal Consistency review is to determine whether or not the project is "consistent" or complies with state coastal policies. The Coastal Consistency Certification was received and is included in Appendix C.

All permits for the dredging using the off-shore borrow area were received in February of 2007 and dredging began in March of 2007. The project was approved by NPS by way of a letter of permission for emergency beach nourishment in lieu of a Special Use Permit. Dredging took place in the month of March and the beginning of April. During that time 225,000cy of sand was dredged from offshore borrow area #3 and placed in two locations along the beach.

Unfortunately, in April of 2007 Long Island experienced a Nor'easter and several other strong storms that removed a large amount of the sand that had been placed from the dredging, once again threatening the infrastructure of Smith Point County Park. Cupsogue County Park also experienced severe erosion.

After these storms, a new source for sand for beach nourishment was sought. After consultation with NYSDEC, FIIS, SCDPW, U.S. Fish and Wildlife Service (USFWS) and USACE a plan to dredge Moriches Inlet and use the dredged sand to nourish both Smith Point County Park and Cupsogue County Park beaches was developed. It is important to note that the proposed project is not intended as a phased nor periodic beach nourishment operation. Rather it is intended to be a one-time response to a severe storm. Longer term needs are expected to be addressed in FIMP.

C. Purpose of Fire Island National Seashore

National park system units are established by Congress to fulfill specified purposes, based on the park's unique and "significant" resources. A park's purpose, as established by Congress, is the fundamental building block for its decisions to conserve resources while providing for the "enjoyment of future generations." The enabling legislation for Fire Island National Seashore, its purpose and significance, and its broad mission goals are summarized in this section and are taken from the national seashore's enabling

legislation, the 1977 *General Management Plan,* and the 2000 *Strategic Plan* (NPS 1977; NPS 2000d*)*. In addition, the national seashore's purpose, significance, and management objectives are all linked to the impairment findings that are made in the NEPA process, as stated in section 1.4.5 of the National Park Service *Management Policies 2006* (NPS 2000c*)*.

Establishment — Congress established Fire Island National Seashore on September 11, 1964 (Public Law [PL] 88-587). Congress highlighted the conservation and preservation of beaches, dunes, and other natural features as the reason for creating Fire Island National Seashore (FIIS). The enabling legislation authorizes the establishment of Fire Island National Seashore:

"For the purpose of conserving and preserving for the use of future generations certain relatively unspoiled and undeveloped beaches, dunes, and other natural features within Suffolk County, New York, which possess high values to the Nation as examples of unspoiled areas of great natural beauty in close proximity to large concentrations of urban population, the Secretary of the Interior is authorized to establish an area to be known as the "Fire Island National Seashore" (16 USC 459e(a))."

"The national seashore extends from the easterly boundary of the main unit of Robert Moses State Park eastward to Moriches Inlet and includes Fire Island proper and the surrounding islands and marshlands in the Great South Bay, Bellport Bay, and Moriches Bay adjacent to Fire Island. Sexton Island, West Fire and East Fire Islands, Hollins Island, Ridge Island, Pelican Island, Pattersquash Island, and Reeves Island and other small and adjacent islands, marshlands, and wetlands that lend themselves to contiguity and reasonable administration within the national seashore; and in addition the waters surrounding the national seashore to distances of 1,000 feet in the Atlantic Ocean and up to 4,000 feet in Great South Bay and Moriches Bay (see Location map). The mainland terminal and headquarters are on the Patchogue River within Suffolk County, New York."

Administration — Fire Island National Seashore, though contiguous along the entire island, private holdings are located inside the park boundaries. National seashore staff maintain and administer the Otis Pike Wilderness Area established in 1981, the Sunken Forest, Watch Hill, Sailors Haven, the Fire Island Lighthouse (placed on the National Register of Historic Places in 1981), and the William Floyd Estate (placed on the National Register of Historic Places in 1980).

The national seashore enabling legislation states, "the Secretary shall administer and protect the Fire Island National Seashore with the primary aim of conserving the natural resources located there (16 USC 459e-6(a))." The legislation further states:

"The area known as the Sunken Forest Preserve shall be preserved from bay to ocean in as nearly its present state as possible, without developing roads therein, but continuing the present access by those trails already existing and limiting new access to similar trails limited in number to those necessary to allow visitors to explore and appreciate this section of the seashore (16 USC 459e-6(a))."

"Access to [the Davis Park-Smith Point County Park area] of the seashore lying between the easterly boundary of the Ocean Ridge portion of Davis Park and the westerly boundary of the Smith Point County Park shall be provided by ferries and footpaths only, and no roads shall be constructed in this section except such minimum roads as may be necessary for park maintenance vehicles. No development or plan for the convenience of visitors shall be undertaken therein which would be incompatible with the preservation of the flora and fauna or the physiographic conditions now prevailing, and every effort shall be exerted to maintain and preserve this section of the seashore as well as that set forth in the preceding paragraph in as nearly their present state and condition as possible (16 USC 459e-6(b))."

"In administering, protecting, and developing the entire Fire Island National Seashore, the Secretary shall be guided by the provisions of sections 459e to 459e-9 of [Title 16] and the applicable provisions of the laws relating to the national park system, and the Secretary may utilize any other statutory authority available . . . for the conservation and development of natural resources to the extent . . . that such authority will further the purposes of sections 459e to 459e-9 of [Title 16]. Appropriate user fees may be collected notwithstanding any limitation on such authority by any provision of law (16 USC 459e-6(c)). Development restrictions for the Dune District is further defined in 16 U.S.C. Sec. 459e-1, the Dune District legislation provides: "(g) The authority of the Secretary to condemn undeveloped tracts within the Dune District as depicted on map entitled 'Fire Island National Seashore' numbered OGP-0004 DATED May 1978, is suspended so long as the owner or owners of the undeveloped property therein maintain the property in its natural state."

The portions of the authorizing legislation quoted above are among a dozen statements which explicitly direct the National Park Service to focus its management to protect the natural resources of the Seashore. In particular, the Seashore's management actions are directed to maintain the primary dunes in an undeveloped state; to protect the beaches and other natural features; and to limit, restrict or prevent structures—residential, commercial or otherwise, which are likely to cause harm to these natural resources of the Seashore.

Mission — The NPS mission statement at Fire Island National Seashore grows from the park's legislated mandate and is a synthesis of the park's mandated purpose and its primary significance (NPS 2000d):

"The National Park Service is committed to preserving Fire Island National Seashore's cultural and natural resources, its values of maritime and American history, barrier island dynamics and ecology, biodiversity, museum collection objects, and wilderness. The National Park Service is committed to providing access and recreational and educational opportunities to Fire Island National Seashore visitors in this natural and cultural setting close to densely populated urban and suburban areas, and to maintaining and exemplifying the policies of the National Park Service."

Purpose — The purposes of Fire Island National Seashore, as stated in its *Strategic Plan* (NPS 2000d), are as follows:

"Preserve the natural and cultural resources within administrative boundaries."

"Natural resources include Fire Island proper, a 32-mile barrier island (of which 27 miles are in the Fire Island National Seashore) off the south shore of Long Island, NY; surrounding waters (1,000 feet into Atlantic Ocean and 4,000 feet into Great South and Moriches Bay); and 26 smaller bay islands. Cultural resources include the park museum collection, the William Floyd Estate, and land and structures comprising the Fire Island Light Station."

"Permit hunting, fishing, and shellfishing within boundaries in accordance with U.S. and New York State laws."

"Preserve the Sunken Forest tract from bay to ocean without developing roads therein."

"Preserve the main dwelling, furnishings, grounds, and outbuildings of the William Floyd Estate, home of the Floyd family for eight generations."

"Administer mainland ferry terminal and headquarters sites not to exceed 12 acres on the Patchogue River."

"Preserve the Otis Pike Fire Island High Dunes Wilderness."

"Provide for public access, use, and enjoyment."

"Work with the communities within the park to mutually achieve the goals of both the park and the residents."

Significance — Fire Island National Seashore's primary significance is stated in its *Strategic Plan* as follows:

"Fire Island National Seashore is a relatively natural seashore comprised of relatively unspoiled and undeveloped beaches, dunes, other natural features, and a diverse barrier island ecosystem. The seashore is near large concentrations of urban populations and contains no paved road."

"Seventeen communities help define the human environment of Fire Island National Seashore."

"The Fire Island Light Station tells the story of the lifesaving ethic embodied in the U.S. Lighthouse Service, the U.S. Life Saving Service, and the U.S. Coast Guard."

"The William Floyd Estate, associated with General William Floyd, a signer of the Declaration of Independence, was owned and occupied by the Floyd family for 250 years; tangible features from all periods are preserved and interpreted there."

"The Sunken Forest is a 250–300 year old American holly-shadblow-sassafras maritime forest considered to be at or near climax."

"The Otis Pike Wilderness Area contains a variety of barrier island ecosystem in a relatively natural state and is the only federal wilderness in the state of New York."

D. Related NPS Laws, Regulations, Programs and Policies

a. NPS Organic Act and Management Policies

By enacting the National Park Service Organic Act of 1916, Congress directed the U.S. Department of the Interior and the National Park Service to manage units of the national park system "to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations" (16 USC 1). The Redwood National Park Expansion Act of 1978 reiterates this mandate by stating that the National Park Service must conduct its actions in a manner that will ensure no "derogation of the values and purposes for which these various areas have been established, except as may have been or shall be directly and specifically provided by Congress" (16 USC 1a-1).

Despite these mandates, the Organic Act and its amendments afford the National Park Service latitude when making resource decisions that balance visitor recreation and resource preservation. By these acts Congress "empowered [the National Park Service] with the authority to determine what uses of park resources are proper and what proportion of the parks resources are available for each use" *(Bicycle Trails Council of Marin v. Babbitt,* 82 F.3d 1445, 1453 (9th Cir. 1996)).

Courts consistently interpreted the Organic Act and its amendments to elevate resource conservation above visitor recreation. *Michigan United Conservation Clubs v. Lujan,* 949 F.2d 202, 206 (6th Cir. 1991) states, "Congress placed specific emphasis on conservation." The *National Rifle Ass'n of America v. Potter,* 628 F. Supp. 903, 909 (D.D.C. 1986) states, "In the Organic Act Congress speaks of but a single purpose, namely, conservation." The NPS *Management Policies* also recognize that resource conservation takes precedence over visitor recreation. The policy dictates "when there is a conflict between conserving resources and values and providing for enjoyment of them, conservation is to be predominant" *(Management Policies 2006,* sec. 1.4.3). This is consistent with the FIIS statute which states that the "primary aim" of the Seashore is "Conserving the natural resources located there".

Because conservation remains predominant, the National Park Service seeks to avoid or to minimize adverse impacts on park resources and values. Yet, the National Park Service has discretion to allow negative impacts when necessary *(Management Policies 2006,* sec. 1.4.3). However, while some actions and activities cause impacts, the National Park Service cannot allow an adverse impact that constitutes a resource impairment *(Management Policies 2006,* sec. 1.4.3). The Organic Act prohibits actions that permanently impair park resources unless a law directly and specifically allows for the acts (16 USC 1a-1). An action constitutes an impairment when its impacts "harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values" *(Management Policies 2006,* sec. 1.4.5). To determine impairment, the National Park Service must evaluate "the particular

resources and values that would be affected; the severity, duration, and timing of the impact; the direct and indirect effects of the impact; and the cumulative effects of the impact in question and other impacts" (*NPS 2000a*).

According to the NPS Management Policies 2006, Sec 4.8 Geologic Resource Management, "The Park Service will preserve and protect geologic resources as integral components of the park natural systems. The Service will:

- Assess the impacts of natural processes and human activities on geologic resources
- Maintain and restore integrity of existing geologic resources
- Integrate geologic resources management into Service operations and planning
- Interpret geologic resources for park visitors.

The National Park System will allow natural processes to proceed unimpeded. However the NPS will permit intervention of these processes only when there is no other feasible way to protect natural resources, park facilities or historic properties and also when intervention is necessary to restore impacted conditions, such as restoring habitat for threatened or endangered species (*Management Policies 2006, sec*. 4.8.1).

However, although it has been determined by the NPS that natural shoreline processes (such as erosion, deposition, dune formation, overwash, inlet formation, and shoreline migration) will be allowed to continue without interference (*Management Policies 2006, sec*. 4.8.1.1), this section states that "where human activities or structures have altered the nature or rate of natural shoreline processes the service will, in consultation with appropriate state and federal agencies investigate alternatives for mitigating the effects of such activities or structures and for restoring natural conditions. The service will comply with Executive Order 11988 (Floodplain Management) and state coastal zone management plans prepared under the Coastal Zone Management Act of 1972. (*Management Policies 2006, sec*. 4.8.1.1)

Because park units vary based on their enabling legislation, natural resources, cultural resources, and missions, the recreational activities appropriate for each unit and for areas within each unit vary. An action appropriate in one unit may impair resources in another unit. Thus, this environmental assessment analyzes the context, duration, and intensity of impacts related to beach alteration/stabilization activities at Fire Island National Seashore, as well as potential for resource impairment, as required by *Director's Order #12: Conservation Planning, Environmental Impact Analysis and Decision-making* (NPS 2001a).

National Park Service Management Policies 2006

4.8.1.1 Shorelines and Barrier Islands
"Natural shoreline processes (such as erosion, deposition, dune formation, overwash, inlet formation, and shoreline migration) will be allowed to continue without interference."

"Where human activities or structures have altered the nature or rate of natural shoreline processes, the Service will, in consultation with appropriate state and federal agencies,

investigate alternatives for mitigating the effects of such activities or structures and for restoring natural conditions. The Service will comply with the provisions of Executive Order 11988 (Floodplain Management) and state coastal zone management plans prepared under the Coastal Zone Management Act of 1972."

"Any shoreline manipulation measures proposed to protect cultural resources may be approved only after an analysis of the degree to which such measures would impact natural resources and processes, so that an informed decision can be made through an assessment of alternatives."

"Where erosion control is required by law, or where present developments must be protected in the short run to achieve park management objectives, including high-density visitor use, the Service will use the most effective and natural appearing method feasible, while minimizing impacts outside the target area."

"New developments will not be placed in areas subject to wave erosion or active shoreline processes unless (1) the development is required by law; or (2) the development is essential to meet the park's purposes, as defined by its establishing act or proclamation, and:

No practicable alternative locations are available,

The development will be reasonably assured of surviving during its planned life span, without the need for shoreline control measures, and

Steps will be taken to minimize safety hazards and harm to property and natural resources."

National Park Service Regulations, 36 CFR Parts 2.1, 2.2, and 2.3

Section 2.1 prohibits the possessing, destroying, injuring, defacing, removing, digging, or disturbing from its natural state, all natural, cultural, and archeological resources. This includes all wildlife and plants, either dead or alive, as well as ensuring the preservation of all natural features, paleontological resources, cultural or archeological resources, and mineral resources. Superintendents are allowed to specify certain parameters where specific actions are allowed for each park.

Section 2.2 prohibits the taking of wildlife, except by authorized hunting and trapping activities; feeding, touching, teasing, frightening or intentional disturbing of wildlife nesting, breeding or other activities; possessing unlawfully taken wildlife or portions thereof.

Section 2.31 identifies that all lands within a park boundary, regardless of ownership, shall be protected from trespassing, tampering and vandalism. This is further defined in this section by prohibiting the following,

(1) Trespassing. Trespassing, entering or remaining in or upon property or real property not open to the public, except with the express invitation or consent of the person having lawful control of the property or real property.
(2) Tampering. Tampering or attempting to tamper with property or real property, or moving, manipulating or setting in motion any of the parts thereof, except when such property is under one's lawful control or possession.
(3) Vandalism. Destroying, injuring, defacing, or damaging property or real property.

b. 1977 General Management Plan

The 1977 *General Management Plan (GMP)* was created to provide an environmentally sound management foundation for the national seashore. The plan ensures the protection and preservation of beaches, dunes, and other natural features, as well as provides reasonable access and facilities for recreational uses. Because a variety of landowners and governmental jurisdictions are affected by management at Fire Island National Seashore, planning and management activities discussed in the plan are based on cooperative efforts. The *General Management Plan* states that ocean-facing dunes will be repaired or restored as needed…Such measures will be undertaken by affected communities. It further clarifies, "Dune blowouts and other naturally occurring bare sand areas will be repaired or replanted in the seashore district when compelling considerations, such as threats to major developments, dictate such action (NPS 1977). "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" (NPS 1977).

A new GMP will more than likely revise the 1977 GMP's statements on dune and beach management.

c. 2000 Strategic Plan, Fiscal Years 2001–2005

The *Strategic Plan* addresses topics such as the mission of Fire Island National Seashore, the goals for accomplishing and maintaining its mission, and strategies for achieving these goals from 2001 to 2005. A general overview of the park's organizational structure, financial resources, available facilities, and evaluation techniques is provided in this document. Fire Island's mission goals fall under one of the following 4 categories:

- Preserve park resources.
- Provide for visitor experience at the park.
- Strengthen and preserve natural and cultural resources and enhance recreational opportunities.
- Ensure organizational effectiveness.

Within these four categories each specific long-term goal is highlighted in measurable ways. While there are specific goals addressing recreational uses, educational opportunities, and resource improvement, no specific recommendations are proposed.

E. Executive Orders

Various Executive Orders have been reviewed to determine their relevance to the proposed project. The National Park Service has determined that findings are not required under Executive Order 11990 (Protection of Wetlands) or Executive Order 11988 (Protection of Floodplains). Executive Orders 11644 and 11989 regarding use of off-road vehicles on Public Lands have requirements for designation as open to ORV travel. The Seashore and the County Park are engaged in the appropriate processes to authorize existing ORV activities.

Executive Order (EO) 11990 requires the NPS to evaluate project impacts to wetlands. Objectives of the executive order are to avoid, to the extent possible, the short- and long-term adverse impacts associated with occupancy, modification or destruction of wetlands, and to avoid indirect support of development and new construction in such areas wherever there is a practicable alternative. No findings under this EO are required for this project.

Executive Order 11988 (Floodplain Management) directs federal agencies to avoid adverse impacts upon floodplains and their occupants if there is a practicable alternative. The NPS is further directed to take action to reduce the risk of flood loss, to minimize impacts of flooding on human safety, health, and welfare, and to restore and preserve the natural and beneficial values of floodplains. No findings under this EO are required for this project.

Executive Order 11644 allows for the establishment of policies and provide for the procedures that will ensure the use of off-road vehicles on public lands will be controlled and directed to that there can be a maintenance and protection of the resources of the area and the promotion of safety for all the users of the land. This EO has also been amended by EO 11989 which gives the agency heads the ability to limit or close areas of ORV travel if they determine that such use is detrimental to the soil, vegetation, wildlife, wildlife habitat, or cultural or historical resources.

Smith Point County Park has offered ORV access for nearly 50 years. The primary path for ORV use, which is offered nearly year-round, is along Burma Road, the route which exists behind the primary dune (landward of the landward toe of the primary dune) and extends five miles east of the campground, ending at Moriches Inlet. This route has existed for decades.Today, Burma Road provides passage for thousands of patrons who enjoy fishing, hunting, surfing, and swimming.

The Seashore currently regulates ORV use on the beachfront by prohibiting travel within 20 feet of beach grass, see 36 CFR section 7.20(a)((2)(i). Separate on-going procedures and planning activities are underway to revise the existing ORV regulations across the entire Seashore and to address a number of aspects of ORV use. These other efforts will incorporate and update ORV designations and management within SPCP as well.

Policies of the Suffolk County Department of Parks, Recreation and Conservation ensure that sound ecological stewardship on the Atlantic-facing beach is given priority over the recreational needs of its patrons. Be it nesting shorebirds, severe erosion, or unusually high water, Suffolk County Parks routinely closes access to those portions of the ocean-fronting beach that warrant additional safeguards. During those times of year that allow for driving south of the primary dune, on the beachfront itself, Suffolk County Parks erects snowfences to protect the dune, beachgrass and associated rhizome zone under the direction of a qualified biologist. In addition, Suffolk County Parks has designated four formal passages through the primary dune, known as "cuts," which allow access back and forth between Burma Road and the beachfront. No other cuts are allowed. This configuration provides Suffolk County Parks additional flexibility in placing the public where it is most safe for their use and most protective of our natural resources.

