

Chapter 1 *INTRODUCTION*

1. What is the purpose of this Environmental Impact Statement?

The purpose of this environmental impact statement (EIS) is to assist in decision making – “to help public officials make decisions that are based on understanding of environmental consequences, and take actions that protect, restore, and enhance the environment (43 CFR Section 1500.1, CEQ Regulations). The EIS will insure that the policies and goals defined in the National Environmental Policy Act (NEPA) are adequately addressed in the U.S. Army Corps of Engineers (USACE) permit evaluation process. It will provide full and fair discussion of significant environmental impacts and shall inform decision makers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment.

NEPA is a United States environmental law created in 1969 that established a U.S. national policy promoting the enhancement of the environment and also established the President's Council on Environmental Quality (CEQ). NEPA ensures that relevant environmental information is available to public officials and citizens before decisions are made and actions are taken. The Act requires federal agencies to conduct an EIS for major actions that could have significant impacts on the quality of the human environment. Under NEPA, “environment” includes the natural and physical environment (such as air, water, geography, geology) as well as people’s relationship with the environment (such as health, safety, jobs, schools, housing, and aesthetics). An EIS looks at both short-term and long-term effects and considers possible mitigation measures, if needed.

This EIS document has also 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). Upon the development and submittal of the Final EIS, additional filing under the NC EPA will not be required.

Each alternative presented in this document 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. This evaluation process will help lead to the selection of the “least environmentally damaging practicable alternative” (LEDPA) that meets the project needs and objectives while resulting in minimal negative environmental impacts.

2. What is the NEPA EIS process and how does it relate to Figure “8” Beach Homeowners Association's proposed project?

This EIS will be prepared in a series of steps: gathering government and public comments to define the issues that should be analyzed in the EIS (a process known as “scoping”); gathering available data, preparing the draft EIS document and releasing it to the public requesting feedback; receiving and responding to public comments on the draft EIS; and preparing the subsequent final EIS. Decisions are not made in an EIS document; rather, the EIS primarily serves as an assessment of various project alternatives and their respective effects on the environment. Furthermore, the document is utilized to help evaluate and determine which of the project options is the LEDPA and meets the applicant’s purpose and needs. This final evaluation will be made in the Record of Decision (ROD). The following describes the general concepts in the NEPA EIS process, which was used in evaluating Figure "8" Beach Homeowners Association proposed project:

Scoping

Scoping is the process of identifying the key issues as they pertain to the proposed action. The USACE began the scoping process for this EIS by publishing a Notice of Intent (NOI) in the *Federal Register* to let the public know that it is considering an action and will prepare an EIS. During the scoping period, the public can provide comments on the proposed action, alternatives, issues, and environmental impacts to be analyzed in the EIS. Scoping may involve public meetings and other means to obtain public comments on the EIS.

Draft EIS

During scoping, information is collected and used for the preparation of a draft EIS. The draft EIS presents, analyzes, and compares the potential environmental impacts for the proposed action and alternatives and their implementation, and provides additional information on the methodologies and assumptions used for the analyses. A Notice of Availability (NOA) is published in the *Federal Register* announcing the release of the draft EIS for public review and comment. The NOA begins a 45-day comment period. Public comments on the draft EIS are considered in the preparation of the final EIS.

Final EIS

After the draft EIS commenting period is completed and through continuing scoping, a final EIS is prepared, published in the *Federal Register*, and released for any additional comments. All comments received during the commenting period will be addressed where applicable to prepare the final EIS.

Record of Decision

After the final EIS is published, a minimum 30-day waiting period is required before a ROD can be issued. The ROD notifies the public of the decision made on the proposed action and presents the reasons for that decision. The decision-making process may include consideration of factors such as cost, technical feasibility, agency statutory missions, and national objectives, as well as the potential environmental impacts of an action(s).

3. How has the public been involved?

In accordance with NEPA and State Environmental Policy Act (SEPA) requirements, an early and open public forum process, identified as “scoping”, was initiated to identify significant issues related to the proposed action and establish an appropriate scope of work for addressing those issues in the EIS document.

