

REPORT OF THE 2006 INTER-SESSIONAL SCIENCE BOARD MEETING

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The fourth inter-sessional Science Board meeting, with participation from Governing Council, took place on April 17–18, 2006, at the Ala Moana Hotel, Honolulu, U.S.A. The meeting was hosted by the Government of the United States as represented by NOAA/Fisheries (National Marine Fisheries Service, NMFS). Dr. Kuh Kim, Science Board Chairman, welcomed the participants to the meeting. A list of attendees and the meeting agenda are appended as *SB-IM Endnotes 1* and 2, respectively.

Mid-term updates (Agenda Item 2)

Biological Oceanography Committee (BIO)

BIO Chairman, Dr. Michael J. Dagg, reported that the Committee is sponsoring or co-sponsoring four theme sessions at PICES XV.

The Advisory Panel on *Micronekton sampling inter-calibration experiment* (MIE-AP) has re-analyzed most of the samples taken during the MIE-1 cruise from October 6–13, 2004, off Hawaii, U.S.A., in order to obtain the length frequency data of major taxonomic groups. Taxonomic verification of major species is continuing. The MIE-2 experiment, employing several micronekton gears on board the R/V *Hokko-Maru*, was conducted from September 23 to October 3, 2005, off Kushiro, Japan. Length frequencies of major species and taxonomic groups and acoustic data were taken and are being analyzed.

The Advisory Panel on *Marine birds and mammals* (MBM-AP) will co-sponsor a workshop (W8) in conjunction with PICES XV on “*Responses of marine mammals and seabirds to large-scale and long-term climate change: Mechanisms of environmental forcing*”, with Hokkaido University Center of Excellence. Between 2 and 4 invited speakers will be funded by the University, but speakers have not yet been finalized. The final product resulting from the BIO/MBM-AP Topic Session convened at

PICES XIII will be published as a *Deep-Sea Research II* special volume on “*Top predator hot spots in the North Pacific*” in May, 2006.

The Advisory Panel on *Iron fertilization experiment in the subarctic Pacific Ocean* (IFEP-AP) held a 2-day workshop on the SEEDS-II experiment from October 17–18, 2005, in Tokyo, Japan, co-sponsored by the Ocean Research Institute (University of Tokyo). The goals of the workshop were to synthesize the results from the second *in situ* iron enrichment experiment in the western subarctic North Pacific (SEEDS-II) and to discuss similarities and differences in responses of biological processes and export fluxes between SEEDS-I and SEEDS-II. Thirty-nine scientists from Canada, Japan, New Zealand and the U.S. attended. A report of the workshop was published in *PICES Press* Vol. 14(1) in January 2006. A report on the IFEP 2004 workshop on *in situ* iron enrichment experiments in the western (SEEDS-I) and eastern (SERIES) subarctic North Pacific will be published in July 2006 in the PICES Scientific Report series. Twenty-five papers on the SERIES experiment will be published in a special volume of *Deep-Sea Research II* in late 2006. Dr. Jun Nishioka (Japan) will be a Co-Convenor from IFEP-AP for the IFEP/MODEL workshop (W1) on “*Modeling iron biogeochemistry and ocean ecosystems*” at PICES XV, but confirmation is still needed from MODEL-TT that Dr. Fei Chai (U.S.A.) will serve as another Co-Convenor.

The Section on *Carbon and climate* (CC-S) is getting organized and is coming up with good ideas. CC-S had its first meeting on November 17, 2005, in Shonan Village, Japan. Acting Co-Chairmen, Drs. James Christian (Canada) and Toshiro Saino (Japan) were elected as Chairmen during the meeting. Science Board approved the revision of the Section’s terms of reference at the inter-sessional SB/GC meeting in 2005, and the Section is looking to increase their activities. CC-S noted that they require a biologist to fill a gap in expertise. Since replacing WG 17, CC-S

is still awaiting the write-up of “*Guide to best practices for oceanic CO₂ measurements and data reporting*” by Dr. Andrew Dickson. The Executive Secretary, Dr. Alexander Bychkov, stated that PICES had an important commitment to produce the Guide since the Intergovernmental Oceanographic Commission (IOS) provided funds to PICES for its publication, and it will serve as a useful reference for the Repeat Hydrography Program of CLIVAR. Resources have been exhausted in trying to contact and urge Dr. Dickson to complete the Guide, and the Secretariat requested a U.S. delegate to resolve this issue. The Section has also submitted a proposal for a Topic Session tentatively entitled “Decadal changes in carbon and biogeochemical systems in the North Pacific” to be held at PICES XVI in Victoria, Canada.

