



MINUTES

Meeting of the U.S. National Committee for the Census of Marine Life

320 Golden Shore, Suite 100
Long Beach, CA
June 3-4, 2004

Attendees

Members:

Dr. Daphne Fautin, University of Kansas (Chair)
Dr. Clarence Pautzke, North Pacific Research Board
Dr. Shirley Pomponi, Harbor Branch Oceanographic Institution
Dr. Jerry Schubel, Aquarium of the Pacific
Dr. Nancy Knowlton, Scripps Institute of Oceanography
Mr. Dan Zimble, Environmental Systems Research Institute
Mr. Bill Shedd, AFTCO Manufacturing
Dr. Vera Alexander, University of Alaska, Fairbanks (SSC Liaison)
Dr. Michael Roman, University of Maryland (via phone)
Dr. Paul Sandifer, National Oceanic and Atmospheric Administration (via phone)

Others:

Stephen Brown, NOAA Fisheries
Penny Dalton, CORE
Kristen Yarincik, CoML Secretariat
Ron O'Dor, CoML Secretariat
Giselle Firme, CoML Secretariat

I. Welcome and goals

Dr. Fautin opened the meeting by welcoming members and outlining the goals and agenda.

II. USNC Developments

A. Membership

Dr. Fautin reported that Environmental Systems Research Institute (ESRI) had been added as a member of the US National Committee (USNC), represented by Mr. Dan

Zimble at this meeting. She reported that Vera Alexander of the Scientific Steering Committee (SSC) will be liaison to USNC and will be spending approximately one week per month in Washington, DC to assist with program support.

B. Report of the Scientific Steering Committee

Dr. Alexander presented a report of the SSC meeting in Penang. The SSC is becoming increasingly concerned with managing the complex CoML structure, and with the governance uncertainty between SSC and the National and Regional Implementation Committees (N/RICs). NAGISA is an example of an easy program to implement in all areas. The project will hold a conference in Japan in 2005. The SSC discussed that the upcoming International Polar Year (IPY) could present an excellent opportunity to begin an Antarctic and Arctic program. The Sub-Saharan group held a conference. The SSC endorsed Indonesia and Malayan CoML in an Indonesia project (MARLIN). China is preparing to organize CoML activities. Japan is preparing to restructure a National Committee. Euro- CoML is underway. Victor Gallardo is now Vice-Chair of SSC. The SSC's next meeting is planned for Paris 1-2 December 2004. A SSC management subcommittee has been formed that includes: Meryl Williams, Ian Poiner and Victor Gallardo.

C. Report on the Ocean Research Advisory Panel (ORAP) Workshop

Dr. Fautin reported that an ORAP workshop on US priorities for the Ocean Biogeographic Information System was held 24-25 March 2004. ORAP – as an advisory body to the National Ocean Research Leadership Council (NORLC) – convened the workshop to address goals related to the implementation of OBIS. The outcomes of that workshop included three specific recommendations to the USNC:

1. The USNC should establish subcommittee for OBIS;
2. OBIS through USNC should prepare a business plan that includes a strategy that shows federal funding;
3. OBIS should determine which recommendations of the U.S. Commission on Ocean Policy are pertinent to OBIS.

III. CoML Project Developments

A) Gulf of Mexico

Dr. Fautin reported that she has been in contact with Wes Tunnell regarding the Gulf of Mexico project of the Harte Research Institute for the Gulf of Mexico Studies. They are exploring its affiliation to CoML through the USNC. The project, which involves collaboration with Mexico and Cuba, will provide an all-taxa marine inventory, which could provide data into OBIS.

B) POST

Dr. O'Dor announced that Pacific Ocean Salmon Tagging project received new money from the Moore Foundation to develop full arrays. The Canadian Department of Fisheries and Oceans and NOAA have expressed increased interest in the POST project.

C) TOPP

Dr. O'Dor announced that the Tagging of Pacific Pelagics project recently received a grant of 2M from the Moore Foundation.

D) CEDAMAR

Dr. O'Dor announced that the Sloan Foundation recently funded a proposal to expand the abyssal marine life project to Hawaii and Brazil.