In order to engage the general public, including residents of Figure Eight Island and all stakeholders, a NOI was issued and published in the *Federal Register* (Volume 72, Number 31) on February 26, 2007. This Notice of Intent served to inform the public of the “intent to prepare a Draft Environmental Impact Statement (EIS) for the development of an inlet management plan that includes the repositioning and realignment of the main ebb channel of Rich Inlet and to use the material to nourish Figure Eight Island, north of Wilmington, New Hanover County, NC”. The NOI provided the project description and

described the proposed action, potential impacts, project alternatives, and the scoping process. Along with this issuance, a Public Notice (PN) containing similar information was released by the USACE on February 22, 2007. As announced in the NOI and PN, the initial scoping meeting was held at Eaton Elementary School, located at 6701 Gordon Road, Wilmington, NC, on March 1, 2007. A Notice of Availability (NOA) published in the *Federal Register* (Volume 77, Number 97) was issued on May 18, 2012 announcing the release of the Draft EIS. This announcement marked the start of a 45-day public commenting period. On June 7, 2012, a Public Hearing was held at Ogden Elementary School in Wilmington, North Carolina.

Appendix A, Subpart 1: Scoping Meeting and PDT Meeting Minutes

This appendix includes the minutes from the initial scoping meeting and subsequent PDT meetings. A list of meeting attendees is included.

In a continual effort to include the public, State and Federal agencies, and all interested stakeholders in the process, a Project Delivery Team (PDT) was assembled. The PDT members were individually asked to: 1) provide input for the development of the EIS, 2) keep the public informed of project development, 3) discuss project-related concerns, and 4) to identify natural resources in the Permit Area. The PDT is comprised of a broad-based team of individuals who represent the following interests: local, state and federal government officials; business and property owners; non-governmental organizations; as well as the project design team (Table 1.1). PDT meetings were held on May 7, 2007, September 18, 2007, June 10, 2008, March 19, 2008, May 20, 2009, and August 11, 2010. See Appendix A, Subpart 1 for meeting minutes.

Table 1.1- Figure Eight Island Inlet and Shoreline Management Project PDT Members at the Time the DEIS was being Prepared

NAME	AFFILIATION	E-MAIL ADDRESS
David Kellam	Figure 8 HOA	dkellam@bizec.rr.com
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Brad Rosov	CPE	brad.rosov@shawgrp.com
Ken Willson	CPE	kenneth.willson@shawgrp.com
Bill Cleary	UNCW	wcleary@charter.net
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Brad Shaver	USACE	brad.e.shaver@usace.army.mil
Greg Williams	USACE	greg.williams@usace.army.mil
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Steve Everhart	NC WRC	steve.everhart@ncmail.net
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Todd Miller	NCCF	toddm@nccoast.org
Mike Giles	NCCF	capefearcoastkeeper@nccoast.org
Michelle Duval	Environmental Defense	mduval@environmentaldefense.org
Harry Simmons	NCBIWA	ncsbpa@mindspring.com
Gary McSmith	New Hanover County	gmcsmith@nhcsgov.com
Dave Weaver	New Hanover County	dweaver@nhcsgov.com
Tom Walker	USACE	william.t.walker@usace.army.mil
Molly Ellwood	NCWRC	molly.ellwood.ncwildlife.org
Walker Golder	Audubon Society	wgolder@audubon.org
Jack Spruill	Pender Watch	jspruill@aol.com
Don Ellson	Pender Watch	ellsond@bellsouth.net
Steve Underwood	NCDCM	steve.underwood@ncmail.net
Scott Geis	NCDCM	scott.geis@ncdenr.gov

