



STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES & ENVIRONMENTAL CONTROL
DIVISION OF CLIMATE, COASTAL, & ENERGY

DELAWARE COASTAL
MANAGEMENT PROGRAM

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August 24, 2018

Jeffrey L. Payne, Ph.D.
Director
Office for Coastal Management
National Ocean and Atmospheric Administration
1305 East West Highway
Silver Spring, MD 20910

RE: BOEM Permit No. E18-002 TDI-Brooks International, Inc. Piston Coring and Heat Flow Measurements - Delaware Coastal Management Program Unlisted Activity Review Request and Coastal Effects Justification

Dear Dr. Payne:

On July 25, 2018 the Delaware Coastal Management Program (DCMP) received formal notification from the Bureau of Ocean Energy Management (BOEM) via email alerting the DCMP and other affected states' coastal management programs of a geological & geophysical survey permit application received and currently under review. Based upon guidance received from the National Interest Team at the National Oceanic and Atmospheric Administration (NOAA), a 30 day time period for DCMP to request approval to review the unlisted activity according to 15 CFR 930.54 began on July 25, 2018. This request is within the 30 day window.

BOEM is currently evaluating permit E018-002 submitted by TDI-Brooks to conduct piston coring and heat flow measurements within the Atlantic Ocean off the mid-Atlantic and southeastern coast of the United States, which includes the area offshore of Delaware and the Delmarva Peninsula. The DCMP hereby provides justification of reasonably foreseeable coastal effects from the proposed activities and seeks approval for the authority to review the following permit application currently under consideration by the Bureau of Ocean Energy Management: **E18-002; Applicant: TDI-Brooks; Survey Type: Piston Coring and Heat Flow.**

The Coastal Zone Management Act acknowledges that the foreseeable coastal effects of these types of activities are included within Outer Continental Shelf (OCS) Plans as an activity subject to review under Subpart E of the Federal Consistency regulations. According to the Outer Continental Shelf Lands Act (30 CFR 250.200), an OCS Plan includes exploration plans, development and production plans, and the development operations coordination document. Further, as defined by 30 CFR 250.105:

***Exploration** means the commercial search for oil, gas, or sulphur. Activities classified as exploration include but are not limited to:*

- (1) **Geophysical and geological (G&G) surveys** using magnetic, gravity, seismic reflection, seismic refraction, gas sniffers, coring, or other systems to detect or imply the presence of oil, gas, or sulphur; and*
- (2) Any drilling conducted for the purpose of searching for commercial quantities of oil, gas, and sulphur, including the drilling of any additional well needed to delineate any reservoir to enable the lessee to decide whether to proceed with development and production.*

Therefore, if these same types of surveys were being conducted within an area that had been leased, the lessee would be obligated to submit an OCS Plan to BOEM and that plan would be subject to federal consistency review by the affected states; the coastal effects of G&G surveys having already been acknowledged and the states' review authority pre-determined. The only difference in this particular endeavor is the *process*, in that the exploration is outside of the lease sale process; the resource impacts remain the same.

Continuing on in examining the intent of the CZMA as expressed through the federal consistency regulations (15 CFR 930.81), it is stated that "In the event the person does not consolidate such OCS-related permit activities with the State agency's review of the OCS plan, such activities will remain subject to individual State agency review under the requirements of subpart D of this part." The DCMP infers from this that deference shall be given to the states when determining review authority of OCS-related activities (such as G&G surveys outside of an OCS plan).

And finally, BOEM also acknowledges the reasonably foreseeable coastal effects of G&G surveys throughout the Atlantic G&G Programmatic Environmental Impact Statement (PEIS). Most telling, in its selection of the more restrictive "Alternative B", BOEM presented a suite of mitigation measures deemed necessary to offset the impacts to marine mammals and their migration corridors; reduce possible vessel strikes and marine debris; avoid conflicts with historic sites; protect sensitive benthic habitats; minimize disturbance to marine sanctuaries; and avoid user conflicts. After extensive research and compilation of the latest studies and information, BOEM has determined that these measures must be implemented as a means to reduce the impacts of G&G activities. In this sense, BOEM has already made the determination that the activities will cause reasonably foreseeable coastal effects. The following analysis makes the connection between the general resource impacts outlined by BOEM and how Delaware's coastal resources and economy may be affected.

