ECOSYSTEM WORKGROUP REPORT ON MARINE PLANNING

The Ecosystem Workgroup (EWG) appreciates the work of the Bureau of Ocean Energy Management (BOEM) and the National Center for Coastal Ocean Science (NCCOS) to consider the suitability of ocean areas for the development of offshore wind energy. There are, however, additional sources of information and, importantly, multiple frameworks for defining the concept of "suitable" and examining the potential to reduce conflicts between fisheries and other ocean users. Decision support tools available for these issues are well-described in the literature (Kim et al. 2012, Plummer and Feist 2016, Göke et al. 2018, Lester et al. 2018, Pinsky et al. 2020). In the policymaking arena, the Marine Spatial Plan for Washington State supports a spatial selection model that considers multiple sectors and attempts to provide management options that maximize gains from each sector or minimize impacts to each sector. These other approaches are especially useful in three respects:

(i) they can capture interactions among sectors;
(ii) they use a variety of alternative algorithms for determining solutions to spatial optimization problems; and,
(iii) they can incorporate weighted socio-economic priorities.

These features, combined with the fact that each framework and approach includes slightly different assumptions, could provide a broader, deeper, and more transparent perspective on offshore wind issues than is currently available from a single NCCOS model alone. We are also looking forward to National Marine Fisheries Service's (NMFS) efforts with the Pacific States Marine Fisheries Commission to develop integrated spatial data to support ecosystem management initiatives, marine planning, and economic analyses of ocean activities under the Pacific Fishing Effort Mapping Project.

Unfortunately, the NCCOS model does not consider climate variability and change. As we have seen in recent years, even near-term climate variability can shift species and fisheries distributions, making mapping a presumed steady state ecosystem more challenging. Based on the information that has been reported in the ESR, NCCOS may consider temporal analyses that particularly encompass pre- and post- marine heatwave periods to more fully for the ocean condition regime shifts.

The EWG appreciates the collaboration between NMFS and Oregon Department of Fish and Wildlife described in the *Fisheries Datasets* section of MPC Report 1 for Agenda Item G.3.a. That collaboration allowed the agencies to provide fisheries datasets for the BOEM-NCCOS suitability modeling process; this success was made possible by the strong foundation developed by the CCIEA team in its annual Ecosystem Status Reports (beginning with inclusion of a bottom contact indicator in 2017). If agency resources are available for this type of analysis of other parts of the coast, including outside of planned Wind Energy Areas, this work could provide better insight into the potential suitability of wind energy areas from a fisheries perspective. Development of flexible and efficient approaches for sharing data between NMFS and state fisheries agencies will speed development of these analyses.

The EWG notes that the BOEM analysis of vessel monitoring system (VMS) data represents any and all kinds of activity by commercial fishing vessels (transiting, fishing, drifting). However, it does not allow evaluation of fishing trips by target species, or distinguishing of fishing from other types of vessel activity. VMS data relies on declaration codes, which are often mismatched to the actual species targeted on fishing trips, and does not use any filters to identify different vessel behaviors. The EWG also recognizes that search time is an important consideration for certain fishery sectors. There are ways of processing VMS data to correct for these issues to identify fishing grounds by sectors and fishing behaviors. Recognizing time constraints, VMS processed in this way could be a valuable addition for certain fishery sectors and fill in data gaps (e.g. Washington- and California-based fixed gear groundfish have not had logbook requirements until 2023 and may fish off Oregon).

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