Item 2 Action

Governing Council:

2.1 *Dr. Boehlert to contact Dr. Dickson regarding the write-up of “Guide to Best Practices”.*

Fishery Science Committee (FIS)

FIS Chairman, Dr. Gordon H. Kruse, briefly stated that the FIS-sponsored sessions and workshops for PICES XV were in good order. Convenors have been contacted to finalize descriptions, invited speakers, and funding needs. Dr. Richard J. Beamish, Co-Convenor of the FIS workshop (W2) on “*Linking climate trends in productivity of key commercial species in the subarctic Pacific*”, expressed concern about budget cuts in NOAA/Fisheries and requested funding for invited speakers. Dr. Kruse reported that the Northwest Atlantic Fisheries Organization (NAFO) is asking PICES to co-sponsor a symposium on “*Reproductive and recruitment processes in exploited marine fish stocks*” in fall 2007 (see Agenda Item 7 for details).

Marine Environmental Quality Committee (MEQ)

MEQ Chairman, Dr. John E. Stein, stated that the Committee is looking for a candidate from the western Pacific to take over the

Chairmanship position. MEQ has an alternative candidate from the eastern Pacific in case a western Pacific candidate cannot be found.

The Section on *Ecology of harmful algal blooms in the North Pacific* (HAB-S) is continuing to be productive. Co-Chairman, Dr. Vera L. Trainer (U.S.A.) is seeking funds from NOAA for the development of a mapping function for HAE-DAT (IOC/ICES/PICES Harmful Algal Event Database), and Dr. Tatiana Yu. Orlova and colleagues (Russia) have applied for funds from the Asia Pacific Network (APN) to improve the ability to forecast blooms. HAB-S is making progress in developing an international database, with the assistance from Dr. Henrik Enevoldsen of IOC.

Progress of WG 18 on *Mariculture in the 21st century – The intersection between ecology, socio-economics and production* is slow for various reasons. Dr. Yukimasa Ishida (Japan) noted that WG 18 was set up to encourage Asian participation. Mr. Fengkiu Liang (alternate delegate, China) agreed that there was a need for Chinese participation, and he will seek nomination of new members. All member countries have submitted their national reports on the status and projected trends in marine aquaculture, and the reports are under editorial review.

Members of WG 19 on *Ecosystem-based management science and its application to the North Pacific* were asked to characterize major “eco-regions” by defining the region’s ecological and management boundaries in order to see where different PICES countries can collaborate in studying and managing ecosystems that span international boundaries. National and international approaches to establishing science-based eco-regions will be compiled and compared to existing or planned “management” regions. All delineated areas will be gathered and digitized for a GIS chart, and a report will be prepared.

New Co-Chairman of WG 21 on *Non-indigenous aquatic species*, Ms. Darlene Smith (Canada), attended the annual meetings of the ICES/IOC/IMO Working Group on *Ballast*

Waters and Other Ship Vectors (WGBOSV) and the ICES Working Group on *Introductions and Transfers of Marine Organisms* (WGITMO) in March 2006, in Oostende, Belgium. Dr. Stein noted that Dr. Stephan Gollasch's term as Chairman of both groups is coming to an end, and MEQ is keen to have Dr. Gollasch's expertise in invasive species and experience from ICES.

