

Review for Sloan Foundation

Note: Reviewer had commented in February on CORE renewal proposal for Scientific Steering Committee (SSC). With “overview” from CORE/SSC proposal in mind, reviewer was asked to make comments and suggestions on 4 proposals (Louisiana State [continental Margins], Vancouver [Shelf tracking], Hawaii [Abyss], Alaska [Arctic]). Reviewer was asked not to comment individually on each proposal but rather to make comments that would cut across the whole package.

Most comments are naturally about shortcomings or opportunities. At the end come some overall evaluations (favorable).

It is harder than it might be to compare the 4 proposals because they do not follow a **standard format**, except to a limited extent with the use of Milestones that were provided.

Projects are **not using Milestones consistently**. The Projects do not appear to be using the terms (column headings) the same way. Items that are in one column in one project are in a different column in another.

Effort going into development of Milestones by Projects is very **uneven**, especially beyond 1-2 years in future.

I received Milestones in Xerox form from a spread sheet, hard copy. They are hard to understand because only a few words appear in each small box. Maybe there are more words (information) in the electronic version. While it is a good idea to have a high level summary of Milestones for each project that fits on one page for each year and through 2010, the **present Milestones Excel format does not work**. Excel seems just to print the first few words, which are not always significant.

I speculate that CORE/SSC is not in fact studying the Project Milestones received and providing **feedback to the Projects**, or the Milestones would be more complete and uniform. Projects are only partly to blame. Milestones will be useful tool in proportion to the serious discussions about the Milestones with the CoML leadership.

Accepting that the Project proposals mostly run through 2008, I still worry that Milestones show little awareness of **larger plans for 2009-2010** outlined in CORE’s February proposal. There is even also little awareness or orientation toward the **fall 2007 All Program meeting**, which was featured in the CORE proposal. What does each Project expect to report or share in fall 2007?

There was very **uneven recognition of the 3 stated post-2010 Legacies** of the CoML in the CORE/SSC proposal: improved ocean observing system for marine life (Shelf-tracking was very strong exception in this regard); OBIS and archival database; centers of excellence for study of marine biodiversity. What, for example, should be the ocean observing system legacies of Arctic, Margins, and Abyss Projects?

I conclude that the SSC Chair and Senior Scientist are not communicating adequately with the Projects. Perhaps there should be a meeting of members of the SSC with the Project leaders before fall 2007, not a fully 200-person All-Program meeting, but a meeting of 25-30 people.

In February I read some of the newsletters of the CoML. These are interesting and thorough but are also long and not Operational. A Project leader would need to dig through the Newsletters to understand what matters for a Project in terms of Action. Does CORE/SSC communicate regularly with Project leaders about Operational matters? Maybe there should be a **quarterly short Operational memo to Project leaders from the Chair or Senior Scientist.**

There was scarcely any mention of the **periodic reporting** to the SSC that the CORE/SSC proposal described. Is the Annual progress report due each September useful both to the Project and to the SSC? What about the updates requested for each SSC meeting? What about the comprehensive Research Plan that was issued in 2005? The Compendium of papers from all projects that was distributed in 2006? When should updated Research Plans be issued? What kind of reporting system would work best? I do not know whether to interpret the silence to mean that everyone is happy with the reporting system or regards it as trivial. Each project will presumably need to report 4-5 more times (annually) as well as issue certain plans. To some extent, these proposals are periodic reports. It would seem very beneficial to **optimize reporting now**, in ways that serve the individual Projects and the collectivity.

From reading the 4 proposals, I have the impression that all 4 Projects feel they are highly likely to raise enough money in various ways to complete a large fraction of their objectives. If true, this is very good news. Commitments already are impressive. I was surprised that the Projects were not more explicit about **where they might benefit from HELP from the CoML leadership in achieving financial and other goals.** Shelf and Arctic (which discussed importance of IPY process) were clearest about needs for future money/ship/equipment commitments. I came away believing that all the Project leaders know what they need to do to raise resources. In some cases they could have been **more explicit about when (deadlines) for submissions** of proposals, etc. These should have been more common Milestones.

Looking at the 4 **budgets**, all the Projects appear to be applying Sloan funds in the way requested, that is, mostly for essential organizational/management activities. Each Project has some additional modestly priced area (such as Russian cooperation or a particular kind of taxonomic training) where some Sloan funds would be used, presumably because alternate funds would be extremely difficult to obtain. It seems better to provide these modest, high-leverage amounts than to force the Project leaders to spend a lot of time chasing after small grants. Only the Margins proposal has some requests that are not really explained or solidly defended.

All the projects seem to feel they have benefited from the Education and Outreach Network. All the Projects except Margins seem already to have had big successes in Outreach. At the same time, indeed in light of the record of success (also of the Ridge and Top Predators Projects), I was surprised not to find **more imagination and ambition about Education and Outreach**. While these proposals to Sloan are mainly for coordination funds, not for funds for Outreach itself, I would have expected to learn about more interesting aspirations or possibilities. On the Education side, does anyone plan to produce a new Textbook or other (web-based) materials? Maybe this would benefit from a multi-Project collaboration.