F. Other Federal Agency Plans, Policies, and Actions

a. 1972 Coastal Zone Management Act

In recognition of the increasing pressures of over-development on the nation's coastal resources, Congress enacted the Coastal Zone Management Act in 1972. The act encourages states to preserve, protect, develop, and where possible, restore or enhance valuable natural coastal resources such as wetlands, floodplains, estuaries, beaches, dunes, barrier islands, and coral reefs, as well as the fish and wildlife using those habitats. A unique feature of the coastal zone management program is that participation by states is voluntary. To encourage states to participate, the act makes federal financial assistance available to any coastal state or territory that is willing to develop and implement a comprehensive coastal management program. In addition, once a state adopts a plan consistent with the Coastal Zone Management Act, that state's coastal plan agency can make consistency determinations on federal projects along the coastline.

State coastal zones include the coastal waters and adjacent shore lands that extend inland to the extent necessary to control activities that have a direct, significant impact on coastal waters. For federal approval, a coastal zone management plan must (1) identify the coastal zone boundaries; (2) define the permissible land and water uses within the coastal zone that have a direct and significant impact on the coastal zone and identify the state's legal authority to manage these uses; (3) inventory and designate areas of particular concern; (4) provide a planning process for energy facilities siting; (5) establish a planning process to assess the effects of, and decrease the impacts from, shoreline erosion; and (6) facilitate effective coordination and consultation between regional, state, and local agencies. The National Oceanic and Atmospheric Administration approves state coastal zone management plans and oversees subsequent implementation of the programs by the administering states. A request for a Coastal Consistency Certification has been sent to NYSDOS Division of Coastal Resources and is pending.

b. 1982 Coastal Barriers Resources Act

Congress passed the Coastal Barriers Resources Act (CBRA) in 1982 to address problems caused by coastal barrier development. The act restricts most federal expenditures and financial assistance in the Coastal Barrier Resource System (CBRS). This system is made up of a defined list of undeveloped coastal lands and associated

aquatic environments that serve as barriers protecting the Atlantic, Gulf, and Great Lakes coasts. The system currently includes 585 units, which add up to almost 1.3 million acres and about 1,200 shoreline miles. The Coastal Barrier Improvement Act of 1990 expanded the CBRS and created a new category of lands known as otherwise protected areas (OPAs). The only Federal funding prohibition within OPAs is Federal flood insurance. Other restrictions to Federal funding that apply to CBRS units do not apply to OPA's. There are 271 OPAs and Fire Island is included in this system as an otherwise protected area.

c. Endangered Species Act

Section 7 of the Endangered Species Act (ESA, 16 USC 1531 et seq.) mandates that all federal agencies consider the potential effects of their actions on species listed as threatened or endangered. If the National Park Service determines that an action may adversely affect a federally listed species, consultation with the U.S. Fish and Wildlife Service (FWS) is required to ensure that the action will not jeopardize the species' continued existence or result in the destruction or adverse modification of critical habitat. If it is determined that a proposed federal action is likely to result in the "take" of a listed species, then the FWS may describe those conditions which must be met in order for an activity to proceed. "Take" includes harming or harassing of species in ways that interfere with its normal breeding, feeding, or sheltering behaviors.

Informal consultation was initiated with the FWS and the National Marine Fisheries Service (NMFS) as well as the designated State regulatory agency, NYSDEC, throughout the internal scoping period for this project. Formal consultation under Section 7 of the ESA has also been initiated and a response from the FWS and NMFS will be incorporated into this EA or its errata sheet. Comments and information on species that potentially occur within or adjacent to the project area within the boundaries of Fire Island National Seashore were requested. An analysis of the potential impacts to each species listed is included in this document.

This environmental assessment will be submitted to the FWS, NMFS, and NYSDEC for review of ESA compliance along with an associated Biological Assessment, which covers the species impacts more thoroughly, and which is required for formal consultation with these agencies. The Biological Assessment was submitted to the FWS (April 22, 2008). The issuance of a Special Use Permit (SUP) by the NPS will be dependent upon receipt of concurrence from USFWS on the Section 7 determination submitted by NPS. Any conservation recommendations issued by USFWS would be included in the SUP.

G. State and Local Government Plans, Policies, and Actions

a. 2001 Long Island South Shore Estuary Reserve Comprehensive Management Plan

The *2001 Long Island South Shore Estuary Reserve Comprehensive Management Plan* was prepared as a result of the Long Island South Shore Estuary Reserve Act. The act was established to address the concern of the future health of the South Shore Estuary.

The purpose of the plan is to recommend management actions to protect and restore the health of the estuary. It was developed in coordination with the South Shore Estuary Reserve Council (SSERC), New York State Department of State's (NYS DOS) Division of Coastal Resources, and county and local governments. The plan provides recommendations to improve and maintain water quality; protect and restore living resources of the reserve; expand public use and enjoyment of the estuary; sustain and expand the estuary-related economy; and increase education, outreach, and stewardship. The plan provides the implementation actions, which are strictly voluntary, necessary to achieve the recommendations. Plan recommendations are strictly voluntary; there is currently no legal mandate that they be implemented. However, the SSERC and partners are using the completed plan to request implementation funding. The southern boundary of the SSER is the mean high tide line on the ocean side of Fire Island. This project is consistent with the Comprehensive Management Plan goals related to recreation opportunities, shoreline access, and economic development.

b. New York Coastal Management Program under 16 USC §§ 1456

The New York State Department of State, Division of Coastal Resources reviews projects and activities of federal agencies for consistency with the policies of the New York State coastal management program. The state's program establishes New York's vision for its coast by clearly articulating specific policies on development, fish and wildlife, flooding and erosion hazards, recreation, historic and scenic resources, agricultural lands, energy and ice management, public access, water and air resources, and general policy (NYSDOS 2002). Federal activities (e.g., development projects, permits, and funding) are reviewed by the Division of Coastal Resources to ensure adherence to the state program. Over 800 federal activities are reviewed each year. The Division of Coastal Resources advises agencies on the consistency of their activities with the state or local program.

The consistency provisions of the federal Coastal Zone Management Act of 1972 require federal activities to be consistent with the state's federally approved coastal management program. This requirement applies to all federal activities and federally authorized activities within, as well as activities outside, the state's coastal zone that affect the zone. Applicants for federal agency approvals or authorizations are required to submit copies of federal applications to the New York State Department of State, together with a Federal Consistency Assessment Form and consistency certification, so that the state can review the consistency certification and proposal for consistency with the coastal management program. Applicants for federal funding must submit an identification of the proposed funding source and a description of the project. If the Department of State determines that the proposed activity would be inconsistent with the state's coastal management program, federal agencies may not fund or approve the proposal. Direct activities by federal agencies are subject to similar requirements. Coastal Consistency determinations statements are located in Section VI of this report.

c. Relation to other Plans, Policies and Action

All relevant plans and policies are described in previous sections.

H. Issues and Impact Topics

This environmental assessment is prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, regulations of the Council on Environmental Quality, 40 CFR 1508.9, and the Directors Order #12, Conservation Planning, Environmental Impact, and Decision Making (DO-12), and accompanying DO-12 Handbook (May, 2001). The assessment evaluates 2 alternatives to meet the FIIS management objectives allowing storm protection efforts for county owned facilities and infrastructure, while protecting natural and cultural resources and values and providing recreational opportunities and access on Fire Island. Analysis of the alternatives focuses on the impact that beach stabilization/ replenishment may have on natural and cultural resources and values of Fire Island National Seashore, as well as its effect on the visitor experience and park operations. The purpose of this EA is to evaluate these alternatives in an effort to expedite the Special Use Permitting Authority under DO 53, for the projects that are anticipated to be proposed and funded by the communities located within Fire Island National Seashore (FIIS).

This EA is written in recognition of certain facts:

- the statutory purpose in creating the Fire Island National Seashore was to conserve and preserve the beaches, dunes and other natural features
- that the rates of ocean shoreline change and retreat observed in the seashore appear to be consistent with levels of sea-level rise.
- that barrier islands function through a process of retreat and rollover so erosion of the beachfront is an expected and predictable process while the configuration and location of coastal landforms are inherently unstable and unpredictable, (Fire Island National Seashore Short-term Community Storm Surge Protection Projects Environmental Assessment Draft May 16, 2003),
- that the continuous cyclical process of erosion and accretion corresponds more with periods of storm activity than with human actions, although human actions can interfere with accretion processes, if the sand-anchoring dune grass is sheared, covered or disturbed.

The spectrum of natural and cultural resource impact topics that will be considered for further discussion and analysis are addressed in detail under the Affected Environment Section. Special focus is placed on shoreline and beach resources, as they are likely to be most impacted by any of the potential alternatives and are under NPS management.

NPS seeks to restore a more effective, natural and self-sustaining dune system and natural barrier island ecosystem. It is now well understood and documented in both scientific literature as well as under national and state laws, that a natural barrier island system is a dynamic resource that not only remains in a constant state of flux, but also provides unique habitat to a diverse, threatened, and protected ecosystem. The use of any beach nourishment or stabilization techniques must go hand-in-hand with enforcement of existing regulations for protecting this dynamic collection of resources.

1. Impact Topics Retained for Analysis

These following topics were retained for analysis due to the fact that each one of these has the potential to be impacted by any of the project alternatives. These impacts may be positive or negative as discussed in the Impacts Section.

Threatened or Endangered Species
Terrestrial Species
Vegetation
Finfish (Essential Fish Habitat)
Water Quality
Benthic Species
Benthic Substrate
Recreation and Public Use
Shoreline Processes
Climate Change

2. Impact Topics Dismissed from Detailed Analysis

The following topics have been dismissed from analysis because they either do not occur in the project area or would not be impacted by the proposed project.

- Cultural Resources

Impacts to cultural resources are described in terms of type, context, duration, and intensity. The impact analysis is also intended to comply with the requirements of Section 106 of the NHPA, as amended (16 USC 470 et seq.). In accordance with the Advisory Council for Historic Preservation's regulations implementing Section 106 (36 CFR 800), impacts to cultural landscapes, historic structures and archaeological resources, both terrestrial and submerged, ethnographic resources and traditional use areas were identified and evaluated by (1) determining the area of potential effects; (2) identifying cultural resources present in the area of potential effects that were either listed on or eligible for listing on the National Register of Historic Places; (3) applying the criteria of adverse effect to affected cultural resources either listed on or eligible for listing on the national register; and (4) considering ways to avoid, minimize or mitigate adverse effects. Under the regulations of the Advisory Council for Historic Preservation a determination of either *adverse effect* or *no adverse effect* must also be made for affected National Register eligible cultural resources. An *adverse effect* occurs whenever an impact alters, directly or indirectly, any characteristic of a cultural resource that qualifies it for inclusion on the National Register (e.g., diminishing the integrity of the resource's location, design, setting, materials, workmanship, feeling, or association). Adverse effects also include reasonably foreseeable effects caused by the action alternatives that would occur later in time, be farther removed in distance, or be cumulative (36 CFR 800.5, Assessment of Adverse Effects). A determination of *no adverse effect* means there is an effect, but the effect would not diminish in any way the characteristics of the cultural resource that qualify it for inclusion on the National Register. If there are no impacts to cultural resources, the determination is *no effect* on cultural resources.

The cultural resource management policies of the National Park Service are derived from several historic preservation and other laws, proclamations, Executive Orders, and regulations. Two primary mandates include the NHPA and NPS DO-28. Taken collectively, they provide the NPS with the authority and responsibility for managing cultural resources within units of the NPS so that those resources will be preserved unimpaired for future generations. Cultural resource management for this project will be carried out in a manner consistent with legislative and regulatory provisions, and with implementing policies and procedures.

National Historic Preservation Act of 1966, as amended, Section 106:
Section 106 of NHPA requires federal agencies to consider the impacts of their proposals on historic properties, and to provide state and tribal historic preservation officers and, as appropriate, Advisory Council for Historic Preservation and the public reasonable opportunity to review and comment on these actions. The park maintains an active relationship with the NY SHPO regarding cultural resource issues and has notified the NY SHPO regarding the initiation of this EA and the intention of using this document for compliance with Section 106.

NPS Director's Order #28: Cultural Resource Management:
NPS DO-28 requires the NPS to protect and manage cultural resources in its custody through a comprehensive program of research, planning, and stewardship and in accordance with the policies and principles contained within the *NPS Management Policies, 2006.* The Order also requires the NPS to comply with the requirements described in the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation and with the 1995 Servicewide Programmatic Agreement with the Advisory Council for Historic Preservation and the National Conference of State Historic Preservation Officers.

The park actively manages its cultural resources by conducting research to identify, evaluate, document and register basic information about its cultural resources, and sets priorities for stewardship to ensure resources are protected, preserved, maintained and made available for public understanding and enjoyment. The park consults and coordinates with outside entities where appropriate regarding cultural resource management.

Cultural Landscapes
A cultural landscape is a reflection of human adaptation and use of natural resources. It is often expressed in the way land is organized and divided, patterns of settlement, land use, systems of circulation, and types of structures that are built. The character of a cultural landscape is defined by physical materials such as roads, buildings, and vegetation and by use reflecting cultural values and traditions. Shaped through time by historical land use and management practices, cultural landscapes provide a visual record of an area's past. The dynamic nature of modern human life, however, contributes to the continual reshaping of cultural landscapes. They are a good source of information about specific times and places, but at the same time, their long-term preservation is a challenge.
The area in front of the Smith Point Pavilion does not meet the National Register criteria to be considered an individual cultural landscape.

HISTORIC STRUCTURES
An historic structure is defined any building that is listed in the National Register of Historic Places, or is located in a registered historic district and is certified as being of historic significance to the historic district by the Secretary of the Interior.
The Smith Point Pavilion does not meet the National Register criteria to be considered eligible for inclusion on the National Register of Historic Places.

ARCHEOLOGICAL RESOURCES
The National Park Service is directed to provide for the identification, documentation, preservation and protection of archeological sites within its established boundaries.

Terrestrial Archeological Resources
Based on the park's approved Archeological Overview and Assessment (Final Report Archeological Overview and Assessment of the Fire Island National Seashore, Suffolk County New York; Gray & Pape, December 2005), the single archeological site identified in the near vicinity of the project area was Forge River Life Saving Service Station. This site is located approximately 3.5 miles south of the town of Moriches and approximately 3.00 miles east of the National Park Service's Otis G. Pike Wilderness Area Visitor Center. The structure was removed from the area circa 1945 and the area covered by dredge spoils. Pedestrian archeological surveys and documentary research conducted in the park since 1964 have not identified any other areas of potential archeological sensitivity.

There are no known terrestrial archeological resources in the "borrow" area.

Submerged Archeological Resources
The earliest recorded ship wreck at Fire Island was the Prins Maurits. This ship went down on May 8, 1657 near the mouth of Carmans River. Ship wrecks continued (and continue) to be an almost regular in their occurrence off Fire Island. Since its formation in 1931, Moriches Inlet has been an active channel used regularly by commercial and recreational boats since its widening from 1933 – 1938. Any damaged, disabled, abandoned and sunken vessels have been removed from this channel within short periods of time.

In 1980, Moeller and Murphy conducted a cultural resources reconnaissance in the Moriches Inlet Navigation Channel for the U. S Army Corps of Engineers. Moeller (Personal Communication, 2008) has stated that there were no submerged archeological resources in the channel, which coincides with the project borrow area.

ETHNOGRAPHIC RESOURCES
Since its occupation by Native Americans some 8,000 – 10,000 years ago, Fire Island has been occupied and used seasonally by Long Island Native Americans for shell fish harvesting, whaling, fishing and other subsistence based activities. To date, no archeological sites, from the pre-contact period, have been located or discovered.
There are two Native American entities located in the area. The Shinnecock Nation and the Unkechaug Nation are New York State recognized Tribes, but neither are federally recognized Tribes. As the Inlet is a recent event, neither the Shinnecock nor Unkechaug have established any use rights, either traditional or contemporary or claims to the areas.

The park's approved Ethnographic Overview and Assessment (Ethnographic Overview and Assessment, Fire Island National Seashore, Public Space Research Group of the Center of Human Environments, 2006) provides detailed information on the Unkechaug's areas of current interest and concerns within the park's boundaries. Specifically, Chief Harry Wallace stated that the Unkechaug were interested in "Fireplace" (an area in Brookhaven Hamlet), the Carmans River and Pattersquash Island.

The Shinnecock Nation has traditionally been associated with the Town of Southampton and has a similar type of use of Fire Island as the Unkeckhaug. Based on the information in "We Are Still Here! The Algonquian Peoples of Long Island Today", there is no evidence of the "borrow" area or the Pavilion area being associated with the Shinnecock.

As part of the NYSDEC Permit application process, the New York State Historic Presevation Office (SHPO) has been contacted. A reply is still pending.

- Noise

Noise will result during the project construction from operation of the dredge and other construction equipment. However, it will be temporary in duration, lasting only approximately 4 weeks, and will take place during the fall and winter, when use of the beach is quite limited. Furthermore, there are no residences in the vicinity, nor are there any noise sensitive land uses, which could be impacted by the construction noise.

- Air Quality

This site would have a short term impact from the air quality issues due to the equipment used in the work. This would be the diesel fumes etc that come from all equipment used such as bulldozers and dump trucks. This impact would dissipate with the shoreline breezes and when the construction was finished.

- Floodplains

According to FEMA Floodplain Map 36103C0744G, SPCP is classified as Zone VE, High Risk – Coastal Area. These are defined as Coastal Areas with a 1% or greater chance of flooding and an additional hazard associated with storm waves. These areas have a 26% chance of flooding over the life of a 30 year mortgage. (FEMA Flood Map Web Page (http://www.fema.gov/hazard/flood/info.shtm))

The FEMA regulations pertain to structures and not the activities associated with beach nourishment.

- Environmental Justice

Executive Order 12898 "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" directs federal agencies to identify and address disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income

populations. Consistent with this mandate, the Fire Island CDP (2000 Census Data) is evaluated to determine the potential for the project to adversely affect minority and/or low-income populations.

The census tracts Fire Island CDP has a total population is 310 with median household income of $43,681. The population is overwhelmingly white (98.1 percent) with few minorities. The seasonal population during the summer months (on Fire Island only) is estimated at approximately 20,000; the racial composition of seasonal residents is assumed to be similar to that of permanent residents, with no significant concentrations of low-income households or minority populations.

Local and regional businesses, residents, and tourists determine the socioeconomic climate at and near the park, which is located in the most densely populated region of the United States. Although park visitation is high, particularly during summer when several million visitors may visit the park (NPS 1977), the alternatives evaluated in this EA would have a negligible affect on local and regional tourism and would not affect socioeconomic conditions or socially or economically disadvantaged populations.

- Prime and Unique Farmland

As the soils of the site according to the NCSS Web Soil Survey web site are classified as beaches, Dune land, Tidal Marsh and Fill Land Dredge Material. Since none of these soil classifications are consistent with agricultural soils, this impact topic can be dismissed from this EA.

I. Scoping

In January of 2008 and again in March of 2008, the National Park Service held Public Scoping meetings for this project. These meetings were held at the request of the National Park Service (NPS) and are required under the National Environmental Policy Act (NEPA) in order for the NPS to fully evaluate the environmental impacts of the proposed project before the issuance of any permits.

Both meetings were held at the Brookhaven Town Hall in conjunction with the proposed beach nourishment project for several of the communities along Fire Island. Approximately 100 people were in attendance at each of the meetings. Although there were several comments on the SPCP project, most comments were aimed at the community beach nourishment.

At the first meeting several comments were made about the proposed Phase II plan. This plan (Alternative E) calls for removal of a portion of the dune field located in the Moriches Inlet Shoal Bypass Area and creating a complex of ponds and mudflats. Participants were worried about the weakening of the beach in the area of the pond creation, and also wanted to know if any other sand sources were available for the nourishment work.

