

## Author's response to reviews

**Title:**The Ocean Sampling Day Consortium

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**Version:2**Date:27 April 2015

**Author's response to reviews:** see over

Point-by-point response for the manuscript “The Ocean Sampling Day Consortium”

### **Referee 1:**

The abstract states that this paper will describe the vision for sustainable study of microbes and the development of a health index. I think the paper falls a bit short of doing that. In the “OSD Beyond 2014” section, it also states this, but really does not provide any details on the index. I was excited to read the paper after reading these statements in the abstract, but then disappointed when I got to that point in the paper.

*Reply: We rephrased the abstract accordingly and we described and expanded the vision of OSD in more detail in the main text.*

It would be useful to put this effort into context of other large-scale metagenomics sequencing efforts. How does the number of samples or resulting sequences compare to previous efforts (e.g. GOS). How do the methodologies compare (e.g. target size fraction of microbes). Some numbers here will help quantify the magnitude of the effort. Also, if the organization of the consortium is unique or different from other similar large-scale efforts, that would be good to describe.

*Reply:*

*Thank you very much for these suggestions. We rephrased the manuscript and added the requested “numbers” to highlight aspects that make OSD complementary to other large scale projects.*

The paper describes the organization of the consortium in some detail. I understand this may be the aim of the paper, but from my perspective, I would like to learn more about the science aspects. What motivated the effort? Why sample on a single day (vs. e.g. the same week)? What questions do we expect to answer with this dataset? Can the paper provide a timeline for when results are expected? When can we expect to see the data online, or papers published?

*Reply: We expanded the first section describing the scientific visions of OSD in more detail. We hope that we rephrased manuscript according to your expectations.*

*At the moment we cannot provide a strict timeline when the paper (containing the overall results) will be published, but the plan is to have it mostly written up in 2015. The data are already publicly available, the information how to find them is now provided in the manuscript.*

Background section: “studies studies”

*Reply: Thanks for pointing this out. We remove the redundant word "studies"*

### **Referee 2:**

Discretionary Revisions

1. Rearrange opening sentence to be less organizational and more alluring, such as: In order to obtain a snapshot of the marine microbial biodiversity and function of the world’s ocean, Ocean Sampling Day was initiated by the EU FP7 project Micro B3 (Marine Microbial Biodiversity, Bioinformatics, Biotechnology).

*Reply: Many thanks for this suggestion. We rearranged the opening sentence accordingly.*

2. Remove redundant "studies" in "but until now technical and computational limitations restricted studies studies".

*Reply: We removed the redundant word.*

3. Consider adding a statement, even if only parenthetical, describing why the solstice was chosen as the sampling day, such as expected greatest energy input and survey accessibility for northern hemisphere where sampling sites are dominant.

*Reply: As suggested by Referee One, we expanded the first section describing the scientific visions of OSD in more detail including a statement describing why we chose the solstice as our sampling day. We hope that we rephrased the manuscript according to your expectations.*

4. Consider expanding on the "vision" that includes a "health index". Are you alluding to something like the Ocean Health Index (Halpern et al, 2014)? The "health" of a microbial community and its contribution to the resilience and function of the broader ecosystem is no doubt an area of active research now and into the foreseeable future. Perhaps a statement to this effect would serve to highlight the dynamic nature of the Consortium goals, rather than implying that such a "health index" would be established statically and simply updated with new annual sampling data.

*Reply: Indeed, we might got ahead of ourselves with the statement to establish an "own" Ocean Health Index (OHI) for microbial communities. As written by Halpern et al. various aspects of ocean conditions and influences should be taken into account and it would be ecological worthwhile to incorporate the OSD data in the OHI rather than to generate an autonomous index for marine microbes. In the end the most important aspect is to raise the public awareness, direct resource management and prioritize scientific research towards a healthier marine environment. We rephrased the manuscript accordingly.*