

9. PLAN IMPLEMENTATION

9.01 Project Schedule

Table 9.1 shows the schedule through initial construction for the Selected Plan. This schedule assumes expeditious review and approval of the project through all steps, including authorization and funding. Actual project implementation could take longer.

Table 9.1 – Project Schedule

Milestones	Forecast Date
Initiate General Re-evaluation	February 2001
Alternative Formulation Briefing	July 2004
Initial Draft GRR and EIS Begin 45-day Public Review	June 2006
Final Draft GRR and EIS Begin 30-day Public Review	April 2008
Signed Record of Decision	July 2008
Initiate Initial Plans & Specs	August 2008
Project Authorization	November 2008
Complete Initial Plans & Specs.	April 2009
Execute Project Cooperation Agreement	May 2009
Initiate Real Estate Acquisition	June 2009
Initiate Final Plans & Specs.	December 2010
Complete Real Estate Acquisition	May 2011
Complete Final Plans & Specs.	June 2011
Advertise Initial Construction Contract	July 2011
Open Bids for Initial Construction Contract	August 2011
Award Initial Construction Contract	September 2011
Complete Initial Beachfill Construction	April 2012
Complete Initial Construction All Items	June 2012

9.02 Division of Plan Responsibilities

9.02.1 General

Federal policy requires that costs for water resources projects be assigned to the various purposes served by the project. These costs are then apportioned between the Federal government and the non-Federal sponsor according to percentages specified in Section 103 of the Water Resources Development Act of 1986 (PL 99-662). For projects that provide protection to publicly owned shores, the purposes are usually (1) hurricane and storm damage reduction and (2) separable recreation. For the Topsail Beach project there is no separable recreation component.

9.02.2 Cost Sharing

The Selected Plan presented in this report is longer than that currently authorized and exceeds the Section 902 limit; therefore, implementation will require modification of the existing congressional authority.

Cost sharing for initial construction of the Selected Plan would be consistent with that specified in Section 103(c)(5) of WRDA 86 as amended by WRDA 96 (generally 65 percent Federal and 35 percent non-Federal). Non-Federal interests are required to provide all lands, easements, rights of way, and dredged material disposal areas and perform all necessary relocations (LERRD) necessary for the project. The value of the non-Federal portion of the LERRD is \$1,481,000 (Table 7.2) and is included in the non-Federal share of initial project construction costs.

Cost sharing for the Locally Preferred Plan is modified to account for the extension of the dune at the south end. In reaches 3.1 and 3.2 Plan 1250X and 1250 have almost the same benefits, but Plan 1250X has a higher cost. The incremental analysis of the 2 plans shows that present value net benefits decrease by \$136,000 (October 2004, 5.375% evaluation) as the scope of the plan is increased from Plan 1250 to Plan 1250X.

Comparisons at other interest rates and price levels both against the 1250 plan and the 1550 plan for same project portion still resulted in a decrease in present value net benefits in the range of \$120,000 to \$180,000. Compared to the overall present value net benefits of roughly \$70,000,000, this loss of net benefits is very small, but still is a decrease. As a result the cost difference is not cost shared and is a non-federal cost.

This cost difference can be estimated at October 2008 price levels based on quantity differences between Plan 1250X (LPP) and Plan 1250. The increase in cost is shown in Table 9.2. The estimated cost difference is \$320,000.

Table 9.2 Incremental Cost of Locally Preferred Plan, October 2008 levels

Item	Plan 1250X	Plan 1250	Increase	Unit cost w/ cont.	Cost, rounded
Beachfill, CY	3,223,000	3,188,000	35,000	\$8.86 / CY	\$310,000
Dune Vegetation, AC	48	47	1	\$10,350 / AC	\$10,000
Total Increase					\$320,000

The incremental cost increase of \$320,000 is not cost shared. The remaining initial cost of \$37,392,000 is cost shared 65% Federal, or \$24,305,000. This represents 64.4% of the total cost of \$37,712,000. The overall non-Federal cash portion is \$11,606,000.

Including the non-Federal LERRD cost the resulting non-Federal share is \$13,407,000, which is 35.6% of the total initial cost. Cost sharing for initial project costs is shown in Table 9.3.

Table 9.3 Initial Project Construction Cost Allocation and Apportionment, October 2008 price levels

INITIAL PROJECT CONSTRUCTION COSTS					
Project Purpose	Project First Cost	Apportionment %		Apportionment \$	
		Non-Federal	Federal	Non-Federal	Federal
Hurricane & Storm Damage Reduction	\$37,712,000				
Locally Preferred Plan, Incremental Cost	\$320,000	100%	0%	\$320,000	\$0
Locally Preferred Plan, Shared Costs	\$37,392,000	35%	65%	\$13,087,000	\$24,305,000
LERRD Credit				\$1,481,000	\$0
Cash Portion, Shared Costs				\$11,606,000	\$24,305,000
Hurricane & Storm Damage Reduction	\$37,712,000	-	-	-	-
Locally Preferred Plan, Resulting Costs					
Cash Portion, Shared Costs				\$11,606,000	\$24,305,000
Cash Portion, Incremental Costs				\$320,000	\$0
Cash Portion, Resulting				\$11,926,000	\$24,305,000
LERRD Credit				\$1,481,000	\$0
Total and Effective Cost Sharing	\$37,712,000	35.6%	64.4%	\$13,407,000	\$24,305,000

Costs incurred in the PED phase from project authorization in 1992 through completion of the GRR are classified as Sunk PED Costs. These Sunk PED costs include initial project PED costs of \$616,000 and the GRR cost of \$4,230,000 for a total of \$4,846,000 and both are cost shared 75% federal and 25% non-federal. The Total Financial Initial Project Construction Costs is composed of both the Sunk PED Costs and the estimated Initial Project Construction Costs.

Cost sharing for periodic nourishment (continuing construction) would be consistent with Section 215 of WRDA 99, which requires that such costs be shared 50 percent Federal and 50 percent non-Federal.

Annual operation, maintenance, repair, replacement, and rehabilitation (OMRR&R) costs, such as inspection costs and dune vegetation maintenance costs, are 100 percent non-Federal responsibility. The Federal Government is responsible for preparing and providing an OMRR&R manual to the sponsor.

As noted previously, current Federal policy requires that, unless there are other, overriding considerations, the plan that produces the maximum net benefits, the (NED) plan, will be the selected plan recommended for implementation. In this case, the selected plan recommended for implementation is the not NED plan, but is a smaller scope, Locally Preferred Plan (LPP). Cost sharing for all aspects of the LPP is shown in Table 9.4 at October 2008 price levels.

The sponsor is in the process of obtaining the required public access sites and public parking to meet the definition of a public shoreline. The cost apportionment is computed to expect that 100% of the project will be a public shoreline by the time the PCA is executed. There will be no private-use shores. All project costs are allocated to the purpose of hurricane and storm damage reduction.

