



North Carolina
Coastal Federation
Working Together for a Healthy Coast

March 24, 2015

Ms. Kelly Hammerle
Five-Year Program Manager
Bureau of Ocean Energy Management (HM-3120)
381 Elden Street
Herndon, VA 20170

RE: Notice of Availability and Request for Comments on the Draft Proposed OCS Oil and Gas Leasing Program for 2017-2022 (DPP)

Dear Ms. Hammerle,

On behalf of the N.C. Coastal Federation, I am writing to comment on the Bureau of Ocean Energy Management's (BOEM) Draft Proposed Outer Continental Shelf (OCS) Leasing Program for 2017-2022.

The Draft Proposed Program (DPP) released by BOEM has scheduled 14 potential leases sales in 8 OCS planning areas, including one sale in the combined Mid-Atlantic and South Atlantic Planning Areas. N.C. waters have been closed to offshore oil and gas exploration since the passage of the Outer Banks Protection Act in 1990; the last offshore oil leases in our state were finally relinquished in 2000. This Proposed Program is the first to include the Mid-Atlantic Planning Area in nearly 30 years.

In summary, the combined risk of offshore oil and gas drilling is higher than the perceived reward for the state. Additionally, there are specific scientific issues previously outlined by the 1990 Environmental Sciences Review Panel that must be extensively studied, prior to any inclusion of N.C. waters in the leasing process. Additional concerns regarding the physical environment, socio-economics, and policy considerations are included as well.



The Outer Banks Protection Act

The Oil Pollution Act of 1990 contains a section entitled the Outer Banks Protection Act (OBPA). The OBPA (33 U.S.C. § 2753) prevented the Secretary of the Interior from taking a number of actions under the Outer Continental Shelf Lands Act (OCSLA), as related to offshore oil and gas development off the coast of North Carolina. The prohibited acts include the following:

(1) Conducting a lease sale, (2) Issuing any new lease, (3) Approving an exploration plan, (4) Approving any development and production plan, (5) Approving any application for permit to drill, (6) Permitting any drilling.

The Act further charged the North Carolina Environmental Sciences Review Panel (“Panel”) with the following tasks:

(1) Assess[ing] the adequacy of the available physical, oceanographic, ecological, and socioeconomic information for enabling the Secretary to carry out his responsibilities under the OCSLA with respect to the action listed above,

(2) Recommend[ing] studies to obtain the additional information required to enable the Secretary to carry out these responsibilities if the available information is judged inadequate.

The Panel was directed to focus its efforts on the adequacy of information that existed for the Outer Continental Shelf (OCS) lands offshore of North Carolina. A report¹ was released by the Panel on January 22, 1992. During the time of the panel’s research, there were 53 lease blocks in the ownership of private industry. The Manteo Area Block 467 was the focus of strong public interest and concern, given industry’s plans to sink an exploratory well in this area. Because of this, a substantial section of this report focused on determining the adequacy of information that existed for decision making at that specific site. The remainder of the report contained a broader, more general look at the remainder of OCS lands offshore of North Carolina.

Panel Report Results

The panel found severe inadequacies in studies relevant to both the Manteo Area Block 467 and the state’s OCS lands. Generally, there was a greater deficiency of information for the OCS lands, than for the Manteo Block. This can be assumed to be a result of the reduced level of industry interest in the larger OCS area.

The Panel recommended the following studies for Manteo Block 467:

Physical Oceanography

1) Development of improvements in Oil Spill Risk Analysis (OSRA) model specifically designed to provide better current field estimation and to

¹ 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.* North Carolina. 22 January 1992.

better account for the effects of Gulf Stream meanders and cold dome eddies.

- 2) Development of OSRA sub-models focusing on the nearshore regions of barrier islands, inlets, and estuarine regions inshore of the Outer Banks.*
- 3) Major field efforts to characterize the current fields of the northern North Carolina shelf and of the region south of Cape Hatteras between the shelf and the Gulf Stream. The former study is underway and the second is only required if oil and gas developmental activities are to take place south of the Manteo block.*

Ecology

- 1) Development of an understanding of the oceanographic and ecological processes acting on the North Carolina continental shelf and slope, largely to explain the functional basis for the distinctively intense use in the area of "the Point" by higher trophic level consumers.*
- 2) An investigation into the dynamics of the Sargassum community focusing on the degree to which it represents a major habitat for sea turtles and in the recruitment of commercially and recreationally important pelagic fishes.*
- 3) A survey of the benthic community in the area of the Manteo site to determine the geographic extent of the unusual aggregation of organisms in this region and, depending upon the extent, further studies to determine the recovery rate of these organisms if covered by drilling discharges.*
- 4) Monitoring studies to determine possible increases in hydrocarbon levels within several indicator organisms, including Sargassum, on or two associated animals, and the Wilson's storm petrels.*

