

Record of Decision

North Topsail Beach Restoration Project

Decision and Reasons for the Decision

US Department of Agriculture, Rural Development is considering an application from the City of North Topsail Beach, Onslow County, North Carolina for a Direct Community Facilities Loan to fund one phase of a beach restoration project at North Topsail beach. The amount of the proposed loan is \$16.2 million. The US Department of Agriculture (USDA), Rural Development Program requires such an application to undergo an environmental analysis in compliance with its NEPA regulations at 7 CFR 1940-G as part of the acceptance of the loan application.

Rural Development proposes to adopt the Final Environmental Impact Statement (FEIS) prepared by the U.S. Army Corps of Engineers (Corps) for the Topsail Beach Shoreline Protection Project (December, 2009). The Corps issued a Record of Decision (ROD) in 2011 granting a permit for the beach nourishment activities and set special conditions for the permittee to mitigate potential impacts to important environmental resources. The proposed action is to guarantee a loan to fund one phase (Phase 5) out of the five phases of the project identified as Alternative 3 in the FEIS.

The impacts to the environment of the proposed action, as well as a range of suitable alternatives, were analyzed in the Final EIS and incorporated alternatives and modifications to alternatives in response to public comment and agency analyses.

Additional mitigation measures and management practices were incorporated into Alternative 3 of the FEIS, and the subsequent Corps ROD. The Corps FEIS and ROD documentation are available on the following website:

<http://www.rurdev.usda.gov/rhs/pss/EnvironmentalDocuments.htm>

RD has evaluated the analyses of the FEIS, and subsequent mitigation actions, and has determined that the FEIS meets the standards for NEPA compliance under its implementing regulations. By this ROD today, RD intends to adopt the Corps FEIS in its entirety in compliance with the RD NEPA requirements.

Background

The city of North Topsail Beach is located on Topsail Island in the county of Onslow, North Carolina. The North Topsail Beach Phase 5 Beach Restoration is one part of an overall North Topsail Beach Shoreline Protection Project which covers the 11.1 miles of beach within the Town of North Topsail Beach. The project was formulated to preserve the tax base, protect the infrastructure, and maintain the tourist based economy of North Topsail Beach. The project is for the purpose of reducing historical erosion stresses by realigning the ocean bar channel of New River Inlet and placement of beach material along the oceanfront. Designed to be implemented on a multi-year basis over 5 separate events, according to varying financial limitations faced by the Town, the Town is proposing to construct Phase 5 of the Shoreline Protection Project during the current dredge season (November 16, 2013 – March 31, 2014). The Phase 5 project site, 34°29'12.59" N & 77°25'48.52" W, extends from North Topsail Beach/Surf City limits to approximately 1.75 miles southwest of NC Hwy 210 high rise bridge and encompasses approximately 3.85 miles of North Topsail Beach oceanfront shoreline; and also includes an offshore borrow source located approximately 0.5 mile directly offshore from the high rise bridge on the island (**Attachment 1**). Phase 5 is proposed to include a 25 ft. wide dune fronted by a 45 ft. wide berm. The dune elevation is established at +14 ft. NAVD and the berm elevation is +6 NAVD. The average fill density to complete the design is approximately 75 cubic yards per linear foot (cy/lf) of shoreline for a total fill volume of roughly 1,500,000 CY. On August 13, 2013 the Corps published a notice of permit modification to change the schedule for Phase 5 beach fill construction and fill footprint for the town of North Topsail Beach (**Attachment 2**).

Phase I of the original permit was implemented during the 2012/2013 dredging window and all work was completed by February 2013. This phase included the relocation of the New River ebb tide channel with the use of a cutter head dredge and the placement of an estimated 566,244 cubic yards of dredged material along approximately 7,500 linear feet of the north-northeast ocean shoreline on North Topsail Beach. The town of North Topsail Beach applied for and received a Corps permit under Section 10 of the Rivers and Harbors Act, and Section 404, under the Clean Water Act which set a number of stipulations and conditions for the

restoration work, based upon the findings of the Corps ROD for the EIS. Phase I followed all stipulations and no abnormal effects from the dredging and beach restoration occurred. As a result of the successful completion of Phase I work, the town proposed an alteration of the phase construction schedule so that the area of the beach outside of the Coastal Barrier protected areas might be funded and restored. Hence, Phase 5 is proposed for funding and development in the 2014-2014 dredging season.

Applicable laws, regulations, and policies

The overall regulations for implementing NEPA are in 40 CFR Part 1500 of the Council on Environmental Quality; specifically, Section 1506.3 provides for adoption of an Agency's EIS; RD Instruction 1940.324(a) further provides that another agency EIS may be adopted after completion if:

- 1- An independent review of the document is conducted (by RD) and it is concluded that the document meets the requirements of this subpart; and
- 2- That the actions covered in the EIS are substantially the same as those proposed (by RD) and the environmental conditions have not substantially changed since its publication; and that the circulation and timing requirements of subparagraphs (f), (g), and (j) of Section 1940.320, as well as Parts 1506.3(c), 1506.9, and 1506.10 of the CEQ regulations will apply.

It is the conclusion of RD environmental personnel that the Corps FEIS meets the requirements of Subpart 1940, that the actions of the EIS are substantially the same as those proposed to RD, allowing for minor permit modification actions related to scheduling of the phases and implementation of mitigation measures and monitoring. Further, RD environmental personnel conclude that environmental conditions have not substantially changed since the publication of the FEIS, only that the proposed action has been partially implemented in its first year of construction, and that such implementation has been in accordance with the all permit conditions and mitigation measures of the Corps and State of North Carolina.

Alternatives

The decision for RD is to provide a direct loan to the town of North Topsail Beach for the purpose of dredging and beach fill operations within the designated Phase 5 area under the existing and modified Corps permit. While the actions of this proposal are the same as under the FEIS, the decision by RD is qualitatively different from the one by the Corps. The Corps was making a permitting decision, and the consideration of alternatives was necessarily broader. Hence, the FEIS considered a number of alternatives relating to

different means of dredging and fill operations which are not relevant to the RD decision. Essentially, RD can approve the loan or not approve it. Non approval is the same as the No Action Alternative under the FEIS and forms the baseline to compare any environmental impacts. Approval of the loan is the proposed action.

Environmental Issues/Impacts

Attachment 3 summarizes the impacts of the proposed Phase 5 beach restoration (as part of the FEIS's Alternative 3) compared to the No Action Alternative. The major issues of the FEIS dealt with protection of important marine and beach resources, notably the location for dredged material, the quality of those dredged materials and effects upon marine life and shoreline fauna.

Mitigation Measures

The FEIS proposed a number of mitigation measures during construction and operation to protect those important environmental resources outlined in Table 1, and detailed in **Attachment 4**. The Corps ROD for the FEIS adopted those mitigation measures and required them to be addressed under stipulations in the permit approval. Monitoring by Corps and the State of North Carolina, and other Federal agency personnel for specific resource protection activities is regular and current. To date, the town of North Topsail Beach White Pass has demonstrated compliance with all mitigation activities recorded in the Corps ROD and permit stipulations.

Factors other than environmental consequences considered in making the decision

The analysis of the town of North Topsail Beach's proposal is presented in a separate loan application evaluation governed by Community Facilities Programs' regulations and policies.

Identification of environmental document(s) considered in making the decision

U.S. Army Corps of Engineers (Corps) *Final Environmental Impact Statement for the Topsail Beach Shoreline Protection Project* (December, 2009).

U.S. Army Corps of Engineers (Corps) *Record of Decision*, Town of North Topsail Beach (April, 2011).

U.S. Army Corps of Engineers (Corps) *Permit to Hydraulically Dredge and Discharge Materials in the Waters of the United States* (May, 2011).

Town of North Topsail Beach, *Shoreline Protection Project- Second Event* (June, 2013).

U.S. Army Corps of Engineers (Corps), Public Notice- *Permit modification to the Town of North Topsail Beach's current Department of the Army (DA) authorization to conduct beach nourishment* (August, 2013)

Public involvement conducted

In accordance with its NEPA regulations RD, following the EPA approved process for EIS notices, published a Notice in the Federal Register on August 16, 2013 on the intent to adopt the FS FEIS and requested comments during the 30 day review period. RD

placed a complete copy of the FEIS on the PSS website for reading and downloading. Since the applicant was in the process of amending its existing Corps permit for the Phase 5 work, comment letters to the appropriate agencies and interested parties were coordinated with the Corps action. Letters were received from the US EPA, the US Fish and Wildlife Service (FWS), and the US National Marine Fisheries Service (NMFS) (**Attachment 5**). Commenters had no objection to the action proposed but reiterated their support for the continuance of mitigation measures of the Corps permit for specified wildlife and marine species. RD should condition its loan approval upon the applicant's compliance with all mitigation measures included in the Corps permitting action, as listed in Table 1 below and discussed in **Attachment 4**.

Table 1: *List of avoidance and minimization measures utilized in Phase 1 and Phase 5*

<u>Avoidance/Minimization Actions</u>		
	<u>Phase 1</u>	<u>Phase 5</u>
Sediment Compatibility	X	X
Construction Practices	X	X
Dredge Positioning	X	X
Pipeline Observations	X	X
Construction Observations	X	X
Construction Schedule	X	X
Seabeach Amaranth	X	X
Sea Turtles	X	X
West Indian Manatee	X	X
Water Quality	X	X

Timing of Action

In accordance with 40 CFR 1506.3 and RD Instruction 1940.324(a), a final EIS may be adopted by RD after circulating the FEIS for a 30 day comment period. That comment period is now over and the comments received have been addressed above. RD has fulfilled its NEPA responsibilities for timing and comment and may adopt the Corps FEIS through this Record of Decision.

Implementation Date: September 23, 2013

Contact Person: Juliet Bochicchio, RD/PSS 202-205-8242

Signature and Date:

Randall A. Gore, State Director

Date

Rural Housing Service

Attachments

Attachment 1: Map of Proposed Area

Attachment 2: Town Letter and Public Notice of Permit Modifications

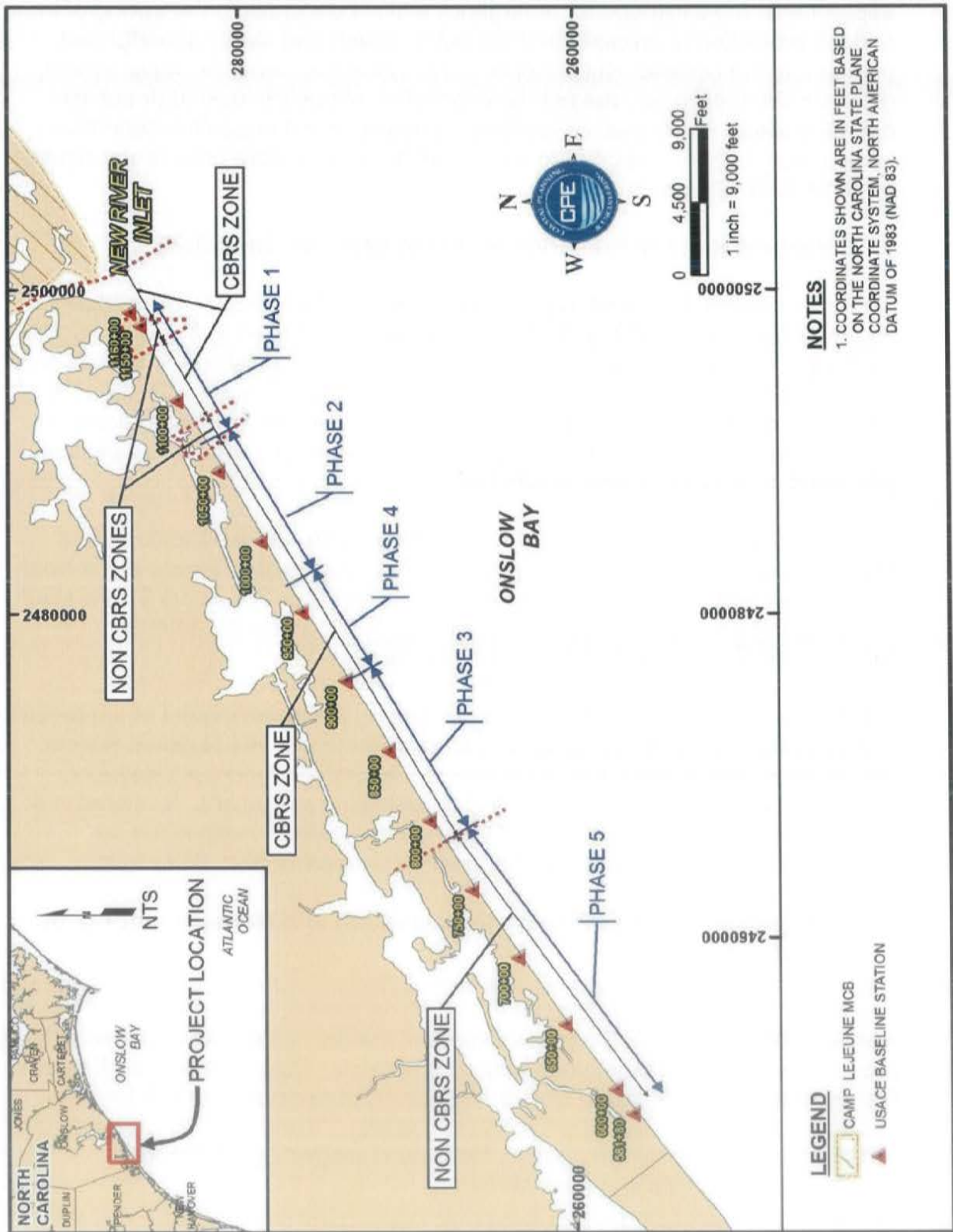
Attachment 3: Summary of Environmental Impacts in FEIS

Attachment 4: Mitigation Actions

Attachment 5: Agency Letters

Attachment 1: Map of Proposed Area and FEIS Summary

North Topsail Beach Shoreline Protection Project
 Final Environmental Impact Statement



NOTES

- COORDINATES SHOWN ARE IN FEET BASED ON THE NORTH CAROLINA STATE PLANE COORDINATE SYSTEM, NORTH AMERICAN DATUM OF 1983 (NAD 83).

LEGEND

- CAMP LEJEUNE MCB
- USACE BASELINE STATION

Figure 4 – CBRs Zones



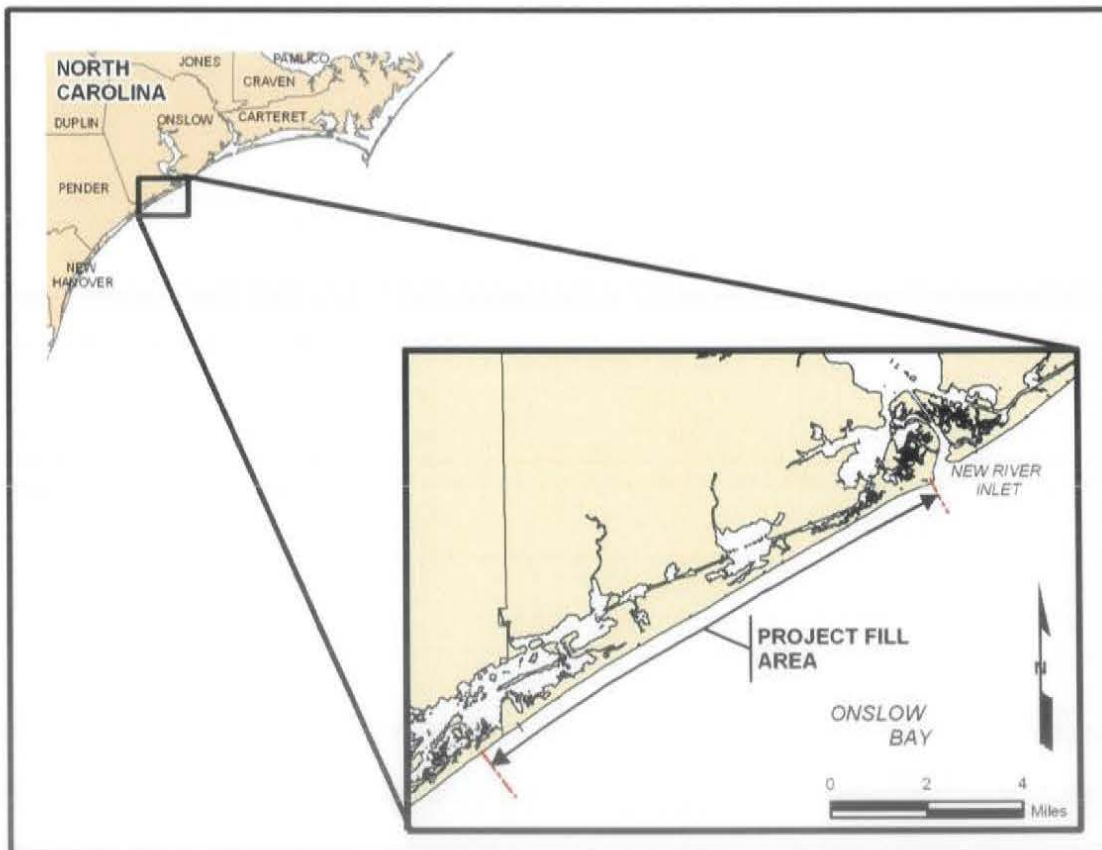
**U.S. Army Corps
of Engineers®**
Wilmington District

**VOLUME I OF III
SECTIONS 1-8**

**FINAL
ENVIRONMENTAL IMPACT STATEMENT
DECEMBER 2009**

NORTH TOPSAIL BEACH SHORELINE PROTECTION PROJECT

NORTH TOPSAIL BEACH, NORTH CAROLINA



For more information and comments, contact Mr. Mickey T. Sugg, U.S. Army Corps of Engineers, Regulatory Division, P.O. Box 1890, Wilmington, North Carolina 28402-1890, phone (910) 251-4811, facsimile (910) 251-4025 or via e-mail: mickey.t.sugg@saw02.usace.army.mil



**U.S. Army Corps
of Engineers®**
Wilmington District

**FINAL
ENVIRONMENTAL IMPACT STATEMENT**

**NORTH TOPSAIL BEACH SHORELINE PROTECTION PROJECT
NORTH TOPSAIL BEACH, NORTH CAROLINA**

PREPARED BY:

COASTAL PLANNING & ENGINEERING OF NORTH CAROLINA, INC.

PREPARED FOR:

NORTH TOPSAIL BEACH, NORTH CAROLINA

SUBMITTED TO:

**U.S. ARMY CORPS OF ENGINEERS
WILMINGTON DISTRICT**

DECEMBER 2009

North Topsail Beach Shoreline Protection Project
Final Environmental Impact Statement

1.0 PROJECT PURPOSE

The Town of North Topsail Beach is seeking Federal and State permits to allow for the implementation of a non-Federal shoreline and inlet management project that would preserve the Town's tax base, protect its infrastructure, and maintain its tourist oriented economy. The most pressing shoreline management issue facing the Town of North Topsail Beach is associated with the impacts of New River Inlet on the extreme northeast end of the Town's shoreline. In addition, the Northern 7.25 miles of North Topsail Beach, with the exception of two relatively short segments (approximately 1000 ft in length) at the north end of the Town, is within a Coastal Barrier Resource Act (CBRA) zone and thus are not eligible to be part of the Federal Shore Protection Project for North Topsail Beach and Surf City. Through the implementation of this project the Town is attempting to provide long term storm protection to the northern 7.25 miles comparable to that which will be provided by the Federal Shore Protection Project. In addition, it is the Town's desire to provide interim fill to the 3.85 mile stretch of beach included in the Federal Project to provide erosion mitigation until such time as the Federal Project is constructed.

In 1996, North Topsail Beach was severely impacted by Hurricanes Bertha and Fran; to a lesser extent Hurricane Bonnie in 1998, and Hurricanes Dennis, Floyd and Irene in 1999. North Topsail Beach suffered considerable damage as a result of the severely weakened dune system resulting from the effects of Hurricane Bertha followed by the high storm tides that accompanied Fran. The beach has recovered to some degree as a result of natural processes and the Town of North Topsail Beach's efforts to rebuild the frontal dune system. However, the homes and infrastructure located along the 11.1 miles of oceanfront shoreline of North Topsail Beach remains extremely vulnerable and the current erosion problem is threatening the stability of homes and infrastructure located along this shoreline.

Long-term shoreline erosion at the north end of Town and shoreline fluctuations, caused by uncontrolled changes in the position and alignment of the ocean bar channel of New River Inlet, have made the north end properties especially vulnerable to erosion. During the past years, 17 duplex structures located at the extreme north end of Town, which have a total tax value of over \$17 million, have become imminently threatened. Numerous attempts have been made by individual property owners as well as the Town to protect the threatened duplexes with sandbag revetments and the pushing of sand or beach scraping; however, these mechanisms have failed to provide any substantial degree of long-term protection. Two (2) of the imminently threatened duplexes were relocated to other parts of North Topsail Beach at the expense of the property owners. Six (6) of the remaining duplexes had been declared uninhabitable due to the loss of water, sewer, and electrical connections and were removed in

North Topsail Beach Shoreline Protection Project Final Environmental Impact Statement

February 2009 at a cost to the Town of over \$2 million (L. Burleson, pers. comm.).

