

## Report of the Fishery Science Committee

The meeting of the Fishery Science Committee (FIS) was held from 18:00-19:30 h on October 16, and 14:00-18:00 h on October 19, 2011. Chairman, Dr. Mikhail Stepanenko, and Vice-Chairman, Dr. Gordon Kruse, called the meeting to order and welcomed the participants. The meeting was attended by 12 FIS members plus 12 observers (*FIS Endnote 1*). Dr. Kruse served as rapporteur. The agenda was adopted without modification (*FIS Endnote 2*).

### AGENDA ITEM 3

#### **Discussion about need for a FIS Vice-Chairman**

A FIS Vice-Chairman position was established in 2008. All other PICES committees have a Vice-Chairman. There was no further discussion of this topic.

### AGENDA ITEM 4

#### **Election of officers**

The PICES Executive Secretary reminded members of the rules of election. Chairman, Dr. Stepanenko, announced that he was not seeking a second 3-year term. FIS Committee Vice-Chairman, Dr. Kruse, nominated Dr. Libby Logerwell as the next FIS Chair. No other nominations were proposed. Dr. Logerwell accepted the nomination and was unanimously elected to be the next FIS Chair. Dr. Stepanenko nominated Dr. Xianshi Jin (China) as Vice-Chairman. Dr. Jin, who was not in attendance, had accepted the nomination by email prior to the meeting. No other nominations were received. Dr. Jin was unanimously elected to be the FIS Vice-Chairman. The 3-year terms of both officers will begin immediately following PICES-2011. FIS thanks Drs. Logerwell and Jin for accepting these leadership positions in PICES.

### AGENDA ITEM 5

#### **2011 FIS Best Oral Presentation and Poster awards**

Volunteers were sought to select recipients of the FIS Committee awards to be given during PICES-2011. Drs. Stepanenko and Kruse agreed to select Best Oral Presentation by an early career scientist at a FIS-sponsored Topic Session. The award was given to Soojeong Lee for her presentation, titled “*Population ecological parameters of elkhorn sculpin (Alcichthys alcicornis) along the Uljin area of Korea*” (FIS Paper). Drs. Jacquelynne King and Laura Richards agreed to select the FIS Best Poster award and the result was a tie. One was awarded to Osamu Tamaru for his poster, titled “*Fishery income fluctuation by selecting fishing ground in the Japanese coastal squid jigging fishery*” (S3). The other was awarded to Chiyuki Sassa for his poster, titled “*Reproductive biology of Benthosema pterotum (Pisces: Myctophidae) in the shelf region of the East China Sea*” (FIS Paper). The award recipients were chosen from Topic Sessions S3, S6, and the FIS Contributed Paper Session.

### AGENDA ITEM 6

#### **FIS Chairman’s report: Implementation of PICES-2010 decisions**

##### *PICES-2011 Sessions*

At PICES-2011, FIS sponsored the following Topic Sessions:

- S1 Science Board Symposium (October 17, ¾ day). *Mechanisms of marine ecosystem reorganization in the North Pacific Ocean*. Co-Convenors: Sinjae Yoo (SB), Atsushi Tsuda (BIO), Mikhail Stepanenko

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- (FIS), Steven Rumrill (MEQ), Hiroya Sugisaki (MONITOR), Kyung-Il Chang (POC), Toru Suzuki (TCODE), Thomas Therriault (AICE), Hiroaki Saito (COVE), Robin Brown (SOFE), Fangli Qiao (China).
- S3 FIS Topic Session (October 21, ½ day). *Population dynamics, trophic interactions and management of cephalopods in the North Pacific ecosystems*. Co-Convenors: John Field (USA), Yasunori Sakurai (Japan), Mikhail Zuev (Russia).
  - S4 FIS/POC Topic Session (October 20, 1 day). *Recent changes of North Pacific climate and marine ecosystems: Implications for dynamics of the dominant species*. Co-Convenors: James Overland (U.S.A.), Akihiko Yatsu (Japan), Skip McKinnell (PICES).
  - S6 MEQ/FIS Topic Session (October 18, ½ day). *Identification and characterization of environmental interactions of marine aquaculture in the North Pacific*. Co-Convenors: Katsuyuki Abo (Japan), Brett Dumbauld (USA), Galina Gavrilova (Russia).
  - S8 POC/FIS Topic Session: co-sponsored ICES (October 21, 1/2 day). *Linking migratory fish behavior to End-to-End models*. Co-Convenors: Enrique Curchitser (USA), Geir Huse (Norway), Shin-ichi Ito (Japan), Michio Kishi (Japan), Skip McKinnell (PICES).

