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CORRESPONDENCE

CHATHAM LIGHT SEAFOOD

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NEW ENGLAND FISHERY
MANAGEMENT COUNCIL

January 23, 2018

Dr. John F. Quinn
Chairmen NEFMC

In January of 2017 I contacted Doug Potts fishery policy analyst NMFS about harvesting mussels in Nantucket Shoals. I was informed that 50CFR 648.80(a)(12) mussels and sea urchin dredge exemption existing and that I was able to harvest mussels and urchins without any federal permit or federal reporting requirements. In the spring and summer of 2017 I made several trips to Nantucket shoals to look for mussels. I found several areas, where harvestable mussel beds exist. I have made sizable investment in a boat in anticipation of going back this year to start commercial harvest operations.

I recently learned of the Great South Channel Habitat Management Area and want to make sure the continued harvest of mussels will be allowed under the current mussel and sea urchin exemption. The current exemption restricts the maximum drag to 8 ft in width. We use a 7 ft drag and tow for only 30-90 seconds! At 1.5 knots. The drag literarily scoops up 12-15 bushels of mussels then is hauled back to the boat. Once the mussels are on board they are sent through a mussel washer that washes the mussels and immediately returns any sediments and juvenile mussels back overboard. I would not anticipate more then one or two boats participating in this fishery.

As a point of reference, a typical scallop dredge is 12-15 feet in width and a scallop tow is 45-90 minutes long at 5 knots impacting a significantly larger area.

Domenic Santoro
Chatham Light Seafood
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South Chatham Ma 02659
508 738 0189

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
GREATER ATLANTIC REGIONAL FISHERIES OFFICE
55 Great Republic Drive
Gloucester, MA 01930-2276

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MAR 1 2018

Ms. Algene Byrum
NEPA Coordinator, Office of Renewable Energy
Bureau of Ocean Energy Management
45600 Woodland Road, VAM-OREP
Sterling, Virginia 20166

RE: Comments on BOEM Draft Guidance regarding the use of Project Design Envelope in a Construction and Operation Plan

Dear Ms. Byrum:

We have reviewed your draft guidance, dated January 12, 2018, regarding the use of the Project Design Envelope (PDE) concept in future Construction and Operation Plans (COP). Through these guidelines, you are communicating your support of, and preliminary recommendations for, the voluntary use of the PDE approach in the submission and review of COPs for offshore wind facilities. The PDE approach is standard practice for offshore wind projects constructed in Europe and is intended to provide flexibility to accommodate final design decisions in later stages of the process. Given the focus on flexibility, you do not intend to develop more detailed guidelines at this time. After review of the draft guidelines, we offer the following comments for your consideration.

While we understand the need for flexibility given the rapid advancement in offshore wind technology, the draft guidelines should fully support the requirements under the National Environmental Policy Act (NEPA). For example, NEPA requires a robust scoping process for identifying important issues related to a proposed action (40 CFR part 1501.7). Under the PDE approach, a "reasonable range of project designs" would be provided at the onset of a project, allowing the NEPA evaluation to begin earlier in the development of a project. Although we support starting the NEPA process as soon as practicable, BOEM should continue to conduct an open scoping process, seeking input not only on those ideas put forth in the PDE, but also other significant issues or designs related to the project. Through the NEPA process, we would expect the PDE to be further modified or refined.

We have significant concerns that the PDE might unintentionally complicate and prolong your consultation requirements under such statutes as the Endangered Species Act and the Magnuson Stevens Fishery Conservation and Management Act. As you know from our recent discussions, NMFS needs to understand with reasonable specificity the developer's intended action and the bounds of BOEM's intended authorization. It is not clear to us how allowing a developer to merely identify a wide range of possible outcomes will allow you the specificity to appropriately consult with us. We can envision scenarios where the number of alternatives is so great and so wide that we would have difficulty completing a consultation in the statutory time frames, thus

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delaying development of the permit. We are also concerned that the burden associated with reviewing and refining a range of design alternatives may shift from the developer on to the federal and state resource agencies, further complicating the consultation process.

Similarly, the guidelines suggestion of "worst case scenario" review might also result in unintended consequences. Based on the guidelines, it appears that under the PDE, alternatives may be mixed and matched to identify "worse-case scenario". This would greatly complicate the consultation process as resource agencies struggle to identify and assess the matrix of alternative interactions. If resources agencies are unable to identify and understand the impacts, the agencies might be forced to make consultation recommendations based upon precautionary principles, thus greatly complicating the permittee's responsibilities.

Furthermore, it is not clear how you would ensure a project is designed to avoid or minimize impacts to marine resources, which is a significant component of our consultation process. Specifically, if you allow for the developer to suggest a number of options for construction and evaluate a "maximum design scenario", it is not clear how you will demonstrate adverse effects to NOAA trust resources are minimized to the greatest extent possible in your permit. Your guidelines should specifically state the need to provide enough information to demonstrate impacts to marine resources are avoided and minimized to the greatest extent possible. The guidelines should also provide more clarification related to how you plan to evaluate potential mitigation requirements under the PDE, particularly if the extent of impacts are defined under a "worst case scenario." Again, under the PDE, we may be required to take a precautionary approach and recommend greater mitigation requirements under a "worse-case scenario" project.

While technology is rapidly changing for offshore wind turbines, you are also proposing to include standard technology under the PDE, including cable installation and land-based support. Cable installation is not a new technology. Yet, your PDE guidelines suggest "*The lessee could also identify multiple details regarding its proposed export cable, including all potential installation methods, alternate routes, and landfall locations*". This appears to be inconsistent with your suggestion that a "*reasonable range of design parameters*" be submitted. While there are ways to provide flexibility, such as permitting cable corridors, allowing a developer to lay the cable via any available method, particularly when known less damaging alternatives exist, does not appear to be reasonable. We also have this concern related to construction for land-based support. The guidelines suggest flexibility to describe candidate ports and potential modifications for each port, and states that you may approve the use of any and all ports evaluated. While we would expect the impact analysis for these projects to incorporate land-based support, it is not clear how incorporating multiple scenarios is within a "reasonable range" or would lead to application of the least damaging practicable alternative. We would expected this approach to further complicate the consultation process. BOEM should consider further refining the design envelope to exclude aspects of the projects where standard construction procedures exist. As this is a new concept, we recommend that the PDE be initially limited to turbine foundations and structures, where flexibility is needed to account for technological advancements.

The PDE guidelines also indicate that a developer can describe later development phases of the project. We recommend you provide more information in your guidelines related to phasing of development. Specifically, it is not clear if additional NEPA analysis would be required, how cumulative impacts would be evaluated, or which phase(s) will be considered in your consultation or cumulative analysis. It is also not clear how these phased projects will be approved under the COP, particularly given the limited information that may be included in additional phases. You should also describe how any new information or initial monitoring results will be incorporated into the permitting of additional phases. The guidelines are very vague with regards to phased development and we recommend that you provide further guidance and information on how you plan to conduct consultations with the resource agencies on additional phases of development.

Finally, BOEM might benefit from greater control of the PDE process. The draft guidelines seem to suggest that the applicant determines whether they want to use the PDE. We recommend that the ultimate PDE decision reside with BOEM in consultation with the resource agencies. Although we envision BOEM allowing developers to use the PDE in a range of situations, there may be projects where the PDE is inappropriate. BOEM should retain the flexibility to make that decision. In addition, the draft guidelines suggest that developers can drift from the permitted work and simply come back to BOEM for later review and approval. The document is unclear, however, in how this occurrence would impact the consultation recommendations of the resource agencies. Ultimately, if the resource agencies consulted on a PDE and the resultant work exceeds the range of the PDE, then the permit's consultation recommendations, and authorizations, might no longer apply.

Given the number of questions that remain related to how the PDE will be carried out in practice, and how agency coordination will occur, we recommend that BOEM create a participatory case study example. This will allow all agencies, including BOEM, to better understand the design envelope concept, gain an understanding of how agency input will be involved, and identify clear expectations on use of agency guidance and endpoints for required consultations.

In summary, while we understand the need for flexibility with these large scale projects, we do have concerns that under the PDE, the COPs will be too vague to allow for a complete consultation. We have had recent discussions with you regarding the design envelop approach. In those discussions, it was stressed that you will only accept a *reasonable range* of design parameters. Though this is also mentioned in the draft document, this message appears to be lost in the broad nature of these guidelines. Some of the guidelines, particularly associated with known technology, such as cable installation and staging locations, appear to conflict with the requirement of a reasonable range of parameters. It is also not clear how you would ensure impacts to NOAA trust resources are minimized to the greatest extent possible under a "worse-case scenario" project. The guidance document should also provide more details related to the phasing of projects and how this will be evaluated in the COP. We also recommend the use of the PDE be determined by BOEM, in consultation with the agencies, rather than the developer.

Thank you for the opportunity to comment on these draft guidelines. We look forward to continuing to work with you on these important issues. Please contact Sue Tuxbury at susan.tuxbury@noaa.gov or 978-281-9176 with any questions.

Sincerely,

Louis A. Chiarella
Assistant Regional Administrator
for Habitat Conservation

cc: Julie Crocker, PRD
Chip Lynch, GC
Tim Timmerman, USEPA
Thomas Nies, NEFMC
Christopher Moore, MAFMC
Lisa Havel, ACFHP
Kara Mackley, OHC

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
GREATER ATLANTIC REGIONAL FISHERIES OFFICE
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Christopher A. Lawrence
Electricity Policy Analyst
National Electricity Delivery Division
Office of Electricity Delivery and Energy Reliability (OE-20)
U.S. Department of Energy
1000 Independence Avenue SW.
Washington, DC 20585

Re: OE Docket No. PP-441; Application for Presidential Permit; Clean Power Northeast Development Inc.

Dear Mr. Lawrence:

We have reviewed the Notice of Application published in the Federal Register on December 4, 2017, regarding a Presidential Permit for Clean Power Northeast Development Inc (CPNE). The Notice states that CPNE has applied for a Presidential permit for the Atlantic Link Project to construct, operate, maintain, and connect an electric transmission line across the United States border with Canada. The proposed Atlantic Link Project proposes to connect a subsea 1000 megawatt, high voltage current transmission cable system to deliver electricity from Atlantic Canada to Massachusetts. The final transmission cable system route is anticipated to be located within rights-of-way selected from two route alternatives. The two current route alternatives would connect Coleson Cove, New Brunswick, Canada to Plymouth, Massachusetts. The total length of the transmission cable system would be approximately 375 miles, depending on which route alternative is selected. Both route alternatives will transverse US federal waters and Massachusetts state waters.

We do not have enough information to provide comments regarding the effects of the proposed project on living marine resources or recommendations intended to minimize and avoid adverse effects at this time. The lead federal agency for this project, is required to consult with us under the Magnuson Stevens Fishery Conservation and Management Act (MSA), the Fish and Wildlife Coordination Act (FWCA), and Section 7 of the Endangered Species Act (ESA). This letter outlines our trust resources in the project area, the consultation responsibilities under the MSA, FWCA, and ESA, as well as additional information needs required for us to consult on this project.

Essential Fish Habitat
The Magnuson-Stevens Fishery Conservation and Management Act (MSA) requires federal agencies to consult with us regarding any action or proposed action authorized, funded, or undertaken by the agency that may adversely affect EFH identified under the MSA. The MSA defines EFH as "those waters and substrates necessary to fish spawning, breeding, feeding or growth to maturity." Our EFH regulations at 50 CFR Section 600.10 further defines EFH

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adding, among other things, that "'necessary' means the habitat required to support a sustainable fishery and the managed species' contribution to a healthy ecosystem."

Adverse effects to EFH are defined in our regulations as "any impact that reduces the quality or quantity of EFH." 50 CFR Section 600.810(a) states:

> An adverse effect may include direct or indirect physical, chemical or biological alterations of the water or substrate and any loss of, or injury to, benthic organisms, prey species and their habitat and other ecosystems components, if such modifications reduce the quality and/or quantity of EFH. Adverse effects to EFH may result from action occurring within EFH or outside EFH and may include site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

The EFH regulations at 50 CFR Section 600.920 outline that consultation procedure and enables federal agencies to use existing consultation/environmental review procedures to satisfy the MSA consultation requirements in certain circumstances. Insofar as this project involves EFH, this process is guided by the requirements of our EFH regulation at 50 CFR 600.905, which mandates the preparation of EFH assessments and generally outlines each agency's obligations in this consultation procedure.

In order to satisfy consultation requirements of the EFH regulations pursuant to 50 CFR Section 600.920(e), an EFH assessment must be prepared to analyze the effects of the proposed action on EFH. The required contents of an EFH assessment include: 1) a description of the action; 2) an analysis of the potential adverse effects of the action on EFH and the managed species; 3) conclusions regarding the effects of the action on EFH; and 4) proposed mitigation, if applicable. Since, due to the scope, this project may result in substantial adverse impacts to EFH, an expanded EFH consultation would be necessary under the procedures outlined in 50 CFR Section 600.920(i).

In preparing an expanded EFH consultation, we encourage the lead federal agency to include additional information in the EFH assessment, including: 1) the results of on-site inspections to evaluate the habitat and site-specific effects; 2) the views of recognized experts on the habitat or the species that may be affected; 3) a review of pertinent literature and related information; and 4) an analysis of alternatives to the action that could avoid or minimize the adverse effects on EFH. We recommend coordination with us prior to completing on-site inspections to ensure the surveys will provide the appropriate level of information necessary for our consultation. We will need specific information to be addressed in the expanded EFH assessment, including: identification and evaluation of sensitive habitat types within the project area (e.g. hard-bottom habitats, biogenic, and deep-water mud habitats); an evaluation of habitat impacts that may result from proposed installation methods (e.g. remnant trench/mounding impacts, loss of sediment to adjacent areas, etc); pre-, concurrent, and post- construction monitoring; and proposed decommissioning procedures, if applicable. We encourage the lead federal agency to coordinate with us during the development of the expanded EFH assessment to ensure the information we will need is addressed in the assessment.

Fish and Wildlife Coordination Act
The Fish and Wildlife Coordination Act (FWCA) provides authority for our involvement in evaluating impacts to fish and wildlife from proposed federal actions that may affect waters of the United States. The FWCA specifically requires that wildlife conservation be given equal consideration to other features of water resource development programs through planning, development, maintenance and coordination of wildlife conservation and rehabilitation. Wildlife and wildlife resources are defined by the Act to include: birds, fish, mammals and all other classes of wild animals and all types of aquatic and land vegetation upon which such wildlife dependent. These consultation and coordination activities are intended to prevent loss or damage to fish and wildlife resources and to provide appropriate measures to mitigate adverse impacts associated with proposed human activities.

While many of the impacts that would accrue to federally managed fishery resources under the MSA also would accrue to FWCA species, it is important to note that the interests of some species would not be represented adequately by relying on the EFH assessment alone. For instance, shellfish do not have an appropriate surrogate among the federally managed fishery resources that have EFH designated in the project vicinity and their needs and those of other non-represented species should be discussed at length in this section. Similarly, the behaviors and habitat needs of diadromous and estuary-dependent fishes may not be represented by a discussion surrounding marine fishes. The discussion for FWCA species should be designed around an ecological guild model that uses locally important species to evaluate the project impacts to organisms or populations associated with the various trophic levels and life history strategies exhibited by FWCA species known to occupy the project area as residents or transients. Focus should be on issues surrounding particular species, life history stages, or habitat components that would be most susceptible to the various potential impacts.

Endangered Species Act
Several species listed as threatened or endangered under the Endangered Species Act (ESA) of 1973, as amended are at least seasonally present in the area proposed for pipeline installation. These include:

Cetaceans
North Atlantic Right whale (*Eubalaena glacialis*): Endangered
Fin whale (*Balaenoptera physalus*): Endangered

Sea Turtles
Northwest Atlantic Distinct Population Segment (DPS) of Loggerhead sea turtle (*Caretta caretta*): Threatened
Leatherback sea turtle (*Dermochelys coriacea*): Endangered
Kemp's ridley sea turtle (*Lepidochelys kempi*): Endangered
North Atlantic DPS of Green sea turtle (*Chelonia mydas*): Endangered

Fish
Atlantic Sturgeon (*Acipenser oxyrinchus oxyrinchus*): Gulf of Maine Distinct Population Segment: Threatened
New York Bight and Chesapeake Bay DPS of Atlantic sturgeon: Endangered

Shortnose sturgeon (*Acipenser brevirostrum*): Endangered
Gulf of Maine DPS of Atlantic salmon (*Salmo salar*): Endangered

Additionally, it appears that the action area overlaps with critical habitat designated for the North Atlantic right whale. More information on these species and critical habitat is available on our webpage: https://www.greateratlantic.fisheries.noaa.gov/protected/section7/listing/index.html.

Under Section 7(a)(2) of the ESA, each Federal agency is required to insure that any action they authorize, fund or carry out is not likely to jeopardize the continued existence of any endangered or threatened species. Consultation would be necessary for any permits, authorizations, leases, easements or right of ways issued by DOE or any other federal agency. It is our understanding that DOE will be the lead Federal agency for any section 7 consultation regarding the Atlantic Pipeline project and that you would coordinate with any other Federal action agencies so that one consultation would be completed for the project. We expect that any environmental documentation regarding the proposed project will fully examine all potential impacts to NMFS listed species and designated critical habitat including: impacts of construction and operation, any pre-construction geophysical and/or geotechnical surveys, effects on prey, vessel traffic, benthic impacts, and impacts to water quality. More information on the section 7 process is available on our webpage:
https://www.greateratlantic.fisheries.noaa.gov/protected/section7/index.html.

Marine Mammal Protection Act
All marine mammals receive protection under the Marine Mammal Protection Act (MMPA) of 1972, as amended. The MMPA prohibits, with certain exceptions, the take of marine mammals in U.S. waters and by U.S. citizens on the high seas, and the importation of marine mammals and marine mammal products into the U.S. NMFS may issue permits under MMPA Section 104 (16 U.S.C. 1374) to persons that authorize the taking or importing of specific species of marine mammals.

As noted above regarding listed species, any environmental documentation should fully examine all potential impacts to species protected under the MMPA including: effects on prey, effects to behavior, vessel traffic, benthic impacts, and impacts to water quality. If incidental take of marine mammals is anticipated, a take authorization would be required. We recommend that any project developer discuss permitting needs with NMFS' Office of Protected Resources Permits, Conservation, & Education Division (301-713-2289). Information on the MMPA permitting process is online at: http://www.nmfs.noaa.gov/pr/permits/mmpa_permits.html.