The results of a geomorphic analysis (Appendix B – Final Engineering Report) strongly suggest that a channel oriented perpendicular to the adjacent shorelines and located closer to the north end of North Topsail Beach would provide positive shoreline benefits for the adjacent oceanfront shorelines. Seven (7) alternatives have been considered in this Final Environmental Impact Statement (FEIS), with Alternative 3 identified as the Applicant's Preferred Alternative. Alternative 3 includes the implementation of an inlet management plan for New River Inlet and the construction of a beach fill project along 11.1 miles of the Town's shoreline. The inlet management plan includes repositioning the main ocean bar channel to a more southerly alignment (i.e. along an azimuth of approximately 150°) and periodic maintenance of the preferred position and alignment approximately every four years. An upland disposal site (Island #143) will also be used to dispose of approximately 100,000 cy of incompatible beach material excavated from the main ocean bar channel.

The Town of North Topsail Beach is considering constructing its shoreline protection project in phases to correspond with its anticipated funding stream that would be generated from multiple sources (Alternative 3 – Applicant's Preferred Alternative, see Section 3.2.3 for more detailed information). The phased construction plan includes relocation of the main channel in New River Inlet with disposal of the channel material along the northern 12,000 feet of its shoreline (North and Central Sections) and nourishment of the remaining portions of the town, including the South Section, using material from the offshore borrow area. The Town anticipates raising \$3.0 million every year through various funding sources.

The first phase (Phase I) of construction would occur between 16 November 2010 and 31 March 2011 (environmental dredging window) and would involve the relocation of the New River Inlet (NRI) channel. Phases II, III, IV, and V would then take place every other year during the same November through March dredging window. The Town's shoreline protection project also includes periodic maintenance of the realigned channel in New River Inlet approximately every four years with disposal of the maintenance material along the North and Central segments.

This FEIS evaluates a full range of alternative erosion response measures including no action, abandonment/or relocation of threatened homes, and realignment of the Inlet channel between North Topsail Beach and Onslow Beach. The following document describes the permit area, assesses shoreline erosion problems, environmental considerations and provides project alternatives.

North Topsail Beach Shoreline Protection Project
Final Environmental Impact Statement

1.1 PROJECT LOCATION

North Topsail Beach and New River Inlet are located in Onslow County, North Carolina. Onslow Beach, located on the northeast side of New River Inlet, is owned and maintained by the US Marine Corps (USMC) Camp Lejeune military base. The residentially developed Town of North Topsail Beach is located to the southwest of the Inlet. The Inlet is available for use by both commercial and recreational boats, as well as military vessels operating out of the USMC Camp Lejeune, providing access to the Atlantic Ocean via the Atlantic Intracoastal Waterway (AIWW) and Onslow Bay.

The Town limit of North Topsail Beach is bordered to the southwest by Surf City and to the north by Sneads Ferry and the USMC Camp Lejeune military base. The Town of North Topsail Beach comprises 15.5 miles of inlet and oceanfront shoreline along Topsail Island, a barrier island formation. The area encompassed by the proposed shoreline erosion protection is along 11.1 miles of North Topsail Beach. Refer to Figure 1.

1.2 NEW RIVER INLET HISTORY

Dr. William J. Cleary of the University of North Carolina at Wilmington (UNCW) conducted a detailed geomorphic analysis of New River Inlet. The geomorphic analysis of the Inlet was conducted through interpretation of ortho-rectified aerial photographs collected between March 1962 and March 2003, as well as corresponding shoreline changes along Onslow Beach and North Topsail Beach.

Although the main focus of the analysis covered a period from March 1962 to March 2003, Dr. Cleary identified four distinct phases in the evolution of New River Inlet since 1938 (see Appendix B – Final Engineering Report).

1. The first phase of inlet evolution covered the period from 1938 to 1945. During this time, the Inlet was adjusting to the new hydrodynamic conditions associated with the construction of the AIWW and the channel connecting the AIWW with the City of Jacksonville. During this initial phase, the ebb tide delta began to enlarge and the Inlet throat migrated to the southwest toward North Topsail Beach. The bar channel was also significantly skewed toward North Topsail Beach.
2. The second phase of inlet evolution covered the period from 1945 to 1962. During this phase, the Inlet assumed morphologic features recognized today including an enlarged ebb tide delta and extensive marginal flood channel on the northeast or Onslow Beach side of the Inlet. The growth of the ebb tide delta stabilized by the mid-1950's. However, the ebb tide delta continued to fluctuate in size in response to varying climatic conditions, particularly the advent of tropical storms and nor'easters.

North Topsail Beach Shoreline Protection Project
Final Environmental Impact Statement

During most of this period, the ocean bar channel was oriented either perpendicular to the adjacent shorelines or skewed slightly toward North Topsail Beach.

North Topsail Beach Shoreline Protection Project
Final Environmental Impact Statement

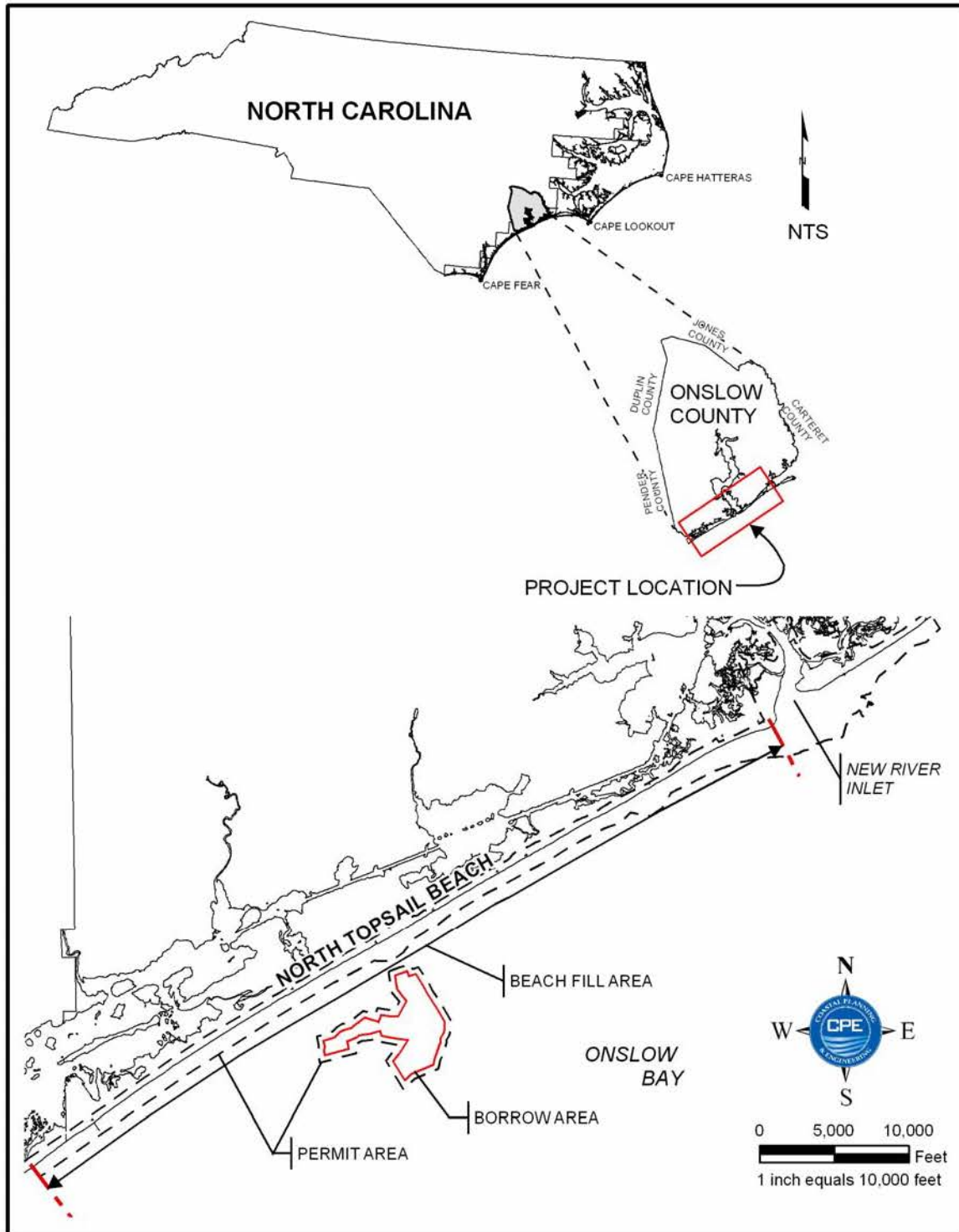


Figure 1 – Project Location Map

North Topsail Beach Shoreline Protection Project
Final Environmental Impact Statement

3. The third distinct evolutionary phase covers the period from 1962 to 1988 during which repetitive maintenance dredging of the ebb channel (channel dredging began in 1964) appeared to cause the apex of the delta to extend farther seaward. During this third phase of inlet evolution, the apex of the delta was offset to the southwest or off the north end of North Topsail Beach. These changes resulted in an asymmetric shape of the ebb tide delta in which most of the surface area of the delta was located on the northeast or Onslow Beach side of the bar channel.
4. The fourth and final phase of the Inlet evolution analysis covers the period from 1988 to the present time, during which the bar channel has been oriented to the southeast toward Onslow Beach. More detailed discussions of the changes observed in New River Inlet and the adjacent shorelines over the last two periods are provided in Appendix B - Engineering Report.

1.2.1 Initial Authorization

Federal authorization to conduct channel maintenance was granted under authority of Section 107 of the Rivers and Harbors Act of 1960 (P.L. 86-645). The authorization for New River included a 90-foot wide by 6-foot deep MLW channel connecting to the Atlantic Ocean through Cedar Bush Cut (channel from the AIWW to New River Inlet) and across the ocean bar of New River Inlet. Due to the limitations of dredging equipment capable of working in a shallow tidal inlet, maintenance of this seaward section of the authorized channel was not initiated until 1964.

Maintenance dredging in New River Inlet has generally increased since its initiation in 1964, reaching a peak between 1996 and 2000; a four-year timeframe that corresponds to the occurrence of the moderate to severe tropical storms and hurricanes referred to previously. Dredging in New River Inlet begins in the Inlet gorge, i.e., the deepest portion of the channel located between North Topsail Beach and Onslow Beach, and extends across the ebb tide delta. Based on the U.S. Army Corps of Engineers (USACE) – Wilmington District annual navigation reports from 1965 through 2002, an average of 114,263 yd³ of material is removed during each annual maintenance dredging event (USACE, 1965-2002). No attempt is made to maintain a fixed channel alignment; rather the dredge follows the naturally deep channel that exists at the time of the maintenance operation as mandated by the USACE's Directive.

North Topsail Beach Shoreline Protection Project
Final Environmental Impact Statement

1.2.2 Supplemental Appropriation

Funds for maintenance dredging of both the ocean bar channel and AIWW connecting channels are included in the general operation and maintenance (O&M) budget developed each year by the USACE - Wilmington District. Based on annual navigation reports from 1965 through 2002, approximately \$19 million has been spent on maintenance dredging of New River Inlet, with an average annual cost of \$532,670. Historically, the USACE – Wilmington District has received approximately \$750,000 for annual maintenance dredging. The Federal Fiscal Year 2007 budget included \$875,000 for New River Inlet. It is the only inlet in the region that was included in the Federal budget due to needs of maintaining a safe harbor entrance between Masonboro Inlet and Beaufort Inlet.

1.3 PROJECT OBJECTIVES

The Town of North Topsail Beach is seeking Federal and State permits to allow implementation of a non-Federal shoreline and inlet management project that would preserve the Town's tax base, protect its infrastructure, and maintain its tourist oriented economy (see Section 1.6 for details). The total assessed tax value of property within the corporate limits of North Topsail Beach is approximately \$1.5 billion based on the 2007 reappraisal. Of this total tax base, \$0.8 billion is situated within a 150- to 400-ft wide strip of land generally located between the frontal dune and the ocean front roads. Primary State Route NC 210 is the oceanfront road south of the Town Hall while New River Inlet Road extends from the Town Hall to New River Inlet.

Based on a 14 August 2007 survey by North Topsail Beach Coastal Area Management Act (CAMA) Local Permit Officer (LPO), 31 residential structures located on North Topsail Beach were considered to be imminently threatened as defined by State Standard Rule 15A NCAC 7H .0308 (NCDCM, 2007b) (see Table 1 for details). The basic premise of this rule is that a structure in the Ocean Hazard Area is considered imminently threatened when its foundation is less than 20 feet from the toe of the erosion scarp (see Figure 2 as depicted in the North Carolina CAMA Handbook [2003]). Ten (10) additional homes have been condemned on the north end of the island due to extensive storm damage and erosion. Figure 3 depicts the location of each threatened and condemned structure. According to the North Carolina Division of Coastal Management (NCDCM), 26 permits have been issued for sandbags since 1992 and in May 2008 exposed sandbags in North Topsail Beach are required to be removed (J. Giles, pers. comm.). The potential loss of these threatened structures would reduce the total tax base by \$63 million.

North Topsail Beach Shoreline Protection Project
Final Environmental Impact Statement

Table 1
Analysis of Threatened Structures on North Topsail Beach

Address ^a	Property Value ^b	Structure Value ^b	Total Value
538 Ocean Drive	\$950,000	\$131,437	\$1,081,437
168 Topsail Road	\$960,000	\$75,067	\$1,035,067
204 Topsail Road	\$240,000	\$65,614	\$305,614
230 Topsail Road	\$377,500	\$90,974	\$468,474
306 Topsail Road	\$428,000	\$48,509	\$476,509
340 Topsail Road	\$428,000	\$68,912	\$496,912
364 Topsail Road	\$320,000	\$112,824	\$432,824
464 Topsail Road	\$216,000	\$62,722	\$278,722
486 Topsail Road	\$200,000	\$37,125	\$237,125
3808 Island Drive	\$725,000	\$86,015	\$811,015
1074 NRI Road	\$774,000	\$176,090	\$950,090
1204 NRI Road	\$690,000	\$250,754	\$940,754
1214 NRI Road	\$690,000	\$242,212	\$932,212
1232 NRI Road	\$129,200	\$79,964	\$209,164
1234 NRI Road	\$360,000	\$182,736	\$542,736
1236 NRI Road	\$400,000	\$170,983	\$570,983
1238 NRI Road	\$400,000	\$170,983	\$570,983
1822 NRI Road	N/A	\$10,945,810	\$10,945,810
1768 NRI Road	\$1,350,000	\$503,324	\$1,853,324
2174 NRI Road	N/A	\$4,761,958	\$4,761,958
2182 NRI Road	N/A	\$4,769,636	\$4,769,636
2196 NRI Road	N/A	\$4,845,498	\$4,845,498
2210 NRI Road	N/A	\$4,923,690	\$4,923,690
2224 NRI Road	N/A	\$4,831,474	\$4,831,474
2240 NRI Road	N/A	\$4,917,870	\$4,917,870
2250 NRI Road	N/A	\$4,974,668	\$4,974,668
2264 NRI Road	N/A	\$4,839,947	\$4,839,947
2278 NRI Road*	\$100	N/A	\$100
2278-1 NRI Road*	\$100	N/A	\$100
2286-1 NRI Road*	\$100	N/A	\$100
2286-2 NRI Road*	\$100	N/A	\$100
2292-1 NRI Road*	\$100	N/A	\$100
2292-2 NRI Road*	\$100	N/A	\$100
2296 NRI Road*	\$100	N/A	\$100
2302 NRI Road*	\$100	N/A	\$100
2320 NRI Road*	\$100	N/A	\$100
2320-2 NRI Road	\$105,400	\$61,843	\$167,243
2314 NRI Road	\$192,000	\$98,411	\$290,411
2324 NRI Road	192,000	\$104,204	\$296,204
2324-1 NRI Road	\$192,000	\$121,160	\$313,160
Total	\$10,320,100	\$52,752,414	\$63,072,514

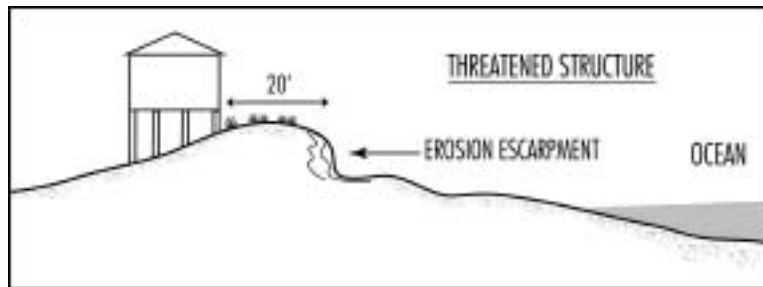
North Topsail Beach Shoreline Protection Project Final Environmental Impact Statement

^a Information based on the 7 June 2007 field survey and additional correspondence received on 14 August 2007 by Deborah Hill, North Topsail Beach CAMA LPO and Jon Giles, CAMA Field Representative.

^b Property value and Structure value information was provided by Shelia Cox, North Topsail Beach Project Coordinator; Onslow County GIS database (<http://maps.onslowcountync.gov/>).

N/A denotes those parcels and structures in which a value was not provided in the Town's tax database or through the Onslow County GIS database.

* These structures have been previously condemned and are currently under litigation.



**Figure 2 – Diagram Depicting Imminently Threatened Structures
(NCDCM, 2003a)**

1.3.1 Project Needs and Opportunities

The goals and objectives of the North Topsail Beach Shoreline Protection Project are as follows:

- Provide long-term stabilization of the oceanfront shoreline located immediately south of New River Inlet;
- Provide short-term protection to the 31 imminently threatened residential structures over the next zero to five years;
- Provide long-term protection to Town infrastructure and approximately 1,200 homes;
- Reduce or mitigate for property damage associated with shoreline erosion along 11.1 miles of oceanfront shoreline of North Topsail Beach;
- Improve recreational opportunities along the Town's oceanfront shoreline;
- Ensure material utilized for shore protection is beach compatible;
- Maintain the Town's tax base by protecting existing development and infrastructure on the oceanfront shoreline of North Topsail Beach; and

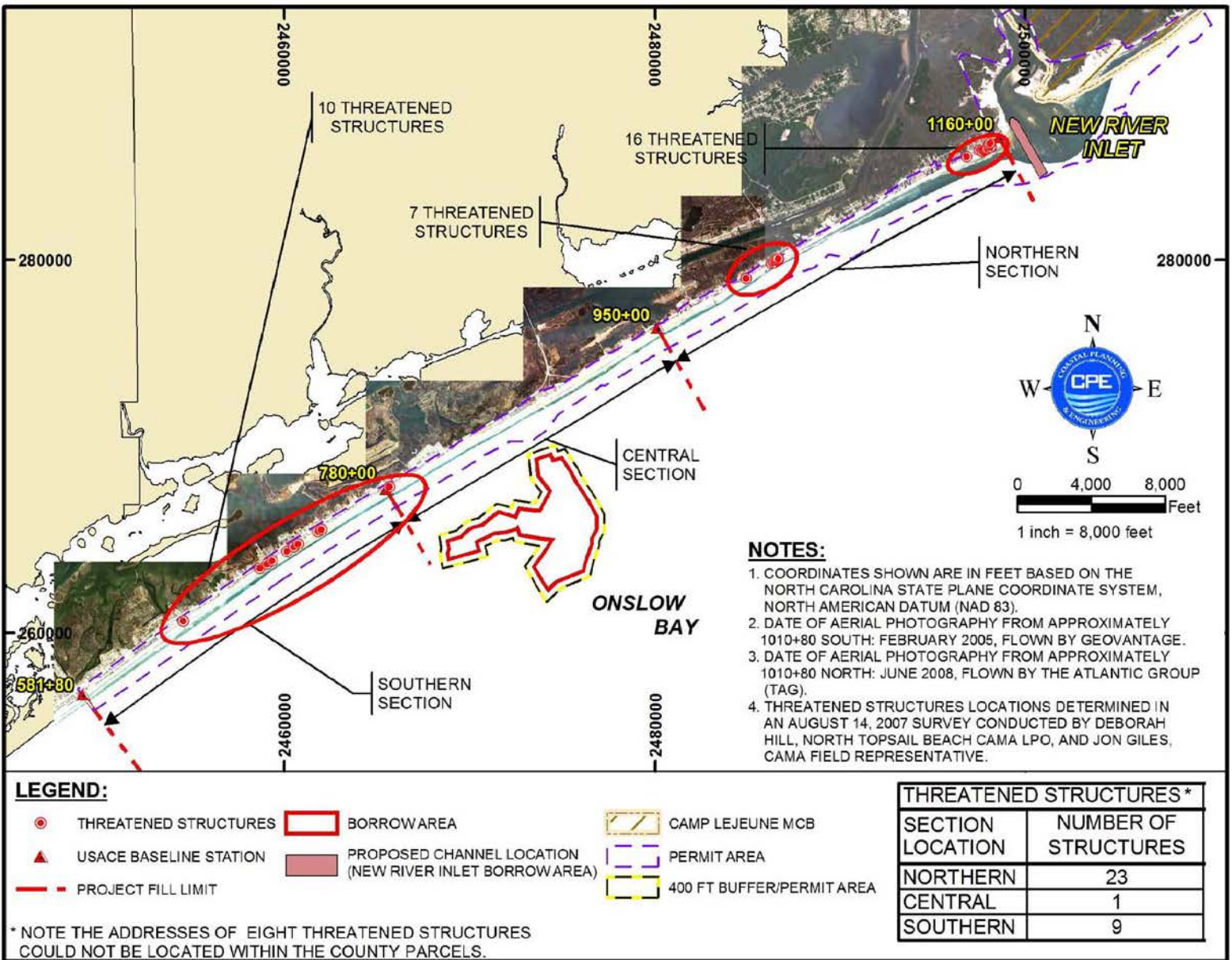


Figure 3 – 2007 Survey Results of Imminently Threatened Structures in the Town of North Topsail Beach

North Topsail Beach Shoreline Protection Project
Final Environmental Impact Statement

- Balance the needs of the human environment with the protection of existing natural resources.

