

REPORT OF THE ADVISORY PANEL ON *MARINE BIRDS AND MAMMALS*

The tenth meeting of the Advisory Panel on *Marine Birds and Mammals* (MBM-AP; under the auspices of BIO Committee) was held from 9:00–12:30 hours on October 27, 2010 in Portland, Oregon, U.S.A. The business meeting focused on accomplishments and new directions for the Advisory Panel, and other relevant matters including discussion of possible future workshops and topic sessions.

AGENDA ITEMS 1 AND 2

Welcome and adoption of agenda

Drs. William Sydeman and Hidehiro Kato, Co-Chairmen of MBM-AP, called the meeting to order and welcomed the members and observers (*MBM-AP Endnote 1*). Terms of reference were provided (*MBM-AP Endnote 2*). The agenda was reviewed and approved (*MBM-AP Endnote 3*).

AGENDA ITEM 3

Reports from participants

- a. Dr. Kato (Japan) reported on his activities as the PICES liaison to the International Whaling Commission (IWC) (*MBM-AP Endnote 4*). The AP thanked Dr. Kato for his efforts to integrate PICES science in the IWC science-policy arena, and recommends to BIO that Dr. Kato remain as the PICES liaison.
- b. Dr. Kato presented a summary of Japanese cetacean research in the North Pacific.
- c. Dr. Kaoru Hattori (Japan) presented a summary of Japanese research on Steller's sea lion.
- d. Dr. Seok-Gwan Choi (Korea) presented a summary of marine mammal research in Korean waters. Many marine mammal populations in Korean waters are of concern.

AGENDA ITEM 4

Discussions

a. MBM-AP leadership

Drs. Sydeman and Kato have been Co-Chairmen of the Advisory Panel on *Marine Birds and Mammals* for more than 7 years. Advisory Panel members and observers thanked both Chairmen for their long-term commitment to PICES and their leadership of the Panel. MBM-AP recommends to the BIO Committee that members, Dr. Yutaka Watanuki (Japan, seabirds) and Rolf Ream (U.S.A., mammals), become the new Co-Chairmen of the Advisory Panel, effective immediately. Drs. Sydeman and Kato will remain on the Panel for a period of transition.

b. Future directions

MBM-AP reviewed aspects of the new PICES science program, FUTURE. The Advisory Panel and observers considered how to best contribute to this program, which is focused on:

- i. understanding climate change and anthropogenic impacts on marine ecosystems in the PICES region,
- ii. forecasting future ecosystem change,
- iii. better communications with society.

MBM-AP noted that its primary mission is to provide advice to the PICES community about the role of marine birds and mammals in North Pacific marine ecosystems, especially as related to “top-down” (predation)

controls of marine food webs. Secondly, the Advisory Panel was created to ensure that seabirds and marine mammals are included in PICES-related ecosystem research, including forecasting and communications.

MBM-AP discussed how the many long-term and large-scale datasets on marine birds and mammals in the North Pacific could and should be used in analyses and especially models of marine ecosystem change. It noted that to date, PICES modeling efforts, *e.g.*, NEMURO and NEMURO.FISH, have yet to integrate data on top predators. MBM-AP also concluded that marine birds and mammals often serve as excellent “near real time” indicators of marine ecosystem structure and function, and should be used more in this capacity. The Panel and observers agreed to support and promote the goals of FUTURE in all possible manners.

To facilitate the development of a new and well-defined program on marine birds and mammals, MBM-AP proposed forming 4 sub-committees. These subcommittees will work inter-sessionally to design and articulate their vision and to develop specific plans to meet its objectives and goals. The Panel plans to host a ½-day workshop during the upcoming PICES/ICES ESSAS meeting (Seattle, U.S.A., May 22–26, 2011) to work on developing its vision for the future.

Focal points for MBM-AP were defined as follows:

- Updating, enhancing, and integrating models of prey consumption for top predators in the North Pacific,
- Defining critical habitats and high use areas for top predators in the North Pacific,
- Using marine birds and mammals as indicators of ecosystem change in the North Pacific,
- Conserving threatened and endangered marine birds and mammals in the North Pacific.

MBM-AP is now working to select leadership for each of these focal areas. Leaders will then work with Panel members and observers to develop specific plans for activities for the next 5 years.

c. Workshop and Topic Session ideas

MBM-AP members and observers discussed potential workshops and theme sessions for future PICES conferences, including PICES-2011 in Khabarovsk, Russia. A consensus developed for a theme session on mesoscale variability in key marine structures and ecotones of the western North Pacific, and their importance to top predators (seabirds, marine mammals, and predatory fishes). Drs. Elliott Hazen and Robert Suryan (U.S.A.) volunteered to prepare a description for consideration by the BIO Committee (*MBM-AP Endnote 5*). Co-conveners from MBM-AP will be Drs. Hazen, Suryan, and Watanuki.

MBM-AP Endnote 1.

