

## ***Interactive comment on “Reality checks on microbial food web interactions in dilution experiments: Responses to the comments of Dolan and McKeon” by M. R. Landry and A. Calbet***

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I was a referee on the original paper by Dolan and McKeon, so I refer any readers to those comments first.

Regarding the present manuscript, which is in the form of a reply to Dolan and McKeon's OSD paper, my overall reaction is that Landry and Calbet have made a spirited and mostly effective defense of the dilution technique. Some of what they pointed out I also noted in my original review of Dolan and McKeon, so I won't repeat it here. One idea I had not thought of was that there might be compensatory effects of the treatments such that the decline in mortality of phytoplankton caused by starvation of their predators might be offset by the decreased predation on the same predators due to

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their scarcity in the high dilutions. This is an interesting idea, but someone with more mathematical skills than I have should model it explicitly to see if it is plausible.

The evidence adduced by Landry and Calbet regarding whether in the aggregate the rates produced using the dilution technique are consistent with what we know about ocean vertical fluxes and productivity was less convincing to me. If we had really accurate knowledge of productivity and fluxes, that might be a strong argument, but as it stands I think those numbers have large uncertainties associated with them. Remember that before the microbial loop concept came along, people had closed nutrient budgets using only the excretions of copepods and fish for remineralization. When we don't know very much, we can explain everything.

I think that what remains after this exchange are questions about the effects of dilution itself on the grazers. This should be examined in a reductionist fashion, with more experiments. What I would not like to see is the microzooplankton community go down the path of the  $^{14}\text{C}$  primary productivity people and be arguing about a technique for 50 years without resolution. Let's hope we can avoid that.

Finally, I am disappointed that there hasn't been more open discussion of these papers by the community. This format of web publication is potentially very powerful. It could provide increased quality control on what gets published (everyone's a reviewer), and is presumably much more economical than a traditional journal. I encourage anyone who has thoughts or experience regarding the dilution technique to chip in with ideas and observations. Otherwise, it's just me and the authors talking to each other, which we could have done on the good old fashioned telephone.

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