We encourage DOE and the developer to continue to work with us as project plans become more developed to identify and evaluate the potential for impacts to the species under our jurisdiction. These informal discussions can greatly facilitate consultation. Should you have any questions regarding listed species or ESA consultation, please contact Julie Crocker in our Protected Resources Division ((978)282-8480 or Julie.Crocker@Noaa.gov).

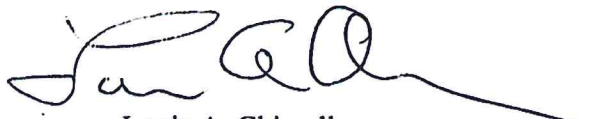
National Environmental Policy Act, Commercial and Recreational Fisheries
The proposed project will transverse federal waters supporting multiple commercial and recreational fisheries. In addition to statutory requirements discussed above, impacts to these

fisheries should be addressed through the National Environmental Policy Act (NEPA) process. The NEPA documents should include a robust discussion of fishing activities occurring within the vicinity of the proposed route. Potential impacts to these fisheries should be fully evaluated and assessed. Such impacts include displacement impacts during construction activities, the potential for gear interactions with exposed (e.g. due to scouring, obstacles preventing adequate burial, etc) cable sections, any proposed armoring, and maintenance and decommissioning activities. It is important to note that all fishery resources within the project area, whether managed under federal or state programs, are viewed by us as NOAA-trust resources. Accordingly, we will seek to avoid and minimize adverse effects to these resources to the maximum extent practicable. A good source of data on fisheries, ecosystem, and ocean resources can be found on the Northeast Regional data portal at www.northeastoceandataportal.org.

Conclusion

Based on our review of the Federal Register Notice of Application, this project will require coordination and consultation with our agency during the federal permit review process. We hope the information we have provided in this letter will help inform and guide the lead federal agency to ensure we receive the necessary information to be able to complete our consultations in a timely and effective manner. Thank you for the opportunity to comment on this important project. If you have any questions regarding the EFH and FWCA consultation, please contact Alison Verkade at 978-281-9266.

Sincerely,



Louis A. Chiarella
Assistant Regional Administrator
For Habitat Conservation

cc: Joshua Gange, BOEM
Julie Crocker, PRD
Ed Reiner, EPA
Sarah Wilkinson, USACOE
Tom Nies, NEFMC
Chris Moore, MAFMC
Lisa Havel, ASMFC

SOUTH ATLANTIC FISHERY MANAGEMENT COUNCIL

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Charlie Phillips, Chair | Captain Mark Brown, Vice Chair
Gregg T. Waugh, Executive Director

March 9, 2018
LN#201816

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NEW ENGLAND FISHERY MANAGEMENT COUNCIL

Ms. Kelly Hammerle
Chief, National Oil and Gas Leasing Program
Development and Coordination Branch
Leasing Division, Office of Strategic Resources
Bureau of Ocean Energy Management
45600 Woodland Road, Mailstop VAM-LD
Sterling, VA 20166

Dear Ms. Hammerle:

The South Atlantic Fishery Management Council (Council) is providing the following comments and attached supporting documentation on the **2019–2024 National OCS Oil and Gas Leasing Draft Proposed Program and Programmatic EIS** to clarify our position on energy exploration, development, and transportation including specifically the potential environmental effects of conducting seismic surveys in the South Atlantic Region. The Council, pursuant to authority granted by the Magnuson-Steven Act, is charged with conservation of fish stocks and fish habitat and management of recreational and commercial fisheries dependent on those resources in the U.S. Exclusive Economic Zone (3-200 miles) off North Carolina, South Carolina, Georgia, and the East Coast of Florida through the Florida Keys.

The Council has a standing Essential Fish Habitat (EFH) Policy Statement on Energy, Exploration, Development, and Transportation (see Policy Statement included in the Council's 2017 letter to Secretary Zinke). The present policy statement is clear that seismic testing has a high likelihood of directly impacting benthic ecosystems, essential fish habitat, managed species, and the fisheries which depend on them. The Council, considering the multi-million dollar recreational and commercial fisheries in our region that would be affected by seismic testing, continues to recommend that seismic surveys not be conducted in areas that will impact EFH and especially areas designated as EFH-Habitat Areas of Particular Concern. These areas include but are not limited to deep-water snapper grouper Marine Protected Areas (MPAs), Special Management Zones and recently approved Spawning Special Management Zones, tilefish EFH-HAPC, other snapper grouper EFH-HAPCS including but not limited to the Georgetown Hole EFH-HAPC, Hoyt Hills EFH-HAPC, Deep-water Coral Habitat Areas of Particular Concern (CHAPCs), and the Oculina Bank Habitat Area of Particular Concern which encompasses the Oculina Experimental Closed Area (see chart included in the Council's 2017 letter to Secretary Zinke).

The South Atlantic Council further highlighted concerns over the broader issue of sound in the ocean and provided the attached comments on the NOAA Ocean Noise Strategy Roadmap to

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support the agency's use of its capabilities and authorities to more effectively understand and address the effects of noise on Council-managed species and soundscapes or acoustic habitat associated with essential fish habitat of managed species.

Therefore, the Council supports the Bureau of Ocean Energy Management's (BOEM) past denial of geophysical and geological permit applications to conduct airgun seismic surveys in the Mid- and South Atlantic Planning Areas of the Atlantic Ocean and re-iterates its previous request to remove the Atlantic Program Area from the Outer Continental Shelf Oil and Gas Leasing Program now in the 2019–2024 National OCS Oil and Gas Leasing Draft Proposed Program. We draw attention to former BOEM Director Abigail Ross Hopper's position that "... we believe that the value of obtaining the geophysical and geological information from new airgun seismic surveys in the Atlantic does not outweigh the potential risks of those surveys' acoustic pulse impacts on marine life,..." The Council, in an attempt to avoid the negative effects of offshore oil and gas development, has worked closely with BOEM, NOAA Fisheries, and state partners, to highlight regional research needs and avoid impacts on EFH and managed fisheries through cooperative development of alternative energy capacity, specifically offshore wind energy, in the region.

In conclusion, the Council is concerned about the impact these activities would have on our managed resources and fisheries and the coastal communities generating billions of dollars of revenue in our region.

Still digging,

Charlie Phillips
Chair

cc: South Atlantic Council Members and Staff
Executive Directors
Habitat Protection and Ecosystem-Based Management Advisory Panel
Jack McGovern and Rick DeVictor
Monica Smit-Brunello
Cisco Werner, Theo Brainerd, Peter Thompson, Larry Massey, and Erik Williams
LeAnn Hogan

SOUTH ATLANTIC FISHERY MANAGEMENT COUNCIL

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Dr. Michelle Duval, Chair | Charlie Phillips, Vice Chair
Gregg T. Waugh, Executive Director

April 25, 2017

The Honorable Ryan Zinke
Secretary
Department of the Interior
1849 C Street, N.W.
Washington, DC 20240

RE: SAFMC Position on Energy Development and Seismic Testing

Dear Secretary Zinke:

The South Atlantic Fishery Management Council (Council) is providing the following comments to clarify our position on energy exploration, development, and transportation including specifically the potential environmental effects of conducting seismic surveys in the South Atlantic Region. The Council, pursuant to authority granted by the Magnuson-Steven Act, is charged with conservation of fish stocks and fish habitat and management of recreational and commercial fisheries dependent on those resources in the U.S. Exclusive Economic Zone (3-200 miles) off North Carolina, South Carolina, Georgia, and the East Coast of Florida through the Florida Keys.

The Council has a standing Essential Fish Habitat (EFH) Policy Statement on Energy, Exploration, Development, and Transportation (**see Policy Statement included in the Council's 2016 letter**). The present policy statement is clear that seismic testing will directly impact benthic ecosystems, essential fish habitat, managed species, and the fisheries which depend on them. The Council, considering the multi-million dollar recreational and commercial fisheries in our region that would be affected by seismic testing, continues to recommend that seismic surveys not be conducted in areas that will impact EFH and especially areas designated as EFH-Habitat Areas of Particular Concern. These areas include but are not limited to deep-water snapper grouper Marine Protected Areas (MPAs), Special Management Zones and recently approved Spawning Special Management Zones, tilefish EFH- HAPC, other snapper grouper EFH-HAPCS including but not limited to the Georgetown Hole EFH-HAPC, Hoyt Hills EFH-HAPC, Deep-water Coral Habitat Areas of Particular Concern (CHAPCs), and the Oculina Bank Habitat Area of Particular Concern which encompasses the Oculina Experimental Closed Area (**see chart included in the Council's 2016 letter**).

The South Atlantic Council further highlighted concerns over the broader issue of sound in the ocean and provided the attached comments on the NOAA Ocean Noise Strategy Roadmap to support the agency's use of its capabilities and authorities to more effectively understand and

address the effects of noise on Council-managed species and soundscapes or acoustic habitat associated with essential fish habitat of managed species.

The Council supports Bureau of Ocean Energy Management's (BOEM) past denial of geophysical and geological permit applications to conduct airgun seismic surveys in the Mid- and South Atlantic Planning Areas of the Atlantic Ocean and removal of the Atlantic Program Area from the 2017-2022 Outer Continental Shelf Oil and Gas Leasing Program highlighting BOEM Director Abigail Ross Hopper's position that "... we believe that the value of obtaining the geophysical and geological information from new airgun seismic surveys in the Atlantic does not outweigh the potential risks of those surveys' acoustic pulse impacts on marine life,..." The Council, in an attempt to avoid the negative affects of offshore oil and gas development, has worked closely with BOEM, NOAA Fisheries, and state partners, to highlight regional research needs and avoid impacts on EFH and managed fisheries through cooperative development of alternative energy capacity, specifically offshore wind energy, in the region.

In conclusion, the Council is concerned about the impact these activities would have on our managed resources and fisheries and the coastal communities generating billions of dollars of revenue in our region.

Thank you for your consideration of our comments.

Best regards,

Michelle A. Duval

Michelle Duval
Chair

cc: Council Members, Staff & SSC
Executive Directors
Habitat and Ecosystem Advisory Panel
Monica Smit-Brunello, NOAA GC
Jack McGovern and Rick DeVictor, NMFS SERO
Bonnie Ponwith, Theo Brainerd, and Adyan Rios, NMFS SEFSC
Walter Cruickshank, BOEM, Acting Director
Sam Rauch, NOAA, Acting Administrator for Fisheries
Valerie Smith, OIEA, US DOI

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Dr. Michelle Duval, Chair | Charlie Phillips, Vice Chair
Gregg T. Waugh, Executive Director

July 1, 2016

Eileen Sobeck
Assistant Administrator for Fisheries
National Marine Fisheries Service/NOAA
U.S. Department of Commerce
1315 East-West Highway
Silver Spring, MD 20910

RE: NOAA Ocean Noise Strategy Roadmap

Dear Eileen:

The South Atlantic Council appreciates the opportunity to comment on the draft NOAA Ocean Noise Strategy Roadmap. The NOAA Ocean Noise Strategy Roadmap should specifically support the agency's use of its capabilities and authorities to more effectively understand and address the effects of noise on Council-managed species and soundscapes or acoustic habitat associated with essential fish habitat of managed species. The Council supports an agency-wide strategy for addressing ocean noise as it impacts fish, fish habitat, and fisheries over the next 10 years. Therefore, the Council endorses NOAA's need to focus efforts on key areas identified in the road map that will provide the following: (1) an understanding of how noise impacts managed species and essential fish habitat in the South Atlantic region, and how that can translate to population level effects; and (2) an understanding of the aggregated effects, on individuals and populations, of multiple noise sources and cumulative effects of noise combined with other stressors and how to better address those impacts.

Specific comments on the draft roadmap and key elements of the four chapters of the Strategy are as follows:

1. **Chapter 1: Reviewing species level impacts of ocean noise and associated management actions**

THE BUILDING BLOCKS OF IMPACT ASSESSMENT
Sound Use and Production
There is a critical need to characterize species use or production of sound for Council-managed species and prey on which they depend. The Strategy needs to ensure detailed information is collected to support and enhance Council and NOAA Fisheries ability to address mandates to characterize species use of essential habitats and provide policy recommendations intended to reduce impacts from non-fishing activities. The information collected should include species by

life stage review of sound production, species sound thresholds, and baseline habitat/ecosystem soundscapes for various habitat types during multiple seasons (e.g., mid shelf reef soundscape during spawning, migration, or settlement of larval stages).

Impacts of Noise
To understand the impact of noise, NOAA needs to support regional research programs providing detailed species and habitat information where species presence, abundance, and distribution can be quantified which, in the South Atlantic region, include the following state and Federal fishery independent surveys: MARMAP, SEAMAP, and NOAA SEFIS. In addition, where possible, the agency should provide resources and technology to enhance existing survey programs ability to collect acoustic information needed to characterize the species sound production and soundscape of the habitat that may be affected by anthropogenic sounds. To conduct a full evaluation of human introduced sounds, a baseline from which change could be detected and impact assessed is a prerequisite.

The Council has commented on seismic testing activities and policy, requesting that activities not be conducted where they will impact Essential Fish Habitat of Council-managed species and Habitat Areas of Particular Concern, including the Council's Managed Areas (i.e., Deepwater Snapper Grouper Marine Protected Areas, Spawning Special Management Zones, Deepwater Coral Habitat Areas of Particular Concern (HAPC), and the Oculina Bank Coral HAPC). Refining information on impacts to species and habitats to address NOAA and Council habitat conservation mandates and associate policies is a priority.

EVALUATING POPULATION-LEVEL AND CUMULATIVE IMPACTS OF NOISE
Stress
NOAA, in cooperation with state, Federal, and regional partners, should develop products for managed species that parallel research efforts for marine mammals, so as to better understand and characterize the behavioral, physiological (hearing and stress response), and potentially population-level consequences of sound exposure.

Acoustic Habitat Effects
The Council supports NOAA's focus to ensure that the chronic effects of rising noise levels on the acoustic habitat of protected species is addressed including but not limited to the masking of important species-specific acoustic cues (i.e., snapper grouper species use of reef sound for settlement).

Population Effects
Using the U.S. National Research Council Potential Consequences of Disturbance conceptual model as a template, NOAA should facilitate development of a managed species model integrating relationships linking disturbance to changes in behavior and physiology, health, vital rates, and population dynamics.

Aggregate or Cumulative Effects of Sound
NOAA should develop both the quantitative and qualitative approaches to include consideration of cumulative effects of stressors other than sound on Council-managed species.

CURRENT NOAA MANAGEMENT OF NOISE IMPACTS

Magnuson-Stevens Fishery Conservation and Management Act (MSA)

The Council understands and supports the ongoing management of noise effects on marine mammals, fish, invertebrates, and sea turtles through project-specific consultations and permitting pursuant to the MMPA, the ESA, the NMSA, and the MSA. The Council concurs with NOAA in highlighting that present analyses associated with consultations are not comprehensive on a scale that would adequately address long life spans or large geographic ranges of all of the marine species potentially impacted, and they don't address aggregate or cumulative effects very well. Also, existing analyses do not present an understanding of the broader acoustic habitat value to, in our case, Council-managed species or habitats.

Enhancing NOAA's support for Council identification, description and protection of essential habitat for federally-managed species will ensure the best available information is used and will enhance the EFH consultation process. This mechanism provides an effective vehicle to integrate new information on ocean soundscapes and the impacts of sound on habitat and fish more effectively. In addition, consultations associated with Council-designated Habitat Areas of Particular Concern (i.e., Council Managed Areas: Deepwater Snapper Grouper Marine Protected Areas, Spawning Special Management Zones, Deepwater Coral Habitat Areas of Particular Concern, and the Oculina Bank CHAPC) would address sound impacts. Refining information on the impacts of sound on species and habitats to address NOAA and Council habitat conservation mandates and associate policies is a priority.

REGULATORY AND ANALYTICAL APPROACHES

Acoustic Thresholds

NOAA should characterize and assess acute impacts of noise exposure and develop acoustic exposure thresholds for Council-managed species or species complexes. These should at a minimum address the level at which auditory injury will occur or behavior (e.g., migration, feeding, spawning, and larval settlement) will be disrupted.

NOAA should re-evaluate the relevance of 160 and 120 dB take levels for impulsive and continuous sources, as to what is categorized as impulsive versus continuous. For example, even though seismic airgun sounds are regulated as impulses, recent published studies demonstrated that airgun sounds begin to share many similarities with continuous sounds, particularly at long distances.

Mitigation

NOAA should develop measures that will provide the following for managed species: real-time detection and action to limit acute/direct impacts; seasonal/area limitations (e.g., in HAPCs); and noise abatement/reduction (to reduce both chronic and acute impacts).

NEXT STEPS FOR THE NOAA OCEAN NOISE STRATEGY

The Council supports the NOAA Strategy and views the following next steps as key to its success:

- Consistent Messaging, Internal Education, and Coordination;
- Developing National Guidance for Acoustic Thresholds and Other Management Tools ensuring Council-managed species are included;

- Exploring, Expanding, and Coordinating the Use of Applicable NOAA Authorities will both utilize and enhance MSA and EFH mandates;
- Development of Risk Assessment Tools with a focus on Council-managed species;
- Prioritize Baseline Science Needs including characterizing and evaluating impacts of sound on Council-managed species;
- Continue to Support Mitigation Development including managed species seasonal limitations and avoidance of HAPCs;
- Enhance Efficacy and Transparency of Monitoring Approaches; and
- Develop Mechanisms for Outreach, Collaboration, and Stakeholder Engagement that will highlight marine soundscapes, and the importance of and potential impacts of anthropogenic sound on fish, fish habitat, and fisheries.

The Council recommends NOAA develop and compile a glossary of noise terms and concepts, especially as they relate to effects on marine species and their acoustic habitats. Further, the Council supports expanded guidelines and standards for Council-managed species, complexes, and essential fish habitat. It is also critical for NOAA stakeholders and partners to use this shared terminology so that any concerns/issues can be clearly outlined in regulatory documents.

