

~~Hi, I have taken a quick first crack at responding to the reviewers comments. Please make changes to what I have said below, and I will send it off next week.~~
RAM

FMAP renewal comments:

We are pleased with the very positive response of the reviewers and appreciate their constructive input. There are several key areas that FMAP needs to address based upon the comments below. We begin with a few general comments.

The most immediate action that needs to be done is the issue of presence only modeling identified by Review 2 and 3. This is an important issue because there are so many "ad hoc" methods now being used. We have previously considered this issue, and agree strongly with its importance. We thus will expand the statistical working group on this issue. Our strategy is to form a working group that will interest the statistical community at large in this issue, and arrange a special session at one of the large statistical associations meetings, e.g. the American Statistical Association. Before this can be done we have to make enough progress to demonstrate the importance of the issue. We hope to interest Alan Welch, of the Australian National University in the question.

There is also a clear need for a more attention to the final synthesis for the CoML. This is an urgent issue, that FMAP will devote more effort. We have arranged a meeting with Mike Sinclair to discuss a range of options for a final synthesis, which can then be reviewed by CoML PI's as a whole.

There is also a great need for the integration of the field projects and modellers~~modelers~~. We have modeling workshops arranged that will result in meetings with most of the field projects within the next year.

Detailed responses follow.

Review 1.

1. This reviewer suggested more emphasis on educational outreach. We believe that the most cost effective way to spend FMAP outreach money is through the publication of high profile papers. From these, the more traditional educational outreach flows naturally. We have received numerous requests to have FMAP products be included in textbooks. We believe that providing easily, usable products, e.g. high quality clear illustrations for public use, the goals of more educational outreach can best be met.

2. More contact with field projects/OBIS/FMAP. ~~We will attempt to work with as many field projects as possible.~~ THIS NEEDS TO BE SOMEHOW MORE CONVINCING./

FMAP has strong links with 14 of the other projects, in the form of joint workshops, projects or graduate students. Once these links are solidified, which should be within the next year, we will attempt to form similar links with the remaining projects.

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Review 2.

Presence-only data. We believe that this reviewer suggests a working group on presence-only data. We agree that this is a very important area, and have already discussed this with the "Over-dispersed discrete data" working group, and hope to move towards addressing this issue by identifying the problem clearly to "real statisticians".

Species-area analyses. This project now involves one very good Ph.D. student, and his 4 statisticians and biologists advisors. OBIS will be involved as the project progresses.

Rarity - We agree that the scope of the rarity study needs to be expanded eventually.

Deliverables - Space does not allow details, but in summary, each of the projects will be published in high citation journals, and the data placed in OBIS whenever possible.

Gulf of Maine - FMAP funds two projects that are aimed at helping the Gulf of Maine project. One project is at the Univ. of New Hampshire, to develop methods. The other project, funds a graduate student to help develop computer protocols for trawl, and other, survey data. This project will also make large amounts of data available to OBIS.

Role of FMAP in data management with OBIS - The variety of data that OBIS has to deal with is enormous, the difficulty in organizing this data is much harder than most researchers can imagine. What FMAP is trying to do is to help OBIS with the statistical issues. For example, there is no way to easily include reliability codes, e.g. standard errors, on numbers in the OBIS schema. It is essential that such methods to display uncertainty be developed.

Conclusions - We agree for the need for greater collaboration with other CoML projects. Our prime criteria for a method to be developed by FMAP is two fold: (1) Will it further the aims of the CoML? and (2) Does it have the highest standards

of rigor? We will endeavor to consider a wide variety of methods, but they will be limited to methods that satisfy these two criteria.

Review 3.

Presence Only modeling - This reviewer also mentioned this important topic. We will make the investigation of presence only modeling a priority.

Predicting Global Distributions of Marine Mammals - The difficulty with traditional statistical methods is that they assume zero's are recorded. This is an example of "presence only modeling" that we will address.

Not mentioned the "NBII formats are ignored, that Darwin Core, etc..." - We agree that these are crucial issues, but are more central to OBIS, not FMAP. We agree that standard formats should always be used, and developed further.

Distance Sampling - A new member of the FMAP team, Alan Welch, has done fundamental work with this method.

Review 4.

This reviewer had 4 main points which we address below:

1. Benthos - We agree with the need to have more attention to the benthos. We believe that such cooperation will flow from our workshop on the biodiversity of the benthos, and the work described in Appendix 4. [Two of the four steering group members of FMAP \(Worm & Lotze\) have a strong background in benthic ecology and a sincere interest in synthesizing information from benthic and coastal data sets.](#)

2. Include more schools of modeling. Our attention is limited to those schools of modeling that forward the goals of the CoML, [i.e. those that allow estimation of the diversity and abundance of marine life, and to understand its past and future. We will seek out alternative approaches to our own that will further the goals of the CoML. e.....?](#)

3. Polycentric - We agree with the need to be more "polycentric"; however, it has been difficult to find modelers willing to totally focus on the needs of the CoML, as opposed on their own research agendas. [It appears that the development of a looser network of modelers/statisticians who are individually linked to the other projects may be a better way forward than more centers.](#)

4. Gain clarity about final CoML synthesis or framework, and process for it. We agree with the crucial needs for a "framework", and that it cannot be imposed by anyone.