Table 9.4 Cost Allocation and Apportionment, October 2008 price levels

INITIAL PROJECT CONSTRUCTION COSTS					
Project Purpose	Project First Cost	Apportionment %		Apportionment \$	
		Non-Federal	Federal	Non-Federal	Federal
Hurricane & Storm Damage Reduction	\$37,712,000	35.6%	64.4%	\$13,407,000	\$24,305,000
LERRD Credit				\$1,481,000	
Cash Portion				\$11,926,200	\$24,305,000
TOTAL FINANCIAL INITIAL PROJECT CONSTRUCTION COSTS					
Project Purpose	Project First Cost	Apportionment %		Apportionment \$	
		Non-Federal	Federal	Non-Federal	Federal
Hurricane & Storm Damage Reduction	\$37,712,000	35.6%	64.4%	\$13,407,000	\$24,305,000
Sunk PED Costs, Initial PED, Auth. Project	\$616,000	25%	75%	\$154,000	\$462,000
Sunk PED Costs, GRR	\$4,230,000	25%	75%	\$1,057,000	\$3,173,000
PED Cost share catch-up from 75/25 to 65/35				\$485,000	(\$485,000)
Total Financial Cost	\$42,558,000	35.5%	64.5%	\$15,103,000	\$27,455,000
PERIODIC RENOURISHMENT COSTS					
Project Purpose	Cost per Operation	Apportionment %		Apportionment \$	
		Non-Federal	Federal	Non-Federal	Federal
Hurricane & Storm Damage Reduction	\$9,492,000	50%	50%	\$4,746,000	\$4,746,000
MONITORING COSTS					
Project Purpose		Apportionment %		Apportionment \$	
		Non-Federal	Federal	Non-Federal	Federal
Monitoring, Coastal & Environmental, per year	\$269,000	50%	50%	\$134,500	\$134,500
Monitoring, Benthic Invertebrate, once only	\$120,000	50%	50%	\$60,000	\$60,000
ANNUAL OMRR&R COSTS					
Project Purpose	Cost per Year	Apportionment %		Apportionment \$	
		Non-Federal	Federal	Non-Federal	Federal
General Repair, Maintenance, Inspection	\$22,000	100%	0%	\$22,000	\$0

*Pursuant to guidance received from ASA(CW), Wilmington District is pursuing a FCSA for the expanded portion of the project whereby the expanded portion will be cost-shared with the Sponsor at 50/50 rather than 75/25. This 50/50 cost share will be applied to 27% of the total cost of the GRR.

9.02.3 Financial Analysis

The non-Federal sponsor has submitted financial plans and statements of financial capability. Documentation of the sponsor's financial capability is provided in Appendix H.

9.02.4 Project Cooperation Agreement

The model Project Cooperation Agreement (PCA), based on the selected plan, was fully discussed with the non-Federal sponsor. The non-Federal sponsor has a clear understanding of the type of agreement that must be signed prior to the start of project construction. The terms of local cooperation to be required in the PCA are described in Section 13.0, Recommendations. Letters of intent from the non-Federal sponsor are to be provided in Appendix H.

Federal commitments regarding a construction schedule or specific provisions of the PCA cannot be made to the non-Federal sponsor on any aspect of the recommended plan or separable element until:

- The recommended plan is authorized by Congress;
- Construction funds are provided by Congress, apportioned by the Office of Management and Budget, and their allocation is approved by the Assistant Secretary of the Army for Civil Works (ASA {CW}); and
- The draft PCA has been reviewed and approved by the ASA (CW).

The PCA would not be executed nor would construction be initiated on this project or any separable element until compliance requirements have been met for applicable Federal and state statutes. Compliance is met once the Final Environmental Impact Statement has been fully coordinated and a Record of Decision has been signed.

After this report is approved and the project budgeted for construction, Wilmington District can conduct negotiations with the non-Federal sponsor regarding the PCA, and submit a draft PCA package to higher authority for review and approval by the ASA (CW). The PCA would be executed only after approval of this report and enactment into law of an Appropriations Bill providing funds for this project. Federal construction funds for the project will not be allocated by the Chief of Engineers until the ASA (CW) approves the non-Federal sponsor's financing plan and the PCA has been executed.

9.03 Views of the Non-Federal Sponsor

The Selected Plan of Improvement is acceptable to the non-Federal sponsor. Letters of support from the Town of Topsail Beach are provided in Appendix H. The most recent is copied on the next page.



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March 5, 2008

Colonel John E. Pulliam, Jr.
Department of the Army, Corps of Engineers
Wilmington District
Post Office Box 1890
Wilmington, North Carolina 28402-1890

Dear Colonel Pulliam:

The purpose of this correspondence is to express and confirm our continued support of the proposed West Onslow Beach and New River Inlet (Topsail Beach) Shoreline Protection Project that was authorized by Section 101 of the Water Resources Development Act of 1992 and to thank you for the work that your office has accomplished.

We support Plan 1250x as our locally preferred plan. We understand the obligation of the local sponsor(s) to share the construction costs at a rate of 64.5% federal and 35.5% non federal, and the obligation of the local sponsor(s) to share in the post construction renourishment costs at a rate of 50% federal and 50% non federal.

We have been informed by the USACE that the project will be required to provide public beach access at a minimum of one access point, and associated parking for everyone half mile of the proposed project, which the Town will provide. Further, we have been informed that the estimated construction costs on the project as estimated based on October 2007 price levels will be approximately \$32,131,000.00, and that the periodic renourishment efforts, which will occur approximately every four years, will cost an estimated \$9,202,000.00. Estimated operating and maintenance cost will be approximately \$21,000 per year.

The Town is in agreement with the project as presented and intends to sign a Project Cooperation Agreement when and as required. The Town gives its endorsement to the project and urges its early completion.

US Army Corps of Engineers- Page 2

Mr. Steven Foster, Town Manager, will be the staff contact and Mr. Edward (Butch) Parrish will be the Topsail Beach Shoreline Protection Committee point of contact. The Town of Topsail Beach looks forward to our continued working with you and your staff on this important and needed project.

Sincerely,

Howard M. Braxton, Jr.
Mayor

9.04 Views of the State of North Carolina

The State of North Carolina, Department of Environment and Natural Resources, Division of Water Resources (DWR) has supported beachfill as a measure to reduce coastal storm damages. DWR currently provides partial funding of the non-Federal cost share to the existing beachfill project sponsors.

9.05 Views of the U.S. Fish & Wildlife Service

Views of the USFWS are provided in the attached Final Fish and Wildlife Coordination Act Report in Appendix L. The recommendations of the USFWS and responses by USACE are presented in Section 11.02, Fish & Wildlife Coordination, of this report.

10. COMPLIANCE WITH ENVIRONMENTAL REQUIREMENTS

10.01 General

The following paragraphs summarize the relationship of the proposed action to the most pertinent Federal, State, and local requirements. Table 10.1 lists the compliance status of all Federal Laws and Policies that were considered for the proposed Topsail Beach project.

10.02 Water Quality

10.02.1 Section 401 of Clean Water Act of 1977

A Section 401 Water Quality Certificate under the Clean Water Act of 1977 (PL 95-217), as amended, is required for the proposed project and is being requested from the North Carolina Division of Water Quality. Work will not proceed until the certificate is received.

10.02.2 Section 404 of Clean Water Act of 1977

Pursuant to Section 404 of the Clean Water Act, the impacts associated with the discharge of fill material into waters of the United States are discussed in the Section 404(b)(1) (P.L. 95-217) evaluation in Appendix G. Discharges associated with dredging in the offshore borrow areas are considered incidental to the dredging operation, and therefore, are not being considered as being a discharge addressed under the Section 404 (b)(1) Guidelines Analysis.

10.03 Marine, Protection, Research, and Sanctuaries Act

In 1972, Congress enacted the Marine Protection, Research and Sanctuaries Act (MPRSA), declaring that it is the policy of the United States to regulate the dumping of

all types of materials into ocean waters. The Act is designed to prevent or strictly limit the dumping into ocean waters of any material, which would adversely affect human health, welfare, or amenities, or the marine environment, ecological systems, or economic potentialities. The proposed shoreline protection project does not involve ocean disposal of dredged material. Therefore, the project is considered to be in compliance with the requirements of the MPRSA.