E) ArcOcCoML

Dr. O'Dor announced that the Arctic Ocean project is working to partner with Russia and bring Russian data into OBIS. Dr. Pomponi remarked that during a recent workshop on natural products, NIH expressed interest in the Arctic region and was not deterred with the financial requirements of participation; therefore, NIH may be a potential supporter or partner in future activities. The new Challenger expedition is planned for the North Pole during the International Polar Year (2007) to undertake both tourism and science with support of the Diversa Corporation. The cruise is set to circumvent the globe with a diving capacity to 6,000 meters. Dr. O'Dor expressed that this could provide a good opportunity to dive on the North Pole in 2007, and an incredible vessel platform opportunity with both the Keldesh and Mirs. Mike Lion is the project coordinator. Dr. Pautzke inquired if NSF has expressed interest in an Arctic project leading to the IPY. Dr. O'Dor stated that there is a steering committee trying to make connections to access the Arctic. Dr. Alexander expressed that NOAA's Office of Ocean Exploration is already funding some projects in the Arctic and may be a potential supporter of additional activities. Dr. Brown of NOAA Fisheries commented that they currently survey in Antarctic.

F) ICoMM

Dr. O'Dor identified the Netherlands as leading on the International Census of Marine Microbes project. Moore Foundation has committed to providing support to this project. Additionally, a proposal to the Sloan Foundation will be submitted in July 2004. South America steering committee was able to intervene on Craig Venter's cruise and collect samples in Galapagos.

G) CMarZ

Dr. O'Dor described that Dr. Ann Bucklin is leading the development of a Census of Marine Zooplankton project with a significant number of participants from Japan. CMarZ will submit a proposal to Sloan Foundation in the near future. NOAA National Ocean Data Centers is developing a Plankton Atlas; Todd O'Brien is the contact.

H) Continental Margins

Dr. O'Dor expressed that this project has 75% chance to be funded by the 6th of June.

I) Seamounts

Dr. O'Dor reported that a group is preparing a Seamounts project proposal that will be submitted to the Sloan Foundation.

J) SCOR

Dr. O'Dor reported that Scientific Committee on Oceanic Research (SCOR) recently received continued funding through the Sloan Foundation.

K) Barcode of Life

Dr. O'Dor reported that Sloan Foundation currently supports this CoML-related project. Its largest component is biodiversity on land but CoML is well positioned to provide information on marine ecosystem. Museums have accepted to open up their species to develop a reference data point.

L) Coral Reefs

Dr. Knowlton reported on a number of developments potentially leading to a CoML project on coral reef biodiversity. A paper published last year on Caribbean corals showed a huge decrease in biodiversity. Dr. Knowlton will meet representatives of other N/RICs with coral reef interests at the International Coral Reef Symposium in Okinawa. In August, the USNC will convene a workshop for a US led project proposal. Dr. Alexander inquired if deep/cold water corals were to be included. A number of participants expressed that deep/cold water corals are not directly related and therefore, the US workshop should focus on shallow corals. Both taxonomically and by the nature of threats, deep/cold water coral are more closely associated to Seamount ecosystems than shallow coral reefs. Dr. Brown expressed that NOAA is struggling with similar issues and has decided that instead of creating a new program, NOAA would create a coordinating group to address deep/cold water corals; this will be a priority for NOAA's, Office of Ocean Exploration. Dr. Knowlton expressed reservation in CoML playing a major role in a dispersed effort, commenting on previous efforts for similar activities within NOAA. Dr. Knowlton reported that the World Bank is putting a proposal through the Global Environment Facility or approximately \$60M on coral reef disease, bleaching, restoration, and modeling to support management, among others issues. The challenges presented in the World Bank proposal are partly knowledge, partly structural. In addition, Dr. Knowlton identified that the US Coral Reef Task Force has \$20-30M dedicated to research; however, one participant noted that the task force is primarily funding management relevant projects, rather basic scientific research.

M) Other Developments

Dr. O'Dor noted the development of a National committee in China and an Indian Ocean Committee, based in Goa, India.

IV. US CoML Continuing Support

A) CORE Vice President, Penny Dalton, reported that annual funding for the USNC is currently \$290K per year from both NOAA Fisheries and Sloan Foundation. NOAA (via Mike Sissenwine and Stephen Brown) continues to support the USNC at a level of \$100K per year.