Summaries of these sessions and Symposium can be found in the *Session Summaries* chapter of this Annual Report

### *International symposia*

FIS supported the following international symposium:

“*Ecosystems 2010: Global progress on ecosystem based fisheries management*”, which was convened November 8–11, 2010, in Anchorage, USA.

The symposium was sponsored by PICES, ICES, FAO, and a number of regional organizations. Steering Committee members from PICES included Gordon Kruse (USA, Steering Committee Chair), Patricia Livingston (USA), Chang Ik Zhang (Korea) and Glen Jamieson (Canada). The symposium was attended by 109 participants from 19 countries. A summary of the symposium was published in 2011 in PICES Press 19(1):24–26 and in the ICES Symposium Reports for 2010. A peer-reviewed publication of accepted papers will be published by Alaska Sea Grant in late 2011 or early 2012. Further details about this symposium, including the program, copies of presentations, and book of abstracts are available on the symposium website at: <http://seagrant.uaf.edu/conferences/2010/wakefield-ecosystems/index.php>.

FIS members served as co-convenors and participants in the following international activities:

- ESSAS Open Science Meeting on *Comparative studies of climate effects on polar and sub-polar ocean ecosystems: progress in observation and prediction* in Seattle, USA, May 22–26, 2011.
- International Workshop on *Reaction of Northern Hemisphere ecosystems to climate event (regime shifts): a comparison*, Hamburg, Germany, May 2–6, 2011. FIS supported travel for two Asian co-convenors for the Workshop.

The following progress was made on FIS-related PICES publications:

- Report of the ICES/PICES Working Group on *Forecasting Climate Change Impacts on Fish and Shellfish (WGFCCIFS)*. ICES Report.
- Report on the ICES/PICES Workshop on “*Biological Consequences of a Decrease in Sea Ice in the Arctic and Sub-Arctic Seas (WKBCASAS)*” held May 22, 2011. ICES Report.
- Thirty-five papers from the highly successful PICES/ICES/FAO Symposium on “*Climate change effects on fish and fisheries*” (April 25–30, 2010, Sendai, Japan) were published in a special issue: *Climate Change Effects on Fish and Fisheries: Forecasting Impacts, Assessing Ecosystem Responses, and Evaluating Management Strategies*. ICES Journal of Marine Science 68(6).
- Work has been completed on a special issue of the journal *Fisheries Research* stemming from the PICES 2009 Topic Session S2 on *Ecosystem Based Approaches for the Assessment of Fisheries under Data Limited Situations*. Editors are Patricia Livingston (USA), Gordon Kruse (USA), and Laura Richards (Canada). The volume was printed in late 2011.

## AGENDA ITEM 7

**Update on FUTURE activities and preview of FUTURE meeting**

Dr. Jacquelynne King (FIS and AP-COVE member) gave a progress report on FUTURE activities. A workshop on *Indicators of Status and Change within North Pacific Marine Ecosystems* was held in association with the inter-sessional Science Board meeting in Honolulu, USA in April 2011. Two new working groups, *WG 27: North Pacific Climate Variability* and *WG 28: Ecosystem Indicators of Multiple Stressors*, started in 2011 with strong ties to FUTURE. Also, 8 topic sessions and 3 workshops at PICES-2011 had strong FUTURE connections. Two new expert groups (sections) are currently proposed under FUTURE: strategic initiative on Climate Change Effects on Marine Ecosystems and one on Human Dimensions. Two additional expert groups are under consideration: *Regional Climate Modeling and Downscaling* and *End-to-End Modeling*.