Technical Committee on Monitoring (MONITOR)

MONITOR Vice-Chairman Dr. Sei-ichi Saitoh, reported that progress on NPESR is very slow. Dr. Bychkov expressed concern with the status of NPESR in which there does not appear to be a plan to proceed to the next step/version. The last report was published in late 2004. PICES has some funds from the North Pacific Research Board (NPRB) to publish the next version. Suggestions were made to base the next version on the same format as the pilot report, and just make modifications. Dr. Bychkov said this issue is not just a MONITOR problem, but that all Committees have to be looked at to determine the gaps that need to be filled. Committees need to provide advice to MONITOR; however, Committee Chairmen appear to be waiting for instructions from MONITOR. Science Board Chairman, recommended that Drs. Saitoh and Jeffrey M. Napp should decide what they need from the Committees.

Dr. Harold P. Batchelder noted that the Advisory Panel on *Continuous Plankton Recorder Survey in the North Pacific* (CPR-AP) had completed their Terms of Reference. Dr. Saitoh said there were problems in obtaining financial support for the CRP program. Dr. Vera Alexander, enquired if the project scope could be expanded, since once ships are equipped, there are opportunities to expand the observations made from the ships of opportunity. Dr. Bychkov suggested that perhaps the Advisory Panel is no longer needed to supervise the CPR program, and that the activities can be overseen by MONITOR directly.

SG-GOOS was established at PICES XIV, and 6 members representing all PICES member

countries were selected, but communication amongst them has not yet occurred. Drs. Saitoh and Napp will meet at the ESSAS/PICES workshop in June 2006 to discuss a means of establishing communications.

Action

MONITOR:

- 2.2 *Discuss the need to maintain CPR-AP under MONITOR and report to Science Board at PICES XV.*
- 2.3 *Have ideas for next version of NPESR by PICES XV.*

Physical Oceanography and Climate Committee (POC)

POC Chairman, Dr. Michael G. Foreman, informed the meeting that the POC Action Plan was finalized, and Topic Sessions and workshops were set for PICES XV.

WG 20 on *Evaluations of climate change projections* was progressing well. Members were approved by the national delegates, membership was completed, and Co-Chairmen were in place. WG 20 will have their inaugural workshop at PICES XV.

The Advisory Panel for a *CREAMS/PICES Program in East Asian marginal seas* (CREAMS-AP) is very active in organizing an international workshop on "*Model/data inter-comparison for the Japan/East Sea*" scheduled for August 21–22, 2006, and followed by a summer school on "*Ocean circulation and ecosystem modeling*" from August 23-25, 2006, both to be held in Busan, Korea. They are seeking funding to turn this summer school into an annual event. There is discussion on whether or not to restrict the summer school to just East Asian Seas. The Panel just met on April 11–12, 2006, with 8 members from China, Korea, and Japan present, and much progress has been made. Dr. Ig-Chan Pang, Korean national delegate, informed the meeting that the Korean Ministry of Maritime Affairs and Fisheries (MOMAF) awarded a grant of approximately US \$1.1 million (1 hundred million Korean won) in 2006 for EAST-I (East Asian Seas Time series-I) as a program of CREAMS/PICES.

MOMAF will continue the financial support within the annual budget to accomplish the goal of the EAST-I program.

Technical Committee on Data Exchange (TCODE)

TCODE Chairman, Dr. Igor I. Shevchenko, presented the Committee report. TCODE maintains its own website, and this homepage contains Workplan and progress towards its implementation. TCODE has been involved in establishing dialogue with various bodies of the international, national, state and local organizations, commissions and programs dealing with marine data management of physical, chemical and biological properties. A TCODE member will participate at the meeting of the ICES Working Group on *Marine Data Management* in May of 2006. The WG Co-Chairmen have been invited to attend PICES XVI in Yokohama.

TCODE has collected the meteorological, physical, chemical, biological and fisheries oceanographic time series of PICES member nations. The North Pacific Ecosystem Metadatabase (NPEM) was developed under the PICES umbrella. Now TCODE is involved into a new project aimed to connect PICES member nations' metadatabase systems into one integrated resource. If accomplished, any user of any one metadata inventory will be able to search for data catalogued by any other participating system with a single search request. Separate metadatabases will be able to be cross-searched without compromising national data ownership, data integrity, or security of the national metadata products. PICES provided partial support for Phase I of this project in 2005, in which NPEM and KODC (Korea Oceanographic Data Center) adopted a pilot federation to allow a public internet search of their combined metadata collections in a single session. A report on Phase I findings of the data-sharing project for federated metadata on North Pacific ecosystems has been published in *PICES Press*, Vol. 14(1), 2006, and a PICES Scientific Report will be published in 2006. TCODE requests PICES support on the same level as in 2005 to federate with JODC (Japan

Oceanographic Data Center) and MIRC (Marine Information Research Center, Japan) in Phase II of the data-sharing project.