B) Ms. Dalton reported that future funding for CoML will come through the National Ocean Partnership Program (NOPP), with the next announcement in June 2004: Census

of Marine Life and Technology Development. The sponsors will include ONR, NOAA (OE and NMFS) and the Sloan Foundation in an amount of \$5 M per year. The priority area of interest is fish related. ONR is interested to identify acoustic fish data so they can remove it from their radar.

C) Ms. Dalton reported that NOAA Fisheries has added some CoML funding to the Ocean Exploration budget. MarEco and ChEss project funds will go to NOAA Principal Investigators. At the same time, NOAA and the Marine Institute of Ireland will collaborate on a deep coral project and will reserve time for a seamount cruise in Ocean Exploration in 2005. Both NOAA and the Marine Institute of Ireland will continue supporting the National Committee for similar amounts of funding.

D) Ms. Dalton discussed a number of other potential sources for CoML funding:

- i. NSF appears to be most sympathetic to CoML taxonomy and exploration projects. Ms. Dalton met with Margaret Leinen of NSF-GEO to discuss how NSF makes programmatic decisions. Dr. Knowlton voiced concern that the Office of Biological Oceanography seems the natural supporter of CoML projects, but appears to have little current interest in taxonomy. Participants agreed that this is a problem with marine taxonomy as a whole and needs a strategy. NSF appears to view that community driven initiatives require more support than the community is currently showing for marine taxonomy. One participant noted that Margaret Leinen and Phil Taylor appear to be interested in ecosystem-based management, which could present an opening to NSF funding. Members agreed that the USNC needs to have a strategy that defines their role.
- ii. ONR is an active CoML supporter of OBIS through NOPP. They are involved with assembling databases and most recently, a marine mammal study. Ms. Dalton noted that Bob Gisner would soon retire from ONR.
- iii. Tom Fry has set up a meeting with Chip Groat of USGS. USGS has a number of things to contribute to CoML, given that they chaired the Global Change program.
- iv. MMS has not been approached yet about CoML.
- v. The program office has arranged to meet with the Department of Energy.
- vi. Ms. Dalton suggested that the USNC should arrange meetings with NIH and Smithsonian. Dr. Pomponi volunteers to assist with meeting with NIH.
- vii. Members discussed whether there could be a benefit to meeting with James Marburger or Kathy Olsen of OSTP.

- viii. Members decided that the USNC should attempt to meet with Kameron Olney of CEQ, who has been appointed to lead the Administration response to the USCOP report.
- ix. One participant suggested that potential funds for CoML could be found from industry, possibly through ESRI.

V. Other US Activities

Ms. Dalton reported that a number of US activities could affect support for US CoML:

A) The U.S. Commission on Ocean Policy final report is due out this fall – the first comprehensive national ocean policy report in more than three decades.

B) Presidential elections.

C) Large current account national deficits.

D) 108th Congress is ending.

E) Senator Hollings is retiring at the end of this year. There will be a package of bills to be passed on his behalf. Some potential bills that may still pass this Congress are the Big Oceans Bill (BOB): a response to US Commission on Ocean Policy report. The primary jurisdiction for any package of ocean bills will be the Senate Commerce Committee. The House Ocean Caucus will be a venue for discussing House activity.

F) Congress authorized \$200M to NOPP's main agencies this year (i.e. NOAA, ONR, NASA, NSF).

VI. U.S. Commission on Ocean Policy report

Ms. Dalton reported on the key provisions of the USCOP draft report: Over \$3 billion of annual implementation costs; 12 guiding principles; 16 commissioners; and more than 200 major recommendations.

Among principles similar to those of the USNC:

- Stewardship
- Ecosystem-based management
- Preservation of marine biodiversity
- Best available science and information

Enhancing marine use and protections:

- Sustaining fisheries
- Protecting endangered and threatened species
- Preserving coral communities
- Developing sustainable aquaculture

- Connecting oceans and human health
- Managing offshore energy
- Preventing the spread of invasive species

Legislative proposal on research and education

- Establish interagency national ocean sciences committee, education subcommittee, advisory group
- Require national research and education strategy
- Strengthen NOPP
- Authorize marine ecosystem research program and biennial assessment
- Establish interagency and NOAA education and scholarship programs
- Recommend \$ 300 million annually for research and education

VII. Crafting a US Program for CoML

A) Dr. Schubel discussed the need to create some “coherency” to the US CoML, rather than the current series of independent projects. The program should have enough flexibility to fit creativity, but should the cohesiveness of a themed program. He suggested using existing structure for education such as SeaGrant, COSEE, Aquaria and the Ocean Project.

