SOCIOECONOMIC CHAPTER

Socioeconomic Chapter

Abernathy, S.A., M.T. Baer, C.S. Benner, M.S. Brody, D.K. Francois, J.K. Gilliam, L.K. Good, C.J. Ohara, and J.V. Martin. 1989. Atlantic Outer Continental Shelf: Description of the Mid-Atlantic Environment. Abernathy, S.A. (ed.). U.S. Department of the Interior, Minerals Management Service, Atlantic OCS Region, Environmental Assessment Section. Herndon, VA. 167 p.

*This document discusses the major issues and areas of concern for the mid-Atlantic environment that are considered in the planning process for oil and gas leasing and operations on the Outer Continental Shelf (OCS). The issues are addressed with respect to the potential environmental consequences of mid Atlantic oil and gas exploration, development and production. A section discussing The Physical Environment (e.g., geology, non-petroleum minerals, physical oceanography, chemical oceanography and water quality, ocean dumping, meteorology, air quality), Biological resources (e.g., plankton, benthos, fishery resources, marine reptiles, marine mammals, marine and coastal birds, estuaries, wetlands, sensitive coastal habitats, canyon areas), Socioeconomic Environment, and other issues (e.g., archaeological resources, marine vessel traffic, National Aeronautics and Space Administration/ Department of Defense activities, oil and gas infrastructure, marine sanctuaries, and estuarine research reserves) is included. Most of the figures showing fisheries resource distribution are taken from fisheries data compiled for bottom-trawl and shellfish surveys of the National Marine Fisheries Service, Northeast Fisheries Center, Woods Hole, MA.

Costlow, J. 1992. The Outer Banks Protection Act. pp. 11-15. In: U.S. Department of the Interior, Minerals Management Service. Proceedings of the Fourth Atlantic OCS Region Information Transfer Meeting, September 1991. U.S. Department of the Interior, Minerals Management Service. Herndon, VA.

The Fourth Atlantic Outer Continental Shelf (OCS) Regional Information Transfer Meeting (ITM) was held on 24-25 September, 1991, in Wilmington, NC. The focus of the meeting was on the OCS off North Carolina, specifically on activities related to a proposed exploratory well for oil and gas by Mobil on Block 467 a site 40 miles off the coast of North Carolina. The area of industry interest is known as the Manteo Prospect, while the activities surrounding the proposed drilling are referred to collectively as the Manteo Project. The wildcat wellsite is in 2,690 ft. (857 m) of water near the edge of the Gulf Stream. It is also near a fishing ground known locally as “The Point”. The area is believed to be gas prone rather than oil prone. The estimated size of the resource could be as high as 5 trillion cubic feet of gas.

The purpose of the meeting was to exchange information on the leasing background, legislative activities, scientific results, and socioeconomic studies. Legislative-related reports include descriptions of the Oil Pollution Act of 1990, the Outer Banks Protection Act, the Environmental Studies Review Panel, and the North Carolina Physical Oceanography Panel. Reports of studies on marine life include benthic diatoms, benthic fauna, pelagic seabirds, sea turtles, and right whales. One report describes the use of airships (blimps) for ocean research a capability relevant to North Carolina because of the east coast airship facility is located in the state. Local marine science facilities described include NOAA’s National Undersea Research Center at the University of North Carolina at Wilmington (NURC/UNCW) and the National Marine Fisheries Service laboratory in Beaufort.

Developments in oil spill cleanup technology and capabilities are described by both the Coast Guard and the industry. A socioeconomic report describes the effects of the oil and gas activities on the tourist industry. Lastly, research on the restoration of salt marshes indicates that rehabilitation of an area is possible when development or an accident has occurred. While the emphasis of the meeting was on oil and gas, two reports described the results of projects related to offshore sand mining. The appendix lists the names and addresses of speakers. Individual chapters are cited individually when appropriate.

*In August 1990, President Bush signed Federal oil spill legislation that included a provision called the Outer Banks Protection Act (OBPA). The OBPA prohibited the Minerals Management Service (MMS) from approving any exploration plan off North Carolina until October 1991. The Act also created a five-member Environmental Sciences Review Panel (ESRP) to evaluate the adequacy of information on the Mobil proposal. This section describes the OBPA and ESRP. Physical oceanography, biological oceanography, and socioeconomics are mentioned.

