

**ENVIRONMENTAL ASSESSMENT (EA)
AND FINDING OF NO SIGNIFICANT IMPACT (FONSI)
FOR THE
SECTION 103 SHORE PROTECTION PROJECT
AT THE
HUNTING ISLAND STATE PARK
IN
BEAUFORT COUNTY, SOUTH CAROLINA**

**U.S. Army Corps of Engineers
Charleston District
JULY 2002**

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ATTACHMENT

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APPENDICES

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July 2002

1. BACKGROUND

Hunting Island State Park is located along the southeastern shore of South Carolina in Beaufort County (see attachment), 16 miles east of the City of Beaufort, 9 miles southwest of Edisto Beach, and 35 miles northeast of Tybee Roads at the mouth of the Savannah River. This sea island is about 4 miles in length, with a sand beach on the Atlantic Ocean. The park annually provides for 150,000 overnight visitors in cabins and campgrounds and 600,000 to 700,000 visitors for day use to access to the beaches and park facilities. Shoreline erosion along Hunting Island has been a severe problem for many years, averaging 15-20 feet per year. That erosion has now placed Cabin Road and associated utilities in jeopardy of being breached just south of the center of the island. The dune system has been eliminated and the road has already been damaged, creating a potential safety problem for the cabin users. State park personnel have had the road repaired, but heavy equipment operators must pile sand in front of the damaged area frequently to keep it from being damaged again.

The South Carolina Department of Parks, Recreation & Tourism has requested assistance, by letter of June 11, 2001, from the U.S. Army Corps of Engineers under Section 14 of the 1946 Flood Control Act, as amended, to alleviate the threat of a breach and loss of access (and the associated utilities) to the public and private dwelling units at the southern end of the island caused by continued erosion (see Appendix 1). The project will be authorized under Section 103 of the River and Harbor Act of 1962. Under Section 103 authority, the government can participate in continuing periodic nourishment up to the Federal funding limit of \$3,000,000.

2. DESCRIPTION OF THE PROPOSED PROJECT

This project calls for the placement of approximately 230,000 cubic yards of sand along 2,500 feet of beach fronting Cabin Road (see attached map). The sand will be used to recreate the destroyed dune system between the ocean and the roadway. The 2,500 feet of sand placement includes 2,000 feet of full nourishment template and 250 foot tapered sections on each end of the full section. Top elevation of the sand berm is 11 feet NGVD29 with a width of 140 feet. The beachfront slope will be 1.0V to 15.0H with a

landward slope of 1.0V to 1.5H to tie into Cabin Road, which has an elevation of 8 feet NGVD29. The total profile width from landward to seaward is about 350 feet. The project would start approximately 200 feet south of the location of existing utility pole #19 along Cabin Road and move north approximately 2,500 feet to a point north of utility pole #13 near the south end of the South Beach recreation area. The borrowed sand will be excavated from an existing shoal off of the south end of the island (see attached map) and transferred to the nourishment site on the front beach. Material will then be shaped to conform to the design template described above. A one-time renourishment effort will occur when approximately 85% of the initial sand berm has been lost to erosion. This renourishment effort will reconstruct the sand berm to the same dimensions as the initial nourishment project. The same borrow site will be used for the renourishment effort. This renourishment will extend the project life to 10 years. After the initial construction, and the subsequent renourishment, it is expected that the sand berm that is created will undergo severe erosion during the first year after construction. As the project stabilizes, it is expected that the erosion rate will be reduced through the remaining project life.

Contract specifications will call for an optional bid for the placement of a 500 foot long by 5 foot high by 12.5 foot wide geotube in front of the road. This option allows the contractor to place the geotube for an immediate measure of protection if it is found that the forces of erosion are damaging the road during construction. This will only be implemented if the contractor finds it more cost effective to use trucks to haul the sand to the construction site in lieu of a small pipeline dredge. It is not expected that the geotube will need to be replaced during the renourishment cycle.

3. NONSTRUCTURAL ALTERNATIVES

- a. Move Roadway inland from the coast. This alternative was ruled out due to excessive costs (approx. \$7,000,000) and impacts to the infrastructure. The utilities would still be subject to damage, unless relocated, and when the road breaches the flow through the lagoon would alter its character and may reduce its productivity.
- b. No Action. This alternative was ruled out because “no action” would result in the destruction of the road and the loss of access and utilities to the dwellings at the south end of the island. Also, as in 3.a. above, when the road breaches it could lead to a negative alteration of the tidal pool environment behind it.

4. STRUCTURAL ALTERNATIVES

- a. Use of Sheet Pile or Geotube Groins along the entire work area would offer a long-term solution, and could be supported by the state Office of Ocean and Coastal Resource Management (OCRM) due to current legislation. However, this alternative was also ruled out because of high study and design costs, as well as high construction costs.

- b. Several different types of sea wall/revetment alternatives along the entire work area were considered (e.g., lateral stacked geotubes, steel sheet pile sea walls, articulated block (AB) mats, armor stone, etc.). Sea walls and revetments are specifically prohibited by the South Carolina Beachfront Management Act and would not be supported by the state (OCRM). Additionally, each alternative was ruled out because of high construction costs.
- c. Use of man-sized armor stone along 400 feet of the shoulder of Cabin Road with a 2-year supply of sand (68,000 cubic yards) along a 2000-foot stretch of beach. This proposal would protect the area for about 3 years, but there is a risk of flanking, and erosion could work behind the rock. Beach erosion could scour in front of the rock, because the erosion rate is severe, and create a drop-off that would make this a safety hazard, thus making this option unacceptable.
- d. A protective Sand Berm is easily constructed, aesthetically pleasing, and relatively inexpensive, and can last up to 5 years, based upon placement of a protective sand berm template on the existing beach profile at Hunting Island. A 500-foot geotube option could be placed in front of the most severely damaged area as an anchor and for immediate protection of the road during construction. Even though the erosion rate remains high, this sand berm can be added to easily by the state in order to increase its level of protection or useful life.

5. AFFECTED ENVIRONMENT

The area that would be affected is a 2,500-foot reach of eroded dune where local interests have mechanically pushed sand, fallen trees, and other debris seaward of the road in an effort to protect the existing road and prevent more damage. There are no significant environmental resources remaining within the project area.

6. ENVIRONMENTAL CONSEQUENCES OF THE PROPOSED PROJECT

The environmental consequences discussed below apply to both the initial project construction and the one-time follow-up renourishment.

Delivery and placement of the sand will have minimal negative impact. Hauling or pumping and placement activities would temporarily increase noise levels along the beach and in the vicinity of the borrow area and the roadway. No threatened or endangered species, cultural resources, floodplains, or other significant resources would be affected during the construction activity, with the exception of potential turtle nesting impacts (see Biological Assessment discussion in paragraph 12). A full-time employee at the park will monitor daily for signs of turtle nesting activity and, at the same time, will examine the pipeline or vehicle pathway for signs of nesting activity of terns or plovers and the presence of the common ground dove. However, the beach is so eroded that, according to

park staff, the terns and plovers won't nest there anymore. Sea-beach amaranth has not been found on the island. The proposed project will not cause any significant decrease in fishery habitat value in the borrow area (see ESSENTIAL FISH HABITAT discussion in paragraph 11). Terrestrial habitat will be positively affected by replacing the dune and beach system in front of the remaining habitat. The potential for existence of hazardous, toxic, or radiological waste (HTRW) in the study area is minimal due to existing and past land uses. Site inspections and interviews with park employees were conducted on September 26, 2001 and June 18, 2002. No evidence of potential HTRW was discovered. The proposed project is the least damaging alternative that will protect the road access to dwellings located on the southern portion of the island. Benefits exceed the costs.

7. LIST OF AGENCIES BEING CONSULTED

- a. The U.S. Fish and Wildlife Service (USFWS)
- b. The National Marine Fisheries Service (NMFS)
- c. The South Carolina Department of Health and Environmental Control (SCDHEC)
- d. The Office of Ocean and Coastal Resource Management (OCRM)
- e. The South Carolina Department of Archives and History, State Historic Preservation Officer (SHPO)
- f. The South Carolina Department of Natural Resources (SCDNR)

Correspondence and agency letters providing concurrence or comments with regard to this proposed Federal action will be found in Appendix 2. All agencies concurred with the original plan to place a sand berm in front of the road in order to protect it. There was, however, concern expressed by the South Carolina Department of Natural Resources that the geotube fabric, if used, would interfere with turtle nesting activities in the future as sand was washed away over time. In a discussion held on June 13, 2002 between Mr. Ed Duncan (SCDNR) and Mr. Robert Chappell (CESAC-PM-TE) it was agreed that SCDNR would go along with whatever the US Fish and Wildlife Service decided on the matter of the use of a geotube. The US Fish and Wildlife Service did not comment on the geotube in their letter of June 27, 2002, however, in a telcon held on July 08, 2002 between Ms. Paula Sisson and Mr. Ed Eudaly (USFWS) and Mr. Robert Chappell (CESAC-PM-TE), they expressed a desire for a plan to be developed that would remove the geotube fabric if, and when, it should break down over time. Following receipt of a call from Ms. Sally Murphy (SCDNR), it was decided to convene a meeting on July 22, 2002 with NMFS, SCDNR, and USFWS to discuss the how and when a geotube might be used. As a result of this meeting, the geotube may be included only if the project is constructed by mechanical hauling. It is the U.S. Army Corps of Engineers intent to construct this project using a pipeline dredge. However, if a dredge is too expensive, then the mechanical hauling option will be used.

A site examination conducted on June 18, 2002 showed that the lack of dunes and the presence of trees and rock have precluded any nesting opportunities under current conditions. Also, left to itself, the road will breach and create a tidal inlet with even less nesting opportunities being available. The placement of a sand berm would, however, protect the road while providing improved turtle nesting opportunities for the length of the design project. If all the sand is eventually washed away, the site will not deteriorate to a condition worse than present. If the geotube is used and the fabric becomes exposed and begins to disintegrate at some time in the future, the state park personnel will be required (as outlined in the project operation and maintenance manual) to assess damage to the geotube and either repair, replace, or remove it. This will satisfy the above-listed concerns as well as those listed in the June 18, 2002 letter issued by the National Marine Fisheries Service.

8. PRIOR APPROVALS/CERTIFICATION

A 404(b) Assessment was executed on July 27, 1978 for the purpose of building up an eroding beach at Hunting Island State Park. Water quality certification was issued for this work on September 18, 1978. Since that time, a beach stabilization effort under Section 14 Authority was conducted in 1999. DHEC granted a waiver for Water Quality Certification (WQC) for the 1999 project. Further, Hunting Island State Park requested and received a permit (including WQC) for beach re-nourishment in 2001. The re-nourishment action by the state has already been reviewed and granted WQC in the 2001 permit. Because of the previous WQC waiver and the WQC issued recently to the state park, and after consulting with DHEC, a WQC waiver was requested for this project and received on June 3, 2002.

Coastal Consistency was received by letter dated June 17, 2002.

9. ARCHAEOLOGICAL AND HISTORICAL RESOURCES

Past investigations into the National Register of Historic Places have shown that there are no properties listed within the area of project influence. In addition, the State Historic Preservation Officer (SHPO) has determined that there are no sites of historical importance that will be adversely affected by the project. In view of the westward drift of sand in this area, this project will actually help to protect the Hunting Island Lighthouse. The current restoration effort was coordinated with the State Site File Administrator, SHPO, and the Federally recognized Tribes having an historical association with the State of South Carolina. If cultural resources are discovered during construction of this project, SHPO and the Federally recognized tribes will be notified and appropriate protective measures will be taken.

10. ENVIRONMENTAL JUSTICE

Executive Order 12898 requires Federal agencies to develop a strategy for its programs, policies, and activities to avoid disproportionately high and adverse impacts on

minority and low-income populations with respect to human health and the environment. The U.S. Army Corps of Engineers is committed to the principles of environmental justice. Due to the remote location of the construction site from any residential areas, there will be no impacts to the above-stated populations.

11. ESSENTIAL FISH HABITAT

The provision of the draft Environmental Assessment to the National Marine Fisheries Service (NMFS) initiated the Essential Fish Habitat (EFH) consultation requirements of the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA). Our current determination is that the proposed action would not have a substantial individual or cumulative adverse impact on EFH or fisheries managed by the South Atlantic Fishery Management Council and the NMFS.

