14 May 2021

Dear Prof Curchitser

Enclosed for your consideration is our revised manuscript, titled: “Vertically resolved particulate (zooplankton) biomass and size-structure across a continental shelf under the influence of a western boundary current”. This is a resubmission of PROOCE-D-21-00004. This manuscript has not been published nor is currently under consideration for publication elsewhere. All authors have agreed with its content and approved submission in its present form.

We received detailed comments from two reviewers which has led to substantial improvements in our manuscript. Among the 94 comments, the most helpful changes were:

* Suggestions to include more physical oceanographic data including cross-shelf transects of more variables. These have now been included as supplementary figures.
* Discussion of the likely zooplankton composition. We have sourced separate Continuous Plankton Recorder data from our study area to show the likely composition of the zooplankton, now shown in Figure 3.
* Clarifying the common driver of the globally consistent onshore-offshore patterns in zooplankton. We now explicitly discuss how this is facilitated by nutrient enrichment near the coast. This enrichment is from different sources but the resulting enrichment is the most likely driver of observed zooplankton patterns.
* Increased discussion of seasonality in the study region.

We look forward to your response,

Sincerely,

Dr Hayden Schilling

Postdoctoral Research Associate, Sydney Institute of Marine Science & UNSW