Subsequent to the meeting, the NYSDEC, citing regulations in the Coastal Erosion Hazard Area regulations (CEHA) that prohibit the excavation in the primary dune, informed the County that they would not grant approval for this alternative.

At the second meeting several questions were raised about the site and the natural movement of the sand along the shoreline. One such question was asking what the impacts of the jetties have on the movement of the sand. Another participant asked why we could not just close Moriches Inlet and allow for a more natural movement of the sand along the shoreline.

The questions and comments from the meetings were either answered at the meetings or have been associated into the EA.

II. Description of Project and Alternatives

A. Alternative A (No Action)

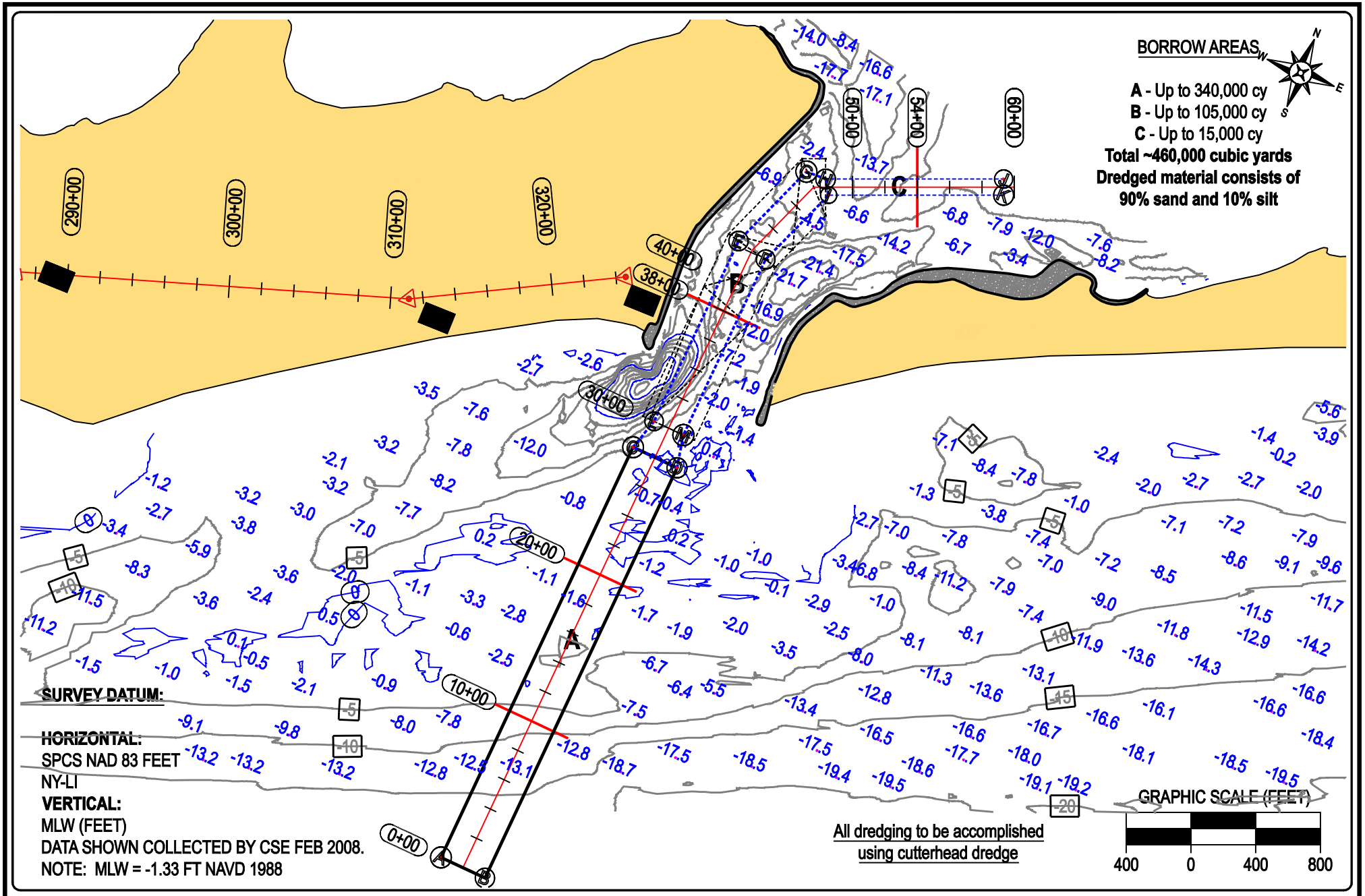
The No-Action Alternative would mean that there would be no dredging of Moriches Inlet and no placement of beach nourishment at Smith Point County Park and at Cupsogue County Park and Moriches Inlet would continue to shoal (Psuty, personal communication 7/23/08). Prior to implementation of a regular maintenance dredging program, Moriches inlet did have a history of closing, as the tidal prism (volume of water exchanged) is insufficient to keep it open. Under this alternative, this would be permitted to occur. There would be no attempt to continue the tidal exchange between the ocean and Moriches Bay. Although the existing jetties would remain untouched, they would cease to be functional and be allowed to develop into groins.

The No Action Alternative would also mean no placement of beach nourishment on Smith Point and Cupsogue Beach. The existing rates of erosion would be allowed to continue unabated with no response, including erosion in some areas caused by Moriches Inlet.

B. Alternative B Preferred Alternative (Moriches Inlet Dredging)

This Alternative is the preferred project alternative and it consists of maintenance dredging of the federal navigation channel in Moriches Inlet and sediment disposal in up to three (3) reaches. The total volume to be dredged will be determined based on conditions in the inlet at the time of construction. The applicant conducted a hydrographic survey of the inlet in February 2008. The proposed excavations would follow the alignment of the authorized federal navigation channel. Three dredging reaches are identified and referenced herein: A - Outer Channel through the outer bar, which will have a bottom dimension of 300 foot wide and be cut to a depth of 14ft; B - Mid-channel between the jetties, which will have bottom dimension of 200 ft and be cut to a depth of 12 ft; and C - Inner channel segment, which will have a bottom dimension of 100 ft and be cut to a depth of 8 ft (Figure 2 and 3). As of February 2008, Areas A, B and C had shoaled to yield the following volumes to the proposed dredging profile: A - ~340,000 cubic yards; B - ~ 105,000 cy; and C - ~15,000 cy. The total volume available within the proposed dredge template in February 2008 was an estimated 460,000 cy. A permit for excavations up to 460,000 cy is requested based on the uncertainty of shoaling volumes available at the time of construction (Figure 4).

The alternative proposes to place the dredge material, which consists of active littoral sand deposits, in up to three (3) ocean beach areas as follows: Area A - Smith Point County Park beginning at State Survey Marker F71 (Pavilion) and extending 4,000 linear feet to the east; Area B - East Fire Island beginning approximately 15,000 linear feet east of the western terminus of the SPCP, and extending 9,000 linear feet to the east; and Area C - Cupsogue County Beach beginning 500 linear feet east of the east jetty of Moriches Inlet and extending 6,000 linear feet to the east. The proposed maximum fill volume and average fill density for each Area are as follows: Area 1 - 76.000 cubic yards (~19 cy/ft);



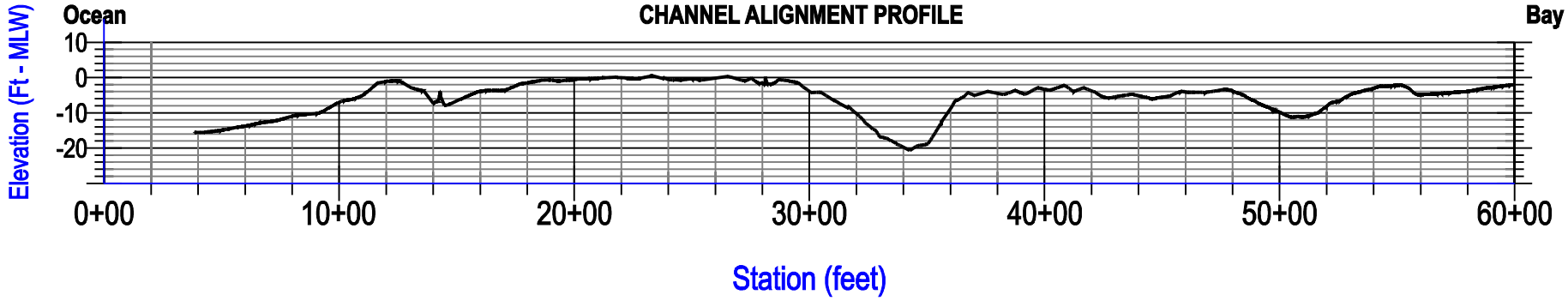
COLUMBIA ● MOREHEAD CITY CSE
Coastal Science & Engineering
GPI Greenman - Pedersen, Inc. ENGINEERS, ARCHITECTS & PLANNERS

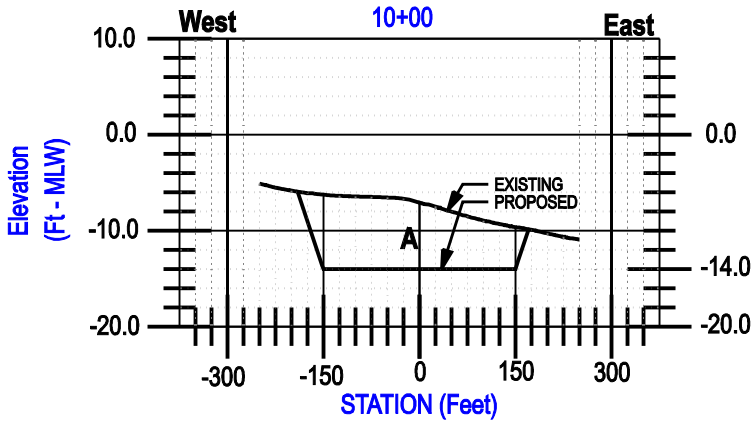
PROJECT TITLE:
SMITH POINT
BEACH RESTORATION
MORICHES INLET AND ATLANTIC OCEAN
SUFFOLK COUNTY, NY

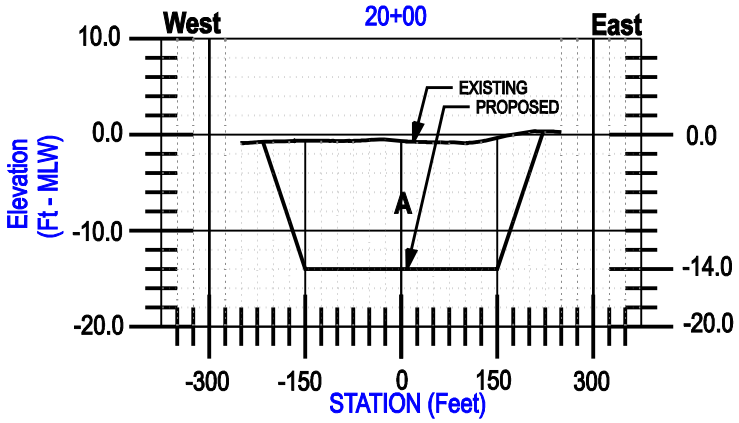
PREPARED FOR:
SUFFOLK COUNTY PARKS
BEACH RENOURISHMENT PROJECT
SMITH POINT & CUPSOGUE BEACH
SHIRLEY AND WESTHAMPTON BEACH

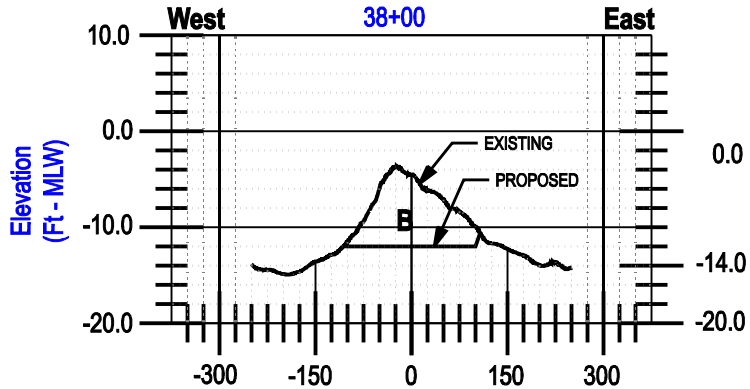
DRAWING TITLE:
BORROW AREA
EXISTING CONDITIONS
MORICHES INLET

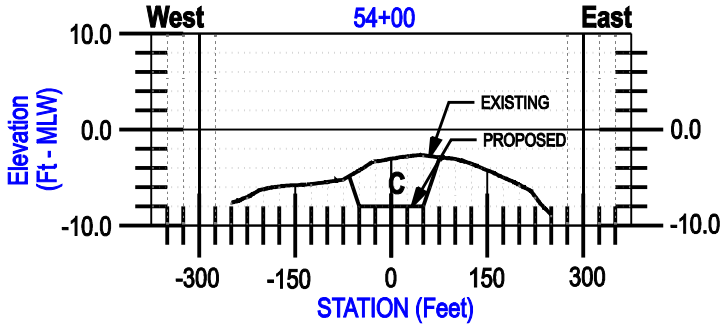
SCALE:	AS SHOWN
DATE:	MAR 10, 2008
DRAWN BY:	JJH
PROJECT #:	2188-01
SHEET #:	FIGURE 2











Columbia Morehead City CSE
Coastal Science & Engineering
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ENGINEERS, ARCHITECTS & PLANNERS

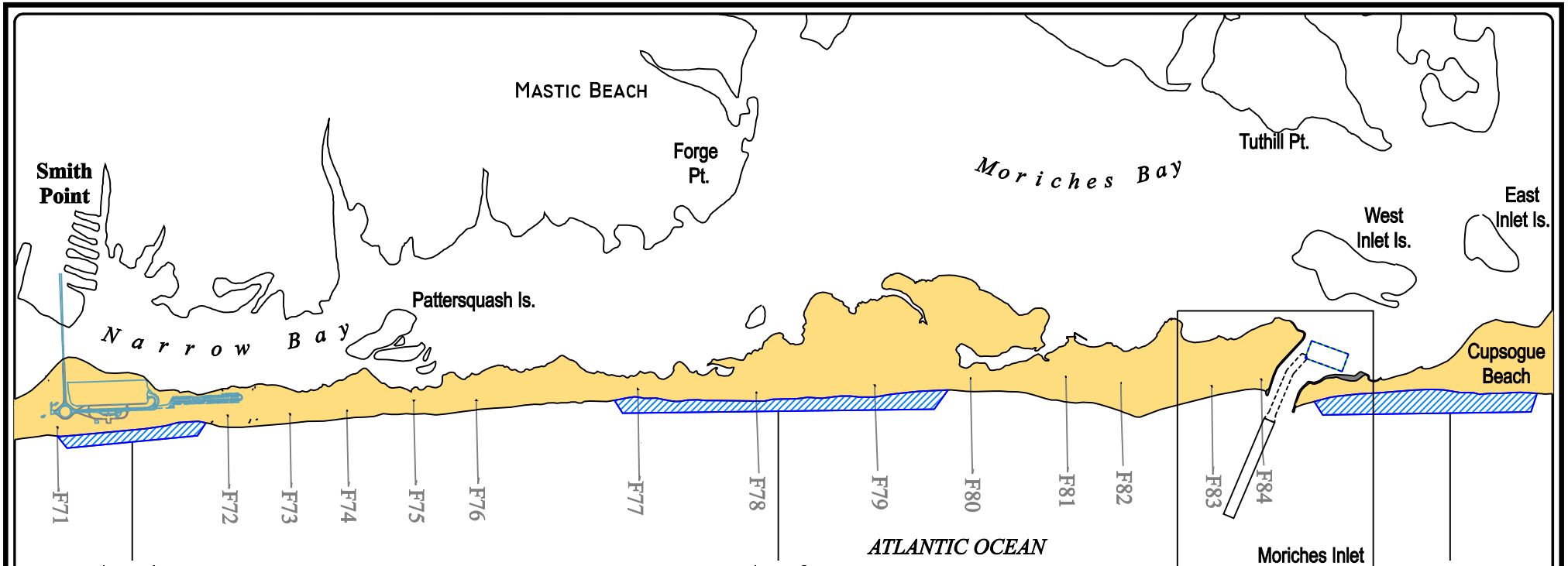
PROJECT TITLE:
SMITH POINT
BEACH RESTORATION
MORICHES INLET AND ATLANTIC OCEAN
SUFFOLK COUNTY, NY

PREPARED FOR:
SUFFOLK COUNTY PARKS
BEACH RENOURISHMENT PROJECT
SMITH POINT & CUPSOGUE BEACH
SHIRLEY AND WESTHAMPTON BEACH

DRAWING TITLE:
BORROW AREA
CHANNEL SECTIONS
MORICHES INLET

SCALE:	AS SHOWN
DATE:	MAR 10, 2008
DRAWN BY:	JJH
PROJECT #:	2188-01

SHEET #: FIGURE 3



Area 1
4,000 lf @ 19 cy/ft
Up To 76,000 cy

Area 2
9,000 lf @ 26 cy/ft
Up To 234,000 cy

SEE BORROW AREA SHEETS FOR DETAILS & SECTIONS

Area 3
6,000 lf @ 25 cy/ft
Up To 150,000 cy

NOURISHMENT SCHEDULE	LENGTH (FT)	VOLUME (CY)	VOLUME BELOW SHW (CY)	VOLUME BELOW SHW (SF)	AVG DENSITY (CY/FT)
AREA 1 - COUNTY PARK PAVILION.....	4,000 LF	76,000	38,000	1,026,000	19.0
AREA 2 - EAST FIRE ISLAND.....	9,000 LF	234,000	117,000	3,159,000	26.0
AREA 3 - CUPSOGUE BEACH PARK.....	6,000 LF	150,000	75,000	2,250,000	25.0
TOTAL UP TO.....	19,000 LF	460,000	230,000	6,210,000	24.2

Note: All dredging to be performed with Cutter Head Dredge.
Fill Placement in Areas 2 & 3 via hydraulic fill from Borrow Areas A, B and/or C.
Placement in Area 1 via hydraulic fill or offroad trucks hauling pumped sand from a temporary stockpile in Area 2. Temporary stockpile is to be placed on the nourished beach seaward of the existing foredune/vegetation line. Stockpile is to be utilized for renourishment of Area 1 within 90 days of hydraulic fill placement in Area 2. Dredged material will be beach compatible quartz feldspar sand with minimal fines.

LEGEND

Proposed Nourishment Areas

F75 NY State DOS - Profile Ranges

N

2,000 0 2,000 4,000
GRAPHIC SCALE (Feet)

Columbia Morehead City CSE
Coastal Science & Engineering
GPI Greenman - Pedersen, Inc. ENGINEERS, ARCHITECTS & PLANNERS

PROJECT TITLE:
SMITH POINT
BEACH RESTORATION
MORICHES INLET AND ATLANTIC OCEAN
SUFFOLK COUNTY, NY

PREPARED FOR:
SUFFOLK COUNTY PARKS
BEACH RENOURISHMENT PROJECT
SMITH POINT & CUPSOGUE BEACH
SHIRLEY AND WESTHAMPTON BEACH

DRAWING TITLE:
PROJECT PLAN

SCALE:	AS SHOWN
DATE:	MAR 10,2008
DRAWN BY:	JJH
PROJECT #:	2188-01
SHEET #:	FIGURE 4

Area 2 - Up to 234,000 cy (~26 cy/ft); and Area 3 - Up to 150,000 cy (~25 cy/ft) (Figure 4). Beach fill sections will consist of a dry beach area of variable width situated seaward of existing foredunes, vegetation and/or escarpments as they exist at the time of construction. Elevation of the dry beach (berm) will be between +7 and +5.5 ft NAVD, with a positive slope in the seaward direction. The fill will be sloped seaward at approximately 1 on 16 to 1 on 18 from the crest of the berm into the active surf zone to the extent the slopes can be controlled by the construction methods. The fill profile is intended to match the natural profile of the beach in this setting, to the extent practicable (Figure 5).