2. Chapter 2: Establishing the foundation for understanding and managing acoustic habitats for NOAA trust species and places

BROADENING NOAA'S NOISE MANAGEMENT APPROACH

Describing Acoustic Habitats

The Council supports NOAA in pursuing the description of acoustic habitats for essential fish habitat of Council managed species. In addition, creation of soundscapes of habitats by season will provide a baseline from which to understand the existing sound background of benthic and pelagic habitats and cues used by managed species for migration, spawning and settlement between those habitats. A focus area should be developing these parameters for including EFH Habitat Areas of Particular Concern and Council Managed Areas.

NOAA's Tools for Acoustic Habitat Risk Assessment

NOAA should work with state, Federal, and regional partners in the South Atlantic including the Southeast Coastal Ocean Observing Association (SECOORA) to build a monitoring network and ensure that acoustic data are collected to support assessments of both baseline conditions of acoustic habitats and changes in their status through time.

The Council supports NOAA in the integration of acoustic habitat protection within its science and management activities and evaluation of whether traditional species-based noise impact evaluation processes can be leveraged to inform a broader evaluation of impacts to acoustic habitats. NOAA should develop noise impact assessments to identify:

- which species use or make sound (including hearing, sound production, and sensitivity);
- the role of sound in their life histories (acoustic ecology and behavior); and
- how they use their environments (including their distribution and habitats that support biologically important activities, such as reproduction and feeding).

NOAA's Tools for Managing Acoustic Habitat
The Council supports a broader view of NOAA's role in addressing sound impacts supporting Council management efforts to conserve functioning ecosystems and the services they provide. NOAA and the Council are moving to ecosystem-based management that highlights the importance of natural habitats and parallel additional efforts within NOAA to focus the Agency's many mandates to protect and restore habitats. The Council supports the intent of the Strategy for NOAA to begin to address the widespread degradation of natural acoustic habitat for a broad range of acoustically sensitive species (i.e., including Council-managed species and habitat) due to increasing noise from accumulated anthropogenic sources.

3. **Chapter 3: Reviewing NOAA's current capability to characterize aquatic soundscapes and enhancing this capacity for the future**

THE NEED TO UNDERSTAND AND CHARACTERIZE SOUNDSCAPES
Importance to NOAA's Understanding of Species and Places
In addition to marine mammals noted in the Strategy, managed species and ocean habitats have evolved and adapted to the natural underwater acoustic environment over millions of years. With the speed and efficiency of transmission, many Council-managed species rely on sound as a primary means of communication, and gaining information about and interacting with the environment to survive, migrate, spawn, and grow to maturity. Therefore, accurate characterization of the underwater soundscape is essential.

Understanding of Anthropogenic Changes to Soundscapes
Appendix A of the Strategy provides an effective review of available information on acute, chronic, and cumulative effects of multiple noise sources and other stressors; however, additional focus on region-specific activities would be warranted.

CHARACTERIZING MARINE SOUNDSCAPES
Data Collection—Fixed Platforms
The Council supports NOAA's and regional partner investment in expanding their capabilities in deployment of fixed platforms using acoustic hydrophones on moorings in addition to deployment through a cabled hydrophone or hydrophone array. Additional coordination with or availability of additional resources for regional partners including SECOORA, would enhance regional coverage and linking of multiple systems developed by states, academia, or other regional partners. Partnering with the U.S. Navy should be explored to benefit from data collected by the Navy's listening array.

The Council is developing a Citizen Science Program that could provide a mechanism to collect these types of data from fixed platforms.

Data Collection—Mobile Platforms
The Council supports NOAA's expanded use of mobile platforms for collection of sound information associated with managed species including the use of vessel-deployed hydrophones, hydrophone-equipped autonomous underwater vehicles AUVs, gliders, drifting buoys, and acoustic recording tags.

The Council is developing a Citizen Science Program that could provide a mechanism to collect these types of data from mobile platforms (i.e., fishing vessels).

Data Analysis
The Council supports data collection and analyses that differentiate between managed species that can be extracted for studies of seasonal and spatial animal distributions, response to anthropogenic activities, behavior, acoustic inventories, levels at which animals produce sound, and most recently, for population density and absolute abundance estimation.

Predictive Sound Field Mapping
The Council supports the development and expansion of the predictive sound field modeling to provide annual average sound levels throughout most of the U.S. Exclusive Economic Zone. Refinement of the product to more accurately represent regional and seasonal variation may be warranted.

CURRENT NOAA ASSETS/CAPABILITIES TO CHARACTERIZE AQUATIC SOUNDSCAPES

Acoustic Equipment
One shortfall as it pertains to providing information on Council-managed species in the South Atlantic region is that most passive acoustic research projects at the NMFS and NOS focus on investigating seasonal presence, distribution, movement, and behavior of marine animals, as well as characterizing anthropogenic noise and assessing its potential impacts. However, one opportunity noted in the Strategy is that while these projects focus on recording signals of biological origin, acoustic data obtained during the process can additionally be used to characterize and improve our knowledge of underwater soundscapes.

Data Holdings—NOAA
The Council supports NOAA's development of a unified metadata and data archival capacity with proper documentation and long-term preservation, and for simplified querying and access capabilities for NOAA and regional partners.

Monitoring Data Resulting from Permitted Activities
The Council recommends NOAA expand its capability and adaptive management of sound data collected from permitted activities.

TANGIBLE OUTCOMES APPLICABLE TO NOAA'S OCEAN NOISE STRATEGY MISSION

The highest priority in support of Council management is for NOAA to increase their capacity to monitor and characterize soundscapes in locations of significance for acoustically sensitive species and habitats in the South Atlantic Region (i.e., EFH, HAPCs, and Council Managed Areas).

The Council supports the following NOAA efforts highlighted in the Strategy that will enhance monitoring and characterization of sound in the region and again recommend exploring potential partnering with the U.S. Navy:

- Quantification of Spatial, Spectral, and Temporal Variability of Ambient Noise Conditions;

- Increased Understanding of Anthropogenic Sound Sources, Their Contributions to Soundscapes, and Changing Human Use Patterns;
- Improving Understanding of Behavior and Biology of Marine Life;
- Assessments of Effectiveness of Noise Mitigation Strategies; and
- Increased Accuracy of Predictive Sound Field Modeling.

4. **Chapter 4: Applying risk assessment to place-based examples that highlight Roadmap science and management recommendations**

Case Study 2:
Managing Noise Impacts on Spawning Areas Used by Acoustically Sensitive and Commercially Important Fish and Invertebrate Species
As noted in the Strategy, the South Atlantic Fishery Management Council (SAFMC) has established EFH and habitat areas of particular concern (HAPCs) to increase protection for snapper grouper complex species both offshore, in areas with known spawning aggregations, and inshore, in areas known to support juveniles. Offshore HAPCs include eight marine protected areas (MPAs) established by the SAFMC in 2009 through Amendment 14 to the Snapper Grouper Fishery Management Plan (http://www.safmc.net/managed-areas/marine-protected-areas). The focus on protection of spawning locations for species in the complex has further led to 5 newly proposed Spawning Special Management Zones (http://safmc.net/resource-library/snapper-grouper-amendment-36) which are also priority areas for sound monitoring and characterization.

General Comments:
The Council views the Strategy as an important milestone in highlighting the important role that sound plays in the science and assessment of marine systems. In particular, the realization of the importance of sounds for fish is important given NOAA's authority as a regulatory agency, and may influence how fish populations are assessed and what threats ocean noise pollution may pose to them. The Strategy effectively emphasizes the relevance and new emphasis on sound and fish populations, but it is unclear if and how this may become part of a regulatory approach. However, the focus of Case Study #2 in Chapter 4 clearly highlights the utility and value of acoustic monitoring for fisheries assessments. The Strategy is however unclear on how and when recommendations might be implemented other than within the 10 year timeframe noted.

What is outlined in the Strategy is commendable and extremely ambitious, particularly in the context of NOAA's current funding constraints. While cultivating the in-house NOAA expertise is certainly critical, the key to successful achievement of items outlined in the roadmap is actively collaborating with Councils, other federal agencies, states, universities, and the private sector through the new Citizen Science initiatives.

While the Marine Mammal Protection Act does have specific provisions for evaluating and mitigating sound exposure on marine mammals, the Magnuson-Stevens Act does not have such specific acoustic-related mandates for regulation. NOAA should therefore use this strategy to establish explicit provisions to address MSA and species or complex-specific considerations for exposure to sound. In addition, NOAA should be able to evaluate "acoustic habitat" as a component of Essential Fish Habitat.

Council's Energy Exploration and Development Policy:
The South Atlantic Council's Energy Exploration and Development Policy presents the Council's intent with respect to sound issues (**Attachment 1**). The following items address sound:

- **Threats to Marine and Estuarine Resources from Energy Exploration and Development Activities** (page 6), Item #11. Fish behavior and health may be negatively impacted by anthropogenic sound depending on sound pressure levels and the duration of the sound producing activity.
- **EFH Review, Administrative Policies, Licensing Policies and Best Management Practices** (page 8), Item #5. The effects of sound from proposed projects on fish behavior and health should be considered in EFH Assessments.

Seismic Surveys:
The South Atlantic Council commented on the potential environmental effects of conducting seismic surveys in the South Atlantic Regions (**Attachment 2**):

"The Council has a standing Essential Fish Habitat (EFH) Policy Statement on Energy, Exploration, Development, and Transportation (see included Policy Statement). The present policy statement is clear that seismic testing will directly impact benthic ecosystems, essential fish habitat, managed species, and the fisheries which depend on them. Therefore, the Council recommends that seismic surveys not be conducted in areas that will impact EFH and especially areas designated as EFH- Habitat Areas of Particular Concern including but not limited to deepwater snapper grouper Marine Protected Areas (MPAs), Special Management Zones, tilefish EFH- HAPC, other snapper Grouper EFH-HAPCS including but not limited to (the Georgetown Hole EFH-HAPC, Hoyt Hills EFH-HAPC, Deepwater Coral Habitat Areas of Particular Concern (CHAPCs), and the Oculina Bank Habitat Area of Particular Concern which encompasses the Oculina Experimental Closed Area (see chart included)." The chart has been updated to include the 5 proposed Spawning Special Management Zones (**Attachment 3**).

Many thanks for the opportunity to comment, and we look forward to continuing to work with NOAA and our other regional partners to address ocean noise.

Best regards,

Michelle A. Duval

Michelle Duval
Chair

cc: Council members, staff & SSC
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POLICY FOR THE PROTECTION AND RESTORATION OF ESSENTIAL FISH HABITATS FROM ENERGY EXPLORATION AND DEVELOPMENT ACTIVITIES
(December 14, 2015)

Introduction

This document provides guidance from the South Atlantic Fishery Management Council (SAFMC) regarding the protection of Essential Fish Habitat (EFH) and Habitat Areas of Particular Concern (EFH-HAPCs) from impacts associated with energy exploration and development activities as described in the "Threats to Marine and Estuarine Resources" section of this policy. This document also provides guidance regarding mitigation of those impacts, including avoidance, minimization and compensatory mitigation. The guidance is consistent with the overall habitat protection policies of the SAFMC as formulated and adopted in the Habitat Plan (SAFMC 1998a), the Comprehensive EFH Amendment (SAFMC 1998b), the Fishery Ecosystem Plan of the South Atlantic Region (SAFMC 2009a), Comprehensive Ecosystem-Based Amendment 1 (SAFMC 2009b), Comprehensive Ecosystem-Based Amendment 2 (SAFMC 2011), and the various Fishery Management Plans (FMPs) of the Council.

For the purposes of policy development, the types of activities within the scope of this document include wind; oil and gas; methane hydrate mining; estuarine and marine hydrokinetic; liquefied natural gas (LNG) regasification, pipelines, and offshore and on-shore facilities; and onshore power plants. The findings assess potential impacts to EFH and EFH-HAPCs posed by activities related to energy exploration and development in offshore and coastal waters, riverine systems and adjacent wetland habitats, and the processes that could improve those resources or place them at risk. The policies and recommendations established in this document are designed to avoid and minimize impacts and optimize benefits from these activities, in accordance with the general habitat policies of the SAFMC as mandated by law. The SAMFC may revise this guidance in response to changes in the types and location of energy exploration and development activities in the South Atlantic region, applicable laws and regulatory guidelines, and knowledge about the impacts of energy exploration and development on habitat.

EFH At Risk from Energy Exploration and Development Activities

The SAFMC finds that:

1. Energy exploration or development has the potential to occur within or in proximity to EFH including – but not limited to – coral, coral reefs, and live/hardbottom habitat at all depths in the Exclusive Economic Zone (EEZ); EFH-HAPCs; or other special biological resources essential to commercial and recreational fisheries under SAFMC jurisdiction.

2. Energy development activities have the potential to cause impacts to a variety of habitats across the shelf and to nearshore, estuarine, and riverine systems and wetlands, including:
   a) waters and benthic habitats in or near drilling and disposal sites, including those potentially affected by sediment movement and by physical disturbance associated with drilling activities and site development;
   b) waters and benthic habitats in or near LNG processing facilities or other energy development sites,
   c) exposed hardbottom (e.g. reefs, live bottom, deepwater *Lophelia* mounds) in shallow and deep waters,
   d) coastal wetlands
   e) coastal inlets and
   f) riverine systems and associated wetlands; and
   g) Intertidal oyster reefs

3. Certain offshore, nearshore, and riverine habitats are particularly important to the long-term viability of commercial and recreational fisheries under SAFMC management, and potentially threatened by oil, gas, wind and other energy exploration and development activities:
   a) coral, coral reef and live/hardbottom habitat, including deepwater coral communities,
   b) marine and estuarine water column habitat,
   c) estuarine wetlands, including mangroves and marshes,
   d) submerged aquatic vegetation (including seagrass),
   e) waters that support diadromous fishes, and their spawning habitats
   f) waters hydrologically and ecologically connected to waters that support EFH.

4. Siting and design of onshore receiving, holding, and transport facilities could have impacts on wetlands, shallow habitats such as oyster reefs and submerged aquatic vegetation, and endangered species' habitats if they are not properly located.

5. Sections of South Atlantic waters potentially affected by these projects, both individually and collectively, have been identified as EFH or EFH-HAPC by the SAFMC. Potentially affected species and their EFH under federal management include (SAFMC, 1998b):

a) Summer Flounder (various nearshore waters, including the surf zone and inlets; certain offshore waters),
b) Bluefish (various nearshore waters, including the surf zone and inlets),
c) many snapper and grouper species (live/hardbottom from shore to 600 feet, and – for estuarine-dependent species such as gag grouper and gray snapper – unconsolidated bottoms and live/hardbottoms in the estuaries,
d) Black Sea Bass (various nearshore waters, including unconsolidated bottom and live/hardbottom to 600 feet),
e) penaeid shrimp (estuarine emergent habitat, offshore habitats used for spawning and growth to maturity, and waters connecting to inshore nursery areas, including the surf zone and inlets, live/hardbottom),
f) coastal migratory pelagics (e.g., King Mackerel, Spanish mackerel) (sandy shoals of capes and bars, barrier island ocean-side waters from the surf zone to the shelf break inshore of the Gulf Stream; all coastal inlets),
g) corals of various types and associated organisms (on hard substrates in shallow, mid-shelf, and deepwater),
h) royal red shrimp (upper regions of the continental slope from 180 meters (590 feet) to about 730 meters (2,395 feet), with concentrations found at depths of between 250 meters (820 feet) and 475 meters (1,558 feet) over blue/black mud, sand, muddy sand, or white calcareous mud),
i) rock shrimp (offshore terrigenous and biogenic sand bottom habitats from 18 to 182 meters in depth with highest concentrations occurring between 34 and 55 meters. This applies for all areas from North Carolina through the Florida Keys. Essential fish habitat includes the shelf current systems near Cape Canaveral, Florida which provide major transport mechanisms affecting planktonic larval rock shrimp),
j) golden crab (a flat foraminferan ooze habitat; distinct mounds, primarily of dead coral; ripple habitat; dunes; black pebble habitat; low outcrop; and soft-bioturbated habitat),
k) Pennatulacea (sea pens and sea pansies) muddy, silt bottoms from the subtidal to the shelf break, and deepwater corals and associated communities,
l) Highly Migratory Species (areas identified as EFH for managed by the Secretary of Commerce (e.g., inlets and nearshore waters, including shark pupping and nursery grounds), and
m) Diadromous species (riverine and offshore areas that support, including important prey species such as shad, herring and other alosines in addition to Shortnose and Atlantic sturgeon).

