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Interactive comment on "Microbial food web dynamics during spring phytoplankton blooms in the naturally iron-fertilized Kerguelen area (Southern Ocean)" *by* U. Christaki et al.

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Christaki et al. Response to reviewer 2. We thank the reviewer's positive disposition about our work. All the changes made are highlighted in red in the ms to facilitate reading. Regarding her /his concerns:

Comments 1. Which was the composition of the phytoplankton bloom? I think this information should be included in the ms. The Kerguelen bloom is dominated by diatoms, this is now added in the introduction "A pronounced shift to larger phytoplankton cells, in particular diatoms, has been generally observed resulting upon natural (Blain et al., 2007; Pollard et al., 2009) or artificial (Boyd et al., 2007; Smetacek et

al., 2012) iron additions." and the result sections. However, we would like to point out that different diatom species were dominant at the stations we visited. A detailed description of the phytoplankton community composition will be presented in a separate paper by Lasbleiz et al. (in prep.). We therefore have included in our manuscript only a brief overview of the dominant species. "According to KEOPS2's microscopical observations and pigment analyses, Bacillariophyceae dominated the phytoplankton community in the blooms (Sackett et al., this volume, Lasbleiz et al., this volume). In particular, Fragilariopsis kerguelensis, Pseudonitzschia spp., Eucampia antarctica, and Chaetoceros spp. were found to be the four dominant diatom taxa (Sackett et al., this volume)."

2. I do not think you should use the term Fe-fertilized unless you provide concentrations of Fe, could you think of another term to refer to those areas? We used the term 'iron fertilized' for the stations in the blooms since the blooms ARE a result of Fe fertilisation, this has been clearly shown during KEOPS and CROZEX cruises and published in papers since 2007. Regarding Fe concentrations we hesitated to put them in table 2 and we finally decided not to do it for the simple reason that concentrations can be confusing. Fe stock is rapidly used and it is not necessarily relevant. If the reviewer finds it necessary we will add them, it looks as follows: Station DFe (nM) R 0.08±0.07

A3-1 nd FL 0.22±0.06 E4W 0.17±0.03 A3-2 0.16±0.03

E1 na E2 0.08 E3 0.35±0.08 E4E na E5 0.08±0.02 Closset et al. (this volume), na: not available

3. Why do you calculate the volume of each of the size classes of HNF after cell sorting and by epifluorescence microscopy. The cytometer can provide cell size estimations for each individual cells, which might be more accurate than a mean of the population. We apologize of not being aware of cytometers that measure the size of each cell as it passes in front of the laser. The cytometry analysis method we used could not do this. It provides cytograms based on fluorescence and light scatter (which is not the

size although it can be used as a broad proxy for it). This means that on fluorescence and light scatter we can probably have an idea of the size range of each cytometric group. What we did is much more accurate since we measured hundreds of cells in each cytometric population, in order to define size classes, dominant size classes in each population. We took the time to do these measurements because we wanted to calculate as closely as possible their potential consumption based on their biovolumes. Besides, cell sorting is a very good way to guarantee that the cytometric signatures indeed belonged to HNF.

P 7004 L3-4. Importance and important repeated in the same sentence corrected Table 3 legend. L4. Fluorescence it should be epifluorescence

Fig3. Units in the upper left pannels lack the 1 of the 1000. corrected

P7011 Wrong order of references: Zubkov, Zhou Zhou is no more a ref of this paper

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Interactive comment on Biogeosciences Discuss., 11, 6985, 2014.