It is anticipated that fill placement will be by means of hydraulic dredge and direct pipeline discharge (slurry) to Areas 2 and 3. Bulldozers will be used to direct and shape the fill to the specified grades and slopes as it is placed. The slurry will be discharged parallel to the beach along the berm alignment with the aid of temporary sand dikes pushed up by landbased equipment on the seaward side of the discharge pipe. The slurry will drain into the surf zone and disperse offshore. Turbidity is expected to increase in the immediate vicinity of the discharge pipe but dissipate rapidly away from the active construction area. Based on prior experience, sediments are predominantly sand-sized, littoral material that have entered the borrow area from the adjacent beaches. The slurry discharge is expected to settle rapidly near the discharge pipe and not produce extensive plumes of fine grained material.

The alternative proposes to accomplish Area 1 either by direct hydraulic pumping through a pipeline, or by means of land-based equipment (offroad trucks). The latter alternative construction method would involve temporary placement of a contained stockpile of hydraulic fill in Area 2 on the nourishment berm (seaward of existing foredune vegetation) and transfer by off road vehicles along the active beach to Area 1. Work via trucks in Area 1 would be accomplished no later than 90 days after placement of the hydraulic fill in the temporary stockpile.

The fill will be graded and dressed to final slopes, as illustrated on the typical beach cross-sections (Figure 5), between the backshore edge of the fill and approximate mean high water. The fill will be sloped in a seaward direction and pushed as far seaward as possible to minimize formation of escarpments. Upon project completion remaining escarpments, if any, will be pushed down to the extent practicable at the edge of the surf zone (to ~mean high water).

All work will be conducted from October to January to avoid any conflict with the NYSDEC no-dredge limits that have been set for other nourishment projects by the county.

According to the U.S. Fish and Wildlife Services Biological Opinion for the Army Corps Public Notice Number NAN-2006-255-EHA for the 2007 beach nourishment project, Suffolk County Parks (SCP) must monitor several different aspects of the park area to minimize impacts to Piping Plovers due to the increased use of the beach. Beginning in mid March of each year, over the entire life of the project, the qualified biologists at SCP and their staff are to locate suitable habitat and pre-fence the areas. As plovers arrive they are documented and locations recorded. These areas must remain fenced until at

least July 1, and as long afterwards as viable chicks or unfledged chicks are present. Once breeding plovers or chicks are no longer observed fencing may then be removed granted no Seabeach amaranth is present or site not suitable for amaranth.

These surveys are to be conducted each year to the end of the project life, which is 5 years following the start of work. Information collected is to include a population study, which entails; the total number of breeding pairs, total number of plover, detailed mapping of breeding area, and foraging use of habitats in the project area, and a productivity study which includes; total number of nests, total number of chicks, quantification of take or mortality of eggs, chicks and adults, and the reason for take.

These surveys are to be conducted three times weekly with the observations distributed over a minimum time period, during daylight hours.

Management measures need to be followed for the protection of the plovers. Such measures will be the regulation of fireworks, kite flying, and pets. Also, regulations must be set for the use of Off Road Vehicles in the vicinity of the fenced areas.

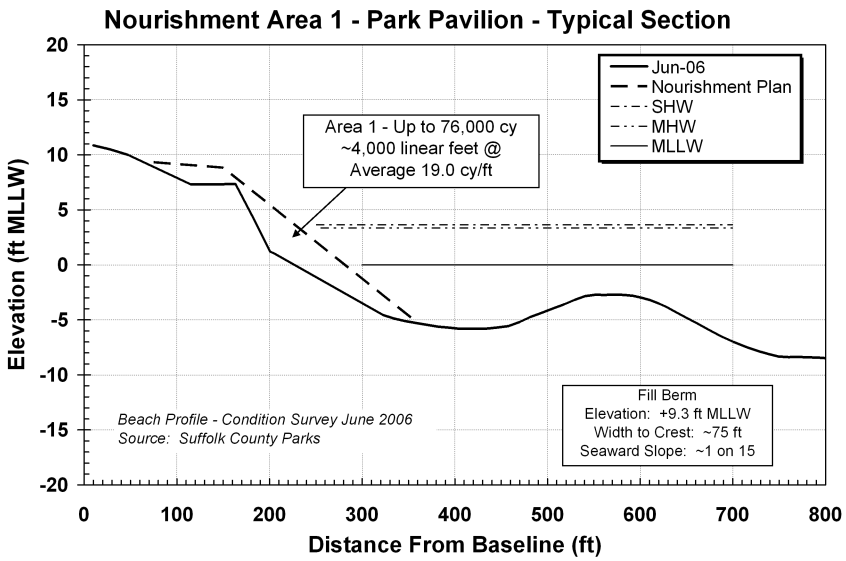
An area north of Burma Road in the Smith Point Park that was utilized by plover in the 2006 season will be maintained in its present state with the removal of any *Phragmites* that may try and colonize in this zone.

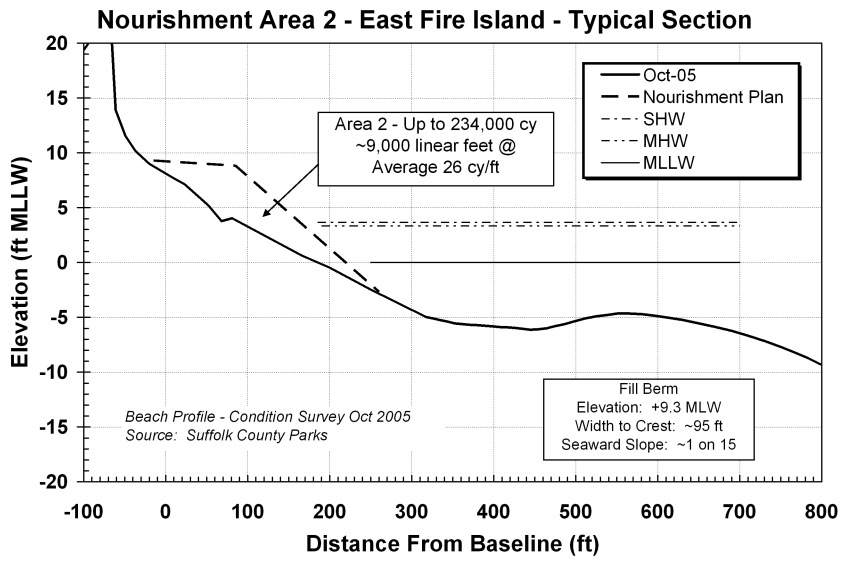
This project will take place during the fall/winter season. This is the best time to avoid most of the spawning and nursery habitat of the species in the area. It is anticipated that a construction window of October 1 to January 15 will apply to the project. This schedule is to avoid the no dredge dates that are seen on other SCDPW maintenance dredging projects. These are set by the NYSDEC and are as follow: Finfish/shellfish spawning – June 1 to September 30, bird nesting – April 1 to September 1 and winter flounder spawning from January 15 to May 15. At this time dredge windows have not been set by the NYSDEC for this project.

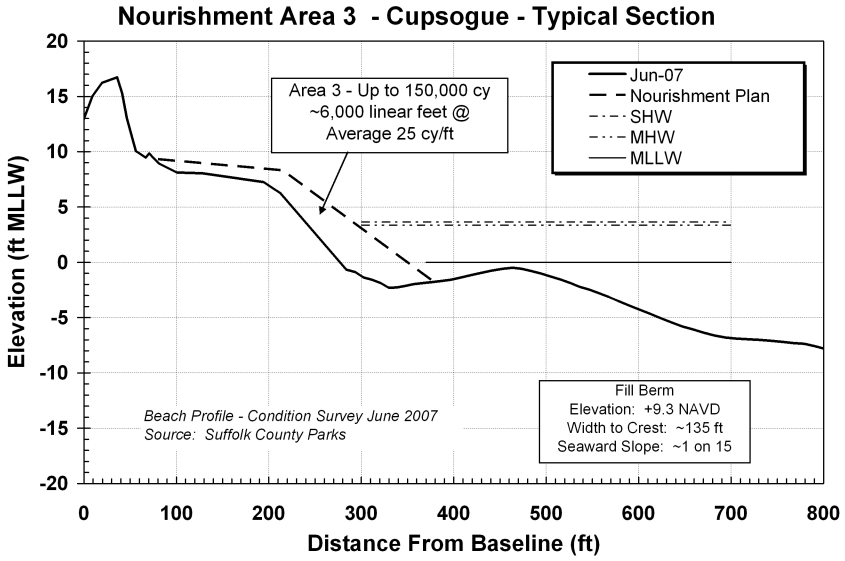
C. Alternatives Considered and Rejected

1. Alternative C (Relocation of Park Facilities)

Sea levels have been rising for thousands of years and research has indicated that the rate of sea level rise has increased significantly since the industrial revolution. The result is a gradual inundation of the coastal plain and, in some cases, the landward retreat of barrier islands. One response to this sea level rise is landward retreat. At Smith Point County Park, this alternative would involve demolishing and reconstructing, or moving, the existing park pavilion to a more northerly location. Similarly, the Flight 800 memorial would require landward relocation. This structure cannot be moved, so it would have to be demolished and rebuilt. There would have to be a complete reconfiguring and reconstruction of the park roadways, underpasses, utilities, and various other park amenities. A preliminary cost estimate for this alternative is 75 to 100 million dollars. There is no available estimate for retreat at Cupsogue.







COLUMBIA MOREHEAD CITY CSE Coastal Science & Engineering	PROJECT TITLE: SMITH POINT BEACH RESTORATION	PREPARED FOR: SUFFOLK COUNTY PARKS BEACH RENOURISHMENT PROJECT SMITH POINT & CAPSOGUE BEACH	DRAWING TITLE: NOURISHMENT AREA PROFILES	SCALE: AS SHOWN DATE: MAY 2008 DRAWN BY: JJH PROJECT #: 2188-01 SHEET #: FIGURE 5

There are several factors which make this alternative not feasible. First, the present rate of sea level rise along the northeast U.S. coast is two to three millimeters per year. This translates to a rate of erosion of about 75 millimeters per year, or three inches. In the absence of beach nourishment the present rate of erosion at Smith Point is orders of magnitude greater than this. The cost of this alternative is well beyond the fiscal capability of the County in these times of severe budgetary constraints. In addition, this alternative would require closing the park completely for at least one full year, causing an additional financial hardship on the County. Finally, the County has been advised by the U.S. Army, Corps of Engineers, that it should confine its planning for oceanfront facilities to a time frame of 5 to 10 years, by which time the Fire Island Inlet to Montauk Point Beach Erosion Control and Hurricane Protection Project (FIMP) will be completed and implemented. The relocation alternative is considered a 50-year planning alternative. At this time we do not know what beach erosion control measures the FIMP will recommend for Smith Point and Cupsogue. At the present time, Suffolk County has not had the opportunity to do any significant planning on this alternative. Such planning is expected to take several years, at least, so could not address short term needs required to bridge the time until the FIMP As a practical matter, it is expected that the existing pavilion building has a minimum remaining useful life of at least five years. The timing of the end of this useful life may well coincide with the implementation of the FIMP. That would be the most appropriate time to consider and plan for relocation. As an additional practical matter, the Flight 800 Memorial was planned, designed, and constructed privately by the Families of the TWA Flight 800. The feasibility and cost of relocating this memorial are unknown.

2. Alternative D (Off-Shore Borrow Area)

Large deposits of beach-compatible sand on the near-shore portion of the continental shelf have been documented off of Long Island and other parts of the east coast (Schwab, et al 2000). The Corps of Engineers has undertaken an investigation of these sand sources, and identified a series of borrow areas for use for beach nourishment purposes. In the winter of 2006-2007, the County undertook a beach nourishment project, dredging 225,000 cubic yards of sand from designated Borrow Area 3, offshore of Long Cove, and placing this sand on eroded beaches in Smith Point County Park.

Some researchers believe that these off-shore sand sources supply sediment to the shoreline, by an as yet undetermined process, and that mining these deposits may disrupt the natural sedimentary dynamics of the barrier island. In the case of Borrow Area 3, which is the borrow site closest to Smith Point County Park, NPS has expressed concern that mining this area might disrupt the onshore movement of sand in the Fire Island Wilderness Area. As such, the County has been advised by NPS to develop an alternative that does not utilize this borrow area. Further east, there are additional borrow sites, which, although further from Smith Point than the Long Cove site, could potentially be mined to provide beach nourishment for Smith Point and Cupsogue County Park. The Corps of Engineers has indicated, however, that these sites are reserved for the scheduled periodic nourishment at the Village of Westhampton Dunes, and would not be available for use by the County.

At the present time the use of offshore borrow sites for beach nourishment at Smith Point County Park and Cupsogue County Park is not considered feasible.

3. Alternative E (Use of Moriches Inlet Shoal Bypass Area)

In 2006, the County developed an overall 3 phase plan for the short term management of sediment at Smith Point County Park, to deal with the overall sediment deficit resulting from Moriches Inlet. Phase I was beach nourishment with offshore borrow, and was completed early in 2007. Phase II called for removing sand from the shoal bypass area immediately west of Moriches Inlet. Phase III is the proposed project, consisting of dredging Moriches Inlet and placing the surplus material on the eroded beaches at Smith Point and Cupsogue. This alternative calls for the implementation of Phase II.

This alternative calls for removal of a portion of this dune field and excavating a complex of ponds and mudflats. The resulting sand, up to 250,000 cubic yards, would be placed as beach nourishment at Smith Point. The pond and mudflat complex would include provisions for a beach washover area, so that during high tides, there would be an exchange of water between the ocean and ponds. It is anticipated that the ponds would be rapidly colonized by baitfish and invertebrates, and that this system would provide excellent habitat for shorebirds, including Piping Plover, but also migrating species such as the imperiled Red Knot. In addition to shorebirds, the created habitat would benefit seabirds, including Least Terns, waterfowl and waders. Over a period of time, probably several years, the onshore migration of bypass shoals would tend to fill it in gradually, to the point where dunes would again begin to form.

The New York State Department of Environmental Conservation administers the Coastal Erosion Hazard Area regulations (CEHA). These regulations prohibit excavation in a primary dune. Citing this provision, the DEC has informed the county that, in spite of the likely benefits to wildlife, they would not grant approval for such a large variance to the CEHA regulations. For this reason, this alternative has been removed from consideration.

4. Alternative F (Placement of Sediment below mean low water.)

In some beach nourishment projects, the dredged material is placed just offshore, between the dry beach and the outer bar, and allowed to move onshore naturally. However, the County was informed that NYSDEC policy requires that dredge spoil be placed on the beach to the greatest practical extent. As such this alternative has been rejected.

D. Environmentally Preferred Alternative

The NPS is required to identify the environmentally preferred alternative in its NEPA documents for public review and comment. The NPS, in accordance with the Department of the Interior policies contained in the Departmental Manual (516 DM 4.10) and the Council on Environmental Quality's (CEQ) NEPA's Forty Most Asked

Questions, defines the environmentally preferred alternative (or alternatives) as the alternative that best promotes the national environmental policy expressed in NEPA (Section 101(b)) (516 DM 4.10). In their Forty Most Asked Questions, CEQ further clarifies the identification of the environmentally preferred alternative, stating "Ordinarily, this means the alternative that causes the least damage to the biological and physical environment; it also means the alternative which best protects, preserves, and enhances historic, cultural and natural resources"(Q6a).

Based on the impacts discussed in Section IV, the environmentally preferred alternative for this project has been identified as the No Action Alternative.

III. Affected Environment

A. Threatened or Endangered Species

According to Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York (6 NYCRR) Part 182--Endangered and Threatened Species of Fish and Wildlife; Species of Special Concern, all parties must avoid disrupting the state-listed threatened and endangered species that may occur in the project area and related borrow area. Part 182.6 lists all species in New York State that are listed as endangered threatened, or species of special concern.

Also the NPS service in Section 4.4.2.3.of the National Park Service Management Policies 2006 states that the NPS will survey for, protect, and strive to recover all species native to national park system units that are listed under the Endangered Species Act. The Service will:

- fully meet its obligations under the NPS Organic Act and the Endangered Species Act to both proactively conserve listed species and prevent detrimental effects on these species;
- cooperate with both the U.S. Fish and Wildlife Service and the NOAA Fisheries to ensure that NPS actions comply with both the written requirements and the spirit of the Endangered Species Act. This cooperation should include the full range of activities associated with the Endangered Species Act, including consultation, conferencing, informal discussions, and securing all necessary scientific and/or recovery permits;
- undertake active management programs to inventory, monitor, restore, and maintain listed species' habitats; control detrimental nonnative species; manage detrimental visitor access; and reestablish extirpated populations as necessary to maintain the species and the habitats upon which they depend;
- manage designated critical habitat, essential habitat, and recovery areas to maintain and enhance their value for the recovery of threatened and endangered species;
- cooperate with other agencies to ensure that the delineation of critical habitat, essential habitat, and/or recovery areas on park-managed lands provides needed conservation benefits to the total recovery efforts being conducted by all the participating agencies;
- participate in the recovery planning process, including the provision of members on recovery teams and recovery implementation teams where appropriate;
- cooperate with other agencies, states, and private entities to promote candidate conservation agreements aimed at precluding the need to list species; and
- conduct actions and allocate funding to address endangered, threatened, proposed, and candidate species.

<u>Piping Plover:</u> (*Charadrius melodus*) – Piping Plovers are small light-colored shorebirds that breed on the northern Great Plains, along the Great Lakes, and along the Atlantic Coast from Newfoundland to South Carolina. The Atlantic Coast population is federally listed as threatened. The New York State Department of Environmental Conservation also lists it as Endangered.

Piping Plovers breed along the Atlantic Coast from March through August. They nest from mid-April through late July with a typical clutch size of four eggs and an incubation period that averages from 27 to 28 days. Nests are shallow depressions in sand, mixed with pebbles or shells in areas with little or no vegetation. Nesting locations are on sandy beaches and spits above the high tide line, on gently sloping dunes, in blowout areas behind dunes, in wash over areas between dunes, and on sandy dredge material. According to the U.S. Fish and Wildlife Services Biological Opinion for the Army Corps Public Notice Number NAN-2006-255-EHA (Page 20) on Fire Island, where ephemeral pools, bayside overwash fans and sandspits are absent and where broods have access only to oceanic foraging habitats, the majority of Piping Plovers tended to cluster near the barrier islands tips at Moriches Inlet and Democrat Point.

Piping Plovers typically fledge only one brood per season, but may renest if initial nests are destroyed. Chicks are precocious, moving about shortly after hatching. The flightless chicks remain with one or both adults for about 25 to 35 days until they fledge. During this time, adults and chicks feed on invertebrates (such as marine worms and fly larvae) found on sandflats, mudflats, the wracklines, and on upper beaches and dunes.

On Fire Island, adults forage on the ocean and bay beaches, in over wash areas, swale areas with sparse vegetation, and in vernal pool habitats. The primary habitat for breeding is along wide ocean beaches and overwash areas. Due to its rarity, available data identified only two to four nests per year on Fire Island in the late 1980's, with the numbers declining in the 1990's. During this same period at Cape Cod National Seashore in Massachusetts (which has similar habitat), the plover nests increased from 15 to 20 in a year in the late 1980's to 60 to 110 per year in the 1990's. Currently, the greatest threat to the Piping Plover at Smith Point is the increasing Red Fox population.

