



BELLE W. BARUCH INSTITUTE FOR MARINE AND COASTAL SCIENCES
SCHOOL OF EARTH, OCEAN & ENVIRONMENT
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23 February 2018

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Comments for the 2019-2024 Draft Proposed National Oil and Gas Leasing Program

The University of South Carolina's (USC) Belle W. Baruch Institute for Marine and Coastal Sciences is providing this statement in response to the Bureau of Ocean Energy Management's request for comments regarding the potential for oil and gas exploration and extraction off the Coast of South Carolina.

USC's Baruch Institute was founded in 1969 to conduct research and support education to improve the management of marine and coastal resources and advance basic science for the well-being of people and their environment. More than 1000 grant and institutionally funded projects have been conducted by senior scientists and students associated with undergraduate and graduate degree-granting programs in the natural sciences. Many studies have been in collaboration with regulatory agencies and academic programs in environmental health, law, engineering, and the social sciences. More than 1800 peer-reviewed publications and books have contributed knowledge about estuaries and the coastal ocean. Citations for publications and datasets contributed by Baruch Institute associates can be found at www.baruch.sc.edu

Although research associates of the Baruch Institute are not experts in the science of offshore ocean environments where the potential leases are being considered, we are aware of studies that have described and identified the importance of hard bottom, open water, and other habitats that support living resources. Several valuable fisheries are based on and at the edge of the continental shelf. We are also familiar with the scientific literature that addresses impacts of disturbances such as sound and spilled materials associated with oil and gas development on marine fauna. ***The Baruch Institute is concerned about potential damage to the ocean ecosystem and recommends a conservative and cautious approach to evaluating the balance between risks and benefits in granting leases and regulating activities in the ocean.***

The Baruch Institute has an advanced understanding of estuarine ecosystem structure and function through its more than 45 years of research in the North Inlet and nearby estuaries. Our work has demonstrated the complexities and dynamics of these tidally-driven systems as well as their high biological productivity. The North Inlet estuary, with its excellent water quality and outstanding habitat quality, is widely recognized as being minimally disturbed by local human activities. It is an excellent location for conducting research on natural processes and long-term

responses of estuaries to changing climate. ***Accordingly, we would be concerned about any potential for direct (e.g. an oil spill) or indirect threats (e.g. environmental damage from shore-based operations) associated with the development of an oil or gas industry in the north-central coast of South Carolina.***

The North Inlet-Winyah Bay National Estuarine Research Reserve (NERR), one of 29 sites in the NERR System supported by NOAA, conducts research and education through the Baruch Institute's facilities in the Georgetown area. Stewardship of the natural resources within the boundaries of the Reserve is one of its priorities. The Reserve has conducted a water quality monitoring program in both North Inlet and Winyah Bay estuaries for more than 20 years. In addition, a unique set of long-term studies on the changes of salt marshes, plankton, and other populations are designed to understand effects of changes in sea level, temperature and other climate-related factors. Threats from the introduction of hydrocarbons or other contaminants that could originate from onshore transport, discharges into local waters, or from fallout from the atmosphere would impact our ability to interpret those long-term records and the weaken the credibility of conclusions that would otherwise identify impacts of climate change on a minimally disturbed estuary. These and other long-term and ongoing sets of data in the Southeast are valuable resources that can help inform decisions and guide the future management of our coastal systems. Datasets from the North Inlet estuary are indicating changes in estuarine ecosystem structure and function in relation to changing climate. ***The development of an oil/gas industry would like impose additional stresses on coastal ecosystems.***

Concerns for estuarine impacts include the possible location of a gas/ oil pipeline or delivery of oil from production facilities offshore. Winyah Bay - Georgetown is recognized as the only viable destination for the delivery of offshore products in the northern section of South Carolina. The Baruch Institute assessed risks associated with an oil refinery when one was proposed for Georgetown around 1980, and the potential impacts identified at that time are magnified today as other challenges to the quality of Winyah Bay waters and dwindling commercial fishery yields are recognized. Submerged bottoms, marshes, and other intertidal areas that serve as primary habitat for shrimps, crabs, fishes, migratory birds, and many other ecologically important organisms could be degraded by either acute discharges or the accumulation of contaminants released from water or land-based infrastructure. These concerns extend to threatened and endangered species that occupy the estuary, as well as the health of local citizens. ***We believe that oil and/or gas development poses an irreversible and unacceptable risk to the ecological structure and related economic uses of the Winyah Bay and North Inlet estuaries.***

Sincerely,

James L. Pinckney
Director and Professor

Dr. Dennis Allen
Resident Director, Research Professor