

Report of the FUTURE Advisory Panel on *Anthropogenic Influences on Coastal Ecosystems*

AP-AICE Chairman, Dr. Thomas Therriault, welcomed the two members (*AP-AICE Endnote 1*) and guests to the third meeting of the FUTURE Advisory Panel on *Anthropogenic Influences on Coastal Ecosystems* on October 16, 2011, in Khabarovsk, Russia. The draft agenda (*AP-AICE Endnote 2*) was reviewed and agreed upon, except that the SCOR discussion was postponed to the joint Advisory Panel meeting.

AGENDA ITEM 2

Review of AP-AICE Terms of Reference and draft workplan (revised August 2011)

A lack of members at the meeting was seen as a potential problem but given that this agenda item was postponed from 2010, discussion proceeded. E-mails were sent by Dr. Therriault to all AICE members to confirm desire/ability to participate as members, and all confirmed their wish to continue except Dr. Young Shil Kang who was travelling.

A pending item was for AP-AICE to consider the definition of coastal ecosystem. Participants agreed that there was no hard and fast rule for this and that the definition would depend largely on the question being addressed. It was noted that Exclusive Economic Zones (EEZs) could be considered as a starting point if needed.

The second pending item for the AP was the recommendation to POC to establish a working group on ocean acidification/hypoxia. Although WG 27 (Working Group on *North Pacific Climate Variability and Change*) was established inter-sessionally, the group will only deal with some elements of this item from a FUTURE perspective, so the Section on *Carbon and Climate* (S-CC) will have a critical role to play. Similarly, WG 28 (Working Group on *Development of Ecosystem Indicators to Characterize Ecosystem Responses to Multiple Stressors*) may determine these are major stressors but it is unlikely this group will have time to explore mechanisms related to specific stressors.

Action: AP-AICE to determine if S-CC Terms of Reference (TOR) need to be revisited to ensure good alignment with FUTURE. (This is likely an area of modeling interest within the PICES community.)

Participants discussed recommending the desirability of establishing a working group on habitat loss in coastal systems to MEQ/BIO. Participants agreed that this topic was very specific and that key elements of this topic should emerge from WG 28. Thus, it was determined that it would be premature to develop a working group at this time.

The fourth pending item was the development of an AP-AICE website. The TCODE representative on AP-AICE suggested this was, in fact, a larger issue within FUTURE and suggested that Google Sites would be a good way forward. The existing PICES GeoPortal Network is a good way to exchange metadata but likely is not a good option for general communication and file sharing. The item was discussed further on how to improve communication within the FUTURE program.

Action: Dr. Shevchenko to work with the other FUTURE APs and PICES to develop web tools for communication within FUTURE.

The Working Group on *Non-indigenous Marine Species* (WG 21) and Working Group on *Environmental Interactions on Marine Aquaculture* (WG 24) are both nearing completion and a request was made for spatial-specific data that can feed into WG 28. Similarly, upcoming revisions to the Section on *Harmful Algal Blooms*

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(S-HAB) TOR should clearly articulate how information they are collecting is relevant to FUTURE, and especially to WG 28.

Inter-sessionally, the AP-AICE Chair worked with the new Co-Chairs of WG 27 and WG 28 to help ensure workplans being developed were aligned with FUTURE.

It was noted that the inter-sessional FUTURE Workshop (April 26–28, 2011, Honolulu, USA) was a great success and that the report is available on the PICES website at <http://www.pices.int/publications/presentations/2011-FUTURE-wsh/2011-FUTURE-workshop.aspx> and should be reviewed by the AP members. The criteria to develop indicators may be more broadly applicable and should help WG 28 advance quickly on some of their early tasks.

Action: AP members to review inter-sessional FUTURE workshop report as some gaps relevant to AICE and FUTURE were identified, most notably how FUTURE will deal with ecosystem resilience and vulnerability. AP members to consider ways to advance this topic within FUTURE, such as a new study group or working group.

It was noted that TOR for both S-CC and S-HAB might benefit from some input from the FUTURE APs. S-CC revised its TOR in 2010 and S-HAB's new TOR were not available before the AP meeting.