A FUTURE Open Science Meeting is being considered for 2013, and FUTURE sought input from the FIS Committee. FIS discussed this idea briefly and given that PICES-2011 had 8 topic sessions and 3 workshops that were highly relevant to FUTURE, it is seeking clarification about how the proposed Open Science Meeting would differ from a PICES Annual Meeting.

Finally, several issues and challenges confronting FUTURE were presented and discussed. One of the major challenges is communication, given the additional complexity caused by the creation of FUTURE Advisory Panels that are not subordinate to the standing committees. It was pointed out that some Committee members hear the same reports up to five times, owing to their participation at various levels in PICES, whereas most other Committee members received some reports only once, upon request at the FIS Committee meeting. FUTURE sought FIS input on ways to improve communication and information exchange.

## AGENDA ITEM 8

**Reports of FIS-sanctioned Groups**a. Joint PICES/ICES WG on *Forecasting Climate Change Impacts on Fish and Shellfish* (WG-FCCIFS)

Co-Chair of WG-FCCIFS, Dr. Anne Hollowed, provided a summary of the activities of the joint Working Group in 2010–2011. A more comprehensive report of WG-FCCIFS's activities can be found in the annual *Report of ICES/PICES Working Group on Forecasting Climate Change Impacts on Fish and Shellfish* that is published in this Annual Report.

This Working Group was extremely active in 2011. WG-FCCIFS held four working group meetings, produced two reports, and held three inter-sessional workshops. WG-FCCIFS members co-convened 5 Topic/Theme Sessions at PICES/ICES annual meetings.

The 3 workshops convened by WG-FCCIFS in 2011 were: *Reaction of Northern Hemisphere ecosystems to climate events: A comparison*, in Hamburg, Germany in May; *Biological consequences of a decrease in sea ice in arctic and subarctic seas* in Seattle, USA in May, and *Basin-wide impact of Atlantic multidecadal oscillation*, Woods Hole, USA, in June.

In 2011, a major milestone was the ICES/PICES WG-FCCIFC publication of the special issue on “*Climate change effects on fish and fisheries: forecasting impacts, assessing ecosystem responses, and evaluation management strategies*” in the July issue of the ICES Journal of Marine Science, volume 68(6). The special issue provides a valuable assessment of current knowledge of the effects of climate change on fish and fisheries.

Members of the WG-FCCIFS met in October 2010 in Portland and in May 2011 in Seattle to discuss on-going activities of the group. During these meetings, the WG discussed the need to develop a long-term strategic initiative on Climate Change Effects on Marine Ecosystems (SICME). The WG-FCCIFS ends December

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2011. PICES and ICES recognized that great strides in new sciences have emerged from collaborative work between two organizations and requested the formation of a Science Plan that outlines a structure for continued collaboration focused on climate change. A Science Plan for SICCME was delivered to ICES and PICES in the spring 2011. ICES agreed to the formation of SICCME and PICES and ICES asked WG members to develop an Implementation Plan. These documents were provided to FIS members in advance of the meeting.

Planning of the upcoming PICES/ICES/IOC Symposium on “*Effects of climate change on the world’s oceans*” (May 15–19, 2012, Yeosu, Korea) is proceeding as planned.

Dr. Hollowed described WG-FCCIFS’s request to form a new PICES Section on *Climate Change Effects on Marine Ecosystems* (S-CCME). She described their desire for FIS co-sponsorship of this activity. In making this request, she noted that the current co-sponsorship by FIS has worked extremely well.

FIS congratulated Dr. Hollowed and her colleagues for the outstanding work of WG-FCCIFS. FIS strongly supports the proposal for FIS committee co-sponsorship of SICCME, given the strong direct ties of this work to FIS and the need to maintain past excellent levels of communication with FIS.