4. How have government agencies been involved?

Participation in the EIS process by Federal, State, and local government agencies and other interested organizations and persons has been encouraged. The USACE will be conducting additional consultation efforts with the U.S. Fish and Wildlife Service (USFWS) under the Endangered Species Act and the Fish and Wildlife Coordination Act; with the National Marine Fisheries Service (NMFS) under the Magnuson-Stevens Act and Endangered Species Act; and with the North Carolina State Historic Preservation Office (NCSHPO) under the National Historic Preservation Act. Specifically, the USACE will consult with the USFWS regarding species listed under the Endangered Species Act (ESA) via the development of a Biological Assessment (BA). NMFS will be consulted regarding essential fish habitat via the development of an Essential Fish Habitat (EFH) assessment. Additionally, because this EIS assesses the potential water quality impacts pursuant to Section 401 of the Clean Water Act, coordination efforts are being made with the North Carolina Division of Water Quality (DWQ), and a DWQ Section 410 water quality certification is required. Furthermore, the USACE has worked closely with the North Carolina Division of Coastal Management (DCM) through the development of this EIS to ensure the process complies with all State Environmental Policy Act (SEPA) requirements and to determine consistency with the Coastal Zone Management Act (CZMA).

As stated above, representatives of the relevant Federal agencies have been involved in the scoping meeting and the subsequent PDT meetings. Their input has been integrated into this EIS document.

5. What is the Figure Eight Island Shoreline Management Project and where is it located?

The Figure "8" Beach Homeowners Association (Figure "8" Beach HOA) is seeking Federal and State permits to allow development of a management plan for Rich Inlet that would mitigate chronic erosion on the northern portion of Figure Eight Island to preserve the integrity of its infrastructure, provide protection to existing development, and ensure the continued use of the oceanfront beach along the northernmost three miles of its oceanfront shoreline.

Figure Eight Island is located in northeastern New Hanover County. It is an unincorporated privately developed residential barrier island with 563 platted lots including 490 developed lots and 73 undeveloped lots. Eight (8) of these undeveloped lots do not currently meet the building setbacks rules (O'Mahoney, pers. comm.). The island is bordered to the south by Mason Inlet and Wrightsville Beach and to the north by Rich Inlet and Hutaff Island, an undeveloped, privately-owned island (Figure 1.1). Hutaff Island is one of the few remaining undeveloped and vehicle-free barrier islands on the North Carolina coast. It is among the largest near-pristine barrier island and salt marsh systems in the region.

Figure Eight Island covers approximately 1,300 acres, is approximately 5.0 mi long and approximately 0.4 mi wide. The proposed project is located along the oceanfront shoreline on the northeast end of the island, and within Nixon Channel and Rich Inlet.

Chronic erosion problems along the northern sections of Figure Eight Island have been directly linked to changes in the orientation and position of the main ebb channel through Rich Inlet

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(Cleary & Hosier, 1990; Cleary, 2001; Cleary & Knierim, 2006; Cleary & Jackson, 2004). When the main ebb channel of the inlet is oriented toward the southeast or in the direction of Figure Eight Island, and positioned close to the north end of the island, the shoreline immediately south of the inlet tends to accrete. The accretion is associated with the wave sheltering (“breakwater effect”) provided by the south side of the ebb tide delta, which also moves with the channel. During periods when the main bar channel migrates to the north toward Hutaff Island and is oriented in a northeasterly direction, the north end of Figure Eight Island erodes. The northward movement of the main ebb channel is accompanied by the northward shift of the south side of the ebb tide delta away from the north end of Figure Eight Island, thus removing the protection afforded by the south side of the ebb tide delta.

In addition to erosion issues along the ocean shoreline south of Rich Inlet, erosion is also prevalent along 426 m (1,400 ft) of the Nixon Channel shoreline extending from Rich Inlet northwest to the entrance to Nixon Creek. Between 1993 and 2005, the average rate of shoreline change along this segment of the Nixon Channel shoreline was -8.3 ft per year. The erosion of the Nixon Channel shoreline is associated with the proximity of the main flow channel to the shoreline.