10.04 Essential Fish Habitat

Potential project impacts on Essential Fish Habitat species and their habitats have been evaluated and are addressed in Section 8.01.8 of this document. It has been determined that the proposed action will not have a significant adverse effect on these resources. By coordination of this document with the National Marine Fisheries Service, consultation is officially initiated and concurrence with our findings is requested. NMFS letter of 30 September 2008 indicated that NMFS comments on Draft GRR&EIS were addressed in the Final GRR&EIS. Compliance obligations related to Essential Fish Habitat provisions of the 1996 Congressional amendments to the Magnuson-Stevens Fishery Conservation and Management Act (PL 94-265) will be fulfilled prior to initiation of the proposed action.

10.05 Fish and Wildlife Resources

The Fish and Wildlife Coordination Act, as amended (16 U.S.C. 661, et seq), requires that the Corps of Engineers coordinate and obtain comments from the USFWS, the National Marine Fisheries Service, where applicable, and appropriate state fish and wildlife agencies, including the North Carolina Division of Marine Fisheries and the North Carolina Wildlife Resources Commission. A Final Fish and Wildlife Coordination Act Report (Appendix L) has been provided by the USFWS under the Fish and Wildlife Coordination Act.

10.06 Endangered and Threatened Species

A biological assessment evaluating the potential impacts of the proposed action on endangered and threatened species has been prepared (Appendix I) and is being coordinated with the USFWS (jurisdiction over the Florida manatee, nesting sea turtles, piping plovers, and seabeach amaranth) and NMFS (jurisdiction over other protected marine and aquatic species which may occur in the project vicinity) pursuant to Section 7 of the Endangered Species Act of 1973 (PL 93-205), as amended. Based on correspondence with the USFWS (Attachment C - USFWS letter dated January 9, 2007), informal consultation is appropriate for meeting Section 7 requirements for the proposed project. All compliance obligations under Section 7 will be satisfied prior to implementation of the proposed action.

10.06.1 Commitments to Reduce Impacts to Listed Species

The following list is a summary of environmental commitments to protect listed species related to the construction and maintenance of the proposed project. These commitments address agreements with agencies, mitigation measures, and construction practices and

should be considered preliminary. The list of commitments may be modified pending new information acquired through the public and agency review process.

1. The National Marine Fisheries Service Regional Biological Opinion for the continued hopper dredging of channels and borrow areas in the southeastern United States dated 25 September, 1997 will be strictly adhered to. Furthermore, Hopper dredging activities will comply with the South Atlantic Division Corps of Engineers hopper dredging protocol which requires a hopper dredging window of 1 December to 31 March, the use of turtle deflecting dragheads, inflow and/or overflow screening, and NMFS certified turtle and whale observers.
2. In order to determine the potential taking of whales, turtles and other species by hopper dredges, NMFS certified observers will be on board the hopper dredges during construction. To the maximum extent feasible, the observers will record all species taken along with length and weight and any unusual circumstances that might have led to the species capture. Observers will also record all whale observations within the project vicinity
3. The Corps will avoid the sea turtle nesting season to the maximum extent practicable during initial construction. If the nesting window cannot be adhered to, the Corps will implement a sea turtle nest monitoring and relocation plan through coordination with USFWS and NCWRC
4. Monitoring of sea turtle nesting activities in beach nourishment areas will be required to assess post nourishment nesting activity. This will include daily surveys beginning at sunrise from May 1 until September 15. Information on false crawl location, nest location, and hatching success of all nests will be recorded.
5. The beach will be monitored for escarpment formation prior to each nesting season. Escarpments that are identified prior to and/or during the nesting season that interfere with sea turtle nesting (exceed 18 inches in height for a distance of 100 ft.) will be leveled. If it is determined that escarpment leveling is required during the nesting or hatching season, leveling actions should be directed by the USFWS
6. USFWS compaction assessment guidelines will be followed and tilling will be performed as deemed necessary by the USFWS and NCWRC.
7. Throughout the duration of each nourishment event, both initial construction and periodic re-nourishment, the Contractor will be required to monitor for the presence of stranded sea turtles, live or dead. If a stranded sea turtle is identified, the Contractor will immediately notify the NCWRC of the stranding and implement the appropriate measures, as directed by the NCWRC. Construction activities will be modified appropriately as not to interfere with stranded animals, live or dead.
8. The Corps is interested in understanding the threshold of sediment color change and resultant heat conduction on impacting temperature dependent sex determination of

sea turtles. The Corps will contribute funds for the NCWRC to continue its temperature studies in order to gather nest temperatures on nourished beaches throughout the state, including Topsail Beach, in comparison to non-nourished native sediment temperatures. This data could be used to help develop management criteria for sediment color guidelines

9. Monitoring for seabeach amaranthus on Topsail Beach will be required to assess the post nourishment presence of plants. This survey will be broken down into 5 survey reaches (A1, A2, A3, A4, B) in accordance with the designated USACE sea beach amaranth survey reaches from 1991-2004 in order to maintain consistent data and survey techniques over time.

10. The Corps will implement precautionary measures for avoiding impacts to manatees during construction activities as detailed in the "Guidelines for Avoiding Impacts to the West Indian Manatee in North Carolina Waters" established by the USFWS.

11. During initial construction, as well as each re-nourishment event, the order of work for beach template construction will be from south to north so that construction activities will be north of the breeding and nesting habitat, located at the inlet spit, during the March and April time-frame; thus, further minimizing project impacts. Furthermore, all pipeline and associated construction activities will avoid the piping plover critical habitat.

10.07 Cultural Resources

Significant impacts to known archaeological or historic resources are not anticipated due to the proposed work. Project-specific historic survey data have been coordinated with the NCSHPO, and concurrence has been obtained that the proposed action will not cause significant adverse impacts to submerged cultural resources.

No prehistoric sites were specifically considered in the survey. While there has been some success developing upland-offshore site location correlates in Florida and perhaps elsewhere, the methodology is not very well developed for sites within the Carolinas region, nor are there a significant number of upland locations that could be used to model settlement in now inundated areas. Monitoring may be a way to determine if such sites were encountered during dredging, but the use of heavy equipment throughout the renourishment process might make precise relocation of sites very difficult. The need for monitoring will be discussed with archaeologists from the NC Division of Archives and History Underwater Archeology Branch (UAB). In past reviews of the project, the UAB has not mentioned prehistoric sites or impacts to other types of sites; shipwrecks have been the major concern. The SHPO letter accepting the final report of investigations is dated March 1, 2005 and is included in Appendix H.

10.08 Executive Order 11988 (Flood Plain Management)

This Executive Order was enacted to avoid to the extent possible the long and short term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative. IWR Report 96-PS-1, FINAL REPORT: An Analysis of the U.S. Army Corps of Engineers Shore Protection Program, June 1996 states: "The presence of a Corps project has little effect on new housing production. The econometric results presented imply that general economic growth of inland communities is sufficient by itself to drive residential development of beachfront areas at a rapid pace. The statistical evidence indicates that the effect of the Corps on induced development is, at most, insignificant, compared to the general forces of economic growth which are stimulating development in these areas, many of which are induced through other municipal infrastructure developments such as roads, wastewater treatment facilities, etc. The results presented for beachfront housing price appreciation are consistent with the findings from the more general econometric model of real estate development in beachfront communities. The increasing demand for beachfront development can be directed related to the economic growth occurring in inland areas. There is no observable significant effect on the differential between price appreciation in inland and beachfront areas due to Corps activity. The housing price study could not demonstrate that Corps shore protection projects influence development. Corps activity typically **follows** significant development." In fact, the requirements for Federal participation in coastal storm damage reduction projects essentially dictate that these projects be constructed along areas that have a high degree of development. Placement of beachfill will occur in the floodplain of area beaches. This placement will be conducted specifically for its beneficial effect in offsetting erosion and restoring damaged beaches, and is, therefore judged acceptable. The action is expected to have an insignificant effect on the floodplain, therefore, the proposed action is in compliance with the requirements of Executive Order 11988 and with State/local flood plain protection standards.

