

## **REPORT OF THE ADVISORY PANEL ON *ANTHROPOGENIC INFLUENCES ON COASTAL ECOSYSTEMS***

### AGENDA ITEM 1

#### **Opening remarks and introductions**

The FUTURE Advisory Panel on *Anthropogenic Influences on Coastal Ecosystems* (AICE-AP) met on October 22, 2010 from 09:00–12:00 h to review and discuss the meeting agenda. The Chairman of AICE-AP, Dr. Thomas Therriault, welcomed Advisory Panel members and observers (*AICE-AP Endnote 1*) to the meeting. The draft agenda was reviewed and agreed upon (*AICE-AP Endnote 2*).

### AGENDA ITEM 2

#### **Review of AICE-AP Terms of Reference and workplan**

Since less than half of the Advisory Panel members were present, it was decided that this task would be accomplished by e-mail. AICE-AP recognized the need to develop a detailed workplan before the next inter-sessional Science Board meeting in 2011. The Terms of Reference seemed acceptable and AICE-AP felt that changes were not required at this time.

**Action:** Is there a need for quorum at these meetings? If so, what is it?

### AGENDA ITEM 3

#### **Report from the inter-sessional FUTURE workshop**

All AICE-AP members present attended the inter-sessional FUTURE workshop held August 16–18, 2010 in Seoul, Korea, so only a brief review was required. Dr. Therriault provided a brief overview of the goals of the FUTURE program, especially how AICE will contribute, how new expert groups will be developed, how AICE will identify topics of interest, AICE goals and challenges ([http://www.pices.int/members/scientific\\_programs/FUTURE/Materials/2010-inter-sessional-FUTURE/Day%202/AICE/AICE-AP%20Day2.pdf](http://www.pices.int/members/scientific_programs/FUTURE/Materials/2010-inter-sessional-FUTURE/Day%202/AICE/AICE-AP%20Day2.pdf)). He then provided a brief review of existing expert groups associated with AICE, notably the Section on *Harmful Algal Blooms in the North Pacific* (HAB-S), Working Group on *Aquatic Non-indigenous Species* (WG-21), and Working Group on *Environmental Interactions of Marine Aquaculture* (WG-24) (see [http://www.pices.int/members/scientific\\_programs/FUTURE/Materials/2010-inter-sessional-FUTURE/FUTURE-2010-wsh.aspx](http://www.pices.int/members/scientific_programs/FUTURE/Materials/2010-inter-sessional-FUTURE/FUTURE-2010-wsh.aspx)).

### AGENDA ITEM 4

#### **Identification of high priority topics for PICES/FUTURE**

At the inter-sessional FUTURE workshop held in Seoul (see Agenda Item 3), AICE-AP spent considerable time identifying anthropogenic (and natural) stressors. Immediately following this meeting the three FUTURE Advisory Panel Chairmen (Dr. Therriault, Mr. Robin Brown – SOFE, and Dr. Hiroaki Saito – COVE) met with the Science Board Chairman-elect, Dr. Sinjae Yoo,) and PICES Executive Secretary, Dr. Alexander Bychkov, to develop a strategy to circulate a survey to rank the relative importance of stressors in coastal and oceanic ecosystems of the North Pacific. Dr. Therriault sent the survey (with instructions) to each of the PICES Standing Committee Chairmen to circulate to their members but due to a minor logistical hiccup, this survey was late in being distributed, possibly impairing the survey results (see below). He collected and collated the survey responses but these were very limited (approximately 12) and significant gaps in responses were evident based on country and expertise (Committee relationship) identified by respondents. To ensure an adequate sample size for decision making, it was decided that additional responses were needed, notably from

## AICE-AP-2010

China (whose members were absent from the inter-sessional workshop). (Following discussion of this topic at the joint FUTURE Advisory Panel meeting, immediately following the individual Panel meetings, Dr. Therriault agreed to develop a paper version of the survey, focusing only on ranking stressors, to be circulated at the Standing Committee meetings (October 27) during PICES-2010.)

