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.

Table 1: Gulf of Mexico Marine Mammals
Coastal waters (0-20 m)
Bottlenose dolphin (3 stocks)
Continental Shelf waters (20-200 m)
Atlantic spotted dolphin
Bottlenose dolphin
Oceanic waters (≥ 200 m)
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

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 area[1] 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

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

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 species[2]. 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 letters[3], 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 recorders[4], 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.

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.