Socioeconomics

These studies are recommended to be conducted for at least 1 year:

- 1) Base case characterization analyses for the Manteo area. These should include not only standard aggregate data base analyses, but also characterization of the structure of relevant industries and the relationships among the private and public sector entities potentially affected by development of oil and gas resources in this area.*
- 2) Community studies involving the communities most likely to be affected by development at the Manteo site. These studies should cover the sociocultural variables necessary for developing a contextual understanding of the role and effect of potential OCS activities in these communities.*
- 3) Pre-OCS activity perceptions of environmental conditions and values associated with potential oil and gas development at the Manteo site.*
- 4) Infrastructural impacts of development at the Manteo site including consideration of the impacts on all potentially affected areas related to revenue sources, distribution of financial burdens, and certain sociopolitical variables.*

- 5) *Design of a comprehensive, longitudinal socioeconomic monitoring program which should be implemented prior to the issuance of drilling permits.*

For the N.C. OCS area, the following studies are recommended:

Physical Oceanography

- 1) *Detailed assessments using OSRA calculations and an evaluation of their potential errors for all sites under consideration for leasing (required for leasing phase)*
- 2) *Current meter measurements at potential drilling sites and at locations away from these sites that will provide improved information with which to estimate the fate of spills both at the sites and from service vessels along their paths to the sites (required for exploration phase); and*
- 3) *Expanded shelf circulation studies of the region through which gas and/or oil will be transported from producing wells (required for development phase). This item may be unnecessary if OSRA is proven to incorporate realistic time-varying subsurface currents.*

Ecology

- 1) *The development of a better understanding of the relation between cross-shelf water movements and the reproductive success of estuarine-dependent fishes and shellfish that use the shelf for reproduction.*
- 2) *A survey of the seasonal patterns in distribution and abundance of seabirds in relation to circulation patterns*
- 3) *An expansion of the ongoing South Atlantic assessment of the occurrence of marine mammals and sea turtles to include all of the area offshore of North Carolina*

Socioeconomic

These studies involve the expansion of the studies recommended for the Manteo Block.

We respectfully request that you postpone the decision on leasing in the Mid-Atlantic planning until the aforementioned studies recommended by the Environmental Sciences Review Panel are conducted and completed.

Physical Environment

N.C. has approximately 320 miles of ocean beaches and shorelines and 614,440 acres of submerged land and oceanic waters within the three-mile Territorial Sea; the Albemarle-Pamlico estuary system is the second largest estuarine system in the continental United States, and the largest estuary of any single Atlantic coast state, boasting over 2.3 million acres of habitat.

The offshore waters of the state are extremely rich in biota and health, the product of current convergence between the northward flowing Gulf Stream, and southward Labrador Current. This unique combination of currents and geographically unique bathymetry creates a uniquely pristine and productive habitat in waters off the North Carolina coast.

The interior estuaries of our state are especially vulnerable to a potential oil spill. According to NOAA's Shoreline Environmental Sensitivity Index, the Mid- and South-Atlantic OCS regions are at the top of the list of the most environmentally sensitive ones. Direct, indirect and cumulative impacts of crude oil's effect on estuarine species have been extensively studied. Low levels of crude oil have been proven to reduce the overall biomass of estuarine phytoplankton². The reduction of phytoplankton production has been suggested to cause severe cascade effects at higher trophic levels in salt marsh estuaries. The American oyster was also shown to be significantly affected by the presence of hydrocarbons in the water column. As a result of a controlled study conducted in southeastern North Carolina in 1989, oyster spat densities (and spat size) were found to be significantly lower on shells that were treated with oil³.

In the case of a spill in offshore waters, it is often assumed that sensitive estuaries are immune to the spill's impacts, because of their distance from the spill site. As seen with the migration of estuarine-dependent species (such as Black sea bass and Gag grouper), it is biologically evident that there is direct connectivity between the inshore and offshore systems. In the example of sea bass and grouper, these species migrate from estuarine nursery areas to extensive hard bottom habitats offshore. In order for estuarine-dependent species to grow, they must successfully move from offshore waters, (specifically where the Continental Shelf begins), through a barrier island inlet, and into the nursery area⁴. It was further documented through the Oregon Inlet example that, "energetic flooding events" were frequently observed during several days' time, significant volumes of ocean water were flushed into the estuarine system (Nichols, Pietrafesa 1997). This "inlet jetting" demonstrates that under the proper frontal, wind and tidal events (which occur seasonally and regularly in North Carolina), the estuarine and pelagic environments are indeed connected and, therefore not immune to the impacts of a potential oil spill.

