

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

AP-AICE Chairman, Dr. Thomas Therriault, welcomed members and guests (*AP-AICE Endnote 1*) and guests to the fifth meeting of the FUTURE Advisory Panel on *Anthropogenic Influences on Coastal Ecosystems* on October 13, 2013, in Nanaimo, Canada, and self introductions were made.

### AGENDA ITEM 2

#### **Review and agenda adoption**

It agreed during the review of the agenda (*AP-AICE Endnote 2*) that for logistical reasons Dr. Ian Perry's presentation on behalf of Working Group on *Ecosystem Responses to Multiple Stressors* (WG 28) would be the first order of business following introductions.

Additional issues raised at the joint AP Meeting were added to the Agenda as priority items for discussion including:

- Recommend theme sessions for PICES-2014 to Committees,
- Recommend PICES co-sponsorship of ICES ASC 2014 theme sessions,
- Discuss collaborations with SCOR and evaluate SCOR WG proposals via Committees.

Low participation continued to be an issue for AP-AICE but external participants at this year's meeting helped advance discussions. At this meeting three countries (China, Korea, and USA) and three Committees (BIO, FIS and POC) were not represented officially. Given the structure of the FUTURE program and the reliance on Country/Committee contributions to APs, it is essential this issue be resolved. The lack of participation by BIO clearly was unforeseen (see (*AP-AICE Endnote 1*)) and an alternate will need to be identified. The AP previously had requested additional membership, including a representative of the Section on *Human Dimensions of Marine Systems* (S-HD) but this was not realized for this meeting. As noted in Hiroshima, AP-AICE participation has been so low it has been limiting and a critical mass must be generated to fully address AP-AICE's goals and Terms of Reference. This will be essential as the AP starts to map expert group products and identify linkages to advance FUTURE in its next work plan (see below).

**Action:** The PICES website does not reflect the removal of Dr. Young-Jae Ro (Korea) at PICES-2012 and should be updated. BIO will need to identify a replacement for Prof. Zhu. FIS and S-HD need to identify an active participant for AP-AICE to ensure Committee representation and connection with the FUTURE program. AP-AICE could benefit from representation from S-CCME as well.

### AGENDA ITEM 3

#### **Potential Topic Sessions for PICES-2014 and utility of online submission system**

In general, AP-AICE was happy with the online system and felt the slight modifications made since last year were an improvement. Most AP members used the online system to rank proposed sessions and workshops and outputs of the online ranking were reviewed at the meeting.

AICE-AP briefly discussed each of the proposed topic sessions and looked for linkages to AICE and the FUTURE program.

**Action:** AP-AICE supported the results generated via the online ranking system without modification as AICE- or FUTURE-related proposals were ranked high by AP-AICE members.

AGENDA ITEM 4

**Review and discuss expert group activities relevant to AICE**

At the joint AP Meeting all expert groups relevant to FUTURE made presentations. This allowed all AP members to hear the same message about progress, issues, results, *etc.* Due to the strong linkages between WG 28 and AP-AICE, this Working Group provided a more detailed presentation to AP-AICE during its breakout meeting.

A brief re-cap of WG 28's presentation is captured here:

- This WG is not looking at all stressors in all areas;
- Ecosystem indicators are being developed and will be applied to case studies;
- Marine pollution and HABs are two stressors that WG 28 is not explicitly considering although there are other expert groups within PICES that could provide this information;
- So far a list of "candidate" indicators has been identified and the WG is now looking to validate and apply these;
- Proposed comparisons include both coastal (Seto Inland Sea *vs.* Salish Sea) and oceanic (Bering Sea *vs.* Sea of Okhotsk);
- An issue raised by WG 28 was data availability and suggested TCODE might be able to help.

There continues to be some uncertainty as to specific FUTURE products and how these will be generated. Although the FUTURE roadmap is a big improvement, there continues to be questions about the final product and driving directions to reach it.

