Abstract: The Final Environmental Impact Statement was prepared in response to Carteret County’s proposal, in conjunction with the Towns of Atlantic Beach, Pine Knoll Shores, Indian Beach, and Emerald Isle, to implement a long-term shoreline management plan to protect their oceanfront and inlet shorelines for the barrier island of Bogue Banks.

For more information and comments, contact Mr. Mickey Sugg, United States Army Corps of Engineers, Regulatory Division, 68 Darlington Avenue, Wilmington, North Carolina 28403, phone (910) 251-4811, facsimile (910) 251-4025 or via e-mail: mickey.t.sugg@usace.army.mil.
EXECUTIVE SUMMARY

The Wilmington District, United States Army Corps of Engineers (USACE) Regulatory Division program is evaluating a request from Carteret County (County) for Department of the Army authorization pursuant to Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act to implement a comprehensive, long-term beach and inlet management plan for the protection of approximately (~) 25 miles of shoreline on Bogue Banks. Concurrently, the Bureau of Ocean Energy and Management (BOEM) is evaluating a request from the Applicant for lease authorization pursuant to the Outer Continental Shelf Lands Act [43 U.S.C. 1337(k)(2)] to use outer continental shelf sand resources as a component of the proposed action. The USACE is the lead federal action agency responsible for National Environmental Policy Act (NEPA) compliance and management of the NEPA/Environmental Impact Statement (EIS) environmental review process for the County’s proposed action. At the request of the USACE, the BOEM is participating as a cooperating federal agency in the NEPA/EIS process. Although the USACE has exclusive regulatory authority over most of the proposed action, the Applicant’s proposed use of OCS sand resources falls under the exclusive regulatory authority of the BOEM. In the case of the Applicant’s proposed action, the USACE and BOEM have determined that an EIS is required based on the broad temporal and spatial scale of the proposed action (i.e., a 50-year project encompassing ~25 miles of coastline), the ecological significance and sensitive nature of the affected coastal resources (barrier island, tidal inlet, and marine/estuarine), and the potential for adverse effects on a number of federally listed threatened and endangered species and critical habitats.

The Bogue Banks shoreline has been managed in some capacity for over 35 years by federal projects administered by the USACE Civil Works program and by non-federal projects implemented by the County, and/or local municipalities. Since 1978, roughly 11 Mcy of sand have been placed upon the beaches of Bogue at a total cost of approximately $95 million. Past management efforts have largely consisted of stand-alone projects that were undertaken to address site-specific erosional problems. This stand-alone approach has limited the efficiency and effectiveness of past and current efforts by the County and island municipalities to implement shore protection projects and maintain the beaches of Bogue Banks. In order to address ongoing shoreline erosion in a more effective manner, the County and municipalities are proposing to combine their shore protection efforts under a more efficient comprehensive beach and inlet management program known as the Bogue Banks Master Beach Nourishment Plan. The purpose of the proposed action is to establish and implement a comprehensive, long-term, non-federal beach and inlet management program that will restore and maintain the beaches of Bogue Banks; provide shore protection for residential structures, infrastructure, and recreational assets; and preserve the local tourism-based economy. The USACE Civil Work’s investigation of a long-term federal Coastal Storm Damaged Reduction (CSDR) project for Bogue Banks has been ongoing for nearly 30 years. As federal funding for shore protection projects has declined, the future of a long-term federal CSDR project for Bogue Banks has grown increasingly uncertain. The proposed action will address the ongoing trend of declining federal shore protection funding by establishing a non-federal management program under the autonomous control of the County and the island municipalities.
This Final EIS objectively evaluates the environmental effects of the proposed action and a range of reasonable alternatives that address the purpose and need for action. This Final EIS discloses the short- and long-term direct, indirect, and cumulative effects of each alternative and presents detailed information on the County’s stated purpose and need for action, the alternatives development process, the environment potentially affected by the alternatives, and mitigation measures that were incorporated to avoid or minimize adverse effects. Public and agency scoping for this Final EIS was initiated at the beginning of the National Environmental Policy Act process through the solicitation of written public comments, a public scoping meeting, and the formation of an interagency-stakeholder review team. All of the input received through scoping was considered and integrated into this Final EIS. This Final EIS will provide another major opportunity for public participation through the Final EIS public review and 30-day comment period.

The alternatives screening and evaluation process identified five alternatives as warranting full evaluation in this EIS; including two no action (Alternatives 1 and 2) and three action alternatives (Alternatives 3, 4, and 5). Pursuant to Council of Environmental Quality regulations, no action can be defined as the continuation of current management (i.e., Alternative 1) and/or as a without project scenario involving no federally permitted management activity (Alternative 2). Alternatives 3, 4, and 5 represent alternate long-term management scenarios for maintaining the beaches of Bogue Banks over the next 50 years. Management elements that are common to Alternatives 3, 4, and 5 include recurring nourishment of the approximately ten miles of beaches along Pine Knoll Shores, Indian Beach/Salter Path, and eastern Emerald Isle; and the acquisition of beach fill from offshore borrow sites, Atlantic Intracoastal Waterway (AIWW) disposal islands, and upland sand mines. The three action alternatives differ in their approaches to management of the remaining approximately eight miles of beaches along central and western Emerald Isle. Alternative 4, consisting of beach nourishment and non-structural Bogue Inlet management, is the Applicant’s preferred alternative. The proposed borrow sources would include specific reaches of the Morehead City Harbor (MCH) federal navigation channels, the AIWW Bogue Inlet crossing, the former and current MCH Offshore Dredge Material Disposal Site facilities, the Area Y borrow site offshore of Emerald Isle, Bogue Inlet, AIWW disposal islands, and upland sand mines.