1.4 RELATED ACTIONS

The following is a summary of activities that have or potentially could have an impact on New River Inlet and the oceanfront shoreline of Topsail Island.

(a) The USACE – Wilmington District is conducting a Federal feasibility study for storm damage reduction and shoreline protection for a 50-year period of analysis along the southern 3.85 miles of oceanfront in North Topsail Beach. The Surf City and North Topsail Beach Shore Protection Project Feasibility Report (USACE 2006) discloses that the most practicable plan of protection is a berm and dune project extending from the southern edge of the Coastal Barrier Resources System (CBRS) (Topsail Unit, L06). The tentatively selected National Economic Development Plan (NED) consists of a sand dune constructed to an elevation of 14 feet above the 1988 North Atlantic Vertical Datum (NAVD88), fronted by a 50-foot wide beach berm constructed to an elevation of 7 feet above NAVD88. Renourishment will occur on a 4-year cycle. If protection of this area is found to be in the Federal interest, the project could be implemented in November 2014 (G. McIntosh, pers. comm.). For initial construction, North Topsail Beach's cost share would be \$16.4 million of the \$118 million total (October 2008 cost estimate). That is 40% of the non-federal share of \$39.6 million. North Topsail Beach's share over the life of the project is more complex since cost sharing formulas change from initial construction to renourishment (G. McIntosh, pers. comm.).

(b) Funding for maintenance of navigation channels, including the channel from the AIWW to New River Inlet (Cedar Bush Cut), the ocean bar channel of New River Inlet, and the AIWW, has been problematic due to a decreased Federal budget and could result in cessation of maintenance dredging or at best, sporadic maintenance activities. Material removed from Cedar Bush Cut and from the intersection of Cedar Bush Cut with the AIWW has, in the past, been deposited on the north end of North Topsail Beach. If these operations cease, the erosion stress on the Town's northernmost shoreline would increase. Refer to Sections 1.2.1 and 1.2.2.

1.5 ISSUES ELIMINATED FROM FURTHER ANALYSIS

The North Topsail Beach Shoreline Protection Project does not focus on improving navigation through New River Inlet. However, alternatives for responding to the Inlet channel erosion problem will be evaluated with respect to any negative or positive effects on navigation interests that regularly utilize the Inlet. Navigation improvements for New River Inlet would have to be authorized

North Topsail Beach Shoreline Protection Project Final Environmental Impact Statement

either under Section 107 Authority provided by the Rivers and Harbors Act of 1899 or as a result of a specific Congressional authorization for a Federal Feasibility Study.

1.6 DECISIONS TO BE MADE

The Town of North Topsail Beach Board of Alderman held a \$34 million beach improvement bond referendum on 7 November 2006 for all registered voters. The bond referendum did not pass based on funding structure. Due to the result of the bond referendum and voter comments, a Mayor's Financial Task Force was created and has coordinated several sources of funds to finance the shoreline protection project. Several of these funding sources include but are not limited to: 1) an annual Capital Reserve Fund which includes an Onslow County sales tax refund, 2) an annual North Topsail Beach 3% occupancy tax, 3) an annual portion (\$0.03) of North Topsail Beach property taxes, 4) a one-time NCDENR Water Resources Development Grant received upon completion of Phase I, 5) Onslow County portion of occupancy tax based on an inlet cost share program pending demonstration of successful completion of Phase I, and 6) a one-time Beach Nourishment surplus fund. The Town of North Topsail Beach intends to apply for State Grant monies for each Phase of the project. The Town will also continue to request financial assistance from Onslow County (S. Cox and D. McCartney, pers. comm.).

This Environmental Impact Statement will evaluate a full range of alternatives for responding to the erosion associated with changes in the position and orientation of the New River Inlet main ebb channel. Each alternative will be evaluated for its ability to satisfy the stated project goals and objectives, as well as the environmental, economic, and social consequences associated with each alternative.

1.7 PERMITS, LICENSES AND ENTITLEMENTS

The following section includes a description of applicable Federal and State laws associated with the North Topsail Beach Shoreline Protection Project. This EIS document has been prepared to satisfy both the National Environmental Policy Act (NEPA) and the North Carolina State Environmental Policy Act (SEPA) requirements in accordance with the laws in Sections 1.7.1 and 1.7.2, respectively. See Section 5.0 – Table 21 for the associated compliance status pertaining to each applicable law described below.

1.7.1 National Environmental Policy Act of 1969

The National Environmental Policy Act (42 U.S.C. 4321; 40 C.F.R. 1500.1) includes six fundamental objectives that have been developed since its enactment in 1970. These objectives include: supplemental legal authority;

North Topsail Beach Shoreline Protection Project Final Environmental Impact Statement

procedural reform; disclosure of environmental information; resolution of environmental problems; foster intergovernmental coordination and cooperation; enhance public participation in governmental planning and decision making (Bass *et al.*, 2001). The Final EIS has been developed based on the discussions and comments received during the project scoping and coordination efforts, as well as from the Draft EIS released in November 2007 (Appendix A). The proposed project will be in full compliance with NEPA.

1.7.2 Rivers and Harbors Act of 1899

Section 10 of the Rivers and Harbors Act states that “it shall not be lawful to excavate or fill.....alter or modify the course, location, condition, or capacity of, any port roadstead, haven, harbor, canal, lake, harbor of refuge, or enclosure within the limits of any breakwater, or of the channel of any navigable water of the United States unless the work has been recommended by the Chief of Engineers and authorized by the Secretary of War....” (USACE, 2006a).

1.7.3 Clean Water Act of 1972

Section 404 of the Clean Water Act established a permit program to regulate the discharge of dredged and fill material into waters of the U.S., including wetlands. Additional activities regulated under this program include dams, farming and infrastructure along highways, roads and airports in waters of the U.S. This program is jointly administered by Environmental Protection Agency and the USACE (USEPA, 2006).

Section 401 of the Clean Water Act includes the delegation of Federal authority to the State of North Carolina to issue a 401 Water Quality Certification. The 401 Water Quality Certification is applicable to all projects that require a Federal permit (i.e., Section 404 Permit) for discharge of dredge material into waters and wetlands of the U.S. The 401 Water Quality Certification Program is administered by the North Carolina Division of Water Quality (NCDWQ) to prevent the degradation of waters in the State and to prevent any violations of the State water quality standards. Through the State Clearinghouse process, NCDWQ provided comments dated 8 February 2008 in which concerns over potential impacts to hardbottoms were identified. Consultation regarding the addition of the upland disposal area (Island \$143) took place in February 2009.

1.7.4 Endangered Species Act of 1973

Coordination with the US Fish and Wildlife Service (USFWS) and NOAA National Marine Fisheries Service (NMFS) includes consultation under Section 7 of the Endangered Species Act of 1973, as amended. Both USFWS and NMFS provided comments on the Draft EIS by letters dated 6 February 2008 and 15 February 2008, respectively. This FEIS document reflects changes as

North Topsail Beach Shoreline Protection Project
Final Environmental Impact Statement

recommended in their letters. A draft Biological Assessment has been prepared and will be circulated to both NMFS and USFWS for their concurrence.

1.7.5 Coastal Barrier Resources Act and Coastal Barrier Improvement Act of 1990

Most of the northern 7.25 miles of the Town lies within the Coastal Barrier Resource System (CBRS), which was established pursuant to the Coastal Barrier Resource Act of 1982 (CBRA-82) and the Coastal Barrier Improvement Act of 1990 (CBIA-90).

The purpose of these two acts is to restrict Federal expenditures and financial assistance on undeveloped coastal barrier islands that would encourage development. The USFWS is the Federal agency responsible for administering the CBRA. The USFWS developed the CBRS boundaries in North Topsail Beach following the passage of CBRA-82 and included all undeveloped areas on the barrier islands that existed at that time. As a result, all except two relatively small areas along the northern end of North Topsail Beach were included in the CBRS. Since the southern 3.85 miles of the Town was already developed, it was excluded from the CBRS designations. The approximate locations of the CBRS boundaries on North Topsail Beach are shown in Figure 4 below. The two areas in the northern 7.25-mile segment excluded from the CBRS are indicated in Figure 4 and include a 1,950-foot segment beginning approximately 1,500 feet southwest of New River Inlet and a 1,900-foot segment that begins approximately 8,600 feet southwest of the Inlet.

There are exceptions to the use of Federal monies within a CBRA Unit. Certain activities, which are exempt under Section 6 "Exceptions" of the CBRA include: 1) projects for the study, management, protection, and enhancement of fish and wildlife resources and habitat; 2) establishment, operation, and maintenance of air and water navigation aids and devices; 3) projects under the Land and Water Conservation Fund Act of 1965 and the Coastal Zone Management Act of 1972; 4) scientific research, including but not limited to aeronautical, atmospheric, space, geologic, marine, fish and wildlife and other research, development, and

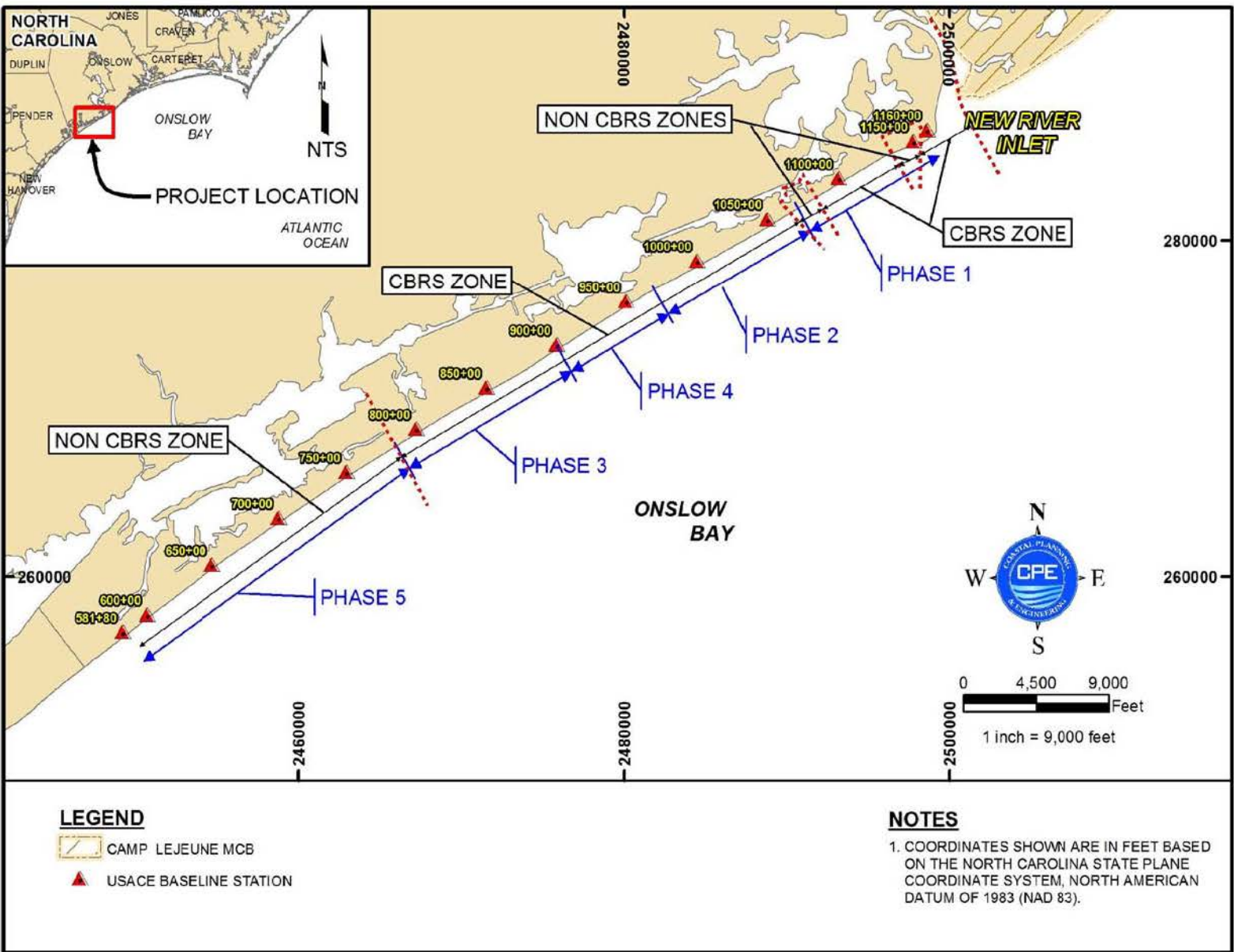


Figure 4 – CBRSS Zones

North Topsail Beach Shoreline Protection Project Final Environmental Impact Statement

applications; 5) assistance for emergency actions essential to the saving of lives and the protection of property and the public health and safety, if performed pursuant to the Disaster Relief Act of 1974; 6) the maintenance, replacement, reconstruction, or repair, but not the expansion, of publicly owned or publicly operated roads, structures, or facilities; 7) nonstructural projects for shoreline stabilization that are designed to mimic, enhance, or restore natural stabilization systems (U.S. Congress, 1982).

1.7.6 National Historic Preservation Act of 1966 (As Amended)

Archival research, field work and coordination with the North Carolina State Historic Preservation Officer (SHPO), have been conducted in accordance with the National Historic Preservation Act of 1966 (Public Law 89-665), the National Environmental Policy Act of 1969 (Public Law 11-190), Executive Order 11593, the Advisory Council on Historic Preservation Procedures for the protection of historic and cultural properties (36 CFR Part 800) and the updated guidelines described in 36 CFR 64 and 36 CFR 66.

The North Carolina Office of State Archaeology (OSA) protects endangered archaeological sites on private or public lands through enforcement of the North Carolina Archaeological Resources Protection Act (G.S. 70, article 2), the North Carolina Archaeological Records Program (G.S. 70, article 4), and the "Abandoned Shipwreck Law" (G.S. 121, article 3).

Coordination with the SHPO has occurred during the development of the project to ensure that the proposed project is in compliance with the National Historic Preservation Act. SHPO concurred with the recommendation of Tidewater Atlantic Research (TAR), the Town's archaeological consultant, as stated in a letter dated 12 March 2008 that no further archeological investigation be conducted within the area of the offshore borrow area or New River Inlet.

1.7.7 Magnuson-Stevens Fishery Conservation and Management Act of 1996

The Magnuson Fishery Conservation and Management Act of 1976 (MSFCMA) was enacted by the U.S. Congress to protect marine fish stocks and their habitat, prevent and stop overfishing and minimize bycatch. Congress defined Essential Fish Habitat (EFH) as "those waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity." The MSFCMA requires that EFH be identified for all fish species federally managed by the Fishery Management Councils and the NMFS.

Eight (8) Fishery Management Councils were established under the MSFCMA to manage living marine resources within Federal jurisdiction and each council is required to describe and identify EFH designations in their respective regions.

North Topsail Beach Shoreline Protection Project Final Environmental Impact Statement

Each of these councils is responsible for developing a Fishery Management Plan (FMP) to achieve specified management goals for fisheries. The FMP includes data, analyses, and management measures (including guidelines for harvest) for a fishery.

A draft EFH assessment was submitted to NMFS Habitat Conservation Division for review in June 2006. Coordination with NMFS will continue to ensure project compliance with the MSFCMA. A final EFH has been prepared and will be provided to NMFS for concurrence.

1.7.8 Fish and Wildlife Coordination Act of 1958

The Fish and Wildlife Coordination Act of 1958, as amended, mandates that Federal and State agencies cooperate “to protect, rear, stock, and increase the supply of game and fur-bearing animals....study the effects of domestic sewage, trade wastes, and other polluting substances on wildlife.” The Act also requires consultation with the Bureau of Fisheries, USFWS and State fish and wildlife agencies where the “waters of any stream or other body of water are proposed or authorized, permitted or licensed to be impounded, diverted...or otherwise controlled or modified” by any agency under a Federal permit or license. Additional amendments to the Act have “permitted lands valuable to the Migratory Bird Management Program to be made available to the State agency exercising control over wildlife resources (USFWS, 2006i).

1.7.9 Migratory Bird Treaty Act of 1918

The Migratory Bird Treaty Act (50 CFR 10.13) was enacted in 1918 to make the following actions against migratory birds illegal: take (pursue, hunt, shoot, poison, wound, kill, capture, trap or collect), possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or the parts, nests, or eggs of a bird unless permitted under Federal authorization by the USFWS (USFWS, 2006j).

1.7.10 Coastal Zone Management Act of 1972

Enacted by Congress in 1972, the Coastal Zone Management Act does not require, but encourages that each State preserve, protect, restore or enhance natural coastal resources including; wetlands, floodplains, estuaries, beaches, dunes, barrier islands and coral reefs, as well as the fish and wildlife that utilize these resources. Since this Act is voluntary, any State that implements a coastal management program as defined in of this Act will receive Federal financial aid.

The NCDZM has developed and enforces a coastal management plan with the rules and policies that supports the ideals and concepts of the CZMA. The NCDZM enforces this Act using the rules and policies of the Coastal Area

North Topsail Beach Shoreline Protection Project
Final Environmental Impact Statement

Management Act of 1974 (enabled and delegated in 1972; adopted and implemented in 1974).

1.7.11 North Carolina Environmental Policy Act (As Amended)

This FEIS has been developed in accordance with the requirements of the State Clearinghouse review process under the North Carolina Environmental Policy Act (NCEPA, G.S. 113A-1), based upon the agreement between the NCDCM and the USACE. Upon the development and submittal of the FEIS, additional filing under the NC EPA will not be required.

1.7.12 North Carolina Coastal Area Management Act of 1974

The North Carolina Coastal Area Management Act (CAMA) (§ 113A-100) was implemented to preserve the physical, aesthetic, cultural and recreational values, including the management of land and water resources in North Carolina's 20 coastal counties. Under CAMA, permits are necessary for development type projects proposing work in any Areas of Environmental Concern (AEC) established by the Coastal Resources Commission. An AEC includes areas of natural importance such as 1) estuarine and ocean systems, 2) ocean hazard system, 3) public water supplies, and 4) natural and cultural resource areas. Under CAMA, the proposed work cannot cause significant damage to one or more of the historic, cultural, scientific, environmental or scenic values or natural systems identified in the AECs listed. In addition, significant cumulative effects cannot result from a development project (NCDCM, 2003).

An application for a Major CAMA Permit was filed with the State however due to modifications to the project; the application was put on hold until further notice.

1.7.13 North Carolina Dredge and Fill Law

Under CAMA (§ 113-229), the North Carolina Division of Coastal Management regulates projects that involve excavation or filling in any estuarine waters, tidelands, marshlands, or State-owned lakes. An applicant proposing work in such lands must obtain a permit from both the North Carolina Department of Environment and Natural Resources and the USACE (NCDCM, 2006).

1.7.14 North Carolina Surface Water Quality Standards

The NCDWQ Surface Waters and Wetlands Standards (North Carolina Administrative Code 15A NCAC 02B .0100 & .0200) was implemented for assigning and regulating water quality standards for waters in the State of North Carolina. The water column in the North Topsail Beach project area is classified as both SA waters and Outstanding Resource Waters. Class SA waters are surface waters suitable for shellfishing for market purposes. Waters designated

North Topsail Beach Shoreline Protection Project Final Environmental Impact Statement

as Class SA have specific water quality standards that must be met, as well as the water quality standards assigned to both Class SB and SC waters. Outstanding Resource Waters (ORW) includes waters of exceptional water quality. Waters designated as ORW and/or Class SA waters are also classified as High Quality Waters (HQW) (NCDWQ, 2003).

Based on the above classifications, water quality standards applicable to the project area include: 1) turbidity in the receiving water shall not exceed 25 Nephelometric Turbidity Units (NTU), 2) changes in salinity due to hydrological modifications shall not result in the removal of the functions of a Primary Nursery Area (PNA), 3) temperature shall not be increased above the natural water temperature by more than 0.8°C (1.44°F) during the months of June, July or August nor more than 2.2°C (3.96°F) during other months, and in no cases to exceed 32°C due to the discharge of heated liquids, 4) dissolved oxygen cannot decrease below 5.0 mg/l, except in “poorly flushed tidally influenced streams or embayments, or estuarine bottom waters” which may have decreased values from natural causes, and 5) pH levels “shall be normal for the waters in the area, which generally range between 6.8 and 8.5 except that swamp waters may have a pH as low as 4.3 if it is the result of natural conditions” (NCDWQ, 2006).