**Recommendation:** AICE suggests a dedicated FUTURE website be implemented as soon as possible. Ideally this would include "open" pages to allow all to see specific FUTURE products as they are completed and "restricted access" pages that would allow internal communication of developing products.

**Action:**

- AP-AICE requests that all PICES expert groups provide a detailed list of specific products being developed. Further, AICE would like to have expert groups identify specific data/products/information that are desired or needed from other expert groups. Together this information will allow the APs to identify important connections and provide a mechanism to ensure improved communication and delivery of FUTURE products.
- AP-AICE requests additional details of the HAB indicator being developed by S-HAB based on the HAE-DAT database.
- AICE should review the Study Group on Marine Pollution final report to identify potential pollution indicators.

AP-AICE agreed that it is relatively easy for expert groups to identify linkages to FUTURE questions in the Science Plan but that it is much more complex and difficult to identify solutions to these FUTURE questions that require inputs from multiple expert groups and higher level synthesis.

**Recommendation:** AICE requests Science Board to consider developing a case study to pilot final FUTURE product development. This case study would attempt to solve a very specific FUTURE problem through an interdisciplinary PICES team. Lessons learned from this exercise would provide increased understanding/clarity that could then be applied more broadly to complete FUTURE.

**Consideration:** Should this approach prove beneficial PICES will need to consider how broad expertise within PICES can be mobilized to produce final (or even intermediate) FUTURE products.

Similarly, AICE discussed that as a Strategic Science Program, FUTURE is very idealistic which makes identification of a specific path to reach the end product much more complicated (likely because there are many). Currently it is hard to say what the final FUTURE "puzzle" looks like but different expert groups are

working on different elements, perhaps without the same vision. For example, if we are building a palace are we all working on the same wall or different ones and if different, will they all meet the same roofline? Intermediate products and identification of specific outputs and needs will help ensure a solid final product.

**Recommendation:** AICE thinks that development of specific, clear intermediate products could be an important mechanism to bridge the gap between the specific outputs of expert groups and the idealistic FUTURE products. Hosting a topic session or workshop could be an effective way to identify and/or develop these intermediate products.

It was noted in the presentation by S-HD that there would be value in having PICES expert groups identify specific linkages to Ecosystem Services (outlined in the Millennium Assessment) which, in turn, could be linked to human well-being. The intent is sustainable ecosystems under changing anthropogenic pressures, including climate change.

**Recommendation:** AICE would like PICES expert groups to identify linkages with Ecosystem Services and foster collaborations with S-HD to determine how to link ecosystem services to human well-being.

#### AGENDA ITEM 5

##### **Discussion of the FUTURE roadmap**

Although specifics of the roadmap were not discussed at this meeting, given considerable time spent on this agenda item at the last AP meeting in Hiroshima, there was constant reference to it under the previous item.

The roadmap outlines some of the expected FUTURE products and how elements will be advanced with current or proposed expert groups. However, as noted above there remains some uncertainty as to the final FUTURE product(s) and the next step should be to provide PICES with some driving directions to navigate the roadmap.

**Action:** AICE will need to develop a new Work Plan that will provide the AP with specific actions to be undertaken over the next few years as FUTURE enters its mid-life. Key elements of this plan would include, but not limited to, review of specific expert group products, identify specific linkages between multiple expert group products and FUTURE key questions, explore links to Ecosystem Services and ultimately human well-being, identify new areas of research to advance FUTURE (see Agenda Item 9).

#### AGENDA ITEM 6

##### **FUTURE Open Science Meeting**

AP-AICE recognizes this OSM will help solidify the implementation of FUTURE. It will highlight recent advancements and potential gaps. The planned review should clarify direction to the finish line.

**Action:** It will be imperative for AICE (and other APs) to thoroughly review products presented at the OSM and identify “missing” products before current FUTURE-based expert groups expire.