6. Many of the habitats potentially affected by these activities have been identified as EFH-HAPCs by the SAFMC. Each EFH-HAPC, type of activity posing a potential threat and FMP is provided as follows:

EFH-HAPC	Activity	FMP
Nearshore hardbottom	LNG regasification, pipelines and power plants	Snapper Grouper
Coastal inlets	estuarine hydrokinetic; LNG regasification, pipelines,	Shrimp, Snapper Grouper

EFH-HAPC	Activity	FMP
Spawning sites	estuarine hydrokinetic; LNG regasification and pipelines; and power plants	Shrimp, Snapper Grouper
Manganese outcroppings on the Blake Plateau	oil and gas; methane hydrate mining; marine hydrokinetic; LNG regasification and pipelines	Snapper Grouper, Golden Crab
Pelagic and benthic *Sargassum*	wind; oil and gas; marine hydrokinetic; LNG regasification and pipelines	Snapper Grouper, Dolphin Wahoo
Inshore and nearshore areas to the ends of the sandy shoals of Cape Lookout, Cape Fear, and Cape Hatteras, North Carolina; Hurl Rocks, South Carolina; and *Phragmatopoma* (worm reefs) reefs off the central coast of Florida and near shore hardbottom south of Cape Canaveral	wind; oil and gas; marine hydrokinetic; LNG regasification and pipelines	Coastal Migratory Pelagics
Atlantic coast estuaries with high numbers of Spanish mackerel and cobia from ELMR, to include Bogue Sound, New River, North Carolina; Broad River, South Carolina	estuarine hydrokinetic; LNG on-shore facilities; and power plants	Coastal Migratory Pelagics
Florida Bay, Biscayne Bay, Card Sound, and coral hardbottom habitat from Jupiter Inlet through the Dry Tortugas, Florida	wind; oil and gas; marine hydrokinetic; LNG regasification and pipelines	Spiny Lobster
Hurl Rocks (South Carolina); The *Phragmatopoma* (worm reefs) off central east coast of Florida; nearshore (0-4 meters; 0-12 feet) hardbottom off the east coast of Florida from Cape Canaveral to Broward County; offshore (5-30 meters; 15-90 feet) hardbottom off the east coast of Florida from Palm Beach County to Fowey Rocks; Biscayne Bay, Florida; Biscayne National Park, Florida; and the Florida Keys National Marine Sanctuary	wind; oil and gas; marine hydrokinetic; LNG regasification and pipelines	Coral, Coral Reef, and Live Hard/bottom
Council-designated Artificial Reef Special Management Zones (SMZs)	wind; oil and gas; methane hydrate mining; marine hydrokinetic; LNG regasification and pipelines	Snapper Grouper, Coastal Migratory Pelagics, Coral, Coral Reef, and Live Hard/bottom Habitat
Troughs and terraces intermingled with sand, mud, or shell hash at depths of 150 to 300 meters	wind; oil and gas; marine hydrokinetic; LNG regasification and pipelines	Snapper-grouper [golden tilefish]
Rock overhangs, rock outcrops, manganese-phosphorite rock slab formations, and rocky reefs	wind; oil and gas; marine hydrokinetic; LNG regasification and pipelines	Snapper-grouper [blueline tilefish]
HAPCs designated for HMS species (e.g., sharks) in the South Atlantic region – exploration and development	wind; oil and gas; marine hydrokinetic; LNG regasification and pipelines	Highly Migratory Species (NMFS FMP)

EFH-HAPC	Activity	FMP
Deepwater Coral HAPCs are designated as Snapper Grouper EFH-HAPCs: Cape Lookout Coral HAPC, Cape Fear Coral HAPC, Blake Ridge Diapir Coral HAPC, Stetson-Miami Terrace Coral HAPC, and Pourtalés Terrace Coral HAPC	wind; oil and gas; marine hydrokinetic; methane hydrate mining, LNG regasification and pipelines	Coral, Coral Reef, and Live Hard/bottom Habitat
Estuarine emergent and mangrove wetlands	estuarine hydrokinetic; LNG on-shore facilities; and power plants	Shrimp, Snapper Grouper
Seagrass	estuarine hydrokinetic; LNG on-shore facilities; and power plants	Shrimp, Snapper Grouper
State-designated nursery habitats (e.g., Florida Aquatic Preserves)	estuarine hydrokinetic; LNG on-shore facilities; and power plants	Shrimp, Snapper Grouper

7. Habitats likely to be affected by energy activities include many recognized in state level fishery management plans. Examples of these habitats include Strategic Habitat Areas (SHAs) such as those established by the State Marine Fisheries Commissions via FMPs, coastal habitat protection plans, or other management provisions. North Carolina SHAs, are a "subset of the overall system that includes a representative portion of each unique habitat so that overall biodiversity and ecological functions are maintained." NCMFC has established 20 units for Region 1; 67 units for Region 2; and 48 units for Region 3.

Threats to Marine and Estuarine Resources from Energy Exploration and Development Activities

The SAFMC finds that energy exploration and development activities threaten or potentially threaten EFH through the following mechanisms:

1. Direct mortality and displacement of organisms at and near dredging (Clarke et al. 2000), drilling or trenching sites , in addition to the installation of facilities and operation of such facilities .

2. Deposition of fine sediments (sedimentation) and drilling muds down-current from drilling, dredging, trenching, and/or backfilling sites. In a review of over 77 published studies that examine the effects of sedimentation and turbidity with 89 coral species, Erftemeijer et al. (2012) concluded increased sedimentation cause smothering and burial of coral polyps, shading, tissue necrosis, and unhealthy high concentrations of bacteria in coral mucus. Turbidity and sedimentation also reduce the recruitment, survival, and settlement of coral larvae.

3. Chronic elevated turbidity in and near drilling, dredging, trenching, and/or backfilling sites, which can interfere with foraging by fish and shrimp and abrade their gills and other soft tissues (Lindeman and Snyder 1999).

4. Direct mortality of eggs and larvae of marine organisms from water intake (Gallaway et al. 2007); post-larvae, juveniles and adults of marine and estuarine organisms due to spills from pipelines, or from vessels in transit near or close to inlet areas.

5. Alteration of long-term shoreline migration patterns with complex ecological consequences due to the placement of facilities (nearshore/offshore.)

6. One of the risks associated with horizontal directional drilling (HDD) is the escape of drilling mud into the environment as a result of a spill, collapse of the drill hole or the rupture of mud to the surface, which is commonly known as a "frac-out". A frac-out is caused when excessive drilling pressure results in drilling mud leaching vertically toward the surface. Because HDD activities occur in proximity to sensitive habitats (e.g., seagrass, coral), burial of habitat could result from "frac-outs" associated with HDD.

7. Permanent conversion of soft bottom habitat to artificial hardbottom habitat through installing a hard linear structure (i.e., a pipe covered in articulated concrete mats) can occur and the ecological effects of this habitat conversion are not well-understood.

8. Impacts to benthic resources from placement and shifting of anchors (Rogers and Garrison 2001), cables (Messing 2011; Gilliam and Walker 2012), pipelines, and other types of direct mechanical damage such as damage from deployment of instrumentation (e.g., Acoustic Doppler Current Profiles).

9. Alterations in amount and timing of riverflow and significant blockage or reduction in area of critical spawning habitat resulting from damming or diverting rivers

10. Alteration of community diversity, composition, food webs and energy flow due to addition of structure (Sammarco, Paul W. 2014; Claisse et al. 2014).

11. Fish behaviour and health may be negatively impacted by anthropogenic sound depending on sound pressure levels and the duration of the sound producing activity (Popper et al 2014).

12. Operation of power plants can alter water quality The greatest risk to aquatic and estuarine ecosystems posed by power plant cooling systems is continuous exposure to sublethal stressors, such as changes in water quality, rather than the abrupt mortality of large numbers of organisms due to impingement and entrainment (Clark and Brownell 1973; Laws 2000; Kulkarni et al. 2011). Water quality (inclusive of temperature and salinity) is known to be a driver of fine scale spatial variation in nearshore fish communities, e.g., in Biscayne Bay (Serafy et al. 1997; 2003; 2005; Faunce and Serafy 2007).

13. The interactions among all effects (including lethal and sub-lethal; direct and indirect; short-term, long-term, and cumulative) affect the magnitude of the overall impacts. Such interactions may result in a scale of effect that is multiplicative rather than additive. The effects of those interactions are largely unstudied and almost completely unknown.

SAFMC Policies for Energy Exploration and Development Activities

The SAFMC establishes the following policies and best management practices (BMPs) related to energy exploration and development activities and related projects, to clarify and augment the general policies already adopted in the Habitat Plan and Comprehensive Habitat Amendment (SAFMC 1998a; SAFMC 1998b; SAFMC 2009a). The following is intended to include existing relevant guidance documents (e.g., *Alternative Energy Environmental Information Needs* (USDOI, MMS 2007a):

General Policies:

1. Projects should avoid, minimize, and – where possible – offset damage to EFH, EFH-HAPCs, and SHAs. This should be accomplished, in part, by integrating the best available and least damaging technologies into the project design.

2. Projects should avoid intersection or overlap with Allowable Fishing Areas within the Deepwater Coral HAPCs.

3. All facilities associated with energy exploration and development, should be designed to avoid or minimize to the maximum extent practicable impacts on coastal ecosystems and sand sharing systems.

4. Projects should comply with existing standards and requirements regulating domestic and international transportation of energy products including regulated waste disposal and emissions which are intended to minimize negative impacts on and preserve the quality of the marine environment.

5. Open-loop LNG processing facilities should be avoided in favor of closed-loop systems. Water intake associated with closed-loop should be minimized and the effects to fishery resources should be determined through baseline studies and project monitoring.

6. Pilot scale projects should not occur in areas where full-scale efforts are predicted to be environmentally unacceptable (e.g., MPAs, CHAPCs, and Spawning SMZs).

EFH Review, Administrative Policies, Licensing Policies and Best Management Practices:

1. EFH Assessments prepared for energy-related projects include the mandatory components set forth in 50 CFR Part 600, Subpart K:
    - A description of the proposed action;
    - An analysis of the effects, including cumulative effects, of the action on EFH, the managed species, and associated species by life history stage;
    - The Federal agency's views regarding the effects of the action on EFH; and
    - Proposed mitigation

2. Projects requiring expanded EFH consultation should provide a full range of alternatives, along with assessments of the relative impacts of each on each type of EFH, EFH-HAPC, and SHAs. Expanded EFH consultations allow NMFS and a Federal action agency the maximum opportunity to work together in the review of an activity's impact on EFH and the development of EFH conservation recommendations. Expanded consultation procedures must be used for Federal actions that would result in substantial adverse effects to EFH. Federal action agencies are encouraged to contact NMFS at the earliest opportunity to discuss whether the adverse effect of a proposed action makes expanded consultation appropriate.

3. Impact evaluations should include quantitative assessments for each habitat based on recent scientific studies, habitat characterizations, and the best available information. All EFH assessments should be based upon the best available science, be conservative, and follow precautionary principles as developed for various Federal and State policies. EFH Assessments are produced with information gathered from the best available technologies to map and characterize project sites (e.g., see Vinick et al. 2012). The methods used for habitat mapping and characterization work should reflect input from resource trustees and be performed with experienced personnel.

4. Existing transportation infrastructure (e.g., existing cables or pipelines) should be utilized wherever practicable in order to avoid or minimize environmental impacts.

5. The effects of sound from proposed projects on fish behaviour and health should be considered in EFH Assessments.

6. Compensatory mitigation should not be considered until avoidance and minimization measures have been duly demonstrated. Compensatory mitigation should be required to offset losses to EFH, including losses associated with temporary impacts, and should take into account uncertainty and the risk of the chosen mitigation measures inadequately offsetting the impacts. Mitigation

should be local, "up-front," and "in-kind," and include long-term monitoring to assess and ensure the efficacy of the mitigation program selected.

7. Modelling efforts should fully characterize assumptions applied and disclose any potential biases that may affect results

8. Determination of the physical and chemical oceanographic and meteorological characteristics of the area should be done through field studies by lead action agencies, cooperating agencies, academics, or the applicant. These characteristics include but are not limited to, on-site direction and velocity of currents and tides, sea states, temperature, salinity, water quality, wind storms frequencies, and intensities and icing conditions. Studies should also include a detailed characterization of seasonal surface currents and likely spill trajectories. Such studies must be conducted prior to approval of any Exploration Plan or Development and Production Plan in order to have adequate information upon which to base decisions related to site-specific proposed activities.

9. The Environmental Impact Statement (EIS), Environmental Assessment (EA) or EFH Assessment for any outer continental shelf oil and gas lease sale should address impacts, if any, from activities specifically related to natural gas production, safety precautions required in the event of the discovery of "sour gas" or hydrogen sulfide reserves and the potential for cross-shelf transport of hydrocarbons to nearshore and inshore estuarine habitats by Gulf Stream spin-off eddies. The EIS, EA, or EFH Assessment should also address the development of contingency plans to be implemented if problems arise due to oceanographic conditions or bottom topography, the need for and availability of onshore support facilities in coastal areas, and an analysis of existing facilities and community services in light of existing major coastal developments.

10. License or permit decisions for construction projects that penetrate or attach to the seabed should be based on geotechnical studies completed to ensure that the geology of the area is appropriate for the construction method and that geological risks are appropriately mitigated.

11. Adequate spill containment and clean-up equipment should be maintained for all development facilities, and, the equipment shall be available on-site or located so as to be on-site within the landing time trajectory.

12. Bonds must be required and must be adequate to assure that resources will be available for unanticipated environmental impacts, spill response, clean-up and environmental impact assessment.

13. Exploration and development activities should not disrupt or impede known migratory patterns of endangered and threated species, nor shall they disrupt or impede the breeding or nesting seasons of endangered and threatened species.

This may necessitate the imposition of seasonal, spatial, or other constraints on exploration and development activities.

14. Licenses and permits clearly should describe required monitoring before, during and after the project in sufficient detail to document pre-project conditions and the initial, long-term, and cumulative impacts of the project on EFH. Monitoring and, if necessary, for adaptive management shall be required for the life of the project. The monitoring methods should reflect input from resource trustees and be conducted by experienced personnel.

15. Third party environmental inspectors shall be required on all projects to provide for independent monitoring and permit compliance.

16. Hydrotest chemicals that may be harmful to fish and wildlife resources should not be discharged into waters of the United States.

17. Licenses or permits should require all project-related work vessels that traverse any reef system or sensitive habitat to be equipped with standard navigation aids, safety lighting and communication equipment. Equipment, such as tow lines, that could drag along the bottom and impact benthic habitat should be secured during transit. U.S. Coast Guard automated identification system (AIS) requirements must be followed.

18. Any anchor placement should completely avoid corals and be visually verified by diver or remote camera. In addition, measures to avoid anchor sweep should be developed and implemented.

19. Appropriate buffers should be designated around sensitive marine habitats.

20. A contingency plan should be required to address catastrophic blowouts or more chronic material losses from LNG facilities, including trajectory and other impact analyses and remediation measures and responsibilities.

21. Licenses and permits should require the development of resource sensitivity training modules specific to each project, construction procedures, and habitat types found within the project impact area. This training should be provided to all contractors and sub-contractors that are anticipated to work in or adjacent to areas that support sensitive habitats.

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SOUTH ATLANTIC FISHERY MANAGEMENT COUNCIL

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Ben Hartig, Chair
Dr. Michelle Duval, Vice Chair

Robert K. Mahood, Executive Director
Gregg T. Waugh, Deputy Executive Director

April 30, 2015

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,

The South Atlantic Fishery Management Council (Council) is providing the following comments concerning the potential environmental effects of conducting seismic surveys in the South Atlantic Region. The Council, pursuant to authority granted by the Magnuson-Steven Act, is charged with conservation of fish stocks and fish habitat and management of recreational and commercial fisheries dependent on those resources in the U.S. Exclusive Economic Zone (3-200 miles) off North Carolina, South Carolina, Georgia, and the East Coast of Florida through the Florida Keys.

The Council has a standing Essential Fish Habitat (EFH) Policy Statement on Energy, Exploration, Development, and Transportation (see included Policy Statement). The present policy statement is clear that seismic testing will directly impact benthic ecosystems, essential fish habitat, managed species, and the fisheries which depend on them. Therefore, the Council recommends that seismic surveys not be conducted in areas that will impact EFH and especially areas designated as EFH- Habitat Areas of Particular Concern including but not limited to deepwater snapper grouper Marine Protected Areas (MPAs), Special Management Zones, tilefish EFH- HAPC, other snapper Grouper EFH-HAPCS including but not limited to (the Georgetown Hole EFH-HAPC, Hoyt Hills EFH-HAPC, Deepwater Coral Habitat Areas of Particular Concern (CHAPCs), and the Oculina Bank Habitat Area of Particular Concern which encompasses the Oculina Experimental Closed Area (see chart included).

The Council appreciates BOEMs willingness to provide input on all related Energy activities in the region but is concerned about the impact of potentially multiple independent surveys being conducted on hard live bottom habitat essential to species in our snapper grouper complex.

Multi-million dollar recreational and commercial fisheries in our region may potentially be affected by seismic testing.

The Council shares the concern over the impact these activities would potentially have on our managed resources and fisheries in concert with our counterpart in the Mid-Atlantic region, the Mid-Atlantic Council.

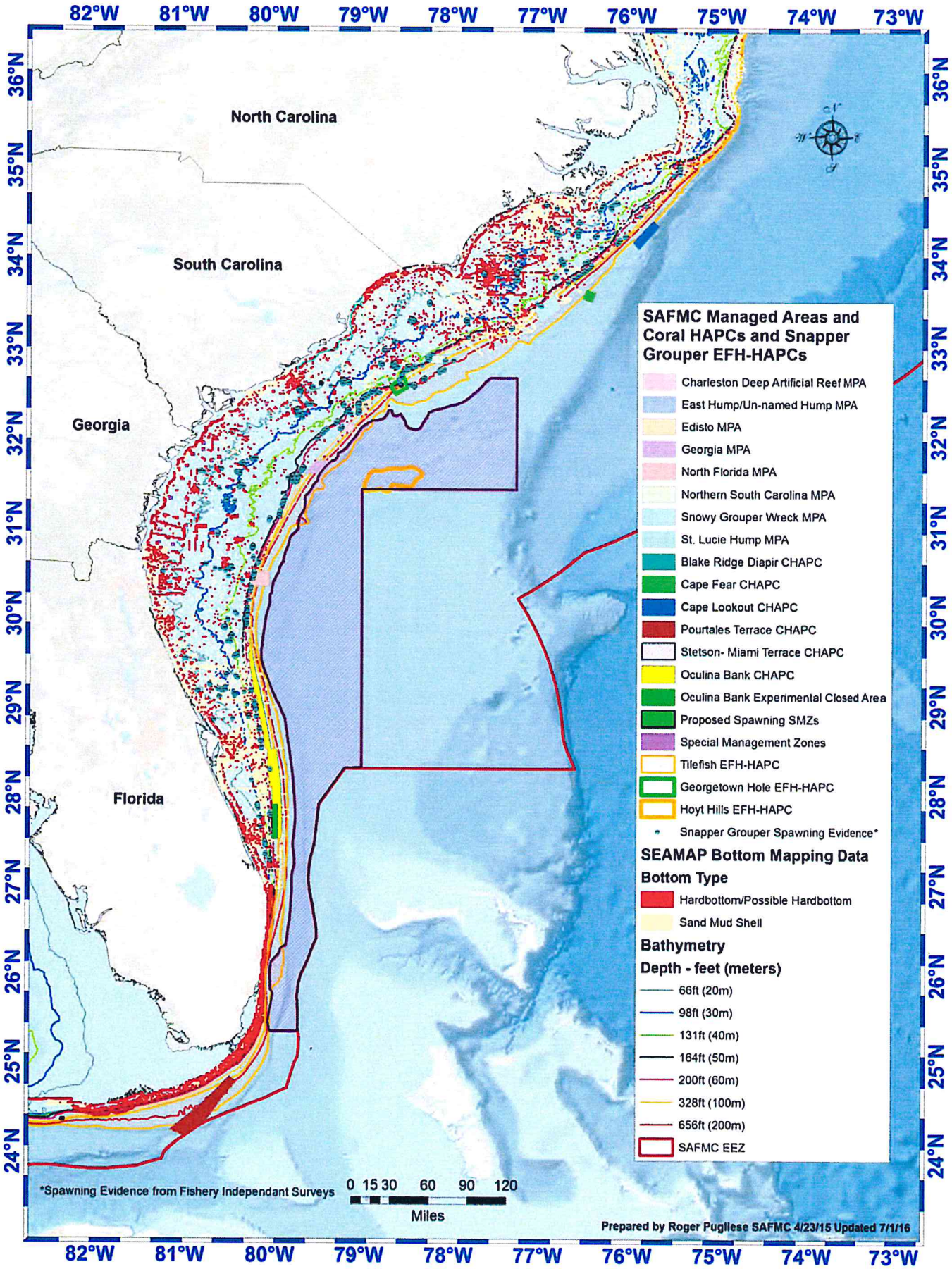
Thank you for your consideration of our comments.