To alleviate these problems attributed to erosion, several alternatives have been evaluated. Initially, relocation of the main channel within Rich Inlet was determined to be the Applicant’s Preferred Alternative, as noted in the NOI and PN. This was prior to the passage of SB110 which allowed for the construction of a terminal groin. Since that time, the Applicant’s Preferred Alternative, which has been modified since the release of the Draft EIS, includes the construction of a terminal groin 154 m (505 ft) in length with a 303 m (995 ft) shore anchorage section to protect against possible flanking of the landward end of the structure. This structure is intended to control tidal current-induced shoreline changes immediately south of Rich Inlet. In addition to the construction of the terminal groin, several areas of the shoreline would be nourished with material excavated from the previously permitted area within Nixon Channel and from upland dredge disposal sites located in proximity to the AIWW behind Figure Eight Island (pending approval of all landowners and receipt of a USACE consent for placement). Beach fill would be placed along 426 m (1,400 ft) of the Nixon Channel shoreline just south of Rich Inlet. In addition, material will be used to nourish 1,372 m (4,500 ft) of ocean shoreline extending from Rich Inlet south to 322 Beach Road North (Figure 1.1). The existing navigation feature in Nixon Channel would be maintained to its permitted depth of -2.7 m (-9 ft) MLW [or -3.5 m (-11.4 ft) NAVD] and permitted widths. Periodic nourishment of the beach fill would be accomplished in conjunction with continued maintenance of the previously permitted area in Nixon Channel.

What is a Terminal Groin?

A shoreline protection structure that reduces beach erosion by temporarily trapping sand before it reaches the inlet. Once the sand forms an “accretion fillet” to protect the shoreline, sand continues its normal flow by moving over, thru or around the structure.

As noted above, the Applicant’s Preferred Alternative was modified from the initial project involving the relocation of Rich Inlet combined with beach nourishment to the alternative incorporating a terminal groin with associated beach nourishment. The passage of SB110 precipitated the exploration of a project involving a terminal groin as the legislation allows for

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the construction of up to four (4) terminal groins within the State of North Carolina. While the Figure "8" Beach HOA states that the inlet relocation project meets its purpose and needs, they have determined that the terminal groin alternative would result in an improved project in terms of economic benefits and reduced environmental impacts, as discussed in this document.

