



# MARINE MAMMAL COMMISSION

13 July 2016

Mr. James F. Bennett, Chief  
Office of Renewable Energy Programs  
Bureau of Ocean Energy Management  
45600 Woodland Road  
Sterling, Virginia 20166

Dear Mr. Bennett:

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) 6 June 2016 notice of availability of an environmental assessment (EA) for commercial wind lease issuance and site assessment activities on the Atlantic Outer Continental Shelf (OCS) off New York (81 Fed. Reg. 36344). The Commission previously commented on BOEM's call for information and notice of intent to prepare an environmental assessment for commercial wind energy leasing and site assessment activities off New York (see letter of 14 July 2014). Some of the Commission's recommendations were implemented by BOEM and/or incorporated into the EA, notably the continuance of broad-scale surveys through the Atlantic Marine Assessment Program for Protected Species and the requirement for a seasonal restriction on pile driving. This letter addresses remaining issues for BOEM's consideration before it finalizes the EA.

## **Summary of the proposed action and alternatives**

BOEM has proposed to issue commercial wind energy leases within the Wind Energy Area (WEA) offshore New York. BOEM has identified three action alternatives within the subject EA:

- Alternative A (BOEM's preferred alternative) would offer for lease the entire WEA but would not allow the placement of site assessment structures (i.e., meteorological tower and/or buoys) within 1.9 km of the adjacent Hudson Canyon to Ambrose Traffic Separation Scheme (TSS) and the Ambrose to Nantucket TSS;
- Alternative B would offer for lease the entire WEA but would not allow the placement of site assessment structures within 3.7 km of the above-referenced TSSs; and
- Alternative C (No Action Alternative) would not issue a lease or approve site assessment activities anywhere in the WEA.

The Commission has reviewed the two action alternatives and does not have any recommendations regarding a preferred alternative. Both of the action alternatives would require lessees to avoid or minimize potential impacts on marine mammals, including critically endangered North Atlantic right whales, by adhering to the specified Standard Operating Conditions (SOCs; Appendix B). The SOCs include vessel strike avoidance measures; deployment of protected species observers; establishment, verification, adjustment, and monitoring of activity-specific exclusion zones in accordance with NMFS guidance regarding acoustic thresholds; implementation of ramp-up/soft-start and power-down or shut-down procedures; operational restrictions during periods of

low visibility; seasonal restrictions on pile-driving; and reporting of all observations of protected species, including injured or dead animals.

The Commission notes that BOEM did not include a seasonal restriction on the use of high resolution geophysical surveys for site assessment, as recommended by the Commission in its letter of 14 July 2014. BOEM instead indicated that it considered a seasonal restriction on sub-bottom profiling activities to provide further protections for right whales (beyond those outlined in the SOCs), but that “the low, sporadic, and variable distribution of the species within the New York Bight does not delineate any high density seasonal or geographic patterns.” The Commission generally supports BOEM’s assessment that the SOCs identified in Appendix B are sufficient given the short duration and limited scope of the proposed actions. However, as also noted by BOEM, recent visual surveys and acoustic monitoring of waters off New York and New Jersey (Whitt et al. 2013, Schlesinger and Bonacci 2014, Van Parijs et al. 2015) indicate that right whales are present not only during the timeframe for which the Commission recommended seasonal restrictions be established (1 November through 30 April), but also during other parts of the year. Better information on the year-round presence and behavior of right whales in the New York WEA is critical to understanding the potential impacts of any future wind energy development activities. The Commission therefore recommends that BOEM continue to work with NMFS, marine mammal researchers, the New York Department of State, and other federal and state government agencies as appropriate, to expand monitoring efforts across the leasing area to collect baseline information on the year-round presence and behavior of right whales in the New York WEA.

### **Impacts associated with the entire life cycle of wind energy activities**

Offshore wind energy activities involve relatively new technology that has yet to be installed in U.S. Outer Continental Shelf (OCS) waters, and considerable uncertainty exists regarding the potential short- and long-term impacts on marine mammals and their habitat (Boehlert and Gill 2010, Dolman and Simmonds 2010, Simmonds and Brown 2010, Bailey et al. 2014, Goodale and Milman 2014, Copping et al. 2016). The Commission is concerned that the extensive footprint and long duration of planned offshore wind energy activities in the Atlantic OCS would have the potential to result in significant cumulative impacts on the marine environment.