### b. MEQ/FIS Working Group on *Environmental Interactions Marine Aquaculture* (WG-24)

Dr. Katsuyuki Abo, Co-Chairman of WG 24, provided an oral report on the activities of the WG in 2011. Prior to the meeting, Dr. Brett Dumbauld provided a draft written report. This WG began in 2008 with a first face-to-face meeting during PICES-2009 in Jeju, Korea, resulting in all PICES member countries sharing information on the key production methods and species, upon which subsequent work is planned. The WG was not very active in 2010.

Dr. Abo described a plan to accomplish the three terms of reference in the coming year. The first TOR addresses modeling and assessing interactions on marine aquaculture. This involves a review of long- and short-term, near- and far-field effects of aquaculture on benthic communities, including chemical and physical changes, and rate of ecosystem recovery. Dr. Abo is leading this effort. Each country is to review approaches related to their primary forms of culture. First drafts are due by April 1, 2011. The second TOR will address risk assessment methods. Work to be done includes updating and finalizing an overview of risk assessment approaches and relative legislative frameworks for sustainable marine aquaculture. Beyond this, there are no additional plans for work under this TOR. The third TOR addresses aquatic animal disease of aquaculture concern. This will involve listing the diseases of concern, description of diagnostic programs, identification and detection methods, former and ongoing research efforts, and ongoing issues and risks. Dr. Laurie Gustafson (USA) is leading this effort. Overviews will be developed for each country. The final report is to be completed in September 2012.

Dr. Abo outlined some of the challenges that faced WG 24. They included:

- Challenges to meet TORs,
- Differences in each country’s mariculture polices and maturity of their respective industries which may be partly responsible,
- Need for future mariculture activities to be more closely tied to country interests.

Unfortunately, these obstacles prevented the WG from finalizing their report at this meeting. Therefore, FIS supports the WG 24’s request for a 1-year extension to complete the final working group report.

FIS discussed potential ways to address the last challenge (above) concerning the need for future mariculture activities to more closely match country interests. It was suggested that models for carrying capacity could be one focus for a FUTURE mariculture effort. The development of models, and their regional applications, could be undertaken under varying conditions for each country. These models could consider environmental impacts, disease transmission and other factors.

The FIS Committee looks forward to the successful completion of the terms of reference of WG 24 as well as their advice on approaches to incorporate aquaculture science of PICES in the future. A proposal for a Study Group may be submitted at PICES 2012.

#### AGENDA ITEM 9

#### **Relations with other programs and organizations**

##### *a. BEST-BSIERP, Bering Sea program*

Dr. Kruse presented a report on the BEST-BSIERP program. This program focuses on understanding the key processes regulating the production, distribution and abundance of marine organisms in the Bering Sea. Field work was completed in 2010. Modeling continues and synthesis and reporting will be completed in 2012. Papers stemming from BEST-BSIERP research have been published as separate journal articles and in a special issue of *Deep-Sea Research II*, expected to be published in December 2011 or January 2012. A second special issue is now accepting manuscripts.

##### *b. North Pacific Anadromous Fish Commission (NPAFC)*

Dr. Jin Yeong Kim, FIS member and also Chair of the Committee on Scientific Research and Statistics (CSRS), presented a report from the North Pacific Anadromous Fish Commission (NPAFC). The NPAFC developed a new Science Plan for 2011–2015. It is a plan for international cooperative research involving five research components: (1) migration and survival mechanisms of juvenile salmon in ocean ecosystems, (2) climate impacts on Pacific salmon production in the Bering Sea (BASIS) and adjacent waters, (3) winter survival of Pacific salmon in North Pacific Ocean ecosystems, (4) biological monitoring of key salmon populations, and (5) development and applications of stock identification methods and models for management of Pacific salmon. The NPAFC is planning an International Workshop on “*Explanations for the high abundance of pink and chum salmon: Future trends*” October 30–31, 2011, in Nanaimo, Canada.

