



## Summary

### Meeting of the U.S. National Committee for the Census of Marine Life April 19-20, 2010

**Consortium for Ocean Leadership  
1201 New York Ave., NW, Fourth Floor  
Washington, DC 20005**

The U.S. National Committee (USNC) of the Census of Marine Life (CoML) held its biannual meeting at the Consortium for Ocean Leadership offices in Washington, D.C. on April 19-20, 2010. The meeting was lead by Chair Dr. Andrew Rosenberg of Conservation International and Vice-Chair Dr. Wes Tunnell of the Harte Research Institute for Gulf of Mexico Studies at Texas A&M University-Corpus Christi. This meeting would mark the sixteenth and final full meeting of the USNC.

The main goals of the meeting were: 1) ensuring OBIS-USA remains in a strong position for sustaining a long-term, funded effort and stays on target for meeting Year 3 goals; 2) deciding upon the details of the U.S. Fall 2010 “celebration” event(s); and 3) determining the most effective and essential activities for the USNC to conclude during the final eight months of 2010. The USNC also discussed refining its number of synthesis products to ensure they are completed and make an impact.

Invited guests included Dr. Jerry Miller (OSTP) who presented on Presidential priorities including the establishment of a national, science-based ocean policy, Dr. Dave Garrison (NSF) who informed the USNC of the current NSF campaign Dimensions of Biodiversity, which hopes to integrate genetic, taxonomic and functional approaches to categorizing biodiversity on earth (not just in the oceans), and John Mosesso (USGS) who supports and represents OBIS-USA. In addition, Jesse Ausubel (Alfred P. Sloan Foundation) attended the meeting and provided an update on the Galatée *Oceans* film; Philip Goldstein (University of Colorado), with J. Mosesso and M. Fornwall, presented on the current status and continued growth of OBIS-USA; and Dr. Reg Beach (NOAA OER) informed the USNC about his upcoming May 2010 workshop on attaining operational biodiversity monitoring. Members of the international CoML program office also participated throughout the meeting.

**OBIS-USA:** M. Fornwall provided a quick update on OBIS-USA funding and the growing list of partnerships. He noted that OBIS-USA has made significant progress over the last several months, but funding still remains a year-to-year process. Funding has been stable and there is a small chance for an increase in USGS funding in the next few years, however a stable, long-term solution remains a major goal. OBIS-USA will receive some funding from NOAA this year to complete its part in the IOOS biological observations project, but M. Fornwall still anticipates needing greater attention and funding in order to create more user applications. A. Rosenberg agreed to brief Marcia McNutt about OBIS-USA’s recent accomplishments and a letter will be

sent to her on behalf of the entire USNC regarding their support of a sustained OBIS-USA. M. Fornwall was happy to inform the USNC that their relationship with NOAA seems to be constantly improving and his team is now regularly working with NOAA's National Oceanographic Data Center (NODC). OBIS-USA is also working with the Minerals Management Service (MMS) to become the data repository for the agency's marine biological research findings. MMS agreed to supply funds to help OBIS-USA create an import system in hopes it will allow contractors to upload their data (and subsequently take the load off the OBIS-USA staff). MMS is excited about the partnership and continues to voice their support for OBIS-USA at interagency meetings in an attempt to get other agencies to participate. OBIS-USA is also participating more with internal USGS activities, including the USGS Coastal Marine Program, to discuss how they can better integrate OBIS-USA biological data with the agency's physical and chemical data.

P. Goldstein provided an update on the current and potential Year 3 activities of OBIS-USA. His team continues to work on ingesting more data, including more MARMAP (Marine Resources Monitoring, Assessment, and Prediction Program) data and new Florida Marine Science Center data, bringing the total number of records in OBIS-USA to roughly four million. Most of that data is available on the site (<http://obisusa.nbii.gov>), while ~ one million are in hand and should be on the site shortly. The OBIS-USA team is also working on new search capabilities, such as by large marine ecosystem (LME), and additional web services. The team wants to cultivate tools that users can apply to the data and has focused on ERDDAP (Environmental Research Division's Data Access Program), a program that offers a better way to download data and integrate biological and physical data. ERDDAP is a common language code that allows programmers to aggregate data from different sources and download the data, or subsets, in common file formats. P. Goldstein hopes to engage a community OBIS-USA hasn't been able to in the past by utilizing ERDDAP. He noted that NOAA is employing ERDDAP, as is the USGS personnel involved in coastal and marine spatial planning, allowing OBIS-USA to better engage both groups.