Coastal Effects Analysis:

Recreational, Charter/Headboat, and Commercial Fishing

Delawareans rely upon and enjoy our abundant coastal resources. Recreational, charter/headboat and commercial fishing is especially important to the State. Sales associated with recreational, charter/headboat, and commercial fishing totaled more than \$130 million and supported over 1,200 jobs based on 2015 data. Expenditures associated with Delaware recreational fishing, and charter/headboat efforts totaled more than \$125 million during the same time period.¹ Areas identified as important to Delaware's recreational, charter/headboat, and commercial fishing interests include offshore areas east and south of Delaware's Atlantic coastline, encompassing designated artificial reef sites, and the Lindenkohl, Spencer, Wilmington and Baltimore Canyons that occur along the edge of the Outer Continental Shelf. These areas were identified using a National Oceanic and Atmospheric Administration (NOAA) Coastal Services Center protocol. A map is included for your reference.

The G&G PEIS states that “direct impacts to commercial fisheries include entanglement issues with bottom fisheries,” and that “indirect impacts associated with G&G studies that disturb the seafloor may include destruction and/or alteration of habitat, and disturbance of benthic communities.” In addition, the PEIS mentions that there is a possibility of seafloor impacts occurring in a productive fishing area. Furthermore, deep water canyons are located in the areas of interest (AOI) which promote unique and valuable resources including intense recreational and commercial fishing. Survey activities near the canyons could negatively impact benthic habitat and associated fishing operations. Although the seafloor disturbance to commercial fisheries has been determined to be negligible to minor, economic effects resulting from the direct and indirect impact of these activities are difficult to estimate. BOEM also recognizes the importance of requiring site specific information regarding potential sensitive benthic communities prior to G&G studies that could impact these areas.

There are currently fourteen permitted artificial reef sites in the Delaware Bay and along the Atlantic coast maintained by the Delaware Reef Program. These sites attract structure-oriented fish, benefit charter head boat operations and are immensely popular with recreational anglers². At present the most seaward reef site lies within the contiguous zone at approximately 13 nautical miles off of Delaware's Atlantic Coast. Reductions in fish species abundance or utilization of these sites would directly affect Delaware's recreational fishing opportunities.

Although the PEIS noted that Delaware had the least amount of commercial landings in comparison to Maryland, Virginia, North Carolina, South Carolina, Georgia and the east coast of Florida, it should not discount the importance of commercial fisheries to Delaware's economy. Many State of Delaware fishermen fish the economic exclusive zone (EEZ). However, due to the lack of a port to support large scale commercial landings, residents are forced to land and report catch in adjacent states, often bringing their product back to Delaware for sale. Additionally,

¹ National Marine Fisheries Service (2017). Fisheries Economics of the United States, 2015. U.S. Dept. of Commerce, NOAA Tech. Memo. NMFS-F/SPO-170, 247p.

² Delaware Department of Natural Resources and Environmental Control (2008). Aerial Flight Survey Estimating Fishing Effort on Delaware Artificial Reef Sites Over a Ten Year Period.

Delaware is home to one of Sea Watch International's (SWI) three processing plants. This Delaware founded company, has been granted the largest offshore clam allocation in the industry, utilizing 34 vessels for fishery harvests. SWI is also the nation's largest supplier of branded canned and frozen clams.³ Although this product is not landed in Delaware, many of the harvested ocean quahog and surf clam come to Delaware for processing. As such, impacts that might affect commercial fishing resources in the EEZ have the potential to have significant impacts to our state's economy.

Delaware is concerned about limited catch for recreational and commercial fisheries due to exclusion zones and the displacement of target fish species due to cumulative impacts. The PEIS does acknowledge potential impacts to local and commercial fishing communities as well as economic impacts to closely associated businesses, such as restaurants and fishing gear suppliers. Therefore, DCMP would like the opportunity to review locations associated with survey activities to identify areas that could affect our commercial, recreational, and charter/headboat fisheries.

Marine Invertebrates

The horseshoe crab is an important species in Delaware and was deemed the official marine animal by the state legislature in 2002. Horseshoe crabs in the Mid-Atlantic are known to spend the majority of their life in sublittoral habitats⁴; however, more research is needed to understand their use of the outer continental shelf. It is well documented that the Delaware Bay hosts the world's largest concentration of spawning horseshoe crabs. This annual spring event coincides with shorebird migration from the southern hemisphere to the arctic, and birds by the hundreds of thousands stop along the shores of the bay to gorge on horseshoe crab eggs laid in the intertidal zone. The red knot (*Calidris canutus*), a State-listed endangered species and a federally listed threatened species, relies on the migratory stopover and abundant egg availability of the Delaware Bay, as do dozens of other migrating and resident bird species. Several festivals are held to commemorate the event and the phenomenon attracts birdwatchers and wildlife enthusiasts who in turn generate tourism revenue. Horseshoe crabs are also an important bait species for the commercial conch fishery. According to the Atlantic States Marine Fisheries Commission the horseshoe crab is utilized as the primary bait for the channeled whelk fishery.⁵ The total reported ex-vessel revenue for the conch fishery in 2006 was over \$600,000 in the State of Delaware.⁶