Only one of the 4 projects seems to make direct, explicit use of the **SCOR Technology Panel**. The Proposals made little reference to this group or to **liaisons** with it. Barcoding (promoted by the Panel) seems to have spread fast. I wonder if other technology opportunities (whether nets or cameras or whatever) need to be more actively shared.

Two of the projects seem to have links to the History of Marine Animal Populations project (Shelf tracking, Arctic). Maybe Margins and Abyss have no possibility of links. Still, **I was not convinced the Projects had thought as fully about historical sources and links as they should**. HMAP has shown exciting low-cost opportunities exist. Does every project that wants to have a liaison with HMAP have one?

All of the projects seem to have some link or intent with regard to “integration” and the Future of Marine Animal Populations program, which is meant to foster integration in CoML. However, again, I would have expected a **named FMAP Liaison** for each project. Perhaps such a person exists but it was not clear. Links to the new Working Group for the 2010 Report about which I learned in February were also absent.

With regard to the Future, all the proposals make reference to changes in ocean conditions (climate change that will change circulation or ice cover or acidity, and so on). There was **no evidence that CORE/SSC or FMAP is providing common assumptions or time horizons about these matters**.

Similarly, **the use of the KUU Limits to Knowledge framework is uneven**. Everyone is trying, some mechanically and some more seriously. I am puzzled there is not more enthusiasm for probing with the framework. For Arctic, Abyss, and Margins, the Taxonomic Impediment (inadequate number of [or access to] trained people, difficult access to undigitized information, etc.) is raised. This seems a perfect candidate for examination via KUU, especially as the DNA barcoding (which 3 Projects mention) could change the limits. Similarly, all the Projects need to worry about spatial and temporal heterogeneity. Maybe there needs to be a **separate KUU workshop with the Projects**, or as part of the 2007 meeting, where everyone thinks hard and carefully and openly about their limits. It is nice that everyone seems to feel one big limit to knowledge of marine biodiversity was simply that there had not been a program like CoML. This may be an important fact but hardly the entire story. Nor is money.

All the proposals make reference to OBIS but the Projects did not identify a **Liaison person with OBIS**. This seems urgent. None of the proposals gave the impression that the Project had a clear understanding of the utilities or services that OBIS will provide to the Projects as each year goes by. I might have expected to find “OBIS Utility XYZ goes on line” as a Milestone in at least one Project. The Margins project made it seem as if OBIS will be inadequate for its purposes. I could not judge whether this is true. **Has OBIS provided to the Field Projects a clear statement about what services it will provide when?**

The CORE/SSC February proposal focused much new effort on strengthening the contribution of National and Regional Implementation Committees (NRICs). The 4 Proposals mention the NRICs very rarely and only in passing. Are the Projects findings the NRICs helpful? If not, **how could the NRICs become more helpful?** I should think, for example, that the US and Canadian National Committees would be very important for the expansion of the Shelf project. Is the South American Committee helping CoMARGE, which is working off Brazil? Should the Projects plan to give briefings to key NRICs or work with the NRICs to visit regional funders or other potential partners?

In February I questioned how much credit CoML should receive for stimulating new activities that would not otherwise have occurred in marine science. From reading the 4 Project proposals, I came away with a much higher estimate than I would have made in February. Shelf-tracking appears to have had its genesis entirely within CoML. ArcOD probably also would not have happened without CoML (though some expeditions would have occurred). While the Margins project is not creating a lot of new CoML signature expeditions, the global network appears to have been created only because of CoML. The Abyss effort appears to have had the strongest life apart from CoML, but also seems to have been transformed into a much more ambitious and complete effort by CoML. In this regard, I have a high evaluation of all 4 Projects. All 4 truly aim to gather and integrate information about diversity, distribution, and abundance of marine life on a global scale that has never been tried for the Shelf, Abyss, Margins, or Arctic. Each Project definitely belongs in CoML, has benefited from it, and has much to contribute.

Reading the proposals together, I do not find profound problems with any of the Projects.

Collectively, I see some real strengths. While not every country or region is deeply involved in every Project, a remarkable span of countries and expert communities is found in the sum of them. The shelf, Arctic, and abyss projects have already produced significant scientific results. Margins is newer. The basic strategy of each Project seems sound.

Together these projects will generate massive amounts of information for the CoML. Higher internal integration is urgently needed for the CoML to become more than a collection of interesting Projects. The February 2006 Proposal of CORE/SSC aspired to such integration but the May 2006 Project proposals show that much remains to be implemented. To close on a positive note, the enthusiasm and pride evident in all the proposals suggest that morale and goodwill are strong.