Discussions were under way between Dr. Thomas C. Wainwright and the PICES Secretariat to transfer the MODEL website contents (MODEL documents, NEMURO source code and documentation) to the PICES website. Dr. Shevchenko volunteered to host the MODEL website on the TINRO website, if the Secretariat was not able to do so.

Climate Change and Carrying Capacity Program Implementation Panel (CCCC-IP)

The CCCC Program will convene a PICES/GLOBEC symposium on "*Climate variability and ecosystem impacts on the North Pacific: A basin-scale synthesis*" on April 19–21, 2006, in Honolulu, U.S.A. Proceedings of the symposium will be published in a special issue of *Progress in Oceanography* in 2007 or 2008, and the accomplishments of the Program will be provided in a PICES Scientific Report. CCCC-IP Co-Chairmen, Drs. Batchelder and Suam Kim, were requested to have a plan for a wrap-up of the Program by PICES XV.

The Climate Forecasting and Marine Ecosystems Task Team (CFAME) held a 2-day workshop on "*A comparison of regional mechanisms for fish production: Ecosystem perspectives*" on January 12–13, 2006, at the Ocean Research Institute of the University of Tokyo, Japan. A brief report of the workshop was published in *PICES Press*, Vol. 14(1), 2006. They are planning their next workshop (W7) on "*Climate forcing and marine ecosystems*" in conjunction with PICES XV. Co-Convenors of the workshop are Drs. Kerim Aydin (U.S.A.), Jacquelynne R. King (Canada) and Akihiko Yatsu (Japan).

The MODEL Task Team extended its NEMURO model to sardine and anchovy in a workshop on "*Global comparison of sardine, anchovy and other small pelagics: Building towards a multi-species model*" held from November 14–17, 2005, also in Tokyo. A summary of workshop results was published in

PICES Press, Vol. 14(1), 2006. Dr. Michio J. Kishi, former MODEL Co-Chairman and one of the leaders in the development of the NEMURO model, was awarded the prestigious Japanese Society of Fisheries Oceanography Uda Prize for his work on ecological modeling studies.

Action

CCCC-IP:

2.4 *Provide a plan for wrapping up the CCCC Program by PICES XV.*

Action Plans (Agenda Item 3)

The Action Plan template was modified by Dr. Stein, with input from Science Board members, at PICES XIV. All members agreed that the outline and structure of the template were very useful in helping them put their plans together. Dr. Dagg inquired if it was better to be specific or generic when discussing tasks. Drs. Bychkov and Stein pointed out that it was up to each Committee. However, if tasks were to be specific, then timelines would be required. Dr. Alexander suggested inserting a timetable as an addendum, in order to add clarity. Action Plans will allow Committees/Program to get their focus in place and will help Council to review and determine if Action Plans are relevant to the Strategic Plan. The Action Plans will be updated yearly, and products will be included in the PICES Annual Report. It was also agreed that a list of priorities in each Action Plan would allow Council to revise the Strategic Plan as needed in order to meet the needs of the Committees/Program.

Action

Committee Chairmen:

3.1 *Prioritize the activities within their Action Plans prior to Science Board and Council meetings at PICES XV.*

Status of preparations for PICES XV (Agenda Item 4)

Japanese national delegate, Dr. Tokio Wada, thanked the Executive Secretary for meeting with the Local Organizing Committee in Yokohama in November 2005. He informed Science Board and Council that accommodation

information is posted on the PICES website. Entrance visas will be required for Chinese and Russian participants. Details will be shortly available on the PICES website. Dr. Wada also stated that the Fishery Research Agency (FRA) of Japan will commit about \$30,000 to support travel of invited speakers and convenors to attend the Annual Meeting, and \$40,000 will be coming from PICES. Dr. Bychkov stated that IMBER, SOLAS, and ICES are acting as co-sponsors of specific Topic Sessions and workshop, and that overall, PICES XV is in good shape. Dr. Bychkov will contact convenors of all sessions/workshops to see who will need funding to attend the Annual Meeting.

