

**U.S. Department of the Interior  
National Park Service, Northeast Region**

**FINDING OF NO SIGNIFICANT IMPACT**

*Dredge Sailors Haven, Talisman/Barrett Beach and Watch Hill  
Channels and Marinas for Public Use and Safety*

Fire Island National Seashore  
Suffolk County, New York

**INTRODUCTION**

At Fire Island National Seashore, the National Park Service (NPS) proposes to re-dredge the existing navigational channels and their associated marinas and docking facilities so as to re-establish safe, public access to NPS facilities on Fire Island at Sailors Haven, Talisman/Barrett Beach and Watch Hill. These navigation channels provide vessel access on Great South Bay (GSB) that are utilized by the general public, concession-operated ferries, NPS personnel, law enforcement, emergency response vessels and others. Sediment, primarily sands, has accumulated in the navigation channels, marinas and around some of the docking facilities at these three areas. This sediment accumulation is primarily the result of multiple storm events, including Hurricane Sandy in October 2012. It has caused the channels to narrow to a width significantly below the 100 foot width considered adequate for safe passage. Restoring channel depths and widths to their previous dimensions through re-dredging will provide the required, continued safe access to Fire Island at the project areas.

The environmental assessment evaluated two alternatives: a no-action alternative and one action Alternative, Dredge Sailors Haven, Talisman/Barrett Beach and Watch Hill Channels and Marinas for Public Use and Safety, identified as the NPS preferred alternative. The environmental assessment also analyzed the potential impacts these alternatives would have on the natural and human environment. The environmental assessment was prepared in accordance with National Environmental Policy Act; regulations of the Council on Environmental Quality (CEQ) (40 CFR 1500-1508.9); and NPS Director's Order (DO) 12: Conservation Planning, Environmental Impact Analysis, and Decision-Making and accompanying DO-12 Handbook.

**SELECTED ALTERNATIVE**

Based on the analysis presented in the EA, the NPS has selected Alternative B: Dredge Sailors Haven, Talisman/Barrett Beach and Watch Hill Channels and Marinas for Public Use and Safety for implementation. Alternative B is the re-dredging of the channels and marina areas at Sailors Haven, Talisman/Barrett Beach, and Watch Hill at FIIS and was identified as the NPS preferred alternative in the EA.

### Sailors Haven

Alternative B will re-dredge the Sailors Haven channel to reopen the channel to approximately 800 feet long and 100 feet wide and to a depth of six feet at mean low tide as needed to provide safe access to Sailors Haven facilities. The project also includes dredging some areas within the existing marina in order to reestablish depths to 6 feet. Estimated amounts of dredge material for removal are between 4,000 and 10,000 cubic yards. Dredged materials will be available for placement behind bulkhead areas to replace eroded sand. It will also be available to be placed along the eastern and western shorelines to maintain littoral processes by keeping sediment within the Great South Bay (GSB) system. At the time of the dredging, any dredge materials that cannot be accommodated as above will be stockpiled on designated upland area(s) to be utilized behind the bulkheads and along the shoreline. NPS will schedule access channel dredging to occur between October 1 and December 15.

### Talisman/Barrett Beach

Alternative B will re-dredge an area approximately 200 by 300 feet to a depth of 6 feet at mean low tide as needed to provide safe access to Talisman/Barrett Beach facilities. An estimated 10,000 cubic yards of material will be dredged from the area directly adjacent to the dock. Dredge materials will be distributed generally along both west and east shorelines. This distribution will act as a series of feeder beaches designed to redistribute dredged sand along the beaches and make it available to the natural GSB sediment transport system. Funding is not currently available for the dredging at Talisman/Barrett Beach. NPS will schedule access channel dredging to occur between October 1 and December 15.

