

REPORT OF BIOLOGICAL OCEANOGRAPHY COMMITTEE

3

80

The Biological Oceanography Committee met on morning of October 13, 1999. The Chairman, Dr. Tsutomu Ikeda, called the meeting to order and welcomed the members of the Committee and observers (see *BIO Endnote 1*). Dr. Paul J. Harrison served as rapporteur. The agenda for the meeting appears in *BIO Endnote 2*.

Old business (Agenda Item 3)

Dr. Ikeda informed the Committee that Dr. Takashige Sugimoto was representing BIO on the Publication Committee and Dr. Michael M. Mullin was acting as Chairman of the Local Organizing Committee for the Beyond El Niño Conference. BIO supports these nominations.

Report of Working Group 11 (Agenda Item 4)

The BIO Committee approved the final report of Working Group 11 on Consumption of Marine Resources by Marine Mammals and Seabirds and recommended its publication in the PICES Scientific Report Series. It was also recommended that the Working Group should present a report to all PICES scientists through a Topic Session and a Workshop at next year's PICES meeting (*BIO Endnote 3*).

Dr. Patricia A. Wheeler reported that at the PICES Seventh Annual Meeting in Fairbanks, Science Board established a Study Group to determine the best way to incorporate and maintain marine mammal and bird expertise in PICES activities. The Study Group recommends establishment of an Advisory Group with a life span of 5 years and terms of reference as listed (*BIO Endnote 4*). BIO supported this recommendation.

Report of Working Group 14 (Agenda Item 5)

Dr. Ikeda reported that two new members, Dr. David L. Mackas (Canada) and Naoki Iguchi (Japan) have been recruited to WG 14. Because of the absence of both Co-Chairmen of WG 14, discussion was limited to the modification of the report content. Dr. Vladimir I. Radchenko suggested that euphausiids should not be included as micronekton while other PICES participants thought that euphausiids are important and should be included. It was recommended that WG 14 make a decision and report next year to the BIO Committee. As for future aspects, it was suggested that dynamics and processes be included. Dr. Atsushi Tsuda reviewed the Micronekton Symposium held in Pusan.

BIO members discussed ways to strengthen the activities of WG 14 by nominating a new Co-Chairman and increasing its membership. Dr. Richard D. Brodeur (U.S.A.) was suggested to replace the current Co-Chairman, Dr. Bruce Robison (U.S.A.), and Dr. W.-D. Yoon was suggested as a new member from Korea by Dr. Woong-Seo Kim. Considering the slow development of the Working Group, BIO is requesting at least a 1-year extension of the lifespan of WG 14.

WG 14 proposed a one-day Working Group meeting just prior to the PICES Ninth Annual Meeting in 2000. BIO endorsed the proposal.

PICES/GOOS relations: Outcome of the MONITOR Workshop (Agenda Item 6)

Dr. Bruce A. Taft briefed the Committee on PICES/GOOS relations, noting that GOOS has paid little attention to the Subarctic

Pacific. Relevant to BIO was the Continuous Plankton Recorder (CPR) pilot project for living marine resources (plankton), and the inter-calibration of zooplankton sampling gear.

PICES Plankton Monitoring Program (Agenda Item 7)

Dr. David W. Welch reported on the PICES CPR program for the eastern North Pacific and southern Bering Sea (currently funded for two years through the North Pacific Marine Research Initiative). The rationale of the program is the face of global warming and its possible effect on the plankton community. As a relevant topic, Dr. Kim and Dr. Young-Shil Kang reported on the Korean monitoring project over the last 30 years, and the initiation of a new project also using the continuous plankton recorder.

ICES/PICES Zooplankton Ecology Workshop (Agenda Item 9)

BIO members discussed ways to participate actively in the ICES/PICES Workshop on Zooplankton Ecology, and recommended that Science Board request a formal letter of invitation from ICES, clearly stating the terms of reference, and the names of the scientists for the ICES Working Group. The BIO Committee was very positive about the participation of PICES in the workshop and the potential for active collaboration between PICES and ICES on monitoring and comparisons of the Pacific and Atlantic Oceans.

Arctic Monitoring and Assessment Programme (Agenda Item 9)

BIO members were in favour of involvement in the Arctic Monitoring and Assessment Programme (AMAP), and would like to participate and be informed of their

progress. The BIO Committee agreed that the CCCC/MONITOR Task Team should be the contact group for PICES.

Proposals for special topics for PICES Annual Meeting in 2000 (Agenda Item 10)

BIO agreed to a half-day Workshop (see *BIO Endnote 4*) and a half-day Topic Session as requested by the Working Group 11. BIO would also like to sponsor a Topic Session on Zooplankton Ecology (*BIO Endnote 5*), either as a 1-day session or co-sponsored with CCCC. Depending on whether CCCC is interested in the co-sponsorship, we may have to sacrifice the half day for BIO Paper Session.

Best Presentation Award (Agenda Item 11)

Nominations were tabulated for the Best Presentation Award. Based on these nominations the BIO Committee selected a short list of four candidates and voted for Dr. Toru Kobari for his paper (co-authored with T. Ikeda) "Interannual variabilities in abundance and body size of *Neocalanus* copepods (Crustacea: copepoda) in the central North Pacific" as the 1999 best BIO presentation.

Other business (Agenda Item 12)

Dr. Harrison reported on the need to officially recognize and adopt the *ecozones* that were listed in the 1996 PICES Scientific Report No. 4 (CCCC Implementation Plan, p. 24). It was recognized that these zones may change interannually and for different trophic levels.