Dietary studies of adult horseshoe crabs indicate that crabs may aggregate in areas with abundant prey species, such as small thin-shelled clams⁷. Therefore, the possibility exists that a large concentration of horseshoe crabs may be in the vicinity of the proposed survey. Impacts to shellfish are also a concern both from the perspective of prey availability and with regards to commercial and recreational catch. Direct impact to the seafloor could affect various shellfish. The PEIS states that potential effects to soft and hard/live bottom communities exist as a result of G&G

³ <https://seawatch.com/about/>

⁴ Botton, Mark L., Ropes, John W., (1987). *Populations of Horseshoe Crabs, Limulus Polyphemus, on the Northwestern Atlantic Continental Shelf*. Fishery Bulletin: Vol. 85 No. 4.

⁵ Atlantic States Marine Fisheries Commission (2017). Horseshoe Crab Technical Committee Report, Bait Use Surveys of the American Eel and Channeled Whelk Fisheries.

⁶ Industrial Economics, Incorporated (2008). Economic Assessment Of Mid-Atlantic Horseshoe Crab And Dependent Fisheries Including A Qualitative Discussion Of The Potential Effects Of Addendum IV.

⁷ Shuster, Carl N., Barlow, Robert B., Brockman, Jane H. (2003). *The American Horseshoe Crab*. Cambridge, MA: Harvard University Press (pg. 141)

activities including coring. Many of the benthic organisms harvested by commercial fisheries (sea scallops, clams, etc.) are located between North Carolina and Delaware with the sea scallop being noted in the PEIS as being most economically valuable. Shellfish are important ecologically in the food web (for the horseshoe crab) and economically. Table 4-29 in the PEIS acknowledges that these shellfish are important commercial species occurring within the AOI.

Air Quality

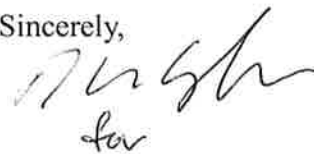
Offshore oil and gas exploration including G&G studies could result in air emissions from vessels used during the survey, particularly emissions from idling vessels. Air emissions on the OCS could have effects on Delaware's air quality. In fact, owners and operators of any OCS source for which Delaware is the corresponding onshore area must seek authorization from the DNREC Division of Air Quality. Delaware's OCS regulation will ensure that these sources of emissions are controlled by the applicable federal and state regulations.

Conclusion

Direct, secondary and cumulative adverse effects to marine invertebrates, benthic organisms, air quality, and commercial and recreational fisheries can result from the piston coring, heat flow surveys, and associated activities in the Atlantic Ocean. DCMP is concerned about the temporary displacement of individual fish species from their feeding grounds and the reduction of benthic prey organisms. Disturbance to the seafloor from G&G activities can have significant impacts to benthic habitats and communities. Because Delaware's fish, marine invertebrates, and benthic organisms utilize not only State of Delaware waters, but the waters of the Outer Continental Shelf, impacts to these species occurring outside of Delaware have the potential to directly impact the environment and economy of Delaware's coastal zone. Therefore, the DCMP formally requests to the ability to conduct a federal consistency review of the E18-002 permit application submitted by TDI-Brooks International, Inc. for piston coring and heat flow measurements.

If you have any questions or require additional information, please contact Jennifer Holmes of my staff at (302) 739-9283.

Sincerely,



Kimberly Cole, Administrator
Delaware Coastal Management Program

Enclosure

cc: *(via email)*

Secretary Shawn M. Garvin, DNREC
David Kaiser, OCM
Kerry Kehoe, OCM
Brian Cameron, Jr., BOEM

Attachment 1: Delaware Offshore Fishing Map

Delaware's Coastal Management Program (DCMP) recognized the need for data on recreational uses of the Delaware Bay, state ocean waters and federal offshore areas and utilized a protocol designed by the NOAA Coastal Services Center to collect this information. Additional information on these guidelines can be accessed here:

http://coast.noaa.gov/cms/human_dimensions/participatory_mapping.pdf?redirect=301ocm.

In January 2013, the DCMP, in collaboration with the Mid-Atlantic Regional Council on the Ocean, hosted a GIS-based participatory mapping workshop to capture spatial patterns of recreational activities occurring in Delaware River, Bay and the Atlantic Ocean extending to the EEZ boundary adjacent to Delaware. The figure below identifies areas important to recreational fishing for small vessels and charter fishing operations. Areas identified as “generally important” to offshore fishing are depicted in orange; areas identified as “especially important” and accessed more frequently are depicted in the darker orange/red; and artificial reefs are outlined in purple.