1.7.15 Ownership of Lands

In an advisory opinion provided by the NC Office of the Attorney General regarding ownership of accreted lands in Bogue Inlet (September 15, 2003) “Advisory Opinion concerning ownership of dredged fill and accretions on Bogue Banks at Bogue Inlet; N.C. Gen. Stat. §§ 146-6”), the State Attorney General determined land raised above mean high water in the areas north of the COLREGS Line (i.e., the Inlet shoreline) either as a direct or indirect result of the project would be owned by the adjacent upland property owners.

With regard to the ocean shoreline, North Carolina General Statute §§ 146-6(f) provides that “*the title to land in or immediately along the Atlantic Ocean raised above the mean high water mark by publicly financed projects which involve hydraulic dredging or other deposition of spoil materials or sand vest in the state.*” Since the proposed project would provide nourishment along the entire 11.1 mile ocean shoreline of North Topsail Beach, thus raising the land above the mean high tide mark, ownership of the entire ocean shoreline of North Topsail Beach would revert to the State of North Carolina.

Attachment 2: Town Letter and Public Notice of Permit Modifications

COASTAL PLANNING & ENGINEERING OF NORTH CAROLINA, INC.

4038 MASONBORO LOOP ROAD, WILMINGTON, NC 28409

910-791-9494 PHONE 910-791-4129 FAX
INTERNET: <http://www.coastalplanning.net>

August 1, 2013

Mr. Mickey Sugg
US Army Corps of Engineers, Wilmington District
69 Darlington Avenue
Wilmington NC 28403-1343

Re: Notification of Modifications to the Proposed New River Inlet Channel Realignment & Beach Restoration Project

Dear Mr. Sugg:

This letter serves to inform you of a proposed change to the construction plan to the permitted New River Inlet Channel Realignment Project. As you know, Phase 1 of the project was constructed between November 26, 2012 and February 9, 2013. Due to immediate threats to the integrity of numerous homes and infrastructure caused by continued shoreline erosion combined with changes within the Town of North Topsail Beach's financial situation, the Town is now poised to move forward with the project and implement Phase 5 during this upcoming dredging season (November 30-March 15).

The original phased approach for the New River Inlet Channel Realignment Project was proposed by the Town due to financial limitations. Constructing the entire project area within one dredging season would have imposed a higher financial burden than the Town could afford. In this regard, individual phases were strategically scheduled be constructed every other year providing the Town ample time to secure the funds required for each event. In the wake of the successful construction of Phase 1 this past winter combined with the continuation of threatening erosion along the ocean front shoreline, the Town has been highly motivated to explore funding mechanisms to allow for a more expedited construction schedule. A potential option that had not been previously considered to provide the necessary funding may be available through the USDA. According to the USDA regional office in Kingston, this would be the only known USDA rural development loan for the purpose of beach restoration active in the nation.

The schedule of the permitted project includes a phased approach, as described on page 46 in the Final Environmental Impact Statement (FEIS), is provided below in Table 1. Originally, Phase 5 was not anticipated to be constructed until 7 years following the initial construction of Phase 1. In addition, the fill volume (512,400) for the phase was formulated with a relatively low fill density (25 cubic yards/linear foot excluding the tapers) due to the anticipation of the implementation of the Federal Storm Protection Project. As such, this southern section of the permitted project was formulated to mitigate the effects of long-term erosion until such time that the Federal Project would be constructed. Due to the fact that implementation of the Federal Project is not expected to occur within the foreseeable future, the Town is seeking additional protection in the form of higher density rates (50 – 92 cubic yards/linear foot) resulting in a total

fill volume of approximately 75 cubic yards. It should be noted, however, that the length of the fill for Phase 5 over 20,320 feet of ocean front shoreline will not change from the original plan. No other modifications to the project as described within the FEIS for the New River Inlet Channel Realignment Project and Record of Decision are being requested at this time.

Table 1. Construction schedule as depicted in the FEIS

Phase	Constr. Years	Baseline Stations	Fill Length (ft)	Volume (cy)
1	2010-2011	1070+00-1160+00	9,000	544,400
2	2012-2013	968+80-1070+00	10,120	940,700
3	2014-2015	785+00-900+00	11,500	393,800
4	2016-2017	900+00-968+80	6,880	721,500
5	2017-2018	581+80-785+00	20,320	512,400

Recognizing the fact that constructing Phase 5 one year after the construction of Phase 1 deviates from the permitted project schedule, the Town is requesting a modification to their DOA individual permit (SAW 2005-00344) to address this need. Along with this request, we also recognize the need to reinitiate consultation with additional federal agencies, namely the National Marine Fisheries Service (NMFS) and the US Fish and Wildlife Service (UFWS). This reinitiation provides both agencies an opportunity to submit comments for consideration. A supplement to the Essential Fish Habitat (EFH) assessment and a supplement to the Biological Assessment (BA) are attached for review as a part of this reinitiation.

We appreciate your consideration of this modification and would be available to discuss these issues anytime.

Sincere Regards,

COASTAL PLANNING & ENGINEERING OF NORTH CAROLINA, INC.



Brad Rosov
Marine Biologist



US Army Corps
Of Engineers
Wilmington District

PUBLIC NOTICE

Issue Date: August 8, 2013
Comment Deadline: September 9, 2013
Corps Action ID Number: SAW-2005-00344
(ORM #2004-00344)

The Wilmington District, Corps of Engineers (Corps) received a request from the Town of North Topsail Beach seeking a permit modification to their current Department of the Army (DA) authorization issued on May 27, 2011 to relocate the New River Inlet ebb tide channel and to conduct beach nourishment along 11.1 miles of North Topsail Beach oceanfront shoreline in Onslow County, North Carolina. The modification request consists of changing Phase V's original permitted construction schedule and beach fill footprint.

Specific plans and location information are described below and shown on the attached plans. This Public Notice and all attached plans are also available on the Wilmington District Web Site at <http://www.saw.usace.army.mil/Missions/RegulatoryPermitProgram.aspx>. Also, please reference the December 2009 Final Environmental Impact Statement (EIS) and the April 13, 2011 Record of Decision (ROD) for the May 27, 2011 DA authorization.

Applicant: Mr. Stuart Turille, Town Manager
Town of North Topsail Beach
2008 Loggerhead Court
North Topsail Beach, North Carolina 28460

AGENT (if applicable): Coastal Planning & Engineering of North Carolina, Inc.
C/o: Mr. Brad Rosov
CB&I
4038 Masonboro Loop Road
Wilmington, North Carolina 28409

Authority

The Corps evaluates this application and decides whether to issue, conditionally issue, or deny the proposed work pursuant to applicable procedures of the following Statutory Authorities:

- Section 404 of the Clean Water Act (33 U.S.C. 1344)
- Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403)

Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972
(33 U.S.C. 1413)

Location

The Phase V project site, 34°29'12.59" N & 77°25'48.52"W, extends from North Topsail Beach/Surf City limits to approximately 1.75 miles southwest of NC Hwy 210 high rise bridge and encompasses approximately 3.85 miles of North Topsail Beach oceanfront shoreline; and also includes an offshore borrow source located approximately 0.5 mile directly offshore from the high rise bridge in Onslow County, North Carolina.

Existing Site Conditions

Phase I of the original permit was implemented during the 2012/2013 dredging window and all work was completed by February 2013. This phase included the relocation of the New River ebb tide channel with the use of a cutter head dredge and the placement of an estimated 566,244 cubic yards of dredged material along approximately 7,500 linear feet of the north-northeast ocean shoreline on North Topsail Beach.

The Phase V beach fill placement is approximately 3.85 mile stretch (of the original 11.1 miles) along the southwest ocean shoreline of North Topsail Beach. Unlike most of the other phases, this section, originally known as the southern section, is located outside of the Coastal Barrier Resource System (CBRS), which prohibits the expenditure of Federal funds pursuant to the Coastal Barrier Resource Act of 1982 (CBRA-82) and the Coastal Barrier Improvement Act of 1990 (CBIA-90). Being outside of the CBRS and eligible to receive Federal funds, this southern section of North Topsail Beach remains included in the U.S. Army Corps of Engineers study area for the development of Topsail Island long-term Federal shoreline protection plan.

Applicant's Stated Purpose

One of the main purposes for the Town's original construction timeframe was due to financial limitations and scheduling. The applicant's stated purpose for the project modification is to expedite the construction schedule and funding process due to the positive results in implementing Phase I. With the potential of new funding avenues, it is the Town's desire to push for a consecutive beach placement event this upcoming dredging season. Additionally, the Town's purpose to increase the footprint for Phase V, which is a similar density rate as the other phases, is due to the shortfalls of the Federal Project.

Project Description

Project plans consist of increasing the beach fill volume to 1.5 million cubic yards (over twice the amount of the original volume of 512,400 cy) with a range fill density of 50-92

cubic yards per linear foot, averaging 75 cubic yards per linear foot. This proposed linear footage is similar to that of the other phases. By implementing Phase V in 2013/2014 dredging window, the schedule for this phase will deviate from its original estimated timeframe of (7) years following the initial construction of Phase I. All other original plans for Phase V, as stipulated in the FEIS, ROD, and May 27, 2011 DA authorization, remain unchanged. This includes the use of the offshore borrow area, utilization of a cutter head dredge, and the implementation of all mitigation, minimization, and avoidance measures outlined in Section 6.0 of the FEIS and in the Special Conditions of the DA authorization.

Avoidance and Minimization

The applicant provided the following information in support of efforts to avoid and/or minimize impacts to the aquatic environment: All mitigation, minimization, and avoidance measures outlined in Section 6.0 of the December 2009 FEIS and the May 27, 2011 DA authorization remain valid.

Compensatory Mitigation

The applicant offered the following compensatory mitigation plan to offset unavoidable functional loss to the aquatic environment: All mitigation, minimization, and avoidance measures outlined in Section 6.0 of the December 2009 FEIS and the May 27, 2011 DA authorization remain valid.

Essential Fish Habitat

Pursuant to the Magnuson-Stevens Fishery Conservation and Management Act, this Public Notice initiates the Essential Fish Habitat (EFH) consultation requirements. The Corps' initial determination is that the proposed project may affect, but not likely to adversely affect EFH or associated fisheries managed by the South Atlantic or Mid Atlantic Fishery Management Councils or the National Marine Fisheries Service (NMFS).

No additional effects to fisheries are expected to be incurred with the implementation of the permit modification outside of what has been previously documented in the original permit. All potential direct and indirect impacts to EFH and other fishery resources associated with the proposed modification activities can be referenced in the original September 2009 EFH Assessment. NOTE: Through coordination with NMFS on August 5, 2013, an amendment to the 2009 assessment will not be prepared for the permit modification.

Cultural Resources

Pursuant to Section 106 of the National Historic Preservation Act of 1966, Appendix C of 33 CFR Part 325, and the 2005 Revised Interim Guidance for Implementing Appendix C,

the District Engineer consulted district files and records and the latest published version of the National Register of Historic Places and initially determines that:

- No historic properties, nor properties eligible for inclusion in the National Register, are present within the Corps' permit modification area (offshore borrow area and Phase V placement footprint); therefore, there will be no historic properties affected. The Corps subsequently requests concurrence from the SHPO.

NOTE: As a result of the January 21, 2008 cultural resource survey during the original permit review, no historic properties, nor properties eligible for inclusion in the National Register, were present within the offshore borrow area or the Phase V placement area. By letter dated March 12, 2008, SHPO concurred with the findings in that original survey. Special Condition No. 13 of the May 27, 2011 permit remains valid and states, "If submerged cultural resources are encountered during the operation, the USACE will be immediately notified so that coordination can be initiated with the Underwater Archeology Unit (UAU) of the Department of Cultural Resources. In emergency situations, the permittee should immediately contact the UAU at (910-458-9042), Fort Fisher, so that a full assessment of the artifacts can be made."

The District Engineer's final eligibility and effect determination will be based upon coordination with the SHPO and/or THPO, as appropriate and required, and with full consideration given to the proposed undertaking's potential direct and indirect effects on historic properties within the Corps-identified permit area.

Endangered Species

Pursuant to the Endangered Species Act (ESA) of 1973, under purview of U.S. Fish and Wildlife Service (USFWS) and the NMFS Protective Resources Division, the Corps reviewed the project area, examined all information provided by the applicant, consulted the latest North Carolina Natural Heritage Database, and reevaluated the November 2009 Biological Assessment (BA) for the original permit. The project area for the modification request is included in the November 2009 BA overall project area and was part of the evaluation during our original ESA review and consultation. However, since the previous consultation, the Corps has become aware of USFWS and NMFS's recent and separate proposals to list Critical Habitats for the loggerhead sea turtle (*Caretta caretta*) subject to each agencies purview. The proposed Critical Habitat designation listings, which include onshore nesting habitat for USFWS, *Sargassum* habitat for NMFS, and Neritic habitat for NMFS, include North Topsail Beach. Based on this new available information:

- The Corps determines that the proposed project modification may affect, not likely to adversely affect federally listed endangered or threatened species or their formally or proposed designated critical habitat. A Supplemental BA to the November 2009 BA has been prepared and will be provided to USFWS and

NMFS. The Corps reinitiates consultation under Section 7 of the ESA with each agency and will not make a permit decision until the consultation process is complete. NOTE: In our previous consultation associated with the original permit request, which included using the offshore borrow area with a cutter head dredge and the placement of fill along Phase V limits, both the USFWS and NMFS concluded that the activity is not likely to adversely affect any of the listed species under their purview. All Special Conditions of the May 11, 2011 DA authorization associated with threatened and endangered species remain valid.

Other Required Authorizations

The Corps forwards this notice and all applicable application materials to the appropriate State agencies for review.

North Carolina Division of Water Quality (NCDWQ): The Corps will generally not make a final permit decision until the NCDWQ issues, denies, or waives State Certification required by Section 401 of the Clean Water Act (PL 92-500). The receipt of the application and this public notice combined with appropriate application fee at the North Carolina Division of Water Quality Central Office in Raleigh constitutes initial receipt of an application for a 401 Water Quality Certification. A waiver will be deemed to occur if the NCDWQ fails to act on this request for certification within sixty days of the date of the receipt of this notice in the NCDWQ Central Office. Additional information regarding the Clean Water Act Certification may be reviewed at the NCDWQ Central Office, Wetlands, Buffers, Stormwater Compliance and Permitting Unit, 512 North Salisbury Street, Raleigh, North Carolina 27604-2260. All persons desiring to make comments regarding the application for certification under Section 401 of the Clean Water Act should do so, in writing, by **September 9**, 2013 to:

NCDWQ Central Office
Attention: Ms. Karen Higgins
(USPS mailing address): 1650 Mail Service Center, Raleigh, NC 27699-1650

Or,

(physical address): 512 North Salisbury Street, Raleigh, North Carolina 27604

North Carolina Division of Coastal Management (NCDCM): The application did not include a certification that the proposed work complies with and would be conducted in a manner that is consistent with the approved North Carolina Coastal Zone Management Program. Pursuant to 33 CFR 325.2 (b)(2) the Corps cannot issue a Department of Army (DA) permit for the proposed work until the applicant submits such a certification to the Corps and the NCDCM, and the NCDCM notifies the Corps that it concurs with the applicant's consistency certification. As the application did not include the consistency certification, the Corps will request, upon receipt, concurrence or objection from the NCDCM.

Evaluation

The decision whether to issue a permit will be based on an evaluation of the probable impacts including cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, flood plain values (in accordance with Executive Order 11988), land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership, and, in general, the needs and welfare of the people. For activities involving the discharge of dredged or fill materials in waters of the United States, the evaluation of the impact of the activity on the public interest will include application of the Environmental Protection Agency's 404(b)(1) guidelines.

Commenting Information

The Corps of Engineers is soliciting comments from the public; Federal, State and local agencies and officials, including any consolidated State Viewpoint or written position of the Governor; Indian Tribes and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment (EA) and/or an Environmental Impact Statement (EIS) pursuant to the National Environmental Policy Act (NEPA). Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider the application. Requests for public hearings shall state, with particularity, the reasons for holding a public hearing. Requests for a public hearing shall be granted, unless the District Engineer determines that the issues raised are insubstantial or there is otherwise no valid interest to be served by a hearing.

The Corps of Engineers, Wilmington District will receive written comments pertinent to the proposed work, as outlined above, until 5pm, **September 9**, 2013. Comments should be submitted to Mr. Mickey Sugg, Wilmington Regulatory Field Office, 69 Darlington Avenue, Wilmington, North Carolina 28403, at (910) 251-4811, or by e-mail at mickey.t.sugg@usace.army.mil.

Distribution:

No. Cys. Mailed To

- 1 Mr. Stewart Turille (Town Manager), Town of North Topsail Beach, 2008
Loggerhead Court, Town of North Topsail Beach NC 28460
- 1 Mr. Ken Wilson, Coastal Planning & Engineering, Inc. (CP&E), 4038 Masonboro
Loop Road, Wilmington, North Carolina 28409
- 1 US Representative Walter B. Jones, Jr., 422 Cannon House Office Building,
Washington, DC 20515
- 1 Mr. Todd Bowers, Wetlands Protection Section, U.S. Environmental Protection
Agency- Region IV, 61 Forsyth Street S.W., Atlanta, Georgia 30303-8960
- 1 Mr. Tony Able, Chief, Wetlands Protection Section, Water Management Division,
U.S. Environmental Protection Agency- Region IV, 61 Forsyth Street S.W.,
Atlanta, Georgia 30303
- 1 Mr. Dan Holliman, NEPA Section, U.S. Environmental Protection Agency -
Region IV, 61 Forsyth Street S.W., Atlanta, Georgia 30303
- 1 Ms. Kathy Matthews, U.S. Fish and Wildlife Service, Fish and Wildlife
Enhancement, Post Office Box 33726, Raleigh, North Carolina 27636-3726
- 1 Mr. Fritz Rohde, National Marine Fisheries Service, NOAA Habitat Conservation
Division, Pivers Island, Beaufort, North Carolina 28516
- 1 Ms. Kay Davy, National Marine Fisheries Service NOAA Protected Resources
Division, 262 13th Avenue South, St. Petersburg, Florida 33701-5511
- 1 Ms. Joanne Steenhuis, Division of Water Quality, North Carolina Department of
Environment, and Natural Resources, 127 Cardinal Drive Extension, Wilmington,
North Carolina 28405
- 1 Ms. Jessi Baker, North Carolina Division Marine Fisheries, 127 Cardinal Drive
Extension, Wilmington, North Carolina 28405
- 1 Ms. Maria Dunn, North Carolina Wildlife Resource Commission, 943
Washington Square Mall, Washington, North Carolina 27889
- 1 Mr. John Townson, U.S. Marine Corps, AC/S/ EMD Marine Corps Base, Camp
Lejeune, North Carolina 28542-0004
- 1 Postmaster, Town of North Topsail Beach NC 28460
- 1 Postmaster, Surf City NC 28445
- 1 Postmaster, Topsail Beach NC 28445
- 1 Postmaster, Sneads Ferry NC 28460
- 1 Postmaster, Hampstead NC 28443
- 1 Postmaster, Camp Lejeune NC 28542
- 1 Postmaster, Holly Ridge NC 28445
- 1 Postmaster, Jacksonville NC 28583
- 1 Mr. Doug Huggett, DCM, NCDENR Morehead City
- 1 Ms. Debra Wilson, DCM, NCDENR Wilmington
- 1 CESA-W-RG-L/ Mickey Sugg
- 1 CESA-W-PM-C/Pam Castens
- 1 CESA-W-TS-PE/Phil Payonk
- 1 CESA-W-OP/Bob Sattin

Mr. Doug Huggett
Division of Coastal Management
North Carolina Department of
Environment and Natural Resources
400 Commerce Avenue
Morehead City, North Carolina 28557-3421

Ms. Debra Wilson
Division of Coastal Management
North Carolina Department of Environment
and Natural Resources
127 Cardinal Drive Extension
Wilmington, NC 28405

Ms. Karen Higgins
NCDENR- Webscape Unit
1650 Mail Service Center
Raleigh, North Carolina 27699-1650

DRAFT

Attachment 3: Summary of Environmental Impacts in FEIS

Attachment 3: Summary of Environmental Impacts
North Topsail Beach, North Carolina

Environmental Factors North Topsail Beach, North Carolina	Alternative 1 No Action	Alternative 3 Inlet Management Plan with Beach Nourishment
5.3 PERMIT AREA HABITATS		
5.3.1 Estuarine	No Impact	No Impact
5.3.1.1. Salt Marsh Communities	No direct impact. Indirect impacts include potential changes in the tidal flow patterns adjacent to and within the salt marshes. Cumulative impacts include transitions between high marsh and low marsh causing a shift in faunal community composition.	Minimal direct impact including temporary displacement of foraging species and temporary increases in turbidity during construction and future maintenance events. Cumulative impacts include a deficit of inorganic sediment accumulation in the back barrier low marsh habitat.
High Salt Marsh	No direct impact. Indirect impacts include potential changes in the tidal flow patterns adjacent to and within the salt marshes. Cumulative negative effects include the transition of high marsh into low marsh. Cumulative positive impacts will occur at other locations where low marsh will transition to high marsh causing a shift in faunal community composition.	Minimal direct impact including temporary displacement of foraging species and temporary increases in turbidity during construction and future maintenance events.