### Watch Hill

Alternative B will re-dredge the navigation channel to the marina that encompasses an area approximately 6,620 feet long by 100 feet wide and to a depth of 6 feet at mean low tide as needed to provide safe access to Watch Hill facilities. There are also some areas within the existing marina that will be dredged in order to reestablish depths to 6 feet. It was originally estimated that 35,000 cubic yards would need to be dredged from the main navigation channel and the marina. Based on further investigations the estimate is now 60,000 cubic yards. The EA dismissed the option of placement of materials outside of the park boundaries because the required compliance and permitting could not be completed in the timeframe necessary to meet seasonal restrictions for in-water work, originally planned for the winter of 2013-2014. However, due to the increased amount of available dredged material to be beneficially used in another area, in addition to stockpiling in upland areas where they can be accommodated and around the marina facility to raise and level existing public use areas as described in the EA, materials may also be placed on other permitted locations, including private or town-owned property. Should other permitted locations be used, the means for transportation of the sediments will be evaluated to ensure that no new types or extent of impacts beyond those evaluated in the EA will occur. NPS will schedule access channel dredging to occur between October 1 and December 15. Reuse and placement of dredged material at other permitted sites would comply with any time of year or other requirements set forth in the permits.

## OTHER ALTERNATIVES CONSIDERED

The only other alternative considered for this project was Alternative A – No Action, in which no dredging would be done at any of the three locations. Under No Action, an existing permit would enable small maintenance dredging projects at the mouth of Sailors Haven to continue on an as needed basis through 2016 with the dredge material graded into low lying areas and in the designated stockpiled areas directly east and west of the marina. However, Alternative A would not include dredging the channel to allow for adequate vessel passage.

## ENVIRONMENTALLY PREFERABLE ALTERNATIVE

In accordance with the DO-12 Handbook, the NPS identifies the environmentally preferable alternative in its NEPA documents for public review and comment [Sect. 4.5 E(9)]. The environmentally preferable alternative is the alternative that causes the least damage to the biological and physical environment and best protects, preserves, and enhances historical, cultural, and natural resources. The environmentally preferable alternative is identified upon consideration and weighing by the Responsible Official of long-term environmental impacts against short-term impacts in evaluating what is the best protection of these resources. In some situations, such as when different alternatives impact different resources to different degrees, there may be more than one environmentally preferable alternative (43 CFR 46.30).

Based on the impacts discussed in Chapter 4 of the EA, the environmentally preferable alternative is the selected alternative, *Dredge Sailors Haven, Talisman/Barrett Beach and Watch Hill Channels and Marinas for Public Use and Safety*.

After review of potential resource impacts, and developing mitigation for impacts to natural resources, the selected alternative achieves the greatest balance between the necessity of keeping the navigation channels open for safe access into Sailors Haven, Talisman/Barrett Beach and Watch Hill and restoring natural coastal processes of sediment movement in GSB, while preserving natural resources of the park.

## MITIGATION MEASURES

Mitigation measures primarily focus on the potential impacts to essential fish habitat and Great South Bay coastal zone resources. These impacts are addressed by avoiding dredging activities during the times when threatened and endangered marine species may be present.

The preferred calendar window for dredging Sailors Haven, Watch Hill and Talisman/Barrett Beach is October 1 to December 15 to minimize impacts to essential fish habitat and GSB coastal zone resources.

### Water Quality Mitigation Measures

Although impacts on water quality are predicted to be minor and short term, the following practices will be employed to mitigate the temporary impacts associated with the project:

- If a hydraulic dredge is used, a diffuser will be employed to place the dredged material in order to reduce sediment re-suspension.

- A turbidity curtain will be placed across the entrance to the marinas at Sailors Haven, Talisman/Barrett Beach, and Watch Hill prior to dredging within the marina areas.
- Dredged material will be placed above the high tide water line and graded down at low tide to minimize re-suspension of material in the water column.

### **Benthic Fauna Mitigation Measures**

Project impact to native benthic organisms will be minimized using the strategies that limit the length of fill placement segments, placing dredge material on beaches during the winter months, in the foreshore and intertidal area landward of any low-tide terrace. Project impact to native benthic organisms may be minimized using the following strategies:

- The length of fill placement segments would be a maximum of approximately 1 kilometer in length. The longer segments may be interspersed with breaks to further reduce the continuous length of affected benthos habitat.
- Material to be dredged comes from the nearby littoral system, and is therefore expected to be similar in nature to the existing beach material. Specific characteristics will be determined from sediment sampling in the near future.
- Placement of dredge material on beaches to restore littoral sediment transport is proposed to occur in the winter, prior to the warm season that is most conducive to re-colonization of benthic macro-invertebrates.
- The proposed beach fill is only planned to occur once in the near future. Based on recent history, subsequent full-scale maintenance dredging may not occur for another 20 to 30 years, barring extreme storm events.
- Due to the relatively narrow width of the sandy foreshore, the amount of beach fill would be limited to an average of approximately 5 cubic yards per linear foot. Placement of this material may be restricted to the foreshore and intertidal area landward of any low-tide terrace, potentially through the construction of a temporary sill. At Sailors Haven, the proposed placement of dredged material would expand on the experimental creation of a feeder beach in 2011, much of which has now eroded.