For most species found in N.C.'s offshore waters, the National Marine Fisheries Service (NMFS) is in charge of managing the species by way of Fishery Management Plans (FMPs), which are prepared by the Mid- and South-Atlantic Fishery Management Councils. Through these FMPs, several areas have been designated as Essential Fish Habitat (EFH).

The Magnuson-Stevens Fisheries Act (16 U.S.C. § 1801-1884) is the primary law that governs marine fisheries management in the United States, and its federal waters. According to the Act, an EFH designation typically requires measures to avoid, minimize, mitigate, or offset adverse impacts to any action within the EFH area. In North Carolina, EFH areas have held particular

² Gilde, Kailen and James L. Pinckney. "Sublethal Effects of Crude Oil on the Community Structure of Estuarine Phytoplankton." *Estuaries and Coasts*. (2012). 35: 2665-2674.

³ Smith, Craig M., and Courtney T. Hackney. "The Effects of Hydrocarbons on the Setting of the American Oyster, *Crassostrea virginica*, in Intertidal habitats in Southeastern North Carolina. *Estuaries*. (1989). Vol. 12, No. 1: p. 42-48.

⁴ Nichols, Reid C. and Leonard J. Pietrafesa. "Oregon Inlet: Hydrodynamics, Volumetric Flux and Implications for Larval Fish Transport." (1997). *Journal of Coastal Research*.

relevance to OCS energy production. These areas include: The Point, Ten Fathom Ledge, Big Rock, and the sandy shoals of Cape Lookout, Cape Fear, and Cape Hatteras, for their importance to migratory fish species.

Aside from pelagic fisheries, additional marine life in North Carolina's offshore waters has the potential to be greatly impacted by a likely spill. As a result of the 2010 BP *Deepwater Horizon* spill, oil came into contact with a substantial portion of the Gulf's floating *Sargassum* mats. As *Sargassum* accumulated oil on the surface, animals were exposed to high levels of contaminants.⁵ Additionally, the heavy applications of dispersants eventually sank the *Sargassum*, which served to remove the habitat, while transporting oil and dispersants vertically, further stressing any marine life living within the weed mats.

Conglomerates of this pelagic brown alga support a diverse assemblage of various marine life, including turtles, fish and invertebrates (Powers, et al 2013). Following the 1989 Exxon Valdez oil spill in the Prince William Sound, similarly structurally complex brown alga was severely negatively affected. The dramatic initial loss of this cover (as a result of the oil entering the environment) triggered a cascade of negative impacts throughout the ecosystem, including drastic reductions in invertebrate populations, an introduction of algal blooms and invasive species, as well as the inability of the alga population to recover.⁶

Socio-economics

N.C.'s fisheries are known to be of extraordinary quality. The coastal region supports industries critical to the state's economy, tourism and the fishing industry. The Department of Environment and Natural Resources states that the commercial and recreational fishing industries generate over 23,000 jobs, as well as contribute a combined economic impact of over one million dollars to the state. In 2013 alone, over 480,000 anglers made nearly 5 million fishing trips⁷. According to North Carolina's Department of Commerce, coastal tourism generates approximately \$243 million to the state economy annually, including 47.6 thousand jobs⁸.

Legal and Policy Considerations

Coastal resources are managed under the N.C. Coastal Management Program. The N.C. Department of Environment and Natural Resources (N.C. DENR) and Division of Coastal Management (N.C. DCM) are the two governing bodies that administer the plan under the Coastal Area Management Act.

N.C.'s coastal management program is a federally approved program, by authority of the Coastal Zone Management Act of 1972 (16 U.S.C. § 1451-1464). The federal consistency provisions of the

⁵ Powers, Sean P., Hernandez, Frank J., Condon, Robert H., et al. "Novel Pathways for Injury from Offshore Oil Spills: Direct, Sublethal and Indirect Effects of the *Deepwater Horizon* Oil Spill on Pelagic *Sargassum* Communities." Plos One. (2013). Vol. 8, Iss. 9.

⁶ Peterson, C.H., Rice, S.D., Short, J.W., Esler, D., Bodkin, J.L., et al. *Long-term ecosystem response to the Exxon Valdez oil spill*. (2003). *Science*. 302 (5653): 2082-2086.