##### *c. FAO Regional Office for Asia and the Pacific, Asia-Pacific Fishery Commission (APFIC)*

Dr. Simon Funge-Smith presented a report on the Asia-Pacific Fishery Commission (APFIC), which was established in 1948. APFIC monitors fishery resources, formulates management measures, promotes programs and projects, such as aquaculture and fisheries enhancement, encourages training and capacity building, and disseminates relevant information. APFIC faces many challenges in tropical small-scale fisheries associated with data-limited situations. Dr. Funge-Smith proposed some key areas for collaborations with PICES. He pointed out that most PICES countries are already members of APFIC. He proposed collaboration on the science, even if the APFIC region is outside the PICES area. Common issues may include illegal, unreported and unregulated fishing activities, overfishing, ecosystem approaches, bycatch and trawling effects, strengthening assessments to support fisheries and aquaculture, methods for data-poor fisheries, spatial management of aquaculture, and potential effects of climate change on aquaculture and fisheries. Another area of potential collaboration could be the development of training materials for an ecosystem approach to fisheries.

##### *d. ISC – IATTC Office*

Dr. Chi-Lu Sun attended the FIS Committee meeting but did not present a formal report since FIS received a full report last year. So, he provided a very brief update. Dr. Sun suggested that stock assessment methodology would be one important way in which ISC and PICES could collaborate.

##### *e. ESSAS*

Dr. George Hunt gave a presentation on ESSAS activities for the past year. Their 2<sup>nd</sup> Open Science Meeting on “*Comparative Studies of Climate Effects on Polar and Sub-polar Ecosystems*”, held in Seattle, USA, was very successful. There were 195 participants from 15 countries. Several publications are planned.

**FIS Topic Sessions for PICES-2012**

*PICES-2012 Topic Sessions*

FIS wishes to comment on the new procedure for committees to prioritize topic session proposals in advance of the PICES Annual Meeting. Whereas FIS supports this approach in principle, FIS formally requests that Science Board share the priority lists from other committees with FIS for final ranking at the Annual Meeting. FIS provided clear ranking of proposals prior to PICES-2011. However, if some highly ranked FIS topic session proposals receive weak support from co-convening committees, then FIS would appreciate the opportunity to reconsider its final ranking of proposals to select revised priorities with a greater chance of acceptance.

The top priority for PICES-2012 is a 1-day FIS Contributed Paper Session. FIS also prioritized the following Topic Sessions:

1. *Abundance, ecological functions and ecosystem service of macrophyte vegetations as indicators of natural and anthropogenic stressors in coastal ecosystem and productivity* (FUTURE/FIS/MEQ, ½ day). Proposed convenors are Jun Shoji (Japan), Ik-Kyo Chung (Korea), and Steve Rumrill (USA). (*FIS Endnote 3*)

2. *Jellyfish in marine ecosystems and their interactions with fish and fisheries*. (BIO/FIS, 1 day). Proposed convenors: Richard Brodeur (USA), Shin-Ichi Uye (Japan), Song Sun (China), Won-Duk Yoon (Korea), Chris Lynam (UK). Potential invited speakers include: Reiji Masuda (Japan), Monty Graham (USA), Hermes Mianzan (Argentina) and Chris Lynam (UK). (*BIO Endnote 3*)

3. *Science needs for offshore oil and gas development in the North Pacific* (FIS/BIO/MEQ/POC, 1 day). Convenors: Libby Logerwell (USA), Ken Lee (Canada), Tatyana Belan (Russia). [Science Board did not support this proposal for PICES-2012.]