Appendix B presents the 2006 and the 2007 Piping Plover data for the Smith Point Park Area and Cupsogue County Park. As shown there were 17 Piping Plover nests observed from the East of Cut 1A to Moriches Inlet during the 2006 season. This number increased to 22 nests observed in the 2007 season. Of these nests during the 2007 season 19 had eggs observed with 5 confirmed nests having chicks. Several reasons for failure of the nest are predation by fox, and feral cats, and nests being washed out by high tides. According to the maps provided by the Suffolk County Department of Parks, the plovers were not affected by the 2007 beach nourishment project with nests being constructed and eggs hatching in both nourished areas and non-nourished areas. Maps provided by the Suffolk County Department of Parks and Recreation show that 1 nest was located in the Base Bid Area, 6 nests were located in the Alternate Area C, and 4 nests were located in Alternate A. According to the data in Appendix C; nest 8A in the Base Bid Area had 4 eggs observed in the nest but at the estimated hatch date 0 eggs remained for unknown reasons; in Alternate Area B, where 6 nests were observed, 2 nests were washed out, 2 were predated by red fox and feral cat, 1 nest has no data on it and nest number 7A had 4 eggs in May but at the estimated hatch date the nest was empty; Alternate Area A had 3 nests associated with it. Of these, 2 have no information on them, and nest 5A had 4 eggs

at nesting and 1 chick observed. Over the past two seasons nests sites have been identified on the beach in the vicinity of the Alternative E. In 2006 there were four nests located between cut three and Great Gun beach, and in 2007 two nests were located in this area with 1 nest, 2A, having 3 chicks hatched.

According to the information collected for Cupsogue County Park there were 7 nesting pairs during the 2006 season, of which 25 eggs were hatched. From these 25 hatched eggs 8 plover were fledged for a ratio of 1.14 fledglings/pair. In the 2007 survey 6 pairs were observed. These 6 pairs attempted 9 nests with 16 eggs eventually hatching. Of these hatched eggs 6 fledged giving a ratio of 1 fledgling per pair.

Least Tern: *(Sterna antillarum)* – Least terns are the smallest of the American terns. They can be readily distinguished from other terns by their yellow bill and legs and small size. According to the 2006 Piping Plover survey there were 26 least terns observed from the western terminus of the park and Moriches inlet with 10 of the birds located in the project area. Least terns forage over flats and in shallow nearshore waters on invertebrates and small thin-bodied fish such as minnows and sand lances. These terns nest in colonies in coastal dunes or sand beaches just above high tide line. Most losses of young are due to predation from foxes and flooding tides.

The New York Natural Heritage Program was contacted for records of state listed species in the project area. They have identified a nesting area used by Least Terns (*Sterna antillarium*). Least Terns are listed by New York State as Threatened, meaning that they are native species, which are likely to become endangered in the state within the foreseeable future. This species is also listed as Federally endangered, but not on the east coast. The colony identified by the Natural Heritage Program is located on the north side of the bay, approximately 3000 feet northwest of the project location.

Roseate Tern: (*Sterna dougallii*) - Roseate Terns are also black and white seabirds, but are larger than least terns. The northeastern population of the Roseate Tern is federally and NY State listed as endangered. These terns occur/nest within larger Common Tern colonies on coastal islands and barrier beaches. Large sandflat areas next to dunes provide important feeding and staging areas for recently fledged young and birds preparing for fall migration. Recent Long Island Colonial Waterbird Survey counts have placed the roseate at approximately 1,668 pairs. Due to its rarity and lack of easily identifiable markings, it is a difficult bird to verify. Fire Island sightings of Roseate Terns foraging and staging have been verified by experienced observers from 1993 through 1995. They do not currently nest within the boundaries of Smith Point County Park.

Seabeach Amaranth: (*Amaranthus pumilus*) - Seabeach Amaranth is an annual herb once found along the Atlantic Coast from Massachusetts to South Carolina. This plant has been eliminated from six states in its historical range and is found today in only New York and North and South Carolina. In 1993, Seabeach Amaranth was federally listed as

threatened under the Endangered Species Act. Similarly, it is listed as threatened by the New York State Department of Environmental Conservation.

Seabeach Amaranth is a low-growing plant with fleshy pink or reddish stems and small rounded leaves. It flowers from mid-summer to late fall and produces seeds from July or August until the plant dies. As the growing season progresses, the plant acts as a sand binder and forms a mound of sand. As the sand mound grows higher, earlier leaves are buried, with the plant often growing to three feet in diameter. The species' primary habitat is on barrier beaches, on overwash fans at ends of islands where new material may be deposited, and on lower foredunes of non-eroding beaches. Its growth is concentrated in the wrack line of material deposited by the highest spring tides. The seeds, which float, are presumably deposited by tidal action. Smaller, temporary populations may be established in blowouts in foredunes.

Seabeach Amaranth is seldom found in well-vegetated areas. It appears to need extensive areas of barrier beaches where seeds can be dispersed across the landscape and germinate in suitable habitat as it becomes available.

Seabeach Amaranth on Fire Island tends to germinate and grow on the ocean beach, in bare or sparsely vegetated swales, and along overwash zones. It is valuable in natural beach stabilization. Each year the plant may put out hundreds of seeds. Approximately half of the seeds remain on the plant to reseed its habitat. The remaining seeds are dropped to move with the wind and water to new locations. Every beach area with a supratidal zone is habitat for Seabeach Amaranth throughout the year. Studies note beach driving buries the seeds and prevents germination. Beach development and nourishment tend to bury viable seeds**.**

Other Species:

The coastal setting of the project will indicate the potential for occasional visitation by any of the following additional listed birds listed in Table 1.

Table 1

New York State Listed Endangered, Threatened and Special Concern Birds with Potential for Occasional Visitation of Smith Point County Park

Common Name	Latin Name
NYS Endangered	
Peregrine Falcon	*Falco peregrines*
Roseate Tern(1)	*Sterna dougallii*
Black Tern	*Chlidonias niger*
Short-eared Owl	*Asio flammeus*
NYS Threatened	
Bald Eagle (2)	*Haliaeetus leucocephalus*
Northern Harrier	*Circus cyaneus*
Common Tern	*Sterna antillarum*
NYS Special Concern	
Common Loon	*Gavia immer*

Table 1 cont.

American Bittern	*Botaurus lentiginosus*
Osprey	*Pandion haliatetus*
Sharp-shinned Hawk	*Accipiter striatus*
Coopers Hawk	*Accipiter cooperii*
Black Skimmer	*Rynchops niger*
Horned Lark	*Eremophila alpestris*
Seaside Sparrow	*Ammodramus maritimus*

(1) Also Federally Endangered
(2) Also Federally Threatened

According to the NMFS there are 4 species of federally threatened or endangered sea turtles that may be found seasonally in the waters off New York These are the Kemps Ridley (*Lepidochelys kempi*), Loggerhead (*Carretta carretta*), Green Sea Turtle (*Chelonia mydas*) and the Leatherback Sea Turtle (*Dermochelys coriacea*). Of these the Kemp's Ridley, Loggerhead occur in these areas typically from May 1 to November 30, and the Green Sea Turtles could be found in these waters from June through October. According to the NMFS these turtles are susceptible to entrainment in the hopper dredges. They recommend that this type of dredge be used only from December 1 to April 30. Also, several listed whales are also located off the shores of Long Island. These are the Northern Atlantic Right (*Eubalaena glacialis*), Humpback (*Megaptera novaeangliae*) and the Fin (*Balaenoptera physalus*). It is not likely though that these species would be found in the waters of the Moriches Inlet.

B. Terrestrial Species

1. Shoreline

Shorebirds are the primary terrestrial species in this area other than the abundant deer and fox. Table 2 presents the species of birds that are most likely to be present at the site, during at least part of the year.

Fire Island and the surrounding bays and small islands provide habitat for a variety of both resident and migratory shorebirds. Shorebirds migrate annually between the Arctic and as far south as South America, moving through the area throughout the year. Northward migration, commonly known as spring migration, begins late winter, peaks in May, and lasts through June. Southward, or fall, migration begins in late June with peaks in late July and August and lasts into fall (NYS DOS 1998a). Up to 14 shorebird species have been recorded annually in four South Shore Estuary Christmas Bird Counts. Three of the bird counts include areas of Fire Island National Seashore in the Great South Bay, Narrow Bay, and Moriches Bay. Dunlin (*Calidris alpina)* account for an average 70% of shorebirds counted. Other common species are Sanderling (*Calidris alba*) and Black-bellied Plover (*Pluvialis squatarola*), and Piping Plover *(Charadrius melodus)*. A few birds, such as dunlin, Black-bellied Plover, Sanderling, Purple Sandpiper (*Calidris maritima*), and Common Snipe (*Gallinago gallinago*) overwinter in small numbers (NYS DOS 1998a).

The complex of flats, marshes, and surplus material islands in Moriches Bay near the inlet are recognized as one of the best and most consistent shorebird concentration areas in Nassau and Suffolk Counties. Approximately 490 acres of tidal mud and sand flats are

found near the inlet surrounding the East and West Inlet Islands. The major concentration of shorebirds at this site occurs during the fall and is comprised primarily of Semi-Palmated Plovers, Black-bellied Plovers, Lesser and Greater Yellowlegs, Semi-Palmated Sandpipers, Least Sandpipers, and Short-Billed Dowitchers (NYS DOS 1998a). Table 2 identifies the bird species that could likely be found on Fire Island.

Table 2

Bird Species Likely to be Present
In Project Area

Common Name	Latin Name
Dunlin	*Calidris alpina*
Sanderling	*Calidris alba*
Black-bellied Plover	*Pluvialis squatarola*
Piping Plover	*Charadrius melodus*
Semi-palmated Plover	*Charadrius semipalmatus*
Least Sandpiper	*Calidris minutilla*
Semi -palmated Sandpiper	*Calidris pusilla*
Western Sandpiper	*Calidris mauri*
Short-billed Dowitcher	*Limnodromus griseus*
Yellowlegs	*Tringa spp.*
Roseate Tern	*Strerna dougali*
Least Tern	*Sterna antillarum*
Common Tern	*Sterna hirundo*
Black Skimmer	*Rynchops niger*
Greater Black-backed Gull	*Larus marinus*
Herring Gull	*Larus argentatus*
Ring-billed Gull	*Larus delawarensis*
Laughing Gull	*Larus atricilla*
Bonaparte's Gull	*Larus philadelphia*
Black-headed Gull	*Larus ridibundus*
Glaucous Gull	*Larus hyperboreus*
Iceland Gull	*Larus glaucoides*
Sharp-shinned Hawk	*Accipiter striatus*
Coopers Hawk	*Accipiter cooperii*
Rough-legged Hawk	*Buteo lagopus*
Northern Harrier	*Circus cyaneus*
American Kestrel	*Falco sparverius*
Osprey	*Pandion haliaetus*
Barn Owl	*Tyto alba*
Snowy Owl	*Nycea scandiaca*
Long-eared Owl	*Asio flammeus*
Saw-whet Owl	*Aegolius acadicus*

This area is known as a flyway stopover for many different species of migratory birds. As such avian rarities can be expected, as occurred in 2001, when a Northern Wheatear, a thrush of the artic tundra, spent several days near the parking lot of Smith Point County Park.

Migratory shorebirds use the beaches, marshes, and especially the intertidal flats as feeding grounds. Flocks of Semi-Palmated Plovers (*Charadrius semipalmatus*), Least Sandpipers (*Calidris minutilla*), Dunlin, Semi-Palmated Sandpipers (*Calidris pusilla*), Sanderlings, Western Sandpipers (*Calidris mauri*), Purple Sandpipers, Short-billed Dowitchers (*Limnodromus griseus*), Black-Bellied Plovers, Piping Plovers, and Yellowlegs (*Tringa* spp.) feed on invertebrates that occur in the tidal flats, salt marshes,

and ocean beaches in the area. After feeding the birds rest on beaches above the high tide line and on the small islands in the area (USACE 1999).

Fire Island National Seashore serves as a migration corridor for raptors, with average migration totals of 5,000 hawks and a maximum total of 6,654 between 1980 and 1995 (NY Audubon 2002). Each autumn, large numbers of Merlin (*Falco columbarius*), American Kestrel, and Peregrine Falcon (*Falco peregrinus*), Sharpshinned Hawk, Cooper's Hawk, Osprey, Bald Eagle (*Haliaeetus leucocephalus*), and others (in addition to passerines) use the barrier island as a stop-over location during migration.

Fire Island is also home to many non-native species that have moved onto the island after the construction of bridges. The project area is one of the many highly favorable sites for Red Fox (*Vulpes vulpes*) due to the abundance of prey species such as rodents, rabbits and during many months of the year, Plover and terns. The vegetation and makeup of dunes is the perfect habitat for the fox and with little to no predation upon them they are able to flourish in this area. Red foxes are opportunistic omnivores. This means they eat pretty much anything they can find. Their diet changes with the seasons. In the summertime, when there are lots of insects and fruits, foxes eat grasshoppers, beetles, crickets, berries, nuts, and grains. In the wintertime, when the Insects and fruit are gone, they eat small animals like mice, rabbits, birds, turtles, eggs, and even dead animals. This opportunistic feeding is the dangerous part to the plover in that the fox will if a chance is presented eat both the eggs and the adult and young birds. With this area of the beach being such a good location for the nesting of plovers and terns, as shown in the Suffolk County Parks data, these species become the most predated species in the area.

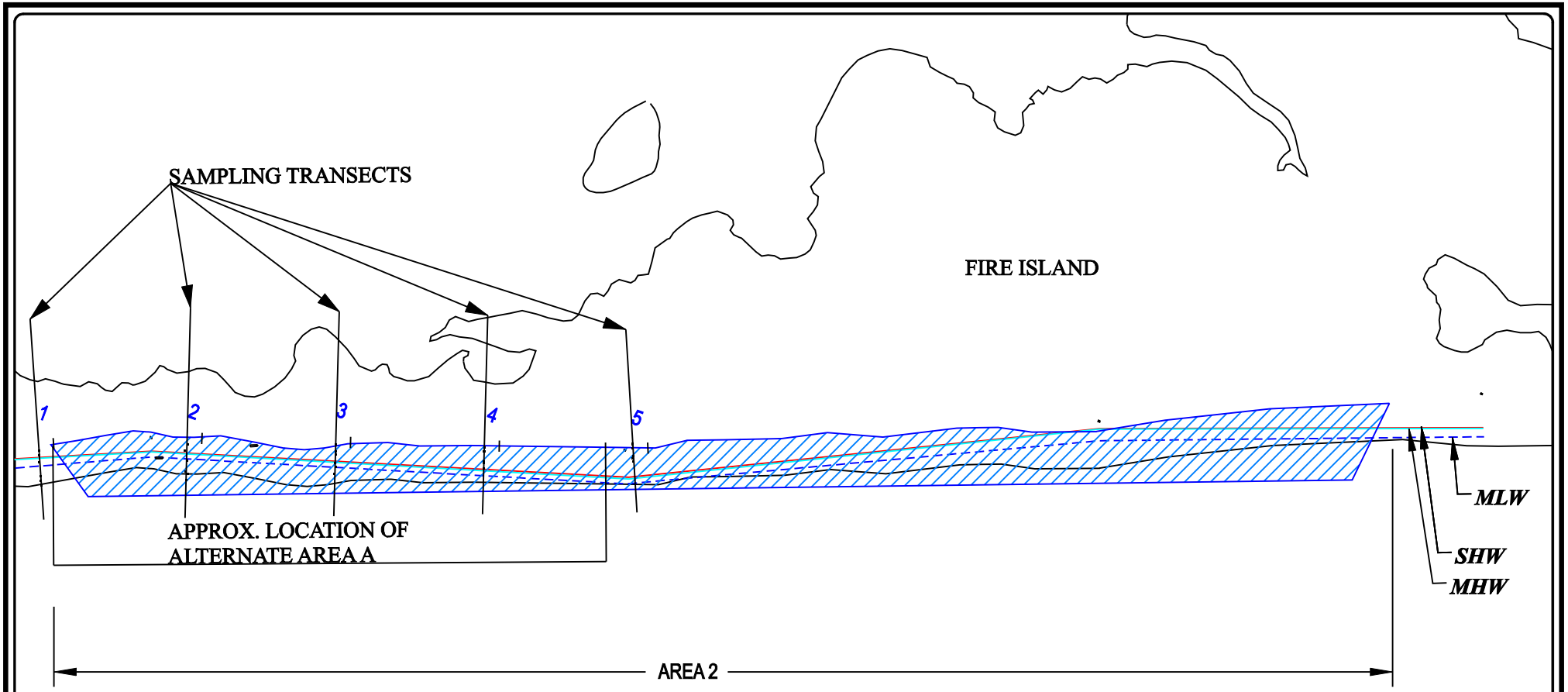
2. Dune Area

The dune area is the primary habitat for several terrestrial species on the barrier island, such as Red Fox (*Vulpes vulpes*), Raccoon (*Procyon lotor*), and Whitetail Deer (*Odocoileus virginianus*). Also, several species of raptors will frequent this area, mostly in fall and winter. These are listed above in table 2. Songbirds and migratory birds will also use this area. Observed birds nesting in dune are limited to Savannah Sparrow and Song Sparrow.

C. Vegetation

1. Terrestrial

Floral communities are important to the formation, persistence, and health of beach and dune environments. For instance, primary dunes are created by the slow accumulation of aeolian sand at the base of beach vegetation, particularly American beachgrass (*Ammophila breviligulata*), and beach debris. The root and rhizome systems of beach flora together with mychorizal fungi then serve to bind together fine sand and soil particles, thereby minimizing shoreline change and stabilizing the dune. Remaining plants and their rhizomes still attached to a dune may also aid in the repair/re-accretion of sand on that damaged dune. In addition, beach and dune vegetation provides critical food, nesting sites, and protective cover for various types of wildlife.



LEGEND

Proposed Nourishment Area

NY State DOS - Benchmark

-5.0 (-5.0) **Existing Contours (Proposed Contours)**

500 0 500 1,000

GRAPHIC SCALE (Feet)

N

DEFINITIONS

SHW - SPRING HIGH WATER
MHW - MEAN HIGH WATER
MLW - MEAN LOW WATER

COLUMBIA ● MOREHEAD CITY CSE Coastal Science & Engineering

GPI Greenman - Pedersen, Inc. ENGINEERS, ARCHITECTS & PLANNERS

PROJECT TITLE:
SMITH POINT
BEACH RESTORATION
MORICHES INLET AND ATLANTIC OCEAN
SUFFOLK COUNTY, NY

PREPARED FOR:
SUFFOLK COUNTY PARKS
BEACH RENOURISHMENT PROJECT
SMITH POINT & CUPSOGUE BEACH
SHIRLEY AND WESTHAMPTON BEACH

DRAWING TITLE:
SAMPLING TRANSECTS

SCALE:	AS SHOWN
DATE:	MAR 10, 2008
DRAWN BY:	JJH
PROJECT #:	2188-01

SHEET #: FIGURE 6

The vegetation communities found in undisturbed beach and dune environments exhibit a characteristic pattern of zonation in response to an environmental gradient of the frequency of tidal inundation and severity of wind-blown salt and sand. The floral species most tolerant of tidal inundation and salt spray are located on the open beach and foredune; whereas, the more sheltered dune swales and secondary dunes are colonized by the less tolerant plant species. Plant species commonly found seaward of the primary dune and on the foredune in the project areas include American beachgrass, beach pea (*Lathyrus maritimus*), dusty miller (*Artemisia stelleriana*), seaside goldenrod (*Solidago sempervirens*), common saltwort (*Salsola kali*), seaside spurge (*Euphorbia polygonifolia*), and sea rocket (*Cakile edentula*).

On the leeward side of the primary dune and the swale, one would expect to find the aforementioned species, as well as less salt-tolerant woody vegetation including beach plum (*Prunus maritima*), northern bayberry (*Myrica pensylvanica*), Virginia creeper (*Parthenocissus quinquefolia*), and poison ivy (*Rhus radicans*). Bearberry (*Arctostaphylos uva-ursi*) and beach-heather (*Hudsonia tomentosa*) may also be found in the swale or near secondary dunes. Further back in the island other vegetation communities may also be found including various bogs, maritime thickets/forest and salt marshes. Fire island bog areas are characterized by vegetation such as cranberry (*Vaccinium macrocarpon*), highbush blueberry (*Vaccinium corymbosum*), swamp azalea, (*Rhododendron viscosum*), narrow leaved cattail (*Typha angustifolia)*, wool grass (*Scirpus cyperinus*), common reed *(Phragmites australis*), swamp maple (Acer *rubrum*), sour gum (*Nyssa sylvatica*), sphagnum moss (*Sphagnum spp.),* sensitive/royal ferns, marsh St. Johnswort (*Hypericum virginicum*), red chokeberry (*Pyrus arbutifolia*), inkberry (*Ilex glabra*), smartweed (*Polygonum spp.*) and various species of sedge (*Carex* spp.), and rushes.