⁷ N.C. Division of Marine Fisheries: License and Statistics Section. 2014 Annual Report: License Data, Fishery Economics. 2014. http://portal.ncdenr.org/c/document_library/get_file?uuid=530e09c4-9228-4b86-b307-cf248ec2e32b&groupId=38337

⁸ N.C. Department of Commerce, Tourism: Travel Economic Impact Model. 2013. <http://www.nccommerce.com/tourism/research/economic-impact/teim>

act that allow the state to weigh in on important issues (like OCS development). This federal and state partnership exists today as it was originally envisioned by Congress. The N.C. Coastal Management Program has several components that are relevant to the review of OCS activities for federal consistency, including but not limited to the following provisions:

- a) Goals outlined in the N.C. Coastal Management Act (N.C.G.S. 113A, Article 7);
- b) Administrative rules found in N.C.A.C. Title 15, Chapter 7;
- c) Enforceable policies of a number of State environmental protections and natural resource agencies; and
- d) Recent federally approved local land use plans for any coastal towns or counties where energy facilities may be sited.

In 1998, the rule-making body for the state's coastal management program, the N.C. Coastal Resources Commission (N.C. CRC), amended its energy policies to reflect the priority of protecting the coastal zone's natural resources. The rules (15A N.C.A.C. 07M.0403) identify the following:

(a) The placement and operations of major energy facilities in or affecting the use of public trust waters and adjacent lands or coastal resources of North Carolina shall be done in a manner that allows for protection of the environment and local and regional socio-economic goals as set forth in the local land-use plan(s) and state guidelines in 15A N.C.A.C. 07H and 07M...

(b) Proposals, plans and permit applications for major energy facilities to be located in or affecting any land or water use or coastal resource of the North Carolina coastal area shall include a disclosure of all costs and benefits associated with the project. This disclosure shall be prepared at the earliest feasible stage in planning for the project and shall be in the form of an impact assessment as defined in 15A NCAC 07M .0402 prepared by the applicant. If appropriate environmental documents are prepared and reviewed under the provisions of the National Environmental Policy Act (NEPA) or the North Carolina Environmental Policy Act (NCEPA), this review will satisfy the definition of "impact assessment" if all issues listed in this Rule are addressed and these documents are submitted in sufficient time to be used to review state permit applications for the project or subsequent consistency determinations.

"Major energy facilities" include support facilities, drill ships and platforms, and therefore, must meet the siting requirements listed in the rule (15A N.C.A.C. 07M.0403). These siting requirements restrict development of major energy facilities in areas such as wildlife refuges, historic sites, oceanfront areas with high erosion rates, areas with history of overwash or inlet formation, etc. Furthermore, energy facilities and related structures must avoid significant adverse impacts to the following areas:

(a) areas of high biological significance, including offshore reefs, rock outcrops, hard bottom areas, sea turtle nesting beaches, coastal wetlands, primary or secondary nursery areas or spawning areas and essential fish habitat areas of particular concern as designated by the appropriate fisheries management agency, oyster sanctuaries, submerged aquatic vegetation as defined by the Marine Fisheries Commission, colonial bird nesting areas, and migratory bird routes; 10 (b) tracts of maritime forest in excess

of 12 contiguous acres and areas identified as eligible for registration or dedication by the N.C. Natural Heritage Program; (c) crossings of streams, rivers, and lakes except for existing readily-accessible corridors; (d) anchorage areas and port areas; (e) artificial reefs, shipwrecks, and submerged archaeological resources; (f) dump sites; (g) primary dunes and frontal dunes; (h) established recreation or wilderness areas, such as federal, state and local parks, forests, wildlife refuges and other areas used in a like manner; (i) military air space, training or target area and transit lanes; (j) cultural or historic sites of more than local significance; and (k) segments of Wild and Scenic River System.

The report generated by the Environmental Sciences Review Panel, as mandated by the Oil Pollution Act of 1990, clearly outlines the breadth of information that must be gathered prior to leasing in North Carolina's offshore waters. Without further and intense study referencing the aforementioned details of oceanography, ecology and socioeconomics of the North Carolina coast, we respectfully request that lease sales in our region not be scheduled at this time, as part of the 2017-2022 Proposed Program.

Sincerely,

A handwritten signature in black ink, appearing to read "Ladd Bayliss". The signature is fluid and cursive, with a prominent loop at the end.

Ladd Bayliss
Coastal Advocate