Sincerely,

Ben Hartig, Chairman

Enclosures

cc: Council Members & Staff
Habitat and Ecosystem AP
Bonnie Ponwith, Theo Brainerd & Tom Jamir
Jack McGovern


82°W
81°W
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73°W
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34°N
33°N
32°N
31°N
30°N
29°N
28°N
27°N
26°N
25°N
24°N
North Carolina
South Carolina
Georgia
Florida
SAFMC Managed Areas and Coral HAPCs and Snapper Grouper EFH-HAPCs
Charleston Deep Artificial Reef MPA
East Hump/Un-named Hump MPA
Edisto MPA
Georgia MPA
North Florida MPA
Northern South Carolina MPA
Snowy Grouper Wreck MPA
St. Lucie Hump MPA
Blake Ridge Diapir CHAPC
Cape Fear CHAPC
Cape Lookout CHAPC
Pourtales Terrace CHAPC
Stetson- Miami Terrace CHAPC
Oculina Bank CHAPC
Oculina Bank Experimental Closed Area
Proposed Spawning SMZs
Special Management Zones
Tilefish EFH-HAPC
Georgetown Hole EFH-HAPC
Hoyt Hills EFH-HAPC
Snapper Grouper Spawning Evidence*
SEAMAP Bottom Mapping Data
Bottom Type
Hardbottom/Possible Hardbottom
Sand Mud Shell
Bathymetry
Depth - feet (meters)
66ft (20m)
98ft (30m)
131ft (40m)
164ft (50m)
200ft (60m)
328ft (100m)
656ft (200m)
SAFMC EEZ
*Spawning Evidence from Fishery Independant Surveys
0 15 30 60 90 120
Miles
Prepared by Roger Pugliese SAFMC 4/23/15 Updated 7/1/16

Mid-Atlantic Fishery Management Council
800 North State Street, Suite 201, Dover, DE 19901
Phone: 302-674-2331 | FAX: 302-674-5399 | www.mafmc.org
Michael P. Luisi, Chairman | G. Warren Elliott, Vice Chairman
Christopher M. Moore, Ph.D., Executive Director

March 9, 2018

RECEIVED
MAR 15 2018
NEW ENGLAND FISHERY MANAGEMENT COUNCIL

Ms. Kelly Hammerle
National OCS Oil and Gas Leasing Program Manager
Bureau of Ocean Energy Management (BOEM)
45600 Woodland Road
Mailstop VAM-LD Sterling, VA 20166-9216

Dear Ms. Hammerle,

Please accept these comments from the Mid-Atlantic Fishery Management Council (Council) on the development of a New National Outer Continental Shelf (OCS) Oil and Gas Leasing Program for 2019-2024.

The Council manages more than 64 marine species with 7 fishery management plans (FMPs)[1] in federal waters and is composed of members from the coastal states of New York to North Carolina (including Pennsylvania). Marine fisheries are profoundly important to the social and economic well-being of Mid-Atlantic communities and provide numerous benefits to the nation, including domestic food security. In 2015, the commercial seafood industry in the Mid-Atlantic region supported 100,954 jobs, $13.9 billion in sales, $3.2 billion in income, and $5.1 billion in value added impacts across the Mid-Atlantic.[2] Commercial fishermen landed 648 million pounds of finfish and shellfish, earning $512 million in landings revenue, while 2.0 million recreational anglers took 12.4 million fishing trips and spent nearly $3.5 billion on trip and equipment expenditures.[2]

The Council manages its fisheries throughout their range and develops fishery management plans to achieve its vision of "Healthy and productive marine ecosystems supporting thriving, sustainable marine fisheries that provide the greatest overall benefit to stakeholders." This includes actions to conserve fish habitat, protect deep sea corals, and manage forage fisheries sustainably. The fisheries for the Council's managed species are prosecuted in the Northeast exclusive economic zone and are within several of BOEM's oil and gas leasing areas. Given the importance of these fisheries, the

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[1] Fourteen species are directly managed with specific FMPs. These include summer flounder, scup, black sea bass, Atlantic bluefish, Atlantic mackerel, *Illex* and longfin squids, butterfish, Atlantic surfclams, ocean quahogs, golden and blueline tilefish, spiny dogfish (joint with the New England Council), and monkfish (joint with the New England Council). In addition, more than 50 forage species are managed as "ecosystem components" in all seven FMPs. The Council sets possession and landing limits to prevent the expansion of directed fisheries on these forage species in the Mid-Atlantic.

[2] National Marine Fisheries Service. 2017. Fisheries Economics of the United States, 2015. U.S. Dept. Commerce, NOAA Tech. Memo. NMFS-F/SPO-170, 247p. Available at: http://www.st.nmfs.noaa.gov/Assets/economics/publications/FEUS/FEUS-2015/Report-Chapters/FEUS%202015-AllChapters_Final.pdf.

mb 3/19/18

Council supports U.S. energy development that sustains the health of the marine ecosystem and associated fishery resources while minimizing environmental risks. The environmental risks associated with offshore oil and gas development are not consistent with the Council's vision for a healthy and productive marine ecosystem.

In fact, just the increased propagation of sound from geologic and geophysical activities, including seismic surveys and increased vessel traffic to transport oil, can impact fish and other living marine resources that depend on sound for their most vital life functions. The National Oceanic and Atmospheric Administration's Ocean Noise Strategy Roadmap[3] recognizes that "sound is a fundamental component of the physical and biological habitat that many aquatic animals and ecosystems have evolved to rely on over millions of years." The strategy also notes that changes in the acoustic environment caused by human activities "can lead to reduced ability to detect and interpret acoustic cues that animals use to select mates, find food, maintain group structure and relationships, avoid predators, navigate, and perform other critical life functions." For example, a study recently published in *Nature* showed that air guns cause significant mortality to zooplankton populations, even > 1 km from the seismic source.[4] Since zooplankton are a part of the food chain base, this new study suggest these activities could have profound negative impacts on our marine resources and the millions of Americans who benefit from them.

Although oil and gas development has been largely focused on potential offshore lease areas, the Council is also concerned that impacts of development would not be local or even regional. From the potential expansion of nearshore receiving facilities, the installation of underwater oil pipelines, to the increased sound associated with vessel traffic, the impacts of offshore oil development will have broad and cascading effects on the marine environment from our shorelines to farthest reaches of the Atlantic OCS. In addition, the risk of chronic leaks or catastrophic discharge events from oil and gas extraction and transport have the potential to cause long-term adverse effects on marine ecosystems, and cascading effects on human activities that would jeopardize both vulnerable species and fishing industries, as well as coastal tourism opportunities.

In addition, some of the region's most sensitive habitats, which the Council has worked to protect from the impacts of fishing, would be at risk. The Frank R. Lautenberg Deep Sea Coral Protection Area (Map 1), an area the size of Virginia encompassing more than 38,000 square miles of federal waters off the Mid-Atlantic coast, restricts fishing activity to protect slow-growing, fragile deep sea corals from the impacts of fishing gear.

These canyons contain sensitive deep sea corals, function as habitat areas of concern for golden tilefish, and have unique biological and oceanographic features making them both ecologically and economically important to the marine environment and our fishermen.

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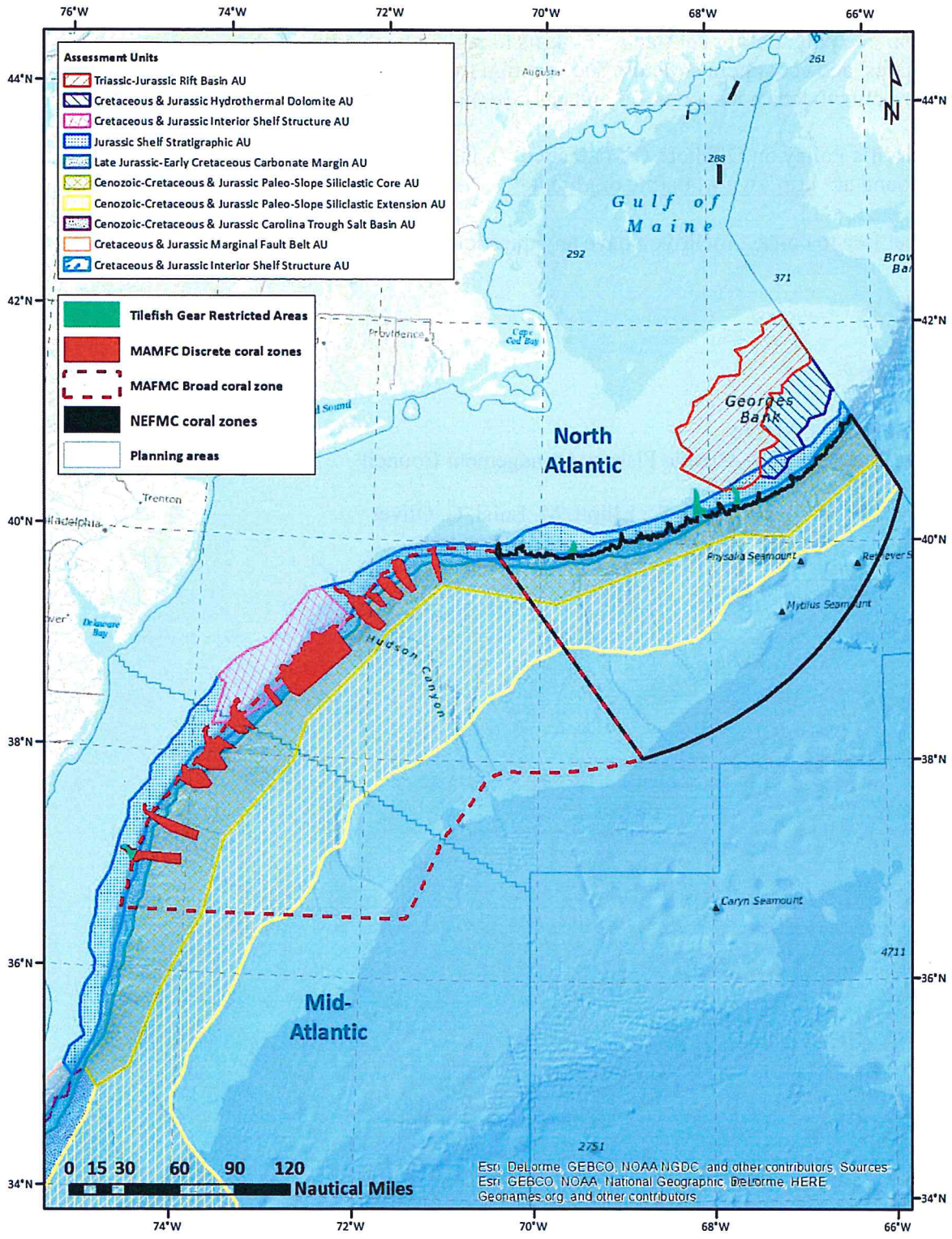
[3] Available at: http://cetsound.noaa.gov/Assets/cetsound/documents/Roadmap/ONS_Roadmap_Final_Complete.pdf.

[4] McCauley, R.D., R.D. Day, K.M. Swadling, Q.P. Fitzgibbon, R.A. Watson, and J.M. Semmens. 2017. Widely used marine seismic survey air gun operations negatively impact zooplankton. *Nature* Ecology & Evolution 1. Doi: 10.1038/s41559-017-0195. Available at: https://www.nature.com/articles/s41559-017-0195.

Map 1 – Mid-Atlantic and New-England Council Coral Zones and Tilefish Gear Restricted Areas.



In sum, although the Council recognizes the importance of energy exploration to U.S. economic security, the Council also notes the Mid-Atlantic is rich in marine biodiversity and contains ecologically sensitive areas that are highly important to the social, economic, and cultural currency of the region. The potential for substantial impacts to regional fishermen, fish, marine mammals, benthic communities, and ecosystem structure and function from exploration and development is great. As such, the Council does not support oil and gas development in our region and along the Atlantic coast.

The Council's Policy on Offshore Oil (attached) should be considered with these comments and can also be found at: http://www.mafmc.org/habitat/.

Please feel free to contact me if you have any questions.

Sincerely,

C Moore

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

cc: J. Coakley, W. Cruikshank, W. Elliott, M. Luisi, C. Oliver

State of Rhode Island and Providence Plantations
State House
Providence, Rhode Island 02903-1196
401-222-2080

Gina M. Raimondo
Governor

RECEIVED
MAR 07 2018
NEW ENGLAND FISHERY
MANAGEMENT COUNCIL

February 28, 2018

The Honorable Ryan Zinke
Secretary, U.S. Department of the Interior
1849 C Street, N.W.
Washington DC 20240

Re: 2019-2024 National Outer Continental Shelf Oil and Gas Leasing – Draft Proposed Program

Dear Secretary Zinke:

I write to express my strong opposition to offshore drilling and specifically to the proposed inclusion of the North Atlantic Region in the Outer Continental Shelf (OCS) Oil and Gas Leasing Program for 2019-2024. The proposal threatens our coasts, our ecosystems, and multiple sectors of our economy.

The OCS Lands Act expressly affords Governors of affected states the opportunity to participate in the decision-making process pertaining to OCS exploration and development. Rhode Island is clearly an affected state, and this letter outlines the major reasons why the North Atlantic Region must continue to be excluded from the program, as it has been for several decades. I have asked you, Secretary Zinke, for an exemption for Rhode Island, and I will continue to stand strongly opposed to offshore drilling.

First and foremost, the citizens of Rhode Island are united in their opposition to oil and gas drilling off our coast. Rhode Island's Congressional Delegation, Attorney General, and General Assembly, joined by numerous municipal officials, have also been deeply engaged, offering thoughtful and forceful statements of opposition on behalf of our constituents. Every letter, statement, and resolution addresses the same central concern: that our fundamental cultural, environmental, and economic interests are at stake, and that these interests must be protected.

Rhode Island's concerns are shared throughout the region. Rhode Island is centrally situated within the North Atlantic Region, which extends from New Jersey to Maine. I stand shoulder-to-shoulder with my fellow Governors from neighboring states on this issue. There is much at stake, and we are united as a region in our determination to support and protect our regional interest, which we feel represent the national interest in this case.

Further, the proposed inclusion of the North Atlantic Region in the revised 2019-2024 program is not in keeping with the policies and principles of the OCS Lands Act, which requires you to seek a proper balance between the potential for the discovery of oil and gas, the potential for environmental damage, and the potential for adverse impact on the coastal zone. The protection of our marine, coastal, and human environments is more important than offshore drilling. The statute also requires you to weigh the

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potential benefits of oil and gas production against other uses of the resources and space of the OCS. For our region, the continuing sound, well-managed, and sustainable use of our offshore seabed for fisheries, wind energy, and other compatible activities represents the higher interest. Here in Rhode Island, we know that the future is offshore wind power, not offshore oil drilling.

To underscore the critical, determinative disconnect between the proposed inclusion of the North Atlantic Region in the Program and the policies and principles set forth in the OCS Lands Act, I offer the following points:

1) Rhode Islanders have long relied upon New England's marine and coastal environment as a source of food, jobs, and recreation. **Our *regional marine ecosystem*, one of the most productive and valuable of any in the world, serves as a *major economic engine* for our thriving seafood and tourism industries** and a host of other ocean- and coastal-related enterprises.

   With more than 100 beaches, 400 miles of shoreline, a wealth of historical and cultural attractions, and world-class dining and outdoor recreation, Rhode Island has fostered a premier tourism industry valued at over $5 billion and supporting more than 41,000 jobs. Rhode Island also has a diverse and dynamic fishing and seafood industry, with commercial seafood generating $290 million in sales in 2015. Recreational fishing is equally important, generating $322 million in sales in 2015. Overall, commercial and recreational fishing in Rhode Island supported over 8,000 jobs in 2015. Marine trades and recreational boating in Rhode Island further generate about $1.3 billion in direct spending and sustain 7,100 jobs. The total economic impact of the maritime trades cluster amounts to over $2.2 billion in sales for Rhode Island businesses and generates nearly $118 million in tax and fee revenue for state and local governments.

   The combined value of the tourism, fishing, seafood, and marine trade industries throughout the Northeast is critical to our economy and must be maintained; it cannot be subject to the detrimental impacts associated with oil and gas drilling.

2) I understand the importance of *domestic energy production and energy security* to the U.S. economy, and I am proud that Rhode Island is home to the first offshore wind farm in the United States. **We have taken action over the past few years to decreases our reliance on fossil fuels and invest in alternative energy sources; we cannot take the step backwards of allowing offshore drilling.** Our Ocean Special Area Management Plan – the first plan of its type in the country – enabled offshore wind energy development in Rhode Island to proceed in a manner compatible with other ocean uses, with minimal impacts to the marine environment. I support the efforts of the Bureau of Ocean Energy Management (BOEM) to expand offshore wind energy in the North Atlantic Region. With a newly adopted state-federal Northeast Ocean Plan now in effect – another first in the country – we are confident that offshore wind energy development can continue to grow in a way that is compatible with our fishing interests, and protective of the marine environment.

3) **The *environmental risks* associated with oil and gas development are *real and unavoidable.*** Major oil spills, such as the Deepwater Horizon disaster in 2010, demonstrate that petroleum-related accidents are disastrous to natural resources and coastal economies. We are now facing new and growing risks associated with the effects of climate change. We cannot allow Rhode Island's already vulnerable marine and coastal resources, and the communities and businesses that depend on them, to be further jeopardized by the inevitability of a spill associated with oil and gas development.

