

Report of the Marine Environmental Quality Committee

The business meetings of the Marine Environmental Quality Committee (MEQ) were held on October 13 (18:00–19:30) and October 16 (14:50–19:10), 2013 in Nanaimo, Canada. All six PICES member countries sent members or alternatives to the meetings. Over 20 participants, including observers, attended (*MEQ Endnote 1*). MEQ Chair, Mr. Chuanlin Huo, called the meetings to order and welcomed all participants. MEQ members and observers were asked to give self-introduction and to provide a brief statement about their interests and expertise. The agenda was reviewed, modified with the addition of 3 new items (see Agenda Item 5), and accepted (*MEQ Endnote 2*).

Sunday, October 13, 2013

AGENDA ITEM 2

Implementation of PICES-2013 decisions

MEQ has a wide range of interests spanning from regular research areas to emerging marine environmental issues. At PICES-2013 MEQ sponsored or co-sponsored the following topic sessions and workshops.

1. MEQ Paper Session: (Oct. 15, ½ day) Co-convenors: Chuanlin Huo (China), Elizabeth Logerwell (USA), Olga Lukyanova (Russia), Darlene Smith (Canada) and Lyman Thorsteinson (USA).
According to the adjusted Scientific Program and schedule, MEQ/FIS/FUTURE Topic Session S7: *Science needs for offshore oil and gas development in the North Pacific* was cancelled, and its 4 submitted abstracts were moved to the Paper Session.
2. MEQ/FUTURE Topic Session S3, *Status, trends and effects in coastal ecosystem: Implication for wildlife and humans* (Oct. 16, ½ day). Co-convenors: Olga Lukyanova (Russia) and Won Joon Shim (Korea). Invited speakers: Sandra O'Neill (NVFSC, NOAA, USA) and Lorrie Rea (University of Alaska Fairbanks, USA).

AGENDA ITEM 3

Review of the main achievements of MEQ-2013

Mr. Huo reviewed the main achievements of the Committee over the past year, including the establishment of the Working Group (WG 30) on *Assessment of Marine Environmental Quality of Radiation around the North Pacific* and the submission of Study Group (SG-MP) on *Marine Pollution's* final report.

1. MEQ draft Action Plan: a first draft was finished in Jan. 2013; a third draft was submitted to FUTURE Advisory Panels and Science Board in May, revised by Science Board before the Annual Meeting. It is currently still being revised;
2. The Study Group (SG-RS) on *Radionuclide Science in the North Pacific Ocean* was established in January 2013;
3. A PICES Workshop on “*Radionuclide science and environmental quality of radiation in the North Pacific*” was held March 14–15, 2013 in Xiamen, China;
4. WG 30 was established in August 2013 (recommended by SG-RS).
5. MEQ expert groups: Working Group (WG 21) on *Non-indigenous Aquatic Species* was permitted an extension of one year by Science Board at the 2012 Annual Meeting. Work done by WG 21 in 2013 included analysis for comparing and contrasting bio-invasions, working towards the completion of its final report and developing recommendations for further work on marine non-indigenous species. Changes in their terms of reference were to be made by the Section on *Ecology of Harmful Algal Blooms in the North Pacific* (S-HAB) once MEQ's Action Plan has been revised. S-HAB has proposed various research projects for 2014 (see their report elsewhere in the 2013 Annual Reports). SG-MP submitted its final report to MEQ and requested the establishment of a section or working group on emerging topics on marine pollutants. The Working Group (WG 28) on the *Development of Ecosystem Indicators to Characterize Ecosystem Responses to Multiple Stressors* work includes preparation of a draft final report.

AGENDA ITEM 4

Relations with other groups/organizations

Mr. Sangjin Lee (NOWPAP) and Dr. Takafumi Yoshida (NOWPAP/CEARAC) introduced the activities of their organizations especially on cooperation with PICES on marine environmental issues, such as Integrated Coastal and River Basin Management (ICARM), regular assessments of the state of the marine environment, climate change impacts, biodiversity conservation (including MIS), and pollution prevention and reduction.

AGENDA ITEM 5

Other business

1. S-HAB – Dr. Shigeru Itakura (S-HAB Co-Chair) reviewed the Section’s work in 2013, and submitted a list of financial requests for MEQ to present at the Science Board meeting (see Agenda Item 8).
2. FUTURE priorities – AP-AICE Chairman, Dr. Thomas W. Therriault, reported on the priorities of AP-AICE and described the high priority topics for FUTURE, including linkages of committees with expert groups.
3. MEQ Action Plan – the Action Plan was emailed by Mr. Huo to members for feedback and suggestions prior to the MEQ meeting on October 16 (see Agenda Item 14).

Wednesday, October 16, 2013

AGENDA ITEM 6

Reports from MEQ expert groups

All expert groups under MEQ attended the Committee meetings during the Annual Meeting. The following are brief reports and progress in 2013.