P. Goldstein and M. Fornwall noted that the biggest challenge they now face is encouraging people to use OBIS-USA, not just submit data. They both appreciate how the USNC members helped them secure data providers and asked the USNC to help with cultivating users. P. Goldstein noted that the Navy is interested in collaborating as a user, showing how OBIS-USA is serving the Navy data and documenting how the Navy uses that data. J. Kildow suggested OBIS-USA research the Ecosystem-Based Management Tools Network (<http://www.ebmtools.org/>), an alliance of EBM tool developers, practitioners, and training providers who develop EBM tools and support their use in EBM implementation in coastal and marine environments. The web service technology OBIS-USA is employing could appeal to the online group and involvement in the EBM webinars would be a great way reach the technologists and end users who also participate in the webinars. P. Sandifer noted that Coastal and Marine Spatial Planning (CMSP) is going to be a substantial effort for the agencies and some group will have to supply the biodiversity data needed, provided it is available at a fine enough spatial scale (such as Chesapeake Bay to LME type scales). He expects the Presidential declaration for the National Ocean Policy sometime later this spring and noted it could carry some opportunities for funding over next one to three fiscal years. P. Sandifer stressed the point that there is very little competition when dealing with quality large marine biodiversity datasets, so if OBIS-USA could provide the baseline information and needed services to assist the agencies as they consider their CMSP response, it has to position itself to take advantage of the opportunity!

P. Halpin presented briefly on the status of international OBIS. iOBIS now has a home in the International Oceanographic Commission (IOC), however funding is still an issue. With recent

funding shortfalls, Dr. Edward Vanden Berghe, Executive Director of iOBIS, has had to limit his staff at Rutgers University. As a result, Pat's CoML Mapping and Visualization (M&V) team has been helping to rebuild the iOBIS site with a better organized user interface, increased mapping capabilities, advanced queries by pre-determined regions and more data download formats. Multiple language versions of the website for international users will be included. The upgrades are important due to CoML's recent interactions with the Convention on Biological Diversity (CBD). The CBD is discussing using the iOBIS portal as the main source of biodiversity data for the necessary reporting. CoML is contributing at the international level for marine planning and conservation in the non-territorial seas and is looking to provide data and information to support the CBD process in open ocean issues. The M&V team and Edward are working on illustrations to show the CBD can successfully implement criteria by using CoML data.

P. Halpin echoed the value in iOBIS, OBIS SEAMAP and OBIS-USA continuing their efforts to involve one another in their work plans and share information to avoid overlapping efforts. One suggestion for how to improve interaction between the three groups was to better define the niches and specializations of each group (based on data users/providers). For example, OBIS SEAMAP fills a very specialized niche dealing with how telemetry, photo identification and passive acoustics (for example) relate to protected species data and tools. P. Goldstein and M. Fornwall agreed to clearly define OBIS-USA's niche to help clarify its role and relationship in comparison to iOBIS and OBIS SEAMAP.

#### **USNC Synthesis, Future Plans and Events:**

D. Fautin thanked all the authors and contributors of the U.S. contribution to the NRIC Synthesis Volume and was pleased to announce that the final manuscript "An Overview of Marine Biodiversity in United States Waters" was submitted to PLoS ONE on April 7th. As the lead corresponding author, she has agreed to keep everyone up to date with any correspondence from PLoS regarding reviews, requested edits and approval status. She noted that she has spoken with Linda Amaral Zettler (International Census of Marine Microbes) and plans to update the microbes taxa numbers in the manuscript pending any additional edits in the publication process. Once the document has been reviewed by PLoS ONE and final edits are made, the U.S. program office will circulate the manuscript to the USNC members for further distribution.

