

## ***Interactive comment on “Benthic biomass size spectra in shelf and deep-sea sediments” by B. A. Kelly-Gerreyn et al.***

**B. A. Kelly-Gerreyn et al.**

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Although the units for the model are g wwt m<sup>-2</sup> throughout, there is an unfortunate ambiguity in Equation 3 where  $\text{POC}_{flux}$  is used; when  $\text{POC}_{flux}$  is discussed elsewhere in the paper it is done so in the context of having units of gC m<sup>-2</sup>. We had unfortunately omitted to put in the conversion factor in Equation 3, which converts  $\text{POC}_{flux}$  from units of gC m<sup>-2</sup> to g wwt m<sup>-2</sup>. This was purely a typing error, not present in the model code, and in no way affects the results of the manuscript. However, when double-checking the code to satisfy ourselves on this matter we also took another look at the specific value of the conversion factor used. In the original manuscript, the model value for  $Q = (1 - \text{fbac})\text{POC}_{flux}$  (it is a fitted parameter) is converted to units of gC m<sup>-2</sup> for comparison to observations by multiplying by 0.25. However, Brey et al. (J. Sea Res.,

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64, 334-340, 2010) indicates that a more accurate conversion would be to multiply by 0.077, which is a product of the factors for converting wet weight to dry weight (0.22) and dry weight to carbon (0.36). Hence, our previous estimates for Q are a factor of  $0.25/0.077=3.2$  too high. Once again this does not change the results of the model. The only impact on the manuscript is in the discussion of Q estimates in the context of observations (Section 3.4, p919, lines 19-27; Section 4.4, p926, lines 13-18). Even in this case the uncertainties and variability are sufficiently large that the change does not significantly alter the results of the manuscript.

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**BGD**

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