Suffolk County Department of Parks surveyed the work areas along transects that were set up 1000 foot apart in Alternate area A (Figure 6), which is incorporated in Area 2 for this project, where the dunes were to be constructed during the 2007 dredging project. 5 transects, 6 samples per quadrant, using a 3x3 quadrant were surveyed for species present and % cover of species. Table 3 shows the results of the survey.

Table 3
Vegetation Survey Results

TRANSECT #1	SPECIES	% COVER
A	None	0%
B	None	0%
C	None	0%
D	None	0%
E	None	0%
F	None	0%
TRANSECT #2	SPECIES	% COVER
A	None	0%
B	None	0%
C	None	0%
D	None	0%
E	None	0%
F	Ammophila breviligulata	5-10%
TRANSECT #3	SPECIES	% COVER

Table 3 Cont.		
A	None	0%
B	None	0%
C	None	0%
D	None	0%
Table 3 cont.		
E	None	0%
F	Ammophila breviligulata	15-20%
	Solidago sempervirens	<5%
TRANSECT #4	SPECIES	% COVER
A	None	0%
B	None	0%
C	Ammophila breviligulata	<5%
D	Ammophila breviligulata	<5%
E	Ammophila breviligulata	25-30%
	Solidago sempervirens	<5%
F	Ammophila breviligulata	55-60%
	Solidago sempervirens	<5%
TRANSECT #5	SPECIES	% COVER
A	None	0%
B	Ammophila breviligulata	<5%
C	Toxicodendron radicans	<5%
D	Pinus thunbergii	<5%
E- Burma Road	None	0%
F- North side of Burma Road	Pinus thunbergii	5-10%

2. Submerged Aquatic Vegetation (SAV)

According to the NOAA website mapping done in 2002 to determine the presence of eelgrass on Long Island, showed that there was no eelgrass found in the vicinity of the Moriches inlet or the ocean beaches. (http://www.csc.noaa.gov/benthic/data/northeast/longisl.htm)

D. Finfish (Essential Fish Habitat)

A required part of a federal assessment is the Essential Fish Habitat Evaluation (EFH). EFH is a 1996 amendment to the Magnuson-Stevens Fishery Conservation and Management Act, strengthening the National Marine Fisheries Service (NMFS) to protect and conserve the habitat of marine, estuarine and anadromous fishes. This act requires that areas of spawning, breeding, feeding and nursery areas be identified for managed species of fish and fish habitat. In order to best protect EFH, the NMFS must be consulted on all actions that may adversely affect the Habitat. According to the Guide to Essential Fish Habitat Designations in the Northeastern United States (NOAA/NMFS, 1999) the area of the proposed project is within EFH for the Atlantic Ocean Waters.

The following is a discussion of the species that are covered under the auspices of EFH and their life cycles and habitat needs. All information is derived from Essential Fish Habitat designations within the Northeast Region (Maine to Virginia). Table 3 shows the life stage of each of the fish that this area is deemed Essential Fish Habitat.

Table 4

Summary of Essential Fish Habitat

From National Marine Fisheries Service Guide to EFH Descriptions[2]

Species	Eggs	Larvae	Juveniles	Adult
Atlantic Salmon (*Salmo salar*)				X
Pollock (*Pollachius virens*)			X	
Whiting (*Merluccius bilinearis*)	X	X	X	
Red Hake (*Urophycis chuss*)			X	
Winter Flounder (*Pleronectes americanus*)	X	X	X	X
Windowpane Flounder (*Scopthalmus aquosus*)	X	X	X	X
Yellowtail Flounder (Pleuronectes ferruginea)	X	X		
Witch Flounder (Glyptocephalus cynoglossus)	X			
Ocean Pout (Macrozoarces americanus)	X	X		X
Atlantic Sea Herring (*Clupea harengus*)			X	X
Monkfish (Lophius americanus)	X	X		
Bluefish (*Pomatomus saltatrix*)			X	X
Long Finned Squid (*Loligo pealei*)	na	na	X	
Atlantic Butterfish (*Peprilus triacanthus*)	X	X	X	X
Atlantic Mackerel (*Scomber scombrus*)	X	X	X	X
Summer Flounder (*Paralicthys dentatus*)	X	X	X	X
Scup (*Stenotomus chrysops*)	na	na	X	X
Black Sea Bass (*Centropristus striata*)	na		X	X
Surf Clam (*Spisula solidissima*)	na	na		
Ocean Quahog (*Artica islandica*)	na	na		
King Mackerel (*Scomberomorus cavalla*)	X	X	X	X
Spanish Mackerel (*Scomberomorus maculates*)	X	X	X	X
Cobia (*Rachycentron canadum*)	X	X	X	X
Sand Tiger Shark (*Odontaspis taurus*)		X		
Blue Shark (*Prionace glauca)*		X		X
White Shark (*Charcharadon carcharias*)			X	
Dusky Shark (*Charcharinus obscurus*)		X	X	
Sandbar Shark (*Charcharinus plumbeus*)		X	X	X
Tiger Shark (*Galeocerdo cuvieri*)		X	X	
Bluefin Tuna (*Thunnus thynnus*)			X	X
Skipjack Tuna (*Katsuwonus pelamis)*				X

Notes –
X- Demarcates life stage for which area is EFH
Na- no data on species at this life stage

- Atlantic Salmon
  As stated above, this area is designated as EFH for Atlantic salmon adults. Atlantic salmon are a pelagic species preferring the deeper waters off the continental shelf from Southern New England to the Gulf of Maine. The salmon return to shallower waters in search of the stream they were originally reared. At this time there are no Atlantic salmon runs on Long Island. As such, they will not be found in the project area.
- Pollack
  This area is designated EFH for Pollack juveniles. Primarily Pollack juveniles are found in bottom habitats from the Gulf of Maine and Georges Bank. They prefer sites of dense aquatic vegetation though they will be found over bottoms of mud or sand, with water temperatures below 18 deg. C and depths to 250 meters. Due to the habitat preferences of the Juvenile Pollack they most likely will not be found in the project area.

- Whiting (Silver Hake)
  This area is designated as EFH for the eggs, larvae and juvenile Whiting. Whiting eggs, larvae are found in the surface waters over the continental shelf, and as such, will most likely not be found in the project area. Juvenile Whiting prefer the bottom habitats along the deep waters of the continental shelf and as with the eggs and larvae will most likely not be found in the project area.
- Red Hake
  This area is EFH for Red Hake Juveniles. They are generally found in bottom habitats of shell fragments or rocks from the Gulf of Maine and Georges Bank south to Cape Hatteras along the Continental Shelf. They prefer deep waters with temps less than 16 deg. C. Due to the habitat preferences they most likely will not be present at the site.
- Winter Flounder
  This area has been deemed EFH for all life stages of Winter Flounder. The eggs are generally found in the Gulf of Maine and Georges Banks and inshore from Southern New England to the Delaware Bay. They tend to be found in water temps of less than 10 deg C and depths of less than 5 meters. Larvae are found in the pelagic waters and bottom substrate as far south as Delaware Bay. Juveniles prefer bottom habitats of mud or sand in depths of less than 10 meters. Adults are found in waters to 100 meters deep in sand and mud substrates. Due to the habitat preferences all stages of winter flounder may be present in the project area.
- Windowpane Flounder
  The Project area has been deemed as EFH for all life stages of Windowpane Flounder. All stages of the species are found in waters from the Gulf of Maine to Cape Hattaras, North Carolina. The eggs of the Windowpane Flounder are found on the surface in waters with depths less than 70 meters from February to November. The Larvae prefer the pelagic waters with depths less than 70 meters. Once the flounder reaches the juvenile stage they become bottom dwellers where they prey on mollusks, annelid worms and crabs. Both adults and juveniles are found in bottom habitats in waters to 100 meters. Due to the habitat requirements of the windowpane flounder they may be present in the project area.
- Witch Flounder
  This area has been deemed EFH for Witch Flounder eggs. The eggs are usually found in the surface waters of the Gulf of Maine, Georges Bank, the continental shelf off of New England and the Mid-Atlantic south to Cape Hatteras. They are found in the following conditions: water temperatures below 13 deg Celsius, and depth of 50 to 450 meters. Due to habitat preference Witch flounder will most likely not be in the area of the project.
- Yellowtail Flounder
  This area has been deemed EFH for Yellowtail Flounder Eggs and Larvae. These life stages of the flounder are found in the surface waters of Georges Bank, Massachusetts bay, Cape Cod Bay and the continental shelf off of New England down to Delaware Bay. They are found in waters with temperatures below 15 deg C in depths from 10 to 90 meters of water and a salinity of 32 to 33 %. Eggs are seen from mid March to

July and Larvae are seen from May to July. Due to the habitat preference the Yellowtail Flounder will most likely not be located in project area.

- Ocean Pout
  This area has been deemed EFH for Ocean Pout eggs, larvae and adults. All of these stages are found in the bottom habitats of the Gulf of Maine, Georges Bank, Southern New England and the Mid-Atlantic south to Delaware Bay. They eggs are found in waters with temperatures below 10 Deg C, depths below 50 meters and salinity range of 32 to 34%. Larvae can be found in waters with temperatures below 10 Deg C salinities greater than 25% and depths less than 50 meters. The Adult Ocean Pout is found in waters with temperatures below 14 Deg C, depths less than 50 meters and salinity from 32 to 34 %. Due to habitat preferences Ocean Pout will most likely not be found in the area of the project.
- Atlantic Herring
  The area has also been deemed EFH for Atlantic Herring juveniles and adults. Both stages prefer pelagic and bottom habitats from the Gulf of Maine to Cape Hattaras, North Carolina. Due to habitat preferences they may be present in the area of the project.
- Monkfish
  This area has been deemed EFH for the eggs and larvae of the Monkfish. These stages are found in the surface waters of the Gulf of Maine, Georges Bank, Southern New England and the Mid-Atlantic south to Cape Hatteras. Generally, the eggs are located in waters with surface temperatures of 18 Deg C and depths from 15 to 1000 meters. The Larvae are found in waters with temperatures of 15 Deg C and depths from 25 to 1000 meters. Both of these life stages are observed from March to September. Due to the Habitat preferences of this species the eggs and larvae will most likely not be found in the area of the project.
- Bluefish
  The project site has been deemed EFH for Bluefish juveniles and larvae. Bluefish spawn in the southern waters and migrate north with food sources, such as herring and menhaden. Due to habitat preferences they most likely will be found in the work area.
- Loligo Squid
  The site is also EFH for Loligo Squid. The squid are found from the Gulf of Maine to Cape Hattaras in depth to 1000 foot. As their habitat suggests they may be present in the work site.
- Atlantic Butterfish
  This area is EFH for all life stages of Atlantic Butterfish. All life stages of butterfish are found from the Gulf of Maine to Cape Hattaras, North Carolina from the coast to 6000 foot. According to the "Fire Island National Seashore Short Term Community Storm Surge Protection Projects Environmental Assessment Draft" butterfish were the most abundant species caught in the trawl surveys. Combining this and the environmental preferences of the Butterfish they most likely will be present in the Project area.
- Atlantic Mackerel
  The project area is considered EFH for all life stages of the Atlantic Mackerel. All stages are found in the pelagic waters from the Gulf of Maine to Cape Hattaras, North Carolina. The eggs can be found in waters

less than 50 feet deep; the larvae are in waters from 33 to 425 foot deep; juveniles to a depth of 1050; and adults to 1250 foot. They travel the waters off the coast in search of prey species such as small herring and sand lances. They may be present in the work area.

- Summer Flounder
  This area is considered EFH for all life stages of Summer Flounder. Summer Flounder or Fluke eggs and larvae are found in the pelagic waters from the Gulf of Maine to Cape Hattaras with the largest concentration within 9 miles of the New York, New Jersey coastline. The juveniles and adults are found in the demersal waters over mudflats and open bay areas from the coast to approximately 500 foot. Summer fluke usually inhabit bays and estuaries in summer months moving to the open offshore waters in the cooler months. Fluke may be present in the work area.
- Scup
  The project area is deemed EFH for juvenile and adult scup. Both stages are found in the demersal waters from Maine to Cape Hattaras North Carolina. Adults migrate to deeper waters to spawn during the cooler months. Scup will most likely not be present in the project area.
- Spanish Mackerel, King Mackerel and Cobia
  This area is EFH for Spanish mackerel, King Mackerel and Cobia. All three of these species are migratory pelagic species and travel with the food sources throughout the oceans. They prefer to feed over sandy shoals, capes and offshore bars and the ocean side of barrier islands. All three species will most likely not be found in the project area.
- Sand Tiger Shark
  This area is EFH for Sand Tiger Shark Neonates and Juveniles. They are found in the coastal waters of most oceans. Sand Tigers may be present at the project site.
- Blue Shark
  This area is EFH for Blue Shark. Most blue shark are found in waters deeper than 200 foot. Due to this preference, blue shark will most likely not be present at the project site.
- White Shark
  This area is EFH for White Shark. The white shark prefers waters from 25 to 100 meters deep. Due to habitat preference, White Shark will most likely not be present in work area.
- Dusky Shark
  This area is EFH for Dusky Shark Juveniles and sub adults. These two stages of the shark are found in coastal waters, inlets and estuaries from Eastern Long Island to Cape Lookout, North Carolina. Dusky Shark may be found in the project area.
- Sandbar Shark
  This area is EFH for all stages of Sandbar Shark. They are found in coastal waters from Montauk, NY to Cape Canaveral Florida. Sandbar Shark are found in the pelagic waters feeding on bony fish and shrimp, migrating wherever they are located. Sandbar Shark will most likely not be found in project area.

- Tiger Shark
  This area is EFH for Tiger Shark Juveniles and Late Juveniles. Both are found in coastal waters from shallows to 200 m. They prefer estuaries where fish congregate to feed in the turbid waters. Tiger shark will most likely not be present in the area.
- Bluefin Tuna
  The project area considered EFH for Bluefin Tuna. Tuna are found in waters greater than 25 meters deep and warmer than 12 C. They will most likely not be found in the work area.
- Skipjack Tuna
  Project area is considered EFH for Skipjack Tuna adults. They are found in the pelagic waters from 25 to 200 meters deep. Due to the depth preference they will most likely not be present at the project site.

Several Commercial and Recreational Finfish species are found in this area. These are as follow; American sandlance (*Ammodytes americanus*); bay anchovy (*Anchoa mitchelli*); Atlantic menhaden (*Brevoortia Tyrannus*); Weakfish (*Cynoscion regalis*); Atlantic silversides (*Menidia menidia*); striped bass (*Morone saxatilis*); blackfish (*Tautoga onitis*); tomcod (*Microgadus tomcod*) and cunner (*Tautogolabrus adspersus*). Table 5 shows the lifestage in which these species will be present at the site.

Table 5
Commercial and Recreational Species

Scientific Name	**Common Name**	**Life Stage**
Finfish		
Ammodytes americanus	American sandlance	A
Anchoa mitchilli	bay anchovy	A
Brevoortia tyrannus	Atlantic menhaden	A
Cynoscion regalis	weakfish	A
Menidia menidia	Atlantic silverside	A
Microgadus tomcod	Atlantic tomcod	A
Morone saxatilis	striped bass	A
Tautoga onitis	blackfish	A
Tautogolabrus adspersus	*cunner*	A

E= Eggs
L= Larvae
J= Juveniles
A= Adult

E. Water Quality

According to the New York State Department of Environmental Conservation Division of Water, the water around Smith Point County Park is classified as Saline Surface Waters Class SA. Class SA is the highest classification of estuarine and marine waters. This classification is applied to waters that are outstanding natural resources and that should be preserved because of their ecological, social, scenic, economic or recreational importance. The best usages of Class SA waters are shellfishing for market purposes and primary and secondary contact recreation and fishing. These waters shall be suitable for

fish propagation and survival (personal communication, NYSDEC Division of Water). According to the FIMP Study, Intertidal Wetland and Estuarine Finfish Survey of the Backbays (Year 2), salinity readings at Cupsogue in Moriches Bay near the inlet range from 29.4 to 31.2 ppt. And dissolved oxygen ranged from 8.15 to 9.33 mg/l (USACE, 2004). Water quality in the work area is considered good due to the makeup of the benthic substrate, which is a quartz/feldspar sand which does not bind to contaminants. Also with the tidal and wave action most contaminants are swept away from the area (FIIS 2003).

Data collected from 1977 through 1997 indicate that water quality in the Great South Bay is generally good (Suffolk County, 1999). Throughout the 20-year monitoring period, more than 2,600 water samples were collected and analyzed from 20 locations in Great South Bay. Data collected at sampling stations included concentrations of nitrogen, phosphorous, dissolved oxygen, salinity, fecal coliform bacteria, chlorophyll-a, and *Aureococcus anophagefferens*, the organism that causes brown tides in the bay. Water transparency also was measured at each station. Water transparency, which is a measure of the distance that light is transmitted through water, may be reduced by a variety of factors, including increased concentrations of suspended and dissolved materials. In addition to Great South Bay, water quality also was evaluated in Moriches Bay and Shinnecock Bay during the monitoring period.

During the monitoring period, no dramatic trends in water quality were apparent in Great South Bay, although most variables exhibited great, annual variation. The most consistent trend over time was increased nitrogen in the bay with highest concentrations generally along the bay's north shore.

F. Benthic Species

This area is known for many different species of shellfish and mollusks. The most abundant being the Surf Clam, Black Clam, Atlantic Oyster Drill and the Blue Mussel (FIIS 2003). Table 6 presents the shellfish and crustacean species that are most likely present in the project area.

Table 6
Shellfish and Crustacean Species Likely
To be Present in Project Area

Species	Latin Name
Surf Clam	*Spisula solidissma*
Ocean Quahog	*Pitar morrhuanus*
Atlantic Oyster Drill	*Urosalpinx cinerea*
Blue Mussel	*Mytilus edulis*
Channeled Whelk	*Busycon canaliculatus*
Razor Clam	*Siligua costata*
Northern Moon Snail	*Euspira heros*
Blue Crab	*Callinectes sapidus*

Table 6 Cont.

Jonah Crab	*Cancer borealis*
Rock Crab	*Cancer irroratus*
Lady Crab	*Oyalipes ocellatus*
Marsh Fiddler Crab	*Uca pugnax*
Spider Crab	*Libinia spp.*
Hermit Crabs	*Family Paguridea*
Horseshoe Crab	*Limulus polyphemus*
Mole Crabs	*Emerita talpoida*

FIIS, 2003

The recovery of intertidal benthos after beach nourishment was studies by Dolan (Dolan 1974). He determined that the recovery of Mole Crab (*Emerita talpoida*) occurs rapidly, usually in a week or two.

Besides the species found in Table 6, there are many invertebrate species that are likely to occur at this site. Such species are the Beach Flea Amphipod (*Talorchestia longicornis*), 2 other amphopods (*Haustorius canadensis* and *Psammonyx nobilis*) and the Polychete worm (*Scolelepis squamata*)(Appendix A Page 54). Though these interstitial species represent a larger population than the larger organisms, they account for a lower proportion of the biomass (Greene, 2002).

As for the borrow areas they are chosen by the type of sand present. This type of sand has specific invertebrates that will most likely be found existing there. Such species would be the Digger Amphopod (*Protohaustorius wigleyi*), Fringed Worm (*Tharyx acutus*) Polychete worms (*Megalona Papillicornis* and the Dwarf Tellin (*Tellinose agilis*)), Ampharetic Worm (*Asabellides oculata*), and the Archiannelid Worms (*Polygordius spp*.). Also found will be the Scud amphipod and the Sharptailed Cumacean Mudworm (*Spiophanes bombyx*). The most abundant species that will be found in these waters is the Surf Clam and the Sand Dollar (FIIS, 2003).