EFH Assessment

- a. A description of the proposed action is located in paragraph 2 above.
- b. Analysis of individual and cumulative effects on EFH: The proposed project is located in an area identified as Essential Fish Habitat for larval, juvenile, and/or adult red drum (*Sciaenops ocellata*), summer flounder (*Paralichthys dentatus*), black sea bass (*Centropristis striata*), white shrimp (*Litopenaeus setiferus*), and brown shrimp (*Farfantepenaeus aztecus*). Categories of EFH that would be impacted by this work include marine and estuarine water column and sand/mud bottom. These fishery resources and associated EFH are discussed in detail in documents prepared by the South Atlantic Fishery Management Council (SAFMC). Species under jurisdiction of the Mid-Atlantic Fishery Management Council also occur in the project area. These species and their associated EFH include juvenile and adult summer flounder, which occur on marine and estuarine bottoms and in the water column, and juvenile and adult bluefish (*Pomatomus saltatrix*), which occur in the water column.

The project area also provides nursery and forage habitat for other commercially and recreationally important species including black drum (*Pogonias cromis*), Atlantic croaker (*Micropogonias undulatus*), spot (*Leiostomus xanthurus*), Florida pompano (*Trachinotus carolinus*), spotted seatrout (*Cynoscion nebulosus*), Gulf kingfish (*Menticirrhus littoralis*), Atlantic menhaden (*Brevoortia tyrannus*), striped mullet (*Mugil cephalus*), and blue crab (*Callinectes sapidus*). Several of these species serve as prey for other species (e.g., mackerels, snappers, and groupers) that are managed by the SAFMC and for highly migratory species (e.g., billfishes and sharks) that are managed by the NMFS. Detailed information on Federally managed fisheries and their EFH is provided in the 1998 amendments of the Fishery Management Plans of the South and Mid-Atlantic Regions prepared by the SAFMC and the Mid-Atlantic Fishery Management Council. The amendments were prepared as required by the MSFCMA (P.L. 94-265). Macro invertebrate inhabitants of the near shore

coastal zone are important food items for a number of transitory and resident fishes. Characteristic fauna of southeastern beaches may include haustoriid amphipods, polychaete worms, isopods, and ghost crab (*Ocypode quadrata*). Near shore coastal waters are also inhabited by sea turtles, and beachfront nesting by the threatened loggerhead sea turtle (*Caretta caretta*) occurs during the summer.

- c. Charleston District's views regarding effects: Based on information recently provided by the National Marine Fisheries Service to the Charleston District's Regulatory Branch, it appears that this project would not result in significant long-term harm to the ecologically diverse aquatic habitats, such as "live rock" and other stable bottoms. Most impacts are believed to be limited to relatively sparse benthic epifauna and infauna, which includes mollusks, crustaceans, and polychaete worms. These organisms would be at least temporarily eliminated through excavation and, in some locations, burial would result as inter-tidal zones are converted to beach and dune environments. Materials used for beach nourishment may also be transported onto other areas that support benthic communities; however, no hard bottoms or vegetated wetlands will be affected. Other potential impacts include localized turbidity elevation and possible reduction of dissolved oxygen in the surrounding water column. Elevated turbidity can reduce photosynthesis activity of pelagic and benthic algae. Suspended sediments can cause physical damage to respiratory structures of early life history stages of fishes and invertebrates.
- d. The borrow area for this project is a large surf zone shoal at the south end of the island near Fripp Inlet. If a pipeline dredge is used, the dredge will shave sand from the northeast side of Fripp Inlet in order to provide working depth for the vessel. If the contractor decides to truck the material, in order to minimize creating deep depressions, the sand will be removed from the borrow area in broad layers. It is expected that a total of 4 to 5 feet of sand will be removed from an area of 20 to 30 acres. Because the borrow area is in the surf zone and because of the constant movement of sand, it is expected that the borrow area will fill with sand with little accumulation of fine sediments.
- e. Monitoring of sand borrow sites is normally conducted to determine recovery rates and ecological characteristics. The customary detailed pre-assessment (and post-dredging) of bathymetry and biological characteristics in the borrow area will not be needed for this project, however, since deep depressions (a concern of NMFS) will not be made and a large volume of sand will not be required for this effort.
- f. Proposed mitigation, if applicable: Not applicable in this case.

12. BIOLOGICAL ASSESSMENT OF THE EFFECT ON THREATENED AND ENDANGERED SPECIES

The placement of sand on the beach at Hunting Island has the potential to affect nesting loggerhead sea turtles or emerging loggerhead sea turtle hatchlings. To minimize the effects to sea turtles the following precautions will be followed:

- a. If construction of the protective sand berm occurs during the period between May 1 and November 30, daily nesting surveys will be conducted starting either May 1 or 65 days prior to the start of construction, whichever is later. These surveys will be performed between sunrise and 9:00 A.M. and will continue until the end of the project, or September 30, whichever is earlier. Any nests found in the area that will be impacted by construction activities will be moved to a safe location. The nesting surveys and nest relocations will only be performed by people with a valid South Carolina DNR permit.
- b. If construction of the protective sand berm occurs during the period December 1 to April 30, no nesting surveys will be performed.
- c. For construction activities occurring during the period May 1 through November 30, staging areas for equipment and supplies will be located off of the beach to the maximum extent possible.
- d. For construction activities occurring during the period May 1 through November 30, all on-beach lighting associated with the project will be limited to the minimum amount necessary around active construction areas to satisfy Occupational Safety and Health Administration (OSHA) requirements.
- e. Immediately after completion of the project, the Corps of Engineers will perform compaction testing of the newly constructed sand berm. This compaction testing will be repeated for 3 subsequent years, prior to May 1 of each year.
- f. Because of the short length of the proposed sand berm (i.e., 2,500 feet on a 4-mile long island), initial and periodic tilling is not considered necessary.

Adherence to the above precautions should minimize the effects to nesting loggerhead sea turtles and emerging loggerhead sea turtle hatchlings. However, negative impacts still may occur; therefore, the Corps of Engineers has concluded that the upcoming emergency shoreline protection project may adversely affect the loggerhead sea turtle.

Other threatened or endangered species listed for Beaufort County that would be expected to occur in the project area include the West Indian manatee, Piping plover, Kemp's ridley sea turtle, Leatherback sea turtle, Green sea turtle, and Shortnose sturgeon.

There are no reported sightings of Piping plover on Hunting Island and there is no designated Piping plover critical habitat within the impacted area. Therefore, the Corps of Engineers has determined that the proposed project is not likely to adversely affect the Piping plover.

The Loggerhead sea turtle is considered to be the only sea turtle species likely to nest in the project area. Therefore, the proposed project is not likely to adversely affect the Kemp's ridley sea turtle, Leatherback sea turtle, or Green sea turtle.

The West Indian manatee is an uncommon summer resident of the South Carolina coast. To ensure the protection of any manatees that may be present, personnel associated with the project will be instructed about the possible presence of manatees and the need to avoid them with vessels and other equipment. For these reasons, it has been determined that the proposed project is not likely to adversely affect the West Indian manatee.

Because of the shallow waters and tidal inlet associated with the sand source for this project, it is unlikely that Shortnose sturgeon occur in the immediate project area. For this reason, it has been determined that the proposed project is not likely to adversely affect the Shortnose sturgeon.

13. CONCLUSIONS

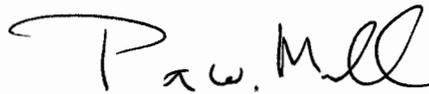
The proposed action, placement of sand along 2,500 feet of ocean-side road berm, the possible use of a 500-foot geotube, and up to 230,000 cubic yards of sand seaward of the road with one follow-up renourishment, is needed to avoid destruction of the road and loss of access and utilities to the dwellings on the south end of the island. The "no action" alternative would not be acceptable, since it would not eliminate the threat of the loss of the road and utilities. All other options except the proposed action would be too costly, impractical because of the location of a lagoon, a safety problem, or inadequate when done in isolation. All reasonably foreseeable impacts, which could result from the proposed action, have been considered, and no significant adverse impacts were identified. Therefore, the proposed action does not constitute a major Federal action significantly affecting the quality of the human environment, and the preparation of an Environmental Impact Statement (EIS) provided for under Section 102(c) of the National Environmental Policy Act of 1969 is not required. A "Findings of No Significant Impact" is included in this EA.

**FINDING OF NO SIGNIFICANT IMPACT
FOR THE
SECTION 103 SHORE PROTECTION PROJECT
AT THE
HUNTING ISLAND STATE PARK
IN
BEAUFORT COUNTY, SOUTH CAROLINA**

Based upon the attached Environmental Assessment and a consideration of other pertinent documents, I conclude that the environmental effects of the proposed emergency shoreline protection project along a segment of Cabin Road are not significant and the preparation of an Environmental Impact Statement is not warranted. Specific factors considered in making this determination include the following:

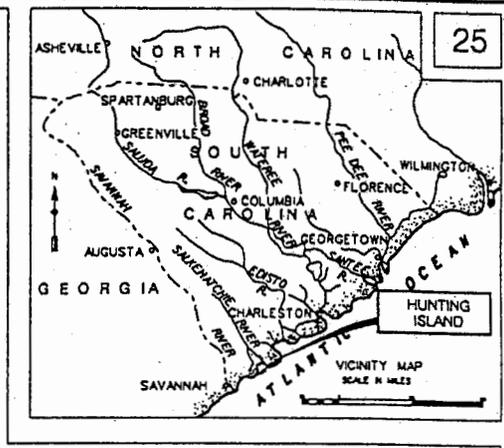
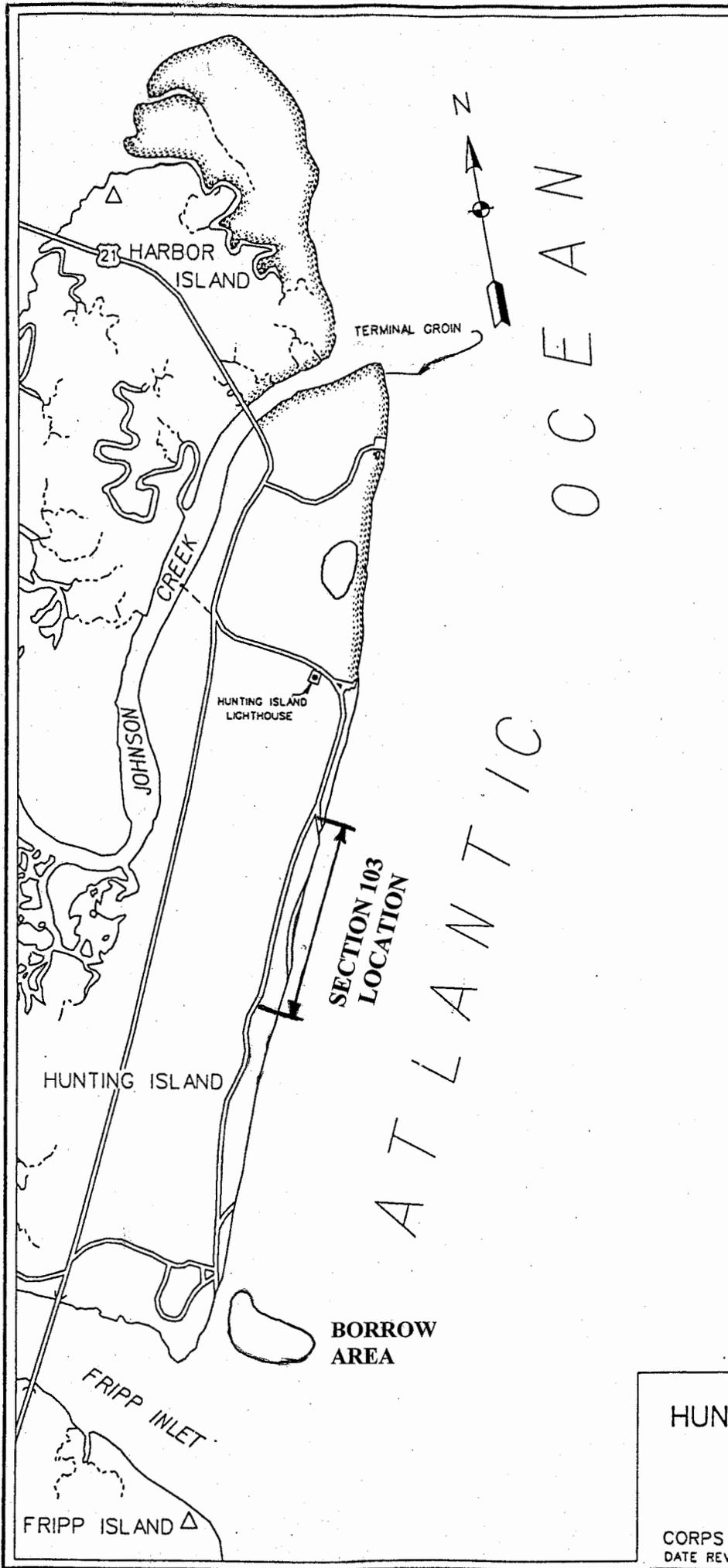
- a. Wetlands would not be affected.
- b. Cultural resources would not be affected.
- c. Endangered species would not be significantly affected.
- d. No significant land use changes would occur.
- e. Air and noise quality would not be significantly affected.
- f. Fish and wildlife would not be significantly affected.
- g. Aesthetics would not be significantly affected.
- h. Flood plain values would not be affected.
- i. Benthic invertebrate communities would not be significantly affected.
- j. Construction activities would be short term and would not affect navigation or recreational boating.