Action

Secretariat:

4.1 *Contact session convenors to see who will require funding to attend PICES XV.*

Status of proposed publications (Agenda Item 5)

Dr. Bychkov reported that a total of 8 PICES Scientific Reports were expected for publication in 2006. The final report of WG 16 on *Climate change, shifts in fish production, and fisheries management* has come back from 2 reviewers (feedback from a third reviewer is pending) who have suggested substantial changes, which may delay publication. As the report stands, only the Gulf of Alaska region has been submitted for the United States. Options were to publish as an unbalanced report or wait until an author could be found to write the U.S. west coast section. Ms. Patricia Livingston suggested that since the terms of reference have changed for the Working Group, perhaps the report could be written on what still needs to be accomplished. Drs. Bychkov and Suam Kim pointed out that this could be done in a foreword. The status of “*Guide to best practices for oceanic CO₂ measurements and data reporting*” is unknown (see Agenda Item 1 for details). The Russian contribution to the WG 18 report based on the national reports on the current status and trends in aquaculture in PICES member countries has just been received this year, but there is no word from WG 18 Co-Chairmen, Drs. Ik-Kyu Chung

and Carolyn Friedman if the report will be ready for 2006.

Deputy Executive Secretary, Dr. Skip McKinnell, presented a progress report on 7 special issues that are slated for publication in primary journals in 2006 and 2007.

Action

Secretariat:

5.1 *Discuss with Drs. Beamish and Yatsu the feasibility of adding a section to the final report of WG 16 on what still needs to be accomplished.*

Future Integrative Scientific Program(s) for PICES (Agenda Items 6 and 11)

Discussion focused on how to reach consensus on a preferred theme with the candidate title “Forecasting and Understanding Trends, Uncertainty and Responses of the North Pacific Marine Ecosystem” (FUTURE) for the Future Integrative Scientific Program(s) (FISP). Actions taken by the Study Group on FISP (SG-FISP) since PICES XIV were reviewed. Science Board and Council members were encouraged to contribute a short, one-page description, similar to that provided by Drs. Wada and Ishida, of what was considered to be the ultimate goal(s)/theme for the Program, along with a list of associated central scientific issues and key research activities. An *ad hoc* FISP sub-group, consisting of Drs. Stein, Dagg and Foreman, was nominated to distill input and to prepare a 2-page draft summary of FUTURE which will be distributed to SG-FISP, Science Board and Council within one month of this inter-sessional meeting for review and feedback. The final document will be circulated to SG-FISP, Science Board and its Committees and Program, and Council prior to PICES XV. Dr. Stein will present the FISP outline and the next steps in the development of the Program at an Open Forum during PICES XV.

Status of proposed inter-sessional symposia and workshops (Agenda Item 7)

Dr. Bychkov presented the status of symposia and workshops for 2006 and beyond. A

CREAMS/PICES workshop on “*Model/data inter-comparison for the Japan/East Sea*” will be held in Busan, Korea, on August 21–22, 2006, followed by a summer school on “*Circulation and ecosystem modeling*” from August 23–25. The summer school is a new endeavor for PICES. The organizers have resources to support young scientists from all PICES member countries, and Dr. Bychkov requested national delegates to convey this information to their agencies.

