

## **REPORT OF WG 19 ON *ECOSYSTEM-BASED MANAGEMENT SCIENCE* AND ITS APPLICATION TO THE NORTH PACIFIC**

The Working Group on *Ecosystem-based Management Science and its Application to the North Pacific* (hereafter WG 19) held its final meeting on October 26, 2008, under the co-chairmanship of Drs. Glen Jamieson, Chang-Ik Zhang, and Ms. Patricia Livingston. A list of participants and the meeting agenda can be found in *WG 19 Endnotes 1* and *2*. *WG 19 Endnote 3* contains the draft Executive Summary of the PICES Scientific Report currently being finalized. This Executive Summary contains the main recommendations of WG 19 at the conclusion of its work.

### AGENDA ITEM 2

#### **Discussion of final report**

The primary item on the agenda involved discussion of the completeness of the final report and the recommendations of the Working Group. Status of the brochure was also discussed.

### AGENDA ITEMS 3 AND 6

#### **Description and implementation of a standard reporting format for EBM initiatives**

Working Group members went over the country profile format and Ecosystem Approach to Management (EAM) typology contributions. Canada and Korea have newer contributions that need to be incorporated into the document. Each country should look to make sure its contribution is still accurate after English language editing. Also, WG 19 needs to decide if the country contributions should be made comparable in terms of length. Some contributions are longer than others. The Ecosystem-based Management (EBM) matrix that depicts each country's progress was not filled out by each country. Should this matrix still be shown? Members commented that it is difficult to report on a national basis because there are regional differences in implementation. There are several issues that are not in the table at present. For example, offshore wave energy generation, tourism and sportfishing are not outlined. Mariculture may need to identify intertidal, pen culture, and onshore locations of the activity. The text will be modified to describe the typology and sectors as examples. Offshore wave energy generation could be identified as an emerging issue in the text. Regional implementation of EBM should consider the most important sectors in a particular area. Another aspect is evaluating the social cost of EBM implementation. Dr. Mitsutaku Makino will provide a paragraph about this. Japan will contribute an example for one prefecture. WG 19 members from China and Russia will be contacted to see if they are able to contribute a national example to this table. Contributions will need to be made before the end of the year.

The Working Group consulted with Dr. Skip McKinnell about how to format the report with respect to location of references, appendices, and section formatting. For now, each section will have its own specific recommendations and the executive summary will provide a roll-up of all the recommendations from each section. Order of sections was discussed. EAM typologies and country profiles will come first. An ecoregion approach would then logically follow. Consistency in the names of countries needs to be checked and terms of reference need to be verified because they were modified later. Dr. Zhang will review the section on monitoring to see if anything could be added.

### AGENDA ITEM 4

#### **Discussion of recommendations**

The relationship of PULSE (see *WG 19 Endnote 3*) to other potential task teams of FUTURE was discussed and more members were nominated. A potential Study Group or Working Group on *Indicators of Human*

*Well-being: Benefits and Health* was mentioned. The Working Group recommended that the Convenors of Topic Session on “*Connecting the human and natural dimensions of marine ecosystems and marine management in the PICES context*” (S12) bring up this proposed group in the discussion part of their session. Potential members of the study group/working group could be some of the people presenting at S12. WG 19 members thought that this should be a study group initially to help focus the work and refine membership for a follow-on working group. A topic session for next year on spatial planning was discussed, and it was suggested that it be sponsored by MEQ and FIS.

AGENDA ITEM 5

**Ecologically and biologically sensitive international marine areas in the North Pacific**

Drs. Akihiko Yatsu and Jake Rice presented information on the current status of a Regional Fisheries Management Organization (RFMO) in international waters in the North Pacific and a joint Convention on Biological Diversity-International Union for Conservation of Nature (CBD-IUCN) effort that are both considering to look at the application of criteria for designating vulnerable marine ecosystems (VMEs) in North Pacific international waters. It appears that the RFMO is still being developed, and likely would not be able to initiate studies until the fall, 2009, at the earliest, while the CBD meeting to review progress on using the criteria in evaluation of VMEs will be in early fall, 2009. It was suggested by Dr. Rice that PICES might therefore be interested in considering addressing the usefulness of the criteria in the spring, 2009. WG 19 did not have any comment about PICES’ possible role but agreed that species do not recognize national borders and EBM must extend to international waters. The proposed designation of VMEs in international waters would be a necessary step in the long-term achievement of EBM in the entire North Pacific.

AGENDA ITEM 7

**Brochure**

The brochure format was discussed. A figure depicting the differences between single sector management, ecosystem-based fishery management and multisector integrated managed was suggested. The terms EBM should be consistently used throughout the brochure although some mention could be made of the other terms that are in use. There was also support for translating into languages of the PICES member nations and making those available on the PICES website. There was some discussion on the possible perspectives and recommendations of the PICES Study Group on *Communications* about this brochure. Members were tasked with looking at various sections and provide edited text.