### **Essential Fish Habitat Mitigation Measures**

Potential impacts will be mitigated by dredging only in those areas that have been dredged in the past, prohibiting dragline dredging, and minimizing dredging activities during flounder migration. The following measures are designed to offset potential impacts associated with the project:

- Dredging will occur only in those areas that have been dredged in the past.
- The outer limits and maximum depth of dredging will not exceed what occurred in previous dredging projects.

- Dragline dredging is prohibited.
- The NPS will make every reasonable effort to schedule channel dredging at Sailors Haven and Watch Hill as early as possible in the work schedule to minimize impacts to spawning winter flounder.
- If a clamshell dredge is used, no unfiltered barge overflow will be permitted unless it is within the turbidity curtain containment area.

### **Species of Special Concern Mitigation Measures**

A number of specific measures and procedures will be undertaken to ensure the protection of any sea turtle species including requiring a NMFS-approved observer to be present during dredging operations. Measures will mitigate temporary impacts associated with this project. The following measures will be undertaken to ensure the protection of any sea turtle species:

- If a hopper dredge is used it will be equipped with turtle deflectors.
- A NMFS approved observer would be present during operation.
- All turtle captures, injuries or mortalities associated with the project would be reported to NMFS within 24 hours.
- If sea turtles are present during dredging or material transport, vessels transiting the area must post an observer.
- All contracted personnel involved in operating hopper dredges receive thorough training on measures of dredge operation that will minimize takes of sea turtles.
- Hydraulic pumps will only be turned on when the draghead is on the bottom. All NMFS monitoring specifications for hopper dredges would be adhered to.
- Any sturgeon observed in the hopper/basket will be netted, and if alive, placed in a flow through live well and released away from the project site.
- Any Atlantic sturgeon captured will be scanned for Passive Integrated (PIT) tags and tag numbers will be recorded and reported to NMFS.
- Fin clips will be taken from any Atlantic sturgeon by the observer and be provided to NMFS for genetic analysis.
- An incident report for incidental sea turtle or Atlantic sturgeon take shall be completed by the observer and provided to NMFS within 24 hours.

## **WHY THE SELECTED ALTERNATIVE WILL NOT HAVE A SIGNIFICANT EFFECT ON THE HUMAN ENVIRONMENT**

As defined in 40 CFR § 1508.27, significance is determined by examining the following criteria:

***1) Impacts that may have both beneficial and adverse aspects and which on balance may be beneficial, but that may still have significant adverse impacts that require analysis in an EIS.***

As described in chapter 4 of the environmental assessment, there will be both beneficial and adverse impacts associated with implementation of the selected alternative. Adverse impacts to water quality and estuarine resources will be minor based on the short-term and localized nature of the impacts. The selected action will not result in any significant adverse impacts.

***2) The degree to which public health and safety are affected.***

The navigation channels that lead to the facilities at Sailors Haven, Talisman/Barrett Beach, and Watch Hill are the primary routes for safe access to these areas. Sediment, primarily sands, has accumulated in the navigation channels, marinas and around some of the docking facilities at these three areas. This sediment accumulation has worsened due to multiple storm events, including Hurricane Sandy in October 2012. At many points throughout the channels, water depths at mean low tide are currently less than six (6) feet (the depth considered acceptable for safe vessel travel). Shallow water depths can result in vessels running aground, particularly at extreme low tide events, such as full moon tides.

As a result of sediment accumulation, the channels have also narrowed to a width significantly below the 100 feet considered adequate for safe passage. These conditions have increased the difficulty of navigation and access for two-way vessel traffic. This condition becomes a critical issue during summer weekends when boat traffic is at its peak. Restoring channel depths and widths to their previous dimensions through dredging will result in beneficial effects to health and safety by providing continued safe access to Fire Island at the project areas. The selected alternative will not adversely impact public health and safety.