Environmental Factors North Topsail Beach, North Carolina	Alternative 1 No Action	Alternative 3 Inlet Management Plan with Beach Nourishment
Low Salt Marsh	No direct impact. Indirect impacts include potential changes in the tidal flow patterns adjacent to and within the salt marshes. Cumulative positive impacts include the transition of high marsh into low marsh. Cumulative negative impacts will occur at other locations where low marsh will transition to high marsh causing a shift in faunal community composition..	Cumulative impact includes a deficit of inorganic sediment accumulation in the back barrier low marsh. There is potential for temporary increases in turbidity associated with the proposed project and future maintenance events.
5.3.1.2 Submerged Aquatic Vegetation (SAV)	Cannot be determined due to no known habitat within the Permit Area.	Same as Alternative 1.
5.3.1.3 Shellfish	No direct, indirect, or cumulative impacts are expected due to the far proximity of this habitat from the inlet and beach environment.	No direct, indirect, or cumulative impacts are expected due to the far proximity of this habitat from the inlet and beach environment.
5.3.2.1 Upland Hammock	Direct and indirect impact includes vulnerability to saltwater intrusion. Cumulative impacts include increased saltwater intrusion and a transition to estuarine habitats.	No direct or indirect impact. Positive cumulative impact along Onslow Beach through the creation of additional habitat for upland hammock vegetative species.

Environmental Factors North Topsail Beach, North Carolina	Alternative 1 No Action	Alternative 3 Inlet Management Plan with Beach Nourishment
5.3.2.2 Inlet Dunes and Beaches	Direct impact includes the continuation of natural shoreline erosion with the potential for loss of dune resources. Cumulative impact includes the total loss of the dune complex and the species they support.	Direct and indirect impacts include the reduction of natural erosion rates. Positive direct and indirect impacts include the widening of the sandy beach to which creates suitable habitat for dune vegetation and will provide shoreline protection. Positive cumulative effects include accretion and recovery for the shoreline and dunes.
5.3.2.3 Intertidal Flats and Shoals	No direct or indirect impacts. Cumulative impacts include the increase of sediment on flats and shoals with potential of elimination through the conversion to supratidal habitats.	Direct and indirect impacts include increased turbidity and a reduction of habitat area via the removal of portions of the ebb tide delta. Direct impacts also include the removal of benthic infauna and functionality of the habitat due to dredging.
5.3.3 BEACH AND DUNE HABITATS		
5.3.3.1 DUNE COMMUNITIES	Long term direct and indirect and cumulative impacts include a continuation of natural shoreline erosion with a continued loss of dune resources and threatening the dune vegetation, as well as degrading the habitat used by several species of roosting, foraging and nesting shorebirds and plant species such as seabeach amaranth .	Positive direct and indirect impacts include the rebuilding of the dunes in the north and central sections of the shoreline to a height of 14 feet along with the slowing of the recession rate at Onslow Beach. Positive cumulative impacts include shoreline recovery along a majority of North Topsail Beach. Based on shoreline change analysis, Onslow Beach dune communities will be negatively impacted by the periodic maintenance of New River Inlet and nourishment of North Topsail Beach.

Environmental Factors North Topsail Beach, North Carolina	Alternative 1 No Action	Alternative 3 Inlet Management Plan with Beach Nourishment
5.3.3.2 DRY BEACH COMMUNITIES	<p>Negative indirect, direct, and cumulative impacts include the continued erosion of the North Topsail Beach and Onslow Beach shorelines, resulting in net loss of dry beach habitat and the communities they support including turtles and seabirds.</p>	<p>Positive direct and indirect impacts include the restoration of North Topsail Beach's shoreline. Inlet realignment would initiate accretion along the northeast beaches. Erosion will slow at Onslow Beach, and the reconfigured ebb tide delta should add material to the southwest end of Onslow Beach, potentially increasing the amount of dry beach. The increase of dry beach will also positively affect shorebirds, water birds and colonial birds that utilize this habitat. Positive cumulative impacts include recovery along a majority of North Topsail Beach, with accretion occurring on the northeast end within five years after construction.</p>

Environmental Factors North Topsail Beach, North Carolina	Alternative 1 No Action	Alternative 3 Inlet Management Plan with Beach Nourishment
5.3.3.3. WET BEACH COMMUNITIES	Negative Direct and indirect impacts include continued shoreline erosion reducing the width of the wet beach area negatively affecting many benthic organisms, birds, and finfish. No cumulative impacts are expected.	Negative direct impacts include burial of the wet beach due to the addition of beach fill to North Topsail Beach. This would negatively impact the birds and fish that forage on the organisms that reside in the buried wet beach. No cumulative impacts.
5.3.4 MARINE HABITATS		
5.3.4.1 NEARSHORE SOFTBOTTOM COMMUNITIES	No direct or indirect impacts. Negative cumulative impacts include alteration of the composition of micro and macrofauna present within the system which affect lower trophic organisms by reducing primary production and/or affect higher trophic organisms by reducing select food availability	Periodic nourishment would directly, indirectly, and cumulatively affect softbottom communities and the nearshore softbottom community food chain through the continuation of sand placement on the habitat.
5.3.4.2 OFFSHORE SOFTBOTTOM COMMUNITIES	Direct and indirect impacts would be negligible while density and abundance may fluctuate over time but would remain persistent and consistent overall. Cumulative impacts may negatively affect food chains through the natural seasonal variations or storm events.	Direct and Indirect impacts include mortality of all organisms present within the dredged material. The offshore softbottom community food chain may be affected by long-term cumulative affects from dredging operations, natural seasonal variations and storm events.
5.3.4.2 HARDBOTTOM COMMUNITIES		
5.3.4.2.1 NEARSHORE HARDBOTTOM	Direct, indirect, and cumulative impacts include natural short-term and long-term covering of hardbottom recourses.	Direct impacts include potential for increased sediment deposition on this resource. Cumulative impacts include natural long-shore transport of sediments which may indirectly affect nearshore hardbottom by temporarily

Environmental Factors North Topsail Beach, North Carolina	Alternative 1 No Action	Alternative 3 Inlet Management Plan with Beach Nourishment
		covering hardbottom resources due to existing natural conditions and/or seasonal variations.
5.3.4.2.2 Offshore Hardbottom	Other than impacts through natural processes, no direct, indirect, or cumulative impacts are expected.	Direct, indirect, and cumulative impacts are not expected.
5.4.1 Water Quality		
5.4.1 Turbidity	Direct and indirect impacts would be minimal with some increased changes to turbidity during storms. No cumulative impacts are expected.	Direct and indirect impacts would be minimal. No cumulative impacts are expected.
5.4.2 Salinity	No Impacts expected.	Same as Alternative 1.
5.5 Air Quality	No Impacts expected.	Same as Alternative 1.
5.6 Public Safety	Direct, indirect, and cumulative impacts include the destruction of homes on the north end of North Topsail Beach which could expose workers to risk of injury. Debris could fall into the nearshore which could pose health threats to people swimming. Continued erosion would undermine existing roads, and sanitary systems, expose electrical lines, and rupture water supply system, exposing the public to increased risk of injury and/or infection.	No impacts expected.
5.7 Aesthetic Resources	Direct and indirect impacts would include the abandonment and/or demolition of homes and other structures. Cumulative impacts would include significant loss of land, personal property, and roads, which would negatively affect the aesthetic quality of North Topsail Beach.	Positive direct, indirect, and cumulative impacts would include the restoration of the aesthetic qualities of a stable oceanfront shoreline.

Environmental Factors North Topsail Beach, North Carolina	Alternative 1 No Action	Alternative 3 Inlet Management Plan with Beach Nourishment
5.8 Recreational Resources	Negative direct, indirect, and cumulative impacts include the continued loss of the beach access.	Positive direct, indirect, and cumulative impacts include the creation of a wider recreational beach and increased access to the inlet.
5.9 Navigation	No direct or indirect impacts are expected. Negative cumulative impacts include reduced access through the inlet for commercial fishing vessels as the depth decreases.	Positive direct, indirect, and cumulative impacts would include the formation of a relatively deep channel for some period of time following its construction.
5.10 Infrastructure	Negative direct and indirect impacts include the continued erosion of the oceanfront shoreline which could result in the destruction of homes, roads, and service utilities. If threatened structures are not moved, they would have to be demolished with the debris deposited in local sanitary landfills. Cumulative impacts could reduce the amount of space available at the local landfill over the next ten years.	No impacts expected.
5.11 Urban Quality	Direct and indirect impacts would include the abandonment and/or demolition of homes and other structures. Cumulative impacts would include significant loss of land, personal property, and roads, which would negatively affect the urban quality of North Topsail Beach.	Positive direct, indirect, and cumulative impacts on urban quality would include the restoration of the oceanfront shoreline.
5.12 Solid Waste	Negative direct and indirect impacts include the continuation of erosion on the oceanfront shoreline resulting in the destruction of homes, roads, and service utilities. If threatened structures are not moved, they would have to be demolished with the debris deposited in local sanitary landfills.	No impacts expected.

Environmental Factors North Topsail Beach, North Carolina	Alternative 1 No Action	Alternative 3 Inlet Management Plan with Beach Nourishment
5.13 Drinking Water	Direct and indirect impacts include excessive erosion which could affect the potable water distribution system that serves the north end of North Topsail Beach. The Town would have to disconnect impacted sections of the water line and reroute it to serve remaining properties. This would cause a boil water directive for all affected residents. These negative impacts on drinking water would be continuous and cumulative as long as the inlet shoreline continues to migrate to the east.	No impacts are expected.
5.14 Economics	Direct and indirect impacts are not considered. Cumulative impacts include significant economic loss to the Town, County, and State averaging \$33.3 million/year for the Central and North Sections. Reduction of tax revenue would also include \$366,100/year reduction in ad valorem tax revenues for the Town and County. Room accommodation tax revenues would be reduced by an average of \$254,600/year while sales tax revenues would be reduced by \$395,200/year. An 8,000-foot section of New River Inlet Road would need to be relocated,	Positive direct and indirect impacts include protection of the tax base in the Central and North Sections of North Topsail Beach against losses due to a continuation of long-term erosion. Cumulative impacts include costs for using upland borrow sources to construct and/or maintain Alternative 3.

Attachment 4: Mitigation Actions and Permit Stipulations

Attachment 4: Mitigation Measures

The 2009 FEIS for the North Topsail Beach Shoreline Protection Project proposed a number of measures to be employed with the goal of avoid and/or minimize direct in response to the implementation of Alternative 3, the Applicant's Preferred Alternative. This alternative included a phased construction approach to nourish approximately 11.1 miles of its beachfront to protect residential homes and town infrastructure, to reposition the New River Inlet channel, and to implement an inlet management plan to control the positioning of the new inlet channel, which would include periodic maintenance events.

The avoidance and minimization measures described in Chapter 6 of the FEIS were intended to lessen the direct, indirect, and cumulative effects to the resources found within the Permit Area and the species that utilize them in response to the implementation of Alternative 3. The USACE Record of Decision (ROD) for the FEIS was issued on April 13, 2011 and adopted those mitigation measures.

As mentioned above, Alternative 3 was designed in a phased approach. Several of the phases include aspects of their design that may invoke additional impacts compared to other phases. Therefore, several of the elements of the avoidance and minimization plan were designed to only be implemented as a result of the construction of those phases which may result in additional impacts (i.e. phases involving the placement of beach fill in proximity to nearshore hardbottom resources). The comprehensive avoidance and minimization plan is described as follows:

- **Point of Intercept Design**

The offshore borrow area and beach fill designs were revised during the early stages of project planning to avoid impacts to nearshore hardbottom resources. Prior to April 2006, the material from the offshore borrow area was determined to have a mean grain size very close to the native material. Placement of the same mean grain size material could result in the material moving offshore during post-nourishment adjustments, which could potentially impact over 16 acres of nearshore hardbottom resources. To address this, CPE-NC included the point of intercept concept into the design of the project based on a relationship between the mean grain size of beach material and the equilibrium shape of a beach fill profile developed by Dr. Robert Dean of the University of Florida. The equilibrium beach profile concept (perched beach design) involves designing steeper beach profiles with a higher retention rate of material in the upper portions of the beach profile by using material with a greater mean grain size than the native beach sediment. This "perched" beach design was designed to be utilized for Phases 1, 2, and 3 of the project, where the beach fill locations are situated in proximity to nearshore hardbottom resources.

- **Sediment Compatibility**

Based on consultation with the USACE – Wilmington District and the USFWS, the Town has developed the proposed project with the highest degree of sediment compatibility. The state of North Carolina Sediment Criteria Rule, contained in the Technical Standards for Beach Fill Projects (15A NCAC 07H .0312), provides beneficial guidelines for both grain size and percent weigh of calcium carbonate. However, other important

characteristics such as organic content, heavy mineral content, and color are not addressed. These aspects of the beach fill will be considered. The monitoring program for sediment as it is placed on the beach will provide a benefit to the beach invertebrate community and would also benefit sea turtle nest construction and incubation of the eggs.

As a result of sediment compliance efforts, compaction of fill material on the beach is less likely to occur due to the lower silt content or hardening of the beach due to high shell and/or carbonates. Compaction of fill could impact the ability of sea turtles to dig and nest along the nourished beach, resulting in an increase in false crawls. Also, macroinfauna indicative of a healthy benthic community depend upon variable particle sizes and available interstitial pore space in the substrate for aeration properties. Compaction of the fill material could impact resident macroinfaunal populations thereby affecting the migratory and resident shorebirds, waterbirds, as well as the commercially and recreationally important fish that depend upon them.

Following construction of each phase of the proposed project, compaction of placed fill material will be inspected by the Town, the Engineer, or his duly authorized representative in coordination with the Division of Coastal Management and USACE. Compaction monitoring will begin after the material has been graded and dressed to the final slope and a period of time will be allowed for finer particles to be washed away and final settling of the material to occur prior to compaction monitoring. All compaction monitoring will be completed in time to allow for remedial actions to be completed prior to May 1 of each year. If the fill material appears to have a higher degree of compaction than that which is acceptable additional testing such as cone penetration testing will be considered. After subsequent testing, if it is determined that tilling is necessary to reduce compaction based on consultation with the appropriate agencies, the contractor will till the beach to a minimum depth of 36 inches throughout the constructed portion of the beach to loosen the compaction of the placed material. Beach tilling will only be performed as a result of an identified compaction problem based on agency consultation. Beach compaction monitoring and, if necessary, tilling would ensure that project impacts on sea turtle nesting are minimized.

- **Construction Practices**

A hydraulic cutterhead is proposed for dredging in the offshore borrow area used for Phases 2-5 and in the realigned ocean bar channel at New River Inlet (Phase 1). A cutterhead dredge uses a rotating cutter assembly at the end of a ladder arm to excavate bottom material, which is then drawn into the suction arm and pumped to the shoreline. On the beach, pipelines will transport the sediment to the designated beach fill area. Bulldozers will be used to construct seaward shore parallel dikes to contain the material on the beach, and to shape the beach to the appropriate construction cross-section template. During construction, the contractor will utilize surveying techniques for compliance with the designed berm width, height, and slope.

Compared to similar types of dredging methodologies, a cutterhead dredge creates minimal disturbance to the seafloor resulting in lower sedimentation and turbidity levels. Anchor (2003) conducted a literature review of suspended sediments from dredging

activities. This report concluded that the use of a hydraulic dredge (i.e., cutter suction) limits the possibilities for resuspension of sediment to the point of extraction. Also, since the sediment is suctioned into the dredge head, the sediment cannot directly enter into the middle or upper water column.

No incidences of sea turtle takes from a hydraulic dredge have been identified during the research and development of this document. Therefore, the use and methods involved with this type of machinery reduces or eliminates the likelihood of an incidental take.

Visual surveys of escarpments will be made along the beach fill area immediately after completion of construction, and at three-month intervals for three years following completion of construction. After appropriate consultation with the NCDCM and USACE, escarpments in the newly placed beach fill that exceed 18 inches for greater than 100 ft shall be graded to match adjacent grades on the beach. Removal of any escarpments during the sea turtle hatching season (May 1 through November 15) shall be coordinated with the North Carolina Wildlife Resources Commission (NCWRC), USFWS, and the USACE – Wilmington District

- **Dredge Positioning**

DREDGEPAK® or similar navigation and positioning software will be used by the contractor to accurately track the dredge location in relation to the hardbottom buffer protection zones. The software will provide real-time dredge positioning and digging functions to allow color display of dredge shape, physical feature data as found in background Computer Aided Design (CAD) charts and color contour matrix files from hydrographic data collection software described above on a leverroom Cathode Ray Tube (CRT) display. The software shall also provide a display of theoretical volume quantities removed during actual dredging operations.

Dredge anchors shall not be placed any further than 61 m (200 ft) from the edge of the borrow area. The dredge contractor will be required to verify the location of the anchor with real time positioning each and every time the anchors are relocated.

- **Pipeline Observations**

Four pipeline corridors have been selected for the placement of the submerged pipeline during dredging operations from the borrow area. The 60 m (200 ft) wide corridors were selected to avoid impacts to hardbottom resources identified from sidescan sonar surveys and diver groundtruthing surveys conducted off North Topsail Beach. All four corridors are positioned approximately 137 m (450 ft) or greater from the edge of hardbottom resources. In the event that future surveys or investigations indicate hardbottom resources in pipeline corridors, the corridor will be adjusted to avoid impacts to these resources to the greatest extent practical. In order to minimize adverse impact on wintering piping plover, the pipeline alignment was designed to also avoid potential piping plover wintering habitat. The alignment will be coordinated with, and approved by, the USACE. As-built positions of the pipeline will be recorded using GPS technology and included in the final construction observation report.

- **Construction Observations**

Several initiatives will be undertaken by the Town, the Engineer, or his duly authorized representative to monitor construction practices. Construction observation and contract administration will be periodically performed 7 days a week, approximately 12 hours a day during periods of active construction. Most observations will be during daylight hours; however, random nighttime observations may be conducted. The Town, the Engineer, or his duly authorized representative will provide onsite observation by an individual with training or experience in beach nourishment and construction observation and testing, and that is knowledgeable of the project design and permit conditions. The project manager, a coastal engineer, will coordinate with the field observer. Multiple daily observations of the pumpout location will be made by the Town, the Engineer, or his duly authorized representative for QA/QC of the material being placed on the beach. The construction contractor will provide redundant observations 24 hours a day during construction.

During construction of portions of the shoreline where coarse material will be placed to implement the point of intercept concept, regular sediment monitoring will be conducted. The Town, the Engineer, or their duly authorized representative, will collect a representative sub-surface (6 in below grade) grab sediment sample from each 100-ft long (along the shoreline) section of the constructed beach to visually assess grain size, wet Munsell color, granular, gravel, and silt content. Each sample will be archived with the date, time, and location of the sample. Samples will be collected once each day (as needed to achieve 100 ft intervals) during beach observations. The sample will be visually compared to the acceptable sand criteria (Table 24). If determined necessary by the Engineer, or his duly authorized representative, quantitative assessments of the sand will be conducted for grain size, wet Munsell color, and content of gravel, granular and silt. A record of these sand evaluations will be provided within the Engineer's daily inspection reports. All samples will be stored by the Engineer or the Town for 60 days after project completion.

Upon completion of a pay section along the project where the point of intercept concept is being applied, which includes a USACE baseline monument (i.e. every 1000 ft (900+00, 910+00, 920+00, etc.)), the Town, the Engineer, or his duly authorized representative, will collect a representative sub-surface (6 in below grade) sand sample from the berm at each USACE baseline beach profile line to quantitatively assess the grain size, wet Munsell color, and content of granular, gravel, and silt for compliance. Sieve analyses are conducted in accordance with American Society for Testing and Materials Standard Materials Designation D422-63 for particle size analysis of soils (ASTM, 2004) using the sieve set listed in Table 25. The Town, the Engineer, or his duly authorized representative will submit sediment testing results to the USACE – Wilmington District within 24 hours of analysis.

The same procedure as described above will be conducted during construction of all other portions of the beach fill not employing the point of intercept concept; however, no quantitative sediment analysis will be required. Acceptable grain sizes for all other portions of the beach fill are between 0.13 mm and 0.40 mm. Daily observations of grain

size, color, shell content, granular content and gravel content of placed material will be performed at a 100 linear ft increment. An attempt to visually estimate the silt content will be made. If the fill material appears to have more than 5% silt, a sample will be collected and sediment analysis conducted.

- **Upland Disposal**

As previously stated and described for Phase 1, it has been determined that incompatible material within the designed template of the proposed ocean bar channel exists below a layer of beach quality material. Dredge cuts have been designed and monitoring protocol will be in-place to avoid placement of this material on the beach. The Town will work with the dredge contractor to dispose of the incompatible material on the dredge disposal island located at the junction of the AIWW and Cedar Bush Cut. A dike will be constructed around the portion of the disposal site where material is to be placed with an approximate elevation of +30' NAVD88. The Town will work with the dredge contractor to put in place protocol such as properly placed outfall pipes and construction of weirs to assure that water flowing back into the AIWW via the outfall pipe will meet state water quality standards. At this time final design of the dike improvements and placement of outfall pipe have not been completed as these tasks will be completed during the plans and specifications phase; however, it should be noted that dike improvements will not impact tidal marsh.