**WG 19 Endnote 1**

**WG 19 participation list**

Members

David Fluharty (U.S.A.)  
Glen Jamieson (Canada, Co-Chairman)  
Patricia Livingston (U.S.A., Co-Chairman)  
Mitsutaku Makino (Japan)  
In-Ja Yeon (Korea)  
Chang-Ik Zhang (Korea, Co-Chairman)

Observers

Evgeny Barabanshchikov (Russia)  
Ingrid Burgetz (Canada)  
Oleg Katugin (Russia)  
Skip McKinnell (PICES)  
Thomas Okey (Canada)  
Jake Rice (Canada)  
Steve Rumrill (U.S.A.)  
Yasunori Sakurai (Japan)  
Akihiko Yatsu (Japan)

**WG 19 Endnote 2****WG 19 meeting agenda**

1. Welcome and Introductions (Co-Chairs)
2. Discussion of completeness of final report, deliverables and timeframe
3. Report by each country: Describe and implement a standard reporting format for EBM initiatives (including more than fishery management) in each PICES country, including a listing of the ecosystem based management objectives of each country. Summary of compilation progress: Dave Fluharty
4. Discussion of recommendations – PULSE and SG on *Indicators of Human Well-Being: Benefits and Health*
5. Presentation by Jake Rice on SG on *Ecologically and biologically sensitive international marine areas in the North Pacific*
6. Overall review of final report
7. Discussion of brochure

**WG 19 Endnote 3****Looking beyond WG 19**

We discussed how the findings and work of WG 19 could best be integrated and built upon within PICES in the years ahead, particularly within the context of the FUTURE program. Development of ecosystem-based management is still very much in its early stages in each of the PICES countries, and so we recommend that PICES continue to actively monitor progress into the foreseeable future. To provide a long-term forum for this process, we concluded that WG 19 might most appropriately evolve into a Task Team rather than a Section because Task Teams report to Science Board and are more broadly distributed across all of PICES, rather than simply reporting to one or two committees. We suggest that the Task Team's emphasis be on developing an integrative, science-based, ecosystem-scale understanding of the human dimension (across a diversity of sectors) in FUTURE, and suggest it be called "*PICES Understanding, Linking and Synthesis of Ecosystems*" (PULSE). A draft proposal for this Task Team with a basic background statement, terms of reference and suggested co-chairs and members is:

*Objective*

To monitor and synthesize regional and basin-wide ecosystem-based management (EBM) studies and initiatives (ecosystem health) and to provide a forum for the integration of FUTURE-related EBM practices and their implementation.

*Draft Terms of Reference*

1. The PULSE Task Team is the scientific body responsible for the promotion, coordination, integration and synthesis of research activities related to the implementation of EBM among PICES member nations. This goal would be accomplished by convening meetings, periodic scientific symposia or workshops, or by distributing information designed to foster cooperation and integration among existing or developing PICES programs, and possibly between and/or within member nations;
2. The PULSE Task Team will provide the scientific body to identify and improve indicators to measure progress in the achievement of EBM. It will provide the forum to discuss the needs, impacts and responses of coastal communities in a changing marine environment, and to enhance the use of this information by governments and society at large. It will provide a forum for the connection of ecosystem monitoring and status reporting of both environmental and social indicators (through linkage with MONITOR), and the subsequent implementation and adaptation of EBM;
3. Scientific collaboration and coordination with other international agencies, bodies and societies that are engaged in either EBM or human activities that are relevant to the achievement of EBM will be

undertaken. This will engage expertise not previously active in PICES, such as social-scientists and policy makers;

4. The PULSE Task Team will encourage establishment of other component activities, such as developing the basis for coupled human science-natural science models, and emerging approaches as needed to facilitate synthesis of the FUTURE Program.

*Suggested members*

We are seeking a structure that will ensure core connection with PICES Committees, key expertise from the various disciplines involved in studying ecosystem approaches to management, and national representation. We advocate a nomination process that will closely connect the Task Team to PICES Scientific Committees, such as ensuring that a member or designate from each of the Committees, and perhaps from the current Study Group on *Communications* is in PULSE. There is also perhaps merit in having member participation from different sectors besides fishing (*e.g.*, mariculture, *etc.*) and ecoregions.

*Suggested Co-chairs:* Mitsutaku Makino (Japan) and Gordon Kruse (U.S.A.)

*Suggested members:*

Janelle Curtis (Canada)  
David Fluharty (U.S.A., SG-Communications)  
Chris Harvey (U.S.A.)  
Glen Jamieson (Canada, MEQ)  
Xianshi Jin (China)  
Patricia Livingston (U.S.A.)  
Ian Perry (Canada)  
Vladimir Radchenko (Russia, BIO)  
In-Ja Yeon (Korea)  
Chang-Ik Zhang (Korea, FIS)

**EBM in International Waters**

In the above, all details and discussion presented have been focused on initiatives being undertaken within the Exclusive Economic Zones of the PICES member countries, and while significant progress is being made in these regions to address issues related to EBM, the reality is that many species have spatial distributions in the Pacific Ocean that extend well beyond national jurisdictions. For these species, effective EBM can only be realised if national efforts to achieve EBM are harmonised with similar national efforts in shared national ecoregions and with multinational efforts in international waters. To this end, many of the initiatives to determine appropriate EBM steps in national waters, such as identifying ecoregions (spatial areas with a basically similar mix of species and environment) and within them, ecologically and biologically significant areas and species, need to be undertaken in offshore international waters of the PICES region.