Costlow, J., K. Brink, M. Orbach, C. Peterson, J. Teal, and A. Robertson. 1992. North Carolina Environmental Sciences Review Panel. Report to the Secretary of the Interior from the North Carolina Environmental Sciences Review Panel as mandated by the Oil Pollution Act of 1990. 83 p.

The Oil Pollution Act of 1990, in a section cited as the Outer Banks Protection Act, prohibits the Secretary of the Interior from proceeding with a number of actions relative to development of oil and gas resources offshore North Carolina for which he is responsible under the Outer Continental Shelf Lands Act (OCLSA). Actions prohibited include: (1) conducting a lease sale; (2) issuing any new lease; (3) approving any exploration plan; (4) approving any development and production plan; (5) approving any application for permit to drill; and (6) permitting any drilling. The prohibition on these actions is mandated to remain in effect until the latter of: (1) October 1, 1991 or (2) 45 days of contiguous session of the Congress following the submission of a written report from the Secretary certifying that the information available to him is sufficient to carry out his responsibilities under the OCSLA.

In his report, the Secretary is required to take into consideration findings and recommendations of a panel established by the Outer Banks Protection Act, the North Carolina Environmental Sciences Review Panel, and to include a detailed explanation of any differences between his certification if sufficient information and the findings and recommendations of this group. The panel is charged by the Act with: (1) assessing the adequacy of the available physical oceanographic, ecological, and socioeconomic information to enable the Secretary to fulfill his responsibilities under the OCSLA and (2) identifying any additional information deemed essential to enable the Secretary to carry out these responsibilities. The Panel's response to this charge is the subject of this document.

As provided in the Outer Banks Protection Act, the North Carolina Environmental Sciences Review Panel is composed of five members, a marine scientist selected by the Secretary of the Interior, a marine scientist selected by the Governor of North Carolina, and three scientists, one each from the disciplines of physical oceanography, ecology, and social sciences, selected jointly by the Secretary and the Governor from a list developed by the National Academy of Sciences. Unless specifically indicated in the text, the conclusions and recommendations presented in the report represent the unanimous decision of the Panel members. A summary of findings including Physical Oceanography, Ecology, Socioeconomics, Sources of Information, Adequacy of Information, and Panel's

Recommended Studies is included. Appendix A: Literature Review, and Appendix B: Factors Influencing the Definition if Adequacy of Information are also included.

Crawford, K. (ed.). 1989. Proceedings: 1989 Marine Expo: The Natural Resources Associated with Mobil's Proposed Drill Site. NC Outer Continental Shelf Office, NC Department of Administration. Raleigh, NC. 64 p.

*This report contains abstracts from each presenter. Chapter topics include: Mobil's Proposal, Geologic Overview -- Introduction and Potential for Oil and Gas Discovery, Oceanographic Conditions, Comments on Last MMS Modeling, Biological Production Near the Bottom (invertebrates), Fisheries Resources, Commercial and Recreational Marine Fisheries, Winter Storm Effects on Spawning and Larval Drift of Pelagic Fish, Marine Birds, Sea Turtles in North Carolina, Marine Mammals, Plenary Session, Summary. Each chapter also cited individually when appropriate.

EEZ-SCAN 87 Scientific Staff. 1991. Atlas of the U.S. Exclusive Economic Zone, Atlantic Continental Margin. U.S. Geological Survey. Denver, CO. 174 p.

*This atlas is one in a series in which the U.S. Geological Survey (USGS) presents images of the sea floor and other geophysical data from the deepwater regions off the U.S. coasts. Containing the first comprehensive compilation of sea-floor imagery of the Atlantic continental margin, this volume provides the first broad-scale view of sea-floor features and the effects of systems of sedimentary processes that have been unknown or poorly known, until know. These data are a unique set of basic information that will support future studies by government, academic and industry workers. The region covered is within the U.S. Exclusive Economic Zone (EEZ) (Fig. 1), which extends 200 nautical miles seaward from the shore, and which was claimed by presidential proclamation in 1983.