**Action:** Dr. Therriault to collate responses to survey.

### AGENDA ITEM 5

#### **Mechanisms to address high priority topics**

AICE-AP felt that high priority topics identified by the survey on ranking stressors in coastal and oceanic ecosystems in North Pacific and building on discussions of this topic at the inter-sessional FUTURE workshop was a good basis to suggest changes to the Terms of Reference for existing expert groups. It was recognized that some expert groups are nearing completion and that it may not be possible/feasible for them to incorporate FUTURE-related terms at this point. There was discussion about the exact mechanisms that the FUTURE Advisory Panels are to use to accomplish this task. It was recognized that it would be much easier to have input to new expert groups being proposed and that these groups should have some elements of their Terms of Reference that are applicable to FUTURE. Subsequent discussion at the joint FUTURE Advisory Panel meeting highlighted there is still some progress to be made on mechanisms and how they are to interact with the Standing Committees and other elements of the PICES organization.

#### **Action**

- request AICE-related expert groups to modify/expand their existing Terms of Reference to include: how ecosystems respond to their specific stressor (*e.g.*, WG-21, How do ecosystems of the North Pacific respond to the introduction of non-indigenous marine species?) and how might these stressors change in the future? (*e.g.*, are species introductions expected to increase in the future?)
- This suggestion to be made at the MEQ meeting, as relevant expert groups are derived from this Committee.

### AGENDA ITEM 6

#### **Proposals for new expert groups**

A proposal to establish a new working group on “Jellyfish Blooms around the North Pacific Rim: Causes and Consequences” via the BIO Committee was received by AICE-AP. The request was forwarded to Panel members for information and review at PICES-2010. AICE supports this proposal. No additional proposed expert groups were identified at this time.

#### **Action**

- suggests that the Terms of Reference for new working group be clarified to include a component related to how jellyfish might serve as an important indicator of ecosystem change. (Perhaps a standardized metric could be developed for use within PICES member countries dealing with this emerging issue.)
- AICE-AP suggests that the proposed working group clarify the mechanisms behind these jellyfish blooms as discussions at our meeting suggest that differences are likely between Asia and North America and that difference may exist among Asian countries as well. (AICE-AP recognized the need for Chinese involvement in this working group in order to succeed on some of the proposed Terms of Reference, so perhaps the emphasis on Term 7 could be decreased.)

## AGENDA ITEM 7

**Linkages to the other FUTURE Advisory Panels**

AICE-AP recognizes the need to keep COVE-AP and SOFE-AP advised of our activities and progress. All three FUTURE Advisory Panel Chairmen routinely circulate relevant information. AICE-AP supports the development of a joint working group on “Ecosystem Responses to Multiple Stressors” as discussed with COVE-AP and the inter-sessional workshop (see Agenda Item 8).

## AGENDA ITEM 8

**Potential second inter-sessional FUTURE workshop**

A draft proposal to hold a second FUTURE workshop (Ecosystem Indicators) was developed immediately following the first inter-sessional workshop in Seoul. The proposal was drafted by Dr. Therriault, representing AICE-AP, and by Dr. Jacquelynne King, representing COVE-AP. The primary goal of this workshop will be to identify ecosystem resilience and vulnerability as highlighted in the FUTURE Science Plan based on the implementation of a suite of ecosystem indicators. This proposed workshop will build upon previous efforts, including the Paris meeting on indicators in 2004 (ICES Journal of Marine Science 62(8), 2005) and activities of the recently completed PICES WG19 report on ecosystem based management (PICES Scientific Report No. 37, 2010).

AICE-AP strongly supported the proposed workshop. The Panel felt it would provide a strong basis for the proposed new working group on “Ecosystem Responses to Multiple Stressors”. It was suggested that a summary of the MEQ/FUTURE Topic Session (S12) on “*Anthropogenic forcing in North Pacific coastal ecosystems: Understanding changes in ecosystem structure and function*” (co-sponsored by IMBER) at PICES-2010 be presented at this workshop.