An international conference on “*The Humboldt Current system: Climate, ocean dynamics, ecosystem processes and fisheries*” is scheduled for November 27–December 1, 2006, in Lima, Peru. Dr. R. Ian Perry has been nominated to the Scientific Steering Committee as a representative of PICES. The venue for an ICES/PICES conference on “*Marine bioinvasions*” has been set in Washington, DC, U.S.A., in the spring of 2007, but the Scientific Steering Committee is yet to be decided. The 4th International Zooplankton Production Symposium, co-sponsored by ICES, PICES and GLOBEC, will take place from May 28–June 1, 2007, in Hiroshima, Japan. The Scientific Steering Committee (SSC) has selected titles for the sessions, but does not yet have descriptions of session themes, and must do so by May 2006. Dr. Bychkov requested Dr. Dagg, who is one of symposium convenors, to urge the SSC members to decide on descriptions. Dr. Kruse informed Council and Science Board that the Northwest Atlantic Fisheries Organization (NAFO) had contacted PICES to inquire if PICES would be willing to co-sponsor a symposium with ICES and NAFO on “*Reproductive and recruitment processes in exploited marine fish stocks*” to be held October 1–3, 2007. Dr. Kruse distributed this proposal to his FIS where it was viewed with interest by the Russian members, but Canadian members felt it would be better for PICES to have its own symposium or Topic Session. Science Board agreed that PICES should be involved.

Action

Governing Council:

7.1 *Inform agencies in their countries that PICES has funds available for young*

scientists to attend the summer school in Busan, Korea, August 23-25, 2006.

Dr. Dagg:

7.2 Urge International Zooplankton Production Symposium Steering Committee members to finalize session theme descriptions by May 2006.

Secretariat:

7.3 Draft a letter to the Executive Secretary of NAFO agreeing to co-sponsor the symposium but suggesting options that would be more desirable to PICES.

Interactions with other organizations and programs (Agenda Items 8 and 15)

Dr. Bernard A. Megrey and others from the U.S. and Norway proposed a scientific theme session entitled “*Comparative marine ecosystem structure and function: Descriptors and characteristics*” to be held at the 2007 ICES Annual Science Conference (ASC) in Helsinki, Finland. It has been accepted by the ICES Consultative Committee and the ICES Bureau. Dr. Ian Perry accepted their offer to be a co-convenor. Drs. Megrey and Perry have invited PICES to co-sponsor this session. This item was deferred until PICES XV.

Dr. Bychkov stated that ICES and GLOBEC were still PICES’ most important strategic partners at this time. PaCOOS (Pacific Coast Ocean Observing System) is anticipating increased funding for its ocean observing system and is considered a potential partner for future relations. Dr. McKinnell currently sits as an *ex officio* member on their Governing Board. Council had discussed building bridges with the APEC (Asia Pacific Economic Cooperation) Working Groups on Fisheries (APEC-FWG) and Marine Resources Conservation (APEC-MRC). The Secretariat is attempting to find contacts to these groups.

Action

Science Board:

8.1 Discuss the possibility of committing PICES resources and funds to sponsor a theme session at ICES ASC in 2007.

Secretariat:

8.2 Seek APEC contacts.

Status of memberships and chairmanships (Agenda Item 9)

Dr. Stein is in his fifth year as MEQ Chairman. Science Board requested help from Council to find suitable candidates to replace him. TCODE Chairman, Dr. Shevchenko, was into his third year. Dr. Shevchenko will discuss taking over this position with TCODE Vice-Chairman, Dr. Megrey, at PICES XV. CCCC-IP Co-Chairman, Dr. Batchelder, was into his fourth year, and a suitable replacement has not yet been found. The situation has been complicated by the uncertainty of the exact time the CCCC Program will wrap up. In addition, another CCCC-IP Co-Chairman, Dr. Suam Kim, is due to rotate off at PICES XV. Dr. McKinnell suggested that two Co-Chairmen from the CCCC Task Teams be invited to oversee CCCC’s chairmanship. Dr. Napp nominated Dr. Phillip R. Mundy (U.S.A.) to be Chairman of SG-GOOS (under MONITOR). Science Board and Council endorsed the nomination.

Action

Governing Council:

9.1 Seek nominations for chairmanship of MEQ Committee.

Specific activities within high priority projects/and issues (Agenda Items 10 and 13)

Dr. Kuh Kim proposed the establishment of a Science Board Chairman-elect position which would facilitate the continuity of Science Board affairs as PICES continues to expand. Science Board unanimously endorsed this suggestion. Pending Council’s decision, the position would take affect at PICES XV. If approved, the Vice-Chairman position would not be needed in the third year of a 3-year term of chairmanship.

