



MARINE MAMMAL COMMISSION

9 February 2022

Ms. Tershara Matthews, Chief
Office of Emerging Programs
Bureau of Ocean Energy Management
1201 Elmwood Park Boulevard
New Orleans, Louisiana 70123

Dear Ms. Matthews:

The Marine Mammal Commission (the Commission), in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the Bureau of Ocean Energy Management's (BOEM) 11 January 2022 announcement that it is preparing a draft environmental assessment (EA) for commercial wind energy leasing in the Gulf of Mexico (GOM). The draft EA will consider potential environmental consequences of site characterization and site assessment activities associated with wind energy leasing in the Gulf of Mexico.

In December 2021, the Commission submitted comments on BOEM's call for information and nominations for commercial wind energy leasing in the Gulf of Mexico (see enclosed)¹. We ask that BOEM consider those comments in the development of the draft EA for commercial wind energy leasing in the Gulf of Mexico. The Commission provided additional comments on the draft EA at the 2 February 2022 meeting of the Gulf of Mexico Intergovernmental Renewable Energy Task Force, based on the presentations made and other information shared at that meeting. The following reiterates and expands upon the comments made by the Commission in its previous letter and at the Task Force meeting.

Exclusion of Rice's whale habitat from wind energy leasing

The National Marine Fisheries Service (NMFS) is in the process of evaluating geographic areas that contain the physical or biological features that are essential to the conservation of the endangered Rice's whale, and that need special management or protection. As noted in our previous letter, NMFS has preliminarily identified a core distribution area² for Rice's whales in waters 100 to 400 m deep off the west coast of Florida³. There have been at least one confirmed visual sighting and several acoustic detections of Rice's whales in the western Gulf of Mexico, also in the 100 to 400-m depth range. The seasonality and movements of Rice's whales in the western Gulf and elsewhere in the Gulf, including in waters off Mexico, are unknown. However, NMFS has determined that all waters in the Gulf of Mexico that lie within the 100 to 400-m depth range represent potential habitat for Rice's whales (L. Garrison, NMFS Southeast Fisheries Science Center, pers. comm.). Given the precarious status of Rice's whales, with an estimated total species abundance of 51 individuals, and their confirmed presence in the western Gulf, it would be prudent

¹ Also available at: <https://www.mmc.gov/wp-content/uploads/21-12-16-Matthews-BOEM-CFI-for-GMX-wind-energy.pdf>

² <https://www.fisheries.noaa.gov/resource/map/rices-whale-core-distribution-area-map-gis-data>

³ There was one visual sighting at a depth of 408 m (Rosel et al. 2021).

to limit new wind energy activities in this depth range there as well as off the west coast of Florida. BOEM's Call area for wind energy leasing in the Gulf extends to the 400-m depth contour. The Commission recommends that BOEM exclude from wind energy leasing areas in the Gulf of Mexico in the 100 to 400-m depth range to avoid overlap with important Rice's whale habitat.

Availability of existing information

BOEM initiated ecosystem-wide surveys for marine mammals, seabirds, and sea turtles in the Gulf of Mexico starting in 2017, under the Gulf of Mexico Marine Assessment Program for Protected Species (GoMMAPPS). The GoMMAPPS surveys have been critical to providing time-series data on abundance and distribution of marine mammals and other protected species in the Gulf, and to generating spatially explicit habitat density models. GoMMAPPS has made significant contributions to date, filling gaps in population-level data for several offshore marine mammal species as well as seabirds and sea turtles, as evidenced by the reference to such data included in comments made by the U.S. Fish and Wildlife Service and other commenters on BOEM's Call for Information⁴. It was also noted at the February Gulf of Mexico Intergovernmental Renewable Energy Task Force meeting that NMFS's habitat density models for marine mammals and sea turtles, generated using GoMMAPPS data, are being incorporated into NOAA's Aquaculture Atlas⁵ for use in BOEM's wind energy environmental assessment and planning process. However, a final report from GoMMAPPS has yet to be made available to the public. It is the Commission's understanding that NMFS submitted a draft report to BOEM several months ago, but BOEM's review of that report is stalled. Considering the importance of the data collected by GoMMAPPS to informing the identification of leasing areas in order to minimize impacts on marine mammals and other protected species, the Commission recommends that BOEM complete its review of the GoMMAPPS final report, make it immediately available to the public, and include the findings from that report in the development of alternatives for BOEM's environmental assessment on wind energy leasing in the Gulf of Mexico.