1. Working Group (WG 21) on *Non-indigenous Aquatic Species* (Co-Chair: Darlene Smith)
Ms. Smith reported WG 21 work done in 2013 including:
 - analysis for comparing and contrasting bio-invasions,
 - completing and submitting final WG 21’s report,
 - Recommendation of a new section on ‘Marine Non-indigenous Species or on Marine Biodiversity Conservation’ (see *WG 21 Endnote 3*),
 - Proposal for a joint PICES-ICES Theme Session on “*The increasing importance of biofouling for marine invasions: an ecosystem altering mechanism*” at the ICES 2014 Annual Meeting.
2. Working Group (WG 28) on *Development of Ecosystem Indicators to Characterize Ecosystem Responses to Multiple Stressors* (Co-Chair: Ian Perry)
Dr. Perry gave presentation on WG 28 TORs and proposed:
 - a Topic Session on “*Tipping points: defining reference points for ecological indicators of multiple stressors in coastal and marine ecosystems*” (*WG 28 Endnote 6*) at PICES-2014 for sessions/workshops,
 - 2-day WG 28 meeting in PICES-2014.The WG is preparing to submit a draft of a final report by mid-2014.
3. Study Group (SG-MP) on *Marine Pollution* (Chair: Peter S. Ross)
SG-MP member, Dr. Won Joon Shim, reported that a SG-MP final report has been submitted to MEQ for approval.
 - SG-MP recommends the formation of an expert group (section or working group) on ‘Emerging Topics in Marine Pollution’ (see *SG-MP Endnote 2*),
 - SG-MP proposed a 1-day Topic Session on “*Marine debris in the ocean: Sources, transport, fate and effects of macro- and micro-plastics*” (*SG-MP Endnote 3*) and support for 2 invited speakers at PICES-2014.

4. Section on *Ecology of Harmful Algal Blooms in the North Pacific* (Co-Chair: Shigeru Itakura)
Dr. Shigeru Itakura gave presentation on S-HAB, reported work done in 2013.
- S-HAB proposed a ½-day Topic Session on “*Emerging issues with lipophilic shellfish toxins*” (S-HAB Endnote 4), funding for 1 invited speaker, and 1-day business meeting at PICES-2014,
 - Request 1 day workshop on “*Mitigation of harmful algal blooms: Novel approaches to a decades long problem affecting the viability of natural and aquaculture fisheries*” (S-HAB Endnote 4) at PICES-2014, and funding for 1 invited speaker,
 - Preparation on “Economic and Social Impacts of HABs” in a PICES Scientific Report series.

AGENDA ITEM 7

Introduction of WG-AMR (WG 30)

The Study Group on *Radionuclide Science in the North Pacific Ocean* (SG-RS), under the direction of MEQ, was established at the beginning of 2013. During PICES-2013, Prof. Yusheng Zhang (China) introduced the work of the SG, including the Terms of Reference (TOR) and process leading to the formation of WG-AMR (WG 30).

1. After reviewing the work and recommendations of SG-RS, the establishment of Working Group on *Assessment of Marine Environmental Quality of Radiation around the North Pacific* (WG-AMR/WG 30), under the direction of MEQ, was recommended by Science Board and endorsed by Governing Council in August 2013.
2. 1½-day WG 30 business meeting prior to PICES-2014 meeting.

AGENDA ITEM 8

Items with financial implications for 2014

Financial support from expert groups was discussed during the meeting. The Co-Chairs of each expert group presented their requirement for activities in 2014, and MEQ members were encouraged to vote on-line for ranking PICES-2014 sessions and workshops. Discussion results are listed below and will be presented to Science Board.

1. PICES-2014 requested financial support

WG S/W	Topic Sessions	Invited speaker (E/W Pacific)	Funding (US dollars)
WG 21	NONE		
WG 30	NONE		
WG 28	<i>Tipping points: defining reference points for ecological indicators of multiple stressors in coastal and marine ecosystems</i>	E-1;W-1	2000
SG-MP	<i>Marine debris in the Pacific Ocean: Sources, transport, fate and effects of macro- and micro-plastics</i>	E-1;W-1; 3–5: from other resources	3000

Also recommended (but with no financial implications) were:

- ½-day MEQ Contributed Paper Session,
- 2-day WG 28 business meeting at PICES-2014,
- 1½-day WG 30 business meeting at PICES-2014,
- ½-day S-HAB business meeting at PICES-2014,

MEQ-2013

2. Inter-session requested financial support

WG S/W	Topic	Funding (US dollars)
WG 21	Convenor or speaker to attend the joint ICES/PICES Theme Session on “ <i>The Increasing importance of biofouling for marine invasions: an ecosystem altering mechanism</i> ”	3000
WG 30	NONE	
WG 28	NONE	
SG-MP	NONE	
S-HAB	One SSC member to attend an IPHAB meeting on “Climate and HABs” in April	3000

AGENDA ITEM 9

Discussion and suggestion of the Proposal for the Process of Producing of new generation NPESR

MEQ members reviewed the proposal for the Process of Producing the North Pacific Ecosystem Status Report (NPESR) and discuss the actions requested by FUTURE SOFE and MONITOR. Members supported the new approach to publishing NPESR, and questions about how the datasets would be identified, how quality control would be ensured and how analysis would be conducted were discussed. USA and Canada are both concerned with the quality control and more modern approach.