4. *Monitoring on a small budget: Cooperative research and the use of commercial and recreational vessels as sampling platforms for biological and oceanographic monitoring* (FIS/POC, ½ day). Convenors: Steve Barbeaux (USA), Jennifer Boldt (Canada), Martin Dorn (USA), Jae Bong Lee (Korea). (*FIS Endnote 4*)

5. *Linking migratory fish behavior to end-to-end models* (FIS/POC, ½ day). Convenors: Skip McKinnell (Canada), Enrique Curchitser (USA), Michio Kishi (Japan), Shin-Ichi Ito (Japan), and Geir Huse (ICES). Potential invited speakers are Wei Hao (China), Robert Humston (USA), Michio Yoneda (Japan). (*POC Endnote 4*)

6. *Comparison of impact of multi-decadal climate variability in North Pacific and North Atlantic ecosystems and corresponding teleconnection patterns*. (FIS/POC, co-sponsored by ICES, 1 day). Convenors: Shoshiro Minobe (Japan), William Peterson (USA), Juergen Alheit (Germany), Svein Sundby (Norway). [Science Board did not support this proposal for PICES-2012.]

7. *Inter-basin comparisons of ecology and recruitment processes of gadoids in the North Pacific*. (FIS/POC, 1 day). Convenor: Sukgeun Jung (Korea). [FIS did not support this proposal for PICES-2012.]

Subsequently, PICES requested FIS to provide only the top three priorities. Therefore, the top three here are proposed. Topic session 3 was originally proposed as a 1-day session, and FIS recommended a ½ day session in hopes that FIS might be able to hold additional topic sessions. However, given the restriction to three FIS topic sessions, FIS wishes to recommend topic session 3 as a 1-day session. During or just prior to the FIS meeting, two other proposed topic sessions were presented. George Hunt proposed a full-day theme session on subarctic-arctic interactions, and Mitsutaku Makino proposed a topic session on pollock. Unfortunately, they were not provided within the previous deadline for all other proposals and while FIS is supportive of these topic session ideas, the Committee stands by its prioritization provided above. If one of the top three FIS topic sessions is not approved by Science Board, FIS requests consideration of its fourth priority, "*Monitoring on a small budget*".

## AGENDA ITEM 11

**Proposals for new FIS expert groups**

The FIS Committee received no new proposals for working groups. During the meeting, FIS received a request to consider a new study group on predator-prey interactions, submitted by AP-MBM and supported by BIO. Hunt *et al.* (2000) was published as a PICES Scientific Report (No. 14) which summarized consumption of prey by seabirds and marine mammals. The question posed to FIS is whether to include predatory fishes in the update. FIS strongly supports the formation of a study group to update this consumption report and to consider including large predatory fishes. The study group should consider what constitutes a “large predatory fish.”

## AGENDA ITEM 12

**Proposals for new meetings/conferences with PICES as organizer**

PICES had previously agreed to co-sponsor a symposium entitled “*Forage fish interactions: Creating the tools for ecosystem based management of marine resources*” to be held from November, 8–12, 2012 in Nantes, France. Dr. Vladimir Radchenko (Russia) was previously proposed to be a Co-Convenor. If funding is available, PICES may be able to partially support an invited speaker, as well.

## AGENDA ITEM 13

**High priority projects**

None

## AGENDA ITEM 14

**Other priority items with funding implications**

Dr. Hollowed presented an outline of a budget in support of the proposed strategic initiative with ICES on climate change and marine ecosystems. FIS supports the proposed budget for this very important FIS activity.

## AGENDA ITEM 15

**Proposed publications**

One new publication was proposed for the coming year: A special issue resulting from the 2<sup>nd</sup> International Symposium on “*Effects of Climate Change on the World’s Oceans*” in Yeosu, Korea, in May 2012.

## AGENDA ITEM 16

**Inter-sessional activities, meetings and requests for travel support**

No new requests.