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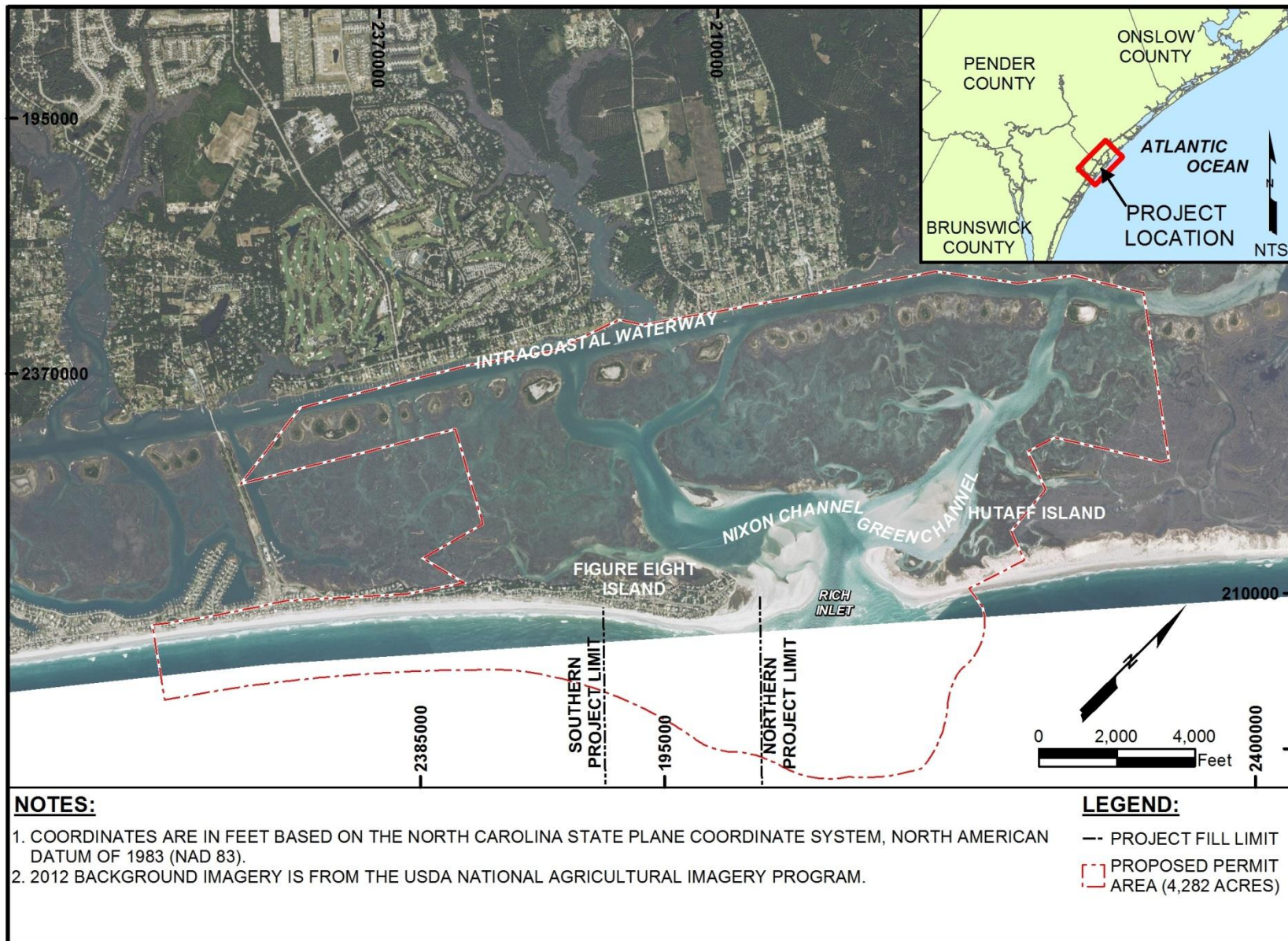


Figure 1.1- Figure Eight Island Inlet and Shoreline Management Project Location Map

6. What issues were identified as part of scoping?

During scoping (through public meetings and written comments), several issues were identified in association with the proposed project, including: funding concerns, impacts to environmental resources within the inlet complex, sand quality and compatibility, concerns with the use of a terminal groin, impacts to the bird resources within the inlet, and the obtaining of an easement for the construction of a terminal groin. Summaries of the public scoping meetings and PDT meetings held to date are listed below. Minutes to the PDT meetings can be found in Appendix A, Subpart 1. Additional written correspondence has been provided in Appendix A-Subpart 2 (Pertinent Correspondences).

Appendix A, Subpart 2: Pertinent Correspondences

This appendix includes various emails and letters submitted by agencies, stakeholders, and the general public regarding relevant information pertaining to the project.

- The March 1, 2007 Public Scoping Meeting convened on March 1, 2007 at Eaton Elementary School in Wilmington, NC. The scoping meeting was designed to solicit comments from the public, Federal, State and local agencies and officials, and other interested parties to identify issues to be addressed in the EIS document. Attendees included local residents, resource agencies, and representatives of the Figure "8" Beach HOA, and Coastal Planning & Engineering, Inc. (CPE). Concerns expressed from the attendees are documented in Appendix A – Subpart 1.
- The May 7, 2007 PDT Meeting included the following: a presentation by CPE-NC coastal engineer Tom Jarrett regarding an overview of past nourishment projects on Figure Eight Island, a presentation by UNCW's Dr. William Cleary regarding the effects of Rich Inlet on adjacent shorelines, an update by CPE-NC geologist Ken Willson on geotechnical investigations, and a presentation by CPE-NC coastal biologist Dawn York regarding baseline biological resource investigations. The meeting format allowed for open discussions during and after the presentation.
- The September 18, 2007 PDT Meeting included a presentation by CPE coastal engineer Chris Day regarding Delft3D modeling results on the project alternatives. Discussions included the newly developed State Sediment Criteria and the need for hardbottom investigations. The meeting format allowed for open discussions during and after the presentation.
- The March 19, 2008 PDT Meeting included a presentation by UNCW's Dr. Bill Cleary on updated findings on shoreline change for Figure Eight and Hutaff Islands, and estuarine shoreline change for Nixon and Green Channels between 1938 and 2007. CPE-NC coastal biologist Dawn York presented the baseline environmental data collected to date including salt marsh, submerged aquatic vegetation (SAV), shellfish and bird and turtle nesting areas. The meeting format allowed for open discussions during and after the presentation.
- The June 10, 2008 PDT Meeting included in depth discussions regarding the details of each project alternative. This was followed by a presentation by CPE coastal engineer Chris Day