AGENDA ITEM 10

Proposals for new Expert Groups

Based on review of the main achievements of MEQ-2013, proposals of establishing new expert groups were discussed. Following two proposals were approved by MEQ, and will be submitted to Science Board accordingly.

1. A section or working group on “Emerging Topics Marine Pollution” (see Agenda Item 6).
2. A Section either on NIS or on conservation focused on drivers of marine biodiversity (see Agenda Item 6).

AGENDA ITEM 11

2014 FUTURE Open Science Meeting

A FUTURE Open Science Meeting (OSM) will be held on April 15–18, 2014, Hawaii, USA. MEQ business and suggestions for the OSM were discussed. No comments or suggestions were received from the participants.

AGENDA ITEM 12

MEQ Best Oral and Poster Presentation awards for PICES-2013

1. MEQ was responsible for judging early career scientist oral presentations for the MEQ-Paper session, and S3 and S8 Topic Sessions. The award was given to Cathryn Clarke Murray (Canada) for her presentation titled: “[*Assessing direct and indirect risk from human activities to significant ecosystem components in the Northeast Pacific*](#)”.
2. The Best Poster (open eligibility) was awarded to Dr. Won Joon Shim (Korea) for his presentation titled: “[*Ship paint as a new input source of floating microplastics in surface microlayer*](#)”.

Further details on award recipients can be found at the end of the [Session Summaries](#) section in the 2013 Annual Report.

AGENDA ITEM 13

Relations with other groups/organizations (continued)

Mr. Huo attended the NOWPAP Expert Meeting on Marine Biodiversity and Eutrophication in the Northwest Pacific Region as a PICES delegate on August 5–6, 2013 in Toyama, Japan. During the meeting, he shared details of activities in the PICES region on eutrophication, marine biodiversity, and seagrass/seaweed mapping. Through these activities, more skills and approaches were gained by PICES and NOWPAP. In the near future, these successful study modes and experiences can be used by PICES. Furthermore, we believe there will be more opportunities for cooperation between PICES and other organizations.

Dr. Peter Kershaw, representing GESAMP, gave a presentation on GESAMP's activities and potential collaboration between GESAMP and PICES.

AGENDA ITEM 14

Discussion and revision of Draft MEQ Action Plan

Mr. Huo reported on the progress of drafting MEQ Action Plan (3rd draft), discussed how to incorporate comments and requests from the Science Board and FUTURE Advisory Panels including approaches to prioritize the action and task items, and steps needed to narrow the scope and number of tasks. Due to limited meeting time, members discussed only relevant topics, and did not give detailed suggestions or comments. A final draft will be completed before ISB-2014.

AGENDA ITEM 15

Other business

None

MEQ Endnote 1**MEQ meeting participants**Members*

Janelle Curtis (Canada)
Chuanlin Huo (China, Chair)
Ichiro Imai (Japan)
Hideaki Maki (Japan)
Won Joon Shim (Korea)
Staci Simonich (USA)
Mikhail Simonov (representing Russia)
Darlene L. Smith (Canada)
Thomas W. Therriault (Canada)

Observers

Karin Baba (Japan)
Rongshuo Cai (China)
Jinqiu Du (China)
Shigeru Itakura (Japan, S-HAB Co-Chair, WG 28)
Jung-Hoon Kang (Korea, WG 21, AP-COVE)
Peter Kershaw (GESAMP)
Sangjin Lee (NOWPAP)
Sandra O'Neill (USA)
R. Ian Perry (Canada, WG 28 Co-Chair)
Lorrie Rea (USA)
Peter S. Ross (Canada, SG-MP Chair)
He Wu (China)
Takafumi Yoshida (NOWPAP/CEARAC)
Yusheng Zhang (China, WG 30)

*Lyman Thorsteinson (USA) was unable to attend due to the U.S. government partial shutdown.

MEQ Endnote 2

MEQ meeting agenda

Sunday, October 13, 2013

1. Welcome and adoption of agenda
2. Implementation of PICES-2013 decisions
3. Review of the main achievements of MEQ-2013
4. Relations with other groups/organizations (All)
5. Other business (All)
 - a. Requests to SB from S-HAB
 - b. Request of suggestion from elected-SB Chairman
 - c. Chairman Huo's request for feedback and suggestions to Action Plan

Wednesday, October 16, 2013

6. Reports from MEQ expert groups (WG 21, WG 28, SG-MP, S-HAB)
7. Introduction of the new WG-AMR (WG 30)
8. Items with financial implications for 2014 (Topic sessions, Workshops, *etc.*)
9. Discussion and suggestion of the Proposal for the Process of Producing of new generation NPESR
10. Proposals for new expert groups
11. Business of 2014 FUTURE Open Science Meeting
12. MEQ Best Oral and Poster Presentation awards for PICES-2013
13. Relations with other groups/organizations
14. Discussion and revision of draft MEQ Action Plan
15. Other business