Date: 31 July 2002



PETER W. MUELLER
Lieutenant Colonel, EN
Commander, U.S. Army Engineer District
Charleston

ATTACHMENT

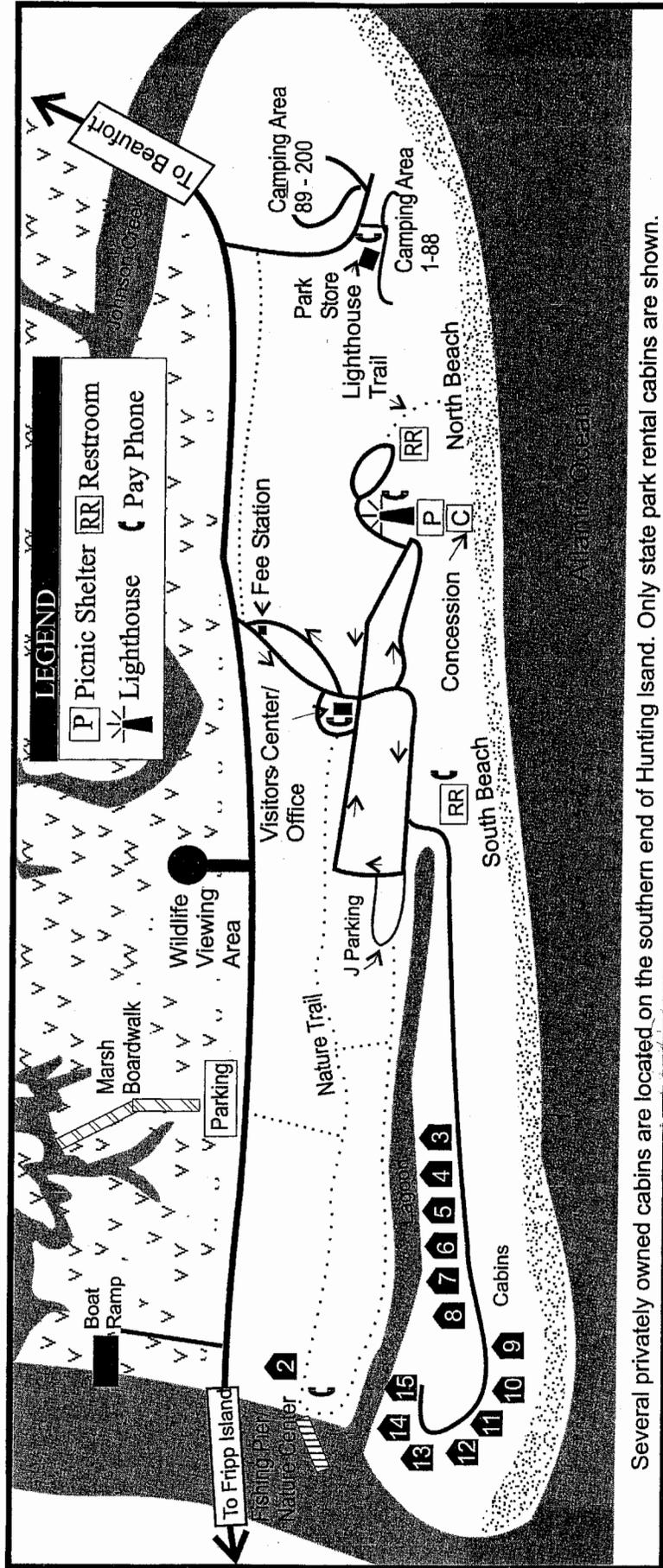


HUNTING ISLAND BEACH, S.C.

SCALE IN FEET

1000 0 5000

CORPS OF ENGINEERS CHARLESTON, S.C.
 DATE REVISED: SEPTEMBER 1990 SC - 2



Several privately owned cabins are located on the southern end of Hunting Island. Only state park rental cabins are shown.

HUNTING ISLAND PARK SERVICE FACILITY MAP



1994 AIRIAL PHOTOGRAPH OF THE ISLAND

APPENDIX 1

South Carolina

Department of Parks, Recreation & Tourism
Recreation, Planning & Engineering Office

Handwritten signature

June 11, 2001

RECEIVED
BY *48* DATE *4/12/01*

Mr. Jim Whiteman
Department of the Army
Charleston District, Corps of Engineers
69A Hagood Avenue
Charleston, S.C. 29403-5107

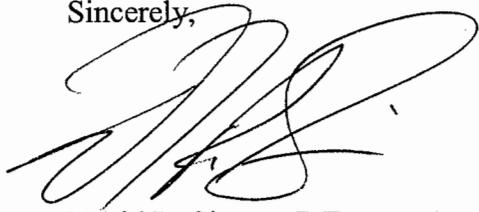
RE: Hunting Island State Park, Beaufort County – Section 14 Assistance Request

Dear Mr. Whiteman:

With this letter, The South Carolina Department of Parks, Recreation and Tourism is requesting that the Corps of Engineers initiate a study under Section 14 of the Flood Control Act of 1946 to stabilize the roadway which accesses the south end of Hunting Island State Park. Continued erosion of the island threatens this roadway and the associated utilities that serve both public and private dwelling units.

If you have any questions, please call me at 803-734-0258.

Sincerely,



David R. Simms, P.E.
Chief Engineer

cc: Beth McClure
File

APPENDIX 2

July 2, 2002

Joseph A. Jones
Planning Branch
Charleston Dist. Corps of Engineers
69A Hagood
Charleston, SC 29403-5107

RE: Changes to proposed construction, Stream Bank and Shoreline Protection, Hunting Island, SC

This letter is acknowledgement of receipt of your requests for information on June 24, 2002 regarding the presence of historic properties or traditional cultural, religious, and/or sacred sites of the Catawba Indian Nation which may be impacted by the above referenced undertakings. The documented historic presence of the Catawba and their ancestors over much of Virginia, North Carolina and South Carolina presents a strong likelihood of such sites being encountered at these locations.

We will send you the information you have requested as soon as our review process has been completed. All costs incurred during this review are the responsibility of you and/or your client. If it is necessary for a site visit to take place, either before or after a CRM survey is conducted the subsequent costs and travel expense are also to be paid by you and/or your client.

While the State Historic Preservation Officer is required by NHPA to respond to requests such as yours within thirty days, Federally recognized Indian Tribes are under no such obligation. NOR DOES LACK OF RESPONSE WITHIN YOUR TIMEFRAME CONSTITUTE TRIBAL ASSENT TO THIS PROJECTS. Furthermore, Tribal assent, in writing does not satisfy your responsibilities with respect to any Federal or State laws concerning potential effects on historic properties. In addition to the above, we require you to provide appropriate notice to this office of any future activities at this site which may affect our legal and statutory interests in this location.

If you have questions please feel free to contact our office 803-328-2427.

Sincerely,

Wenonah G. Haire

Wenonah G. Haire
Tribal Historic Preservation Officer
Catawba Cultural Preservation Project

cc: Gilbert Blue, Chief, Catawba Indian Nation
Executive Committee, Catawba Indian Nation
John E. George, Traditional Medicine, Catawba Indian Nation
Jackie Rice, Archaeology Department, Catawba Cultural Preservation Project

Address:
1536 Tom Steven Rd
Mailing address:
611 E. Main St
Rock Hill, S.C. 29730
803.328.2427
Fax: 803.328.5791



WGH/jmr

Chappell, Robert SAC

From: Lee Clauss [leeclauss@nc-chokeee.com]
Sent: Friday, June 28, 2002 10:04 AM
To: Robert.Chappell@usace.army.mil
Subject: Section 14 Emergency Stream Bank and Shoreline Protection Study for Hunting Island, SC

Bob,

Just wanted to let you know that our office is in receipt of your letter dated May 17, 2002 regarding the project in the Subject line. As this project is outside of Cherokee aboriginal territory, you will not be receiving any concurrence/non-concurrence with your determinations and recommendations. We defer to the Catawba Nation and other culturally affiliated tribes on this project.

Thanks so much,

Lee Clauss
Historic Preservation Specialist
Eastern Band of Cherokee Indians-Cultural Resources/THPO
(828) 497-1589
(828) 497-1590 FAX



the
Chickasaw
Nation HEADQUARTERS

Arlington at Mississippi / Box 1548 / Ada, OK 74821-1548 / (580) 436-2603

Bill Anoatubby
Governor

Jefferson Keel
Lieutenant
Governor

November 5, 2001

Mr. Joseph A. Jones
Department of the Army
Charleston District, Corps of Engineers
69A Hagood Ave.
Charleston, SC 29403-5107

Dear Mr. Jones:

Thank you for your letter regarding proposed construction. We are not aware at this time of any culturally sensitive or sacred sites near the project area to stop erosion of Cabin Road in Section 14. However, please understand this construction project could lead to the uncovering of such sites. We would then expect any inadvertent discoveries be brought to our attention immediately and all construction cease according to applicable federal laws.

Your sensitivity to these issues is appreciated. If you have any questions, please contact Mrs. Rena Duncan, historic preservation officer, at (580) 332-8685.

Sincerely,

Bill Anoatubby
Bill Anoatubby, Governor
The Chickasaw Nation



Putting Our Vote to Work!



EASTERN SHAWNEE TRIBE OF OKLAHOMA

P.O. Box 350 • Seneca, MO 64865 • (918) 666-2435 • FAX (918) 666-3325

October 23, 2001

Joseph A. Jones, Chief, Planning Branch
Department of the Army
Charleston District, Corps of Engineers
69A Hagood Avenue
Charleston, South Carolina 29403-5107

**Project # Sec. 14 Emergency Stream
Bank & Shoreline Protection Study
for Hunting Island, SC**

Dear Mr. Jones:

Thank you for notice of the referenced project. The Eastern Shawnee Tribe of Oklahoma is currently unaware of any documentation directly linking Indian Religious Sites to the proposed construction. In the event any items falling under the Native American Graves Protection and Repatriation Act (NAGPRA) are discovered during construction, the Eastern Shawnee Tribe request notification and further consultation.

The Eastern Shawnee Tribe has no objection to the proposed construction. However, if any human skeletal remains and/or any objects falling under NAGPRA are uncovered during construction, the construction should stop immediately, and the appropriate persons, including state and tribal NAGPRA representatives contacted.

Sincerely,

A handwritten signature in cursive script that reads "Charles Enyart".

Charles Enyart, Chief
Eastern Shawnee Tribe of Oklahoma



HAUDENOSAUNEE

TUSCARORA NATION

2006 MT. HOPE ROAD — VIA: LEWISTON, NEW YORK 14092

October 22, 2001

Joseph A. Jones
Chief, Planning Branch
Charleston District, Corp of Engineers
Department of the Army
69A Hagood Avenue
Charleston, South Carolina 29403-5107

Dear Mr. Jones:

I write on behalf of the Tuscarora Nation, in reply to your letter of October 16, 2001 with regards to your feasibility phase of Sect. 14, Emergency Stream Bank and Shoreline Protection Study for Hunting Island, S.C. It must be noted that many years ago the Tuscarora People traveled all through out what is now the Carolina's. It was not their practice to mark graves or burial sites as we see today. Thus, the Tuscarora Nation wish to be notified, when and where you may uncover human remains, funerary objects and sacred objects. Please note this request would included any past, present or future projects done by the Charleston District.. If you have any questions please feel free to write or fax, (Telephone 716-622-7061 or Fax 716-297-7355). If you are unable to contact me, call one of the individuals whose name is circled on the attached sheet.

Thank you for your cooperation in this matter.

ONEH!