4) **In recognition of the cultural, environmental, and economic value of our coastal and marine resources, Rhode Island has adopted *strong and effective laws and policies to protect our resources.*** Rhode Island's Coastal Resources Management Program is one of the nation's strongest and most progressive programs of its type. The Rhode Island Department of Environmental Management upholds water quality standards and protects Narragansett Bay and our adjacent coastal waters from activities that would cause impairments; the potential impacts from an oil leak or spill would undermine decades of progress in cleaning up Narragansett Bay. Rhode Island also serves on the New England Fishery Management Council and the Atlantic States Marine Fisheries Commission, which stand with me opposed to the potential of offshore drilling.

5) **The *scant hydrocarbon-resource data* and *limited industry interest* have been key factors governing the long-standing exclusion of the North Atlantic Region from the Program.** The last time any exploratory drilling was done in the region – off Georges Bank in the 1980s – no accessible oil or gas deposits were found.

There is abundant and compelling data that supports many of the key points raised herein. I have asked Rhode Island Director of Environmental Management Janet Coit to provide additional detailed information to you during the comment period. You will also be receiving resolutions from multiple coastal municipalities that are standing with me in opposition to offshore drilling.

I appreciate your willingness to consider and act upon these comments, offered on behalf of the citizens of Rhode Island. As the Ocean State, our marine heritage defines us. I am strongly opposed to oil and gas drilling off Rhode Island's coast, and I will continue to say so. The North Atlantic region has long been excluded from consideration under previous OCS Leasing Programs, and it is imperative that the exclusion be extended under the new program proposal.

Sincerely,

Gina M. Raimondo
Governor

New England Fishery Management Council
50 WATER STREET | NEWBURYPORT, MASSACHUSETTS 01950 | PHONE 978 465 0492 | FAX 978 465 3116
John F. Quinn, J.D., Ph.D., *Chairman* | Thomas A. Nies, *Executive Director*

February 8, 2018

Ms. Kelly Hammerle
Chief, National Oil and Gas Leasing Program
Development and Coordination Branch
Leasing Division, Office of Strategic Resources
Bureau of Ocean Energy Management
45600 Woodland Road, Mailstop VAM-LD
Sterling, VA 20166

Dear Ms. Hammerle:

Please accept these comments from the New England Fishery Management Council (Council) regarding the 2019-2024 Draft Proposed National Oil and Gas Leasing Program (DPP). While the Council recognizes the importance of domestic energy development and energy security, we recommend that the North and Mid-Atlantic Planning Areas be deleted from the 2019-2024 five-year plan. Leasing and development of these areas exposes living marine resources and fishing communities to too great a risk of significant damage.

On June 29 and August 15 of last year, the Council sent letters summarizing our concerns. Our most recent letter is attached. The comments below reiterate these concerns and include additional remarks on the development of the Programmatic Environmental Impact Statement (PEIS). We assume that the 2019-2024 PEIS will be similar to the 2017-2022 PEIS (BOEM 2016a).

The Council has sole or primary management jurisdiction over 28 marine fishery species[1]. Commercial and recreational fisheries are important sources of economic benefits along the entire Atlantic coast. These industries provide significant benefits to the nation, including contributions to our nation's food security. As the world's population continues to increase these renewable food resources and the employment opportunities they provide will grow in importance. If future benefits of these activities are to be realized, energy development must minimize risks to marine species and existing human uses.

We cannot overemphasize the need for BOEM to actively engage affected fishermen and their communities throughout the development of the five year program. From our experience these individuals and their industry associations are highly engaged in these issues and want to provide BOEM with detailed information on their fishing practices, including which locations are important to them and why. At minimum, BOEM's efforts should include open listening sessions in fishing ports as well as direct and targeted contact with industry associations to seek more detailed feedback. BOEM should work with the Regional Fishery Management Councils, the

[1] Atlantic cod, haddock, pollock, white hake, Acadian redfish, Atlantic wolffish, ocean pout, Atlantic halibut, winter flounder, American plaice, witch flounder, windowpane flounder, yellowtail flounder, monkfish, winter skate, little skate, smooth skate, thorny skate, barndoor skate, rosette skate, clearnose skate, silver hake, red hake, offshore hake, Atlantic herring, Atlantic sea scallop, Atlantic salmon, Atlantic deep-sea red crab

Atlantic States Marine Fisheries Commission, and state marine resource agencies on outreach prior to any public meetings. While talking to commercial and recreational fishermen is the best way to understand their operations, the Councils and NMFS can also assist BOEM in identifying which fisheries operate in specific locations, including which ports these vessels are based in. Fishing effort maps and community data on the Northeast and Mid-Atlantic Ocean data portals are a good starting point for these investigations but should be supplemented with more detailed information. BOEM's renewable energy program has developed extensive best management practices for outreach and coordination with the fishing industry, and the oil and gas program should adopt these BMPs wherever possible.

Our concerns regarding oil and gas development fall into five categories. First, we are concerned about direct displacement of fishing due to survey or extraction activities occurring in offshore environments. Second, sensitive, deepwater benthic habitats in the Atlantic OCS overlap hydrocarbon assessment units. These habitats, which are essential to many deep-sea species as well as some commercially-exploited stocks, could be substantially impacted by extraction activities. Third, we are concerned that sounds produced by oil and gas surveys and drilling operations will harm living marine resources and cause changes in distribution or abundance of these resources that will in turn affect fishing operations. Fourth, infrastructure development to support an Atlantic oil and gas industry could harm nearshore fish habitats which must be fully considered. Finally, there is a risk of chronic leaks and or catastrophic discharge events from oil and gas extraction and transport. Such spills have long-term adverse effects on marine ecosystems, and cascading effects on human activities that would jeopardize both vulnerable species and the commercial and fishing industries, as well as coastal tourism opportunities, which are important to all east coast states.

Most North and Mid-Atlantic Hydrocarbon Assessment Units (BOEM 2016b) overlap important fishing grounds, and others lie just offshore of these grounds. For example, the inshore boundary of the Cenozoic-Cretaceous & Jurassic Paleo-Slope Siliclastic Core AU is within just 5 to 10 miles of where fishing activities occur, namely trawling, trapping, and longlining for whiting, squid, red crab, lobster, Jonah crab, monkfish, butterfish, and tilefish. Survey and extraction activities could directly displace fishing vessels, and some fishing operations would not be economically viable if forced to move to less productive or more distant fishing grounds. Georges Bank is of particular concern as it is an important fishing area for groundfish, scallops, clams, lobster, and other marine species. The Atlantic sea scallop fishery has annual dockside revenues of more than one-half billion dollars and a much larger regional and national economic impact. A significant fraction of these revenues is generated from Georges Bank scallop beds.

The Council also is concerned about the effects of extraction activities on fish and their habitats. Within the North and Mid-Atlantic Planning Areas, the Council has designated essential fish habitat (EFH) for all 28 of the species it manages. The Mid-Atlantic Council has designated EFH for the species under their jurisdiction, and the National Marine Fisheries Service identifies EFH for Atlantic highly migratory species. Additional NOAA trust resources managed solely by the Atlantic States Marine Fisheries Commission (e.g. American lobster) do not have formally designated EFH, but important habitat areas are described in their fishery management plans. In terms of New England species, Georges Bank and locations close to shore tend to be important habitats for a larger number of species, with somewhat fewer commercially important species occurring in deeper waters. However, in aggregate, species managed by the New England Council rely on habitats from the coastline out to the base of the continental slope, with one species, deep-sea red crab, occurring on the New England seamount chain as well. The Council's Omnibus Essential Fish Habitat Amendment 2 (NEFMC 2017a) updated all of our EFH

designations. The amendment was recently approved by NMFS and will be implemented in spring 2018.

The Council has also designated habitat areas of particular concern (HAPC) which should receive particular attention as BOEM is assessing the potential effects of oil and gas development. The shallower oil and gas assessment units on Georges Bank overlap the northern edge of the bank, which is a habitat area of particular concern for juvenile Atlantic cod. There are also nearshore and inshore habitat areas of particular concern for cod in the Great South Channel/Nantucket Shoals region and along the coasts of RI, MA, NH, and ME. Both the Georges Bank and Gulf of Maine cod stocks are in rebuilding plans and therefore are more vulnerable to environmental disturbances than healthier stocks. Given the importance of protecting nearshore fish habitats, we agree with the exclusion of areas along the Atlantic coast within 25 nm from shore (Option 3). In addition, the Council has identified 11 canyons or canyon complexes and two seamounts as habitat areas of particular concern for our deep-water species, as a result of the presence of deep-sea coral habitats in those locations. The Council's designated HAPCs are shown on Map 1.

From a fishery management perspective, deep-sea corals are important as components of fish habitat, but they are also recognized as a conservation target in their own right. The assessment units along the shelf break overlap deep-sea coral habitats that occur in both the canyons and on the open slope. Because deep-sea corals are fragile and very slow growing, recovery from anthropogenic impacts will be extremely slow. All three Atlantic coast regional fishery management councils have designated areas to highlight important coral habitats and restrict fishing from these areas to protect them from damage. On January 30, 2018, the New England Council voted to restrict almost all bottom-contact fishing from a depth of 600 meters along the shelf break out to the EEZ boundary. This action was taken through the Council's Deep-Sea Coral Amendment (NEFMC 2017b). A similar area is already in place in the Mid-Atlantic. The New England and Mid-Atlantic Council's deep-sea coral protection zones are shown on Map 2. Deep-sea coral habitats are identified on Map 3.

In the past, major canyons were withdrawn from oil and gas exploration and development. These withdrawals should be reinstated (Option 2) and additional areas considered. Such deepwater benthic communities, including coral and sponge habitats, are widespread throughout New England and the Mid-Atlantic, occurring along the continental slope beginning as shallow as 200-300 meters and extending to over 2000 meters. In addition to the canyons and slope, corals and other structure-forming deepwater animals occur on the seamounts and in coastal and offshore areas of the Gulf of Maine (see Map 3). Chemosynthetic (seep) communities are found at the base on the continental slope. We suggest that the withdrawal areas in New England should be expanded to include additional deepwater habitats identified in our Deep-Sea Coral Amendment. BOEM should work closely with NOAA's Deep-Sea Coral Research and Technology Program to understand precisely where these habitats occur. There are similarities between these habitats and deepwater benthic communities identified in the Gulf of Mexico. The 2017-2022 PEIS references required mitigation measures for leases in the Gulf of Mexico, including separation distances between discharge locations/anchor areas and deepwater benthic communities. Similar restrictions should be considered in the North and Mid-Atlantic areas. Furthermore, similar to the Gulf of Mexico, other features of the North Atlantic Planning Area might warrant specific exclusion from development. For example, Cashes and Jeffreys Ledges in the Gulf of Maine seem to be analogous to topographic banks identified in the Gulf of Mexico Planning Area. Both of these areas are designated HAPCs.

While we are not responsible for the management of highly migratory fishes, seabirds, sea turtles, and marine mammals, they are essential components of the marine ecosystem upon which fishery resources depend. These species occur along the shelf break and in other waters throughout the North and Mid-Atlantic Planning Areas. Particular attention should be given to assessment of impacts on threatened and endangered species, including the North Atlantic Right Whale.

As detailed in our earlier letter, we are concerned that sounds produced by oil and gas surveys and drilling operations will have negative impacts on living marine resources. As BOEM is aware, the science on the effects of these sounds on living marine resources is not conclusive, and there are many gaps in our collective knowledge (Hawkins et al. 2015, which builds on a 2012 BOEM workshop summarized by Normandeau 2012). However, scientific uncertainty in the magnitude of and biological mechanisms behind these impacts should not be used as a rationale for downplaying this issue in either impacts assessment or decision-making. Because it is difficult to extrapolate the results of existing studies to species and sound types not specifically examined (Popper and Hastings 2009, Hawkins et al. 2015), BOEM should be very precautionary when authorizing sound generating activities, and should encourage additional research that is regionally-specific. While we appreciate the logistical difficulties of tracking the long-term effects of sound exposure on specific populations of animals in the field, such challenges should not preclude a rigorous attempt to estimate long-term and cumulative effects. BOEM should consider the potential cumulative and long-term effects of sound exposure at population levels when drafting the PEIS. Regardless of whether population-level or long-term effects on the resource can be demonstrated, localized declines in abundance or availability of fish could nonetheless negatively affect fishing fleets.

Construction and operations of onshore or nearshore facilities needed to support oil and gas development of the Atlantic OCS also could impact fish and their habitats. Because the oil and gas resources on the Atlantic coast are not currently developed, the new five-year plan and PEIS should thoroughly explore what sorts of facilities would be required, and where they might be located. For example, would pipelines be required to convey oil and gas to onshore facilities? Or are floating production, storage, and offloading facilities more likely? Which ports are suitable for use as staging areas or offloading facilities? Will harbors need to be deepened to accommodate oil and gas related ship traffic? While there is substantial coastal development along the Atlantic coast, it seems that the Atlantic would be considered a "frontier area" with respect to oil and gas development. The 2017-2022 PEIS indicates that development of such frontier areas is a significant undertaking. If leasing is authorized in the North and Mid-Atlantic planning areas, BOEM must work closely with NMFS and the fishery management councils to evaluate and mitigate, when necessary, impacts of development on both nearshore and offshore marine habitats.

The 2017-2022 PEIS describes ecosystem components such as fishery resources and EFH or commercial and recreational fisheries at a very high level. This is somewhat frustrating as the biological and human components of marine ecosystems are extremely nuanced and complex. Further, when evaluating impacts, those impact producing factors (e.g. noise, vessel traffic, discharges) that BOEM has determined to have no impacts, or only negligible or minor impacts, are relegated to summary tables in an appendix to the EIS (BOEM 2016c). While these summary tables are a useful way to convey information in a succinct and readable format, they do not provide a thorough discussion of how such conclusions were reached. Discriminating between minor and moderate impacts in particular seems to be somewhat subjective, and fisheries constituents would disagree with the assessment that oil and gas-related impact producing factors have only minor effects on fish and fisheries, as concluded in the 2017-2022 PEIS. Vessel

discharges, noise, and the placement of structures offshore will have at least some measures of unavoidable impacts on fish, EFH, and commercial and recreational fisheries.

BOEM should review fishery-dependent and independent data to understand the possible effects of leasing and development on fisheries and fishery resources. It is essential that BOEM use the most up to date information possible when evaluating the existing fishery uses along the Atlantic coast. The DPP cites NMFS 2015 (although this citation seems to be absent from the reference section), but more recent data are available[2,3]. Current data are critical as fisheries and fishery resources are dynamic, and management is constantly adapting to address changes in resource status. The 2017-2022 PEIS makes the general assumption that fishery resources are abundant or increasing, but unfortunately that is not universally true. In some cases, when stocks are rebuilt or biomass increases, harvest levels can rise, while in other instances updated biological assessments indicate that certain species are struggling and need attention to aid their recovery. In either case, negative impacts associated with oil and gas development are of concern to the Council.

As BOEM considers the value of fisheries in development of the PEIS, it is important to recognize the interconnected nature of the resources and industries throughout the New England and Mid-Atlantic regions. As examples, scallops caught off NJ are landed in New Bedford, MA, and squid captured along the shelf break south of Georges Bank are landed in Point Judith, RI. Many species extend from the Gulf of Maine to Cape Hatteras. While states and ports specialize in certain products and methods of harvest, the fisheries economy is regional and should be viewed as such. The impacts analysis in the PEIS cannot separate the fish and fishery impacts associated with activities in the North and Mid-Atlantic Planning Areas.

The 2017-2022 PEIS considers climate change as an overarching issue that would operate synergistically with impact producing factors related to oil and gas development to affect marine ecosystems. This is appropriate, and analyses in the 2019-2024 PEIS should do the same. The 2019-2024 PEIS should also include a regionally-specific discussion of climate-mediated effects when appropriate. The proposed program document should put potential oil and gas production in context with the amount of electricity that might be generated from renewable sources, and should also consider likely increases or decreases in demand over the possible lifecycle of and oil or gas project, which could be 40 to 70 years.

An inherent risk with hydrocarbon development is the possibility of a catastrophic discharge event. As was done for the 2017-2022 PEIS, these events should be evaluated as a potential impact producing factor associated with oil and gas development. While we agree with BOEM that such events are rare, they are possible, as evidenced by the Deepwater Horizon blowout in the Gulf of Mexico. The PEIS should explain what safeguards are in place to minimize the possibility of large discharge events like Deepwater Horizon. The 2017-2022 PEIS refers generally to such measures, but clearer references to safety regulations would be very useful to readers. Weather conditions in the northwestern Atlantic can be extreme, and it seems likely that such conditions would increase the risk of spills during oil transport and drilling as compared to some other regions of the United States. Also, although CDEs are likely rare, pulling them out of the impacts analysis for each ecosystem component and into a separate section minimizes the

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[2] National Marine Fisheries Service. 2017. Fisheries Economics of the United States, 2015. U.S. DOC, NOAA Tech. Memo. NMFS-F/SPO-170, 147p. http://www.st.nmfs.noaa.gov/Assets/economics/publications/FEUS/FEUS-2015/Report-Chapters/FEUS%202015-AllChapters_Final.pdf.

[3] National Marine Fisheries Service. 2016. Fisheries of the United States 2016. U.S. Department of Commerce, NOAA Current Fishery Statistics No. 2016. Available at: https://www.fisheries.noaa.gov/feature-story/fisheries-united-states-2016.

very serious and potentially severe nature of the impacts associated with a large discharge event. Even if CDEs are highly unlikely, it is exactly these risks that are most concerning to fishery stakeholders.

The Gulf of Maine is one of the fastest warming bodies of water on earth, and we are already seeing evidence of changes in the Northeast Shelf Ecosystem[4]. Given these changes, renewable energy development may be a better focus area for the Atlantic coast at this time. While wind and other renewable projects may still have impacts on fisheries, the risks appear to be fewer. Actions to prioritize renewable energy and decrease reliance on non-renewable resources will reduce the likelihood of negative ecological impacts on our ocean resources, and thereby support the human communities that depend on them.

