

The manuscript by Geertz-Hansen et al. presents results on net-, and gross community production and respiration of pelagic communities and whole system communities in 9 lagoons of the Donana marsh in SW Spain. The difference between whole system and pelagic metabolism allowed the estimation of benthic metabolism. In each lagoon, one 24h measurement was performed, and production and respiration rates linked to the biomass of the respective compartment, and production was also linked to solar irradiance. The effort to determine the metabolic balance of an entire aquatic system, including the pelagic and benthic communities renders this study particularly interesting. Besides, I consider the topic of general interest to aquatic biogeochemists, and I appreciate the discussion and suggestions for management policy. The data set presented here was collected in 1991, it would certainly be of great interest to have some recent comparative data.

The manuscript is overall well written, and the results presented in a clear manner.

A major concern I have is the use of dissolved oxygen measurements to determine net community production and respiration in a system where temperature changes are in the order of 10°C during 24h. How did the authors deal with this fact, in both the bottle incubations and the in situ measurements? This aspect is briefly discussed in the context of respiration being a temperature-dependent process (p. 6501 and p. 6503), but the oxygen concentration itself is temperature dependent. How did the authors dissociate these issues?

I do have some suggestions that could be included in a revised version of the manuscript.

#### Material and Methods

p. 6500, last paragraph: I suggest the authors explicitly state that benthic community metabolism was estimated as the difference between whole system and pelagic metabolism.

#### Results and Discussion

p. 6503, last paragraph: It would help if the authors were more precise when using the term “community”. In this case, is the whole community considered? The same for Fig. 3: I suppose these data present whole community respiration and gross production?

p. 6504, line 6-7: It would be important to confirm the “close” relationship by some correlation coefficient.

p. 6505, last paragraph: The results and discussion on Fig. 7 are quite difficult to follow. One reason for this might be that the arrows are missing on Fig. 7.

Table 2. Station 0 should be Station 9

Fig. 3: I am not convinced that the mean value should be indicated on the graph.

Fig. 4: The information given in this graph can easily be described in the text. I suggest eliminating Fig. 4.

Fig. 5: As above, I am not convinced that these results need to be shown on a graph, they could be easily described in the text.