This EIS contains the following information:
- Chapter 1, Introduction – Explains the purpose of the development of an EIS, describes agency and public coordination efforts, issues and concerns elicited by the development of the EIS and discusses applicable laws, rules and regulations.
- Chapter 2, Purpose and Need – Identifies purpose and need for the proposed action and discusses how the shoreline along Bogue Banks has been managed in the past.
- Chapter 3, Project Alternatives – Describes the alternatives development process and provides a detailed description of each alternative that was carried forward for full analysis.
- Chapter 4, Affected Environment – Identifies existing resources which occur in the permit area.
• Chapter 5, Environmental Consequences – Evaluates the direct, indirect, and cumulative effects of the alternatives and discusses the anticipated changes to the existing environment.
• Chapter 6, Avoidance and Minimization – Discusses mitigation measures that were included to avoid, minimize, rectify, or compensate for adverse environmental effects.

Major Conclusions

Ongoing erosion has threatened many of the resources along the oceanfront of Bogue Banks and western shoulder of Bogue Inlet and the municipalities on the island have taken several measures in the past to reduce the risk of loss, or damage, to those resources. In evaluating options for a longer-term and a more comprehensive approach to protect the oceanfront and inlet shorelines, the County is seeking federal and state permits to allow for the implementation of Bogue Banks Master Beach Nourishment Plan (MBNP) as their preferred alternative. This proposed 50-year plan would be the instrument to protect the shoreline whereby actions, locations, volumes, and schedules would be included in a comprehensive multi-decadal county permit rather than several individual beach municipality authorizations.

Issues to be Resolved

It is anticipated that state and federal agencies, along with the public, will provide comments to this Final EIS and on the County’s preferred alternative. Additional consultation will be conducted with the National Marines Fisheries Service Protected Resources Division and the United States Fish and Wildlife Service pursuant to Section 7 of the Endangered Species Act; and the National Marine Fisheries Services Habitat Conservation Division pursuant to the Magnuson-Stevens Fishery Conservation and Management Act. On-going coordination with the North Carolina Division of Coastal Management will continue.
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Dial Cordy and Associates Inc.

February 2018

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LIST OF ACRONYMS

~  Approximately
°  Degree
μPa  Micropascal
%  Percent
ACHP  Advisory Council on Historic Preservation
AEC  Areas of Environmental Concern
AIWW  Atlantic Intracoastal Waterway
ASMFC  Atlantic States Marine Fishery Commission
BA  Biological Assessment
BFE  Base Flood Elevation
BP  Before Present
BO  Biological Opinion
BOEM  Bureau of Ocean Energy Management
C  Centigrade
C1  Category 1
C2  Category 2
CAMA  Coastal Area Management Act
CCPCUA  Central Coastal Plain Capacity Use Area
CEQ  Council on Environmental Quality
CDF  Confined Disposal Facilities
CFR  Code of Federal Register
CM  Centimeters
CM²  Centimeters Squared
CO  Carbon Monoxide
CORMP  Coastal Ocean Research and Monitoring Program
CPE  Coastal Planning & Engineering
CRC  Coastal Resources Commission
CSDR  Coastal Storm Damage Reduction
CSE  Coastal Science & Engineering
CSRM  Coastal Storm Risk Management
CWA  Clean Water Act
CY  Cubic Yards
CY/FT  Cubic Yards per Foot
CY/YR  Cubic Yard per Year
CZMA  Coastal Zone Management Act
DA  Department of the Army
dB  Decibels
MCH  Morehead City Harbor
MCY  Million Cubic Yards
MF  Mid-frequency
mg/l  Milligram per liter
MGD  Million Gallons per Day
MHW  Mean High Water
MHHW  Mean Higher High Water
MiSA  Micropolitan Statistical Area
MLW  Mean Low Water
MLLW  Mean Lower Low Water
MM  Millimeter
MMPA  Marine Mammal Protection Act
MSFCMA  Magnuson-Stevens Fishery Conservation and Management Act
NAAQS  National Ambient Air Quality Standards
NAI  Normandeau Associates, Inc.
NAVD  North American Vertical Datum
NC  North Carolina
NCAC  North Carolina Administrative Code
NCCPRA  North Carolina Coastal Policy Reform Act
NCDA  North Carolina Department of Administration
NCDAQ  North Carolina Division of Air Quality
NCDCM  North Carolina Division of Coastal Management
NCDEMLR  North Carolina Division of Energy, Mineral and Land Resources
NCDENR  North Carolina Division of Environment and Natural Resources
NCDLR  North Carolina Division of Land Resources
NCDMF  North Carolina Division of Marine Fisheries
NCDOT  North Carolina Department of Transportation
NCDWQ  North Carolina Division of Water Quality
NCDWR  North Carolina Division of Water Resources
NCFMP  North Carolina Flood Mapping Program
NCNHP  North Carolina Natural Heritage Program
NCSPA  North Carolina State Port Authority
NCWRC  North Carolina Wildlife Resources Commission
NED  National Economic Development
NEPA  National Environmental Policy Act
NFIP  National Flood Insurance Program
NHPA  National Historic Preservation Act
NIMA  National Insurance and Mitigation Administration
NM  Nautical Miles
NMFS  National Marine Fisheries Service
NO  Nitrogen Oxide
NOAA  National Oceanic and Atmospheric Administration
NOA  Notice of Availability
NOI  Notice of Intent
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