In conclusion, we strongly encourage BOEM to remove the North and Mid-Atlantic Planning Areas from consideration in the 2019-2024 plan. We are particularly concerned about leasing in the North Atlantic Planning Area as it has the greatest degree of overlap with the fisheries and species we manage. We look forward to working with BOEM to ensure responsible development of domestic renewable energy resources on the Atlantic OCS.

Sincerely,

Dr. John Quinn
Council Chairman

cc:
Chris Moore, Executive Director, Mid-Atlantic Fishery Management Council
Robert Beal, Executive Director, Atlantic States Marine Fisheries Commission
Greg Waugh, Executive Director, South Atlantic Fishery Management Council

Attachment – August 15, 2017 Letter from NEFMC to Kelly Hammerle

[4] See https://www.nefsc.noaa.gov/ecosys/current-conditions/ for a detailed condition report for the Northeast Shelf Ecosystem.

References

BOEM (2016a). 2017-2022 OCS Oil and Gas Leasing Program Final Programmatic EIS. Volume I: Chapters 1-6. OCS EIS/EA BOEM 2016-060. 360p.

BOEM (2016b). Inventory of Technically and Economically Recoverable Hydrocarbon Resources of the Atlantic Outer Continental Shelf as of January 1, 2014. OCS Report BOEM 2016-071. 58p.

BOEM (2016c). 2017-2022 OCS Oil and Gas Leasing Program Final Programmatic EIS. Volume II: Appendices A-J. OCS EIS/EA BOEM 2016-060. 578p.

Hawkins, A. D., A. E. Pembroke and A. N. Popper (2015). "Information gaps in understanding the effects of noise on fishes and invertebrates." Reviews in Fish Biology and Fisheries 25(1): 39-64.

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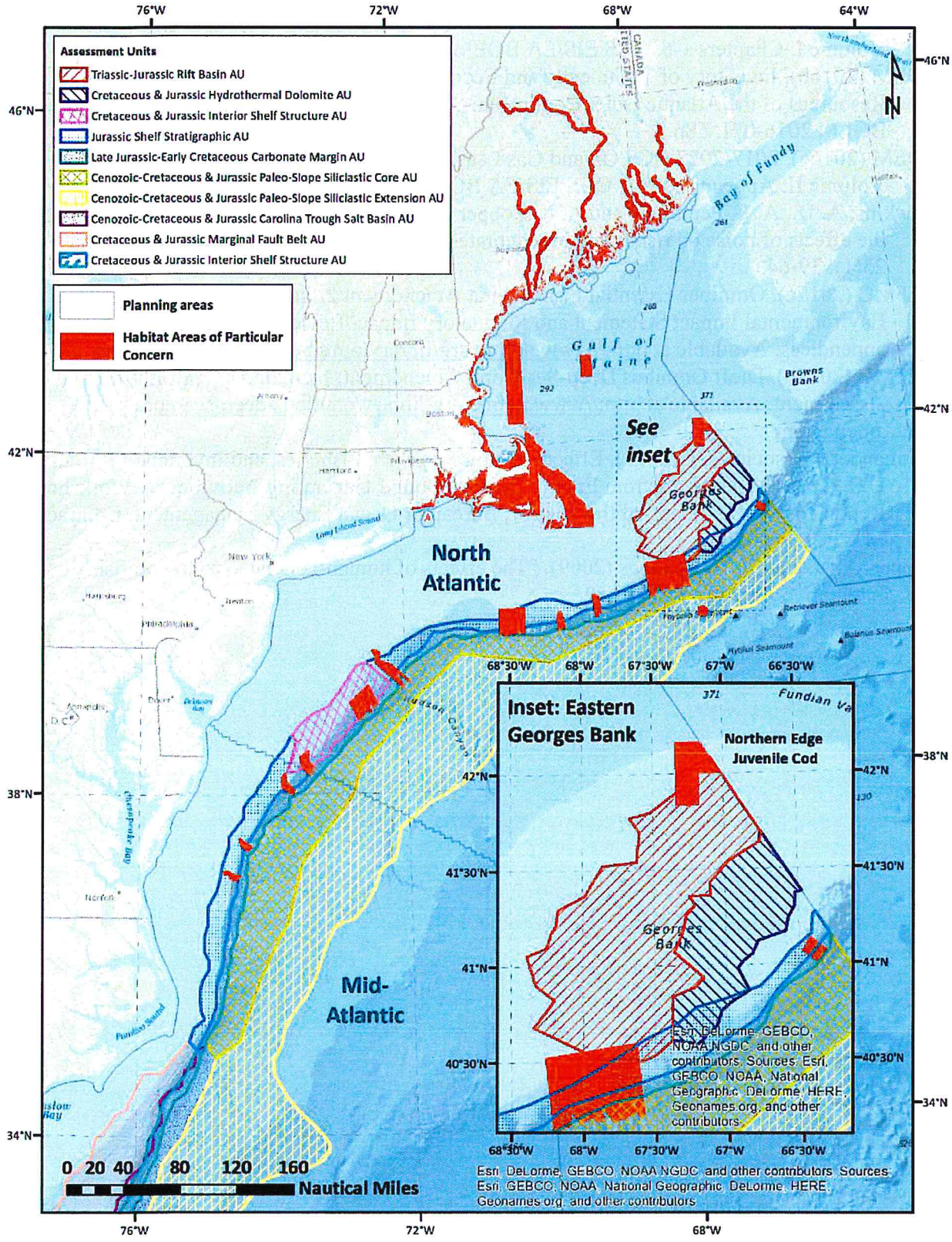
NEFMC (2017b). Draft Omnibus Deep-Sea Coral Amendment, Including a Draft Environmental Assessment. Available at http://www.nefmc.org/library/omnibus-deep-sea-coral-amendment

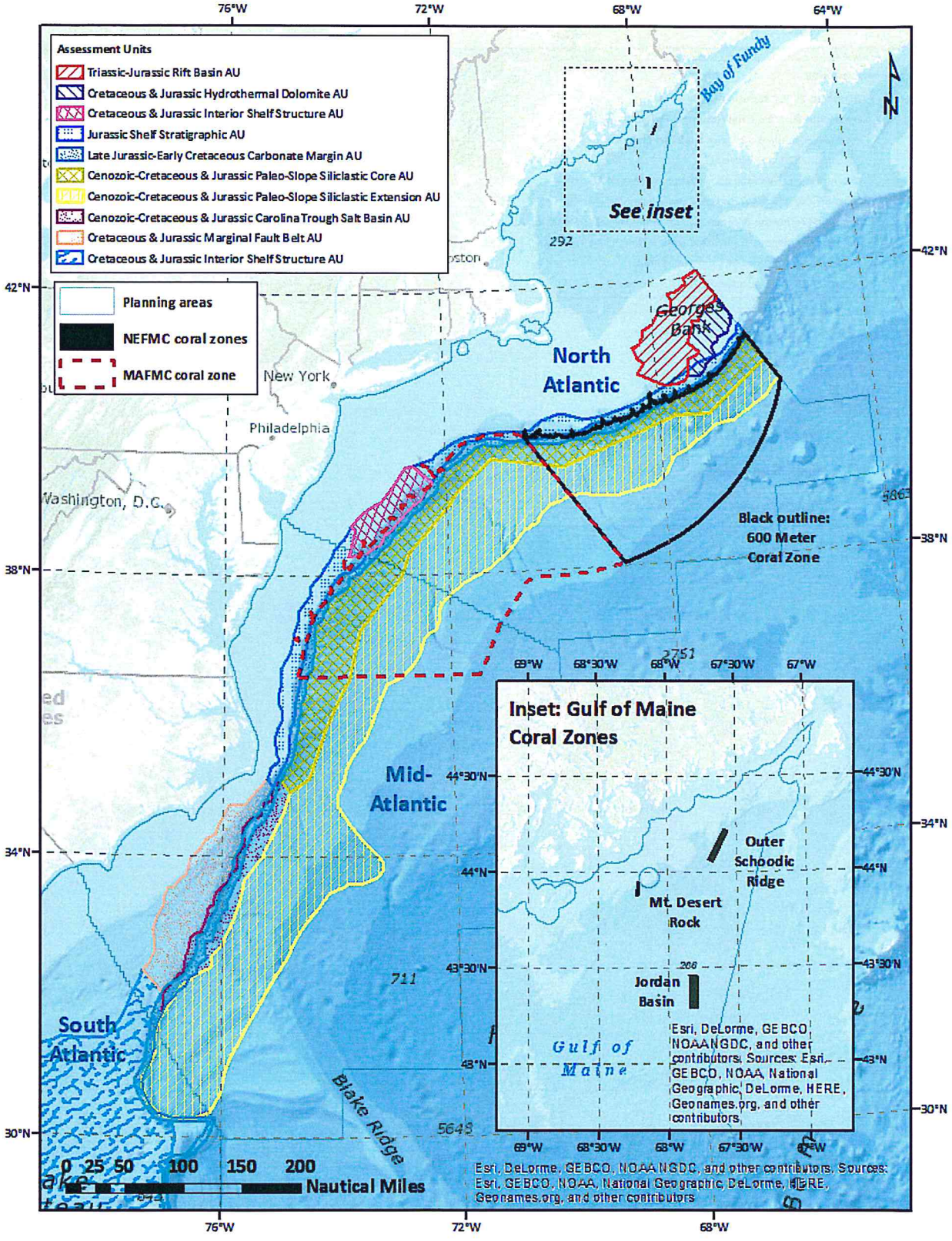
Normandeau Associates, I. (2012). Effects of Noise on Fish, Fisheries, and Invertebrates in the U.S. Atlantic and Arctic from Energy Industry Sound-Generating Activities. A Workshop Report for the U.S. Dept. of the Interior, Bureau of Ocean Energy Management. Contract # M11PC00031: 72.

Popper, A. N. and M. C. Hastings (2009). "The effects of human-generated sound on fish." Integrative Zoology 4(1): 43-52.

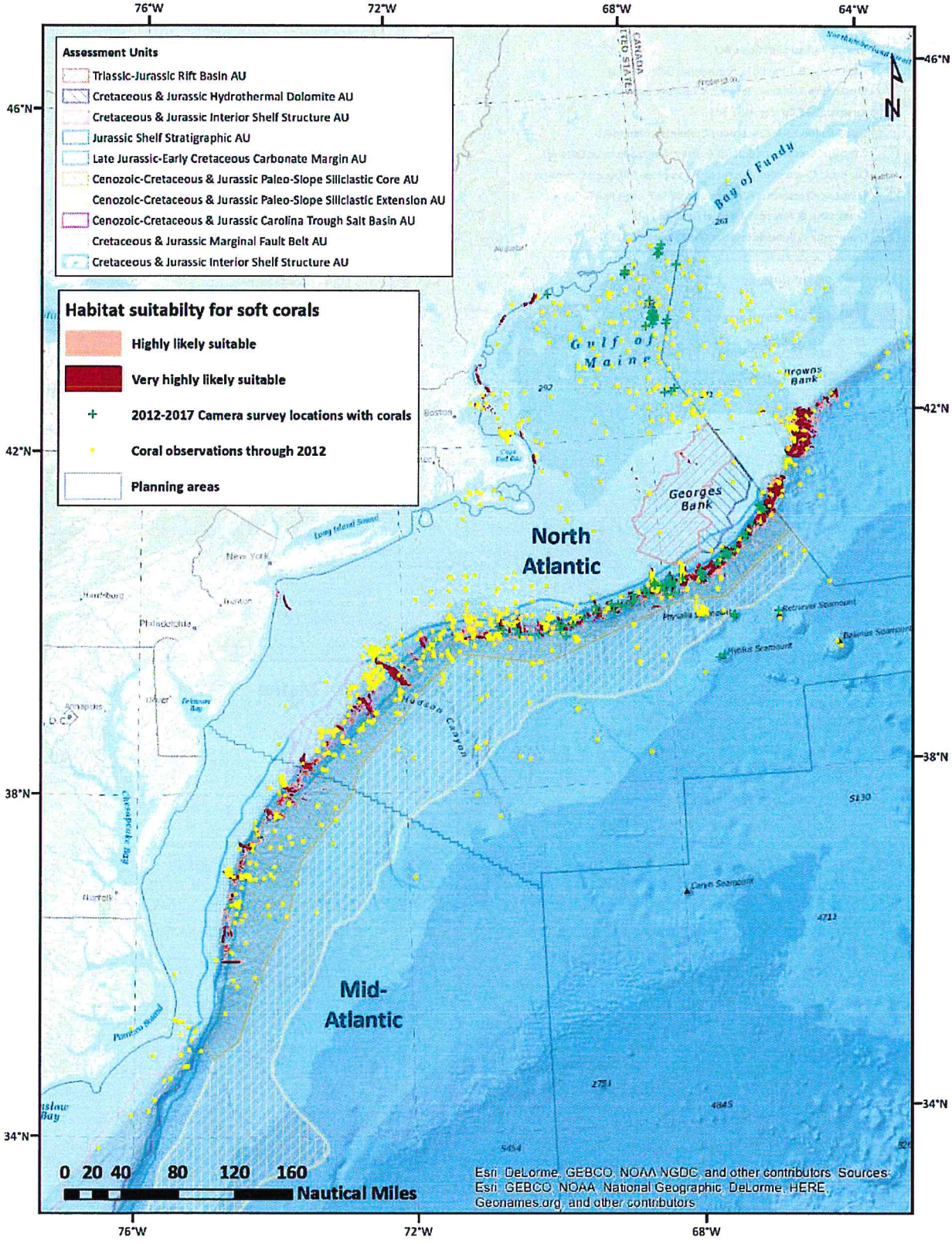
Map 1 – New England Fishery Management Council Habitat Areas of Particular Concern.



Map 2 – New England and Mid-Atlantic Fishery Management Council Coral Zones.



Map 3 – Evidence of deep-sea coral habitat from a habitat suitability model, recent remotely operated vehicle and towed camera surveys, and coral observations.



attachment

New England Fishery Management Council
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John F. Quinn, J.D., Ph.D., *Chairman* | Thomas A. Nies, *Executive Director*

August 15, 2017

Ms. Kelly Hammerle
National Program Manager, BOEM
45600 Woodland Road, Mailstop VAM-LD
Sterling, VA 20166

Dear Ms. Hammerle:

Please accept these comments from the New England Fishery Management Council (Council) regarding the preparation of a new five-year National Outer Continental Shelf Oil and Gas Leasing Program for 2019-2024.

On June 29, in the context of the near-term potential for seismic exploration in the Mid- and South Atlantic regions, we sent a letter[1] to Secretary Zinke expressing our concerns regarding the potential ecological impacts of such surveys, and urging further study of potential impacts before such surveys are allowed. As we mentioned in our letter, commercial and recreational fisheries are important economic drivers in the North, Mid-, and South Atlantic, and the three Atlantic coast regions are highly interconnected in terms of commercial fisheries and fisheries management structures. The Council has management jurisdiction over 28 marine fishery species[2], and we are very concerned that oil and gas exploration and extraction activities may harm these resources and the communities that depend on them. Many of these species and their associated fisheries extend beyond New England, often into the Mid-Atlantic, and in some cases, into the South Atlantic. New England Council-managed fisheries overlap the North and Mid-Atlantic Planning Areas.

While we recognize the importance of domestic energy development and energy security to the U.S. economy, we urge caution as the agency considers whether to include planning areas in the Atlantic OCS in the 2019-2024 five-year plan. The commercial and recreational fishing industries provide significant benefits to the nation, including contributions to our nation's food security. As the world's population continues to increase, this will grow in importance. If we are to realize the benefits of these activities into the future, energy development must minimize risks to marine species and existing human uses.

Our concerns regarding oil and gas development fall into five categories. First, we are concerned about direct displacement of fishing activities due to survey or extraction activities occurring in offshore environments. Second, there are sensitive, deep-water benthic habitats in the Atlantic OCS that overlap strongly with hydrocarbon assessment units. These habitats, which are essential to many deep-sea species as well as some commercially-exploited stocks could be

[1] See attachment

[2] Atlantic cod, haddock, pollock, white hake, Acadian redfish, Atlantic wolffish, ocean pout, Atlantic halibut, winter flounder, American plaice, witch flounder, windowpane flounder, yellowtail flounder, monkfish, winter skate, little skate, smooth skate, thorny skate, barndoor skate, rosette skate, clearnose skate, silver hake, red hake, offshore hake, Atlantic herring, Atlantic sea scallop, Atlantic salmon, Atlantic deep-sea red crab

negatively impacted by extraction activities. Third, as mentioned in our prior letter, we are concerned that sounds produced by oil and gas surveys and drilling operations will have negative impacts on living marine resources, and that changes in distribution or abundance of these resources will in turn affect fishing operations. Fourth, infrastructure development to support an Atlantic oil and gas industry could have negative impacts on nearshore fish habitats which must be fully considered. Finally, there is a risk of leaks and spills associated with oil and gas extraction and transport. Such spills would have negative impacts on marine ecosystems, and cascading effects on human activities.

Survey and extraction activities could directly displace fishing vessels. We have reviewed the Inventory of Technically and Economically Recoverable Hydrocarbon Resources of the Atlantic Outer Continental Shelf as of January 1, 2014 (BOEM 2016). Some of the North and Mid-Atlantic Assessment Units (AU) have a strong spatial overlap with important fishing grounds, and others lie just offshore of these grounds (Figure 1). The Triassic-Jurassic Rift Basin AU and Cretaceous & Jurassic Hydrothermal Dolomite AU encompass much of the U.S. portion of Georges Bank. Georges Bank is a shallow submarine plateau that interacts with regional ocean currents to generate strong areas of upwelling, which leads to the high primary production that supports the food chain of the bank, and in turn, commercial fisheries. Eastern Georges Bank is an important fishing area for groundfish, scallops, and lobster. The Atlantic Sea Scallop fishery has revenues of nearly half a billion dollars per year, and eastern Georges Bank is a core fishing ground for this fleet. Some fishing operations might not be economically viable if forced to move to less productive or more distant fishing grounds.