BOEM’s environmental analyses for commercial leasing of wind energy areas to date have been limited to analyzing impacts associated with lease issuance and site assessment, rather than the full life cycle of wind energy activities from site assessment through construction, operation, and decommissioning. BOEM (as the Minerals Management Service) commissioned a synthesis document on the environmental effects of alternative energy development in 2007 (Michel et al. 2007). That synthesis is no longer current regarding environmental effects, particularly given the information that has become available over the past decade on the environmental effects of construction and operation of numerous wind farms, including effects on marine mammals and other marine wildlife (Brandt et al 2011, Lindeboom et al. 2011, Skeate et al. 2012, Teilman and Carstensen 2012, Dähne et al. 2013, Bergström et al. 2014, Haelters et al. 2014, Russell et al. 2014, Scheidat et al. 2014, Copping et al. 2016).

In light of the considerable efforts underway to develop wind energy resources in several areas along the U.S. mid-Atlantic, an up-to-date analysis of environmental effects is needed that considers the full life cycle of wind energy activities as well as the cumulative impact of those

activities in the Atlantic OCS in the context of other human uses of the marine environment and ambient sound levels (Masden et al. 2009, Thompson et al. 2013, Rice et al. 2014). That analysis could guide future research, mitigation, and monitoring. Accordingly, the Commission recommends that BOEM include in the EA an up-to-date analysis of the potential effects of the full life cycle of all commercial wind energy activities (leasing, site assessment, construction, operation, and decommissioning) in the Atlantic OCS as part of the scenario of reasonably foreseeable activities considered by BOEM—that analysis should incorporate new information on the long-term and cumulative impacts of wind energy activities on marine mammals, their habitats, and their prey species.

The Commission hopes these comments will be helpful to BOEM in meeting its responsibilities under the National Environmental Policy Act. Please let me know if you have any questions.

Sincerely,



Rebecca J. Lent, Ph.D.  
Executive Director

Cc: Jolie Harrison, NMFS Office of Protected Resources  
David Gouveia, NMFS Greater Atlantic Regional Fisheries Office

## References

- Bailey, H., K.L. Brookes, and P.M. Thompson. 2014. Assessing environmental impacts of offshore wind farms: Lessons learned and recommendations for the future. *Aquatic Biosystems* 10:8, 13 pages.
- Bergström, L., L. Kautsky, T. Malm, R. Rosenberg, M. Wahlberg, N.A. Capetillo, and D. Wilhelmsson. 2014. Effects of offshore wind farms on marine wildlife—a generalized impact assessment. *Environmental Research Letters* 9, 12 pages. doi:10.1088/1748-9326/9/3/034012
- Boehlert, G.W., and A.B. Gill. 2010. Environmental and ecological effects of ocean renewable energy development: A current synthesis. *Oceanography* 23(2):68-81.
- Brandt, M.J., A. Diederichs, K. Betke, and G. Nehls. 2011. Responses of harbour porpoises to pile driving at the Horns Rev II offshore wind farm in the Danish North Sea. *Marine Ecology Progress Series* 421:205-216.
- Copping, A., N. Sather, L. Hanna, J. Whiting, G. Zydlewski, G. Staines, A. Gill, I. Hutchison, A. O'Hagan, T. Simas, J. Bald, C. Sparling, J. Wood, and E. Masden. 2016. Annex IV 2016 State of the Science Report: Environmental Effects of Marine Renewable Energy Development Around the World, 199 pages. Available at: <https://www.ocean-energy-systems.org/oes-projects/task-4-assessment-of-environmental-effects-and-monitoring-efforts-for-ocean-wave-tidal-and-current-energy-systems/>.
- Dähne, M., A. Gilles, K. Lucke, V. Peschko, S. Adler, K. Krügel, J. Syndermeyer, and U. Siebert. 2013. Effects of pile-driving on harbour porpoises (*Phocoena phocoena*) at the first offshore wind farm in Germany. *Environmental Research Letters* 8:1-16.