Action: MEQ to provide S-HAB TOR to AP-AICE (and perhaps AP-COVE and AP-SOFE) for review as soon as possible.

The AP-AICE Chair worked inter-sessionally with PICES Co-Chair of P/ICES Working Group on *Forecasting Climate Change Impacts on Fish and Shellfish* (WG-FCCIFS), Dr. Anne Hollowed, to refine a proposal for PICES involvement with ICES on a strategic initiative on climate change and marine ecosystems. A presentation was made by PICES Co-Chair of WG-FCCIFS, Dr. Suam Kim (see Agenda Item 8).

The AP-AICE Chair worked inter-sessionally with Chairman of the Study Group on *Human Dimensions*, Dr. Mitsutaku Makino, to refine the Study Group's recommendations. The final Study Group report was circulated to AP members for comment/discussion (see Agenda Item 9).

The AP had considerable discussion about its role. In general, AP members are struggling to provide constructive feedback without a clearer understanding of required/desired FUTURE products. Although the AP feels the newly established Working Groups, especially WG 27 and WG 28, will significantly advance FUTURE, the AP feels a framework or "roadmap" is highly desirable. This will be critical when FUTURE needs to compile information/data arising from several working groups over several years. Pending discussions at the joint AP meeting (October 16, 2011) and a potential inter-sessional FUTURE workshop, AP-AICE feels it will be in a better position to advise once a better road map for FUTURE is developed. AICE thinks development of an AP-specific workplan should not be undertaken in isolation and that this should be addressed more broadly by FUTURE.

AGENDA ITEM 3

Report from the inter-sessional FUTURE workshop (Honolulu, April 2011)

The Chair provided a brief overview of the FUTURE workshop on "*Indicators of status and change within the North Pacific marine ecosystems*" held April 26–28, 2011, in Honolulu, USA (see also Agenda Item 2).

AGENDA ITEM 4

Report from the P/ICES Study Group on Developing a Framework for Scientific Cooperation in Northern Hemisphere Marine Science (SG-SP)

The Chair provided a brief overview on the report of the joint PICES/ICES Study Group on *Developing a Framework for Scientific Cooperation in Northern Hemisphere Marine Science* which was circulated to AP members in advance of the meeting.

Action: AP members to provide comments on recommendations for approaches to develop a PICES/ICES strategic plan for cooperation within 2 weeks of PICES-2011.

AGENDA ITEM 5

Topic sessions at PICES-2012

This year, topic session proposals were due by September 6, 2011. This was to allow Standing Committees and FUTURE APs more time to review and provide input. This process also better aligns PICES and ICES for potential co-sponsorship of sessions. AP-AICE reviewed all proposals and looked for ones that were of general interest to the AP. AP-AICE identified the following suggested ranking with the possibility that a) and b) might be combined to a single session.

- a) risk management session,
- b) calamities session,
- c) environmental contaminants session,
- d) multiple stressor session.

AGENDA ITEM 6

Potential inter-sessional FUTURE meeting (Spring 2012)

Several potential options for an inter-sessional meeting were discussed:

- No inter-sessional meeting,
- A directed meeting focused on a high priority topic for FUTURE,
- A joint meeting of new Working Group/Section leads with the FUTURE SSC,
- A potentially FUTURE SSC-expanded meeting to develop a FUTURE road map.

AP-AICE supported the option of developing a FUTURE roadmap, as it felt it is timely and much needed. This would also ensure that FUTURE is well aligned with what is expected/required to be delivered, with timelines and mechanisms to make this happen.

Recommendation: AP-AICE supports the option of developing a FUTURE roadmap.

AGENDA ITEM 7

Review TOR of new FUTURE-related Working Groups established inter-sessionally

Since TOR were developed with input, no changes were suggested at this time.

AGENDA ITEM 8

Review TOR of a proposed Section on *Climate Change on Effects on Marine Ecosystems*

Dr. Suam Kim made a presentation on behalf of the proposed Section on *Climate Change Effects on Marine Ecosystems* (S-CCME). The AP agreed that S-CCME will build on the success of the joint P/ICES Working

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Group on *Forecasting Climate Change Impacts on Fish and Shellfish* (WG-FCCIFS) and furthers an already strong working relationship between PICES and ICES. Although the reporting of this Section was slightly unclear given the number of Standing Committees the proposed activities fit, this specific element of the proposal will need to be resolved by Science Board, the SSC for FUTURE.