In 1984 the USGS began a systematic program of reconnaissance-scale imaging of the poorly explored deepwater parts of the EEZ, using a long-range sidescan-sonar system known as GLORIA (Geological Long Range Inclined Asdic).

Data collected in this survey of the U.S. Atlantic EEZ include GLORIA sidescan-sonar imagery; shallow-penetration, medium-resolution seismic profiles; high-resolution seismic-reflection profiles; echo-sounder profiles; and measurements of total magnetic intensity. The field program, carried out during five cruises from February to May 1987, covered the Atlantic EEZ seaward of the continental shelf edge, from the Canadian border southward to the northern Blake Plateau off Florida (figs. 26 and 27, p. 10 and 11).

Harris, W.B. 1989. The Natural Resources Associated with Mobil's Proposed Exploratory Well: Geologic Overview Introduction. pp. 8-15. In: Crawford, K. (ed.). Proceedings: 1989 Marine Expo: The Natural Resources Associated with Mobil's Proposed Drill Site. NC Outer Continental Shelf Office, NC Department of Administration. Raleigh, NC.

In this part of the program, Dr. Charles Paull of UNC-Chapel Hill will present a geologic overview of the proposed site and the site's potential for a gas or oil discovery. But before turning the program over to Dr. Paull I would like to spend a few minutes attempting to set the stage and answer the question, Why is Mobil Here? Why North Carolina?

*This is a transcript from a slide presentation. The socioeconomic issues associated with mineral harvest are discussed.

Kirby-Smith, W.W. 1989. Biological Production Near the Bottom. p. 25. In: Crawford, K. (ed.). Proceedings: 1989 Marine Expo: The Natural Resources Associated with Mobil's Proposed Drill Site. NC Outer Continental Shelf Office, NC Department of Administration. Raleigh, NC.

Satellite photographs show that North Carolina has an incredibly diverse oceanographic setting which, in turn, produces highly diverse communities of fishes and invertebrates. The three bottom types found off the continental shelf of North Carolina include; 1) sand, 2) shell, and 3) rock outcrops. Across the continental shelf, the primary producers that support fisheries include microalgae and macroalgae. The bottom-dwelling microalgae (small microscopic plants) grow, rapidly and are very important to the total productivity of the whole water column. As much as half of the primary productivity on the shelf may be due to this benthic component. The secondary producers on rock outcrops, which include sponges, corals, worms and small arthropods, are a major food source for small fish. From a scientific perspective, the proposed drill site is an exciting area with a high biomass and low diversity. In my opinion, the exploration well itself would have little or no impact on the resources in the area; however, a major find of oil or gas could lead to a tremendous amount of industrial development, which could compete economically with other coastal industries, such as tourism and fisheries.

Orbach, M. K. 1998a. Habitat and Living Resources Review: Social and Economic Issues. pp. 64-67. In: Vigil, D.L. (ed.). North Carolina/Minerals Management Service Technical Workshop on Manteo Unit Exploration: February 4-5, 1998. U.S. Dept. of the Interior, Minerals Management Service, Gulf of Mexico OCS Region. New Orleans, LA.

*These are the proceedings from a workshop/meeting (February 4-5, 1998) between the North Carolina Department of Environment and Natural Resources, and the U.S. Department of the Interior's Minerals Management Service (MMS). The geographic area being discussed is approximately 45 miles east-northeast of Cape Hatteras, NC, referred to as the Manteo Unit. This workshop reviewed environmental and socioeconomic information known and needed on the Manteo Unit. The MMS's Gulf of Mexico OCS Regional Director gave an MMS perspective on history and status of the area. Chevron gave a presentation on how the exploratory well would be drilled. The scientific characterization was presented in greater detail by a number of scientific experts who spoke on the following disciplines physical environment, habitat and living resources, seabirds, marine mammals, sea turtles, and social and economic issues. Specific chapters are cited individually, when appropriate.