G. Benthic Substrate

The benthic substrate of this site is under constant change due to the interaction of waves, currents, tides and sediments and several other factors. These factors move material along the shorelines in a process known as littoral drift. This material consists of sand, gravel, sediments and organic material. As discussed in FIIS 2003, the majority of the substrate is quartz/feldspar sand with the occurrence of magnate and garnet sands. The littoral drift in this area is generally east to west. According to O'Conner, 1972, the Moriches inlet, unlike any other area of the Moriches bay consists of sandy gravel and stiff clay. Results from studies on the grain size of the inlet done in 2002 indicates that 95% of the sediment in the inlet is sand (USACE Public Notice, March 8, 2002). Additional sampling and analysis of sediment is underway, and the results of this analysis will be included on the project construction plans.

H. Shoreline Processes

The current model used to manage barrier islands in the National Park System is based on the research of Godfrey and Dolan (Dolan, 1972). This was the seminal paper that changed the thinking on the behavior of these landforms. It is based on an island in dynamic equilibrium with sea level, wave climate, wind, and sediment supply. The primary processes responsible for this dynamism are overwash and inlet formation.

Breach formation and overwash are common natural processes on barrier islands, as demonstrated by Dolan's research. When washovers and breaches occur, large quantities of sand are transported into the bay, forming widenings on the backside of the islands. In the case of some breaches, bay islands are formed, as well. Those features provide platforms for the establishment of sea grass meadows and intertidal marshes. Virtually all of the valuable salt marsh habitat on the south side of the bays owes its existence to this phenomenon. At the same time, this allows the barrier island to "roll over", or migrate up the coastal plain, thus maintaining an equilibrium with rising sea level. The evidence of multiple historic ephemeral inlets, along with the presence of back barrier tidal wetlands and sea grass beds are all indicative of the model's operation in the project area over timescales of decades and centuries..

Although prevailing currents in the project area generally run from east to west (Conley, 2000), sediments in the immediate vicinity are moved predominantly by wave action with storm winds typically blowing in a southwesterly direction. These factors create littoral currents that typically transport littoral drift to the west, although transport to the east also may occur. Therefore, any changes in the beach profile caused by any beach nourishment or alteration actions will represent a change, although temporary, to the shoreline littoral processes. The scope and scale of the beach alteration will determine the degree to which the littoral processes are affected both spatially and temporally.

Fire Island National Seashore has an unusual oblique East-West geographic orientation, differing from the usual east-facing beaches on the Atlantic Coast. This feature therefore results in different beach and dune responses to northeast coastal storms. FIIS south-facing shoreline responds to storms occurring well to the south, some of which can include offshore hurricanes bypassing the area without making landfall. More regionally centered storms also have erosional and flooding impacts on both oceanside and bayside beaches due to local wind-generated waves and prevailing wave patterns.

Net sediment transport is from the east to the west on the ocean side. Until jettied in 1940 at the western extremity (Democrat Point), Fire Island was extending westward at 64 m/yr. Estimates of the longshore transport rate converge at approximately 200,000 m^3/yr entering past Moriches Inlet but between 370,000 and 540,000 m^3/yr. into Fire Island Inlet. This increase in longshore transport rate cannot be balanced by shoreline losses so Kana (1995) attributed the excess to onshore transport from a presumed Fire Island Inlet ebb-tidal delta, which has been lost. Schwab *et al.* (2000) shows that, west of Watch Hill, onshore transport on the order of 200,000 m^3/yr. from the remnants of a Cretaceous age source. As a result of these natural and human actions, the island is becoming thinner on the western side and migrating landward on the eastern limb, according to the geological interpretation of Leatherman and Allen (1985).

I. Recreation and Public Use

Smith Point is the single-most popular park in Suffolk County's park system. Attendance at Smith Point rivals that of New York State beaches at Robert Moses and Jones Beach. The main beach at Smith Point, situated in front of and adjacent to the Pavilion, provides general beach activities including swimming and bathing, sunbathing and ancillary activities including picnicking and barbecuing.

It is not possible to provide exact numbers for total number of visitors to Smith Point each year but the Parks Department has derived this from a combination of factors including vehicle counts and sales. The following information is provided for the last two years

Smith Point Park Visitors for 2006: 227,628
Smith Point Park Visitors for 2007: 272,048

Loss of beach due to erosion limits the space available on the beach, reduces the amount of area protected by lifeguards and limits the numbers of beachgoers. The No Action alternative would lead to additional erosion, loss of beach and reduction in available beach area and therefore would force a reduction in the number of beachgoers.

As noted above, based on the number of visitors, Smith Point brings in a significant amount of revenue which is expressed in the following table.

Year	Patron Vehicles	Dollars Collected
2000	57,445	$380,200
2001	73,628	$514,900
2002	75,460	$584,240
2003	79,912	$548,450
2004	72,938	$605,742
2005	85,922	$695,108
2006	76,590	$561,350
2007	88,048	$673,297

Smith Point County Park has 75 outer beach campsites for self-contained campers and trailers. Under optimum weather and beach conditions, Suffolk County Parks would realize revenue of approximately $93,000 from the Smith Point Outer Beach camping area for the time frame of April 1 – October 31.

J. Climate Change

This topic has two aspects. One is the impact of the proposal affecting climate change through increasing or reducing human contributions to it. This project will have some effect on climate change stressors since it will contribute some carbon emissions through the fuels used to power the dredges, pumps and the heavy equipment used to transport

and reform the sand. This effect is anticipated to be minor, on a global scale as well as a regional scale.

Recent direction regarding climate change was provided by the Deputy Secretary of the Department of the Interior, Lynn Scarlett, to a gathering of Departmental, state (including New York) and other public and private agencies. Paraphrased from a longer speech, she emphasized that:

> "Change" is the operative word. Public (federal, state or county) and private land managers need to learn what the effects of these changes will be. Land management planning must be broadened to incorporate these changes.
>
> Regardless of actions taken nationally or globally, the next 50 years will bring changes from prior conditions. It may be rapid.
>
> Adaptation, not mitigation, will need to be the near-term approach. While twenty percent of the coastal areas nationally will be flooded over this century, local effects may be greater or less, depending upon factors specific to each location. We need to maintain ecosystem processes, protect the processes that sustain coastal wetlands and marshes, adapt our management to those processes and changes, and recognize the risks. Adjust. Monitor. Adapt.

IV. Impacts of Proposed Project and Considered Alternatives

The general methodology for determining the impacts of the project were determined by evaluating the context, intensity, duration and cumulative natures of the impacts from each of the project alternatives. For this project the context of the project was evaluated as the Smith Point County Park and Cupsogue Beach County Park areas, whereas the cumulative impacts will use a broader spectrum of the entire Fire Island National Seashore. Intensity is determined by the severity of the project on the site and the species at the site. Such determinations as:

- No impact – this determination is given when the impact is either negligible or below the threshold of detection.
- Little impact – this determination is used when the impact is localized and slight but it is able to be detected.
- Slight impact – is determined when the impact is readily apparent though not severe and impacting only small percentage of species.
- Severe impact - when the impact is adverse and highly noticeable and effecting target species in a large percentage.

The duration of the project entails the length of time that the impact will remain, such as, a short term impact or a long term impact, and time frame of the project to avoid spawning times and nesting times.

And finally cumulative impacts which as stated are the impacts associated with this project and other projects, either past, present or future, that may when added together increase the impacts associated with this project. This project analysis the work of the SPCP and the cumulative effects of the work along the shoreline of the Fire Island Communities.

Impairment Analysis

The National Park Service Organic Act of 1916 and related laws mandate that the units of the national park system must be managed in a way that leaves them "unimpaired for the enjoyment of future generations". These laws give the NPS the management discretion to allow certain impacts to park resources and values when necessary and appropriate to fulfill the purposes of a park, so long as the impact does not constitute impairment of the affected resources and values. Director's Order 12 states that environmental documents will evaluate and describe impacts that may constitute an impairment of park resources or values. In addition, the decision document will summarize impacts and whether or not such impacts may constitute an impairment of park resources or values. An impact would be more likely to constitute impairment to the extent that it affects a resource or value whose conservation is:

- necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park,
- key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or

- identified as a specific goal in the park's general management plan or other relevant NPS planning documents.

Impairment may result from NPS activities in managing the park, visitor activities, or activities undertaken by concessionaires, contractors, and others operating in the park. The following process was used to determine whether the various alternatives had the potential to impair park resources and values:

1. The park's enabling legislation, the *General Management Plan,* the *Strategic Plan,* and other relevant background were reviewed to ascertain the park's purpose and significance, resource values, and resource management goals or desired future conditions.

2. Beach and shoreline management objectives specific to resource protection goals at the park were identified.

3. Baselines have been established for each resource of concern to determine the context, intensity and duration of impacts, as defined above.

4. An analysis was conducted to determine if the magnitude of impact reached the level of "impairment," as defined by the NPS *Management Policies.*

A. Alternative A (No Action Alternative)

1. Threatened or Endangered Species

Temporary overwash conditions due to no action may enhance and provide additional temporary breeding habitat, until natural island dynamics succeed and revegetate these areas. The event of a breach and new inlet formation might also provide temporary additional breeding and foraging habitats on the beaches of this new inlet. New east-west facing beaches with the potential for flat and pool development would provide improved foraging habitat for plovers as well as a potentially more sheltered beach condition and higher productivity. These habitats are now rare on Fire Island. Numerous Atlantic coast studies have documented the importance of beaches with bayside access, overwash and tidal bay flats on Piping Plover distribution and reproductive success including NPS 1998, Coutu et. al. 1990, Elias, et. al. 2000, Elias-Gerken 1994, Goldin 1990, Goldin and Regosin 1998, Hoopes 1993, Houghton et. al. 1995-2002, Howard et. al. 1993, Jones 1997, Loegering 1992.

These newly formed overwash areas could support nesting Piping Plovers, as has occurred on Westhampton Beaches in similar barrier breach conditions as Pikes and Little Pikes Inlets (Houghton et. al. 1995-2000). Enforcement and education will be critical in protecting these sites from the pressures of high public use at these highly visible and accessible community areas.

The U.S. Fish and Wildlife Services Biological Opinion for the Army Corps Public Notice Number NAN-2006-255-EHA (page 20) states that Fire Island has a history of

overwashes and formation and closure of inlets which have renewed habitats important to Piping Plovers. This report states that the frequency of overwashes has decreased since the 1938 hurricane due to beach stabilization projects and that if human beings had not stepped in, the island would have many more inlets and overwashes that attract Piping Plover and other shorebird species.

Similar effects are anticipated for Seabeach Amaranth as it also occurs in the early successional, dynamic beach habitats similar to plovers. Amaranth occupies a narrow beach zone (0.2-1.5 m above mean high tide) including overwash flats and lower foredunes of non-eroding beaches and even secondary habitats like dune blowouts (Weakley and Boucher 1992). No action could create new, additional habitat in overwash areas.

2. Terrestrial Species

The No Action alternative would have little to no effect on the terrestrial species present in the park. These species are mobile and if there is a breach or washover they would be able to avoid this area or utilize the area for increased foraging.

3. Terrestrial Vegetation

No action alternative would have little effect on the terrestrial vegetation since the beach and dunes would remain in the same condition as present. The only effect on the vegetation would be from breaching of the island creating a new inlet. This though would only affect the species in the area of the inlet and would not affect anything outside this small zone.

4. Finfish

There will be no impacts to the finfish of the area or to the essential fish habitat with the No Action alternative.

5. Water Quality

No impact with water quality would be associated with the No Action alternative.

6. Benthic Species

There will be little impact on the benthic species of the area due to the No Action Alternative.

7. Benthic Substrate

There would be no impact on the benthic substrate due to the no action alternative.

8. Coastal Processes

The no-action alternative would increase the likelihood of overwash and breaching in the County parks.

9. Recreation and Public Use

Recreation and public use could be negatively affected due to the No Action alternative due to the possibility of washouts of the beach and/or the park building and boardwalks; loss of fishermen access to inlet. As washover and inlets occur the beach area accessible by the public diminishes and either crowding in usable areas occurs or visitorship will decline. Smith Point Park is the leading income generating park in Suffolk County. As shown in Section III.A the No action will result in a loss of park facilities and a loss of revenue to the County.

No dredging of Moriches Inlet would have adverse consequences for navigation and for public health and safety. The inlet has not been dredged since 2004, and has shoaled to the point that it is variously described as hazardous and non-navigable. A hydrographic survey conducted in February 2008, indicated that as much as 550,000 cubic yards of sediment are present within the authorized dimensions of the navigational channel. At this rate of accumulation, the inlet will rapidly become more dangerous. Nevertheless, recreational boaters will continue to use this access to the ocean, resulting in increasing risk of injury or death by both the boaters themselves and the personnel of the Suffolk County Police Marine Bureau and the Moriches Coast Guard Station. The increasing non-navigability of the inlet will also hamper the Coast Guard's ability to respond to offshore emergencies involving commercial fishermen and other maritime interests.

If the No Action alternative were implemented, Suffolk County Parks would need to implement significant, perhaps severe, measures in order to address lack of access to and use of the main beach in front of and adjacent to the pavilion, lack of access to and use of the outer beach as well as the need to ensure public safety. Suffolk County Parks expects that it would need to curtail use of the main beach and curtail or completely cease outer beach camping and outer beach access by ORVs. This is described in further detail below:

With the severe erosion that has been experienced, the full camping area has not been available. This loss has had multiple effects as noted below:

a. Increased demand on the limited outer beach camping available at Theodore Roosevelt, Shinnecock East and Cupsogue Beach County Parks.

b. Loss of recreational opportunities for park patrons.

c. Significant loss of revenue for Suffolk County. For example, due to severe erosion conditions, in 2005 only $14,424.00 was realized from outer beach camping at Smith Point, in 2006 only $4,152.00 was realized and in 2007 only $5,892.00 due to erosion. Compared to a possible $93,000.00 or more per year, this is an obvious impact. Suffolk County Parks expects that this downward trend in revenue would

continue under the No Action alternative likely resulting in complete closure and loss of the outer beach camping area.

Furthermore, it is expected the No Action alternative would result in significant declines in revenue generated from off-road vehicle use. In 2001 and 2002 Smith Point realized $415,290.00 and $487,280.00, respectively, in outer beach permit sales. In 2005, subsequent to significant erosion events, Smith Point generated only $199,425.00 in outer beach permit sales with $264,675.00 being generated in 2006 and $301,575.00 being generated in 2007. This decline in revenue could continue in the No Action alternative.

Off-road vehicle access to the outer beach is permitted for purposes such as sportfishing and hunting. The severe erosion has also had a direct impact on outer beach day use and has hindered or even at times completely prevented access to the outer beach for these purposes. Under the No Action alternative, it is expected that this condition would be exacerbated further and that the County would need to curtail outer beach access for even longer durations or completely close outer beach access for longer periods of time.

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10. Cumulative Effects

Although the no-action alternative could affect listed species either positively or negatively, a variety of historic, on-going and planned activities will continue to affect these species. Residential development and recreational use /facilities in areas throughout the park have resulted in habitat loss and degradation to threatened and endangered species. Associated human disturbance, including driving, hiking on beaches and walking unrestrained pets, also adversely affect species of concern by interfering with reproductive and foraging behavior and result in direct mortality when plants and animals are crushed by beach-driven vehicles or killed by unrestrained pets. Planned continuance of the ACOE authorized FIMP (listed in project background) and its reach projects represent continuing shoreline stabilization to Long Island and preclusion of natural habitat formation in New York and coastwide. As shown in Section III.A the loss of beach could affect beach visitor activities and could possibly impact the surrounding neighborhoods whose businesses thrive on summer beach visitors.

11. Conclusion

The continued northern advance of the shoreline would have an impact on the amount of space available for public use and access. As stated above, the county could be negatively impacted in several ways. First would be the increased demand on the outer beach camping available at other county beaches. The second impact would be the loss of the recreational opportunities enjoyed by the park patrons and lastly the county would be impacted by the lost revenue. This is seen over the last 3 years. In 2005, approximately $14,424 was realized from outer beach camping. In 2006 and 2007, due to erosion, camping site earnings were down to $4,152 and $5,892 respectively. Compared to the potential $93,000 revenue, this is a significant impact. Not only will the revenues from camping fall but also the revenues from the Off Road Vehicles. In 2001 and 2002 Smith Point realized.$415,290 and $487,280 respectively. In the years following significant erosion events these earnings were down to $199,425 in 2005, $264,675 in 2006 and

$301,575 in 2007. It is expected that with the No Action Alternative a downward trend in revenue could continue.

B. Alternative B (Moriches Inlet Dredging)

1. Threatened or Endangered Species

Due to several factors with the proposed project negative impacts to the piping plover will need to be mitigated. With the introduction of no-dredge windows, all work will be during the months that the birds are in their southern grounds so the project will not have direct impacts on plover. Second, as long as the areas of suitable habitat are restored before the plover return, they will utilize the unvegetated areas. The placement of sediment on the beach and the stabilization of the dune will have indirect effects on the plover habitat, but overall this alternative is determined to be that of may affect but not likely to adversely affect the piping plover.

Least tern, as with the plover will be impacted with the loss of nesting and foraging habitat. Any direct impacts due to this though will be avoided with the work being done during the winter when the tern are not present on the site. Indirect impacts of beach nourishment and dune stabilization on the habitat are not likely to adversely affect the least tern. Section 7 determination for this alternative on the least tern is "may affect but not likely to adversely affect". Since there are no Roseate tern colonies on the island there will be no affect on this species.

Migratory birds that utilize both Smith Point Park and Cupsogue Beach will not be affected by the work, since all work will be done when they are not present.

The seeds of the Seabeach Amaranth in the areas of the work will be lost due to the construction. However, this species of plant will quickly revegetate the lost areas by dispersing hundreds of seeds, in the wind and water, to be moved to other areas. In the context of the Endangered Species Act, the proposed project may affect but is not likely to adversely affect the Seabeach Amaranth.

Also, according to the NMFS there is a chance of encountering the loggerhead, green, Kemp's ridley and leatherback sea turtles in this area. However, these species only utilize this area these areas for foraging and not for nesting. As such, there will be no significant impact on sea turtles or their habitat due to this alternative and the ESA Section 7 determination would be "may affect but not likely to adversely affect".

2. Terrestrial Species

There will be no negative impact on the terrestrial species in the area due to the dredging and placement of the sand along either the Smith Point County Park beach or the

Cupsogue County Park beach. All of the terrestrial species in the area are highly mobile and will be able to avoid the areas of work.

3. Terrestrial Vegetation

As with the terrestrial species there will be little to no impact on the vegetation due to the proposed project. All work will be located on the beach where no vegetation is present.

4. Finfish (Essential Fish Habitat)

The area of the project is considered essential fish habitat for several species of finfish. These fish, however, are mobile fish that will be able to avoid the dredging operation and migrate back to the area when the work is over. Due to the fact that most of the surrounding areas are the same in terms of habitat, this movement will not cause any negative impacts on the species of the area. The eggs and larva, especially that of the winter flounder, that are laid on the sea floor will be displaced or destroyed by the process. Due to this there will be an environmental window, in which all work must be completed, will close on January 15th for the spawning of the winter flounder. This means all work will be completed prior to the 15th of January. Also, this is a small area and the impact to the local fishery will be minimal. Short-term impacts on the species will be the turbidity of the water and the disturbance of the area by the dredging operation. The species in the area do however, have the ability to move out of the area and return when the work is complete. There will be no impact to the fish that are able to move out of the construction zone. This is due to the fact that the areas surrounding the site and in close proximity to the site, that these fish will move to have the same habitat that these species are leaving. The impacts to each species are shown in Table 7.

5. Water Quality

Dredging of the inlet will have short-term impacts on the water quality of the area due to the nature of dredging. Silt and nutrients will be released into the water column during operation and the water will be cloudy and silt laden. However, due to the tidal nature of the inlet this silt-laden water will have the greatest impact during the slack tides and the sediment removed from the area during the rising and ebb tides.