***3) Any unique characteristics of the area (proximity to historic or cultural resources, wild and scenic rivers, ecologically critical areas, wetlands or floodplains, and so forth).***

Overall, impact intensities to estuarine resources, including essential fish habitat, will be localized and short term for the following reasons. In the context of the Park's submerged lands, and in the context of the GSB complex, the area to be affected is insignificant. In areas affected (made deeper) by dredging, benthos will recover quickly, and the minor change in depth will not preclude the future functioning of the areas as essential fish habitat. Dredging, at most, will increase water depth by a few feet, which is not significant change in this aspect of aquatic habitat. There will also be very little to no impact to HAPC eelgrass due to its general absence from the affected areas.

The selected alternative will avoid any disturbance of delineated palustrine wetlands at all of the identified dredge material placement locations at Sailors Haven, Talisman/Barrett Beach

and Watch Hill. Erosion control and sediment measures will minimize and mitigate any adverse impacts on deepwater habitats and jurisdictional waters of FIIS. There will be no net loss of intertidal area for the project as a whole; therefore, the selected alternative will have no likely effect on wetlands.

Since none of the plant and animal species of concern are present at any of the dredge material placement areas, the selected alternative is unlikely to have an adverse effect on terrestrial threatened and endangered species. The piping plover, common tern, and least tern all nest in areas of open sand and may use dredge material placement areas for nesting or foraging. If, in the future, plovers are found to be using dredge material placement areas, NPS would develop a habitat/species protection plan in consultation with the United States Fish and Wildlife Service.

***4) The degree to which impacts are likely to be highly controversial.***

The project and potential impacts from the implementation of the project are not controversial. Public comments received during the EA process were few but in favor of the project.

***5) The degree to which the potential impacts are highly uncertain or involve unique or unknown risks.***

There are no identified unique or unknown risks associated with any potential impacts. All potential impacts of the selected alternative have been identified, evaluated and taken into consideration.

***6) Whether the action may establish a precedent for future actions with significant effects, or represents a decision in principle about a future consideration.***

Dredging of these marinas and channels has occurred many times in the past. Therefore, it does not establish a precedent for future actions with significant effects.

***7) Whether the action is related to other actions that may have individual insignificant impacts but cumulatively significant effects. Significance cannot be avoided by terming an action temporary or breaking it down into small component parts.***

There are no known past, present or reasonably foreseeable future actions that have the potential to affect the same resources as the selected action. Therefore, any potential cumulative impacts are very unlikely.

***8) The degree to which the action may adversely affect historic properties in or eligible for listing in the National Register of Historic Places, or other significant scientific, archeological, or cultural resources.***

The archeological investigations conducted for the project did not identify any archeological resources that could be impacted by the project. On July 22, 2013, the New York State Office of Parks, Recreation and Historic Preservation (NYSOPRHP) issued a letter confirming that the

project would have no adverse effect (as per 36 CFR Section 800.5(b)) on any significant historic properties listed, or eligible for listing, in the National Register of Historic Places.

***9) The degree to which an action may adversely affect an endangered or threatened species or its habitat.***

Threatened or endangered plant and wildlife species were not observed during field surveys. A list of potential rare and state listed species was obtained from the New York State Department of Environmental Conservation, Natural Heritage Program. The selected action will not affect any state listed or rare species. The NPS initiated informal consultations with the National Oceanic and Atmospheric Administration/National Marine Fisheries Service (NOAA/NMFS) and United States Fish and Wildlife Service (USFWS) in regard to federally threatened and endangered species. A letter of no effect was received from USFWS (November 8, 2013). NOAA/NMFS concurred with a finding of not likely to adversely affect (January 31, 2014).

***10) Whether the action threatens a violation of federal, state, or local law or requirements imposed for the protection of the environment.***

The selected action is consistent with and does not threaten a violation of federal, state, or local laws or requirements imposed for the protection of the environment.