Chief Leo R. Henry, Clerk
Tuscarora Nation



HAUDENOSAUNEE

TUSCARORA NATION

2006 MT. HOPE ROAD — VIA: LEWISTON, NEW YORK 14092

January 28, 2001

To Whom It May Concern:

Please be informed that the below named individuals form the Tuscarora Nation Repatriation Committee, as was listed in August 3, 1998. These members also designated members to the Haudenosaunee Standing Committee on Burial Rules and Regulations. Furthermore, the Haudenosaunee Standing Committee has authorization to act on our behalf if not present. Chief Leo R. Henry is the contact person under NAGPRA and National Parks.

Chief Leo R. Henry
2006 Mt. Hope Road
Tuscarora Nation
via: Lewiston, NY 14092

716-622-7061/Fax 716-297-3995

Chief Stuart Patterson
1983 Upper Mountain Road
Tuscarora Nation
via: Sanborn, NY 14132

716-298-5114

Tuscarora Nation FAX
716-297-7355

Richard Hill
2235 Mt. Hope Road
Tuscarora Nation
via: Sanborn, NY 14132

716-297-7960

Vincent Schiffert
2250 Upper Mountain Road
Tuscarora Nation
via: Sanborn, NY 14132

716-297-2682 or 716-297-2032

Raymond Henry
1387 Upper Mountain Road
Tuscarora Nation
via: Lewiston, NY 14092

716-510-8409

Thank you for your cooperation.

ONEH!

Chief Leo R. Henry, Clerk
Tuscarora Nation

APPENDIX 3

Chappell, Robert SAC

From: Rob Mikell [MIKELLRD@CHASTN86.DHEC.STATE.SC.US]
Sent: Thursday, July 25, 2002 1:26 PM
To: Robert.Chappell@USACE.ARMY.MIL
Cc: Bill Eiser
Subject: Re: FW: Hunting Island Sec. 14/103 Letter

Our original certification of the project remains valid. The type of program used to implement the project does not concern us. If you would like a letter for certification let me know, but we will have to put it on our ten day public notice.

>>> "Chappell, Robert SAC" <Robert.Chappell@USACE.ARMY.MIL> 07/25/02 01:14PM >>>
Rob:

I just found out Bill is out all week. Can you tell me if OCRM intends to make comment on our July 10, 2002 letter addressing our conversion of this study from a Section 14 to a Section 103 Shore Protection Project?
Bob Chappell, Biologist
Charleston District, COE

> -----Original Message-----

> From: Chappell, Robert SAC
> Sent: Thursday, July 25, 2002 12:52 PM
> To: 'eiserwc@dhec.state.sc.us'
> Subject: Hunting Island Sec. 14/103 Letter

>
> Bill:
> Nice to talk with you a few days ago about our Hunting Island project.
> We did meet with SCDNR, NMFS, and USFWL so they could air their views over
> the use of a geotube. Along the same line, can you tell me if OCRM
> intends to make comment on our July 10, 2002 letter addressing our
> conversion of this study from a Section 14 to a Section 103 Shore
> Protection Project?
> Bob Chappell, Biologist
> Charleston District, COE



**Office of Ocean and Coastal
Resource Management**
1362 McMillan Avenue, Suite 400
Charleston, SC 29405
(803) 744-5838 FAX (803) 744-5847

June 17, 2002

Mr. Joseph A Jones, Chief
Planning Branch
U.S. Army Corps of Engineers
Charleston District
69 A Hagood Avenue
Charleston, S.C. 29403-5107

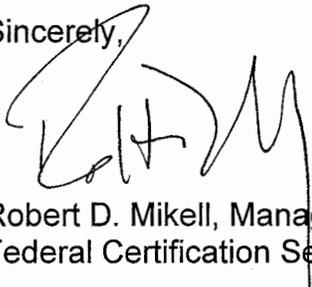
Re: Section 14 Emergency Stream Bank and Shoreline Protection
Project to Protect Cabin Road, Hunting Island State Park
Beaufort County

Dear Mr. Jones:

The staff of the Office of Ocean and Coastal Resource Management concurs that the above referenced proposal is consistent with the SC Coastal Zone Management Program.

Interested parties are provided ten days from receipt of this letter to appeal the action of OCRM.

Sincerely,



Robert D. Mikell, Manager
Federal Certification Section

EFIS #7588

CC: Mr. Christopher L. Brooks
Mr. Richard Chinnis
Mr. Bill Eiser
Mr. Rocky Browder



Office of Ocean & Coastal Resource Management
1362 McMillan Avenue, Suite 400
Charleston, South Carolina 29405

(843) 744-5838 (843) 744-5847 (fax)

Christopher L. Brooks, Deputy Commissioner

March 28, 2002

Mr. Joseph A. Jones
Chief, Planning Branch
Charleston District, Corps of Engineers
69A Hagood Ave.
Charleston, SC 29403

RE: Section 14 Emergency Stream Bank and Shoreline Protection Study
Hunting Island, SC

Dear Mr. Jones;

I am writing in response to your recent request for comments on the above-referenced project. As described in your letter, the plan calls for the excavation of 180,000 cubic yards of sand from nearshore shoals at the Fripp Inlet end of the island, and the placement of this sand along 2,500 feet of critically eroded shoreline adjacent to Cabin Road. A state turtle-nesting observer will be on-site throughout project construction, to insure that turtle nests will not be damaged

At this time, OCRM does not believe the project will have any adverse environmental impacts, provided that adequate measures are taken to protect sea turtle nesting. OCRM will conduct a formal federal consistency certification review once the project Environmental Assessment is finalized and submitted.

Please feel free to contact me if you require any additional information.

Sincerely,

William C. Eiser
Staff Oceanographer

cc: Chris Brooks
Rob Mikell

Chappell, Robert SAC

From: Mark Giffin [GIFFINMA@COLUMB32.DHEC.STATE.SC.US]
Sent: Thursday, June 13, 2002 1:09 PM
To: robert.chappell@usace.army.mil
Cc: B. Quinton Epps
Subject: Hunting Island State Park - Section 14 Emergency Shoreline Protection Project



02hieecdea.doc

Robert-

Attached is our letter dated June 4, 2002, which provided comments regarding above draft EA, as requested. If you did not receive the signed hard copy, please let me know and we will send it. Regarding the modifications to the project dated June 12, 2002, our previous comments are applicable. The modifications should not significantly change impacts described in the Draft DA, and will not change our decision to waive the 401 Water Quality Certification for this work. If you have any questions, please call me at (803) 898-4183.



2600 Bull Street
Columbia, SC 29201-1708

June 4, 2002

COMMISSIONER:
C. Earl Hunter

BOARD:
Bradford W. Wyche
Chairman

Mark B. Kent
Vice Chairman

Howard L. Brilliant, MD
Secretary

Carl L. Brazell

Louisiana W. Wright

L. Michael Blackmon

Larry R. Chewning, Jr., DMD

Charleston District, Corps of Engineers
Attn: Mr. Joseph A. Jones, Chief
Planning Branch
69A Hagood Avenue
Charleston, SC 29403-5107

Re: Draft Environmental Assessment (EA) for the Shoreline Protection Project at the
Hunting Island State Park, Beaufort County

Dear Mr. Jones:

We are providing comments regarding the above referenced EA, as requested in your letter dated May 17, 2002. The South Carolina Department of Health and Environmental Control Bureau of Water administers applicable regulations pertaining to water quality standards and classifications, including wetland protection, in accordance with the South Carolina Pollution Control Act, the Federal Clean Water Act, the State Stormwater Management and Sediment Reduction Act, Construction in Navigable Waters Permitting, and associated regulations for all of these statutes.

The proposed project involves the construction of a protective sand berm consisting of 75 cubic yards of sand per linear foot over a length of approximately 2,000 feet, with 250-foot tapers on each end. Total project length will be 2,500 feet, with a total volume of sand placed of approximately 180,000 cubic yards. The designated borrow area is located in the near-shore shoals at the Fripp Inlet end of the island.

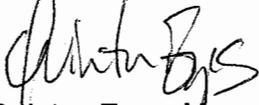
The Draft EA adequately describes the need for the proposed project, alternatives, and environmental consequences. Consideration of environmental consequences included potential fish and macroinvertebrates habitat disturbances, wetlands impacts, and potential impacts to threatened and endangered species in nourishment and borrow areas. The finding of no significant impact stated that wetlands, endangered species, fish and wildlife, floodplain, and benthic communities would not be affected or would not be significantly affected.

The Department agrees with the findings of the Draft (EA), and previously indicated that the stabilization project will not result in adverse impacts to water quality (letter from Rheta Geddings to Robin Collier-Socha dated June 3, 2002). Because of this determination and the urgency of the proposed work, the Department waived 401 Water

Page 2
Joseph Jones
June 4, 2002

Quality Certification for this project. If you have any questions, please feel free to contact Mark Giffin at (803) 898-4183.

Sincerely,



Quinton Epps, Manager
Water Quality Certification, Standards
and Wetlands Program Section

BQE:MAG

cc: Colt Bowles
Curtis Joyner, OCRM
Low Country EQC District

D H E C



PROMOTE PROTECT PROSPER

2600 Bull Street
Columbia, SC 29201-1708

June 3, 2002

COMMISSIONER:
C. Earl Hunter

BOARD:
Bradford W. Wyche
Chairman

Mark B. Kent
Vice Chairman

Howard L. Brilliant, MD
Secretary

Carl L. Brazell

Louisiana W. Wright

L. Michael Blackmon

Larry R. Chewning, Jr., DMD

U.S. Army Corps of Engineers
Attn: Robin Collier-Socha
Charleston District
69A Hagood Avenue
Charleston, SC 29403-5107

RE: Hunting Island State Park

Dear Ms. ~~Collier-Socha~~, *Robin*

We have reviewed your letter dated April 26, 2002, which requests concurrence that the proposed emergency beach stabilization of 2,500 feet of beach frontage road (Cabin Road) and associated utilities will have a minimal impact to water quality. The Army Corps and DHEC previously authorized this work under P/N # 2000-1W-363-P issued to South Carolina Park Recreation and Tourism (SCPRT).

Based on our review of the proposed work, the Department has determined that the stabilization project will not result in adverse impacts to water quality. Due to the urgency of the work, the Department is waiving 401 Water Quality Certification for this project. The waiver is for only the project as described in your letter dated April 26, 2002, to Quinton Epps.

If you have any questions please contact Sean Connolly at (803) 898-3952.

Sincerely,

M. Rheta Geddings
M. Rheta Geddings, Division Manager
Division of Water Quality
Bureau of Water

MRG:MSC

D H E C



PROMOTE PROTECT PROSPER

2600 Bull Street
Columbia, SC 29201-1708

March 28, 2002

COMMISSIONER:
C. Earl Hunter

BOARD:
Bradford W. Wyche
Chairman

Mark B. Kent
Vice Chairman

Howard L. Brilliant, MD
Secretary

Carl L. Brazell

Louisiana W. Wright

L. Michael Blackmon

Larry R. Chewning, Jr., DMD

Mr. Joseph A. Jones
Department of Army
Planning Branch
69A Hagood Avenue
Charleston, SC 29403-5107

RE: Stream Bank and Shoreline Protection
Hunting Island, SC

Dear Mr. Jones:

The South Carolina Department of Health and Environmental Control, Division of Water Quality administers applicable regulations pertaining to water quality standards and classifications, including wetland protection, in accordance with the South Carolina Pollution Control Act and the Federal Clean Water Act, and associated regulations for all of these statutes.

To ensure protection and maintenance of water quality standards and classified uses, including wetlands functions, the Department recommends the following issues be addressed when planning and constructing this project.

1. Any placement of fill material in waters of the state, including jurisdictional wetlands will require a Department administered Section 401 Certification and an Army Corps of Engineers administered Section 404 Permit. When applying for the 404 permit the applicant will need to demonstrate that there are no feasible alternatives that offer less impact to adjacent water resources. To ensure water quality is not contravened the Department will condition the 401 certification so that only clean sand material free of all potential sources of pollutions can be used as fill material. The Department will want assurances that the sand material is the appropriate grain size and compatible for shoreline protection. This can be done through geotechnical exploration of both the native beach and offshore sand sources. Additionally, the applicant must provide the Department more detailed drawings showing the pre-project and post-project conditions of the segment of road.

2. A Critical Area Permit will be needed for construction within critical areas of South Carolina. The applicant should contact OCRM to determine whether the proposed project would be consistent with the Coastal Zone Management Act

Other regulations not administered by this Bureau may apply to your project. Thank you for the opportunity to comment on this project. Please call Sean Connolly at 898-3952 if you have any questions.