- **Construction Schedule**

Dredging of the ocean bar channel at New River Inlet and nourishment of North Topsail Beach with dredged material from the ocean bar channel and offshore borrow area are scheduled to occur between November 16th and March 31st. The timing of construction activities was specifically scheduled to occur outside of the sea turtle nesting season, the West Indian manatee summer occurrence in North Carolina, the piping plover (and other shorebirds) migratory and breeding seasons, and the seabeach amaranth flowering period. Also, sand placement and dredge operation conducted outside of primary invertebrate production and recruitment periods (spring and fall) limit impacts to amphipods, polychaetes, crabs and clams.

- **Monitoring Initiatives**

Several monitoring initiatives are either currently in-place or have been proposed for the North Topsail Beach Shoreline Protection Project. A description of existing and proposed monitoring initiatives is included below.

- **Piping Plover (*Charadrius melodus*), Waterbirds and Other Shorebirds**

The Marine Corps Base at Camp Lejeune (MCB) has been conducting bi-weekly monitoring of shorebirds on Onslow Beach since 2000. Beginning in April, and throughout nesting season, monitoring intensifies. If piping plovers are observed during nesting season, the surveyors will monitor for signs of breeding behaviors. As of the release of the FEIS, nesting of piping plovers has not been observed on Onslow Beach. In the event that a nest is located within or outside of the military zone, appropriate protective measure will be implemented. These protective measures may include post and rope with signage indicating that threatened

species nests are present. Additionally, off-road recreational vehicle (ORRV) beach access is restricted to the south end of Onslow Beach between April 1 and August 31 (USMC, 2006).

A pre-construction bird monitoring plan has been developed by CPE-NC. Pre-construction monitoring includes bird habitat along the Inlet shorelines, the north end of North Topsail Beach and the south end of Onslow Beach. Post-construction monitoring focuses on areas along the inlet. The Plan includes monitoring of piping plover, waterbirds, colonial waterbirds and other shorebirds before, during and after construction. These monitoring efforts will occur within the Inlet complex to provide information on bird habitat utilization within the Permit Area.

Pre-construction Monitoring: Pre-construction monitoring began in November 2007 and ended in May 2009. Monitoring efforts were consistent with the piping plover breeding season, as well as the spring and fall migration periods. Pre-construction monitoring was conducted approximately every 10 days during spring migration (March 1 to April 30); approximately every 15 days during breeding season (May 1 to July 13); and approximately every 10 days during fall migration (July 14 to November 30). Monitoring during the wintering season (December through February) occurred on a monthly basis during high tide.

Mid-construction Monitoring: A weekly bird monitoring schedule is proposed to occur during construction activities.

Post-construction Monitoring: The monitoring frequency will return to the pre-construction schedule as soon as all construction equipment has been demobilized from the project area. In the event that the phased construction approach is applied to the project (Alternative 3), post-construction monitoring efforts will be reviewed and coordinated with the USACE, NCDCEM and NCWRC. The length of post-construction monitoring will be dependent on the review the data by the USACE, NCDCEM, and NCWRC.

- **Seabeach Amaranth (*Amaranthus pumilus*)**

Seabeach amaranth is currently monitored by the MCB along the southern end of Onslow Beach. No known seabeach amaranth field surveys have been conducted on North Topsail Beach. Surveys conducted on Onslow Beach, commence in late June and include the upper beach between the wrack line and primary dune line, and all overwash flats. Surveys are completed by two to five personnel on foot. Plants are counted and recorded, and GPS coordinates data are collected to mark population clusters. Once discovered, seabeach amaranth sites are designated by signs to prohibit military, motorized vehicle and pedestrian traffic from disturbing the plants. Post and rope is also used to mark potential habitat on overwash flats and restrict access to vehicular traffic (USMC, 2006). Other threatened species that utilize these same habitats will benefit from the protective and restrictive measures implemented by the USMC

- **Sea Turtles**

For more than 10 years the Karen Beasley Sea Turtle Rescue and Rehabilitation Center has managed the Topsail Island sea turtle monitoring program. Monitoring includes morning surveys of the beach during nesting season (May through August) identifying and documenting sea turtle tracks and nests (KBSTRRC, 2006). Monitoring is conducted by the Topsail Island Volunteer Organization, whose activities are coordinated under the North Carolina Wildlife Resource Commission Sea Turtle Project.

Monitoring efforts also include posting or relocation of nests as needed. Along Onslow Beach, the MCB has been monitoring approximately 11 miles of Onslow Beach since 1979. Camp Lejeune personnel and/or volunteers perform annual night and morning surveys from mid-May through August, documenting the location and number of sea turtle crawls, recording individual size data, and allowing for immediate protection of sea turtle nests (posting or relocation). Any nests discovered in the designated military training portion of Onslow Beach, or nests laid below the mean high tide line, are eligible for nest relocation. Nests are checked for hatchling emergence or predation, and hatchling tracks are documented to estimate hatchling success (USMC, 2006). Monitoring and tracking of sea turtles along Topsail Island and Onslow Beach are expected to continue during the life of the project. These efforts will assist in identifying whether project related activities are affecting sea turtle nesting populations. However, as a result of the posting and relocation efforts, impacts to sea turtles from project activities are not anticipated. Additionally, escarpments can prevent sea turtles from accessing the dry beach and cause the female to return to the water without nesting. Visual surveys of escarpments along the project area will be made after completion of project construction. An elevation exceeding 45 cm (18 inches) may require remedial measures to eliminate or minimize escarpments.

- **West Indian Manatee (*Trichechus manatus*)**

Although the manatee is not expected to be present during dredge and fill operations, the contractor will adhere to the precautionary guidelines established by the USFWS – Raleigh Office for construction activities in North Carolina waters. Refer to the *Guidelines for Avoiding Impacts to the West Indian Manatee*.

West Indian manatees rely on submerged aquatic vegetation (SAV) as a food source. Aerial imagery analysis conducted pre- and post-construction will be used to monitor any changes in SAV distribution. Aerial imagery will be collected in accordance with NOAA's Coastal Services Center 2001 *Guidance for Benthic Habitat Mapping – An Aerial Photographic Approach* (Finkbeiner et al., 2001). Aerial photographs include the acquisition of ortho-rectified color digital imagery of the Permit Area. Resolution of the acquired imagery will be sufficient (<0.6 m [2 ft]) to accurately delineate and map habitats and features of environmental significance within the survey area. An emphasis will be placed on those marine and estuarine habitats located immediately within and adjacent to the Permit Area.

The aerial platform from which the imagery is acquired will include an onboard Global Positioning System (GPS) that will provide an accurate basis for product correction.

- **Macroinfauna**

Some macroinfaunal species may be sensitive to physical and chemical changes in water quality and, therefore, may be useful as bioindicators of a wide range of natural and anthropogenic stresses. It is known that benthic communities can withstand some burial and invertebrate populations will recover within weeks or months with the use of high quality beach fill material and the appropriate timing of placement. A monitoring plan or research initiative for the evaluation of oceanfront shoreline infaunal communities will be implemented by Dr. Skip Kemp of Carteret Community College.

- **Habitat Mapping**

It is anticipated that the implementation of inlet management portion of the proposed project (Phase 1) has the potential to impact a number of biological resources found within the proposed Permit Area. These include resources such as submerged aquatic vegetation (SAV), shellfish habitat, salt marsh and fringing terrestrial communities found within the supratidal, intertidal, and subtidal habitats. Determining the baseline conditions of these resources prior to construction is a fundamental step in quantifying changes in response to the implementation of the inlet management plan. Existing data and newly acquired data will be utilized to delineate and characterize habitats and select species within the proposed Permit Area. Data gathered from these activities will provide the baseline conditions. The purpose of this baseline habitat mapping effort is to identify the current extent of the biological resources within the area prior to the construction of the ocean bar channel and will serve as the baseline assessment of these resources. Subsequent habitat mapping efforts will be utilized to assess the extent of change to these habitats following construction activities. This plan was developed in response to the concerns expressed by the USACE, USFWS, NMFS and the NCDENR.

Several sets of pre-project high resolution color aerial photographs are available by the USACE including those taken in April 2006 and June 2008. Pre-construction photographic interpretation of biotic communities and groundtruthing investigations within the Proposed Habitat Mapping Area will be completed prior to construction of Phase 1.

The acquisition of high resolution aerial photographs, ground-truth investigations, and identification of biotic communities will be conducted within the Proposed Habitat Mapping Area between 1 September and 30 November in the 4 years following construction of the ocean bar channel. All surveys will be compared to the preconstruction conditions (November 2010).

- **Hardbottom Monitoring**

Natural resources in the nearshore and offshore zones of the Permit Area have been mapped by CPE-NC professionals using side-scan sonar investigations and diver verification in an effort to avoid and minimize potential impacts to these resources. Included is an analysis of existing literature and information that provides the rationale for establishing a buffer zone limit of 121.9 m (400 ft) for all hardbottom resources in the Permit Area. The 121.9 m (400 ft) limit is less than the State standard of 500 m (1,640 ft) (15A NCAC 07H.0208(b)(12)(A)(iv)). However, based on over 40 years of dredging experience in less turbid southeast Florida waters adjacent to sensitive habitats, borrow area buffer zones ranging from 76 m (250 ft) to 122 m (400 ft) have proven effective in protecting hardbottom and coral reef habitats. The potential turbidity impacts associated with project activities are not expected to be significantly different from those associated with disturbance which occurs during storm (higher wave energy) events. Monitoring of both borrow site and beach nourishment site turbidity levels can be utilized to assure compliance.

As designed, the project is not expected to impact nearshore hardbottom resources that are located immediately adjacent to and within the Permit Area. A Hardbottom Monitoring Plan has been developed for the Permit Area and includes physical and biological monitoring of the nearshore and offshore hardbottom communities located in the vicinity of the central and south fill areas, as well as the borrow area.

Hardbottom monitoring will include the establishment of permanent monitoring transects in the nearshore and offshore hardbottom resource areas. These permanent biological monitoring stations will include stainless steel pins that will be installed into the hardbottom using a hammer and/or drill at 5.0 m (16.4 ft) spacing along each of the permanent transects. Monitoring of these transects will assist in identifying project effects on natural hardbottom resources.

Habitat Characterization: Two methods of habitat characterization and documentation were used during the baseline investigations 1) Benthic Ecological Assessment for Marginal Reefs (BEAMR) developed by Coastal Planning & Engineering, Inc. (CPE, 2004a), and 2) digital video that may be used to supplement analysis of hardbottom communities present within each study area. These methods will be utilized when underwater visibility is one meter or greater. Alternative methods (Section 6.4.5.6) are proposed for conditions of less water clarity.

The BEAMR surveying method was developed to evaluate nearshore marine habitats, and determine the interrelationship between corals, algae, sediment, invertebrates, and fish species within nearshore reef systems. *In situ* observations will be conducted by CPE marine biologists trained in the procedures and methods of BEAMR. BEAMR methodology involves a complete census of physical, abiotic and biotic functional groups (parameters) within each sample quadrat. Every visible functional group is assigned a number of at least 1% with

the total of all functional groups equal to 100%. Functional biotic groups include: macroalgae, turf + algae + cyanobacteria, encrusting red algae, sponge, hydroid, octocoral, stony coral, tunicate, anemone, barnacle, bivalve, bryozoan, *Millepora* sp., seagrass, sessile worm, and zoanthid. Abiotic groups include sediment and bare hard substrate.

Within each quadrant, the maximum vertical relief is measured (to nearest cm) from the maximum lowest to highest point in the quadrat. Maximum standing sediment thickness over hardbottom is determined by acquiring two random measurements and recording the highest of the two values (to nearest cm). In the event that no areas of loose unconsolidated sediment (>1 cm) exist within the quadrat, then a value of zero is recorded for the station. Percent cover of standing sediment over hardbottom, including sand, shell and mud, is surveyed in each quadrat and reported to the nearest one percent. Natural exposed substrate without turf cover and with or without a veneer of sediment less than 1 cm in height is recorded as bare hard substrate.

Efforts will be made by CPE-NC marine biologists to consistently utilize the BEAMR method along the nearshore transects. As an alternative, in poor visibility water, the point-intercept method and line-intercept methods will be utilized.

Video Surveys: Video surveys will be conducted of the seafloor along each transect will be taken at a height of 40 cm after Porter et al. (2002). A convergent laser guidance system indicates the precise height of 40 cm from the benthos. The visible width of imagery taken from this height is 40 cm. Geographic Positioning System (GPS) navigational coordinates (North Carolina State Plane Coordinate System, NAD 83) of the video transect locations will be overlaid on recent aerial photography and included in the project monitoring reports.

Geophysical Survey (Sidescan Sonar Survey): Acquisition of high-resolution acoustic imagery of the seafloor followed by hardbottom community analyses will occur along select nearshore and offshore hardbottom features located between USACE baseline stations 580+00 to 1160+00. The surveys will utilize state of the art side-scan sonar technology coupled with a Hypack 2008® navigation system or similar system. Data acquisition will utilize a Trimble DGPS system to provide accurate positioning information. The survey will be conducted in such a manner to achieve total bottom coverage (100%) within the survey area. The line spacing will be set up to achieve 100% overlap (i.e. all areas of the seafloor covered twice).

Geophysical surveys will be conducted along the confirmed hardbottom located 1) in the nearshore zone of the Project Area between -19 and -22 NAVD88 (Areas 1, 2, and 5; Figure 22); 2) along the offshore hardbottom areas northeast of the borrow area (Area 3; Figure 22), and; 3) in the vicinity of TS9 to TS12 and TS16 (Area 4; Figure 22). Once the data has been processed and reviewed for accuracy

and resolution, the data will be input into the Project GIS for analysis. Ground-truthing will be required for identifying select signatures in the acoustic, seafloor imagery to confirm sediment characteristics and community type coverage.

One (1) pre-construction event will occur within 60 days prior to construction and two (2) post-construction monitoring events will be conducted. The first post-construction event will occur 4 to 6 months following construction and the second event will occur 16 to 18 months following construction. The results of the pre and post-construction data collection events will be included in the post-construction biological monitoring report submitted by February 1st of each year at the latest.

- **Sediment Monitoring**

Sediment monitoring will be conducted during each construction phase that includes dredging of material from the offshore borrow area (Proposed Phases 2, 4, and 5). Sediment monitoring at the offshore transects will include 1) *in situ* sediment depth measurements and 2) line intercept documentation. *In situ* sedimentation monitoring will be conducted by divers, who will measure standing sediment (to nearest millimeter) at every meter along the permanent (50 m) transects. The line intercept method involves a trained diver to swim the length of the 50 m transect and note the locations along the transect where hardbottom and sand (depths >1 cm) intercept. The location of sediment patches greater than 0.5 m in length along the transect will be recorded. The results of the data collected will be used to determine the total sediment cover over each transect.

Sediment monitoring will be conducted along the 10 permanent offshore transects. These offshore monitoring transects will be sampled for sedimentation once every two weeks for two months prior to construction (weather and sea state conditions permitting) and once every two weeks for the initial two months of construction. If sediment accumulation at the compliance transects is <10% of the sediment accumulated on average at the three control sites, then the sediment monitoring of the sites will occur once per month for the remainder of dredging operations. Within 30 days of project completion and demobilization of all contractor equipment from the project area, an immediate post-construction sediment monitoring event shall be conducted at the offshore monitoring sites.

- **Beach Profile Surveys**

During field investigations conducted by CPE in 2005 and 2006 it was established that visibility in the northern section of the project area would, at most times, prevent marine biologists from both characterizing the habitats and mapping the edge of the resources with any level of confidence. In order to provide an alternative method of verification, which would provide an acceptable level of confidence, the hardbottom monitoring plan will require the Town to collect beach profile data one (1) time along four (4) profiles between baseline stations 1080+00 and 1065+00 within 60 days prior to construction of Phase 1 and two (2) times post-construction of Phase 1. The first post-construction event would take

place between 4 and 6 months post-construction and the second event between 16 and 18 months post-construction. Likewise the monitoring plan will require the Town to collect beach profile data along fourteen (14) profiles between USACE baseline stations 1075+00 and 1010+00 one (1) time prior to construction of Phase 2 and two (2) times post-construction of Phase 2 in the same time periods stated above.

- **Water Quality**

The inlet, nearshore and offshore water columns are classified as SA and High Quality Water (HQW) under the North Carolina State water quality standards. This classification requires that work within the water column shall not cause turbidity levels to exceed 25 NTU or background (ambient) conditions that are above 25 NTU.

Dredge and fill operations are expected to temporarily elevate turbidity levels in the water column at the borrow area and fill sites. Higher turbidity levels are likely to be found in the discharge zone (nearshore swash zone) during periods of active construction. The use of a cutter suction dredge will minimize the area of disturbance since this type of dredge involves suction for the extraction of sediment.

Turbidity monitoring during construction will be managed by the contractor. The contractor will be responsible for notifying the construction engineer in the event that turbidity levels exceed the State water quality standards.

Construction of Phase 1 of the project occurred between November 2012 and February 2013. This phase involved the relocation of the main bar channel within New River Inlet and utilizing dredged material from the inlet for beneficial fill along the northern portion of North Topsail Beach. Many of the avoidance and minimization measures, as described above were implemented as a result of this construction. Due to the proximity of hardbottom resources within the equilibrium toe of fill (point of intercept), several of the measures designed to minimize impacts to hardbottom communities were implemented. This includes the use of coarse material to ensure that the point of intercept remained landward of the hardbottom resources. The material placed on the beach also met all aspects of the state of North Carolina's Sediment Criteria Rule. During construction, the dredge positioning was monitored, pipeline observations were made, and general construction observations regarding sediment quality were employed. The construction schedule observed the environmental dredging windows of November 15 through March 31. Monitoring initiatives included those designed to monitor shorebirds and waterbirds, seabeach amaranth, sea turtles, West Indian Manatees, macroinfauna, habitat mapping. Monitoring for hardbottom resources included a geophysical sidescan survey in proximity to the inlet and the fill locations as well as beach profile surveys. Habitat characterization and sediment monitoring with respect to hardbottom resources was not performed due to extremely limited viability. Table 1 includes a matrix of the various avoidance and minimization measures implemented as a result of Phase 1

The construction of Phase 5 of the North Topsail Beach Shoreline Protection Project will also include the implementation many of the various elements of the comprehensive avoidance and

minimization plan. Because no nearshore hardbottom resources are located within the fill template of Phase 5, the point of intercept design was not needed to be employed. In addition, monitoring efforts regarding shorebirds and waterbirds, macroinfauna, and habitat mapping is not required. Offshore hardbottom monitoring will include habitat characterization and sediment monitoring, however, no sidescan surveys or beach profile surveys will be implemented. All other aspects of the avoidance and minimization plan, however, are planned to be implemented. A matrix of these efforts is included in Table 1.

Table 1. List of avoidance and minimization measures utilized in Phase 1 and Phase 5.

Avoidance and Minimization Effort	Phase 1	Phase 5
Point of Intercept Design	X	
Sediment Compatibility	X	X
Construction Practices	X	X
-Dredge Positioning	X	X
-Pipeline Observations	X	X
-Construction Observations	X	X
Construction Schedule	X	X
Monitoring Initiatives		
-Piping Plover, Waterbirds, and Other Shorebirds	X	
-Seabeach Amaranth	X	X
-Sea Turtles	X	X
-West Indian Manatee	X	X
-Macroinfauna	X	
-Habitat Mapping	X	
-Hardbottom		
-Geophysical Survey (Sidescan Sonar Survey)	X	
-Sediment Monitoring		X
-Habitat Characterization		X
-Beach Profile Surveys		
-Water Quality	X	X



REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
WILMINGTON DISTRICT, CORPS OF ENGINEERS
69 DARLINGTON AVENUE
WILMINGTON, NORTH CAROLINA 28403-1343

May 27, 2011

Regulatory Division

Action ID: SAW-2005-00344

The Town of North Topsail Beach
Attention: Steve Foster, Town Manager
2008 Loggerhead Court
North Topsail Beach, North Carolina 28460

Dear Mr. Foster:

Enclosed is a Department of the Army permit to hydraulically dredge and to discharge the material in waters of the United States in order to nourish approximately 11.1 miles of beachfront to protect residential homes and town infrastructures, to reposition the New River Inlet channel, to implement a 14-ft NAVD88 dune plan along 7.25 miles of the Northern and Central Sections of the Town, and to implement an inlet management plan to control the positioning of the new inlet channel through periodic maintenance events in North Topsail Beach, Onslow County, North Carolina.

Any deviation in the authorized work will likely require modification of this permit. If a change in the authorized work is necessary, you should promptly submit revised plans to the Corps showing the proposed changes. You may not undertake the proposed changes until the Corps notifies you that your permit has been modified.

Carefully read your permit. The general and special conditions are important. Your failure to comply with these conditions could result in a violation of Federal law. Certain significant conditions require that:

- a. You must complete construction before December 31, 2041.
- b. You must allow representatives from this office to make periodic visits to your worksite as deemed necessary to assure compliance with permit plans and conditions.

You must notify this office in advance as to when you intend to commence and complete work.

You should address all questions regarding this authorization to Mr. Mickey Sugg of the Wilmington Regulatory Field Office at (910) 251-4811.