Synthesis discussions shifted to some additional products the USNC could contribute, with the caveat that the products must be completed during 2010. After much discussion, the USNC determined that they should focus their time and effort on three essays, all of which represent topics of personal USNC interest and significance to the global CoML synthesis effort. The topics are:

- 1) The influence CoML/OBIS has had on the international network of data standards and protocols. What was our part in getting marine biologists to finally see the benefits in pulling together and sharing their data sets? Did this program provide the push, along with GBIF, that finally got biodiversity data sharing underway? Would this effort have happened without CoML and OBIS establishing protocols and frameworks? How have things changed in this arena since 2000? (Lead: G. Sedberry, with D. Fautin, M. Fornwall and P. Goldstein)
- 2) Review of the progress made in the field of marine biodiversity since the 1995 NRC study 'Understanding Marine Biodiversity: A Research Agenda for the Nation' and/or the 2003 CoML Baseline Report\*. How did the U.S. respond and was Sloan funding CoML the major component of the response? Can some of the progress be attributed to CoML? A large component of the progress resulting from the 10 years of CoML funding was the new community of collaborating scientists, the likes had never seen before in marine

biology/biological oceanography research program. CoML began at a time that biodiversity issues were presenting themselves and garnering more attention and CoML effectively created the baseline to which future changes can now be compared. J. Kildow will ensure there is a strong social science perspective in the essay. (Lead: J. Kildow, with C. Pautzke, P. Dalton and P. Sandifer)

\*NRC study online at [http://www.nap.edu/catalog.php?record\\_id=4923#toc](http://www.nap.edu/catalog.php?record_id=4923#toc) (free online); Baseline Report online at [http://coml.org/comlfiles/press/Baseline\\_Report\\_101603.pdf](http://coml.org/comlfiles/press/Baseline_Report_101603.pdf).

- 3) The ethical, legal and regulatory implications of CoML research with specific applications to policy. The initial desired end product was an op-ed to be published in *Science* or *Nature* with a longer, detailed report to be made available online. The convened working group should have 8-10 people representing the following groups, if possible: CoML/USNC, legal experts, environmental lawyers, ecologists, resource managers, philosophers, and socio-economists. (Lead: J. Connor, with J. Leong, M. Brodeur and M. Bohan)

Additional synthesis products include an article in *Sea History* which M. Feldman and M. Brodeur have agreed to draft with help from D. Finamore. These synthesis products developed from the USNC's discussions can also be found in the meeting actions document.

Next, K. Yarincik (CoML International Secretariat) informed everyone about the three October 2010 'Decade of Discovery' events in London: 1) the news conference with National Geographic to announce the findings to the media and global public; 2) the science symposium where CoML projects and NRICs will each have ten minutes to speak to their own peers and highlight what they have each accomplished (A. Rosenberg or W. Tunnell will present on behalf of the USNC); and 3) the celebration event on the last evening. A media workshop run by the CoML Education and Outreach team will be held in July; by July they will be able to impart the real messages to the project and NRIC representatives presenting in London. M. Brodeur will submit an abstract for the poster session on the USNC PLoS ONE manuscript; M. Feldman will ensure an abstract is submitted for a poster based on the results of Reg Beach's operational biodiversity observing workshop (see page 6).

The meeting participants discussed options for the fall 2010 U.S. "celebration" event. Everyone agreed it should be, in part, a culmination event that characterizes what we now know about the past and present status of marine biodiversity and what needs to be addressed in the future. Timing for the event is promising as 2010 is the Year of Biodiversity and we will have a wealth of information, images and presentations to utilize from both the London events and the PICES session (October 26-29, 2010). Ideally, the event should try to reach as broad an audience as possible (media, federal agencies, policy makers, program managers, individuals in other fields and school children), though it was agreed that there was no way that a single event could be all things to all audiences. P. Sandifer noted that if a D.C. event was decided on, the USNC had to have a target and a specific ask of the audience. He suggested the event could take advantage of the Presidential order on the National Ocean Policy (NOP) and present how biodiversity information can feed the needs of those implementing the policy. The USNC could also make recommendations to both the administration and the next congress on what steps they should take to enhance research and conservation of marine biodiversity.