10.09 Executive Order 11990 (Protection of Wetlands)

Executive Order 11990 directs all Federal agencies to issue or amend existing procedures to ensure consideration of wetlands protection in decision making and to ensure the evaluation of the potential impacts of any new construction proposed in a wetland. The proposed action would not require filling any wetlands and would not produce significant changes in hydrology or salinity affecting wetlands. The proposed action is in compliance with Executive Order 11990.

10.10 Executive Order 13186 (Responsibilities of Federal Agencies To Protect Migratory Birds)

Executive Order 13186 directs departments and agencies to take certain actions to further implement the Migratory Bird Treaty Act (MBTA). Specifically, the Order directs Federal agencies, whose direct activities will likely result in the take of migratory birds, to develop and implement a Memorandum of Understanding (MOU) with the FWS that

shall promote the conservation of bird populations. The proposed project would not adversely affect migratory birds and therefore, is in compliance with EO 13186.

10.11 Executive Order 12898 (Environmental Justice)

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, states that each Federal agency must make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high adverse human health and environmental effects of its programs, policies, and activities on minority populations and low income populations, particularly when such analysis is required by NEPA. The EO emphasizes the importance of NEPA's public participation process, directing that each Federal agency shall provide opportunities for community input in the NEPA process. Agencies are further directed to identify potential effects and mitigation measures in consultation with affected communities. The proposed project will improve and stabilize a degraded, erosive shoreline. All project impacts will be addressed and the NEPA document, which will be fully coordinated with the public. Therefore, the project will comply with EO 12898.

10.12 Outer Continental Shelf Lands Act

The Outer Continental Shelf (OCS) law provides the Secretary of the Interior, on behalf of the Federal Government, with authority to manage the mineral resources, including oil and gas, on the OCS. The Minerals Management Service (MMS) Leasing Division is charged with environmentally responsible management of Federal Outer Continental Shelf (OCS) sand and gravel resources. The OCS is a zone that generally extends from 3 nautical miles seaward of the coastal State boundaries out to nautical 200 miles. Approximately 60% of the potential borrow material for the Topsail Beach project is located within the OCS. Public Law 102-426 (43 U.S.C. 1337(k)(2)), enacted 31 October 1994, gave MMS the authority to negotiate, on a noncompetitive basis, the rights to OCS sand, gravel, and shell resources for shore protection, beach or wetlands restoration projects, or for use in construction projects funded in whole or part by or authorized by the Federal government.

Coordination with MMS is ongoing. After NEPA coordination and prior to construction MMS, USACE, and the Town of Topsail Beach will sign a three-party Memorandum of Agreement (MOA). The MOA will describe the project and procedures, ensuring environmental and administrative requirements are met. The MOA serves as the lease agreement for offshore sand. The MMS will not sign the MOA until all MMS and applicable Federal requirements have been appropriately satisfied. All MMS requirements will be met prior to start of construction.

10.13 North Carolina Coastal Management Program

The proposed action will be conducted in the designated coastal zone of the State of North Carolina. Pursuant to the Federal Coastal Zone Management Act (CZMA) of

1972, as amended (PL 92-583), Federal activities are required to be consistent, to the maximum extent practicable, with the Federally approved coastal management program of the state in which their activities will occur. The components of the proposed action have been evaluated and determined to be consistent with the NC Coastal Management Program and local land use plans. By letter dated November 7, 2006 the North Carolina Division of Coastal Management concurred that the proposed Federal activity is consistent, to the maximum extent practicable, with the enforceable policies of North Carolina's coastal management program. All conditions of the consistency determination will be followed.

10.13.1 Areas of Environmental Concern (15A NCAC 07H .0204)

The selected plan would take place in areas under the North Carolina Coastal Management Program designated as AEC (15A NCAC 07H). Specifically, the activities may affect the following AECS: Coastal Wetlands, Estuarine Waters, Public Trust Areas, Coastal Shorelines, and Ocean Hazard Areas. The following determination has been made regarding the consistency of the proposed project with the State's management objective for each AEC affected:

Coastal Wetlands. Coastal wetlands are defined as any salt marsh or other marsh subject to regular or occasional flooding by tides, including wind tides (whether or not the tide waters reach the marshland areas through natural or artificial watercourses), provided this shall not include hurricane or tropical storm tides. The highest priority of use shall be allocated to the conservation of existing coastal wetlands. Second priority of coastal wetland use shall be given to those types of development activities that require water access and cannot function elsewhere. Unacceptable land uses may include, but would not be limited to, the following examples: restaurants and businesses; residences, apartments, motels, hotels, and trailer parks; parking lots and private roads and highways; and factories. Examples of acceptable land uses may include utility easements, fishing piers, docks, and agricultural uses, such as farming and forestry drainage, as permitted under North Carolina's Dredge and Fill Act or other applicable laws. The management objective is to conserve and manage coastal wetlands so as to safeguard and perpetuate their biological, social, economic and esthetic values; to coordinate and establish a management system capable of conserving and utilizing coastal wetlands as a natural resource essential to the functioning of the entire estuarine system. Although dredge pipelines may cross coastal wetlands during renourishment events, impacts would be minor and temporary and therefore, consistent with the management objective for this AEC.

Estuarine Waters. Estuarine waters are defined in G.S. 113A-113(b)(2) to include all the waters of the Atlantic Ocean within the boundary of North Carolina and all the waters of the bays, sounds, rivers and tributaries thereto seaward of the dividing line between coastal fishing waters and inland fishing waters. The highest priority of use shall be allocated to the conservation of estuarine waters and their vital components. Second priority of estuarine waters use shall be given to those types of development activities that require water access and use which cannot function elsewhere such as simple access channels; structures to prevent erosion; navigation channels; boat docks, marinas, piers,

wharfs, and mooring pilings. The management objective is to conserve and manage the important features of estuarine waters so as to safeguard and perpetuate their biological, social, esthetic, and economic values; to coordinate and establish a management system capable of conserving and utilizing estuarine waters so as to maximize their benefits to man and the estuarine and ocean system. The selected plan would not involve estuarine waters and therefore will not be detrimental to estuarine waters.

Public Trust Areas. These areas include (1) waters of the Atlantic Ocean and the lands thereunder from the mean high water mark to the 3 nautical mile limit of state jurisdiction, (2) all natural bodies of water subject to measurable lunar tides, and all lands thereunder, to the mean high water mark, and (3) all navigable natural bodies of water, and all lands thereunder, except privately owned lakes to which the public has no right of access. Acceptable uses include those that are consistent with protection of the public rights for navigation and recreation, as well as conservation and management to safeguard and perpetuate the biological, economic, and esthetic value of these areas. The management objective is to protect public rights for navigation and recreation and to conserve and manage the public trust areas so as to safeguard and perpetuate their biological, economic and esthetic value. Placement of beach compatible material on Topsail Beach will result in a wider, more stable beach, thus enhancing recreational opportunities, biological habitat and economic and aesthetic values. For a more thorough discussion of project impacts, please see Section 8 Environmental Effects, of the FEIS, specifically Sections 8.05 Recreational and Esthetic Resources, 8.04 Socio-Economic Resources, 8.01 Marine Environment, and 8.02 Terrestrial Environment. The selected plan is an acceptable use within public trust areas and will not be detrimental to the biological and physical functions of Public Trust Areas.