The contractor will be responsible for the cleanup of any spilled fuels. There will be two different responses to any spills depending on the location. For spills into the waterway the contractor shall first notify a spill response contractor. They will then immediately identify and stop the source of the spill; shut down all equipment; deploy the booms and absorbent to contain the spill; clean up the site of all absorbent and waste materials and dispose these materials at an approved waste disposal facility; and lastly they will decontaminate the area, equipment and surfaces that have been contaminated. If the spill occurs on land the contractor shall; clean up spill immediately; apply absorbent material, berm divert or contain spill; collect spilled material and place in drums; clean up area of absorbants and other materials used to clean up spill; contact the NYSDEC Spills Unit; and decontaminate all equipment and areas that have contacted the spilled materials. If necessary the contractor may need to restore any habitat destroyed by the spill.

6. Benthic Species

Since the project will take place in the winter many of the species found on the beaches in the summer will not be present in the same quantity, so any impacts to these species will be diminished. As for smaller organisms and non mobile organisms they will be negatively impacted in the area of the nourishment. These species may be smothered beneath the new beach and/or crushed by the vehicle traffic during the work. However, according to Greene, (ASMFC Habitat Management Series #7, 2002) these species will eventually reestablish themselves in the area. This report states that studies have shown that there is an increase in opportunistic benthic species immediately after the dredge process (polychaete worms). Over a short period the levels of benthic species will return to pre-dredge levels.

7. Benthic Substrate

The project involves an inlet bypassing operation, and as such mimics a natural process, thus mitigating the adverse impacts of Moriches Inlet. As such, the project will have a beneficial impact on benthic substrate.

8. Recreation and Public Use

This project will protect the recreation and public use concept of this park in maintaining the most beach and dune area and allowing access to the largest percent of the park. The nourishment of the beach will allow for the maintenance of the visitorship at a level that will be both profitable by the county and the surrounding areas, as shown in Section III.A and also acceptable by the public that frequent this facility. This project will take place in the winter, so visitorship is at its lowest and the impact to the public will be minimal if existent at all.

9. Coastal Processes

Section III H discusses barrier island processes and management implications. The proposed project involves a relatively minor dredging operation through a historically maintained navigation channel and the placement of the resulting sand on the beaches of Smith Point and Cupsogue Beach. Being a relatively small, one-time action in response to an unusually severe nor'easter, it is not expected that this project will have any impact on the long-term responses of the barrier island to natural forces, as described above.

10. Cumulative Impacts

The County's beach nourishment project at Smith Point and Cupsogue Parks is one of two beach nourishment projects proposed at this time within the boundaries of the Fire Island National Seashore. The other project is the 2008 Fire Island Communities Beach Nourishment Project (the communities project). The communities project involves placing beach nourishment, from offshore borrow sites, on at least ten individual residential communities from Saltaire on the west to Davis Park on the east. Several

TABLE 6

Habitat Suitability and Affect of Project Activity on Species of Concern in the Moriches Inlet Area

Species	Life Stage	Threatened/ Endangered	Habitat Requirements	Habitat Suitability of Project Area	Project Activity that may Affect Species
Atlantic Salmon (Salmo Salar)	Adults	No	Oceanic Adult Atlantic salmon are mostly pelagic and range from continental shelf off southern NE throughout the GOME	Not Likely in Area	None
Pollack (Pollachius virens)	Juveniles	No	Dense vegetation bottom habitats to 250 meters	Not Likely in area	None
Whiting (Merluccius bilinearis)	Eggs	No	Surface Waters	Prefers deep waters	None
	Larvae	No	--	Prefers deep waters	None
	Juveniles	No	Bottom Habitats	Potential to utilize area	Temporary displacement
Red Hake (Urophycis chuss)	Eggs	No	Surface waters inner continental shelf	Spawning in deep water	None
	Larvae	No	Surface waters	Spawning in deep waters	None
	Juveniles	No	Bottom Habitas with shell fragments	Potential to utilize project area	Temporary Displacement
Winter Flounder (Pleronectes americanus)	Eggs	No	Bottom Habitats Sand and Mud	Demersal, adhesive eggs potential to be in project area	Some mortality may occur due to sediment and turbidity in project area
	Larvae	No	Pelagic and Bottom Waters fine sand and gravel	Potential to utilize project area	Some mortality may occur due to sediment and turbidity in project area
	Juveniles(YOY)	No	Benthic Substrate near shallow natal waters. Mud sand eelgrass	Potential to utilize soft bottom in project area	Temporary Displacement
	Juveniles(Age 1+)	No	Bottom habitats substrate of mud fine sand	Potential to utilize project area	Temporary Displacement
	Adults	No	Inshore waters estuaries, bottom habitats of mud	Potential to utilize project area	Temporary Displacement
Windowpane Flounder (Scopthalmus aquosus)	Eggs	No	Surface waters to 70m	Potential to be in Project area	Some mortality may occur due to sediment and turbidity in project area
	Larvae	No	Pelagic waters to 70m	Potential to be in project area	Some mortality may occur due to sediment and turbidity in project area
	Juveniles	No	Bottom Habitats fine grain sand Depth 1-100m	Potential to utilize bottom of project area	Temporary Displacement
	Adults	No	Bottom Habitats fine grain sand Depth <75	Potential to utilize bottom of project area	Temporary Displacement
	Spawning Adults	No	Bottom Habitats fine grain sand Depth <75	Potential to utilize bottom of project area	Temporary Displacement
Yellowtail Flounder (Pleuronectes ferruginea)	Eggs Larvae	No	Surface waters	Not likely in project area	No impact expected
Witch Flounder (Glyptocephalus cynoglossus)	Eggs	No	Surface waters	Not likely in project area	No impact expected

Table 6 continued

Ocean Pout (Macrozoarces americanus)	Eggs Larvae Juveniles	No No No	Hard bottom sheltered nests holes and crevices Hard bottom sheltered nests holes and crevices Bottom Habitat	Prefers deeper waters Prefers deeper waters Prefers deeper waters	No impact expected No impact expected No impact expected
Atlantic Sea Herring (Clupea harengus)	Juveniles Adults	No No	Pelagic waters and bottom habitats depth of 15 to 135 m Pelagic waters and bottom habitats Depth 20-130m	Potential to utilize open waters of project area Potential to utilize open waters of project area	Temporary displacement
Monkfish (Lophius americanus)	Eggs Larvae	No No	Spawn in deeper waters	Spawn in deep waters no likely in project area	No impacts
Bluefish (Pomatromus Saltatrix)	Juvenile Adults	No No	Pelagic waters, mixing and seawater zones shallow nearshore habitats uses the estuaries as nurseries	Potential to be in project area	Temporary displacement
Long Finned Squid (Loligo Pealei)	Juveniles	No	Pelagic waters	Potential to utilize project area	Temporary displacement
Atlantic Butterfish (Peprilus triacanthus)	Eggs Larvae Juveniles Adults	No No No No	Pelagic waters Pelagic waters – depth of 10-1829m Pelagic waters sandy muddy substrates depth 10-365m Pelagic waters sandy muddy substrates depth 10-365m	Potential to utilize project area Potential to utilize project area Potential to utilize project area Potential to utilize project area	Some mortality may occur Some mortality may occur Temporary displacement Temporary displacement
Atlantic Mackerel (Scomber scombrus)	Eggs Larvae Juveniles Adults	No No No No	Pelagic, surface waters above thermocline, bays and estuaries depth 10-325m Offshore some in bays and estuaries depth 10-130m Pelagic waters depth 0-320 Demersal waters inshore estuaries on various substrates depth 2-185	Potential to utilize project area Potential to utilize project area Potential to utilize project area Potential to utilize project area	Some mortality may occur Some mortality may occur Temporary displacement Temporary displacement
Summer Flounder (Paralicthys dentatus)	Juveniles Adults	No No	Demersal waters, muddy substrates but prefer sand lower estuary flats channels and march creeks depth 1-70 m or 0-.5m in estuaries Demersal waters and estuaries 1-360m	Potential to utilize project area Potential to utilize project area	Temporary displacement Temporary displacement
Black Sea Bass (Centropristus striata)	Adults	No	Structured habitats sand and shell bottom preferred	Potential to utilize project area	Temporary displacement
King Mackerel (Scomberomorus cavalla)	Eggs Larvae Juveniles Adults	No No No No	Sandy Shoals of capes and off shore bars; high profile rock bottoms, barrier island Oceanside waters from surf to shelf from gulfstream southward High salinity waters, estuaries, seagrass habitats Depth unknown	Species is typically found further south than project area, but may be found in project area	None
Spanish Mackerel (Scomberomorus maculates)	Eggs Larvae Juveniles Adults	No	Sandy Shoals of capes and off shore bars; high profile rock bottoms, barrier island Oceanside waters from surf to shelf from gulfstream southward High salinity waters, estuaries, seagrass habitats Depth entire water column	Species is typically found further south than project area	None
Cobia (Rachycentron canadum)	Eggs Larvae Juvenile Adults	No	Sandy Shoals of capes and off shore bars; high profile rock bottoms, barrier island Oceanside waters from surf to shelf from gulfstream southward High salinity waters, estuaries, seagrass habitats	Species is typically found further south than project area	None
Sand Tiger Shark (Odontaspis Taurus)	Larvae	No	Shallow coastal waters, bottom or demersal sandy coastal waters, shallow bays estuaries and rocky or tropical reefs.	Potential to utilize area	No impact expected

Table 6 continued

Blue Shark (Prionace Glauca)	Adult	No	--	Not likely in project area	No impact expected
White Shark (Charcharadon carcharias)	Juveniles	No	Offshore pelagic waters	Highly Migratory more offshore	No impact expected
Dusky Shark (Charcharinus obscurus)	Larvae Juveniles	No	Shallow coastal waters inlets and estuaries	Potential to utilize project area	Temporary displacement
Sandbar Shark (Charcharinus plumbeus)	Larvae Juveniles	No	Shallow coastal waters submerged flats	Potential to utilize project area	Temporary displacement
Tiger Shark (Galeocerdo cuvieri)	Larvae Juveniles	No No	Shallow Coastal areas to offshore Shallow Coastal areas to offshore	Potential to utilize area Potential to utilize area	Temporary displacement Potential to utilize area
Bluefin Tuna (Thunnus Thynnus)	Juveniles Adults	No No	Pelagic surface waters Pelagic waters	Highly migratory	No impact expected
Skipjack Tuna (Katsuwonus pelamis)	Adults	No	Pelagic Surface waters	Found in more offshore areas	No impact expected

other communities within these east/west limits may decide to participate in this project at a later date.

The communities project involves dredging 1.8 million cubic yards of sand from two offshore borrow sites. Borrow Area 2 West is located 4900 feet south of the community of Seaview, while Borrow Area 2 East is located 5400 feet south of the community of Fire Island Pines. In total, 26,000 linear feet of beach will be nourished. Table 7, below, presents the cumulative nature of the work of the County project at Smith Point Park and the communities project. Cupsogue Beach has been excluded from this table.

Table 7
Cumulative Nature of Both
Beach Nourishment Projects

	Nourishment	Nourishment	Ave Cubic Yds	Borrow
	Cubic Yards	Linear Feet	Per Linear Foot	Source
County Project*	350,000	13,000	27	Inlet Dredging
Communities Project	1,820,000	26,000	70	Offshore Borrow
Total	2,170,000	39,000	N/A	N/A

* FIIS AREA ONLY. CUPSOGUE EXCLUDED

There are a number of reasons to conclude that the cumulative impacts of these two projects will be minimal. First, there is a 7.5 mile separation between the eastern terminus of the communities project (Davis Park) and the western terminus of the County project. Second, the projects use two different types of borrow areas. The communities project will utilize offshore borrow sites, while the County project will use sand from the maintenance dredging of Moriches Inlet.

The presently accepted model of barrier island evolution and functioning is discussed in Section III H. Cross-island sediment transport is considered and integral part of that model. As such, the cumulative impact of the project on cross-island transport needs to be addressed.

As described in detail in the EA for the communities project, the areas which will be nourished are not regularly subject to overwash and breaching. Conversely, Smith Point County Park is predisposed to overwash, which predisposition is greatly exacerbated by the existence of an engineered Moriches Inlet. Since it is unlikely that the communities project will have any impact on cross-island sediment transport, and the County project is

primarily a response to the unnatural sediment deficit in some areas at Smith Point, there will be no cumulative impacts on cross-island sediment transport from the two projects.

The communities project is also the subject of an EA, which is being prepared concurrent with this EA. Throughout the course of the preparation of the respective EA's, there has been a continuous exchange of information including, but not limited to, public presentations and scoping, technical work sessions, teleconferences and emails. The analysis for the communities project has reached a similar conclusion. Therefore, cumulative impacts from the two projects can be expected to be minimal.

11. **Conclusion**

Alternative B (Moriches Inlet Dredging) will have both positive and negative impacts due to the dredging of the Inlet and the nourishment of the beaches. The project will avoid, minimize or mitigate all potential impacts through both the design of the project and the timing of the work. This project will allow for the use of the entire beach by the general public and allow the county the benefits of the beach revenue until a long term plan for the coastal erosion problem is finalized. The NPS has concluded that there will be no measurable adverse impacts on any environmental, social, or economic resources.

V. Impairment Analysis

In accordance with the Organic Act, the National Park Service is responsible for ensuring that park resources and values remain unimpaired. In this case, the Fire Island National Seashore is charged with preventing any harm to the integrity of park resources or values, including opportunities that otherwise would be present for the enjoyment of these resources or values. Smith Point County Park is the most heavily used recreational facility within the boundaries of FIIS. The project is intended to facilitate the continued, unimpaired, operation of this facility. The park also contains abundant habitats, wildlife and unique coastal landforms. As demonstrated through the analysis presented in this Environmental Assessment, any potential impacts to these natural resource values have been adequately avoided, minimized and mitigated.

VI. Consultation and Coordination

A preliminary meeting was held in May, 2007, with representatives of the following agencies:

1. U.S. Army Corps of Engineers
2. U.S. Fish and Wildlife Service
3. Fire Island National Seashore
4. New York State Department of Environmental Conservation

At this meeting, all participants were shown the project plans and the project was discussed informally. This EA is being sent for initial review by FIIS. Shortly after submittal of this EA to FIIS, formal coordination and/or permit applications, as appropriate, will be initiated with the following agencies:

1. U.S. Army Corps of Engineers
2. U.S. Fish and Wildlife Service
3. Fire Island National Seashore
4. National Marine Fisheries Service
5. New York State Department of Environmental Conservation
6. New York State Department of State

In January of 2008 and again in March of 2008, the National Park Service held Public Scoping meetings for this project. All pertinent comments from the meetings are addressed in this report. These meetings were held at the request of the National Park Service (NPS) and are required under the National Environmental Policy Act (NEPA) in order for the NPS to fully evaluate the environmental impacts of the proposed project before the issuance of any permits.

As Stated in Section I.G.b this project needs to be consistent with the state coastal policies. The seven that apply to this project are as follows:

> Policy #2- Facilitate the siting of water-dependent uses and facilities on or adjacent to coastal waters
>
> Policy #7- Significant Coastal Fish and Wildlife Habitats will be protected, preserved and where practical, restored so as to maintain their viability as habitats.
>
> Policy #12- Activities or developments in the coastal area will be undertaken so as to minimize damage to natural resources and property from flooding and erosion by protecting natural protective features including beaches, dunes, barrier islands, and bluffs.
>
> Policy #15- Mining, excavation or dredging in coastal waters shall not significantly interfere with the natural coastal processes which supply beach materials to land adjacent to such waters and shall be undertaken in a manner which will not cause an increase in erosion of such land.

Policy #19- Protect, maintain and increase the level and types of access to public water-related recreational resources and facilities.

Policy #38- The quality and quantity of surface waters and groundwater supplies will be conserved and protected, particularly where such waters constitute the primary or sole source of water supply.

Policy #44- Preserve and protect tidal and freshwater wetlands and preserve the benefits derived from these areas.

Section 7 Consultation

For the preparation of this report and the proposed project we have had several meetings with the USFWS.

In April 2008, GPI issued a Biological Assessment to the USFWS.

GPI has also contacted the NMFS in April of 2008 in association with the project and report. This letter and report are attached in Appendix C.

Section 106 Consultation

As Part of the Section 106 Consultation GPI has contacted the Cultural Resources Manager at Fire Island National Seashore.

As part of the NYSDEC Permit application process, GPI filed a Structural Archeological Assessment form. The NYSDEC screened this assessment form and have not forwarded the form onto the State Historic Preservation Office.

Since the NYSDEC had not forwarded the assessment form to SHPO, GPI has contacted them independently. To date there has been no response.

List of Preparers

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VII General Laws

a. 1998 New York Clean Water Action Plan

The federal Clean Water Action Plan requires each state to prepare a unified watershed assessment to determine where additional funding will help achieve "fishable and swimmable" waters for all Americans. On October 1, 1998, New York submitted to the Environmental Protection Agency an assessment bringing together water quality and natural resource factors in each of the state's 54 watersheds. Based on the state's unified watershed assessment, the state established restoration priorities for those watersheds that did not meet clean water or natural resource goals.

b. New York Water Quality Standards

The New York State water quality standards (6 NYCRR Part 703) provide standards, guidance values, and/or groundwater effluent limitations, including all (total) forms of a substance, unless indicated otherwise. Where a standard or guidance value is for a specific form of the substance, water quality based effluent limitations for permits may include other forms of the substance to account for changes in the substance that occur in the receiving water. Part 703.5 lists water quality standards for toxic and other deleterious substances.

c. New York State Implementation Plan under 40 CFR Part 51

No department, agency or instrumentality of the Federal Government shall engage in, support in any way or provide financial assistance for, license or permit, or approve any activity which does not conform to an applicable implementation plan. A state implementation plan is a state proposal on how to reduce air pollution to levels that are below the national ambient air quality standards within the state. These plans are approved by the U.S. Environmental Protection Agency and include the following information: (1) descriptions of current emission control programs, (2) future programs, (3) an inventory of emission sources, including stationary sources (as an example, factories) and mobile sources (on-road and off-road cars and trucks), (4) modeling demonstrations used to predict future air quality, and (5) rate-of-progress determinations that show how emissions will decrease over set periods of time.
The New York State Department of Environmental Conservation, Air Resources Division, is responsible for drafting and implementing the implementation plan.

d. New York State Coastal Erosion Hazard Areas Act

Due to the erosion-prone nature of parts of the New York coastline, the Coastal Erosion Hazard Areas Act (CEHA) (Article 34 of the Environmental Conservation Law) regulates construction in areas where buildings and structures could be damaged by erosion and flooding. 6 NYCRR Part 505 provides procedural requirements for development, new construction, and erosion protection of structures. The New York State Department of Environmental Conservation (NYSDEC) enforces the regulations if the city and county do not provide coastal hazard regulations. New York State has identified the entire Atlantic Ocean shoreline of Fire Island as a coastal erosion hazard area. New construction

is not permitted on the primary dune in these areas but is permitted on the secondary dune. As is discussed below, any projects which would cause a primary dune to then qualify as a secondary dune under the CEHA, would not be permitted by the NPS without a more thorough NEPA review and other evaluations. Pre-existing development is strictly limited to only a 25 percent increase in ground coverage area. The CEHA prohibits motor vehicle use on vegetation and landward of the debris lines.

State law provides for the NYSDEC to revoke certification of local CEHA management programs if local administration is not consistent with statewide minimum standards, and to assert regulatory jurisdiction over these areas.

e. New York State Public Lands Sand and Gravel Resources Law

New York State Public Lands Laws, Article 2, Section 22, provides that the Commissioner of General Services is authorized to manage, license, and regulate the removal of sand and gravel by dredging or otherwise from underwater lands. Fees may be charged for the license to remove such sand and gravel. This law specifically excludes authorizing taking of sand and gravel from waters bordering Long Island from the Commissioner's authority. This law does not apply to projects which are found by the United States Corps of Engineers to be necessary for the improvement of navigation, which would not appear to be applicable to this project.

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