Sincerely,



for
Jefferson M. Ryscavage
Colonel, U.S. Army
District Commander

Enclosures

Copy Furnished (with enclosures):

Chief, Source Data Unit
NOAA/National Ocean Service
ATTN: Sharon Tear N/CS261
1315 East-West Hwy., Rm 7316
Silver Spring, Maryland 20910-3282

Copies Furnished (with special conditions and plans):

Mr. Ronald J. Mikulak, Chief
Wetlands Regulatory Section
61 Forsyth Street
Atlanta, Georgia 30303

Mr. Pete Benjamin
U.S. Fish and Wildlife Service
Fish and Wildlife Enhancement
Post Office Box 33726
Raleigh, North Carolina 27636-3726

Mr. Ron Sechler
National Marine Fisheries Service
Pivers Island
Beaufort, North Carolina 28516

Mr. Doug Huggett
Division of Coastal Management
N.C. Department of Environment
and Natural Resources
400 Commerce Avenue
Morehead City, North Carolina 28557

Mr. David Rackley
National Marine Fisheries Service
219 Fort Johnson Road
Charleston, South Carolina 29412-9110

Ms. Cyndi Karoly
North Carolina Division of Water Quality
North Carolina Department of Environment
and Natural Resources
1650 Mail Service Center
Raleigh, North Carolina 27699-1650

Mr. Ian McMillan
401 Oversight/Express Review Permitting
Unit
Division of Water Quality
North Carolina Department of Environment
and Natural Resources
2321 Crabtree Boulevard, Suite 250
Raleigh, North Carolina 27604

Mr. Ken Willson, Coastal Planning &
Engineering, Inc.
A Shaw Group Company
4038 Masonboro Loop Road
Wilmington, North Carolina 28409

Marine Corps Base, Environment
Management Division
Environmental Conservation Branch (Attn.
Bill Rogers)
PSC Box 20004
Camp Lejeune, North Carolina 28542-0004

Ms. Kay Davy
National Marine Fisheries Services
Protected Resources Division
263 13th Avenue South
St. Petersburg, Florida 33701

Mr. Paul Gagliano, NEPA Section
U. S. Environmental Protection Agency-
Region IV
61 Forsyth Street, SW
Atlanta, GA 30303

Mr. Steve Everhart
Division of Coastal Management
North Carolina Department of Environment
and Natural Resources
127 Cardinal Drive Extension
Wilmington, North Carolina 28405

Ms. Joanne Steenhuis
North Carolina Division of Water Quality
North Carolina Department of Environment
and Natural Resources
127 Cardinal Drive Extension
Wilmington, North Carolina 28405

DEPARTMENT OF THE ARMY PERMIT

RECEIVED

MAY 16 2011

Permittee: TOWN OF NORTH TOPSAIL BEACH – Mr. Steve Foster, Town Manager REG. WILM. FLD. OFC.

Permit No.: SAW 2005-00344

Issuing Office: CESA-W-RG-L

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description:

To hydraulically dredge and to discharge the material in Waters of the United States in order to nourish approximately 11.1 miles of beachfront to protect residential homes and town infrastructures, to reposition the New River Inlet channel, to implement a 14-ft NAVD88 dune plan along 7.25 miles of the Northern and Central Sections of the Town, and to implement an inlet management plan to control the positioning of the new inlet channel through periodic maintenance.

Project Location:

North Topsail Beach, Onslow County, North Carolina.

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on December 31, 2041 If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.
2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.
5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.
6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit,

Special Conditions:

SEE ATTACHED SPECIAL CONDITIONS

Further Information:

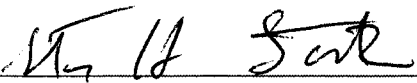
1. **Congressional Authorities:** You have been authorized to undertake the activity described above pursuant to:
 - () Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).
 - (X) Section 404 of the Clean Water Act (33 U.S.C. 1344).
 - () Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).
2. **Limits of this authorization.**
 - a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.
 - b. This permit does not grant any property rights or exclusive privileges.
 - c. This permit does not authorize any injury to the property or rights of others.
 - d. This permit does not authorize interference with any existing or proposed Federal project.
3. **Limits of Federal Liability.** In issuing this permit, the Federal Government does not assume any liability for the following:
 - a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.
 - b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.
 - c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.
 - d. Design or construction deficiencies associated with the permitted work.

- e. Damage claims associated with any future modification, suspension, or revocation of this permit.
4. **Reliance on Applicant's Data:** The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.
5. **Reevaluation of Permit Decision.** This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:
- a. You fail to comply with the terms and conditions of this permit.
 - b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).
 - c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. **Extensions.** General condition 1 establishes a time limit for the completion of the activity authorized by this permit, Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.



 (PERMITTEE) TOWN OF NORTH TOPSAIL BEACH
 C/O: Mr. Steve Foster, Town Manager

5/12/2011

 (DATE)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.



 (DISTRICT ENGINEER) JEFFERSON M. RYSCAVAGE, COLONEL
 For

5.26.2011

 (DATE)

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

 (TRANSFEE)

 (DATE)

SPECIAL CONDITIONS (Action ID. 2005-00344, and ORM #2004-00344)

In accordance with 33 U.S.C. 1341(d), all conditions of the North Carolina Division of Water Quality 401 Certification #3642 (dated June 4, 2010) and the North Carolina Division of Coastal Management CAMA Major Permit dated July 21, 2010 are incorporated as part of the Department of the Army permit, and attached for your convenience.

Work Limits

1. All work authorized by this permit must be performed in strict compliance with the attached plans (which are a part of this permit) and the FEIS. Any modification to these plans, prior to or during construction, must be approved by the U.S. Army Corps of Engineers Wilmington District (USACE) prior to implementation.

2. All work must adhere to the phased sequencing outlined in the initial 5-phase construction schedule from the time Phase 1 is initiated (See Table 5 of the FEIS). Any modification to the phase approach must be verified by USACE prior to conducting any dredging and/or nourishment activity. At no time will any part of the shoreline be nourished more than once during a 4-year period, with the exception of a 500 linear foot long transition at the terminus of each nourishment placement. Prior notification must be provided to our office for each phase. This notification must include the construction time (start and ending), dredging area, and beach placement location.

3. Inlet Channel Maintenance Events:

a) No maintenance event can be initiated unless one or both of the following thresholds, as stipulated in the Final EIS, have occurred: 1) only if shoaling of the new channel totals 85% of the actual dredged volume of the initial construction and/or 2) only if the channel thalweg migrates outside the 500-foot wide corridor established during the initial construction.

b) Channel maintenance will be limited to a maximum of once every 4 years during the 30-year period, resulting in no more than (7) maintenance events.

c) Notification will be required prior to any maintenance operations, including the events planned during the initial 5-phase construction period. This notification must provide information that one or both of the threshold triggers are met. Written verification from our office must be obtained prior to conducting any channel maintenance. Our verification efforts will include coordinating with Marine Corps Base (MCB) Camp Lejeune to ensure there are no project interferences with military training needs, including activities along the oceanfront shoreline of Onslow Beach.

4. Upland Disposal Island:

- a) Use of Corps-owned disposal islands requires consent documents, which may impose additional duties or fees. Disposal of material into Corps-owned islands is not permitted without appropriate consents. Please contact Todd Horton, Navigation Branch, (910) 251-4067, to coordinate.
- b) Subject to approval of the Corps' Navigation Branch and Real Estate office, Permittee is allowed to discharge approximately 91,400 cubic yards of material into the upland disposal island.
- c) No wetlands or waters shall be impacted during the improvements of the dike system or the construction of the discharge / outfall pipe.
- d) Dike improvement designs must be provided to the Corps for approval prior to conducting the work.
- e) Subject to approval by the Navigation Branch, the placement of the discharge pipe shall be extended to deeper water sufficient to avoid shellfish and SAV habitat areas.
- f) The discharge pipe must be installed in a manner to prevent a hazard to navigation in accordance with Navigation Branch instruction and U.S. Coast Guard regulations.

5. Except as authorized by this permit or any USACE approved modification to this permit, no dredge, fill, or mechanized land-clearing activities shall take place at any time in the construction or maintenance of this project within waters or wetlands outside the designated beach nourishment disposal area and/or inlet channel relocation boundary. This permit does not authorize temporary placement or double handling of excavated or fill material within waters or wetlands outside the permitted area. This prohibition applies to all borrow and fill activities connected with this project.

6. All dredging will be conducted by hydraulic pipeline dredge. No hopper dredges are permissible with this authorization.

7. All material used for the beach nourishment must be compatible and clean and free of any pollutants except in trace quantities.

8. Any work constructed under authorization of this permit shall be restricted to November 16-March 31 for the initial 5-phase construction and all channel maintenance events of any year during the life of this authorization. No work will occur outside this time period. All activity, including mobilization efforts, is restricted from the beach and inlet shorelines prior to November 16. Upon completion of work, all equipment, including pipelines, must be removed by March 31.

9. No attempt will be made by the permittee to prevent the full and free use by the public of all navigable waters at, or adjacent to, the authorized work for reason other than safety. No activity may cause a hazard to navigation.

Related Laws

10. The permittee will comply with all US Coast Guard regulations for dredging operations. You will immediately contact Mr. John Walters of the U.S. Coast Guard, at (757) 398-6230 or jwalters@LANTD5.uscg.mil, once a construction timeline has been confirmed. Contact with the U.S. Coast Guard will initiate the Local Notice for Mariners procedures to ensure all safety precautions for aids to navigation are implemented. You will notify our office when this coordination with the U.S. Coast Guard has been commenced and updates will be provided to our office.

11. Appropriate sedimentation and erosion control measures must be taken to minimize suspended material or turbidity during all dredging and nourishment activities, including any improvement to the upland disposal island and the discharge pipe. A Sedimentation and Erosion Control Plan may be required for the project. The applicant should contact the Division of Land Resource (910-395-3900) regarding the need for such a plan.

12. Threatened and Endangered Species:

a) The permittee must implement the North Topsail Beach Shoreline Protection Project Bird Monitoring Plan (copy enclosed) dated October 2006. Post-construction monitoring will take place for 3 years after the initial relocation of the ebb tide channel. During-construction monitoring will be implemented for each subsequent channel maintenance event. Post-construction monitoring for future maintenance events will be conducted as determined by the USACE. Prior to employing a contractor for the bird monitoring, the permittee must provide the name of the entity conducting the post-construction work to USACE for approval.

b) Compaction and escarpment monitoring must be undertaken for three (3) consecutive years following each beach nourishment event. As stated in the FEIS, any remedial or corrective actions must be coordinated with the USACE.

c) Daily routine beach surveillance will be conducted during construction to prevent unintentional damage to sea turtles and their nesting areas. If a nest or a turtle crawl is identified in the project area, the permittee will cease all work in that area and immediately contact Mr. Matthew Godfrey of the NC Wildlife Resource Commission (NC WRC), at (252) 728-1528 or Ms. Molly Elwood of the NCWRC, at (910) 796-7215, and the USACE to determine appropriate action.

d) All necessary precautions and measures will be implemented so that any activity will not kill, injure, capture, pursue, harass, or otherwise harm any protected federally listed species (such as sea turtles, whales, manatee, shortnose sturgeon, and

piping plover). While accomplishing the authorized work, if the permittee discovers or observes a damaged or hurt listed endangered or threatened species, the USACE will be immediately notified so that required coordination can be initiated with the U.S. Fish and Wildlife Service and/or National Marine Fisheries Service.

e) If any whales are sighted within 100 yards (91 meters) of the cutterhead dredge, all dredging operations must cease immediately until the whale has passed and is outside that distance. All sightings must be immediately reported to the USACE with the following information: Time of sighting, Lat/Long of sighting, Number of estimated animals, and Direction of movement.

f) In order to further protect the endangered West Indian Manatee, *Trichechus manatus*, the applicant must implement the U.S. Fish and Wildlife Service's Manatee Guidelines, and strictly adhere to all requirements therein. The guidelines can be found at http://www.fws.gov/nc-es/mammal/manatee_guidelines.pdf.

13. If submerged cultural resources are encountered during the operation, the USACE will be immediately notified so that coordination can be initiated with the Underwater Archeology Unit (UAU) of the Department of Cultural Resources. In emergency situations, the permittee should immediately contact the UAU at (910-458-9042), Fort Fisher, so that a full assessment of the artifacts can be made.

14. All mechanized equipment will be regularly inspected and maintained to prevent contamination of waters and wetlands from fuels, lubricants, hydraulic fluids, or other toxic materials. In the event of a spill of petroleum products or any other hazardous waste, it should be reported to the N.C. Division of Water Quality at (919) 733-5083, Ext. 526 or (800) 662-7956 and provisions of the North Carolina Oil Pollution and Hazardous Substances Control Act will be followed.

Project Maintenance

15. The name, phone number, and address, including a field contact name and number, for both the dredge and engineer contractors will be submitted to the USACE prior to any work.

16. A pre-construction meeting must be held with the USACE prior to conducting the work to ensure the contractor fully understands the conditions of this permit. Participants may include, but are not limited to, representatives from NC Division of Coastal Management and NC Division of Water Quality.

17. Sediment analysis must be submitted to the USACE every other day (or on a Monday- Wednesday- Friday schedule) to verify the compatibility of the material. During the construction of the "Perched Beach Method" or "Point of Intercept Design" and when the dredge is in close proximity of the inlet clay lens, sediment analysis must be submitted to the USACE every day, including weekends. All analysis must include,

but not limited to, the location of the sample station, shell percentage, silt/clay content, grain size, and color; and will be implemented pursuant to Section 6.0 of the FEIS.

18. Dredging surveys must be provided to our office twice a week. These survey maps must include the location and width and depth of the area that has been dredged. For offshore dredging, all depth cuts will be restricted to cut locations and depths depicted on Figure 12 and Table 2 (copies enclosed). A survey map showing the final volume of material dredged, along with the boundaries, of the new ebb tide channel must be submitted to the USACE within 2 weeks upon completion of the channel relocation. This information will be used to determine the need for all subsequent maintenance events.

19. As-built surveys of the beach must be provided to the USACE as they are being conducted. Final surveys must be submitted within 60 days of the completion of each nourishment event.

20. No deep ruts will be left within the construction limits of the project when work is completed.

21. The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal, relocation, or alteration.

22. The permittee shall notify NOAA/NATIONAL OCEAN SERVICE Chief Source Data Unit Attention: Sharon Tear N CS261, 1315 E West HWY- RM 7316, Silver Spring, MD 20910-3282 at least two weeks prior to beginning work and upon completion of work.

23. In issuing this permit, the Federal Government does not assume any liability for:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future Federal activities initiated on behalf of the general public.

c. Damages to other permitted or unpermitted activities or structures caused by the authorized activity.

d. Design and construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

24. This Department of the Army permit does not obviate the need to obtain other Federal, State or local authorizations required by law.

Mitigation, Minimization, and Avoidance

25. Mitigation, Minimization, and Avoidance Measures.

a) All measures and obligations outlined in Section 6.0 of the Final EIS dated December 2009 (copy enclosed) must be fulfilled accordingly; and all monitoring reports must be submitted to the USACE in the timeframes specified in the December 2009 plan.

b) In addition to the monitoring schedule detailed in Section 6.4.6 of the FES, post-construction habitat mapping (using aerial photography) must be conducted at the 6-month period after the initial ebb tide channel relocation, with the subsequent mapping adhering to the FEIS monitoring schedule. All habitat mapping reports should include any significant storm events, Corps navigation maintenance operations, and/or other occurrences outside the project that has the potential to affect the inlet complex environment.

c) During offshore dredging, the pipeline placements must follow the corridors in Figure 17 of the FEIS (copy enclosed), and each pipeline and anchor placement must be located via Global Positioning Survey (GPS) to ensure the proper hardbottoms buffers are adhered to. These GPS bearings must be mapped, overlaying the hardbottom survey, and provided to the USACE to verify the placement of the pipeline and dredge anchors. This must also include each time the anchors are relocated. Maps must be submitted to the USACE no later than one week after pipeline and anchors are in place.

d) The permittee will fulfill its agreement to implement the titled research study "Feasibility of replanting *Donax* for resource enhancement following a beach nourishment project", dated January 9, 2009 (copy enclosed). As proposed by the Permittee, Mr. Phillip "Skip" Kemp of Carteret County Community College will be conducting the research, and progress and final reports must be submitted to the USACE as detailed in the timeline of the study. Additionally, a final interpretive report, along with the final results of peer reviewed article of journal quality, will be provided to the USACE when completed. An agreement between the Town and Mr. Kemp must be provided to the USACE prior to initiating Phase 1 of the relocation and beach nourishment work.

e) To monitor the shoreline changes on Onslow Beach side of the new ebb tide channel, the permittee must conduct shoreline profiles on the western end of

Onslow Beach from the toe of dune to the depth of closure. A detailed monitoring plan, including pre-construction surveying, to implement this effort must be provided and approved by the USACE prior to initiating any work in the inlet. Additionally, the scheduling and the results of this monitoring must be coordinated and provided to the MCB Camp Lejeune. Their main contact is Mr. Bill Rogers at (910) 451-9384, or Mr. John Townson at (910) 451-5003.

Enforcement

26. Violations of these conditions or violations of Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act must be reported in writing to the USACE within 24 hours of the permittee's discovery of the violation.

27. A representative of the USACE will periodically and randomly inspect the work for compliance with these conditions. Deviations from these procedures may result in a directive to cease all work until the problem is resolved to the satisfaction of the USACE.

Attachment 5: Agency Letters



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

September 10, 2013

United States Department of Agriculture
Rural Development Program
ATTN: Frank Mancino
STOP 0761
1400 Independence Ave, S.W.
Washington, DC 20250-0761

SUBJECT: Adoption of Final Environmental Impact Statement (FEIS) prepared by the U. S. Army Corps of Engineers for the North Topsail Beach Shoreline Protection Project (2009) CEQ# 20130248

Dear Mr. Mancino:

The U.S. Environmental Protection Agency (EPA) has reviewed the FEIS Adoption of the above referenced project in accordance with our responsibilities under Section 309 of the Clean Air Act and Section 102(2)(C) of the National Environmental Policy Act (NEPA). It is our understanding that the U.S. Department of Agriculture's Rural Housing Service has adopted the U.S. Army Corps of Engineers FEIS CEQ #20100025, filed January 26, 2010 with EPA. The Rural Housing Service was not a cooperating agency on this project, therefore we believe that recirculation of the FEIS is necessary under Section 1506.3 (b) of the Council on Environmental Quality Regulations.

EPA reviewed the subject FEIS and provided comments to the U.S. Army Corps of Engineers on March 5, 2010 expressing environmental concerns relating to the potential impacts to marine habitats and migratory species from the dredge and fill action proposed. We understand that the U.S. Department of Agriculture's Rural Housing Service is considering an application from the City of North Topsail Beach, Onslow County, North Carolina for a Direct Community Facilities Loan to fund Phase 5 (beach restoration) of the proposed project identified as Alternative 3 in the FEIS. The amount of the proposed loan is \$16.2 million.

Since EPA previously provided comments on March 5, 2010 regarding this project, we have no additional comments. However, we do request that U.S. Department of Agriculture's Rural Housing Service include in the record for this action EPA's March 5, 2010 comments on the North Topsail Beach Shoreline Protection Project FEIS (see attached).

EPA appreciates the opportunity to review this action. Should you have questions regarding our comments, please feel free to contact Dan Holliman of my staff at 404/562-9531 or holliman.daniel@epa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Mueller". The signature is written in a cursive style with a prominent loop at the end.

Heinz J. Mueller, Chief
NEPA Program Office
Office of Environmental Accountability

Attached: EPA March 10, 2010 Comment Letter on FEIS for North Topsail Beach Shoreline
Protection Project CEQ#20100025
cc: U.S. Army Corps of Engineers – Wilmington District



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

March 5, 2010

Mr. Mickey Sugg
Project Manager
Wilmington Regulatory Field Office
U.S. Army COE of Engineers
Post Office Box 1890
Wilmington, North Carolina 28402-1890

Subject: Comments on the Final Environmental Impact Statement (FEIS) for the Relocation of New River Inlet Ebb Tide Channel Between North Topsail Beach and Onslow Beach, and the Placement of the Dredged Material Along the Ocean Shoreline of North Topsail Beach in Onslow County, NC; CEQ Number: 20100025; ERP Number: COE-E30043-NC

Dear Mr. Sugg:

Pursuant to Section 309 of the Clean Air Act (CAA) and Section 102(2)(C) of the National Environmental Policy Act (NEPA), the U.S. Environmental Protection Agency (EPA) Region 4 has reviewed the "Final Environmental Impact Statement (FEIS) for the Relocation of New River Inlet Ebb Tide Channel Between North Topsail Beach and Onslow Beach, and the Placement of the Dredged Material Along the Ocean Shoreline of North Topsail Beach in Onslow County, NC," which EPA received on February 11, 2010. The FEIS report was issued by the Wilmington District of the United States Army Corps of Engineers (COE), and was intended to comply with the National Environmental Policy Act (NEPA). EPA previously commented by letter dated February 11, 2008 to Colonel Pulliam, Commander of the Wilmington District, on the Draft Environmental Impact Statement (DEIS) for this project. The public commenting period on the FEIS will reportedly end on March 1, 2010.

