

Interactive comment on “Kinetic bottlenecks to chemical exchange rates for deep-sea animals – Part 1: Oxygen” by A. F. Hofmann et al.

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Reply to comment 2 of Reviewer 2

Authors state: This concept of a single temperature independent concentration was also used by Vaquer-Sunyer and Duarte (2008) who found “the conventional definition of 2 mg O₂/liter to designate waters as hypoxic” to be too high “to conserve fisheries resources.”

In the paper cited by the authors Vaquer-Sunyer and Duarte do not use a single concentration value. Indeed, authors point to the need of the use of a wide range of

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values as a single value is not appropriate to describe the onset of hypoxia impacts on marine organism. Moreover, authors state that the use of 2 mg O₂/liter to designate water as hypoxic is too low, and not too high as stated by Hoffmann et al.

Vaquer-Sunyer and Duarte indeed advocate a range of oxygen concentration values. As mentioned in the reply to the other, longer comment of Reviewer #2, we will make that clearer in the revised version of the manuscript. However, they still use concentration values that do not take into account temperature, pressure, and boundary layer related effects.

Furthermore, indeed, Vaquer-Sunyer and Duarte argue that the commonly used threshold is too low compared to their findings. We apologize for this typographical error on our part.

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