Coastal Shorelines. The Coastal Shorelines category includes estuarine shorelines and public trust shorelines. Estuarine shorelines AEC are those non-ocean shorelines extending from the normal high water level or normal water level along the estuarine waters, estuaries, sounds, bays, fresh and brackish waters, and public trust areas. Acceptable uses shall be limited to those types of development activities that will not be detrimental to the public trust rights and the biological and physical functions of the estuarine and ocean system. The management objective is to ensure that shoreline development is compatible with both the dynamic nature of coastal shorelines as well as the values and the management objectives of the estuarine and ocean system. Other objectives are to conserve and manage the important natural features of the estuarine and ocean system so as to safeguard and perpetuate their biological, social, esthetic, and economic values; to coordinate and establish a management system capable of conserving and utilizing these shorelines so as to maximize their benefits to the estuarine and ocean system and the people of North Carolina. The selected plan would not involve estuarine shorelines and therefore will not be detrimental to these areas. Please see the paragraph above regarding Public Trust Areas and the references to pertinent sections of the FEIS for information regarding public trust shorelines. Additionally, as discussed in Appendix J (Cumulative Effects) of the FEIS, on a regional basis, renourishment projects add material to the longshore transport system, thus providing positive impacts. Although a regional sediment budget analysis has not been completed, it is expected that the

proposed action and the combined effects of all other existing and proposed beach projects will have a minimal effect on shoreline and sand transport. Therefore, the proposed project would not be expected to negatively impact coastal shorelines. Ocean Hazard Areas. These areas are considered natural hazard areas along the Atlantic Ocean shoreline where, because of their special vulnerability to erosion or other adverse effects of sand, winds, and water, uncontrolled or incompatible development could unreasonably endanger life or property. Ocean hazard areas include beaches, frontal dunes, inlet lands, and other areas in which geologic, vegetative and soil conditions indicate a substantial possibility of excessive erosion or flood damage. The specific Ocean Hazard Areas and potential project impacts are described below.

Ocean Erodible Area. This is the area in which there exists a substantial possibility of excessive erosion and significant shoreline fluctuation. The seaward boundary of this area is the mean low water line. The landward extent of this area is determined as follows:

(a) a distance landward from the first line of stable natural vegetation to the recession line that would be established by multiplying the long-term annual erosion rate times 60, provided that, where there has been no long-term erosion or the rate is less than two feet per year, this distance shall be set at 120 feet landward from the first line of stable natural vegetation. For the purposes of this Rule, the erosion rates shall be the long-term average based on available historical data. The current long-term average erosion rate data for each segment of the North Carolina coast is depicted on maps entitled "Long Term Annual Shoreline Change Rates updated through 1998 and approved by the Coastal Resources Commission on January 29th, 2004 (except as such rates may be varied in individual contested cases, declaratory or interpretive rulings). Erosion rates are variable along Topsail Beach. See Appendix D (Figure D-5) for a comparison of the shoreline rate change, referenced above, to recently computed erosion rates at Topsail Beach.

(b) a distance landward from the recession line established in Sub-Item (1)(a), above, to the recession line that would be generated by a storm having a one percent chance of being equaled or exceeded in any given year.

Construction of the proposed beach template, which consists of 12-foot elevation dune (NGVD) and 50-foot wide berm, will result in a wider, more stable beach, thus providing significant benefits to the ocean erodible area. Beach-related work, including the discharge of dredged material, the associated temporary operation of heavy equipment, and placement of dredge pipeline, would not cause any significant adverse effects to the ocean erodible area.

High Hazard Flood Area. This is the area subject to high velocity waters (including, but not limited to, hurricane wave wash) in a storm having a one percent chance of being equaled or exceeded in any given year, as identified as zone V1-30 on the flood insurance rate maps of the Federal Insurance Administration, U.S. Department of Housing and

Urban Development. Placement of beach nourishment on the beach would provide short-term protection benefits for high hazard flood areas.

Inlet Hazard Area. The inlet hazard areas are natural-hazard areas that are especially vulnerable to erosion, flooding and other adverse effects of sand, wind, and water because of their proximity to dynamic ocean inlets. This area shall extend landward from the mean low water line a distance sufficient to encompass that area within which the inlet will, based on statistical analysis, migrate, and shall consider such factors as previous inlet territory, structurally weak areas near the inlet (such as an unusually narrow barrier island, an unusually long channel feeding the inlet, or an overwash area), and external influences such as jetties and channelization. In all cases, this area shall be an extension of the adjacent ocean erodible area and in no case shall the width of the inlet hazard area be less than the width of the adjacent ocean erodible area. While components of the proposed action may involve the movement of equipment across these areas, no construction or periodic nourishment activities are proposed for these areas, and no adverse impacts are anticipated.

10.13.2 Use Standards (15A NCAC 07H .0208)

Primary Nursery Areas. With the exception of navigation channels, these include most estuarine waters of the project vicinity, including those bounded by New River (north), Mason Inlet (south), AIWW (west), and the landward side of Topsail Island. Protection of juvenile fish is provided in these areas through prohibition of many commercial fishing activities, including the use of trawls, seines, dredges, or any mechanical methods of harvesting clams or oysters (<http://www.ncfisheries.net/rules.htm>; 15 NC Administrative Code 3B .1405). Primary nursery Areas (Figure A-3) will not be directly impacted by this project. However, PNA's located adjacent to the New Topsail Inlet vicinity may experience indirect and short-term elevated turbidity levels from the nourishment operation on the shoreface. These turbidity effects are dependent on the location of the outflow pipe and the direction of longshore and tidal currents. Considering these elevated turbidity levels will be short-term and within the range of elevated turbidity from natural storm events, the impacts to state-designated PNA's are insignificant (FEIS Section 8.01.8.7).

Outstanding Resource Waters. Waters of the AIWW from Daybeacon 17 (between Chadwick Bay and Alligator Bay) to Morris Landing (south of Spicer Bay) and waters of Topsail Sound southward from approximately New Topsail Inlet to Middle Sound are classified as "SA ORW" (Figure A-5). As stated above, waters in the vicinity of New Topsail Inlet may experience temporary elevated turbidities over existing conditions during initial construction and renourishment. Monitoring studies done on the impacts of offshore dredging indicate that sediments suspended during offshore are generally localized and rapidly dissipate when dredging ceases (Naqvi and Pullen, 1982; Bowen and Marsh, 1988, and Van Dolah *et al.*, 1992). Overall water quality impacts of the proposed action are expected to be short-term and minor. Living marine resources dependent upon good water quality should not experience significant adverse impacts due to water quality changes. Therefore, no impacts to ORW in the vicinity of the project, with the exception of minor, short-term impacts in the vicinity of New Topsail

Inlet, would be expected. See Section 8.07.2 of the FEIS for more information on water quality.

Submerged Aquatic Vegetation (SAV). As depicted in the FEIS, Table 8.1 Categories of Essential Fish Habitat and Habitat Areas of Particular Concern in the Project Vicinity and Potential Impacts, SAV does not occur in or near the project vicinity and would not be directly or indirectly impacted by the proposed project. Please see section 10.13.8 for compliance with 15A NCAC 07H. 0208(b)(12) Submerged Lands Mining.

10.13.3 Shoreline Erosion Policies (15A NCAC 07M .0202)

Pursuant to Section 5, Article 14 of the North Carolina Constitution, proposals for shoreline erosion response projects shall avoid losses to North Carolina's natural heritage. All means should be taken to identify and develop response measures that will not adversely affect estuarine and marine productivity. As discussed in detail in Section 8.01 Marine Environment and Appendix J Cumulative Effects of the FEIS, the project is not expected to result in adverse impacts to estuarine and marine productivity.