- Dolman, S., and M. Simmonds. 2010. Towards best environmental practice for cetacean conservation in developing Scotland's marine renewable energy. *Marine Policy* 34:1021-1027.
- Goodale, M.W., and A. Milman. 2014. Cumulative adverse effects of offshore wind energy development on wildlife. *Journal of Environmental Planning and Management*. doi:10.1080/09640568.2014.973483
- Haelters, J., V. Duli  re, L. Vigin, and S. Degraer. 2014. Towards a numerical model to simulate the observed displacement of harbour porpoises *Phocoena phocoena* due to pile driving in Belgian waters. *Hydrobiologia* doi:10.1007/s10750-014-2138-4
- Lindeboom, H.J., H.J. Kouwenhoven, M.J.N. Bergman, S. Bouma, S. Brasseur, R. Daan, R.C.V. Finn, D. de Haan, S. Dirksen, R. van Hal, R. Hille Ris Lambers, R. ter Hofstede, K.L. Krijgsveld, M. Leopold, and M. Scheidat. 2011. Short-term ecological effects of an offshore wind farm in the Dutch coastal zone: a compilation. *Environmental Research Letter* 6:1-13.
- Masden, E.A., A.D. Fox, R.W. Furness, R. Bullmann, and D.T. Haydon. 2009. Cumulative impact assessments and bird/wind farm interactions: Developing a conceptual framework. *Environmental Impact Assessment Review* 30:1-7.
- Michel, J., H. Dunagan, C. Boring, E. Healy, W. Evans, J.M. Dean, A. McGillis, and J. Hain. 2007. Worldwide synthesis and analysis of existing information regarding environmental effects of alternative energy uses on the Outer Continental Shelf. U.S. Department of the Interior, Minerals Management Service, Herndon, VA, MMS OCS Report 2007-038, 254 pages.
- Rice, A.N., J.T. Tielens, B.J. Estabrook, C.A. Muirhead, A. Rahaman, M. Guerra, and C.W. Clark. 2014. Variation of ocean acoustic environments along the western North Atlantic coast: A case study in context of the right whale migration route. *Ecological Informatics* 21:89-99.
- Russell, D.J.F., S.M.J.M. Brasseur, D. Thompson, G.D. Hastie, V.M. Janik, G. Aarts, B.T. McClintock, J. Matthiopoulos, S.E.W. Moss, and B. McConnell. 2014. Marine mammals trace anthropogenic structures at sea. *Current Biology* 24(14):R638-R639.
- Scheidat, M., J. Tougaard, S. Brasseur, J. Carstensen, T. van Polanen Petel, J. Teilmann, and P. Reijnders. 2011. Harbour porpoises (*Phocoena phocoena*) and wind farms: a case study in the Dutch North Sea. *Environmental Research Letters* 6:1-10. doi:10.1088/1748-9326/6/2/025102
- Schlesinger, M.D., and L.A. Bonacci. 2014. Baseline monitoring of large whales in the New York Bight. In: *Whale Monitoring in the New York Bight Workshop*. Albany and East Setauket: New York Natural Heritage Program and New York State Department of Environmental Conservation. Available at: [http://nynhp.org/files/whales/NY\\_whale\\_monitoring\\_report\\_30June2014.pdf](http://nynhp.org/files/whales/NY_whale_monitoring_report_30June2014.pdf)
- Simmonds, M.P. and V.C. Brown. 2010. Is there a conflict between cetacean conservation and marine renewable-energy developments? *Wildlife Research* 37:688-694.
- Skeate, E.R., M.R. Perrow, and J.J. Gilroy. 2012. Likely effects of construction of Scroby Sands offshore wind farm on a mixed population of harbour *Phoca vitulina* and grey *Halichoerus grypus* seals. *Marine Pollution Bulletin* 64:872-881.
- Teilmann, J., and J. Carstensen. 2012. Negative long term effects on harbour porpoises from a large scale offshore wind farm in the Baltic—evidence of slow recovery. *Environmental Research Letters* 7:1-10.
- Thompson, P.M., G.D. Hastie, J. Nedwell, R. Barham, K.L. Brookes, L.S. Cordes, H. Bailey, and N. McLean. 2013. Framework for assessing impacts of pile-driving noise from offshore wind farm construction on a harbour seal population. *Environmental Impact Assessment Review* 43:73-85.

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- Van Parijs, S.M., M. Baumgartner, D. Cholewiak, G. Davis, J. Gedamke, D. Gerlach, S. Haver, J. Hatch, L. Hatch, C. Hotchkin, A. Izzi, H. Klinck, E. Matzen, D. Risch, G.K. Silber, and M. Thompson. 2015. NEPAN: A U.S. Northeast passive acoustic sensing network for monitoring, reducing threats and the conservation of marine animals 49(2):70-86.
- Whitt, A.D., K. Dudzinski, and J.R. Laliberté. 2013. North Atlantic right whale distribution and seasonal occurrence in nearshore waters off New Jersey, USA, and implications for management. Endangered Species Research 20:59-69.