## **AGENCY CONSULTATION**

The NPS consulted with the New York State Office of Parks, Recreation and Historic Preservation (NYSOPRHP) in compliance with Section 106 of the National Historic Preservation Act. NPS received concurrence and a determination of No Adverse Effect to historic properties dated July 22, 2013.

The NPS initiated informal consultations with the National Oceanic and Atmospheric Administration/National Marine Fisheries Service (NOAA/NMFS) and the United States Fish and Wildlife Service (USFWS) in regard to threatened and endangered species under Section 7 of the Endangered Species Act, as amended. USFWS concurred with a determination of no effect in a letter dated November 8, 2013. NOAA/NMFS concurred with a determination of not likely to adversely affect in a letter dated January 31, 2014. NOAA/NMFS reviewed the Essential Fish Habitat Assessment in the EA and provided no additional conservation measures. The New York State Department of Environmental Conservation, Natural Heritage Program was contacted to obtain a list of any rare or state listed threatened and endangered species that could be present. Agency correspondence noted above regarding federal threatened and endangered species, state listed animals, plants and significant natural communities and Essential Fish Habitat is found in Appendix A of the EA.

The NPS completed its federal agency Coastal Zone Management Consistency Review and consultation with the New York State Department of State (NYSDOS), overlapping with the public review and comment period for the EA. The NPS received correspondence dated January 10, 2014, from NYSDOS concurring with NPS's consistency determination.

## **PUBLIC INVOLVEMENT**

A stakeholders and cooperators meeting was held at FIIS' Patchogue Ferry Terminal on July 9, 2013. Attendees included representatives of the Town of Brookhaven, The Nature Conservancy, New York State Department of Environmental Conservation (NYSDEC), NYSDOS, US Army Corps of Engineers (USACE), New Jersey Institute of Technology and Rutgers University. Scoping letters dated July 16, 2013, were sent to stakeholders and cooperators, including the following: NOAA/NMFS, NYSOPRHP, USFWS, NYSDOS, Town of Brookhaven, NYSDOS, and USACE.

There were two opportunities for the public to formally comment on the project: once during scoping and again following release of the Environmental Assessment. The public scoping process commenced on July 15, 2013, with a press release that briefly described the project and announced a public scoping period from July 5 through August 5, 2013. On the same day, the press release was posted on the NPS Planning, Environment, and Public Comment (PEPC) website (<http://parkplanning.nps.gov/fiis>) through August 5, 2013.

Notification of the EA was made to the State of New York, various federal agencies, affected communities, area landowners and parties who have expressed an interest in this project. A copy of the EA was available for download from the PEPC webpage on September 9. The EA 30-day

public comment period originally was established from September 9 through October 9, 2013. Due to the government shutdown the comment period was extended through October 27.

The Park received a total of six (6) public comments on the EA. All comments were in favor of the project citing that future improvements through dredging the channels and marinas will make navigation easier and safer for recreational boating. One commenter observed that past dredging projects had resulted in minor disturbances that were quickly balanced by nature.

## FINDING OF NO SIGNIFICANT IMPACT

The NPS has selected Alternative B, Dredge Sailors Haven, Talisman/Barrett Beach and Watch Hill Channels and Marinas for Public Use and Safety for implementation as described in this Finding of No Significant Impact. The selected alternative will not have a significant effect on the human environment. There are no significant impacts on public health, public safety, threatened or endangered species, sites or districts listed in or eligible for listing in the National Register of Historic Places, or other unique characteristics of the region. No highly uncertain or controversial impacts, unique or unknown risks, significant cumulative effects, or elements of precedence were identified. Implementation of the NPS selected alternative will not violate any federal, state, or local environmental protection law.

Based on the foregoing, it has been determined that an EIS is not required for this action and thus will not be prepared.

Recommended: *K. Christopher Sofer* *March 19, 2014*  
K. Christopher Sofer, Superintendent Date  
Fire Island National Seashore

Approved: *Michael A. Caldwell* *March 31, 2014*  
Michael A. Caldwell, Regional Director Date  
Northeast Region, National Park Service

## **ATTACHMENT A**

### **FINAL NON-IMPAIRMENT DETERMINATION**

#### **Fire Island National Seashore Environmental Assessment for Dredge Sailors Haven, Talisman/Barrett Beach and Watch Hill Channels and Marinas for Public Use and Safety**

#### **NON-IMPAIRMENT OF PARK RESOURCES OR VALUES**

By enacting the NPS Organic Act of 1916 (Organic Act), Congress directed the U.S. Department of Interior and the NPS to manage units “to conserve the scenery and the natural and historic objects and wildlife therein and to provide for the enjoyment of the same in such a manner and by such a means as will leave them unimpaired for the enjoyment of future generations” (16 USC § 1). Congress reiterated this mandate in the Redwood National Park Expansion Act of 1978 by stating that NPS 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).