#### AGENDA ITEM 7

##### **Develop/review AICE Action Plan**

It is now clear that this was not required and no further action needs to be taken. The role of the Advisory Panel is to advise Science Board on FUTURE implementation.

## **AP-AICE-2013**

### AGENDA ITEM 8

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

AP-AICE discussed the need for additional membership to better advance AP discussions/issues/recommendations (see Agenda Item 2).

The AP suggested that there is considerable work still required to make the FUTURE roadmap operational. Thus, continuing to establish connections/linkages within the roadmap should be a priority. The development of a new Work Plan should help focus AP activities but there remains some questions as to how final products will be delivered.

### AGENDA ITEM 9

#### **Linkages to other FUTURE-APs, committees and PICES researchers**

This year's joint AP Meeting highlighted the advancement of several expert groups providing products but also identified the continued need to improve communication within FUTURE. Additional participation from expert group/Committee members at the joint AP Meeting would strengthen this relationship.

AP-AICE briefly discussed the role of National Programs in the delivery of FUTURE Science. It was noted these are the primary sources of data for PICES but, as noted by WG 28 data acquisition, issues still exist.

**Recommendation:** FUTURE APs should review data/products provided or derived from National Programs and identify potential data requirements these programs could fill. It was felt AP-COVE may be more impacted by this and a dialogue should be established.

### AGENDA ITEM 10

#### **Implementing FUTURE, developing a plan for AP-AICE**

A specific Work Plan will need to be developed as noted above.

**Action:** Develop a new AP-AICE Work Plan.

### AGENDA ITEM 11

#### **Membership, rotation of FUTURE AP Chairs**

At PICES-2009 it was recommended that the three FUTURE AP chairs should not be replaced at once but rather on a rotational basis. It was decided at ISB-2012 that the SOFE Chairman, Mr. Robin Brown, would be replaced in 2012 at the Annual Meeting in Hiroshima. AP-AICE Chairman, Dr. Therriault, will need to step down following PICES-2013 to assume duties as Science Board Chairman. Thus, AP-AICE must identify a new chairman. Discussions on a potential replacement were initiated following ISB-2013 in St. Petersburg, Russia, in May.

**Recommendation:** AICE recommended the next chairman to be Dr. Steven Bograd (POC) who confirmed he would be willing to take on these duties if selected.

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

Thomas Therriault (Canada, Chairman; MEQ)  
 Igor Shevchenko (Russia; TCODE)  
 Vladimir Kulik (Russia; MONITOR)  
 Ichiro Imai (Japan; MEQ)

Observers

Ian Perry (Canada)  
 Karin Baba (Japan)  
 Won Joon Shim (Korea)  
 Hideaki Maki (Japan)  
 Qin Chuanxin (China)

Absent

Steven J. Bograd (USA)<sup>1</sup>  
 Mingyuan Zhu (China)<sup>2</sup>

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<sup>1</sup> Notified in advance due to U.S. government shutdown.

<sup>2</sup> Passed away suddenly in Nanaimo.

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

1. Welcome, introductions, opening remarks
2. Review and adopt Agenda
3. Potential topic sessions at PICES-2014, Korea, and proposed inter-sessional workshops/symposia
4. Review and discuss expert group activities relevant to AICE
  - a. WG 28
  - b. S-CCME
  - c. S-HD
  - d. others
5. Discussion of implementation of FUTURE roadmap from Busan ISB Meeting (extension from joint FUTURE AP Meeting), including next iteration of “North Pacific Ecosystem Status Report”
6. FUTURE Open Science Meeting in 2014
7. Review of AICE Action Plan (tentative)
8. Identification of high priority topics for FUTURE and potential mechanisms to address these (AP activities, national programs, symposia, new Expert Groups, *etc.*)
9. Linkages to other FUTURE APs, committees, national programs and PICES researchers
10. Implementing FUTURE, developing a plan for AP-AICE
11. Membership, rotation of FUTURE AP Chairs and election of new AP-AICE Chair
12. Other issues (Roundtable)