The public right to use and enjoy the ocean beaches must be protected. The protected uses include traditional recreational uses (such as walking, swimming, surf fishing, and sunbathing) as well as commercial fishing and emergency access for beach rescue services. The Army Corps of Engineers has several requirements that must be met in order to fully cost share in a shore protection project (see ER 1105-2-100 and ER 1165-2-130). One of these requirements is that the beaches must be available for public use. As described in ER 1165-2-130 (Federal Participation in Shore Protection, paragraph 6.h.) public use implies reasonable access and parking. The Corps' Wilmington District, additionally, has developed more specific public access and parking requirements for participation in shore protection projects within the District's boundaries of North Carolina and Virginia. Public Access and Parking is discussed in detail in Appendix F of the FEIS.

Erosion response measures designed to minimize the loss of private and public resources to erosion should be economically, socially, and environmentally justified. The FEIS demonstrates that the proposed shore protection project at Topsail Beach is economically, socially and environmentally justified. Pertinent sections of the FEIS include: Section 7.08 Economics of the Selected Plan, Section 8.00 Environmental Effects, Appendix B Economic Analyses, Appendix I Biological Assessment, and Appendix J Cumulative Effects.

The following are required with state involvement (funding or sponsorship) in beach restoration and sand renourishment projects: The entire restored portion of the beach shall be in permanent public ownership and it shall be a local government's responsibility to provide adequate parking, public access, and services for public recreational use of the restored beach. Public ownership of the shore in the town of Topsail Beach includes dedicated roads and lands below mean high water (MHW) owned by the State of North Carolina. Other parcels are owned by the Town of Topsail Beach, including the following: Coastal Area Management Act (CAMA) public access points, ends

of all roads, and six beach front parcels maintained for public use. The primary ownership of oceanfront parcels is private, including one fishing pier. The entire restored portion of the beach is in public ownership. Other information related to ownership of the shoreline is contained in Appendix M - Real Estate. Parking, public access and services for the public recreational use of the restored beach are addressed in preceding paragraphs, above. Additionally, details are available in Appendix F of the FEIS.

10.13.4 Shorefront Access Policies (15A NCAC 07M .0300)

Pursuant to 15A NCAC 07M .0300, the public has traditionally and customarily had access to enjoy and freely use the ocean beaches and estuarine and public trust waters of the coastal region for recreational purposes and the State has a responsibility to provide continuous access to these resources. It is the policy of the State to foster, improve, enhance and ensure optimum access to the public beaches and waters of the 20 county coastal region. Access shall be consistent with rights of private property owners and the concurrent need to protect important coastal natural resources such as sand dunes and coastal marsh vegetation. At Topsail Beach, public access from public roads and streets to the beach are provided at 22 designated access points. There are a total of 374 parking spaces available to the general public near these access points. In addition, the town has indicated in a more recent count during the summer of 2004, there may be at least 300 additional parking spaces unaccounted for on the rights of way (ROW) along town streets. (Appendix F). As previously stated, the Army Corps of Engineers has several requirements that must be met in order to fully cost share in a shore protection project (see ER 1105-2-100 and ER 1165-2-130). ER1165-2-130 stipulates that in order to qualify for Federal cost sharing of Hurricane and Storm Damage Reduction projects, the local community must, at a minimum, provide public access every 1/2 mile and parking with a 1/4 mile radius of those access points. The Wilmington District has further established a ten-space minimum for parking lots within 1/4 mile of each required public access point (Appendix F of the FEIS).

10.13.5 Mitigation Policy (15A NCAC 07M .0701)

It is the policy of the State of North Carolina to require that adverse impacts to coastal lands and waters be mitigated or minimized through proper planning, site selection, compliance with standards for development, and creation or restoration of coastal resources. Coastal ecosystems shall be protected and maintained as complete and functional systems by mitigating the adverse impacts of development as much as feasible by enhancing, creating, or restoring areas with the goal of improving or maintaining ecosystem function and areal proportion. Section 7.03.6 Environmental Monitoring and Commitments of the FEIS, provides a brief summary of environmental commitments to protect listed species related to the construction and maintenance of the proposed project. Further information on the development and details of these commitments is contained in Appendix I, Biological Assessment. Additionally, recently, as a mitigation condition of the 401 water quality certificate for the Morehead City 933 project, the Corps participated in funding a study performed by Philip S. Kemp Jr., of the Carteret Community College, to investigate the feasibility of harvesting, holding, and culturing *Donax* spp. for resource enhancement aquaculture. The Corps will consider providing funds to continue this type of data collection in order to develop management guidelines and effective measures to mitigate identified impacts to these resources. Such a funding action would be fully coordinated with all concerned agencies. The existing commitments with agencies and construction practices may be modified following public review of the EIS and resolution of comments received.

10.13.6 Coastal Water Quality Policies (15A NCAC 07M .0800)

Pursuant to 15A NCAC 07M.0800, no land or water use shall cause the degradation of water quality so as to impair traditional uses of the coastal waters. Protection of water quality and the management of development within the coastal area is the responsibility of many agencies. The general welfare and public interest require that all state, federal and local agencies coordinate their activities to ensure optimal water quality. Overall water quality impacts of the proposed action are expected to be short-term and minor. Living marine and estuarine resources dependent upon good water quality are not expected to experience significant adverse impacts due to water quality changes. A Section 401 Water Quality Certificate under the Clean Water Act of 1977 (PL 95-217), as amended, is required for the proposed project and will be requested from the North Carolina Division of Water Quality at the appropriate time. Project construction will not begin until a Water Quality Certification has been received. For a full discussion of water resources and potential project impacts, please see Sections 2.06 and Section 8.07 Water Resources, of the FEIS, which address hydrology, water quality and groundwater. Pursuant to Section 404 of the Clean Water Act, the impacts associated with the discharge of fill material into waters of the United States are discussed in the Section 404(b)(1) (P.L. 95-217) Guidelines Analysis in Appendix G. Discharges associated with dredging in the offshore borrow areas are considered incidental to the dredging operation, and therefore, are not being considered as being a discharge addressed under the Section 404 (b)(1) Guidelines Analysis. Pursuant to the Sedimentation Pollution Control Act of 1973, a State approved soil erosion and

sedimentation control plan would be implemented during construction to minimize soil loss and erosion.

10.13.7 Policies On Beneficial Use And Availability Of Materials Resulting From The Excavation Or Maintenance Of Navigational Channels (15A NCAC 07M .1100)

It is the policy of the State of North Carolina that material resulting from the excavation or maintenance of navigation channels be used in a beneficial way wherever practicable. Policy statement .1102 (a) indicates that "clean, beach quality material dredged from navigation channels within the active nearshore, beach, or inlet shoal systems must not be removed permanently from the active nearshore, beach, or inlet shoal system unless no practicable alternative exists. Preferably, this dredged material will be disposed of on the ocean beach or shallow active nearshore area where environmentally acceptable and compatible with other uses of the beach." Several navigation channels are within the Topsail Beach project vicinity. They are the Atlantic Intracoastal Waterway (AIWW), New Topsail Inlet and Connecting Channels and New River Inlet. When practicable, beach compatible, maintenance dredged material from these navigation channels will be placed on the nourished beach. However, dredged material from navigation channels would be purely supplemental material that would help maintain the project profile.