As a result of the recommendations of the North Carolina Environmental Science review Panel mandated by the Outer Banks Protection Act (Costlow et al. 1992), the North Carolina Socioeconomic Study (NCSS) was commissioned by the Atlantic OCS region of the Minerals Management Service (MMS). This study, which was completed in 1993, had five objectives: 1) a characterization of base case socioeconomic conditions in the five most potentially affected North Carolina counties, including standard aggregate variables, the structure of related industries, and relationships among private and public sector entities in the subject areas; 20 detailed community studies on representative communities potentially affected by OCS development, including sociocultural variables necessary to establish the context of the role and effect of potential OCS activities; 3) an aesthetic and perceptual issues study of representative components of the potentially affected populations in the region; 4) infrastructure studies performed in the potentially affected communities, focusing on the potential for

changes in local and regional fiscal relationships derived from future OCS activity; and 5) the design of a longitudinal socioeconomic monitoring program that employs the key variables identified in the base case, community, infrastructure, and risk perception studies. This five-volume study was submitted to MMS in 1993 (NCSS 1993).

———. 1998b. Social and Economic Issues Work Session Results: Socioeconomic Issues Associated With Human Uses of "The Point". pp. 87-89. In: Vigil, D.L. (ed.). North Carolina/Minerals Management Service Technical Workshop on Manteo Unit Exploration: February 4-5, 1998. U.S. Dept. of the Interior, Minerals Management Service, Gulf of Mexico OCS Region. New Orleans, LA.

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The group addressed the question, “What socioeconomic information is needed for North Carolina and MMS to adequately judge a POE/EA regarding an exploratory well in the Manteo Prospect?” The following informational needs were discussed: (1) An update to the ECU study data. The information collected is now more than 10 years old. This information should include 1990 census data as well as document changes to the fishing industry and the continued increase in the tourism and retirement industry. (2) Establishment of a monitoring program. (3) Detailed assessment of uses and users of “The Point”. This might include some kind of cost/benefit analysis of The Point uses. (4) Economic modeling (demand curves, cost/benefit analysis).

Oynes, C. 1998. The MMS Perspective: History/Status of the Manteo Leases. pp. 7-13. In: Vigil, D. L. (ed.). North Carolina/Minerals Management Service Technical Workshop on Manteo Unit Exploration: February 4-5, 1998. U.S. Dept. of the Interior, Minerals Management Service, Gulf of Mexico OCS Region. New Orleans, LA.

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This section discusses U.S. Department of the Interior's Minerals Management Service (MMS) studies (socioeconomic and environmental), Manteo Leases, Exploration plans, the North Carolina Environmental Sciences Review Panel, Exploratory Drilling Scenarios, Perspectives on Exploratory Drilling, and Workshop Objectives.

Palmquist, R.B., P.W. Schuhmann, and J.A. Michael. 2000. Economic Analysis of "The Point" and Adjacent Counties: Baseline Information, Valuation, and Potential Impacts. Final Report to the North Carolina Division of Coastal Management and the U.S. Minerals Management Service under a grant from the North Carolina Department of Environment and Natural Resources, Agency Reference No. 5-9081. 46 p.

*The purpose of this study is to generate baseline economic information for the counties that might be affected by off-shore oil and gas exploration, explore the potential impacts of an oil spill off the Outer banks, provide information on the value of recreational fishing at "The Point", and estimate the potential losses to recreational fishing at "The Point" if there were an oil spill. This study also presents information on the effects of coastal oil releases elsewhere to guide the scenarios used here. First, the report describes the economies of affected coastal counties and the role of tourism and commercial fishing in these areas. Next, the report describes the impacts of several significant oil spill cases in the U.S. that will be used to develop possible spill scenarios for North Carolina. Following that, the appropriateness of economic base and input-output analysis to this case is discussed, and the techniques are used to describe the baseline economies and to analyze the potential impacts on the coastal economy of an oil spill.

Pearson, J.C. 1932. Winter Trawl Fishery off the Virgnia and North Carolina Coasts. U.S. Department of Commerce, Bureau of Fisheries. Fisheries Circular, Investigative Report 10(I): 31 p.