A few members questioned if Washington, D.C. was the appropriate location for the event, especially considering that most tasks related to the NOP and CMSP will be implemented on regional scales. Therefore, the idea of holding a few smaller regional events was also discussed. CoML scientists in the regions could be asked to participate and the event(s) could be geared

towards the needs and struggles of the particular region in regards to CMSP or marine biodiversity research in general. C. Pautzke suggested a celebratory gala, held on the west coast in conjunction with the PICES meeting (Oct. 22-31, 2010, Portland OR), as an example of a regional event. Everyone agreed a short list of customizable messages should be drafted. The U.S. program office agreed to circulate a list of messages that USNC members could use and adapt for the U.S. event(s) and general discussions throughout 2010. ALL USNC members agreed to consider possible regional events to be held as part of our 2010 celebration. They were also asked to consider what the event might entail, the timing of the event and what amount of support would be needed. All ideas are to be sent to the U.S. program office as soon as possible.

**Government and Agency Related Activities:** J. Miller (OSTP) presented on Presidential priorities, most notably the establishment of a national, science-based ocean policy. He noted that the policy itself does not imply how it is to be implemented and that no budgets have been determined as of yet. He assumes there will be a large investment in the Ocean Observatories Initiative, as it is creating the new technology that will become routine at a later stage. Agencies will have to reprioritize themselves as there won't be substantial amounts of new money and everyone will have work better with what they have available. This sentiment was supported when P. Sandifer gave a brief update on NOAA activities. He noted the Presidential declaration on the NOP is expected soon and agencies, including NOAA, will have to realign existing resources to put funds towards the NOP plans. He also noted that NOAA continues to have discussions about marine biodiversity internally and is positioning itself to play internally and interagency-wide to promote biodiversity and ecosystem services. NOAA and NSF leadership are meeting regularly to find a number of areas where they can jointly progress biodiversity and decrease the amount of overlapping activities. The two agencies want to partner institutionally and make commitments where NSF is interested in the science and NOAA needs the research. He is optimistic as positive discussions and actions are being taken in regards to biodiversity that weren't occurring just a few years ago. He informed the USNC that they may see certain changes within NOAA in the near future: NMFS is beginning to look at biological info in a different way; proposing a separate line office for NOAA climate; a re-engineering of OAR; and elevating the position of the Chief Scientist. The NOAA Science Advisory Board (SAB) will remain an important resource and mechanism for the Administrator. The SAB recently added three new members including Jeremy Jackson (Scripps Institution of Oceanography), Peter Kareiva (The Nature Conservancy) and Heidi Cullen (Climate Central). It is anticipated that the Ecosystem Sciences and Management Working Group (of which J. Leong is a co-chair) will become a major focus of the SAB.

D. Garrison next spoke to the USNC members about the new NSF Dimensions of Biodiversity (DoB) program. NSF's new initiative seeks to characterize biodiversity on Earth using integrative, innovative approaches to fill current gaps of knowledge about diversity. The initiative promotes novel, integrated approaches to understanding the significance of biodiversity. NSF released a call asking for letters of intent (to help with determining conflicts) by May 7th and full proposals by June 8th. The program has guaranteed a \$20 million investment in FY10 and D. Garrison expects a similar level of investment to continue for the next 10 years. Dr. Ron O'Dor (CoML Senior Scientist) informed the USNC that CoML has met with NSF regarding DoB and a few CoML projects are submitting proposals. Ocean Leadership is also submitting a proposal as an International Research Coordination Network.