10.13.8 Policies on Ocean Mining (15A NCAC 07M .1200) and 15A NCAC 07H. 0208(b)(12) Submerged Lands Mining

Mining activities impacting the federal jurisdiction ocean and its resources can, and probably would, also impact the state jurisdictional ocean and estuarine systems and vice-versa. Therefore, it is state policy that every avenue and opportunity to protect the physical ocean environment and its resources as an integrated and interrelated system will be utilized. Cultural resources and hardbottom surveys of the offshore borrow areas have been completed. No single, isolated magnetic anomalies or acoustic targets were identified during the survey of the eight borrow areas and no further cultural resources studies are anticipated for the project. By letter of November 2, 2004, the North Carolina State Historic Preservation Officer concurred with the reported findings. Based on side scan sonar, no hardbottom was identified in the proposed borrow areas, and only 2 of the six borrow areas are within the vicinity of offshore hardbottom with the nearest distance to hardbottom being approximately 2,000 feet. Appendix S, Technical Memorandum, Topsail Beach Benthic Community Characterization Survey, Pender County, NC, May 2007, concluded that the benthic community found within the six proposed borrow sites off Topsail Beach is similar in composition and taxa dominance to those described in other studies along the North Carolina and South Carolina coasts (Byrnes *et al.* 2003; Versar 2002, 2006; and Posey and Alphin 2000, 2002). Dredging impacts to the benthic populations of the marine ecosystem from turbidity are local and temporary but not permanent. Similarly, recent studies show that benthic impacts may be limited to the immediate vicinity of dredging operations. Also, to minimize impacts work will be performed between November 16 and April 30 of any given year, during times of low biological activity. Considering that: (1) no cultural resources sites are present in the area, (2) no hardbottoms were identified in or near the proposed offshore disposal sites,

and (3) the effects of turbidity and sedimentation plumes on offshore hardbottom will be insignificant, the project is not expected to adversely impact the state jurisdictional ocean and estuarine systems. Please refer to the following sections of the FEIS for more detailed information: Section 2.01 Marine Environment, 2.05 Cultural Resources, 7.04.1 Borrow Area Use Plan, 8.01 Marine Environment, 8.06 Cultural Resources, Appendix I Biological Assessment, and Appendix J Cumulative Effects.

The proposed shore protection project at Topsail Beach conforms to the relevant enforceable policies of Subchapters 7H and 7M of Title 15A of North Carolina's Administrative Code.

10.13.9 Other State Policies

The proposed project has been determined to be consistent with other state policies found in the State's Coastal Management Program document that are applicable. These include:

North Carolina Mining Act. The removal of material from the offshore borrow areas that are within three nautical miles of shore have been reviewed by the North Carolina Division of Land Resources and a determination has been made that removal of sand from the sea floor within the three nautical miles territorial limits is not an activity that would be classified as mining under the North Carolina Mining Act (G. S. 74-7).

"Mining" is defined as:

- (a) The breaking of the surface soil in order to facilitate or accomplish the extraction or removal of mineral, ores, or other solid matter.
- (b) Any activity or process constituting all or part of a process for the extraction or removal of minerals, ores, soils, and other solid matter from their original location.
- (c) The preparation, washing, cleaning, or other treatment of minerals, ores, or other solid matter so as to make them suitable for commercial, industrial, or construction use.

North Carolina Dredge and Fill Law (G.S. 113-229). Pursuant to the North Carolina Dredge and Fill Law clean, beach quality material dredged from navigational channels within the active nearshore, beach or inlet shoal systems shall not be removed permanently from the active nearshore, beach or inlet shoal system. This dredged material shall be disposed of on the ocean beach or shallow active nearshore area where it is environmentally acceptable and compatible with other uses of the beach. As previously discussed, when practicable, clean, beach quality material from maintenance dredging of navigation channels will be placed on the nourished beach at Topsail Beach. Any dredged material from navigation channels would be purely supplemental material that would help maintain the project profile.

Clean Water Act. A Section 401 Water Quality Certificate under the Clean Water Act of 1977 (PL 95-217), as amended, is required for the proposed project and will be requested from the North Carolina Division of Water Quality. Work will not proceed until the 401 Certification is received.

Pursuant to Section 404 of the Clean Water Act, the impacts associated with the discharge of fill material into waters of the United States are discussed in the Section 404(b)(1) (P.L. 95-217) Guidelines Analysis in Appendix G of the FEIS. Discharges associated with dredging in the offshore borrow areas are considered incidental to the dredging operation, and therefore, are not being considered as being a discharge addressed under the Section 404 (b)(1) Guidelines Analysis.

Sedimentation and Erosion Control. Pursuant to the Sedimentation Pollution Control Act of 1973, a State approved soil erosion and sedimentation control plan would be implemented during construction to minimize soil loss and erosion.

10.13.10 Local Land Use Plans

The shoreline at Topsail Beach is zoned "Residential." According to the Town of Topsail Beach Core Land Use Plan, dated 2005, "Topsail Beach is proud of its wide, sandy beaches that have benefited from an ongoing beach renourishment program. All areas of our beach can be accessed and used, even at the highest tides. A dune protection program has resulted in high dunes, anchored by a thick cover of vegetation that protects our town and our beach. The Town is actively pursuing, and will continue to pursue a Corps of Engineers project that involves both beach renourishment and construction of a groin." Although, a groin is no longer proposed, the Topsail Beach Land Use Plan fully supports beach renourishment, and specifically a project with the Corps of Engineers, therefore, the currently proposed shore protection project is consistent with the Topsail Beach Land Use Plan.

Based on information contained in the 1991 Pender County Land Use Plan Update, ocean beaches and shorelines are valuable for public and private recreation and are located within natural hazard areas. Pender County's overall policy and management objective for the estuarine system is to "give the highest priority to their protection to perpetuate their biological, social, economic, and esthetic values to ensure that development occurring within these AEC's is compatible with natural characteristics so as to minimize the likelihood of significant loss of private property and public resources." (15 NCAC 07H .0203). Also, stated in the Fender County Land Use Plan, is "Beach nourishment projects shall be the responsibility of Surf City and Topsail Beach. The proposed shore protection project at Topsail Beach is sponsored by the Town of Topsail Beach in conjunction with the Corps.

The project will result in a wider, more stable beach, thus enhancing the recreational opportunities, biological habitat, and economic and aesthetic values of the beach as specifically mentioned in the Land Use Plan Update. Therefore, the proposed project is consistent with the Pender County Land Use Plan.

Based on the information presented within the final GRR and FEIS, the proposed project is consistent with the North Carolina Coastal Management Program. This determination is being provided to the State for its review and concurrence.

10.14 Coastal Barrier Resources Act

The Coastal Barrier Resources Act (CBRA) of 1982 (P.L. 97-348) prohibits expenditure of Federal funds for activities within the designated limits of the Coastal Barrier Resources System unless specifically exempted by Section 6 of the Act. As stated in that Section, Federal expenditures are allowable in association with maintenance of existing channel improvements, including disposal of dredged material related to such improvements. The U. S. Fish and Wildlife Service's designated maps (dated October 1990), which show all sites included in the system in North Carolina, indicate that the Lea Island Complex (L07) is within the Coastal Barrier Resource System and protected under the Coastal Barrier Improvement Act of 1990. This site is within the study area (Figure 1.1) but would not be affected by the selected plan (Appendix A, Figure A-7).

10.15 Estuary Protection Act

The Estuary (Estuarine) Protection Act provides a means to protect, conserve, and restore estuaries in a manner that maintains balance between the need for natural resource protection and conservation and the need to develop estuarine areas to promote national growth. The act authorizes the Secretary of the Interior to work with the States and other Federal agencies in undertaking studies and inventories of estuaries of the United States.

The proposed project would have minimal impact on the estuarine environment, as discussed in Section 8 of this report, therefore the project is in compliance with the Estuary Protection Act.

10.16 Sedimentation and Erosion Control

Pursuant to the Sedimentation Pollution Control Act of 1973, a State approved soil erosion and sedimentation control plan would be implemented during construction to minimize soil loss and erosion.

10.17 Prime and Unique Agriculture Land

According to the Soil Survey of Pender County, North Carolina, 1991 Update, the soils on the beach that may be impacted by the proposed project are not designated by the Natural Resource Conservation Service (NRCS) as prime or unique agriculture lands. No impacts to prime and unique agriculture lands will occur.

