

Interactive comment on “Trawl macrofauna of the Far-Eastern Seas and North Pacific: proportion of commercial species, potential product yield, and price range” by Igor V. Volvenko et al.

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Dear Editors,

We would like to thank Michael Vecchione (Referee) for providing a very constructive review that has resulted in improvement of our manuscript. We are very pleased that the Referee called our data set "immensely important". Please find below a response to the Reviewer comments, which provides point-by-point answer to each of the referee's comments, and where we tried to address concisely each of the issues raised. (Reviewer's comments are in square brackets).

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[This review is unusual for me. Nominally, the manuscript, together with the data available from PANGAEA, is a data discussion rather than a presentation of research results and inferences.]

Indeed, our review discusses the research results presented in PANGAEA, as well as methods for obtaining and processing those data, with inferences given in the Conclusions section at the end of the manuscript. We believe this is the usual scheme for treating data presented to the Earth System Science Data and it is consistent with the rules for authors.

[The data in question, a massive set of survey-trawl data, have been summarized by these authors recently in Nature/Scientific Reports. Whereas the previous summary focused on occurrence and relative abundance, this manuscript develops inferences about potential commercial value. There is considerable overlap between this manuscript and the previous publication, including some short passages that are reproduced verbatim.]

This work is indeed a continuation of the recently published study in the Scientific Reports, however, a lot of new data has been added to the new data set. In addition, the new manuscript has completely different goals, objectives, results and conclusions compared to the published paper. Some coincidences of the texts of these two articles (including verbatim) are found in the description of data collection methods, since these methods partially overlap. We made minimal repetitions so that the meaning of the second paper was understood without reading the first one. Although, where it is needed for an in-depth understanding of the techniques, the present manuscript provides links to the article in the Scientific Reports.

[I think the data set considered here is immensely important. However, in my opinion the primary importance is what was covered in the Scientific Reports publication.]

In the Scientific Reports publication, the focus was on some fundamental issues of ecology and biogeography. The new manuscript focuses more on applied issues re-

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lated to fishing and rational exploitation of biological resources of the vast region, one of the most productive on Earth. We believe that this problem is also important, and similar publications on other sea areas would be useful for generating a comprehensive inventory of renewable resources of the entire World Oceans. We also draw your attention to the fact that the species list published in PANGAEA can be used to assess the economic value of biological resources or damages to marine ecosystems resulting from anthropogenic impact, including pollution, hydro-technical constructions, oil and gas extraction, tanker or nuclear reactors accidents, etc. The list published earlier in the Scientific Reports is not suitable for such purposes.

[Whether there are ethical issues relative to advocacy of expanded exploitation of living marine resources in this region is a question that might properly be raised by readers. However, as a scientific reviewer, I will leave that question to the editors.]

As for "ethical issues relative to advocacy of expanded exploitation of living marine resources in this region", we would like to note that in our study we do not call for strengthening this exploitation, but rather on the contrary – for making it more rational, while expanding the range of fishery products, transfer part of the load from traditionally most intensively exploited species to other species – currently underutilized and unused.

[If the goal here is "to analyse the importance of trawl macrofauna to fisheries", I think that importance should include more than current or potential monetary value. Importance should include ecological relationships such as predator/prey and habitat structure. An unfished species may be important to the food web supporting fished species. Similarly, a species with no commercial value may provide nursery habitat or protection from predators.]

Questions about "ecological relationships such as predator / prey and habitat structure", like many others, will be the subject of our future publications, since it is not possible to consider all these problems in one manuscript. To conduct a complete

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analysis of all aspects of the use of trawl macrofauna in fishing, a series of large-scale review publications is needed.

[Specific comments]

We are very grateful to the Referee for specific comments on the text of the manuscript on the following lines (l.). Our mistakes and typos in these places are corrected in a new version of the manuscript:

l. 98 – "mesopelagic" is replaced by "bathypelagic"; l. 105 – "known to occur" is replaced by "known to occur (not only from trawl studies)"; l. 108 – the verb "are" is added; l. 244 – "Coelenterates" is replaced by "Cnidarians"; ll. 283-284 – "almost two times lower" is replaced by "approximately half of the respective numbers for fish species"; l. 305 – "shellfish" is replaced by "molluscs"; ll. 340, 345, 443 – "squid" is replaced by "squids"; l. 387 – "shell" is replaced by "shelled"; ll. 32, 294, 398, 490, 504, 513, 531, 536, 566 – "fish" is replaced by "fishes"; l. 398 – "shrimp" is replaced by "shrimps"; ll. 306, 332, 449 – "jellyfish" is replaced by "jellyfishes".

Since every review comment was highly appropriate and valuable, we have followed recommendations of the Reviewer as much as possible. The revised manuscript version was prepared for upload to the website.

Best regards,

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