BIO agreed that a workshop on the utilization of fishing vessels for monitoring will be very useful. However, BIO felt that the title should be changed to "ships-of-opportunity" which would include training vessels. This workshop should be co-

sponsored by CCCC and the MONITOR Task Team and not by BIO.

BIO members were in favour of the proposed Working Group on the “Ecology of Toxic Algae”, but the name should be changed to “Ecology of Harmful Algal Blooms in the North Pacific”. The second **BIO Endnote 1**

task of the Working Group should be changed to – “seek links between bloom events and environmental factors and trophic interactions and possible anthropogenic stresses”. The new Working Group should report to MEQ and BIO (and not just MEQ).

Participation List

Canada

Paul J. Harrison*

Young-Shil Kang

Woong-Seo Kim*

Japan

Tsutomu Ikeda* (Chairman)

Takashige Sugimoto*

Atsushi Tsuda*

Tokio Wada

Russia

Vladimir I. Radchenko*

U.S.A.

David Checkley

William T. Peterson

Patricia A. Wheeler*

Korea

Joong-Ki Choi

*BIO Committee member

BIO Endnote 2

Agenda

1. Welcome and introduction of members
2. Approval/modification of agenda
3. Business arising from last year's meeting
4. Report of Working Group 11 on Marine birds and mammals
5. Report of Working Group 14 on Micronekton
6. PICES/GOOS relations: outcome from MONITOR Workshop
7. PICES Plankton Monitoring Program
8. ICES/PICES Zooplankton Ecology Workshop
9. Discussion of possible involvement in the Arctic Monitoring and Assessment Programme (AMAP)
10. Proposals for the special topic for PICES Annual Meeting 2000
11. BIO Best Presentation Award
12. Any other business
13. Summary of BIO recommendations for Science Board

BIO Endnote 3

Working Group 11 on Marine Birds and Mammals: Topic Session and Workshop

Topic Session on Prey consumption by higher trophic level predators in PICES regions: implications for ecosystem studies (½-day)

1. Complete review of details of the scientific content of WG11 report and future problems.
2. Role and significance of higher trophic level predators in the PICES Region.

3. How to incorporate marine birds and mammal components to PICES ecosystem study.

Workshop to review the technical basis for estimating the abundance of marine birds and mammals, and the impact of their predation on other organisms (½-day).

BIO Endnote 4

Report of the Study Group incorporating Marine Mammal and Bird expertise into PICES

At PICES VII in Fairbanks, the Science Board recommended, and Governing Council approved (Decision 98/S/4), that WG 11 on Consumption of Marine Resources by Marine Mammals and Seabirds continue its work for one more year to prepare and present a final report at PICES VIII, and simultaneously, a new Study Group be established to propose ways to incorporate marine birds and mammals expertise into the PICES structure and activity. The following terms of reference were suggested:

1. Inter-sessional communication to formulate a plan for incorporation of marine birds and mammals into the PICES structure and activities.
2. Nominate 4 marine mammal and 4 marine bird experts to serve on CCCC Task Teams and be invited to attend PICES VIII.
3. Convene at PICES VIII to finalize recommendations and submit to BIO, CCCC and Science Board.

The Study Group corresponded by e-mail during the year and agreed on the following proposal regarding the formation of a special Advisory Group on Marine Mammals and Birds. Based on the past exchanges, it would seem valuable to have an appropriate marine bird and marine mammal person assigned to each of the CCCC Task Teams. This group of marine bird and mammal

scientists could then be collectively joined in a special Advisory Group to the BIO Committee. This group would meet during the Annual Meetings, its members would be urged to participate in science sessions, and it would have a Chairman or Co-Chairmen to facilitate communication with BIO. The Advisory Group should have a lifespan of 5 years, and be renewed only by vote of BIO. If this effort to integrate bird and mammal scientists into the fiber of PICES is successful, in a few years having a special group for birds and mammals should not be necessary. This approach avoids setting up a permanent Working Group or a new Scientific Committee organized around taxonomic groups.

BIO Committee Advisory Panel on Marine Mammals and Birds

Purpose: To integrate marine mammal and bird research into PICES activities, particularly with regard to the BIO Committee and the CCCC Program. This group would correspond during the year and meet at the PICES Annual Meeting. A chairman for the group will be selected and will be the primary point of contact between the group and other PICES entities. Duration: 5 years, to be renewed only by vote of BIO.

Terms of Reference:

1. Provide information and scientific expertise to BIO, CCCC Program, and,

when necessary, to other scientific and technical committees with regard to the biology and ecology roles of marine mammals and seabirds.

2. Identify important problems, scientific questions, and knowledge gaps in assessing the roles of marine mammals and seabirds in marine ecosystems.

3. Assemble relevant information on the biology of marine mammals and seabirds and disseminate it to the PICES community through reports and symposia.

4. Develop strategies to improve collaborative, interdisciplinary research with marine mammal and birds researchers and the PICES scientific community.

BIO Endnote 5

Topic Session: Recent progress in zooplankton ecology study in PICES regions

Objective: Although zooplankton is an integral component of marine ecosystem, past PICES symposia have largely focused on key species which form a large biomass and are known as important prey organisms for higher trophic level predators. One good example is *Neocalanus* in the subarctic Pacific. However, zooplankton includes diverse taxa about which relatively little is known. There may be unappreciated taxa of significant trophic importance (such as gelatinous zooplankton), about which there is little information currently available for the

subarctic Pacific and marginal seas. This 1-day session invites zooplankton researchers from North Pacific rim countries to review the current status of such organisms within the PICES region, including topics like systematics, distribution, life cycle, production, trophic interaction, genetics, etc. The subject may also be of interest of CCCC.

Convenors: Tsutomu Ikeda (tentative), others to be determined.