The merit of having a FISP workshop in 2007 was discussed. Science Board agreed to plan for a workshop in March 2007 to draft a Science Plan for FUTURE. A FISP sub-group (see Agenda Items 6 and 11) was nominated to prepare a 2-page draft outline of the goal(s)/theme, central scientific issues and key research activities for the Program. The outline will be reviewed by FISP-SG, Science Board and

Council and revised as needed before a final decision will be made at PICES XV.

Capacity building activities were reviewed under Agenda Item 14. The other two high priorities (North Pacific Ecosystem Status Report and GOOS integration) were briefly discussed in Agenda Item 2.

Hokkaido University has digitized some of their hydrographic time series data dating from 1934 to produce Volume 1 of their fisheries and oceanographic data base (HUFO-DAT) on CD-ROM. Work on Volume 2 that includes gill net data collected by T/S *Oshoro-maru* and T/S *Hokusei-maru* in the western and eastern North Pacific and the Bering Sea, is in progress. Dr. Saitoh informed the meeting that 2/3 of the data still needs to be processed and the project is stalled due to a lack of funding. It would take US \$20,000 to digitize 50 year's worth. Ms. Livingston stated that NOAA may be able to contribute funds, as some cruises have sampled in U.S. waters. Dr. McKinnell proposed that PICES contribute \$10,000. Other potential sources of funding may be NPAFC and NPRB. Science Board and Council endorsed contributing to the cost of this endeavor.

Action

FISP sub-group:

13.1 *FISP sub-group to prepare a 2-page draft outlining central scientific issues and key research activities to be distributed to SG-FISP, Science Board and Council within a month of the inter-sessional Science Board/Governing Council meeting, and to have a revision completed by early July for distribution to member countries.*

Secretariat:

13.2 *Contact various agencies for the purpose of matching funds with PICES to support Hokkaido University's data digitizing project (HUFO-DAT).*

Selection of PICES XVI Topic Sessions (Agenda Item 12)

The theme for PICES XVI, scheduled for October 26–November 4, 2007, in Victoria, Canada, is *“The changing North Pacific:*

Previous patterns, future projections and ecosystem impacts”. A tentative title submitted for the BIO/CC-S Topic Session was *“Decadal changes in carbon and biogeochemical systems in the North Pacific”*, convenors and some potential invited speakers were suggested.

Action

Committee Chairmen:

12.1 *Provide names of potential invited speakers.*

Dr. Richards/Mr. Labonté:

12.2 *Provide name of potential keynote speaker.*

Capacity building actions (Agenda Item 14)

PICES/ICES have a contract with the University of Maryland to provide local organizing support for the Young Scientist Conference in Baltimore, U.S.A. The Conference is scheduled in the week of June 24, 2007, but a contract with the venue has not yet been signed.

Discussion of a PICES summer school on marine sciences as a regular event was deferred to a future date. Dr. Kuh Kim suggested that once the outcome of the first CREAMS/PICES summer school (see Agenda Item 7 for details) was known, Science Board would be able to better assess the feasibility of holding a summer school on an annual basis.

PICES spends \$25,000–30,000 annually on travel for young scientists. Dr. Bychkov stated that the best approach to continue support for young scientists is for member countries to match funds with PICES. For example, GLOBEC-Korea and the State Oceanic Administration (SOA) provided funds for young Korean and Chinese scientists, respectively, to attend PICES XIV. Dr. Suam Kim noted that GLOBEC-Korea will continue this funding pattern for another 8 years.

Guidelines for future Working Groups (Agenda Item 16)

Dr. Foreman began a draft set of guidelines for future Working Groups, but asked for guidance from Science Board on the best approach to take regarding certain items. Some related

suggestions for preparing the guidelines included putting WG 20 on the PICES website as a model, providing advice for potential Chairmen, and having Working Groups meet inter-sessionally. Dr. Bychkov said there might be proposals for new Working Groups by PICES XV, so it would be desirable to have a set of guidelines in place by then.