Impacts on scientific surveys

BOEM has noted in its other wind energy environmental planning documents that scientific research and surveys, including protected species surveys, would be significantly affected by the construction of wind energy turbines in the offshore environment (Vineyard Wind 1 Final Environmental Impact Statement (FEIS) Section 3.12.2.5; South Fork Wind Farm FEIS Section 3.5.7.2.3). The turbines and associated structures create a navigational hazard for shipboard surveys⁶, and the anticipated height of turbine blades (260 m in the case of Vineyard Wind 1) present a hazard for aerial surveys for marine mammals and sea turtles, which are typically flown at an altitude of 183 m. BOEM noted in both the Vineyard Wind 1 FEIS and the South Fork Wind Farm FEIS that federal and state agencies conducting scientific surveys would need to expend significant resources to update scientific survey methodologies to "adapt" to restrictions resulting from the construction and operation of wind turbines. For example, one suggestion was to fly aerial surveys for protected species at higher altitudes. Flying surveys at higher altitudes would compromise detection of animals

⁴ Available at <https://www.regulations.gov/docket/BOEM-2021-0077/comments>

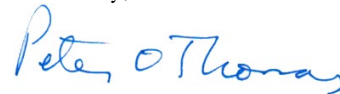
⁵ Available at: <https://coastalscience.noaa.gov/project/aquaculture-mapping-atlas-farm-model/>

⁶ The NOAA Office of Marine and Aviation Operations requires that large survey vessels operate at distances greater than one nautical mile from wind installations due to safety and operational challenges.

and make it difficult, if not impossible, to interpret comparisons of data from these surveys with data from past surveys flown at lower altitudes. The ability to use alternative survey methods, such as unmanned aircraft systems or passive acoustic monitoring, is also likely to be affected by the presence of wind turbines. In any event, adapting survey methods will create analytical challenges and could have a significant impact on efforts to understand changes in abundance, distribution, and habitat use of marine mammals and other protected species over time, whether due to wind energy development or other natural or human causes. BOEM has indicated it is working with NMFS to identify and implement “mitigation measures” to adapt to anticipated restrictions on federal surveys in the Atlantic wind energy areas⁷. Similar measures will be needed for the Gulf of Mexico, but discussions of such measures, and the resources needed to implement them, should be initiated immediately and broadened to include all federal and state agencies, academic institutions, and other entities conducting surveys in the Gulf. The Commission recommends that BOEM work with all entities conducting scientific surveys in the Gulf of Mexico to immediately identify and evaluate measures and resources that will be necessary to adapt scientific survey and research methods due to the presence of wind turbines.

The Commission hopes these additional comments will be helpful to BOEM in its planning for wind energy leasing in the GOM. Please let me know if you have any questions.

Sincerely,



Peter O. Thomas, Ph.D.,
Executive Director

Enclosure

cc: David Bernhart, NMFS Southeast Regional Office
Mridula Srinivasan, NMFS Southeast Fisheries Science Center

References

Rosel, P.E., L.A. Wilcox, T.K. Yamada, and K.D. Mullin. 2021. A new species of baleen whale (*Balaenoptera*) from the Gulf of Mexico, with a review of its geographic distribution. *Marine Mammal Science* 37:577–610.

⁷ BOEM’s proposed mitigation program for the NMFS Northeast Fisheries Science Center is outlined in section 3.12.2.5 of the Vineyard Wind 1 FEIS, and includes (1) evaluating the proposed project’s effects on survey operations, (2) identifying and developing new survey approaches, (3) calibrating new survey approaches, (4) developing interim provisional survey indices, (5) implementing new monitoring methods, and (6) developing and communicating new regional data streams.