B) Presentation of white papers

1) Dynamic Access to Biological Data: OBIS

Mr. Shedd presented the concepts of this white paper. If the USNC is going to attract government, business or environmental support, then the USNC will need to show how the information in OBIS will benefit them. Will it be a legacy? He expressed that if OBIS is to succeed in the future, it must relate to more than just the scientific community. He noted that interest in ocean issues has expanded in recent years so timing for a successful initiative is good, but expressed a need for OBIS to find a way to put information together and disseminate it so that others can use it. OBIS could be the main source of biological data information and accumulation, which would represent an entrepreneurial and assertive step.

Dr. Knowlton raised concerns about OBIS and whether or not it is serving the scientific community. Dr. Fautin suggested Dr. Knowlton become involved in the USNC OBIS subcommittee. One participant inquired if a needs assessment to potential constituencies outside of academics and federal agencies had been performed; none was apparent. Additionally, a participant raised concerns about how OBIS is currently used. Dr. Schubel suggested that OBIS should start recruiting undergraduates to work with the available data and demonstrate its utility.

2) Integrated Regional Studies for Ecosystem-based Management

Dr. Pautzke presented this white paper. He expressed that managers don't need new information on new species because most are interested in functional relationships in the food web and habitat changes that may impact fisheries. He noted that all facts have to be grounded in science when management decisions are made. He noted that only five agencies make a strong contribution to research, providing an example from Alaska. He suggested that directed funding is needed prior to approaching other potential partners.

Dr. O'Dor mentioned that the US not a Party of the Convention on Biological Diversity and suggested that this lack of explicit mandate may be limiting support in the US for biodiversity research.

3) Improved Biological Sensors for Ocean Observing Systems

Dr. Sandifer presented this white paper. He explained that current emphasis for improving biological sensors is in optical sensors (for tracking harmful algal blooms) and acoustic sensors because of the immediate application in coastal communities. He expressed that he is not confident there will be a particular role for US CoML in this field because there are existing guarantees for funding to ongoing research efforts. Participants agreed that there exists a need for improved biological sensor systems, but that the USNC must first understand the relationship between existing and developing technologies. Participants agreed that if the CoML projects were to expand in this area, USNC would need to involve experts in the field. One participant expressed that the only way for total synergy between the biological data sets and the technology is to create better communication between engineers and biologists.

4) Investment in Exploration and Taxonomy

Dr. Pomponi presented this white paper. She expressed that exploration, taxonomy, and OBIS are the cornerstone of CoML. She stated that taxonomic data would form the basis for biological sensors and probes. Dr. Pomponi expressed that funding for high tech approaches like the barcode of life and high-tech probes and sensors get more attention than traditional taxonomic approaches, with agencies and foundations not having a desire to support traditional taxonomists.

5) Studies of Earlier Changes in Marine Populations: HMAP

One participant noted that HMAP has been very successful in finding support, primarily because the funding the social scientists is relatively inexpensive.

6) Improving Predictive Capability: FMAP

Dr. Knowlton presented this white paper. She expressed that it is difficult to predict the future of animal populations. Dr. Knowlton suggested that the USNC

proceed in a structure different than that of NOAA. She noted that NOAA is already modeling climate and fisheries. She suggested that in order to be successful, USNC must develop the tools necessary to work with the OBIS data to create “what if” scenarios– considering the implications for projects and looking into the past to make a case.

C) Developing connections

Dr. Schubel had all meeting attendees take an informal survey:

Survey #1: What are the CoML comparative advantages? What is the CoML niche?

- 1) How confident are you in the continuance of the present CoML governance
Avg. score: 5.4 (Range from 2 to 8)
- 2) Who is in charge?
#1 - “I don’t know”
Other - National committees
Other - Individual PIs
- 3) Who should be in charge?
National committees
SSC
- 4) Can you think of any organizational model that could be used as a National model?
[Pdel? JGODs]
- 5) By when do you feel CoML must come to a consensus?
As soon as possible, but certainly by the Paris SSC meeting in December, 2004.

Survey#2: Focusing on US component.