Sincerely,


M. Rheta Geddings, Division Director
Division of Water Quality
Bureau of Water

Chappell, Robert SAC

From: Ed Duncan [duncane@mrd.dnr.state.sc.us]
Sent: Friday, July 12, 2002 11:41 AM
To: Bob Chappell
Cc: Susan Davis
Subject: Hunting Island State Park Section 103 Shore Protection Project

Bob,

I have reviewed the proposed changes described in a letter from Joseph A. Jones dated July 10, 2002. The DNR has no additional comments to offer based on these latest modifications.

ED

7/15/2002

Chappell, Robert SAC

From: Ed Duncan [duncane@mrd.dnr.state.sc.us]
Sent: Friday, June 21, 2002 2:14 PM
To: Chappell, Robert SAC
Subject: Re: Hunting Island

Bob,

My position is that the DNR would not object to the placement of the geotube bags as a temporary emergency measure to protect the road, but we will recommend that the bags be removed as part of the major renourishment project.

ED

----- Original Message -----

From: Chappell, Robert SAC
To: 'Ed Duncan'
Sent: Friday, June 21, 2002 10:22 AM
Subject: RE: Hunting Island

Ed:

I have revised Section 7 in the EA for Hunting Island. Have I stated your position correctly on the matter of the geotube?

Bob Chappell

7. LIST OF AGENCIES BEING CONSULTED

- a. The U.S. Fish and Wildlife Service
- b. The National Marine Fishery Service
- c. The South Carolina Department of Health and Environmental Control
- d. The Office of Ocean and Coastal Resource Management
- e. The South Carolina Department of Archives and History
- f. The South Carolina Department of Natural Resources

Correspondence and agency letters providing concurrence or comments with regard to this proposed Federal action will be found in Appendix 2. All agencies concurred with the original plan to place a sand berm in front of the road in order to protect it. There was, however, concern expressed by the South Carolina Department of Natural Resources that the geotube fabric would interfere with turtle nesting activities in the future as sand was washed away over time. In a discussion held on June 13, 2002 between Mr. Ed Duncan (SCDNR) and Mr. Robert Chappell (CESAC-PM-TE) it was agreed that SCDNR would go along with whatever the US Fish and Wildlife Service decided on the matter of the use of a geotube.

A site examination conducted on June 18, 2002 showed that the lack of dunes and the presence of trees and rock have precluded any nesting opportunities under current conditions. Also, left to itself, the road will breach and create a tidal inlet with even less nesting opportunities being available. The placement of a geotube and sand berm, would, however, protect the road while providing improved turtle nesting opportunities for the length of the design project. If all the sand is eventually washed away, the site will not deteriorate to a condition worse than present, and there would still be some protection for the road.

-----Original Message-----

From: Ed Duncan [mailto:duncane@mrd.dnr.state.sc.us]
Sent: Thursday, June 13, 2002 12:15 PM
To: Chappell, Robert SAC
Subject: Hunting Island

Bob,

I have received the revised plans for the Section 14 Emergency Stream Bank and Shoreline Protection Study for Hunting Island. The revisions include the placement of a sand filled geotube along 500 feet of shoreline along the most severely eroded section of Cabin Road. The purpose of the geotube is to protect the road until the emergency sand berm can be constructed.

We are sensitive to the dire conditions at Hunting Island and support the effort to protect the public property. However, as we discussed, we have discouraged the practice of using sand bags and geotubes on beaches as they can interfere with turtle nesting. We also understand that this project is only a short term solution and that a more permanent plan is being developed. I would recommend that the project include provisions for removal of the geotube fabric during the implementation of the final project.

Thanks for the opportunity to provide comments.

ED

6/21/2002

Chappell, Robert SAC

From: Ed Duncan [duncane@mrd.dnr.state.sc.us]
Sent: Thursday, June 13, 2002 12:15 PM
To: Chappell, Robert SAC
Subject: Hunting Island

Bob,

I have received the revised plans for the Section 14 Emergency Stream Bank and Shoreline Protection Study for Hunting Island. The revisions include the placement of a sand filled geotube along 500 feet of shoreline along the most severely eroded section of Cabin Road. The purpose of the geotube is to protect the road until the emergency sand berm can be constructed.

We are sensitive to the dire conditions at Hunting Island and support the effort to protect the public property. However, as we discussed, we have discouraged the practice of using sand bags and geotubes on beaches as they can interfere with turtle nesting. We also understand that this project is only a short term solution and that a more permanent plan is being developed. I would recommend that the project include provisions for removal of the geotube fabric during the implementation of the final project.

Thanks for the opportunity to provide comments.

ED

6/13/2002

South Carolina Department of
Natural Resources



Paul A. Sandifer, Ph.D.
Director

John V. Miglarese
Deputy Director for
Marine Resources

March 27, 2002

Joseph A. Jones, Chief Planning Branch
U.S. Army Corps of Engineers
69-A Hagood Avenue
Charleston, SC 29403-5107

REF: Hunting Island: Section 14
Emergency Shoreline Protection Study

Dear Mr. Jones:

We have reviewed the proposed emergency shoreline protection project for Hunting Island State Park and have no objections to the alternative selected. We would encourage you to complete the project prior to the beginning of the sea turtle nesting season (May 15) if possible. If not, the project should be coordinated with the park's turtle monitoring program to insure no adverse impacts on nesting sea turtles.

Sincerely,

A handwritten signature in cursive script that reads "Robert E. Duncan".

Robert E. Duncan
Environmental Programs Director

Chappell, Robert SAC

From: Prescott Brownell [Prescott.Brownell@noaa.gov]
Sent: Monday, July 22, 2002 4:46 PM
To: SAC Alan D. Shirey; SAC Bob Chapell; Paula_Sisson@fws.gov
Cc: NMFS David Rackley
Subject: Hunting Island, Use of Geotubes



Card for Prescott
Brownell

This responds to discussions held at a project planning meeting this date at Charleston District. NMFS previously provided comments on the draft environmental assessment by letter report on June 18, 2002. The following comments are provided for clarification of our recommendations and related discussions at the meeting.

At today's planning meeting the potential placement of a 500-foot length of sand-filled textile "geotube" to provide additional emergency protection of a threatened section of Cabin Drive was discussed. I noted at the meeting that NMFS would prefer use of a more substantial natural sand berm instead of the geotube structure, if feasible. While we have not had much experience with geotube "soft" structures in the beach environment here in South Carolina, there are concerns related to potential habitat degradation that may result if the geotube material becomes fragmented and dispersed in the surf and beach zones. There are other concerns about interference with sea turtle nesting activity; however sea turtles on the beach are not under NMFS direct management/protection responsibility. NMFS would not be opposed to use of a temporary geotube structure if it can be demonstrated that there is no other practicable non-structural alternative, and if assurances are made that the textile material will be removed when no longer needed or when it becomes fragmented.

I noted at the meeting that it will be important to address development of a long-term beachfront management strategy during the upcoming Section 206 study for Hunting Island. A long term strategy needs to consider potential relocation of Cabin Drive, and other facilities, ponds, and structures in response to eroding shorelines, in addition to a plan for sand management to retard erosion in some areas. Based on decades of experience watching beach erosion and renourishment efforts in the southeast, it appears unrealistic to assume that beach erosion on Hunting Island can be halted on more than a temporary basis. Sooner or later, planning will need to consider relocation of facilities in a phased, planned manner in concert with sand budget management where feasible. The Hunting Island situation appears to be an excellent opportunity to demonstrate use of the best available non-structural and environmentally sound barrier island beachfront planning and management, rather than costly short term emergency management.

Thank you for the opportunity to participate in planning on this project.

Prescott Brownell
NMFS

Chappell, Robert SAC

From: David Rackley [David.Rackley@noaa.gov]
Sent: Wednesday, July 17, 2002 2:13 PM
To: robert.chappell@usace.army.mil
Subject: DEA modification

Hi Bob,

In response to your July 10, 2002, Fax regarding emergency shoreline protection work at Hunting Island State Park, NOAA Fisheries has no additional comments regarding the proposed modification. Either Prescott or I will attend the August 22 meeting on the project.

Sincerely,

David Rackley
Chief, NMFS/HCD Charleston



JUN 21 2002
UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Southeast Regional Office
9721 Executive Center Drive North
St. Petersburg, Florida 33702

June 18, 2002

Mr. Joseph A. Jones
Chief, Planning Branch
Charleston District, Corps of Engineers
69-A Hagood Avenue
Charleston, South Carolina 29403-5107

Dear Mr. Jones:

This responds to your letters of May 17, and June 11, 2002, and the Draft Environmental Assessment (DEA) for the Section 14 Emergency Shoreline Protection Project at Hunting Island State Park in Beaufort County, South Carolina. The proposed project would involve placement of a 500-foot-long, by 5-foot-high, by 12½-foot-wide geotube along Cabin Road. The geotube would be placed along that portion of the road that is most threatened by erosion and would be used to retain an estimated 230,000 cubic yards of sand. In all, approximately 2,000 linear feet of shoreline would be filled and protected. Sand for the project would be obtained from an existing bar at Fripp Inlet. This bar would be excavated to a depth of -5 to -10 feet at mean sea level using a hydraulic pipeline dredge. The work is needed to protect Cabin Road which is the only means of vehicle access to state-owned public lands and facilities in this sector of the park.

The National Marine Fisheries Service (NMFS) is in general agreement with the findings provided in the above-referenced documents. We also agree with the determination, as provided in the Essential Fish Habitat (EFH) Assessment, that the overall character of the borrow and beach sites are likely to undergo rapid recolonization by opportunistic species and that long-term impacts to these habitats are not likely. In the absence of significant changes in the project that would significantly increase impacts to EFH, no further consultation is required pursuant to the EFH provisions of the Magnuson Stevens Fishery Conservation and Management Act.

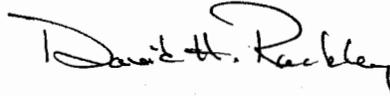
The NMFS believes that use of geotubes can be problematic since introduction of fiber material into the marine environment increases the potential for entanglement by marine organisms and habitat degradation should the material become fragmented and carried into other locations. In connection with this, we recommend that you develop plans to remove the material once it is no longer needed or in the event that it becomes damaged and/or no longer useful for erosion control. Additionally, we urge that use of these devices be limited to emergency situations and where it can be demonstrated that non-structural solutions are not feasible.



As mentioned in the DEA, the project area is within known distribution limits of Federally listed threatened and endangered species that are under purview of the NMFS. In accordance with the Endangered Species Act of 1973, as amended, it is the responsibility of the appropriate Federal regulatory agency to review its activities and programs and identify any activity or program that may affect endangered or threatened species or their habitat. Determinations involving species under NMFS jurisdiction should be reported to our Protected Resources Division at the letterhead address. If it is determined that the activities may adversely affect any species listed as endangered or threatened and under NMFS purview, then formal consultation must be initiated.

We appreciate the opportunity to provide these comments. Related correspondence should be addressed to the attention of Mr. David Rackley at our Charleston Office. He may be reached at 219 Fort Johnson Road, Charleston South Carolina 29412-9110, or by telephone at (843) 762-8574.

Sincerely,



Andreas Mager, Jr.
Assistant Regional Administrator
Habitat Conservation Division



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Habitat Conservation Division
219 Fort Johnson Road
Charleston, South Carolina 29412-9110

March 27, 2002

Mr. Joseph A. Jones
Chief, Planning Branch
Charleston District, Corps of Engineers
69-A Hagood Avenue
Charleston, South Carolina 29403-5107

Dear Mr. Jones:

This responds to your March 22, 2002, request for comments on plans by the Charleston District to undertake a Section 14 Emergency Stream Bank and Shoreline Protection Study for Hunting Island, Beaufort County, South Carolina. The study purpose is to develop a recommendation for protecting Cabin Road. Cabin Road provides the sole access to dwellings located on the southern end of the island and it serves as a utility corridor for those dwellings. Your letter solicits our review of plans to protect the road by placing 75 cubic yards of sand per linear foot along approximately 2,500 feet of ocean shoreline. The 180,000 cubic yards of material required for the work would be obtained from a designated borrow area located in a shoal area near Fripp Inlet.

While the merit of shoreline protection along dynamic ocean beaches is arguable, the National Marine Fisheries Service (NMFS) believes that the environmental consequences of such action can probably be reduced to acceptable levels. This generally necessitates biological sampling/monitoring to preclude excavation and burial of highly desirable benthic fauna, limiting work to seasons during which certain biological activity is low, and implementing construction techniques that reduce turbidity and extreme change in environmental conditions. Since you intend to develop an Environmental Assessment for the project, we presume that these measures will be addressed.

