

Working Group 26 on *Jellyfish Blooms around the North Pacific Rim: Causes and Consequences*

The second meeting of PICES WG 26 (*Jellyfish Blooms around the North Pacific Rim: Causes and Consequence*) was held October 14, 2012, in Hiroshima, Japan. The meeting was chaired by Dr. Shin-ichi Uye and Dr. Richard Brodeur. The third Co-Chair, Dr. Won-Duk Yoon, was not able to attend. A new Japanese WG member, Dr. Masaya Toyokawa, met with the group for the first time. All PICES member countries were represented at the WG meeting and many prominent jellyfish scientists from ICES member countries also attended and provided useful comments and suggestions. A total of 12 members and 11 observers participated in the meeting (*WG 26 Endnote 1*). The agenda for the meeting can be found in *WG 26 Endnote 2*.

AGENDA ITEM 3

Report on the preparation of the S7: BIO/FIS Topic Session

A brief report on the preparation for, and status of, the 2012 Topic Session on “*Jellyfish in marine ecosystems and their interactions with fish and fisheries*” was presented. The Convenors (Drs. Brodeur, Uye, Yoon, and Song Sun of PICES) and their ICES Co-convenors from Europe (Dr. Chris Lynam of the UK and Dr. Corneila Jaspers of Denmark) received a large number of abstract submissions from the scientific community that filled the day-long session, along with a substantial number of posters. They also received commitments from Dr. Reiji Masuda of Japan, Dr. Monty Graham of the U.S., and Dr. Thomas Doyle of Ireland to present as invited speakers.

AGENDA ITEM 4

Fourth International Jellyfish Bloom Symposium

A request was made by the WG Chairs for PICES sponsorship of the Fourth International Jellyfish Bloom Symposium to be held in Hiroshima, Japan, in June 2013. The request was for travel assistance for 1 or 2 invited speakers. It was decided that the WG would hold a one-day inter-sessional meeting in advance of the symposium to take advantage of the expertise coming to the meeting, including present WG members.

AGENDA ITEM 5

WG report outline and brief report on the current status of writing, and coordination of jellyfish sampling techniques

The remainder of the meeting consisted of discussions on the current state of writing for the WG final report. After brief discussions, the WG made slight modifications to the outline of the report adding several new sections that were deemed useful. The major sections of the WG report are as follows: 1) Introduction and purpose, 2) Life history and population dynamics, 3) Sampling considerations, 4) Spatio-temporal variations of biomass and current bloom conditions in regional seas, 5) Physio-ecological properties, 6) Impacts on marine ecosystems and socio-economics, 7) Reducing jellyfish impacts, and 8) Conclusions and prioritized recommendations for future research. WG members were assigned to each of these sections and the status of writing was presented. Discussions were carried out on how this report might best address the goals and themes of the FUTURE program.

AGENDA ITEM 6

Jellyfish sampling techniques

Presentations were made on four different aspects of sampling methodology (trawling, video, acoustics, sonar imaging) used within PICES for assessment of abundance of jellyfish.

AGENDA ITEM 7

Report on new topics

In a separate but related activity, many of the WG members met with a group of scientists planning to construct ecosystem models for many regions heavily impacted by jellyfish. This project plans to put together holistic ecosystem models for three PICES regions (California Current, Eastern Bering Sea, and ocean off Japan) as well as two non-PICES regions (Gulf of Mexico and Humboldt Current) in the coming years and examine the impact jellyfish have on trophic structure, particularly related to their effect on forage fishes. This work will likely contribute useful information to the management of these ecosystems in the future.

WG 26 Endnote 1

WG 26 participation list

Members

Mary Arai (Canada)
Richard Brodeur (USA, Co-Chairman)
Lucas Brotz (Canada)
Siqing Chen (China)
John Field (USA)
Kyoungsoon Shin (Korea)
Haruto Ishii (Japan)
Jennifer Purcell (USA)
Masaya Toyokawa (Japan)
Shin-ichi Uye (Japan, Co-Chairman)
Zijun Xu (China)
Alexander Zavolokin (Russia)

Observers

Sonia Batten (Canada)
Ik Kyo Chung (Korea)
Ryuji Furukawa (Japan)
Cornelia Jaspers (Denmark)
Martin Lilley (France)
Chris Lynam (UK)
Alenka Malej (Slovenia)
Ryosuke Makabe (Japan)
Chiaki Mizota (Japan)
Yasunori Watanabe (Japan)
Fu Zhilu (China)

WG 26 Endnote 2

WG 26 meeting agenda

1. Opening remarks
2. Introduction of a new member (Masaya Toyokawa, who has replaced the former Japanese member, Hideki Akiyama)
3. Brief report on the preparation of the S7: BIO/FIS Topic Session (1-day) on “*Jellyfish in marine ecosystems and their interactions with fish and fisheries*”
4. Proposal of the involvement of PICES in the Fourth International Jellyfish Bloom Symposium
5. Change in the WG report outline and brief report on the current status of writing
6. Discussion about coordination of jellyfish sampling techniques
7. Brief report on new topics and achievements in jellyfish bloom research in each country
8. Closing remarks