## AGENDA ITEM 17

**FIS Action Plan**

The FIS Action Plan has not been changed since 2007 in anticipation of a new PICES Strategic Plan. A revised Strategic Plan is being considered for adoption at PICES-2012. Dr. Kruse reviewed the major changes in the Plan and noted that it should be a relatively simple effort to reformat the FIS Action Plan to be consistent with the new Strategic Plan. Also, FIS activities since 2007 can be reviewed to determine which portions of the

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Action Plan have already been accomplished and can now be deleted. However, additional work is needed to propose new actions to meet emerging issues and the vision, as described in FUTURE, and the PICES Strategic Plan. Dr. Kruse offered the following proposal.

It was proposed and agreed by the Committee that FIS should form a small group to revise and update the FIS 2007 Action Plan. Proposed steps are to:

1. Reformat the Action Plan to follow the outline in the new PICES Strategic Plan (new themes and goals);
2. Delete tasks that are already completed or are no longer relevant;
3. Add new tasks consistent with emerging issues and new orientation and emphasis by PICES (*e.g.*, new tasks consistent with the objectives of the strategic initiative on climate change and marine ecosystems).

The group should provide a new draft FIS Action Plan inter-sessionally, showing deleted tasks and new tasks. Other FIS members could provide input by email. The FIS Action Plan should be finalized at PICES-2012. The subcommittee will be composed of Dr. Kruse and Logerwell, with potential addition of other members.

### AGENDA ITEM 18

#### **Other business**

None

#### ***FIS Endnote 1***

#### **FIS participation list**

##### Members

Elena Dulepova (Russia)  
John Field (USA)  
Toyomitsu Horii (Japan)  
Sukgeun Jung (Korea)  
Jin Yeong Kim (Korea)  
Jacquelynne King (Canada)  
Gordon Kruse (USA, Vice-Chairman)  
Libby Logerwell (USA)  
Laura Richards (Canada)  
Mikhail Stepanenko (Russia, Chairman)  
Akihiko Yatsu (Japan)  
Chang Ik Zhang (Korea)

##### Observers

Katsuyuki Abo (Japan)  
Keith Criddle (USA)  
Simon Funge-Smith (APFIC)  
Yasahito Hirato (Japan)  
Anne Hollowed (USA)  
George Hunt (ESSAS)  
Masahide Kaeriyama (Japan)  
Sukyung Kang (Korea)  
Jae Bong Lee (Korea)  
Patricia Livingston (USA)  
Chi-Lu Sun (IATTC)  
Peng Sun (China)  
Jongjiu Zu (Japan)

#### ***FIS Endnote 2***

#### **FIS meeting agenda**

*Sunday, October 16, 2011, 18:00–19:30*

1. Welcome of new members, introductions, and nomination of a rapporteur
2. Adoption of agenda
3. Discussion about need for a FIS vice chairman
4. Election of new FIS chairman (and vice chairman, if approved)
5. Volunteers for Award Committees for 2011

- a. FIS Best Presentation Award
- b. FIS Best Poster

Wednesday, October 19, 2011, 14:00–18:00

6. FIS Chairman's Report
7. Update on FUTURE activities and preview of FUTURE meeting on October 16
8. Status reports of FIS-sanctioned groups
  - a. WG-FCCIFC (FIS/POC) Joint ICES/PICES Working Group on *Forecasting Climate Change Impacts on Fish and Shellfish* (Anne Hollowed)
  - b. WK-BCASAS Joint ICES/PICES Workshop on *“Biological consequences of a decrease in sea ice in arctic and sub-arctic seas”* (Anne Hollowed)
  - c. WG 24 (FIS/MEQ) on *Environmental Interactions Marine Aquaculture* (Brett Dumbauld)
9. Relations with other programs/organizations
  - a. BEST-BSIERP, Bering Sea Project (Dr. Gordon Kruse)
  - b. North Pacific Anadromous Fish Commission, NPAFC (Dr. Jin Yeong Kim)
  - c. FAO Regional Office for Asia and the Pacific (Dr. Simon Funge-Smith)
  - d. ISC – IATTC Office (Dr. Chi-lu Sun) – no formal presentation, available to answer questions
10. Status report on FIS topic sessions and workshops for PICES 2012
11. Proposals for new FIS Working Groups, Study Groups and Special Projects
12. Proposals for new meetings/workshops/conferences with PICES as organizer
  - a. Co-convenor and SSC member for the Symposium on *“Forage fish interactions: Creating the tools for ecosystem based management of marine resources”* to be held from November 8–12, in Nantes, France
13. High priority projects and activities with financial/policy implications
14. Priority items with funding implications (meetings/workshops/conferences)
15. Proposed publications (PICES Scientific Report series and primary journals)
16. Inter-sessional activities and meetings, travel support requests
17. Discussion FIS Action Plan
18. Other business

