



**Mid-Atlantic Fishery Management Council**

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Richard B. Robins, Jr., Chairman | Lee G. Anderson, Vice Chairman

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May 2, 2014

Gary D. Goeke  
Chief, Regional Assessment Section  
Office of Environment (GM23E)  
Bureau of Ocean Energy Management  
Gulf of Mexico OCS Region  
1201 Elmwood Park Boulevard  
New Orleans, Louisiana 70123-2394

Dear Mr. Goeke,

Please accept these comments from the Mid-Atlantic Fishery Management Council (Council) in response to the Final Programmatic Environmental Impact Statement (PEIS) to evaluate potential environmental effects of multiple geologic and geophysical (G&G) activities in the Mid- and South Atlantic OCS Planning Areas. After receiving briefings on the proposed seismic activities and the potential impacts at its June 2013 Council meeting, the Council passed the following motion:

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Move to submit written comments opposing the BOEM seismic testing on the US east coast due to our grave concerns of the enormous Level A and Level B marine mammal takes and the unexamined but suspected deleterious effects on other marine species that our Council manages.

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As noted in our previous comments on the Draft PEIS, the Council's primary mission is to manage fishery resources in federal waters off the coast of the Mid-Atlantic region through the implementation of management measures that prevent overfishing while achieving optimum yield (OY) from each of 13 managed fisheries. Marine fisheries provide food, employment, and recreational opportunities for millions of people in the Mid-Atlantic region. For example, in 2011 the commercial seafood industry in the Mid-Atlantic region supported 37,000 jobs and generated nearly 1.3 billion in total economic impacts<sup>1</sup>. Commercial fishermen landed 780 million pounds of finfish and shellfish, earning \$527 million in landings revenue. In addition, more than 2.4 million recreational anglers took 16 million fishing trips and spent nearly \$3.7 billion on trip and equipment expenditures across the Mid-Atlantic region in 2011. As demonstrated by these numbers, marine fisheries are profoundly important to social and economic well-being of Mid-Atlantic communities. In light of the insufficient data and analysis about potential impacts of G&G activities on these valuable marine resources, the Council cannot support the Final PEIS.

Although the Council's focus is on sustainable fisheries management, this objective is only feasible in the context of a healthy and resilient ecosystem. It is clear that G&G activities can have substantial impacts on marine ecosystems, yet the Final PEIS provides insufficient information about how the specific proposed G&G activities may affect fish, marine mammals, benthic communities, and ecosystem structure and function. In light of the insufficient data and analysis about potential impacts of G&G activities on these valuable marine resources, the Council is concerned the Final PEIS does not provide a complete evaluation of the impacts of G&G activities, especially impacts related to seismic surveys. We

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<sup>1</sup> 1 National Marine Fisheries Service. 2012. Fisheries Economics of the United States, 2011. U.S. Dept. Commerce, NOAA Tech. Memo. NMFS-F/SPO-118, 175p. Available at: <https://www.st.nmfs.noaa.gov/st5/publication/index>

understand that these impacts are difficult to predict or quantify, but given the existing value of marine resources to the region and the nation, from the Council's perspective the potential benefits do not appear to outweigh the risks of initiating the proposed G&G activities.

Over the past decades the Council has implemented management strategies to maintain sustainable levels of fishing and, in some cases, to rebuild overfished stocks. These efforts have often necessitated sacrifices from both the commercial and recreational fishing sectors in the form of economic losses and foregone fishing opportunities. After many years of working to rebuild Mid-Atlantic fisheries to sustainable levels, the potential negative impacts of G&G activities on these rebuilt resources are extremely troubling.

In June 2013, the Council was briefed by Drs. Chris Clark and Aaron Rice from Cornell University on the physical propagation of sound from seismic airgun surveys and the potential for negative impacts of acoustic surveys on fish and fish populations. Their presentation suggested that highly mobile fish are able to easily relocate within 50 meters to avoid lethal effects of an airgun array. They may also avoid sub-lethal damage by maintaining even greater distances from areas subject to noise disturbance from the survey. However, the extensive (months long) survey timeframe makes it likely that prolonged avoidance of the arrays will be necessary and could lead to interruptions in fish spawning and access to forage. Of particular concern is the enormity of the Area of Interest (AOI) under consideration in the Final PEIS which includes the entire continental shelf along the Mid- and South Atlantic Coast. Much of the shelf is at a depth (< 50 m) that would place the entire water column within the "lethal range" of the array.