- 1) Who is in charge?
US National Committee
- 2) How will the US measure success?
#1 - Portfolio of research projects on marine biodiversity, and securing support
Other - Responsive to ecosystem-based management initiatives of OC Report
- 3) How confident are you that we will succeed?
Avg. score 4.9

4) Name two actions or outcomes that would significantly increase your confidence?

- A) Develop a solid funding source
- B) Determine the governance structure
- C) Develop view that CoML is central clearing house of global data

5) How critical is success of OBIS to general success of USNC?

Avg. 8.5 (0 to10)

D) Governance of the CoML

Participants discussed the current structure of CoML:

The CoML Governing Board is comprised of the Chairs of SSC, National Committees, Regional Committees, OBIS IC, and the E&O Chair. The Chairs of N/RICs eventually become SSC members.

The CoML Secretariat (Ron O’Dor and Kristen Yarincik) provides support for SSC.

The OBIS Steering Committee reports to SSC and should represent all the N/RICs.

The USNC program office and CoML Secretariat are currently the sam.

The HMAP and FMAP projects report directly to the SSC.

The international field projects report progress on CoML activities to the SSC.

By design, all CoML projects have an education and outreach component. USNC members expressed that the USNC needs to be a delivery system for the information even if URI packages the message. URI currently only receives funding for public relations and report directly to the SSC. Dr. O’Dor noted that international education and outreach is very difficult to do. The Sloan Foundation has provided support for the Canadian NC to do promotional videos for CoML. He also noted that despite the requirement that 10% of CoML project funding go to education and outreach, most of this expense goes toward funding the website. Dr. Pomponi suggested that one potential mechanism for education could be COSEE; CORE hosts the central office. The deadline for new COSEE proposals is July. Dr. Brown suggested that education and outreach might inherently be a national function; therefore, the USNC may wish to consider how it can contribute.

E) Programmatic functions

Participants discussed the programmatic functions and opportunities for implementation through communication, cooperation and collaboration. Dr. Pomponi suggested that the NOPP structure could offer support to implementation of the US CoML (e.g. EOS in 2007 for NOPP). Alternatively, one member suggested that the USNC consider the development of an endowment. Another participant suggested that the NOPP structure would make the US (via the Federal agencies) responsible for success or failure of the US CoML. Dr. O'Dor suggested the USNC ignore the 2010 timeline in its planning.

The Chair recommended that the USNC use the momentum created by the release of the US Commission on Ocean Policy report to raise awareness of the CoML. Presenting the activities of the US CoML as they relate to the report should raise awareness, facilitate implementation, and provide opportunities for feedback for the further revision of an implementation strategy.

F) Actions:

Participant decided to use as a basis the recommendations of the Chair (above) as a basis for inter-sessional activities. The group allocated the further development of these ideas to working groups:

ORAP Response: **Action:** OBIS through USNC should prepare a business plan that includes a strategy that shows federal funding (OBIS needs \$10M/year to maintain and keep it current globally, but a US component would only need \$1M/year.). The goal should be to follow-up on ORAP recommendation as a tool to get another BAA at NOPP.

USNC members: (OBIS subcommittee) Zimble, Fautin, Knowlton, Pomponi

Developing a U.S. Implementation Strategy (based on supporting the recommendations of the report of the US Commission on Ocean Policy)

Dynamic access to biological data

Projects: OBIS

Potential funders: NOPP, NOAA, ONR, NSF, EPA, NIH, ESRI, Conservation Int'l, Pew Foundation, MacArthur Foundation, oil companies

USNC members: Fautin, Zimble, Knowlton, Pomponi, Fry

Integrated regional studies to support ecosystem-based management

Projects: GoMA, Gulf of Mexico, ArcCoML, MAR-ECO, Coral Reefs*

Potential funders: NOAA, NSF, USGS, MMS, DoE, Harte Foundation, states, oil companies

USNC members: Sandifer, Alexander, Brown, Schubel, Pautzke, Roman, Pomponi, Earle

Improved biological sensors for ocean observing systems

Projects: TOPP, POST, CMarZ, Barcode of Life, GoMA*, Gulf of Mexico*, ArcCoML*, NaGISA*, ICOMM*

Potential funders: ONR, NSF, NOAA, Moore Foundation, Packard Foundation, Bonneville Power, sport fishing