**Other Activities:** M. Feldman informed the USNC that CoML was asked to present at the April 22<sup>nd</sup> National Academies of Sciences/National Research Council "An Ocean Infrastructure Strategy for U.S. Ocean Research in 2030" meeting in Tallahassee, FL. CoML wanted to ensure they consider infrastructure needs for marine biologists beyond just ships and satellite

technology. Amy Baco-Taylor (Florida State University) and Gustav Pauly (University of Florida) agreed to present on behalf of the U.S. CoML. It was agreed that there was substantial value in both presenting and providing written text. M. Feldman will continue to coordinate with the NRC organizers to ensure that the agreed upon messages from CoML are considered for their final report.

In early March, the U.S. CoML community received notice that CoML and the Sloan Foundation had chosen to no longer associate themselves with the version of *Oceans* distributed in the U.S. and Canada. J. Ausubel provided more information for the USNC members, stating that the Sloan Foundation was saddened that Disney re-focused the film so it would be most attractive to a younger audience. He noted that the international version should be made available to members of the USNC once it is no longer showing in theaters.

R. Beach informed the USNC of the NOPP-sponsored workshop he is leading on 'Attaining Operational Marine Biodiversity Observations: A Workshop to Determine the Status of Current Abilities and Scope Future Solutions' on May 24-27, 2010. The workshop originated from the ad-hoc Biodiversity Working Group he started under the Interagency Working Group on Ocean Partnerships. The ad-hoc group holds quarterly meetings with members of twelve agencies who have personal or agency interests in marine biodiversity. R. Beach mentioned that much of the group's discussions, and ideas for the workshop, stemmed from the 2006 USNC workshop and resulting *Frontiers in Ecology* paper. The ad-hoc group decided to hold the workshop to determine which marine biodiversity research techniques are available, affordable, scalable and could be replicated on a global scale. ARMS, the Autonomous Reef Monitoring Structures which are deployed on reefs and contain fouling plates on which organisms settle, was a good example of such an observation tool. ARMS have been tested and are representative of organisms on shallow hard bottoms, so the workshop participants are charged with determining the analogs for other habitats (hard bottom, soft bottom and pelagic in both shallow and deep depths). R. Beach hopes that the workshop will result in three to four recommendations for standardized monitoring techniques for each habitat that the federal agencies can consider for implementation.

#### **USNC Presentation Opportunities to Highlight CoML:**

- **PICES (Oct. 22-31, 2010, Portland OR)**

The CoML half-day session proposal submitted for the 2010 PICES annual meeting was accepted.

- **Other Meetings**

The U.S. Program Office will submit session proposals for Oceans '10 MTS/IEEE conference in Seattle, WA (September 20-23) and 2011 AAAS conference in Washington, D.C. (February 17-21).

**The USNC Legacy:** N. Young started the discussion of the options and framework for a CoML II by acknowledging the struggle that the USNC has had in determining what happens post 2010. She listed the many activities attempted by the USNC over the last few years in this pursuit of a CoML II, such as drafting legislative language, briefing the NOAA SAB and the Ocean Research and Resources Advisory Panel (ORRAP), exploring a new NRC report on biodiversity, and many others. Despite the best efforts of the USNC, the goal of a CoML II has yet to be realized. The good news is that NSF is starting a new ten year initiative on biodiversity. Everyone is unsure what it means for marine biodiversity over the long run, but the topic is gaining some traction. She noted that she was unsure if the USNC should continue with the options paper as it never resulted in a clear, concise message. Everyone agreed the USNC should continue to promote CoML and the importance of increased understanding of marine biodiversity, but that we are no longer going to focus on a second CoML. The sustained effort of the USNC should remain

focused on OBIS-USA and other previously mentioned synthesis activities. N. Young also suggested the USNC continue its support of R. Beach's ad-hoc interagency biodiversity group and any other efforts that might result from the NOP.

**Future USNC meetings:** M. Feldman reiterated that though this was effectively the last full meeting of the USNC, there is still a lot of important work to complete and that everyone should be proud of the efforts of the USNC through the years. Though a limited number of USNC members have been invited to attend the October 4-7, 2010 events in London, the U.S. CoML "celebration" event(s) may provide opportunities for small groups/all of USNC members to congregate.