**Action:** Identify Asian member(s) to co-convene a second FUTURE workshop to present at the Science Board meeting on Saturday, October 30, 2010.

## AGENDA ITEM 9

**Potential Topic Sessions for PICES-2011**

AICE-AP felt the first session (S12; see Agenda Item 8) at PICES-2010 was successful. Abstracts received greatly exceeded (approximately three times) available slots. This resulted in a number of oral presentations being converted to poster presentations or referred to Working Group meetings for presentation. AICE-AP felt it was important to develop a proposal for a Topic Session for PICES-2011 to continue to highlight the relevance and importance of the FUTURE program for PICES. The Advisory Panel discussed a Topic Session related to land–sea interactions, notably how human activities in upland locations of the Amur River (meeting location next year in Khabarovsk, Russia, on the banks of this major Asian river) alter iron transport to the Sea of Okhotsk, thereby affecting primary productivity.

**Action**

- Dr. Kaeriyama to develop a draft Topic Session proposal and work with Dr. Therriault to finalize it before Committee meetings, including broadening the scope to include parallel to large North American river land–sea issues.
- Dr. Therriault to seek MEQ co-sponsorship and present at MEQ Committee meeting as a potential joint MEQ/FUTURE Topic Session, similar to the S12 Topic Session developed for PICES-2010.

AGENDA ITEM 10

**Addressing action items and working outside the Annual Meeting**

Lack of participants made this discussion difficult and highlighted the need for input both during and outside PICES Annual Meetings. The participants present felt that e-mail was the best option at this point but felt that alternative methods (conference calls, Skype) could be explored as needed.

**Action:** Advisory Panel members will strive to respond to ALL correspondence in a timely manner.

AGENDA ITEM 11

**Other issues**

The Advisory Panel discussed the lack of participation of members, notably from China, who missed the inter-sessional FUTURE workshop in Seoul in August and who have failed to respond to recent requests for information (*e.g.*, survey) and input (*e.g.*, workplan, proposed expert groups, *etc.*). AICE-AP deliberated on the poor timing of the meeting slot assigned during the Annual Meeting. Some Panel members suggested that if the meeting times were embedded during the week of the Annual Meeting, more members would be present to be able to fully participate. Alternatively, if FUTURE Advisory Panels could meet on the Sunday, rather than on the Friday, before the Annual Meeting it might be easier (less of a request) to travel in time to attend the Panel meetings.

Dr. Shevchenko suggested TCODE could be a good source of data/information on stressors. TCODE routinely collects metadata and this could be linked to real data. This could be a valuable tool to archive stressor-related information/data in support of FUTURE.

AGENDA ITEM 12

**Meeting adjourned and participants to attend the joint FUTURE Advisory Panel meeting**

Dr. Therriault adjourned the meeting at 12:00 h as participants prepared to attend the joint FUTURE Advisory Panel meeting scheduled for 14:00–18:00 h.

**AICE-AP Endnote 1**

**AICE-AP participation list**

Members

Masahide Kaeriyama (Japan)  
Igor Shevchenko (Russia)  
Thomas Therriault (Chairman, Canada)

Observers

Yoichiro Ishibashi (Japan)  
Darlene Smith (Canada)

**AICE-AP Endnote 2**

**AICE-AP meeting agenda**

1. Opening remarks and introductions (Therriault)
2. Review of AICE-AP Terms of Reference and workplan
3. Report from the inter-sessional FUTUREworkshop
4. Identification of high priority topics for PICES/FUTURE
5. Mechanisms to address high priority topics
6. Proposals for new expert groups
7. Linkages to the other FUTURE Advisory Panels
8. Potential second inter-sessional FUTURE workshop
9. Potential Topic Sessions for PICES-2011
10. Addressing action items and working outside the Annual Meeting
11. Other issues
12. Meeting adjourned and participants to attend the joint Advisory Panel meeting