Recommendation: AP-AICE strongly supports the establishment of a new on Section on *Climate Change Effects on Marine Ecosystems*.

AGENDA ITEM 9

Review final report from SG-HD and discuss potential for proposed Section on *Human Dimensions*

The Study Group on *Human Dimensions* final report was circulated by e-mail to AP members in advance of the meeting in Khabarovsk. No comments were provided by e-mail but this item was discussed by the AP-AICE participants. AP-AICE supports SG-HD's proposal to establish a new expert group on human dimensions, potentially a section, as it is a key element of FUTURE science that has not been acted on. Given that human dimensions-related work within PICES is new, careful attention will be required to draft TOR for this group. Also, this expert group will bring new knowledge/expertise into the PICES realm that is currently lacking. A section makes sense given the large tasks ahead but if a section is developed then TOR will need to be reviewed/updated more frequently, *i.e.*, every 3 years for sections. A longer lived working group (more than the typical 3-year term) is also possible and could provide more flexibility in aligning TOR and work plans with FUTURE priorities.

Recommendation: AP-AICE supports the proposal to for a new expert group on human dimensions.

AGENDA ITEM 10

Identification of high priority topics for FUTURE including potential Open Science Meeting in 2013

AP members felt that until a road map for FUTURE was developed, it would be hard to recommend specific topic sessions for an Open Science Meeting. Discussion also focused on whether this was a meeting simply to showcase recent advances or was to accomplish more. Avoiding overlap with the Annual Meeting could become an issue. There was no specific recommendation at this time.

AGENDA ITEM 11

Remaining items

As the meeting time expired, the AP members concluded there was no need to discuss any of the remaining agenda items in detail as no recommendations for new expert groups was tabled. Communications and a detailed road map for FUTURE were highlighted as the largest hurdles facing this science program.

*AP-AICE Endnote 1***AP-AICE participation list**Members

Steven J. Bograd (USA)
 Igor Shevchenko (Russia)
 Thomas Therriault (Canada, Chairman)

Absent

Young Shil Kang (Korea)¹
 Young-Jae Ro (Korea)
 Song Sun (China)
 Masahide Kaeriyama (Japan)²

¹ Notified in advance

² Flight cancelled

*AP-AICE Endnote 2***AP-AICE meeting agenda**

1. Welcome, introductions, opening remarks
2. Review AP-AICE TOR and draft workplan (revised August 2011)
3. Report from the inter-sessional FUTURE workshop (Honolulu, April 2011)
4. Report from the P/ICES SG-SP
5. Report from SCOR WG meeting (Sinjae Yoo)/potential collaborations (*deferred to Joint AP meeting*)
6. Potential topic sessions at 21st Annual PICES Meeting, Japan (October 2012)
NOTE: Sessions will still be proposed via Committees to Science Board
7. Potential inter-sessional FUTURE meeting (Spring 2012)
8. Review TOR of new FUTURE-related Working Groups established inter-sessionally
 - a. WG 27: *North Pacific Climate Variability and Change*
 - b. WG 28: *Development of Ecosystem Indicators to Characterize Ecosystem Responses to Multiple Stressors*
9. Review TOR of a proposed Section on *Climate Change on Marine Ecosystems*
10. Review final report from SG-HD and discuss potential for proposed Section on *Human Dimensions*
11. Identification of high priority topics for FUTURE including potential Open Science Meeting in 2013
12. Mechanisms to address high priority topics identified above (*How do we advance FUTURE? What are the major challenges?*)
13. Potential for new expert groups and timelines for establishment
14. Linkages to other FUTURE APs
15. Action items for AP-AICE members
 - a. Develop more specific workplan for AP-AICE
 - b. Working outside annual/inter-sessional meetings
 - c. Potential Mechanisms for Communication (*e.g., Skype, GeoPortal, FUTURE website [restricted access?]*)
16. Other issues (roundtable)