NPS Management Policies 2006, Section 1.4.4, explains the prohibition on impairment of park resources and values:

While Congress has given the Service the management discretion to allow impacts within parks, that discretion is limited by the statutory requirement (generally enforceable by the federal courts) that the Park Service must leave park resources and values unimpaired unless a particular law directly and specifically provides otherwise. This, the cornerstone of the Organic Act, establishes the primary responsibility of the Nation Park Service. It ensures that park resources and values will continue to exist in a condition that will allow the American people to have present and future opportunities for enjoyment of them.

The NPS has discretion to allow impacts on Park resources and values when necessary and appropriate to fulfill the purposes of a Park (NPS 2006 sec. 1.4.3). However, the NPS cannot allow an adverse impact that would constitute impairment of the affected resources and values (NPS 2006 sec 1.4.3). 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” (NPS 2006 sec 1.4.5). To determine impairment, the NPS 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 2006 sec 1.4.5). A determination on impairment for the selected alternative is attached to this FONSI.

#### **IMPAIRMENT DETERMINATION FOR THE SELECTED ALTERNATIVE**

This determination on impairment has been prepared for the selected alternative described in this FONSI. An impairment determination is made for all resource impact topics analyzed for the selected alternative and no adverse impacts were identified. An impairment determination is not

made for visitor experience, socioeconomics, public health and safety, environmental justice, land use, and park operations because impairment findings relate back to park resources and values, and these impact areas are not generally considered to be park resources or values according to the Organic Act, and cannot be impaired in the same way that an action can impair park resources and values.

### **Geological Resources and Coastal Processes**

Fire Island is perpetuated by a combination of littoral drift, onshore bottom currents, wind, inlet formation, tidal delta growth, and overwash. Sand is carried in the littoral drift, which moves in a westerly direction along the ocean beaches of Fire Island. Some of the sand is washed up on the beach, where it dries out and is picked up by wind. If natural processes or human activities do not interrupt the process, a dune eventually forms. Anything that reduces sand in the littoral drift may deprive the dune system of natural enrichment, thus reducing or eliminating the dunes' protection of the land behind them. During hurricanes and other severe storms, onshore winds and waves redistribute large volumes of sand. The ocean may sweep over and between the dunes, carrying sand from offshore deposits, beaches, and dunes to the back of the island, forming terraces and increasing the elevation of backshore lands.

Sediment transport along the north shore of Fire Island has been disrupted by the presence of marinas and bulkheads (shoreline hardening). Marina basins and vessel channels can act as sediment sinks. In addition, projects such as inlet stabilization, oceanside dune building, and upland development further disrupt natural sediment transport processes. The combined impacts have resulted in a bay system that is sediment starved as well as areas of locally accelerated rates of erosion along the bay shoreline. In recent years, multiple large storms have resulted in significant over washes along the north shore. These new sand deposits create an opportunity to put the transport system back into balance while not contributing to future channel deposits.

Under the selected alternative, maintenance dredging of the existing main navigation channel and marina at Sailors Haven and Talisman/Barrett Beach would have no effect on geological resources and coastal processes. Sand from the dredging would be distributed along the eastern and western shorelines, including on downdrift beach area, as erosion control and sediment transport measures which would have an overall beneficial impact by putting sand trapped by the marina and channel back into the geologic transport system. Maintenance dredging of the existing main navigation channel and marina at Watch Hill would have no likely effect on geological resources and coastal processes, however, unlike Sailors Haven and Talisman/Barrett Beach, dredge material at Watch Hill would not be returned to the sediment transport system. Dredge materials are to be generally stockpiled in upland areas where they can be accommodated. Some dredge materials would be placed around the marina facility to raise and level existing public use areas. In the future, some of the stockpiled material may be used for future erosional head/feeder beach activities. This potential future use of materials would require on-going communication and coordination with the Town, local communities and landowners, as well as separate compliance and permitting activities. Because of the overall beneficial impacts to geological resources and coastal processes, these resources would not be impaired.