At the excavation and deposition sites you should identify benthic and pelagic macro-fauna that inhabit these locations and describe expected change in the habitat and living marine resources found there. In addition to resident and transitory macro-fauna, possible effects on sub-adult fish and invertebrates should be evaluated. It also should be determined whether the sites have particular importance as spawning or nesting locations for fish and sea turtles.

Marine unconsolidated bottom and water column at this location have been identified as Essential Fish Habitat (EFH). Information regarding EFH and species managed by the South Atlantic Fishery Management Council (SAFMC) is provided in the 1998 amendment of the Fishery Management Plans



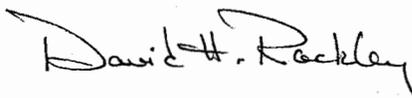
for the South Atlantic and was prepared in accordance with the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) (P.L. 104-297). Managed species associated with estuarine bottoms and water column at the project site include post-larval, juvenile, and adult red drum (*Sciaenops ocellata*), white shrimp (*Litopenaeus setiferus*), and brown shrimp (*Farfantepenaeus aztecus*). Species under jurisdiction of the Mid Atlantic Fishery Management Council also occur in the project area. These species and their associated EFH include juvenile and adult summer flounder (*Paralichthys dentatus*) which occur on submerged estuarine bottom and in the water column, and juvenile and adult bluefish (*Pomatomus saltatrix*) which occur in the water column. The project area also provides nursery and forage habitat for other species including black drum (*Pogonias cromis*), Atlantic menhaden (*Brevoortia tyrannus*), spot (*Leiostomus xanthurus*), Florida pompano (*Trachinotus carolinus*), spotted seatrout (*Cynoscion nebulosus*), Gulf kingfish (*Menticirrhus littoralis*), Atlantic menhaden (*Brevoortia tyrannus*), striped mullet (*Mugil cephalus*), and blue crab (*Callinectes sapidus*) which have commercial value, are sought by recreational fishers, and/or serve as prey for other species (e.g., mackerels, snappers, and groupers) that are managed by the SAFMC, and for highly migratory species (e.g., billfishes and sharks) that are managed by the NMFS.

In previous meetings and correspondence, we identified the various statutory and procedural requirements that must be undertaken when an activity could result in loss or degradation of EFH. Implementation of these procedures in connection with preparation of your environmental documents for the project appears warranted; however, determination of potential adverse impacts and the need to initiate EFH consultation is the responsibility of the Charleston District.

Finally, we recommend that the effects of sand relocation be addressed with regard to impacts on surrounding beaches, wetlands, and uplands. While it appears that the sand borrow site is well suited for such use due to its dynamic nature, it should be demonstrated that sand removal from the site will not cause erosion at other locations.

The NMFS would fully support an environmentally sound proposal to stabilize the shoreline at Hunting Island and we look forward to working with you in this effort.

Sincerely,



David H. Rackley
Chief, Charleston Area Office

July 25, 2002

Mr. Joseph A. Jones
Chief, Planning Branch
U.S. Army Corps of Engineers
69A Hagood Avenue
Charleston, South Carolina 29403-5107

Attn: Robert Chappell

Re: Section 14 Emergency Shoreline Protection Project
Hunting Island State Park
FWS Log No. 4-6-02-F-273

Dear Mr. Jones:

This letter has been written in response to a project planning meeting held at the Charleston District on July 22, 2002. The meeting was held to address concerns about the potential use of a 500-foot long sand-filled textile geotube to provide extra protection for the proposed Section 14 Emergency Stream Bank and Shoreline Protection Project on Hunting Island State Park in Beaufort County, South Carolina. The Fish and Wildlife Service (Service) has previously commented on federally protected species issues on June 27, 2002. We offer the following additional comments:

Although we have not had previous opportunity to comment on structures such as a textile geotube (none has been proposed), we appreciate the opportunity to comment at this time. Our first concern pertains to the maintenance and remediation of the geotube throughout its life time.

The geotube fabric, once degraded, may become nuisance debris that may remain on the beach or in the water. This may result in habitat destruction for many forms of marine life and may compromise feeding habits of migrating shorebirds. We request a monitoring and remediation plan be implemented for the life of the project.

Additionally, we are concerned with the precedent a project such as this may set for others seeking immediate relief from coastal erosion. Geotubes function like seawalls and bulkheads and may result in the loss of dry sand beach and roosting or nesting habitat for turtles or birds. However, we understand the on-going erosion problem at Hunting Island is a unique situation and we would not object to the use of a temporary geotube to provide emergency protection for the most severely eroded portion of Cabin Road.

Hunting Island State Park represents a typical yet vulnerable barrier island ecosystem with a myriad of ecological benefits including maritime forest and freshwater wetlands. We continue to encourage the Corps to search for a long term solution to the continuing erosion problem at Hunting Island.

Sincerely,

Roger L. Banks

Later



United States Department of the Interior

FISH AND WILDLIFE SERVICE
176 Croghan Spur Road, Suite 200
Charleston, South Carolina 29407

June 27, 2002

Mr. Joseph A. Jones
Chief, Planning Branch
U.S. Army Corps of Engineers
69A Hagood Avenue
Charleston, South Carolina 29403-5107

Attn: Robert Chappell

Re: Section 14 Emergency Shoreline Protection Project
Hunting Island State Park
FWS Log No. 4-6-02-F-273

Dear Mr. Jones:

This document transmits the U.S. Fish and Wildlife Service's (Service) biological opinion based on our review of the U.S. Army Corps of Engineer's (USACOE) Draft Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) for the Section 14 Emergency Shoreline Project at the Hunting Island State Park in Beaufort County, South Carolina and its effects on the loggerhead sea turtle in accordance with Section 7 of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C., 1531 et seq.).

This opinion is based on information provided in the May 2002 Draft Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) for the Section 14 Emergency Shoreline Protection Project at the Hunting Island State Park, the June 11, 2002 modifications to the EA and FONSI, field visits, available literature, personal communications, and other sources of information. A complete administrative record of this consultation is on file in the Ecological Services Field Office in Charleston, South Carolina.

Consultation History

On May 20, 2002, the U.S. Army Corps of Engineers (Corps) submitted a letter to the Service involving a Section 14 Emergency Stream Bank and Shoreline Protection Study for Hunting Island, South Carolina. On May 20, the Service received a Draft Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) for the Shoreline Protection Project at the

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Hunting Island State Park in Beaufort County, South Carolina. On June 12, the Corps sent a fax sheet describing a modification to the Draft EA.

Biological Opinion

I. Description of the Proposed Action

A. Location

Hunting Island State Park is located along the southeastern shore of South Carolina in Beaufort County, 16 miles east of the city of Beaufort. The sea island is about 4 miles in length, with severely eroding sand beach along the Atlantic Ocean. The park annually provides for 150,000 overnight visitors in cabins and camp grounds, and 600,000 to 700,000 visitors for day use to access the beaches and park facilities. Shoreline erosion along Hunting Island has been a severe problem for many years, averaging 15-20 feet per year. That erosion has now placed Cabin Road and associated utilities in jeopardy of being breached just south of the center of the island. The dune system has been eliminated and the road has already been damaged. State park personnel have had the road repaired, but heavy equipment operators must pile sand in front of the damaged area frequently to keep it from being damaged again.

B. Project Design

The project as proposed calls for the placement of a 500 foot long geotube and approximately 230,000 cubic yards of sand along 2,500 feet of beach fronting Cabin Road. The sand will be used to recreate the destroyed dune system between the ocean and the roadway. The 2,500 feet of sand placement includes 2,000 feet of full nourishment template and 250 foot tapered sections on each end of the full section. Top elevation of the sand berm is 11 feet NGVD29 with a width of 140 feet. The beachfront slope will be 1.0V to 15.0H with a landward slope of 1.0V to 1.5H to tie into Cabin Road, which has an elevation of 8 feet NGVD29. The total profile width from landward to seaward is about 300 feet. The project would start approximately 200 feet south of the location of existing utility pole #19 along Cabin Road and move north approximately 2,500 feet to a point north approximately 2,500 feet to a point north of utility pole # 13 near the south end of the island and transferred nourishment site on the front beach. Material will then be shaped to conform to the design template described above.

The geotube will be placed immediately in front of the most threatened length of the road before the sand berm is constructed. The geotube will be filled with sand and will be approximately 500 feet long, 5 feet high, and 12 ½ feet wide. After placement, the geotube will be covered by the sand berm.

The expected project life is 5 years; however, it is expected that the sand berm that is created will undergo severe erosion during the first year. As the project stabilizes, it is expected that the erosion rate will be reduced through the remaining project life.

The Corps has incorporated the following precautions to minimize the effects of the take of the loggerhead turtle:

- 1) If construction of the protective sand berm occurs during the period between May 1st and November 30th, daily nesting surveys will be conducted starting either May 1st or 65 days prior to the start of construction, whichever is later. These surveys will be performed between sunrise and 9:00AM and will continue until the end of the project, or September 30th, whichever is earlier. Any nests found in the area that will be impacted by construction activities will be moved to a safe location. The nesting surveys and nest relocations will only be performed by people with a valid South Carolina DNR permit.
- 2) If construction of the protective sand berm occurs during the period December 1st to April 30th, no nesting surveys will be performed.
- 3) For construction activities occurring during the period May 1st through November 30th, staging areas for equipment and supplies will be located off of the beach to the maximum extent possible.
- 4) For construction activities during the period May 1st through November 30th, all on-beach lighting associated with the project will be limited to the minimum amount necessary around active construction areas to satisfy OSHA requirements.
- 5) Immediately after completion of the project, the Corps of Engineers will perform compaction testing of the newly constructed sand berm. This compaction testing will be repeated for 3 subsequent years, prior to May 1st of each year.
- 6) Because of the short length of the proposed sand berm, initial and periodic tilling is not considered necessary.

Status of the Species/Critical Habitat

Loggerhead Sea Turtle

The loggerhead sea turtle was listed as threatened on July 28, 1978. The species inhabits the continental shelves and estuarine environments along the margins of the Atlantic, Pacific, and Indian Oceans. The species nests within the continental United States from Louisiana to Virginia. Major nesting concentrations in the United States are found on the coastal islands of

North Carolina, South Carolina, and Georgia and on Atlantic and Gulf coasts beaches of Florida (Hopkins and Richardson 1984). Total estimated nesting in the Southeast is approximately 50,000 to 70,000 nests per year (NMFS and USFWS 1991).

From a global perspective, the southeastern United States nesting aggregation is important to the survival of the species and is second in size only to that which nests on islands in the Arabian Sea off Oman (Ross 1982, Ehrhart 1989, NMFS and USFWS 1991). The status of the Oman colony has not been evaluated recently, but its location in a part of the world that is vulnerable to disruptive events (e.g., political upheavals, wars, catastrophic oil spills) is cause for considerable concern (Meylan et al. 1995). Loggerhead nesting aggregations in Oman, the southeastern United States, and Australia account for about 88 percent of nesting worldwide (NMFS and USFWS 1991). About 80 percent of loggerhead nesting in the southeastern U.S. occurs in six Florida counties (Brevard, Indian River, St. Lucie, Martin, Palm Beach, and Broward Counties) (NMFS and USFWS 1991).

Recent genetic analyses using restriction fragment analysis and direct sequencing of mitochondrial deoxyribonucleic acid (mtDNA) have been employed to resolve management units among loggerhead nesting cohorts of the southeastern United States (Bowen et al. 1993; Encalada et al. 1998). Assays of nest samples from North Carolina to the Florida Panhandle have identified three genetically distinct nesting subpopulations: (1) northern nesting subpopulation - North Carolina to Cape Canaveral, Florida; (2) South Florida nesting subpopulation - Cape Canaveral to Naples, Florida; and (3) Florida Panhandle nesting subpopulation - Eglin Air Force Base and the beaches around Panama City, Florida. Current data indicate that gene flow between the three subpopulations is very low. These data suggest that if nesting females are extirpated from a subpopulation, inter-population dispersal will not be sufficient to replenish the depleted nesting subpopulation (Bowen et al. 1993). Therefore, impacts on loggerheads in the northern nesting subpopulation, in particular, become more significant because of the smaller total size of the subpopulation (Frazer 1983, 1986; NMFS and USFWS 1991).

