

Interactive comment on “Ecological niche of three teuthophageous odontocetes in the northwestern Mediterranean Sea” by E. Praca and A. Gannier

Anonymous Referee #1

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I think the authors did a good job of addressing my initial concerns in their response, although I do have a few remaining concerns that I will highlight here.

1. Given what is known of the oceanography of the NWMS and of the area surveyed for this study, can the authors assume that they adequately surveyed all potential habitat types, both "good" and "bad," for each species? This is an important point to address because ENFA can be biased if this assumption cannot be met. I think this ties into my initial question/confusion about the sperm whales in the offshore waters. Do I understand correctly that the low number of sperm whale presences in the offshore waters are low even relative to the survey effort? Furthermore, do the authors assert that Praca and Gannier's seemingly contradictory earlier findings regarding sperm whale association with fronts in offshore waters may be understood in light of the fact that the

spatiotemporal resolution and extent of the previous work was smaller than the current study, thus, a "high density" of sperm whales in the previous study corresponds to a relatively "low density" of sperm whales in this larger study?

2. My concerns regarding the methods used to summarize the environmental variables are directed at pooling across years rather than across months within a given year. The NWMS exhibits interannual variability, with signals that are associated with the North Atlantic Oscillation and the El Nino Southern Oscillation. Do the authors assume that such signals are irrelevant to the habitat variables examined in the present study, thereby justifying pooling the values of environmental variables across the 10-yr period? This question really relates to the pertinent temporal scale defining these habitats: even if the oceanographic conditions change from year-to-year, are the cetaceans able to "track" these changes and adjust their distribution? Furthermore, is it necessary for the cetaceans to track these changes, given what they are using the habitat for? For example, if the habitat is primarily a feeding ground, do the prey track the interannual changes?

Finally, I think the authors' clarifications on the validation process will definitely strengthen their conclusions and increase the readers' ability to understand the results of the study.

Interactive comment on Ocean Sci. Discuss., 4, 785, 2007.

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