### **Estuarine Resources Including Essential Fish Habitat**

Overall, impact intensities to estuarine resources, including essential fish habitat, under the selected action are considered to be localized and short term. These impacts are addressed by avoiding dredging activities during the times when threatened and endangered marine species may be present, and by implementation of the mitigation strategies developed in consultation with US National Marine Fisheries Service (USNMFS).

In the context of the Park's submerged lands, the area to be affected is insignificant. The total area of submerged lands to be directly affected by dredging represent less the 1/10 of 1% of FIIS submerged lands. In areas affected (made deeper) by dredging, benthos will recover quickly, and the minor change in depth will not preclude the future functioning of the areas as essential fish habitat. Dredging, at most, will increase water depth by a few feet, which is not significant change in this aspect of aquatic habitat. Therefore, estuarine resources, including essential fish habitat, will not be impaired.

### **Water Quality**

Impacts to water quality would be increased turbidity and decreased light penetration at the dredge locations and in their immediate vicinities. Impacts are expected to be short term because the materials to be dredged are mostly sands which settle out of the water column relatively quickly. Because of the short-term and localized nature of the impacts, they are expected to be minor. In areas affected (made deeper) by dredging, benthos would recover quickly, and the minor change in depth would not preclude the future functioning of the areas as essential fish habitat. Dredging, at most, would increase water depth by a few feet, which is not significant change in this aspect of aquatic habitat. For these reasons, water quality would not be impaired.

### **Wetlands**

Mitigation strategies are expected to help ensure full recovery of the benthic intertidal communities and associated ecological functions within six months of material placement along the shoreline, pending design details and fill methods to be developed by USACE and NPS. The Selected alternative would avoid any disturbance of delineated palustrine wetlands at all of the identified dredge material placement locations at Sailors Haven, Talisman/Barrett Beach and Watch Hill. Erosion control and sediment measures would result in the beneficial effects on deepwater habitats and jurisdictional waters of FIIS. There would be no net loss of intertidal area for the project as a whole, therefore, the selected alternative would have no likely effect on wetlands and no impairment would occur.

### **Terrestrial Ecology**

All the dredge material placement areas are locations of prior disturbance, and are habitats that could support either seabeach amaranth or sandplain gerardia. The dredge material placement areas have been examined by a qualified FIIS Park Biologist. That examination failed to detect either of the two plants in the areas designated for dredge material placement for the Sailors Haven dredging project.

The highest sensitivity for terrestrial resources is in the Sunken Forest, a resource with high ecological and conservation value. Dredge materials from this location would be placed behind marina bulkheads to replace eroded sand. It would also be placed along the eastern and western

shorelines of Sailors Haven. These areas are adjacent to but outside the bayshore boundary of the Sunken Forest. Placement of sand in these areas could reduce shoreline erosion in the vicinity of the Sunken Forest.

The dredging process and dredge material placement sites would occur in previously disturbed upland areas or along the bayshore beach areas. Since no terrestrial resources would be impacted at any of the sites, no impacts are identified and no impairment would occur.

### **Species of Special Concern**

To ascertain the potential presence of species listed as threatened or endangered in the region, the following agencies were consulted: US Fish and Wildlife Service (USFWS), and NYDEC Natural Heritage Program (NYNHP), and USNMFS. Plant surveys performed by a FIIS Park Biologist found there were no threatened or endangered plant species found at the Sailors Haven, Talisman/Barrett Beach and Watch Hill dredge material deposit locations. The USFWS and USNMFS also concurred that the selected alternative would have no effect or would be unlikely to adversely affect terrestrial or marine threatened and endangered species. Therefore, no impairment of species of special concern would occur.

### **Archeological Resources**

The archeological investigations conducted for the project did not identify any archeological resources that could be impacted by the project. The Phase 1 investigation completed within the APE identified no cultural resources and SHPO concurred with this finding, therefore, no impairment would occur.