EPA understands that this FEIS was developed in conjunction with the Town of North Topsail Beach's request for Department of the Army authorization, pursuant to Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbor Act, to "protect residential homes and town infrastructures by nourishing approximately 11.1 miles of beachfront via repositioning the New River Inlet channel, implementing an inlet management plan to control the positioning of the new inlet channel, and utilizing an offshore borrow area." The new channel will be centrally located and the proposal will be to maintain that position, which "essentially will be located perpendicular to the adjacent shorelines of North Topsail Beach and Onslow Beach." The proposed sources of the material for the beach nourishment will come from the repositioning of the inlet and an identified offshore borrow area. The projected amount of material needed to initially nourish the oceanfront shoreline is approximately 3.11 million cubic yards. The placement of beach fill along the Town's shoreline would result in the initial widening of

the beach by 50 to 100 feet. The widened beach is to be maintained through a program of periodic beach nourishment events with the material extracted from the maintenance of the newly relocated channel. All work will reportedly be accomplished using a hydraulic cutterhead dredge. The proposed project construction will be conducted "in a five phase approach to correspond with the Town's anticipated annual generation of funds."

The ocean shoreline of the Town of North Topsail Beach measures approximately 11.1 miles along the northern end of Topsail Island, with approximately 7.25 miles of the shoreline contained within the project area except for two small areas located within the Coastal Barrier Resource System (CBRS). Those areas within the CBRS are banned by law from receiving federal funds for use on projects that would encourage development. The channel through New River Inlet has been maintained by the COE for commercial and recreational boating interest for over 55 years, and the COE is authorized by law to maintain the navigation channel in the inlet "to a depth of 6 feet mean low water (mlw) over a width of 90 feet, following the channel thalweg."

The Town of North Topsail Beach has proposed to fund the nourishment of the oceanfront shoreline and reposition New River Inlet channel as a means "to address a severe erosion problem in order to preserve the Town's tax base, protect its infrastructure, and maintain its tourist oriented economy." EPA notes that the entire stretch of the Town's shoreline has experienced a considerable amount of erosion over the last 20 years due primarily to the impact of numerous tropical storms and hurricanes during the mid to late 1990's and due to impacts of the shifting of the main ebb channel in New River Inlet. The Town believes that the shoreline erosion and residual effects of the storms have left North Topsail Beach in "an extremely vulnerable position with regard to its ocean front development and infrastructure," and the community has estimated that "over \$250 million in property tax value as well as roads, water and sewer lines, and other utilities are at risk."

EPA notes that the FEIS' stated purpose and need for this project includes eight (8) elements:

- (1) Long-term stabilization of the oceanfront shoreline located immediately south of New River Inlet;
- (2) Providing short-term protection to 31 imminently threatened residential structures over the next five years;
- (3) Providing long-term protection to the Town's infrastructure and approximately 1,200 homes;
- (4) Reducing or mitigating for property damage associated with shoreline erosion along 11.1 miles of oceanfront shoreline of North Topsail Beach;
- (5) Improving recreational opportunities along the Town's oceanfront shoreline;
- (6) Ensuring all material utilized for shore protection is beach compatible;
- (7) Maintaining the Town's tax base by protecting existing development and infrastructure on the oceanfront shoreline of North Topsail Beach;
- (8) Balancing the needs of the human environment by minimizing and avoiding adverse effects to natural resources.

In "Appendix A, Subpart 4: Response to Comments" of the FEIS, the COE responds to the 31 comments on the DEIS that our agency provided by letter on February 22, 2008. The following are our comments and the remaining issues that EPA has identified as continuing concerns:

- The FEIS states that impacts of historic rates of rise in sea level "are implicitly included in the historic shoreline change data used to formulate the shoreline and inlet management plan for North Topsail Beach. The historic rate of rise in sea level applicable to the project area is 1.25 feet per century." The reference for the COE's projected 1.25 feet per century rise in sea level should be provided with this comment.
- Council on Environmental Quality (CEQ) regulations (40 CFR 1502.14(a)) require that an EIS is to "rigorously explore and objectively evaluate all reasonable alternatives" for a proposed action. The regulations (40 CFR 1502.14(b)) further require that substantial treatment be made of each alternative considered in detail, including the proposed action. EPA previously commented on the seven (7) alternatives presented in the DEIS including the No Action alternative. Because of the lengthy duration of the activities, it was unclear to our agency whether the COE has latitude in its authorizations or permitting of the project. EPA was concerned that this would become "an all or nothing approval of the project rather than a provision for interim mid-course review at an appropriate juncture." The FEIS states that it is anticipated that the record of decision (ROD) as determined by the COE "will include result in an appropriate permit including relevant permit conditions." Please provide a clarification on what the ROD will include.
- EPA previously commented on the Alternative 7 presented in the DEIS, which involves the construction of a terminal groin on the north end of North Topsail. This alternative was apparently eliminated because it is inconsistent with the State's coastal policies. Our agency commented that the COE should have considered other more innovative structural options that might be found suitable, including temporary subaqueous structures or wave baffles to modify the hydrodynamics and sand movement, or methods to lessen the wave energy at the eroded beach areas. The FEIS states that "hardened structures, including terminal groins, are currently illegal within the State of North Carolina." The COE should include the relevant citation from the state code.
- EPA previously suggested an investigation of whether remedial action on Onslow Beach would offer a long-term benefit to North Topsail Beach, as Onslow appears to provide better habitat quality than does North Topsail. The data presented in the DEIS indicated substantially greater erosion along Onslow Beach, with a trend towards an increasing rate of beach loss. The FEIS states that the U.S. Marine Corps (USMC), which controls Onslow Beach, "was a participant in the Project Delivery Team process and is fully aware of the potential impacts of the project on Onslow Beach." During the initial stages of the plan formulation process the plan reportedly included the placement of mitigation beach fill on the southern end of Onslow Beach to counter the predicted impacts, but the USMC "was not in favor of nourishing Onslow Beach as that activity was deemed to potentially have

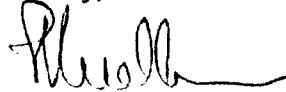
a negative impact on piping plover habitat, namely, an overwash area located on the south end of the island.” Please provide a reference (and include) any communications from the USMC to the COE on this issue.

- The FEIS reports that the identified borrow source lies outside areas preliminary identified by the COE for the federal storm damage reduction project being evaluated for the southern end of North Topsail Beach and the town of Surf City which lies south of North Topsail Beach. Please provide a reference and include all copies of the most recent communication(s) with state and federal resource agencies regarding the selected offshore borrow area, which will reportedly eliminate adverse impacts on the offshore hardbottom resources.
- As mentioned previously, EPA is also currently reviewing the EIS developed for the adjacent project known as the “Draft Integrated Feasibility Report and Environmental Impact Statement for Coastal Storm Damage Reduction for Surf City and North Topsail Beach, North Carolina.” This EIS evaluates coastal storm damage reductions for the Towns of Surf City and North Topsail Beach, NC, and then develops “the most suitable plan of damage reduction for the present and future conditions” for the selected 50-year period of analysis. The primary study area includes the towns of Surf City and North Topsail Beach and the associated nearby borrow sites. It describes a tentatively selected NED Plan that consists of a sand dune system constructed to an elevation of 15 feet above NGVD, fronted by a 50-foot wide beach berm constructed to an elevation of 7 feet above NGVD, with the berm and dune extending along a reach of 52,150 feet in length (about 10 miles). EPA recommends careful coordination to ensure that there are no conflicts between the federal and non-federal projects, either on the shoreline or in the borrow areas. The Draft Integrated Feasibility Report and Environmental Impact Statement states that in the event that the non-federal project is not in place when the federal project begins, then the northern 2,000 feet of the dune and berm system will be replaced with a transition section.
- The FEIS states that “in the absence of maintenance dredging, controlling depths over the outer edge of the ebb tide delta of New River Inlet would likely vary between 2 and 4 feet below MLW depending on antecedent tide and wave conditions.” Please provide a citation or reference with this statement.
- To avoid conflicts, the project should be coordinated with monitoring efforts led by the North Carolina Recreational Water Quality Program (NCRWQ), which regularly tests these coastal waters in order to protect public health by monitoring and notifying the public when bacteriological standards for safe bodily contact are exceeded. Also, the project should be coordinated with the North Carolina Department of Environmental and Natural Resources, Division of Environmental Health, Shellfish Sanitation Section, which is also continually monitoring and classifying these coastal waters as to their suitability for shellfish harvesting for human consumption.
- Finally, CEQ regulations (40 CFR 1502.15) require an EIS to describe the environment of the areas to be affected (or created) by the alternatives under consideration. The data and analysis in the FEIS were found to be commensurate with the significance of the impacts, although EPA still has some general concerns about the potential impacts from dredging on marine threatened and

endangered resources, particularly if plans change and hopper dredges are eventually used. At present all work is tentatively planned to be accomplished using a hydraulic cutterhead dredge.

Thank you for the opportunity to provide comments on this FEIS. EPA rates this FEIS as EC-2, we have some environmental concerns and have requested additional information. If you wish to discuss these comments or have any other questions, please contact me at (404) 562-9611 (mueller.heinz@epa.gov) or Paul Gagliano, P.E., of my staff at (404) 562-9373 (gagliano.paul@epa.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "H. Mueller", with a long horizontal flourish extending to the right.

Heinz J. Mueller, Chief
NEPA Program Office
Office of Policy and Management



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Raleigh Field Office
Post Office Box 33726
Raleigh, North Carolina 27636-3726

RECEIVED
SEP 05 2013
WILM, FLD, OFC.

September 3, 2013

Mr. Mickey Sugg
U. S. Army Corps of Engineers
Wilmington Regulatory Field Office
P. O. Box 1890
Wilmington, North Carolina 28402-1890

Subject: Town of North Topsail Beach Shoreline Protection Project; Phase V
Onslow County, NC
Action ID #SAW- 2005-00344

Dear Mr. Sugg:

This letter provides the comments of the U. S. Fish and Wildlife Service (Service) to the August 13, 2013 Public Notice (PN) on the Town of North Topsail Beach's request for permit modification. The Wilmington District, U.S. Army Corps of Engineers (Corps) completed a Final Environmental Impact Statement (FEIS) in December 2009 for Phases I-V of the New River Inlet ebb tide channel relocation and beach nourishment project. The Corps issued a permit on May 27, 2011 and authorized a modification on October 15, 2012 for the completion of Phase I. This current modification request consists of changing Phase V's original permitted construction schedule and beach fill footprint. The Corps is also reinitiating consultation pursuant to Section 7 of the Endangered Species Act (ESA). A draft Supplemental Biological Assessment (BA) was provided on August 29, 2013 for our review. The draft Supplemental BA only considers the candidate species red knot (*Calidris canuta rufa*) and the Service's Proposed Critical Habitat for the loggerhead sea turtle (*Caretta caretta*). As stated in the Supplemental BA, all other information in the 2009 Final BA remains unchanged.

The Service has reviewed the public notice and Supplemental BA, along with the December 2009 FEIS and Final BA, and we are providing comments in accordance with the Fish and Wildlife Coordination Act (FWCA) (48 Stat. 401, as amended; 16 U.S.C. 661-667d). Comments related to the FWCA are to be used in your determination of compliance with Section 404(b)(1) guidelines (40 CFR 230) and in your public interest review (33 CFR 320.4) in relation to the protection of fish and wildlife resources. We also are providing comments to assist you in determination of impacts pursuant to Section 7 of the ESA, as amended (16 U.S.C. 1531-1543).

Project Area, Proposed Activities, and Anticipated Impacts

The project area is North Topsail Beach, and the adjacent Atlantic Ocean. The waters of the project area are classified as SA High Quality Waters (HQW). The substrate of the project area is primarily sand. The May 27, 2011 authorization (and October 15, 2012 modification) for this project permitted activities associated with Phase I of the project described in the December 2009 FEIS. At that time, the Town of North Topsail Beach decided not to pursue Phases II-V until funding was available. Currently, the Town is proposing to complete Phase V (with modifications). The Town proposes to use the existing permitted offshore borrow source. Requested changes to the project include a higher density of fill (50 to 92 cy/lf with an average of 75 cy/lf), a total fill volume of 1.5 million cubic yards, and a change in the permitted project schedule to allow Phase V to be conducted one year after the construction of Phase I.

Federally Protected Species

The Service has reviewed available information on federally-threatened or endangered species known to occur in Onslow County. Our review indicates that several species may occur in the project area, including the West Indian manatee (*Trichechus manatus*), piping plover (*Charadrius melodus*), seabeach amaranth (*Amaranthus pumilus*), and the loggerhead (*Caretta caretta*), leatherback (*Dermochelys coriacea*), Kemp's Ridley (*Lepidochelys kempii*), Hawksbill (*Eretmochelys imbricata*), and green (*Chelonia mydas*) sea turtle. These are the species considered in the Biological Assessment (BA) for the earlier DA permit. The roseate tern (*Sterna dougalii dougalii*) was also considered for the earlier DA permit, but is not found in Onslow County, and does not need to be considered for this modification.

As stated above, the Supplemental BA only considers the candidate species red knot (*Calidris canuta rufa*) and the Service's proposed Critical Habitat for the loggerhead sea turtle (*Caretta caretta*). The Service agrees that the 2009 Final BA is still applicable for the project, and we agree with the Corps' decision to include only these two considerations in the Supplemental BA. In the Supplemental BA, the Corps has determined that the proposed modifications to the permit may affect, but is not likely to adversely affect the red knot and that the permit modifications are not likely to adversely modify the proposed critical habitat for the loggerhead sea turtle.

The Service is proposing to designate portions North Carolina beaches as critical habitat for the Northwest Atlantic (NWA) population of loggerhead sea turtles. North Topsail Beach is located within Critical Habitat Unit LOGG-T-NC-03 (Topsail Island, Onslow and Pender Counties). From the Federal Register Notice (see <http://www.regulations.gov/#!documentDetail;D:FWS-R4-ES-2012-0103-0001>), this unit consists of 35.0 km (21.8 miles) of island shoreline along the Atlantic Ocean. The island is separated from the mainland by the Atlantic Intracoastal Waterway, Chadwick Bay, Alligator Bay, Goose Bay, Rogers Bay, Everett Bay, Spicer Bay, Waters Bay, Stump Sound, Banks Channel, and salt marsh. The unit extends from New River

Inlet to New Topsail Inlet. The unit includes lands from the MHW line to the toe of the secondary dune or developed structures.

As discussed in the Supplemental BA, the red knot (*Calidris canutus rufa*) is a candidate species; one that the Service has determined warrants listing under the endangered Species Act and awaits formal listing. These species receive no substantive or procedural protection under the Endangered Species Act until formal listing. The red knot was designated as a candidate species in 2006. At nine to ten inches long, the red knot is a large, bulky sandpiper with a short, straight, black bill. During the breeding season, the legs are dark brown to black, and the breast and belly are a characteristic russet color that ranges from salmon-red to brick-red. Males are generally brighter shades of red, with a more distinct line through the eye. When not breeding, both sexes look alike—plain gray above and dirty white below with faint, dark streaking. As with most shorebirds, the long-winged, strong-flying knots fly in groups, sometimes with other species. Red knots feed on invertebrates, especially bivalves, small snails, crustaceans, and, on breeding grounds, terrestrial invertebrates.

Service Concerns and Recommendations

1. The Service recommends that all requirements of the 2009 FEIS and all of the conservation measures of the 2009 Final BA be upheld in the final modification for Phase V.
2. The Service notes that it is not listed as one of the agencies receiving all monitoring reports. We request that we be included in the list of agencies receiving monitoring reports for all of the physical, chemical, and biological monitoring efforts required by the permit.
3. The Service recommends that the modification include a requirement that the access points for heavy equipment (bulldozers, etc.) entering the beach be within the Phase V project area or as close as possible, to minimize impacts from movement of equipment along other stretches of beach.
4. We recommend that the Corps' authorization require a visual survey to be conducted each morning in the area of work for that day, to determine if piping plovers or red knots are present. If plovers or red knots are present in the work area, careful movement of equipment in the early morning hours should allow those individuals to move out of the area. With these measures, potential impacts to wintering piping plovers and migrating red knots are likely to be avoided, to the maximum extent practicable.

The Corps has determined that the proposed action may affect but is not likely to adversely affect the red knot and is not likely to adversely modify proposed critical habitat for the loggerhead sea turtle. With the conservation measures proposed in the draft Supplemental BA and those requested by the Service above, the Service would concur that the proposed project may affect,

but is not likely to adversely affect the candidate species red knot. The proposed project may modify, but is not likely to adversely modify, proposed critical habitat of the loggerhead sea turtle in the project area.

Thank you for the opportunity to comment on this draft Supplemental BA. If you have questions regarding these comments, please contact Kathy Matthews at 919-856-4520, ext. 27 or by e-mail at <kathryn_matthews@fws.gov >.

Sincerely,


Pete Benjamin
Field Supervisor

cc:

Fritz Rohde, NMFS, Pivers Island

Dan Holliman, USEPA, Atlanta, GA

Maria Dunn , NC Wildlife Resources Commission, Wilmington

Doug Huggett, NC Division of Coastal Management, Morehead City, NC

M. Korenek, US Marine Corps, Camp Lejeune

Jessi Baker, NCDMF, Morehead City



UNITED STATES DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

NATIONAL MARINE FISHERIES SERVICE

Southeast Regional Office

263 13th Avenue South

St. Petersburg, Florida 33701-5505

<http://sero.nmfs.noaa.gov>

September 13, 2013

F/SER47:FR/pw

(Sent via Electronic Mail)

Colonel Steven A. Baker, Commander
US Army Corps of Engineers Wilmington District
69 Darlington Avenue
Wilmington, North Carolina 28403-1398

Attention: Mickey Sugg

Dear Colonel Baker:

NOAA's National Marine Fisheries Service (NMFS) reviewed Action ID No. SAW-2005-00344 dated 13 August 2013. The Town of North Topsail Beach requests its current permit for beach nourishment be modified to allow Phase V to occur earlier than planned and to allow the fill template for Phase V to be expanded waterward. The Wilmington District's initial determination is the changes to the beach nourishment schedule and fill template at North Topsail Beach "may affect but are not likely to adversely affect" essential fish habitat (EFH) or associated fisheries managed by the South Atlantic Fishery Management Council (SAFMC), Mid-Atlantic Fishery Management Council (MAFMC), or NMFS. As the nation's federal trustee for the conservation and management of marine, estuarine, and diadromous fishery resources, the following comments and recommendations are provided pursuant to the authorities of the Fish and Wildlife Coordination Act and the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act).

NMFS and the Wilmington District extensively reviewed this project. Those reviews included formal comment letters from NMFS dated 15 February 2008, 13 November 2008, 1 March 2010, and 11 January 2011, and those reviews addressed EFH assessments and an Environmental Impact Statement (EIS).

Phase I of the original permit was implemented during the 2012/2013 dredging window and all work was completed by February 2013. Phase I included relocation of the New River ebb tide channel with the use of a cutter head dredge and the placement of approximately 566,244 cubic yards of dredged material along approximately 7,500 linear feet of the north-northeast ocean shoreline on North Topsail Beach. The Phase V beach fill placement is approximately a 3.85-mile stretch along the southwestern ocean shoreline of North Topsail Beach. Unlike the other phases, this section, originally known as the southern section, is located outside of the Coastal Barrier Resource System (CBRS), which prohibits the expenditure of federal funds pursuant to the Coastal Barrier Resource Act of 1982 (CBRA-82) and the Coastal Barrier Improvement Act of 1990 (CBIA-90). Being outside of the CBRS and eligible to receive federal funds, this southern section of North Topsail Beach remains included in the Wilmington District's study area for the development of long-term federal shoreline protection plan for Topsail Island.

The phased construction in the current permit reflects how the Town anticipated to allocate is expected revenues for beach nourishment. Those revenues have changed and the Town now requests to expedite the schedule for Phase V to allow construction during the upcoming dredging season. Additionally, the Town has requested to increase the shore-perpendicular dimension of the fill template for Phase V. The increased fill template yields an average placement density of 75 cubic yards per linear foot,

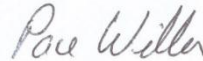


which is consistent with other project phases and reflects the likelihood that the federal project will occur much later than the Town expected a few years ago. All other environmental commitments for Phase V stipulated in the Final EIS, Record of Decision, and 27 May 2011 Department of the Army authorization, remain unchanged; including use of the offshore borrow area, utilization of a cutter head dredge, and the implementation of all mitigation, minimization, and avoidance measures outlined in Section 6.0 of the Final EIS and in the Special Conditions of the Department of the Army authorization.

NMFS has no objection to the proposed schedule and fill template changes for Phase V of the North Topsail project. NMFS requests a copy of the cross section drawings for Phase V that show the new fill template and predicted equilibrium toe-of-fill.

Thank you for the opportunity to provide these comments. Related questions or comments should be directed to the attention of Mr. Fritz Rohde at our Beaufort Field Office, 101 Pivers Island Road, Beaufort, North Carolina 28516-9722, or at (252) 838-0828.

Sincerely,



/ for

Virginia M. Fay
Assistant Regional Administrator
Habitat Conservation Division

cc:

COE, Mickey.L.Sugg@usace.army.mil
USFWS, Pete_Benjamin@fws.gov
NCDCEM, Doug.Huggett@ncmail.net
NCDMF, Kevin.Hart@ncdenr.gov
EPA, Bowers.Todd@epa.gov
SAFMC, Roger.Pugliese@safmc.net
F/SER4, David.Dale@noaa.gov
F/SER47, Fritz.Rohde@noaa.gov