MARINE MAMMAL COMMISSION

16 December 2021

Ms. Tershara Matthews, Chief
Office of Emerging Programs
Bureau of Ocean Energy Management
1201 Elmwood Park Boulevard
New Orleans, Louisiana 70123

Dear Ms. Matthews:

The Marine Mammal Commission (the Commission), in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the Bureau of Ocean Energy Management's (BOEM) 1 November 2021 notice calling for information and nominations (86 Fed. Reg. 60283) for commercial wind energy leasing in the Gulf of Mexico (GOM). BOEM is using the notice to solicit lease nominations and to request comments regarding site conditions, resources, and uses of the identified area that would be relevant to BOEM's potential leasing and development authorization process.

The Commission supports BOEM's efforts to develop offshore renewable energy, including wind energy. However, the Commission remains concerned about potential impacts on marine mammals from siting, construction, operation, and decommissioning of wind energy structures. The Call Area includes waters west of the Mississippi River to the Texas/Mexico border, seaward of the Gulf of Mexico Submerged Lands Act boundary and extending to the 400-m isobath. This area includes habitat for 21 species/25 stocks of cetaceans (see Table 1).

The following summarizes current knowledge regarding potential impacts to marine mammals from wind energy development—

- Echosounders used for geophysical surveys and site characterization generate source levels comparable to other sound sources that may result in behavioral disturbance and may lead to more serious consequences (e.g., stranding).
- Pile driving for construction of meteorological towers and wind turbines generates broadband sound capable of masking marine mammal vocalizations. Sound generated by pile driving, particularly impact hammering, could impair hearing in marine mammals at close range and lead to changes in behavior at intermediate distances, including temporary avoidance during construction activities.
- Vessel strikes represent a major source of mortality and injury for large whales. Increased vessel activity associated with high-resolution geological and geophysical surveys, construction of meteorological towers, deployment of meteorological buoys, and construction of wind platforms could increase the risk of vessel strikes on large whales in the Gulf of Mexico, including endangered sperm whales and Rice's whales. Installed wind farms may alter vessel traffic patterns in ways that add to the risk of vessel strikes (e.g., forcing vessels into whale migration or movement corridors).
- Pile driving and installation of transmission cables can temporarily or permanently disturb benthic habitat and marine mammal prey and may result in increased sedimentation and

discharge of contaminants or debris that could affect water quality and present an entanglement or ingestion hazard for marine mammals.

- Sound generated from wind turbine operations would generally be of low intensity, with energy concentrated at lower frequencies (below a few kHz). The sound from the turbines that is transmitted underwater will add to ocean noise levels during the lifetime of the wind farm.
- Cables transmitting the energy from wind turbines to land-based facilities generate electromagnetic energy, which has the potential to affect certain fish (e.g., flatfish) that may be prey for marine mammals.

BOEM’s Office of Renewable Energy Programs (OREP) is working with NMFS to identify, evaluate, and implement measures to minimize impacts on marine mammals and other protected species from wind energy development in the U.S. Atlantic. This includes restrictions on certain sound-generating activities and limiting vessel traffic in areas and at times when vulnerable marine mammals may be present. To minimize the potential for disturbance of the cetacean species/stocks that occur in the proposed Call Area, the Commission recommends that BOEM continue working with NMFS to identify mitigation measures for all stages of wind energy development, based on measures being used by OREP and wind energy developers in the U.S. Atlantic.

The Commission is skeptical that sufficient mitigation measures can be put into place to completely eliminate risks associated with wind energy development to the endangered and extremely small Rice’s whale population. Rice’s whale (formerly known as Bryde’s whale) was listed as endangered under the ESA in April 2019 (84 Fed. Reg. 15446) based on its small population size and apparent restricted range, and the threats of oil and gas exploration, development, and production, oil spills and oil spill response, vessel strikes, fishing gear entanglement, and human-caused sounds. Marine debris has also been identified as a potentially significant threat since the species’ listing. Threats associated with potential wind energy development in the Gulf of Mexico were not considered at the time of listing.