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focusing on the engineering analysis performed for the Applicant's Preferred Alternative. Mickey Sugg of the USACE provided an overview of the NEPA process and the format of an EIS. The meeting format allowed for open discussions during and after the presentation.

- The May 20, 2009 PDT Meeting included a presentation by CPE-NC marine scientist Brad Rosov regarding the updated biological resource investigations which provide baseline conditions for the EIS. This presentation included information provided by UNCW's Dr. David Webster. CPE-NC coastal engineer Tom Jarrett presented modeling results for project alternatives including the terminal groin options. The meeting format allowed for open discussions during and after the presentation.
- The August 11, 2010 PDT Meeting included a presentation by CPE-NC coastal engineer Tom Jarrett regarding the updated Delft3D modeling results regarding project alternatives. Information regarding anticipated beach fill performance and shoreline change analysis was included in the presentation. The meeting format allowed for open discussions during and after the presentation.
- The June 7, 2012 Public Hearing, held at Ogden Elementary School in Wilmington, NC, included a presentation by the USACE Colonel Steven Baker regarding the role of the USACE in the public hearing process. USACE Project Manager Mickey Sugg provided an overview of the NEPA process and how it applies to the project. CPE-NC coastal engineer Tom Jarrett presented a summary of the contents of the Draft EIS which included the details of the project alternatives. Following the presentations, the floor was opened up to the general public to make comments on the proposed project.

7. What laws are involved?

The following section includes a description of applicable Federal and State laws associated with the Figure Eight Island Inlet and Shoreline Management 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 State and Federal law.

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; 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). A NEPA document is required when a project includes Federal action including the need for Federal permits, the use of Federal funding, or if the action is to take place on Federal lands.

Section 10 of the Rivers and Harbors Act of 1899.

Pursuant to Section 10 of the Rivers and Harbors Act of 1899, certain structures or work in or affecting navigable waters of the US will be regulated under the purview of U.S. Army Corps of Engineers (33CFR 322.1). The 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, 2006). The geographic jurisdiction of the Rivers and Harbors Act includes all navigable waters of the United States which are defined (33 CFR Part 329) as, "those waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible to use to transport interstate or foreign commerce." This jurisdiction extends seaward to include all ocean waters within a zone three nautical miles from the coastline (the "territorial seas").

Clean Water Act of 1972.

Section 404 of the Clean Water Act established a permit program under the purview of the U.S. Army Corps of Engineers, to regulate the discharge of dredged and fill material into waters of the U.S., including wetlands. These waters consisting of, but not limited to, “all waters which are currently used or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide” (33CFR 328.3(a)(1)). This program is jointly administered by the Environmental Protection Agency and the U.S. Army Corps of Engineers (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 to prevent the degradation of waters in the State and to prevent any violations of the State water quality standards.

Endangered Species Act of 1973.