In general, the conclusion of the Final PEIS is that the impacts on fish resources and fisheries are expected to range from negligible to minor based on the notion that fish will simply move away from an area undergoing seismic surveying. While this may be the case for pelagic species, species such as black sea bass which have an affinity for structure would be expected to be displaced to non-preferred habitats. Depending on the timing of the surveys, this could have negative consequences for the reproductive potential of the stock if black sea bass are dispersed during the spring spawning season when they form structured social groups called "leks/harems". In the case of pelagic species which have the ability to move, they might also be dispersed during times when they form spawning aggregations or their foraging activities may be altered. At the very least, dispersal of fish aggregations by seismic surveys is likely to disrupt fishing activities (due to fish dispersal) which could have negative economic consequences for commercial and recreational fisheries which occur throughout the AOI.

In addition to the dispersal of mobile species in the marine environment, the Council is concerned about the potential impact of seismic surveying on sessile benthic and epibenthic communities which have limited or no ability to move. For example, valuable fisheries for Atlantic sea scallops exist in relatively shallow waters of the AOI. The public and Council members provided anecdotal reports of sea scallop mortalities in the vicinity of seismic surveys conducted in the past within the AOI. While there is limited scientific evidence of direct mortality to marine organisms as a result of seismic survey activities, some recently published research on the potential impact of seismic surveying on squid is troubling. Researchers recently observed strandings of the giant squid off the coast of Spain in waters adjacent to seismic surveying activities<sup>2</sup>. Subsequent laboratory experiments revealed the development of lesions in the statocysts of squid exposed to sound in the range and the levels associated with seismic surveys which could have substantial effects on the behavior and survival of these organisms<sup>3</sup>.

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<sup>2</sup> 2 MacKenzie, D. 2004. Seismic surveys may kill giant squid. New Scientist.com news service, 22 Sept., [www.newscientist.com/article.ns?id=dn6437](http://www.newscientist.com/article.ns?id=dn6437).

<sup>3</sup> 3 Solé M, Lenoir M, Durfort M, López-Bejar M, Lombarte A, et al. 2013. Ultrastructural Damage of *Loligo vulgaris* and *Illex coindetii* statocysts after Low Frequency Sound Exposure. PLoS ONE 8(10): e78825. doi: 10.1371/journal.pone.0078825



The Council also remains concerned about the potential and unknown adverse impacts of G&G activities on marine mammals. The Council has participated in the development of Take Reduction Plans under the Marine Mammal Protection Act for Atlantic Large Whales, Harbor Porpoise and Bottlenose Dolphin. These efforts have resulted in area and gear restrictions for several fisheries within the Council's jurisdiction. In the case of north Atlantic right whales, which are among the most endangered whales in the world, protection measures have been extended to include seasonal vessel speed restrictions along the U.S. East Coast where endangered right whales travel to protect them from being injured or killed by ships. Initiating the activities described in the PEIS, many of which could harm or endanger marine mammals by disrupting their ability to hear, echolocate, forage, etc., would counteract many of the conservation measures that have taken years to enact.

While the Final PEIS includes alternatives which place time/area restrictions on seismic survey activities that are designed to minimize impacts on marine mammals and nesting sea turtles, no seasonal measures are proposed to minimize the impacts on fish populations and fisheries within the AOI. The Council notes that when and where specific seismic surveying activities occur could greatly influence the extent and severity of impacts on marine fishery resources. Careful, seasonal planning of seismic surveys should be undertaken, and could greatly reduce any potential impacts to the resources and fisheries under our jurisdiction.

As noted in our earlier comments on the Draft PEIS, the general lack of information included in the PEIS relative to impacts of G&G activities on fish, marine mammals, and the surrounding ecosystem is of serious concern. The Council recognizes the importance of energy exploration to U.S. economic security, but the activities described in the Final PEIS have the potential to contravene the Council's efforts to conserve and manage living marine resources and habitat. Thank you for the opportunity to submit comments on the Final PEIS. The Council looks forward to working with BOEM to ensure that any future G&G activities in the Mid-Atlantic region are conducted in a manner that minimizes negative impacts on the marine environment.

Sincerely,

A handwritten signature in blue ink that reads "C Moore". The signature is written in a cursive, flowing style.

Christopher M. Moore, PhD  
Executive Director, Mid-Atlantic Fishery Management Council

cc: Mid-Atlantic Fishery Management Council  
John Bullard  
Bill Karp