Along the continental shelf break, the Jurassic Shelf Stratigraphic AU and Late Jurassic-Early Cretaceous Carbonate Margin AU overlap fishing grounds for whiting, squid, red crab, lobster, Jonah crab, monkfish, butterfish, and tilefish. We manage some of these fisheries, and others are managed by our partners, the Mid-Atlantic Fishery Management Council and the Atlantic States Marine Fisheries Commission. Highly migratory fishes and marine mammals are also abundant along the shelf break. Surveys or drilling activities in these AUs could directly displace fishing activities. If the five-year plan authorizes leasing in any portions of the Atlantic OCS, it is imperative that BOEM become familiar with the seasonal movements of marine resources and their target fisheries in our region, so that survey and construction activities can be conducted in ways that minimize interactions. We have found through our own work that it is critical to review fisheries data for multi-year periods, as management changes and natural inter-annual fluctuations in stock conditions lead to different levels of activity between years.

We are also concerned about the effects of extraction activities on fish habitats. The above-mentioned AUs along the shelf break, in addition to the Cretaceous and Jurassic Interior Shelf Structure AU and the Cenozoic-Cretaceous & Jurassic Paleo-Slope Siliclastic Core AU, overlap deep-sea coral habitat that occur in both the canyons and on the open slope. Deep-sea corals are fragile and very slow growing, such that recovery from anthropogenic impacts, whether due to fishing, oil and gas exploration, or another activity, will likely be extremely slow. These corals, in combination with other benthic animals such as sponges, provide habitats for fishes and marine invertebrates, with some very specific interactions between species. In addition to these deep sea habitats, the shallower AUs on the bank overlap the northern edge, which is an area of concern for juvenile Atlantic cod (shaded blue in Figure 2).

While we still have much to learn about deep-sea coral ecology, recent (2013-present) NOAA studies have thoroughly documented coral occurrence within all surveyed canyons, many intercanyon slope areas, and at a range of depths, from the edge of the EEZ near Heezen Canyon south to Norfolk Canyon. Corals also occur on the New England seamounts, of which Bear and

Physalia Seamounts overlap the deepest hydrocarbon assessment units (Cenozoic-Cretaceous & Jurassic Paleo Slope Siliclastic AU and Cenozoic-Cretaceous & Jurassic Paleo Slope Siliclastic Extension AU).

All three Atlantic coast regional fishery management councils have designated areas to highlight important coral habitats and restrict fishing from these areas to protect them from damage. The Council is in the process of finalizing a plan to restrict certain types of bottom-contact fishing from the shelf break out to the EEZ boundary (NEFMC 2017, some of these areas are shown in red on Figure 2). In addition, through our Omnibus Essential Fish Habitat Amendment (NEFMC 2015, currently under NMFS review), we have designated Habitat Areas of Particular Concern in 11 canyons and canyon complexes from Heezen to Norfolk (blue shaded areas in Figure 2). Although there are no fishing restrictions associated with the Habitat Areas of Particular Concern, the designations highlight the ecological importance of these canyons, and serve as a starting point for further consideration of fishery management measures, and as a focus for the evaluation of non-fishing activities. In light of the sensitive habitat types present in the canyons along the Atlantic continental margin, we agree that the previous administration's withdrawal of the major canyons from oil and gas exploration and development was an appropriate, precautionary choice, and we would hope to see these withdrawals reinstated, if leasing is permitted in the North and Mid-Atlantic Planning Areas under the 2019-2024 plan.

We are concerned that sounds produced by oil and gas surveys and drilling operations will have negative impacts on living marine resources. Human-generated, low-frequency noise in the marine environment has doubled every decade for the period 1950 to 2000 (Hildebrand 2009), a substantial change has occurred within the lifetimes of some longer-lived species. Oil and gas extraction activities generate various types of sounds, including explosions, vessel noise, survey air gun blasts, and pile driving during construction of nearshore and offshore facilities (Hawkins et al. 2015). As BOEM is aware, the science on the effects of these sounds on living marine resources is not conclusive, and there are many gaps in our collective knowledge (Hawkins et al. 2015, which builds on a 2012 BOEM workshop summarized by Normandeau 2012). However, scientific uncertainty in the magnitude of and biological mechanisms behind these impacts should not be used as a rationale for downplaying this issue in either impacts assessment or decision making.

Impacts of sound on marine fishes are difficult to assess, in part due to the logistics of conducting such studies, but also because effects vary according to both the species and the characteristics of the sound, which may in turn vary according to environmental characteristics such as temperature (Popper and Hastings 2009). Further limiting our ability to generalize about effects across different fishes and types of noise, in some studies (e.g. Popper et al. 2007, Wysocki et al. 2007), different cohorts of the same species exhibit varying responses to sound exposure, perhaps due to developmental history or genetic differences (Popper and Hastings 2009). These challenges in assessment extend to marine mammals and invertebrates as well. Because it is difficult to extrapolate the results of existing studies to species and sound types not specifically examined (Popper and Hastings 2009, Hawkins et al. 2015), BOEM should be very precautionary when authorizing sound generating activities, and should encourage additional research that is regionally-specific.

It is easy to appreciate the logistical difficulties of tracking the long-term effects of sound exposure on specific populations of animals in the field, but such challenges should not preclude a rigorous attempt to estimate long-term and cumulative effects. The research we have reviewed has generally focused on assessing individuals or populations shortly before, during, and after exposure to sounds from air guns or pile driving, and we understand that these types of studies

are most typical. Ideally, it would be possible to expand upon the results of such studies to determine the population-level effects of exposure on fisheries stocks, protected and endangered species, and ecosystem component species. Although such assessments may not be possible in the short term, we encourage BOEM to consider the potential cumulative and long-term effects of sound exposure at population levels when drafting the five-year plan, even if such an assessment is largely qualitative.

Even if population-level effects of sound cannot be estimated, either for fishery resources or for other species they depend on for food, localized movement of fish within the water column or out of the immediate area may still affect commercial fleets targeting those resources. A variety of studies have documented localized movement of fisheries stocks following sound exposure (e.g. Fewtrell and McCauley 2012, Paxton et al. 2017). Localized declines in abundance or availability of fish could negatively affect fishing fleets in the absence of a population-level or long-term effect on the resource.

Our concerns about negative effects on fish habitats are not limited to offshore areas. While the harvest of federally-managed fishes and invertebrates generally occurs outside the coastal zone, many of the species we manage begin their lives in nearshore habitats. Although the hydrocarbon assessment units occur offshore, oil and gas resources extracted from the seabed will need to come onshore for refining and distribution. If new onshore or nearshore infrastructure is needed to support oil and gas development of the Atlantic OCS, construction activities could impact nearshore habitats. NMFS Office of Habitat Conservation has substantial expertise in mitigating these types of impacts. The new five-year plan should explore the extent to which infrastructure development might be necessary for Atlantic oil and gas development, and consider the cumulative effects of such construction on managed species and their habitats. We encourage BOEM to work closely with NMFS to evaluate and mitigate, when necessary, impacts of development on both nearshore and offshore marine habitats.

Finally, an attendant risk with hydrocarbon development, unlike with renewable energy development, is the possibility of a spill or blowout. The extensive body of scientific literature resulting from the work done after the 2010 Deepwater Horizon spill documents a broad range of impacts on the species and associated human communities of the Gulf of Mexico (see Murawski et al. 2016 for summary). While we acknowledge such events are rare, they are possible, and should be evaluated in the new five-year plan as a potential impact of oil and gas development. Weather conditions in the northwestern Atlantic can be extreme in terms of both wind speeds and waves. Such conditions would increase the risk of spills during oil transport and drilling as compared to some other regions of the United States.

Given the above concerns, we believe that hydrocarbon development in the Atlantic OCS inappropriately risks living marine resources and associated human communities, and we recommend that BOEM exclude the Atlantic planning areas from the 2019-2024 plan. We think that renewable energy development is a better focus area for the Atlantic coast at this time. While wind and other renewable projects may still have impacts on fisheries, the risks appear to be fewer. The Gulf of Maine is one of the fastest warming bodies of water on the planet, and we are already seeing evidence of changes in the Northeast Shelf Ecosystem[3]. Actions to prioritize renewable energy and decrease reliance on non-renewable resources will reduce the risk of negative ecological impacts on our ocean resources, and thereby support the human communities that depend on them.

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[3] See https://www.nefsc.noaa.gov/ecosys/current-conditions/ for a detailed condition report for the Northeast Shelf Ecosystem.

We look forward to working with the Department of the Interior and its Bureau of Ocean Energy management to ensure responsible development of domestic energy resources on the Atlantic OCS.

Sincerely,

Dr. John Quinn
Chairman

cc: Robert Beal, ASMFC
Dr. Chris Moore, MAFMC
Lou Chiarella, GARFO Habitat Conservation

Attachment – June 29, 2017 Letter from NEFMC to Ryan Zinke

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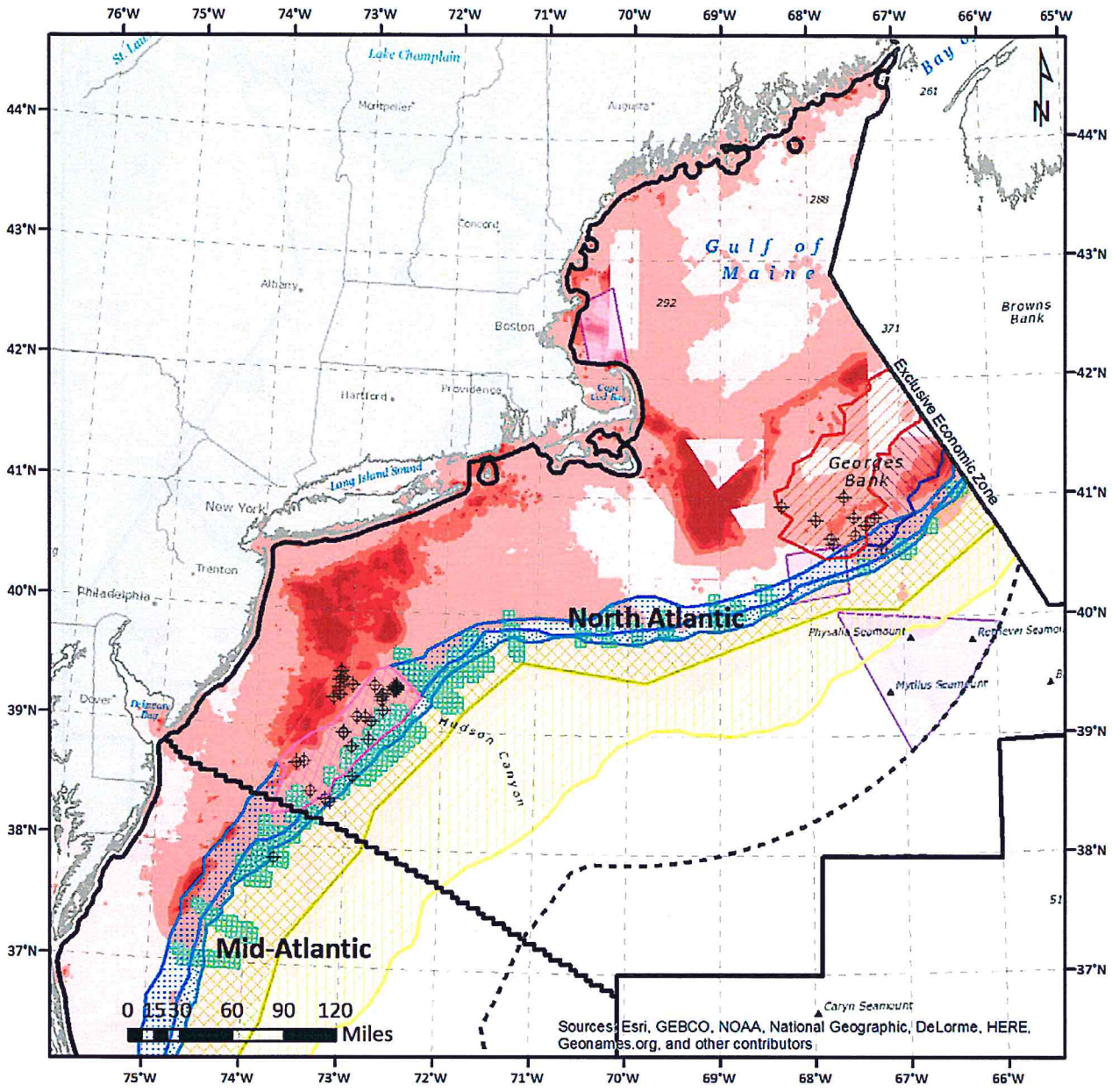
Figure 1 – Fishery revenues, Planning Areas and Assessment Units, and Past and Current Withdraw Areas



Assessment Units

- Triassic-Jurassic Rift Basin AU
- Cretaceous & Jurassic Hydrothermal Dolomite AU
- Cretaceous & Jurassic Interior Shelf Structure AU
- Jurassic Shelf Stratigraphic AU
- Late Jurassic-Early Cretaceous Carbonate Margin AU
- Cenozoic-Cretaceous & Jurassic Paleo-Slope Siliclastic Core AU
- Cenozoic-Cretaceous & Jurassic Paleo-Slope Siliclastic Extension AU
- Cenozoic-Cretaceous & Jurassic Carolina Trough Salt Basin AU
- Cretaceous & Jurassic Marginal Fault Belt AU
- Cretaceous & Jurassic Interior Shelf Structure AU

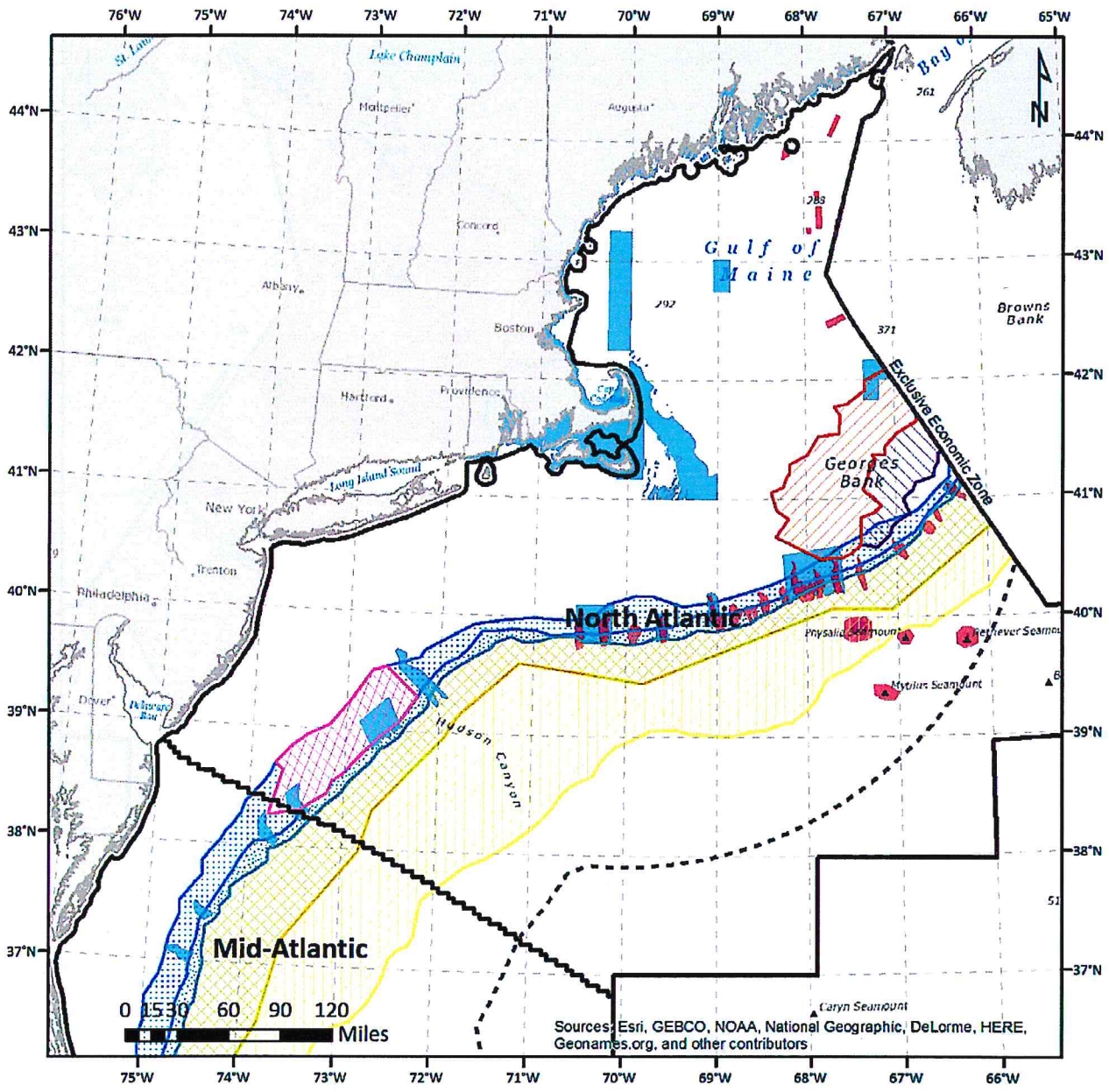
- Atlantic wells
- Planning areas
- Atlantic Region Withdraw Areas
- Canyon Withdrawl (rescinded by April 2017 EO)

Sum of commercial fishery revenue 2010-2014

$ per 500x500 m grid

- 590 - 1300
- 1400 - 7800
- 7900 - 14000
- 15000 - 21000
- 22000 - 150000

Figure 2 – Habitat Areas of Particular Concern, Discrete Deep-Sea Coral Zones, Assessment Units, and Planning Areas



Assessment Units

- Triassic-Jurassic Rift Basin AU
- Cretaceous & Jurassic Hydrothermal Dolomite AU
- Cretaceous & Jurassic Interior Shelf Structure AU
- Jurassic Shelf Stratigraphic AU
- Late Jurassic-Early Cretaceous Carbonate Margin AU
- Cenozoic-Cretaceous & Jurassic Paleo-Slope Siliciastic Core AU
- Cenozoic-Cretaceous & Jurassic Paleo-Slope Siliciastic Extension AU
- Cenozoic-Cretaceous & Jurassic Carolina Trough Salt Basin AU
- Cretaceous & Jurassic Marginal Fault Belt AU
- Cretaceous & Jurassic Interior Shelf Structure AU

- Planning areas
- Canyons, seamounts, and other areas identified as possible coral protection zones
- Habitat Areas of Particular Concern, recommended 2015