The Endangered Species Act of 1973 (ESA) was signed on December 28, 1973, and provides for the conservation of species that are endangered or threatened throughout all or a significant portion of their range, and the conservation of the ecosystems on which they depend. The ESA replaced the Endangered Species Conservation Act of 1969; it has been amended several times. The lead Federal agencies for implementing ESA are the U.S. Fish and Wildlife Service (USFWS) and the U.S. National Oceanic and Atmospheric Administration (NOAA) Fisheries Service. The USFWS maintains a worldwide list of endangered species. Species include birds, insects, fish, reptiles, mammals, crustaceans, flowers, grasses, and trees. Coordination with the USFWS and NOAA National Marine Fisheries Service (NMFS) includes consultation under Section 7 of the Endangered Species Act of 1973, as amended.

National Historic Preservation Act of 1966.

The National Historic Preservation Act is legislation intended to preserve historical and archaeological sites in the United States of America. The act created the National Register of Historic Places, the list of National Historic Landmarks, and the State Historic Preservation Offices.

Senate Bill 3035, the National Historic Preservation Act, was signed into law on October 15, 1966. Several amendments have been made since. Among other things, the act requires Federal agencies to evaluate the impact of all Federally funded or permitted projects on historic properties (buildings, archaeological sites, etc.) through a process known as *Section 106 Review*.

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).

Magnuson-Stevens Fishery Conservation and Management Act of 1996.

The Magnuson Fishery Conservation and Management Act of 1976, amended Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) in October 1996 and also referred to as the Sustainable Fisheries Act, 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 National Marine Fisheries Service (NMFS).

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....[and] study the effects of domestic sewage, trade wastes, and other polluting substances on wildlife.” The Act also requires consultation with the Bureau of Fisheries, Fish and Wildlife Service 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, 2006a).

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 this Act will receive Federal financial aid.

The North Carolina Division of Coastal Management has developed and enforces a coastal management plan with the rules and policies that supports the ideals and concepts of the CZMA. The North Carolina Division of Coastal Management enforces this Act using the rules and policies of the Coastal Area Management Act of 1974 (enabled and delegated in 1972; adopted and implemented in 1974).

North Carolina Environmental Policy Act (As Amended).

The North Carolina (or State) Environmental Policy Act of 1971 (SEPA) requires State agencies to review and report the environmental effects of all activities that involve an action by a State agency, an expenditure of public monies or private use of public land, and that may have a potential negative environmental effect on natural resources, public health and safety, natural beauty, or historical or cultural elements of the State. This Environmental Impact Statement has been developed in accordance with the requirements of the State Clearinghouse review process under the North Carolina Environmental Policy Act, based upon the agreement between the North Carolina Division of Coastal Management and the U.S. Army Corps of Engineers. Upon the development and submittal of the Final EIS, additional filing under the NC EPA will not be required.

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).

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

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the North Carolina Department of Environment and Natural Resources and the USACE (NCDCEM, 2006a).

North Carolina Surface Water Quality Standards.

The North Carolina Division of Water Quality 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 Figure Eight Island 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 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).

Limitations on Erosion Control Structures, North Carolina General Statute § 113A-115.1.

This law establishes limitations of erosion control structures along the ocean shoreline. The “ocean shoreline” is defined as “the Atlantic Ocean, the oceanfront beaches, and frontal dunes”. Furthermore, the term "ocean shoreline" includes “an ocean inlet and lands adjacent to an ocean inlet but does not include that portion of any inlet and lands adjacent to the inlet that exhibits characteristics of estuarine shorelines”. This statute defines such a structure as “breakwater, bulkhead, groin, jetty, revetment, seawall, or any similar structure”. Terminal groins, or specifically a groin that is constructed at the end of a littoral cell or on the updrift side of an inlet to prevent sediment passage into the channel beyond, are included under this statute, as of the passing of Senate Bill 110. Prior to the passage of Senate Bill 110, such structures were prohibited in North Carolina. Senate Bill 110 now allows a total of four (4) terminal groins within the State as long as the applicant meets a suite of requirements. These requirements include the preparation of an Environmental Impact Statement, proof of financial assurance to cover post-construction monitoring and mitigation (if warranted), and notification to adjacent property owners amongst other requirements.