### ***FIS Endnote 3***

**Proposal for a ½-day FUTURE/FIS/MEQ [later revised to FIS/MEQ] Topic Session at PICES-2012 on**  
***“Abundance, ecological functions and ecosystem service of macrophyte vegetations as indicators of natural and anthropogenic stressors in coastal ecosystem and productivity”***  
**[later renamed as *“Ecological functions and services associated with marine macrophyte communities as indicators of natural and anthropogenic stressors in nearshore zones of the North Pacific”*]**

Macrophyte vegetations consist of seagrass, salt marsh and seaweed along the coast of PICES countries. These macrophytes are important primary producers and support valuable important commercial harvests in coastal ecosystems. In addition, these macrophytes support commercially valuable herbivores, such as abalone, and provide important structured habitats for various life stages of other commercially important fish and invertebrates. The flux and reflux of macrophyte vegetations lead to various interactions with the environment. For instance, large macrophytes provide important sources of carbon to nearshore environments. Physical and chemical conditions, such as water temperature, nutrients, ocean currents, and solar radiation, regulate the formation and abundance of macrophyte vegetations. In turn, the vegetation can also affect local environmental conditions and nearshore communities through their primary production and physical structure. These interactions are called ecosystem functions and services, which are influenced not only by natural forces but recently by anthropogenic stressors. The session is interested especially in the macrophyte vegetation flux and reflux as an indicator of marine productivity fluctuation and/or anthropogenic forces on coastal ecosystems and the impacts on ecological functions and ecosystem services.

Proposed Convenors: Jun Shoji (Japan), Ik kyo Chung (Korea), and Steve Rumrill (USA)

*FIS Endnote 4*

**Proposal for a 1/2-day FIS/POC [later revised to FIS/MONITOR/POC] Topic Session at PICES-2012  
on “Monitoring on a small budget: Cooperative research and the use of commercial and recreational  
vessels as sampling platforms for biological and oceanographic monitoring”**

Long-term monitoring is a key component of an ecosystem-based approach to fisheries management. Data time series enable the examination of changes in oceanographic and community metrics. Government funding sources for long-term monitoring of biological and oceanographic processes has dwindled in recent years while the mandate for this type of information has increased. If data driven ecosystem-based management continues to be goal then methods for reducing the costs of data collection must be found while data quality is maintained. An example of this type of innovative approach can be found in Alaska walleye pollock (*Theragra chalcogramma*) fishery where researchers have teamed with commercial fishers to deploy inexpensive temperature and depth data storage tags on trawl nets. At the same time data on fish density and distribution are being collected using the fishing vessels’ own acoustic systems. These data are being used to validate oceanographic models, to assess the effects of oceanographic conditions on bycatch in the walleye pollock fishery, and evaluate the effects of oceanographic conditions on walleye pollock density and distribution. This session will explore ways in which cooperative research with other seagoing stakeholders and the use of commercial and recreational vessels as sampling platforms for biological and oceanographic monitoring can be integrated into ocean monitoring systems. With sufficient interest by the contributors, a special issue of *Fisheries Research* will be sought.

Proposed Co-Conveners: Steve Barbeaux (USA), Jennifer Boldt (Canada), Martin Dorn (USA), Jae Bong Lee (Korea)

Proposed primary publication: Special issue of *Fisheries Research*