*A winter trawl fishery has been established recently off the Virginia and North Carolina coasts and has expanded greatly during the past two years. This has been brought about by a considerable number of northen fishing vessels from Boston, Gloucester, New York, New Bedford, Bridgeport, Providence, Camden, and Wildwood, equipped with otter trawls, which are operating mainly out of Hampton Roads (VA) ports. Most of these vessels are engaged during the spring and summer months in purse seining for mackerel off the New England, New York and New Jersey coasts, often working in early spring as far south as North Carolina. Others are regularly engaged in flounder dragging off the southern New England or New Jersey coasts during the summer season. These vessels have found little to do during the winter months in northern waters, and with the development of this new fishery are turning to south waters. During the in winter of 1930-31 an increasing number of these vessels endeavored to open up the vast supply of summer shore fishes which winter in the deeper and warmer oceanic water in the general vicinity of Cape Hatteras NC. In view of the promising future of this fishery it was thought desirable for the Bureau of Fisheries to undertake a study of the fish in all its various aspects. This paper discusses History of the fishery, Location of the Fishery, Methods of the Fishery, Method of Investigation, Composition of Catch (e.g., quantity, species, size). Characteristics of scup, porgy fishery; croaker fishery, summer flounder or fluke fishery, sea bass fishery, gray sea trout and weakfish fishery, total catch data, and the socioeconomic impact of these fisheries are also discussed.

Petterson, J.S. 1998. Appendix G: Coastal North Carolina Socioeconomic Study Program. pp. 137-143. In: Vigil, D.L. (ed.). North Carolina/Minerals Management Service Technical Workshop on Manteo

Unit Exploration: February 4-5, 1998. U.S. Dept. of the Interior, Minerals Management Service, Gulf of Mexico OCS Region. New Orleans, LA.

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Ross, J. 1989. Commercial and Recreational Marine Fisheries off North Carolina's Outer Banks. pp. 40-44. In: Crawford, K. (ed.). Proceedings: 1989 Marine Expo: The Natural Resources Associated with Mobil's Proposed Drill Site. NC Outer Continental Shelf Office, NC Department of Administration. Raleigh, NC.

*This section provides an overview of year round, recreational fishing, commercial fishing, and fisheries harvests in the study area. The potential project-related-impacts to fisheries-based socioeconomics, and the impact of project-related pollution are discussed. Sargassum is mentioned.

U.S. Department of the Interior, Minerals Management Service. 1990. Environmental Report Visual I: Physical Features and Special Use Areas. U.S. Department of Interior, Minerals Management Service, Atlantic OCS Region.

*This map (Environmental Report Visual I: Physical Features and Special Use Areas) includes the project area and specifically shows lease blocks, including Manteo Lease Block 467. Features include: Mid-Atlantic/South-Atlantic Planning Boundary, Marine Sanctuary and Buffer Zone, Leases Covered by the Memorandum of Understanding, Military Operating Areas, Ocean Dumpsites (e.g., General Dumping Grounds, Undetonated Explosives, Disused Radioactive Material), Traffic Separation Schemes, Submarine Transit Lanes, Coastal Zone County Boundaries, County Boundaries, State Boundaries.

U.S. Department of the Interior, Minerals Management Service. 1992. Proceedings of the Fourth Atlantic OCS Region Information Transfer Meeting, September 1991. U.S. Department of the Interior, Minerals Management Service. Herndon, VA. 198 p.

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seabirds, marine mammals, sea turtles, and social and economic issues. Specific chapters are cited individually, when appropriate.

Key to Socioeconomic Citations (no mapped citations).

Studies that Focus on the Manteo Lease Blocks

Costlow (1992)
Crawford (1989)
Harris (1989)
Oynes (1998)
Peterson (1998)
U.S.D.O.I.-Minerals Mgmt. Service (1992)
Vigil (1998)

Studies that Cover the Hatteras Middle Slope Area ("The Point")

Kirby-Smith (1989)
Orbach (1998a, 1998b)
Ross, S. (1989)
U.S.D.O.I.-Minerals Mgmt. Service (1990)

Broad Regional Studies

Abernathy et al. (1989)
Costlow et al. (1992)
EEZ-SCAN 87 Scientific Staff (1991)
Palmquist et al. (2000)
Pearson (1932)