



New England Fishery Management Council

50 WATER STREET | NEWBURYPORT, MASSACHUSETTS 01950 | PHONE 978 465 0492 | FAX 978 465 3116

Eric Reid, *Chair* | Cate O'Keefe, PhD, *Executive Director*

August 2, 2023

Mr. Zach Jylkka
Environmental Branch for Renewable Energy
Bureau of Ocean Energy Management
45600 Woodland Road (VAM-OREP)
Sterling, Virginia 20166

Dear Mr. Jylkka:

We are writing to provide feedback on the suitability modeling being used to inform Wind Energy Area (WEA) development in the Gulf of Maine. BOEM and NCCOS presented version 4 of the model to regional stakeholders during a series of meetings the week of July 24, 2023. Council staff were able to attend the Portsmouth, NH session.

The model incorporates a variety of spatial data sources across six sub-models: Constraints, National Security, Industry and Operations, Fisheries, Wind, and Natural and Cultural Resources. Individual data layers are either excluded as constraints or weighted to indicate higher or lower suitability for renewable energy development.

The material presented during the fishery engagement community meetings was very high level and did not include information about the NCCOS model creation, assumptions, constraints, weighting, etc. These details are critical to provide to the fishing industry so that they can understand and provide input on the spatial modeling approaches being used for the Gulf of Maine. We recommend that BOEM share these details before draft WEAs are published. At a minimum, this information must be provided at the time of draft WEA publication so that the public can make informed comments on the draft areas.

We offer the following comments on data sources, areas where development should be avoided (constraints), leasing objectives, and modeling scenarios to support development of version 5 of the model.

Data sources

- Fishing effort and revenue data are used in model version 4, but fish distributions are not. Fishing effort is indicative of times and areas where fish are abundant, but also reflects where fishermen are permitted to fish based on federal fishing regulations and management measures. Including biomass or abundance data for managed species will allow the suitability model to reflect the importance of these areas as well, to the extent that they differ somewhat from locations where fishing effort is most concentrated. For example, Acadian redfish is an important species in the multispecies fishery in the Gulf

of Maine, and its distribution is concentrated to the east of Cashes Ledge in both the fall and spring trawl surveys. Fishing occurs in this location, but effort is less concentrated than in other parts of the Gulf of Maine. Witch flounder, another species in the multispecies complex, is concentrated southeast of Wilkinson Basin on Franklin Swell during the fall, but this location shows lower effort than Wilkinson Basin to the west, or the northern margin of Georges Bank to the south.

- Suitable fish biomass data that could be incorporated into the model are available via the Northeast Ocean Data Portal¹. If fish distribution data are not included in the NCCOS suitability models, BOEM should clearly explain the rationale for exclusion.
- Whiting appears to be grouped with the Northeast Multispecies fishery data; however, we recommend separating out effort data for the whiting fishery given the differences in how the fishery operates through an exemption program. The whiting fishery is best reflected in VMS 'Declared out of Fishery' (DOF) data.
- We appreciate that effort and revenue data are combined in the model as this approach balances higher volume / lower value fishing with lower volume / higher value fishing activities. We recommend continuing to evaluate fisheries by both landings and revenue.
- We recommend filtering VMS data by imputed fishing speeds appropriate to each fleet. Vessels targeting highly migratory species, for example, generally operate at faster speeds as compared to trawl or dredge vessels towing mobile gear.

Areas to exclude (constraints)

- We previously recommended setting a 20 km buffer around coral management areas designated by the Council, and around coral areas that were considered and vetted by the Council, to ensure that development activities do not impact the features of these sites. These areas are described in detail in the Council's [Deep-Sea Coral Amendment](#) and include 118 Fathom Bump and 96 Fathom Bump in Western Jordan Basin, a site along the EEZ in Central Jordan Basin, and Lindenkohl Knoll in Georges Basin. Model scenarios should evaluate these sites and buffers as constraints and as low suitability areas.
- We have also recommended avoiding development in Wilkinson Basin and around Cashes Ledge to reduce fisheries conflicts and impacts. Again, these sites can be evaluated as constraints or as low suitability areas in the model.
- We recommend the westernmost boundary of any draft WEA identified in Wilkinson Basin be 69° 50' W versus 70° W to enable a buffer between the draft WEA and the Western Gulf of Maine Habitat Management Area / Western Gulf of Maine Groundfish Closure Area.

Leasing objectives

- During our June Council meeting, BOEM staff noted that 20 MW (equivalent to an area of approximately 2 million acres) would be used as an upper bound for this analysis (round of leasing). BOEM should clearly explain whether and how these upper bounds

¹ This example shows the Acadian redfish and witch flounder data sets paired with recent Multispecies effort data: <https://www.northeastoceandata.org/BozfyOB6>.

are used to construct modeling scenarios. As goals are refined by the states and BOEM, will there be new model runs that reflect these aggregate state goals? If state goals are not clear, how will BOEM set a target for how much area to include in WEAs, or later in the process, in lease areas?

- Similar to the model developed to support Central Atlantic WEA development, we expect the Gulf of Maine work will also include a spatial cluster analysis to identify groupings of higher suitability grid cells that can serve as the foundation for draft WEAs. Our understanding of this analysis, which we have used to support fish habitat management, is that a ceiling of the total area may be included in the output. We suggest beginning with a ceiling that represents the minimum size required for a single commercial lease area (100,000 acres was suggested as a minimum acreage during the public meeting) and increasing from there.

Modeling scenarios

- Scenarios should be considered where different sub-models receive priority weighting (i.e., 40%, 15%, 15%, 15%, 15% versus all models at 20%).
- It would be useful to model a scenario where all areas recommended for exclusion in the public comments on the Call Area are treated as constraints, in addition to modeling scenarios where these areas are weighted as lower suitability.
- We encourage BOEM to evaluate model sensitivity to the weights selected; for example, how do “low” suitability values of 5%, 10%, or 15% compare?
- The results should include an uncertainty or sensitivity analysis within and across each sub-model, and BOEM should explain why and how the sensitivity analysis will inform final WEA delineation. More specifically, how sensitive are the model suitability results to a particular data source within a sub-model? Furthermore, how sensitive are the model suitability results across the sub-models which are used to delineate the draft WEAs? We are concerned about how the modeling will handle areas of uncertainty in the underlying data. We want to reiterate earlier concerns about the data quality and lack of certainty about seafloor habitat in parts of the Gulf of Maine.
- A report documenting the modeling methods and results should be published when the draft WEAs are published, which is anticipated in the fall. Ideally, NCCOS’ analyses should be peer reviewed.

We appreciate the opportunity to provide feedback to BOEM on the Gulf of Maine suitability modeling work. Please contact me if you have any questions or if we can provide additional information.

Sincerely,



Cate O'Keefe
Executive Director

cc: Seth Theuerkauf, Brandon Jensen