Action

Dr. Foreman:

16.1 *Prepare a draft of guidelines, circulate to Science Board for comments, and try to have a set of guidelines in place by PICES XV.*

PICES communications (Agenda Item 17)

It was stressed that an important component of PICES' profile was its ability to communicate to users. PICES Web Administrator, Ms. Julia Yazvenko's presentation, showing progress since a new PICES website was created in 2004, was favourably received by Council and Science Board members. A comparison of 2005 with

2004 showed a continued improvement in information and user-friendliness, and a substantial increase in website traffic. Dr. Batchelder, Web Committee Chairman, requested that a replacement be found for him, and that members were still needed for POC and MONTOR Committees.

Action

Science Board and Committees:

17.1 *Nominate a Web Committee replacement for Dr. Batchelder.*

17.2 *Nominate Web Committee members from POC and MONITOR..*

2006 Wooster Award (Agenda Item 18)

Documents for the Wooster Award nominee were reviewed and discussed by Science Board *in camera*.

Other business (Agenda Item 19)

There was no other business.

SB-IM Endnote 1

Participation list

Science Board members

Harold P. Batchelder (Co-Chairman, CCCC-IP)
 Michael J. Dagg (Chairman, BIO)
 Michael G. Foreman (Chairman, POC)
 Kuh Kim (Chairman, Science Board)
 Suam Kim (Co-Chairman, CCCC-IP)
 Gordon H. Kruse (Chairman, FIS)
 Sei-Ichi Saitoh (Vice-Chairman, MONITOR)
 Igor I. Shevchenko (Chairman, TCODE)
 John E. Stein (Vice-Chairman, Science Board;
 Chairman, MEQ)

Governing Council members and advisors

Vera Alexander (Chairman, PICES)
 Lev N. Barcharov (national delegate, Russia)
 George Boehlert (national delegate, U.S.A.)
 Yukimasa Ishida (advisor, Japan)
 Serge Labonté (national delegate, Canada)

Fengkui Liang (alternate national delegate,
 People's Republic of China)
 Patricia Livingston (advisor, U.S.A.)
 Ig-Chan Pang (national delegate, Republic of
 Korea)
 Samuel Pooley (national delegate, U.S.A.)
 Laura Richards (national delegate, Canada)
 Tokio Wada (national delegate, Japan)

Invited Guests

Kelvin Richards (International Pacific Research
 Center, Univ. of Hawaii, U.S.A.)
 John Burke Burnett (Pacific Science
 Association, Honolulu, U.S.A.)

PICES Secretariat

Alexander Bychkov (Executive Secretary)
 Skip McKinnell (Deputy Executive Secretary)

SB-IM Endnote 2

Science Board inter-sessional meeting agenda

Monday, April 17, 2006

1. Welcome, participants, logistical details, purpose of meeting
2. Mid-term update on activities of Committees and CCCC Program and their subsidiary bodies
 - 2.1 BIO (Dagg)
 - 2.2 FIS (Kruse)
 - 2.3 MEQ (Stein)
 - 2.4 MONITOR (Saitoh)
 - 2.5 POC (Foreman)
 - 2.6 TCODE (Shevchenko)
 - 2.7 CCCC (Batchelder/Kim)
3. Action Plans for each Committee and Program
4. Status of preparations for PICES XV
5. Status of proposed publications
6. Future Integrative Scientific Program(s) for PICES
7. Status of proposed inter-sessional symposia and workshops

8. Interactions with other organizations and programs
9. Status of memberships/chairmanships for Committees/Program and their subsidiary bodies
10. Specific activities within high priority PICES projects/and issues

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11. Future Integrative Scientific Program(s) for PICES (Agenda Item 6, continued)
12. Selection of PICES XVI topic sessions
13. Specific activities within high priority PICES projects/and issues (Agenda Item 10, continued)
14. Capacity building actions
15. Interactions with other organizations (Agenda Item 8, continued)
16. Guidelines for future Working Groups
17. PICES communications
18. 2006 Wooster Award
19. Other business