The most recent abundance estimate for Rice’s whale is 51 animals (Hayes et al. 2021). A recovery plan is in development, as is the designation of critical habitat. In the interim, NMFS has identified a core distribution area¹ in waters 100 to 400m deep off the west coast of Florida. That area is wholly within the Eastern Planning Area, which is not currently part of the GOM Call Area. The Commission supports BOEM’s decision to limit wind energy leasing to the central and western GOM, away from the core habitat of endangered Rice’s whale. However, Rice’s whales have also

Table 1: Gulf of Mexico Marine Mammals
<i>Coastal waters (0-20 m)</i>
Bottlenose dolphin (3 stocks)
<i>Continental Shelf waters (20-200 m)</i>
Atlantic spotted dolphin
Bottlenose dolphin
<i>Oceanic waters (≥ 200 m)</i>
Blainville’s beaked whale
Bottlenose dolphin
Clymene dolphin
Cuvier’s beaked whale
Dwarf sperm whale
False killer whale
Fraser’s dolphin
Gervais’ beaked whale
Killer whale
Melon-headed whale
Pantropical spotted dolphin
Pygmy killer whale
Pygmy sperm whale
Rice’s whale (formerly Bryde’s whale, ESA-listed species)
Risso’s dolphin
Rough-toothed dolphin
Short-finned pilot whale
Sperm whale (ESA-listed species)
Spinner dolphin
Striped dolphin

¹ <https://www.fisheries.noaa.gov/resource/map/rices-whale-core-distribution-area-map-gis-data>

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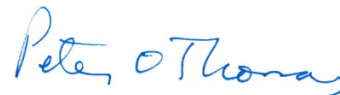
been detected acoustically and visually on rare occasions in the central and western GOM, in slope waters within the proposed Call Area. The extent to which they may occur in portions of the Call Area identified for leasing will be difficult to predict given available data. The Commission therefore recommends that BOEM work with NMFS to include targeted measures to mitigate impacts on Rice's whales in the proposed Call Area, as appropriate, in the event that Rice's whales are present.

Adequacy of existing information

BOEM initiated ecosystem-wide surveys for marine mammals and other protected species in the GOM starting in 2017, under the Gulf of Mexico Marine Assessment Program for Protected Species (GoMMAPPS). The GoMMAPPS surveys have been critical to providing time-series data on abundance and distribution of marine mammals and other protected species in the Gulf, and to generating spatially explicit habitat density models. Other objectives of GoMMAPPS were to improve the quantity and quality of information used to mitigate and monitor various threats associated with oil and gas exploration and production in the Gulf. GoMMAPPS has made significant contributions to date, filling gaps in population-level data for several offshore cetacean mammal species². However, it is not clear whether the GoMMAPPS surveys will continue, as fieldwork ended in 2021 and BOEM has not formally announced future funding plans. As noted in previous Commission letters³, continuation of these aerial, shipboard, and acoustic surveys would provide trend data and thereby improve our ability to assess and monitor the impacts of wind energy development as well as other human activities on offshore cetacean species. Some funding is available from *Deepwater Horizon* restoration-related sources for limited and targeted surveys and for expanding the deployment of acoustic recorders⁴, but these will not provide the broad-scale abundance, distribution, and trend data that can be obtained from regular aerial and shipboard visual surveys. The Commission recommends that BOEM continue funding GoMMAPPS or other similar regularly occurring, ecosystem-wide visual surveys of offshore cetaceans in the Gulf of Mexico to support decision-making for both oil and gas and wind energy development.

The Commission hopes these comments will be helpful to BOEM in its planning for wind energy leasing in the GOM. Please let me know if you have any questions.

Sincerely,



Peter O. Thomas, Ph.D.,
Executive Director

cc: David Bernhart, NMFS Southeast Regional Office
Mridula Srinivasan, NMFS Southeast Fisheries Science Center

² NMFS has submitted a draft report for the GoMMAPPS project to the BOEM Gulf of Mexico office; a public version of the final report is not yet available.

³ See Commission's [10 December 2021](#), [9 December 2020](#), [4 February 2019](#), and [14 June 2016](#) letters.

⁴ Under, for example, the LISTEN GoMex project (Long-term Investigations into Soundscapes, Trends, Ecosystems, and Noise in the Gulf of Mexico), being funded by the NOAA RESTORE Science Program and the Natural Resource Damage Assessment Open Ocean Trustee Implementation Group.

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References

Hayes, S.A., E. Josephson, K. Maze-Foley, P.E. Rosel, and J. Turek (eds.). 2021. U.S. Atlantic and Gulf of Mexico Marine Mammal Stock Assessments 2020. NOAA Technical Memorandum NMFS-NE-271, Woods Hole, Massachusetts. 394 pages.