USNC members: Alexander, Shedd, Sandifer, Fry, Pautzke, Zimble

Investment in exploration and taxonomy

Projects: ChEss, ICOMM, Coral Reefs, Seamounts, CeDAMar, NaGISA, Margins

Potential funders: NSF, NOAA, NIH, DoI, Diversa, Living Oceans Foundation, biotech industry, BigPharm

USNC members: Pomponi, Knowlton, Fautin, Earle, (Steve Brown)

Studies of earlier changes in marine populations

Projects: HMAP, FMAP*

Potential funders: NOAA, NEH, Kendall Foundation, Barr Foundation, Niarchos Foundation, Fidelity

USNC members: Finamore, Fautin, Knowlton, (Steve Brown)

Improving predictive capability

Projects: FMAP (and basically EVERY CoML project)

Potential funders: Pew Foundation, Packard Foundation, Moore Foundation

USNC members: none

Education and Outreach (informal subcommittee)

USNC members: Jerry Schubel, Sylvia Earle, Terry Garcia, Bill Shedd, Dan Finamore, Tom Fry

*Not primary theme area for this project

VIII. USNC Business

A) Member Rotation

Dr. Fautin reported that three USNC member rotations would occur in December.

Action: Send email to Daphne letting her know of decisions about rotations. Mr. Shedd requested that he be assigned to a two-year term. He will consider potential candidates for replacing him. Dr. Knowlton commented that she had no time to devote to CoML. She would like to stay in contact and rotate off the committee. If she has ideas of whose skills will be needed or who can replace her, she will let Dr. Fautin know. She offered to work as a consultant to help write grants.

B. Additional Members

Dr. Alexander is now a member of USNC and liaison to the SSC.

C. USNC Website

Participants discussed the USNC website. If you enter the URL www.coml.us, it currently takes you to pages for the U.S. National Committee currently embedded within the International Secretariat website (www.comlsecretariat.org under “National and Regional Activities”). This means that all side and top navigation links take you to pages within and with relevance to the international program. The members expressed the desire to separate the US CoML website into a stand-alone site that is merely linked to the International Secretariat website and has its own navigational links of importance to the U.S. program.

D. USNC Staffing

Dr. Fautin announced that Dr. Alexander would spend eight weeks in DC over the year working for CORE. The USNC has \$ 50K and .5 FTE for a support person; a member suggested Bob Gisner. Members expressed that there is a need for a person who could staff the committee to provide some administration to the program. One member suggested a former USCOP staffer or an AAAS Fellow. One member suggested Dolores (Lola), the 2nd person in charge in SeaGrant. Additionally, a member recommended that an advertisement be placed in EOS and Science.

E) Next steps, next meeting, focus of inter-sessional activities

Members recommended that an early fall meeting be planned to combine USNC business with appointments to meet agency people, but with an emphasis on meetings with the appropriate contacts. The program office suggested September or early October for the next meeting and agreed to coordinate if members would send blocks of time that are available. One member suggested that the briefings should identify the actions that will be effective in building support and advancing implementation. Participants agreed to plan a three day meeting for fall - 1 day to strategize, 1 day to visit, and one day to provide feedback and identify next steps.

Action Items:

1. OBIS subcommittee should prepare a business plan that includes a strategy that shows federal funding, in collaboration with OBIS SSC
2. In December, there is the International Aquaria Conference (Monterey Bay Aquarium). Jerry will activate the outreach and education subcommittee and present the US CoML (1.5 hours) in a session.
3. USNC should gather information to construct a budget for US CoML: The CoML Secretariat will prepare a questionnaire to PIs and provide it to USNC by July 4th.
4. For each program element of the US CoML (plus outreach and education), the USNC should take the US Commission on Ocean Policy report and in 1-2 pages make a compelling case of how CoML is responding. This should include a statement that identifies how the US CoML is meeting needs and why an investment makes sense.

5. The USNC should create a wire diagram with different topics and projects below, to be included within the US CoML Implementation Plan.
6. Dr. Schubel will ask Rita Caldwell for advice on how to approach NSF.
7. USNC members should assist other CoML projects to become more marketable.
8. USNC members should provide the names to the Secretariat of individuals that will produce short documents relating US CoML topics to US Commission on Ocean Policy report by July 4th.
9. USNC should identify planned workshops, their status and next steps.
10. Dr. Alexander will draft a synthesis report based on the white papers and inter-sessional work (under item 4) of how the CoML can fulfill the recommendations of the US Commission on Ocean Policy.