Table 10.1. The relationship of the proposed action to Federal Laws and Policies. Items identified as being in “Full Compliance” assumes their compliance status upon completion of the NEPA process.

Title of Public Law	US CODE	Compliance Status
Abandoned Shipwreck Act of 1987	43 USC 2101	Full Compliance
American Indian Religious Freedom Act	42 USC 1996	Not Applicable
Agriculture and Food Act (Farmland Protection Policy Act) of 1981	7 USC 4201 et seq.	Not Applicable
American Folklife Preservation Act of 1976, As Amended	20 USC 2101	Not Applicable
Anadromous Fish Conservation Act of 1965, As Amended	16 USC 757 a et seq.	Full Compliance
Antiquities Act of 1906, As Amended	16 USC 431	Full Compliance
Archeological and Historic Preservation Act of 1974, As Amended	16 USC 469	Full Compliance
Archeological Resources Protection Act of 1979, As Amended	16 USC 470	Full Compliance
Bald Eagle Act of 1972	16 USC 668	Not Applicable
Buy American Act	41 USC 102	Full Compliance
Civil Rights Act of 1964 (Public Law 88-352)	6 USC 601	Full Compliance
Clean Air Act of 1972, As Amended	42 USC 7401 et seq.	Full Compliance
Clean Water Act of 1972, As Amended	33 USC 1251 et seq.	Full Compliance
Coastal Barrier Resources Act of 1982	16 USC 3501-3510	Full Compliance
Coastal Zone Management Act of 1972, As Amended	16 USC 1451 et seq.	Full Compliance
Comprehensive Environmental Response, Compensation and Liability Act of 1980	42 USC 9601	Not Applicable
Conservation of Forest Lands Act of 1960	16 USC 580 mn	Not Applicable
Contract Work Hours	40 USC 327	Full Compliance
Convict Labor	18 USC 4082	Full Compliance
Copeland Anti-Kickback	40 USC 276c	Full Compliance
Davis Bacon Act	40 USC 276	Full Compliance
Deepwater Port Act of 1974, As Amended	33 USC 1501	Not Applicable
Emergency Flood Control Funds Act of 1955, As Amended	33 USC 701m	Not Applicable
Emergency Wetlands Resources Act	16 USC 3901-3932	Full Compliance
Endangered Species Act of 1973	16 USC 1531	Full Compliance
Estuary Program Act of 1968	16 USC 1221 et seq.	Full Compliance
Equal Opportunity	42 USC 2000d	Full Compliance
Farmland Protection Policy Act	7 USC 4201 et seq.	Not Applicable
Federal Environmental Pesticide Act of 1972	7 USC 136 et seq.	Full Compliance
Federal Water Project Recreation Act of 1965, As Amended	16 USC 4601	Full Compliance
Fish and Wildlife Coordination Act of 1958, As Amended	16 USC 661	Full Compliance
Flood Control Act of 1944, As Amended, Section 4	16 USC 460b	Full Compliance
Food Security Act of 1985 (Swampbuster)	16 USC 3811 et seq.	Not Applicable
Hazardous Substance Response Revenue Act of 1980, As Amended	26 USC 4611	Not Applicable
Historic and Archeological Data Preservation	16 USC 469	Full Compliance
Historic Sites Act of 1935	16 USC 461	Full Compliance
Jones Act	46 USC 292	Full Compliance
Land and Water Conservation Fund Act of 1965	46 USC 4601	Not Applicable

Title of Public Law	US CODE	Compliance Status
Magnuson Fishery Conservation and Management Act	16 USC 1801	Full Compliance
Marine Mammal Protection Act of 1972, As Amended	16 USC 1361	Full Compliance
Marine Protection, Research and Sanctuaries Act of 1972	33 USC 1401	Full Compliance
Migratory Bird Conservation Act of 1928, As Amended	16 USC 715	Full Compliance
Migratory Bird Treaty Act of 1918, As Amended	16 USC 703	Full Compliance
National Environmental Policy Act of 1969, As Amended	42 USC 4321 et seq.	Full Compliance
National Historic Preservation Act of 1966, As Amended	16 USC 470	Full Compliance
National Historic Preservation Act Amendments of 1980	16 USC 469a	Full Compliance
Native American Religious Freedom Act of 1978	42 USC 1996	Not Applicable
Native American Graves Protection and Repatriation Act	25 USC 3001	Full Compliance
Native American Religious Freedom Act of 1978	16 USC 469a	Not Applicable
National Trails System Act	16 USC 1241	Not Applicable
Noise Control Act of 1972, As Amended	42 USC 4901 et seq.	Full Compliance
Rehabilitation Act (1973)	29 USC 794	Full Compliance
Reservoir Salvage Act of 1960, As Amended	16 USC 469	Not Applicable
Resource Conservation and Recovery Act of 1976	42 USC 6901-6987	Not Applicable
River and Harbor Act of 1888, Sect 11	33 USC 608	Not Applicable
River and Harbor Act of 1899, Sections 9, 10, 13	33 USC 401-413	Full Compliance
River and Harbor and Flood Control Act of 1962, Section 207	16 USC 460	Not Applicable
River and Harbor and Flood Control Act of 1970, Sections 122, 209 and 216	33 USC 426 et seq.	Full Compliance
Safe Drinking Water Act of 1974, As Amended	42 USC 300f	Full Compliance
Shipping Act	46 USC 883	Full Compliance
Submerged Lands Act of 1953	43 USC 1301 et seq.	Full Compliance
Superfund Amendments and Reauthorization Act of 1986	42 USC 9601	Not Applicable
Surface Mining Control and Reclamation Act of 1977	30 USC 1201-1328	Not Applicable
Toxic Substances Control Act of 1976	15 USC 2601	Not Applicable
Uniform Relocation and Assistance and Real Property Acquisition Policies Act of 1970, As Amended	43 USC 4601 et seq.	Full Compliance
Utilization of Small Business	15 USC 631, 644	Full Compliance
Vietnam Veterans	38 USC 2012	Not Applicable
Executive Orders		
Protection and Enhancement of Environmental Quality	11514/11991	Full Compliance
Protection and Enhancement of the Cultural Environment	11593	Full Compliance
Floodplain Management	11988	Full Compliance
Protection of Wetlands	11990	Full Compliance
Federal Compliance with Pollution Control Standards	12088	Full Compliance
Environmental Effects Abroad of Major Federal Actions	12114	Not Applicable
Offshore Oil Spill Pollution	12123	Full Compliance
Procurement Requirements and Policies for Federal Agencies for Ozone-Depleting Substances	12843	Full Compliance
Federal Compliance with Right-To-Know Laws and Pollution Prevention	12856	Full Compliance

Title of Public Law	US CODE	Compliance Status
Federal Actions to Address Environmental Justice and Minority and Low-Income Populations	12898	Full Compliance
Implementation of the North American Free Trade Agreement	12889	Full Compliance
Energy Efficiency and Water Conservation at Federal Facilities	12902	Full Compliance
Federal Acquisition and Community Right-To-Know	12969	Full Compliance
Protection Of Children from Environmental Health Risks and Safety Risks	13045	Full Compliance
Coral Reef Protection	13089	Full Compliance
Greening the Government through Waste Prevention, Recycling and Federal Acquisition	13101	Full Compliance
Invasive Species	13112	Full Compliance
Greening the Government Through Leadership in Environmental Management	13148	Full Compliance
Marine Protected Areas	13158	Full Compliance
Consultation and Coordination with Indian Tribal Governments	13175	Not Applicable
Responsibilities of Federal Agencies to Protect Migratory Birds	13186	Full Compliance
Executive Order Facilitation of Cooperative Conservation	13352	Full Compliance