

## ***Interactive comment on “Diversity of Arctic Pelagic Prokaryotes with an emphasis on photoheterotrophic bacteria: a review” by D. Boeuf et al.***

### **Anonymous Referee #2**

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The manuscript is interesting and well written, the emphasis on photoheterotrophs is valuable and covers new literature on that subject. Although the title mentions prokaryotes the manuscript focuses on bacteria with very little (one paragraph) on Archaea, missing are several recent Archaea papers and I think more are coming out. Since the word prokaryote is not accepted by many microbiologists, and the coverage is mostly on Bacteria, I suggest removing Archaea references and changing prokaryotes in the title to Bacteria .

For Bacteria at least one key reference with relevant data is missing : the multi-year pyrosequencing study by (Comeau et al., 2011)

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The Comeau et al paper also pointed out how Alphaproterobacteria seem to have increased in the sub surface chlorophyll maximum layer since 2007. Which adds weight to the conclusion on p 2436 line 25.

Comeau, A.M., Li, W.K.W., Tremblay, J.-É., Carmack, E.C., and Lovejoy, C. (2011) Arctic Ocean Microbial Community Structure before and after the 2007 Record Sea Ice Minimum. Plos One 6: e27492.

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Interactive comment on Biogeosciences Discuss., 11, 2419, 2014.

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