Editorial comments to article by Yin et al BG 2016-426, 2nd revision

Reviewer:

line 195. This line says that water for incubation experiments was ('was' is missing in the text) taken on a single date, but in fact there were multiple experiments, as indicated later on line 202. Please re-write accordingly.

Reply: we have revised the entire section of "Field Incubation Experiments"

Reviewer:

Legend to Fig. 9-3 reads: 'ambient nutrient ratios were calculated from measured ambient nutrients during the time course of incubation in Fig. 9-2. The sign "+" means "added". +N/+P and +N/+Si indicate the ratio of the added N alone over the added P alone and over the added Si alone, respectively.

I still think this is confusing and inaccurate, as the reader is likely to think that what is being represented is a ratio between added nutrients, instead of an ambient ratio of nutrients in the bottle.

The response of the authors makes things more puzzling:

In their response, they write: "+N/+P means ambient NO3 in bottle 1/ambient PO4 in bottle 2. We measured nutrients in some time intervals, and hence, we had ambient N:P for +N/+P over time".

It would seem that the authors are dividing the N concentration in one bottle (the one that received an addition of N) by the P concentration in a different bottle (the one that received an addition of P). But surely this 'chimera' variable is misleading. Ambient nutrient ratios should be computed for each individual bottle using only nutrient concentrations measured in the same bottle. If my intepretation of this N:P ratio labelled +N/+P is correct, then my suggestion would be to omit it, as it only makes the figure more confusing. If you decide to keep it, the figure legend must be much clearer, and explain that in the case of data labeled +N/+P the N:P ratio plotted is not actually a N:P ratio that occurred in any particular bottle, but the result of dividing N concentration in the N+ bottle by the P concentration in the P+ bottle. The same goes for the N:Si ratio and the data labelled N+/Si+.

These are non-conventional experiments, which obviously involved a lot of effort and which provide interesting results.The authors need to make an additional effor to make sure that what their report is clearly understood by the readers.

Reply:

As pointed out, this type of experiments is different traditional ones, and provided some information on synergistic effects of single and multiple nutrients on uptake of those nutrients. We should keep them. To avoid the confusion, we have revised the following

1. In the Materials and Methods, we have revised the nutrient addition experiments, more clearly, as follows.

after the pre-incubation during which all nutrients were depleted, nutrients were added in 8 treatments: 1) control: no additions, 2) +N: adding NO_3^- alone , 3) +P:

adding PO_4^{3-} alone, 4) +Si: adding SiO_4^- alone, 5) +N+P: adding NO_3^- and PO_4^{3-} together, 6) +N+Si: adding NO_3^- and SiO_4^- , 7) +P+Si: adding PO_4^{3-} and SiO_4^- and 8) +N+P+Si: adding all three nutrients.

2. we have added new axis labels on the right side in Fig. 9-3 where we specifically spelled ambient +N/+P so that people should realize that this ratio is from different bottles +N and +P, not in the same bottle.

3. we also added a description to remind readers in the legend of Fig. 9-3, as follows. Ambient +N/+P indicates the ratio of N in +N (the added N alone) over P in +P (the added P alone). Please note that this N:P ratio is not in the same bottle. Similarly, ambient +N/+Si indicates N in +N over Si in +Si (the added Si alone).

Reviewer:

The legend to Table 1 is not formally correct. It should read something like ‘Sampling stations and dates of nutrient addition incubations. The last column indicates the study where water column properties for the Strait of Georgia are reported.’

Reply:

Revised as shown in the following.

Sampling stations	**Dates of field incubation experiments**	**The studies that described water properties for the Strait of Georgia**

Reviewer:

H. Liu is still not included in the author contribution section. This section must indicate the contributions of all authors.

Reply:

Now H. Liu has been listed and his contribution has been given.