The proposed action has the potential to adversely affect nesting females, nests, and hatchling loggerhead sea turtles within the proposed project area. The effects of the proposed action on sea turtles will be considered further in the remaining sections of this opinion. Potential effects include destruction of nests deposited within the boundaries of the proposed project; harassment in the form of disturbing or interfering with females attempting to nest within the construction area or on adjacent beaches as a result of construction activities; disorientation of hatchling turtles on beaches adjacent to the construction area as they emerge from the nest and crawl to the water as a result of project lighting; and, behavior modification of nesting females due to escarpment formation within the project area during a nesting season resulting in false crawls or situations where they choose marginal or unsuitable nesting areas to deposit eggs. The quality of the placed sand could affect the ability of female turtles to nest, the suitability of the nest incubation environment, and the ability of hatchlings to emerge from the nest.

The most serious threats to the loggerhead sea turtles' continued existence are incidental take from channel dredging and commercial trawling, longline, and gill net fisheries; the loss and degradation of nesting habitat from continued and future coastal development and beach stabilization; sediment disposal on beaches and beach grooming; disorientation of hatchlings by beachfront lighting; increased recreational activities on the beach (e.g., off-road vehicles); excessive nest predation by native and non-native predators; degradation of foraging habitat; marine pollution and debris; watercraft strikes; and disease. There is particular concern about the extensive incidental take of juvenile loggerheads in the eastern Atlantic by longline fishing vessels from several countries.

Environmental Baseline

Loggerhead Sea Turtle

The nesting and hatching season for South Carolina beaches extends from about May 1 through November 30, although loggerhead turtles are located in nearshore waters of South Carolina as early as April. Incubation ranges from about 45 to 80 days.

Loggerhead turtle nesting along South Carolina beaches varies from less than one nest per kilometer (km) at Turtle Island to more than 200 nests per kilometer at Cape Island (Hopkins and Richardson 1984). Hunting Island has had an average of 83 loggerhead nests per year since 1991 and an average of 45 nests over the last 5 years.

Beneficial Effects: Placement of sand on a severely eroded beach can increase sea turtle nesting habitat in an area as long as protective measures are incorporated into the project. Also, a properly engineered and constructed beach may be more stable than the eroding one it replaces, thereby benefitting sea turtles.

Direct Effects: Placement of sand on an eroded section of beach or an existing beach in and of itself may not provide suitable nesting habitat for sea turtles. Although beach nourishment may increase the potential nesting area, significant negative impacts to sea turtles may result if protective measures are not incorporated during construction. Nourishment during the nesting season, particularly on or near high density nesting beaches, can cause increased loss of offspring from human-caused mortality and, along with other mortality sources, may significantly impact the long-term survival of the species. For instance, projects conducted during the nesting and hatching season could result in the loss of sea turtles through disruption of adult nesting activity and by burial or crushing of nests or hatchlings. While a nest monitoring and egg relocation program would reduce these impacts, nests may be inadvertently missed or misidentified as false crawls during daily patrols. In addition, nests may be destroyed by operations at night prior to beach patrols being performed. Even under the best of conditions, about 7 percent of the nests can be misidentified as false crawls by experienced sea turtle nest surveyors (Schroeder 1994).

1. Nest relocation

Besides the potential for missing nests during a nest relocation program, there is a potential for eggs to be damaged by their movement or for unknown biological mechanisms to be affected. Nest relocation can have adverse impacts on incubation temperature (and hence sex ratios), gas exchange parameters, hydric environment of nests, hatching success, and hatchling emergence (Limpus *et al.* 1979, Ackerman 1980, Parmenter 1980, Spotila *et al.* 1983, McGehee 1990). Relocating nests into sands deficient in oxygen or moisture can result in mortality, morbidity, and reduced behavioral competence of hatchlings. Water availability is known to influence the incubation environment of the embryos and hatchlings of turtles with flexible-shelled eggs, which has been shown to affect nitrogen excretion (Packard *et al.* 1984), mobilization of calcium (Packard and Packard 1986), mobilization of yolk nutrients (Packard *et al.* 1985), hatchling size (Packard *et al.* 1981, McGehee 1990), energy reserves in the yolk at hatching (Packard *et al.* 1988), and locomotory ability of hatchlings (Miller *et al.* 1987).

Comparisons of hatching success between relocated and *in situ* nests have noted significant variation ranging from a 21 percent decrease to a 9 percent increase for relocated nests (Florida Department of Environmental Protection, unpubl. data). Comparisons of emergence success between relocated and *in situ* nests have also noted significant variation ranging from a 23 percent decrease to a 5 percent increase for relocated nests (Florida Department of Environmental Protection, unpubl. data). A 1994 Florida Department of Environmental Protection study of hatching and emergence success of *in situ* and relocated nests at seven sites in Florida found that hatching success was lower for relocated nests in five of seven cases with an average decrease for all seven sites of 5.01 percent (range = 7.19 percent increase to 16.31 percent decrease). Emergence success was lower for relocated nests in all seven cases by an average of 11.67 percent (range = 3.6 to 23.36 percent) (A. Meylan, Florida Department of Environmental Protection, in litt., April 5, 1995).

A final concern about nest relocation is that it may concentrate eggs in an area resulting in a greater susceptibility to catastrophic events. Hatchlings released from concentrated areas also may be subject to greater predation rates from both land and marine predators, because the predators learn where to concentrate their efforts.

2. Equipment

The placement of pipelines and the use of heavy machinery on the beach during a construction project may also have adverse effects on sea turtles. They can create barriers to nesting females emerging from the surf and crawling up the beach, causing a higher incidence of false crawls and unnecessary energy expenditure.

3. Artificial lighting

Another impact to sea turtles is disorientation (loss of bearings) and misorientation (incorrect orientation) of hatchlings from artificial lighting. Visual cues are the primary sea-finding mechanism for hatchlings (Mrosovsky and Carr 1967, Mrosovsky and Shettleworth 1968, Dickerson and Nelson 1989, Witherington and Bjorndal 1991). Artificial beachfront lighting is a well documented cause of hatchling disorientation and misorientation on nesting beaches (Philbosian 1976; Mann 1977; Florida Department of Environmental Protection, unpubl. data). In addition, research has also documented significant reduction in sea turtle nesting activity on beaches illuminated with artificial lights (Witherington 1992). Therefore, construction lights along a project beach and on the dredging vessel may deter females from coming ashore to nest, disorient females trying to return to the surf after a nesting event, and disorient and misorient emergent hatchlings from adjacent non-project beaches. Any source of bright lighting can profoundly affect the orientation of hatchlings, both during the crawl from the beach to the ocean and once they begin swimming offshore. Hatchlings attracted to light sources on dredging barges may not only suffer from interference in migration, but may also experience higher probabilities of predation to predatory fishes that are also attracted to the barge lights. This impact could be reduced by using the minimum amount of light necessary (may require shielding) or low pressure sodium lighting during project construction.

Indirect Effects:

1. Changes in the physical environment

Beach nourishment may result in changes in sand density (compaction), beach shear resistance (hardness), beach moisture content, beach slope, sand color, sand grain size, sand grain shape, and sand grain mineral content if the placed sand is dissimilar from the original beach sand (Nelson and Dickerson 1988a). These changes could result in adverse impacts on nest site selection, digging behavior, clutch viability, and emergence by hatchlings (Nelson and Dickerson 1987, Nelson 1988).

Beach compaction and unnatural beach profiles that may result from beach nourishment activities could negatively impact sea turtles regardless of the timing of projects. Very fine sand and/or the use of heavy machinery can cause sand compaction on nourished beaches (Nelson *et al.* 1987, Nelson and Dickerson 1988a). Significant reductions in nesting success (i.e., false crawls occurred more frequently) have been documented on severely compacted nourished beaches (Fletemeyer 1980, Raymond 1984, Nelson and Dickerson 1987, Nelson *et al.* 1987), and increased false crawls may result in increased physiological stress to nesting females. Sand compaction may increase the length of time required for female sea turtles to excavate nests and also cause increased physiological stress to the animals (Nelson and Dickerson 1988c). Nelson and Dickerson (1988b) concluded that, in general, beaches nourished from offshore borrow sites are harder than natural beaches, and while some may soften over time through erosion and accretion of sand, others may remain hard for 10 years or more.

These impacts can be minimized by using suitable sand and by tilling the beach after nourishment if the sand becomes compacted. The level of compaction of a beach can be assessed by measuring sand compaction using a cone penetrometer (Nelson 1987). Tilling of a nourished beach may reduce the sand compaction to levels comparable to unnourished beaches. However, a pilot study by Nelson and Dickerson (1988c) showed that a tilled nourished beach will remain uncompacted for up to 1 year. Therefore, the Service requires multi-year beach compaction monitoring and, if necessary, tilling to ensure that project impacts on sea turtles are minimized. A root rake with tines at least 42 inches long and less than 36 inches apart pulled through the sand is recommended for compacted beaches. Service policy calls for beaches to be tilled if compaction levels exceed 500 psi.

A change in sediment color on a beach could change the natural incubation temperatures of nests in an area, which, in turn, could alter natural sex ratios. To provide the most suitable sediment for nesting sea turtles, the color of the nourished sediments must resemble the natural beach sand in the area. Natural reworking of sediments and bleaching from exposure to the sun would help to lighten dark nourishment sediments; however, the time frame for sediment mixing and bleaching to occur could be critical to a successful sea turtle nesting season.

2. Escarpments

On nourished beaches, steep escarpments may develop along their water line interface as they adjust from an unnatural construction profile to a more natural beach profile (Coastal Engineering Research Center 1984, Nelson *et al.* 1987). These escarpments can hamper or prevent access to nesting sites. Researchers have shown that female turtles coming ashore to nest can be discouraged by the formation of an escarpment, leading to situations where they choose marginal or unsuitable nesting areas to deposit eggs (e.g., in front of the escarpments, which often results in failure of nests due to prolonged tidal inundation). This impact can be minimized by leveling any escarpments prior to the nesting season.

INCIDENTAL TAKE STATEMENT

Section 9 of the ESA and Federal regulation pursuant to section 4(d) of the ESA prohibit the take of endangered or threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by the USFWS to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Harass is defined by the USFWS as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, carrying out an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part

of the agency action is not considered to be prohibited under the ESA provided that such taking is in compliance with the terms and conditions of this incidental take statement.

The measures described below are non-discretionary, and must be implemented by the USACOE so that they become binding conditions of any permit or contract issued for project construction, as appropriate, for the exemption in section 7(o)(2) to apply. The USACOE has a continuing duty to regulate the activity covered by this incidental take statement. If the USACOE (1) fails to assume and implement the terms and conditions, or (2) fails to require contractors to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or contract, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, the USACOE must report the progress of the action and its impacts on the species to the USFWS as specified in the incidental take statement [50 CFR §402.14(I)(3)].

AMOUNT OR EXTENT OF INCIDENTAL TAKE

Loggerhead

The Service has reviewed the biological information and other information relevant to this action. Based on this review, incidental take is anticipated for (1) all sea turtle nests that may be constructed and eggs that may be deposited and missed by a nest survey and egg relocation program within the boundaries of the proposed project; (2) all sea turtle nests deposited during the period when a nest survey and egg relocation program is not required to be in place within the boundaries of the proposed project; (3) harassment in the form of disturbing or interfering with female turtles attempting to nest within the construction area or on adjacent beaches as a result of construction activities; (4) disorientation of hatchling turtles on beaches adjacent to the construction area as they emerge from the nest and crawl to the water as a result of project lighting; (5) behavior modification of nesting females due to escarpment formation within the project area during a nesting season, resulting in false crawls or situations where they choose marginal or unsuitable nesting areas to deposit eggs; (6) all nests destroyed as a result of escarpment leveling within a nesting season when such leveling has been approved by the Fish and Wildlife Service; and (7) reduced hatching success due to egg mortality during relocation and adverse conditions at the relocation site.

Incidental take is anticipated for only approximately 2500 feet of beach that has been identified for sand placement on Hunting Island State Park. The Service anticipates incidental take of sea turtles will be difficult to detect for the following reasons: (1) the turtles nest primarily at night and all nests are not found because [a] natural factors, such as rainfall, wind, and tides may obscure crawls and [b] human-caused factors, such as pedestrian and vehicular traffic, may obscure crawls, and result in nests being destroyed because they were missed during a nesting survey and egg relocation program; (2) the total number of hatchlings per undiscovered nest is unknown; (3) the reduction in percent hatching and emerging success per relocated nest over the natural nest site is unknown; (4) an unknown number of females may avoid the project beach and

be forced to nest in a less than optimal area; (5) lights may disorient an unknown number of hatchlings and cause death; and (6) escarpments may form and cause an unknown number of females from accessing a suitable nesting site. However, the level of take of these species can be anticipated by the disturbance and renourishment of suitable turtle nesting beach habitat because: (1) turtles nest within the project site; (2) beach renourishment will likely occur during a portion of the nesting season; (3) the renourishment project will modify the incubation substrate, beach slope, and sand compaction; and (4) artificial lighting will disorient nesting females and hatchlings.

Effect of the Take

In the accompanying biological opinion, the Service determined that this level of anticipated take is not likely to result in jeopardy to the species or destruction or adverse modification of critical habitat.

Reasonable and Prudent Measures

The Service believes that the following reasonable and prudent measures are necessary and appropriate to minimize take of the loggerhead:

1. Only beach quality sand suitable for sea turtle nesting, successful incubation, and hatchling emergence shall be used on the project site.
2. If the beach nourishment project will be conducted during the sea turtle nesting season, surveys for nesting sea turtles shall be conducted. If nests are constructed in the area of beach nourishment, the eggs shall be relocated.
3. Immediately after completion of the beach nourishment project, beach compaction shall be monitored. Tilling shall not be required due to the relatively short distance of the project.
4. Immediately after completion of the beach nourishment project and prior to the next three nesting seasons, monitoring shall be conducted to determine if escarpments are present and escarpments shall be leveled as required to reduce the likelihood of impacting sea turtle nesting and hatching activities.
5. The applicant shall ensure that contractors doing the beach nourishment work fully understand the sea turtle protection measures detailed in this incidental take statement.
6. During the sea turtle nesting season, construction equipment and pipes shall be stored in a manner that will minimize impacts to sea turtles to the maximum extent practicable.
7. During the sea turtle nesting season, lighting associated with the project shall be minimized to reduce the possibility of disrupting and disorienting nesting and/or hatchling sea turtles.

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the ESA, the Corps must comply with the following terms and conditions, which implement the reasonable and prudent measures described above. These terms and conditions are non-discretionary.

1. All fill material placed shall be sand that is similar to that already existing at the beach site in both coloration and grain size distribution. All such fill material shall be free of construction debris, rocks, or other foreign matter and shall generally not contain, on average, greater than 10 percent fines (i.e., silt and clay) (passing the #200 sieve) and shall not contain, on average, greater than 5 percent coarse gravel or cobbles, exclusive of shell material (retained by the #4 sieve).

2. Daily early morning sea turtle nesting surveys shall be required if any portion of the beach nourishment project occurs during the period from May 1 through October 31. Nesting surveys shall be initiated 65 days prior to nourishment activities or by **May 1** whichever is later. Nesting surveys shall continue through the end of the project or through **September 30** whichever is earlier. If nests are constructed in areas where they may be affected by construction activities, eggs shall be relocated per the following requirements.

2a. Nesting surveys and egg relocations shall only be conducted by personnel with prior experience and training in nest survey and egg relocation procedures. Surveyors shall have a valid SCDNR permit. Nest surveys shall be conducted daily between sunrise and 9 a.m. Surveys shall be performed in such a manner so as to ensure that construction activity does not occur in any location prior to completion of the necessary sea turtle protection measures.

2b. Only those nests that may be affected by construction activities shall be relocated. Nests requiring relocation shall be moved no later than 9 a.m. the morning following deposition to a nearby self-release beach site in a secure setting where artificial lighting will not interfere with hatchling orientation. Nest relocations in association with construction activities shall cease when construction activities no longer threaten nests. Nests deposited within areas where construction activities have ceased or will not occur for 65 days shall be marked and left in place unless other factors threaten the success of the nest. Any nests left in the active construction zone shall be clearly marked, and all mechanical equipment shall avoid nests by at least 10 feet.

3. Immediately after completion of the beach nourishment project and prior to **May 1** for 3 subsequent years, sand compaction shall be monitored in the area of restoration in accordance with a protocol agreed to by the Service, the SCDNR, and the applicant. A report on the results of compaction monitoring shall be submitted to the Service. An annual summary of compaction surveys shall be submitted to the Service.

4. Visual surveys for escarpments along the project area shall be made immediately after completion of the beach nourishment project and prior to **May 1** for 3 subsequent years. Results of the surveys shall be submitted to the Service prior to any action being taken. Escarpments that interfere with sea turtle nesting or that exceed 18 inches in height for a distance of 100 feet shall be leveled to the natural beach contour by **May 1**. If the project is completed during the sea turtle nesting and hatching season, escarpments may be required to be leveled immediately, while protecting nests that have been relocated or left in place. The Service shall be contacted immediately if subsequent reformation of escarpments that interfere with sea turtle nesting or that exceed 18 inches in height for a distance of 100 feet occurs during the nesting and hatching season to determine the appropriate action to be taken. If it is determined that escarpment leveling is required during the nesting or hatching season, the Service will provide a brief written authorization that describes methods to be used to reduce the likelihood of impacting existing nests. An annual summary of escarpment surveys and actions taken shall be submitted to the Service.

5. The applicant shall arrange a meeting between representatives of the contractor, the Service, the South Carolina Department of Natural resources and the permitted person responsible for egg relocation at least 30 days prior to the commencement of work on this project. At least 10 days advance notice shall be provided prior to conducting this meeting. This will provide an opportunity for explanation and/or clarification of the sea turtle protection measures.

6. From **May 1 through November 30**, staging areas for construction equipment shall be located off the beach to the maximum extent practicable. Nighttime storage of construction equipment not in use shall be off the beach to minimize disturbance to sea turtle nesting and hatching activities. In addition, all construction pipes that are placed on the beach shall be located as far landward as possible without compromising the integrity of the existing or reconstructed dune system. Temporary storage of pipes shall be off the beach to the maximum extent possible. Temporary storage of pipes on the beach shall be in such a manner so as to impact the least amount of nesting habitat and shall likewise not compromise the integrity of the dune systems (placement of pipes perpendicular to the shoreline is recommended as the method of storage).

7. From **May 1 through November 30**, all on-beach lighting associated with the project shall be limited to the immediate area of active construction only and shall be the minimal lighting necessary to comply with safety requirements. Shielded low pressure sodium vapor lights are recommended to minimize illumination of the nesting beach and nearshore waters. Lighting on offshore equipment shall be minimized through reduction, shielding, lowering, and appropriate placement of lights to avoid excessive illumination of the water, while meeting all U.S. Coast Guard and OSHA requirements. Shielded low pressure sodium vapor lights are highly recommended for lights on offshore equipment that cannot be eliminated.

8. A report describing the actions taken to implement the terms and conditions of this incidental take statement shall be submitted to the Charleston Field Office within 60 days of completion of

the proposed work and for each year when the activity has occurred. This report will include the dates of actual construction activities, names and qualifications of personnel involved in nest surveys and relocation activities, descriptions and locations of self-release beach sites, nest survey and relocation results, and hatching success of nests.

9. In the event a sea turtle nest is excavated during construction activities, the permitted person responsible for egg relocation for the project should be notified so the eggs can be moved to a suitable relocation site.

10. Upon locating a dead, injured, or sick endangered or threatened sea turtle specimen, initial notification must be made to the U.S. Fish and Wildlife Service Law Enforcement Department located in the Charleston Ecological Services Office in Charleston, South Carolina (843-727-4707) and the SCDNR in Charleston, South Carolina (843-762-5015). Care should be taken in handling sick or injured specimens to ensure effective treatment and care and in handling dead specimens to preserve biological materials in the best possible state for later analysis of cause of death. In conjunction with the care of sick or injured endangered or threatened species or preservation of biological materials from a dead animal, the finder has the responsibility to ensure that evidence intrinsic to the specimen is not unnecessarily disturbed.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the ESA directs Federal agencies to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

1. Construction activities for this project and similar future projects should be planned to take place outside the main part of the sea turtle nesting and hatching season.
2. Surveys for nesting success of sea turtles should be continued for a minimum of 3 years following beach nourishment to determine whether sea turtle nesting success has been adversely impacted.
3. Appropriate native salt-resistant dune vegetation should be established on the restored dunes.
4. Educational signs should be placed where appropriate at beach access points explaining the importance of the area to sea turtles and/or the life history of sea turtle species that nest in the area.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefitting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

REINITIATION - CLOSING STATEMENT

This concludes formal consultation on the action(s) outlined in the request. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

Sincerely yours,



Edwin M. EuDaly
Acting Field Supervisor

EME/PTS/km

cc:

Sandy MacPherson, USFWS, (Sea Turtle Coordinator), Jacksonville, FL
Sally Murphy, SCDNR, Wildlife Diversity Section, Charleston, SC
Jennifer Lee, NMFS, St. Petersburg, FL

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
176 Croghan Spur Road, Suite 200
Charleston, South Carolina 29407

March 25, 2002

Joseph A. Jones
Chief, Planning Branch
U.S. Army Corps of Engineers
69A Hagood Avenue
Charleston, South Carolina 29403-5107

Re: Hunting Island
Section 14

Dear Mr. Jones:

Thank you for your letter of March 22, 2002 regarding the Hunting Island Section 14 study. The selected plan consists of a protective sand berm.

Based on the preliminary information provided, we do not anticipate any significant impacts to fish and wildlife resources under our jurisdiction. We understand that an environmental assessment will be prepared and that endangered species consultation will be completed at a future date.

We appreciate your efforts to coordinate this project with the Service.

Sincerely yours,

Edwin M. EuDaly
Acting Field Supervisor

This is your future. Don't leave it blank. - Support the 2000 Census.

Chappell, Robert SAC

From: Brock, Nancy [Brock@SCDAH.STATE.SC.US]
Sent: Wednesday, June 12, 2002 3:02 PM
To: 'Robert.Chappell@usace.army.mil'
Subject: FW: Hunting Island State Park - Cabin Road Amendment

> -----Original Message-----
> From: Brock, Nancy
> Sent: Wednesday, June 12, 2002 3:01 PM
> To: 'RobertChappell@usace.army.mil'
> Subject: Hunting Island State Park - Cabin Road Amendment
>
> Bob--
> Received the fax transmittal of June 12, 2002, describing the modification
> to the Draft EA. The proposed work along Cabin Road should not change the
> position outlined in our letter of June 4, 2002.
>
> The Corps letter stated that we could make this response by email. If you
> need a formal, signed letter please let me know.
>
> Thanks,
>
> Nancy Brock
> Coordinator, Review and Compliance Programs
> SC State Historic Preservation Office
>



June 4, 2002

Mr. Robert Chappell
Planning Branch
US Army Corps of Engineers
PO Box 919
Charleston, SC 29402-0919

Re: Hunting Island State Park
Beaufort County

Dear Mr. Chappell:

Thank you for your letter of May 17, which we received on May 20, and the Draft Environmental Assessment for the shoreline protection project at Hunting Island State Park, Beaufort County.

It appears that this project should not have an effect on the Hunting Island Lighthouse or any other properties listed on or determined eligible for inclusion in the National Register of Historic Places.

We do request that our office be notified immediately if archaeological materials are encountered. Archaeological materials consist of any items, fifty years old or older, which were made or used by man. These items include, but are not limited to, stone projectile points (arrowheads), ceramic sherds, bricks, worked wood, bone and stone, metal and glass objects, and human skeletal materials.

These comments are provided as evidence of your consultation with the State Historic Preservation Office. If you have questions, please don't hesitate to call me at 803/896-6169.

Sincerely,


Nancy Brock, Coordinator
Review and Compliance Programs
State Historic Preservation Office



March 25, 2002

Mr. Robert Chappell
Environmental Resources Section
US Army Corps of Engineers
69A Hagood Avenue
Charleston, SC 29403-5107

Re: Hunting Island State Park
Beaufort County

Dear Mr. Chappell:

Thank you for your letters of March 22 and February 4 regarding Hunting Island State Park, Beaufort County.

It does not appear that there will be an effect on any properties listed on or determined eligible for inclusion in the National Register of Historic Places. The Park contains one National Register listed property, the Hunting Island Lighthouse.

We do request that our office be notified immediately if archaeological materials are encountered. Archaeological materials consist of any items, fifty years old or older, which were made or used by man. These items include, but are not limited to, stone projectile points (arrowheads), ceramic sherds, bricks, worked wood, bone and stone, metal and glass objects, and human skeletal materials.

These comments are provided as evidence of your consultation with the State Historic Preservation Office. If you have questions, please don't hesitate to call me at 803/896-6169.

Sincerely,


Nancy Brock, Coordinator
Review and Compliance Programs
State Historic Preservation Office