MBM-AP participation list

Members

Seok-Gwan Choi (on behalf of Korea)
 Hidehiro Kato (Japan, Co-Chairman)
 Oleg Katugin (on behalf of Russia)
 Peter Ross (Canada)
 William Sydeman (U.S.A., Co-Chairman)

Meredith Elliott (U.S.A.)
 Amanda Gladics (U.S.A.)
 Haoru Hattori (Japan)
 Elliott Hazen (U.S.A.)
 George Hunt (U.S.A.)
 Jaime Jahncke (U.S.A.)
 Jarrod Santora (U.S.A.)
 Hiroko Sasaki (Japan)
 Michael Sigler (U.S.A.)
 Robert Suryan (U.S.A.)
 Sarah Ann Thompson (U.S.A.)
 Atsushi Tsuda (Japan)
 Olga Tyurenva (Russia)
 Thomas Van Pelt (U.S.A.)
 Brian Wells (U.S.A.)
 Mikhail Zuev (Russia)

Observers

Beverly Agler (U.S.A.)
 Soeon Ahn (Korea)
 Harold Batchelder (U.S.A.)
 Steven Bograd (U.S.A.)
 William Crawford (Canada)
 Michael Dagg (U.S.A.)
 Kim Dietrich (U.S.A.)
 Ann Edwards (U.S.A.)

MBM-AP Endnote 2

Terms of Reference

1. Provide information and scientific expertise to BIO and the FUTURE Program, and, when necessary, to other scientific and technical committees with regard to the biology and ecological roles of marine mammals and seabirds in the PICES region;
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 scientific reports and symposia;
4. Develop strategies to improve collaborative, interdisciplinary research with marine mammal and seabird researchers and the PICES scientific community.

MBM-AP Endnote 3

MBM-AP meeting agenda

1. Call to order – review agenda (modify as needed)
2. Introductions – meeting participants, new members of PICES community
3. Reports from participants
 - a. Interactions with IWC (Kato)
 - b. Other science reports/issues?
 - c. Status of AP/transition period (Sydeman, Hunt, Dagg)
4. Discussions
 - a. MBM-AP leadership
 - b. New Directions – how can/should MBM-AP contribute to FUTURE? Goals of FUTURE:
 - i. Understanding climate change, anthropogenic effects and ecosystem dynamics
 - ii. Forecasting and forecasting tool development
 - iii. Communicating to society

- c. MBM-AP and PICES-2011 (Russia)
 - i. Workshop suggestions?
 - ii. Theme session suggestions?
 - d. Others ideas?
5. Wrap-up

MBM-AP Endnote 4

PICES Observer Report on the 62nd IWC Scientific Committee Meeting
Hidehiro Kato,
Tokyo University of Marine Science and Technology, Tokyo 104-8477, Japan

The 62nd Scientific Committee (SC) meeting of the International Whaling Commission (IWC) was held from May 30 to June 11, 2010 in Agadir, Morocco. A total of 109 participants from 30 contracting governments, including 54 invited experts and 7 observers from 5 international organizations (CCAMLR, ACCOBAMS, IUCN, NAMMCO and PICES), participated this year's annual meeting. PICES was especially welcomed by the IWC/SC. For the management of cetacean stocks, which is the most important task for the committee, the SC explored improvement of management methods for cetacean stocks after the enforcement of the commercial whaling moratorium in 1985, and had already agreed with the scientific basis of revised management procedure (RMP) in 1996 through long time series by many scientists. The IWC/SC is continuing work on checking its performance and implementation trial of the RMP for the stocks after completion of their comprehensive assessments.

The following sub-committees and working groups have been established under the IWC/SC:

Sub-committees:

- Revised management procedure
- Bowhead, right and gray whales
- In-depth assessment
- Southern Hemisphere whales
- Small cetaceans
- Whale watching

Working groups:

- Aboriginal whaling management procedure
- Stock definition
- By-catch and other human-induced mortality
- Environmental concerns
- Ecosystem modeling
- DNA testing
- IA-North Pacific minke whales.

Every substantial issue discussed at the sub-committee or the working group level then goes to plenary of the committee. After completion of its business at its annual meeting, the IWC/SC presents scientific advice and recommendations to the IWC.

This year, the following topics were noted:

1. RMP implementation

For Revised Management Procedure (RMP) implementation, the IWC/SC has focused on western North Pacific Bryde's whale, North Pacific common minke whale, North Atlantic fin whale and North Atlantic

common minke whale stocks. In the North Pacific region, preparations of the implementation were almost done for Western North Pacific Bryde's whales and commenced for North Pacific minke whales.

2. Comprehensive assessments

Under comprehensive assessments (CA), this year the IWC/SC continued reviewing the stock status of the southern blue and humpback whales, and right whales including the northern and southern hemisphere populations and the Antarctic minke whales, focusing on the comparison of population abundance between different stock assessment models.

3. Management of aboriginal and subsistence whaling

The IWC/SC has managed ongoing aboriginal and subsistence whaling by using the AWMP (Aboriginal and subsistence whaling management scheme) which includes the bowhead whale stocks in the Arctic region, fin whale, minke whale and humpback whale stocks of western Greenland, humpback whale off St. Vincent and the Grenadines, and the eastern stock of gray whales of Chukoto. Through examinations of updated scientific information, the IWC/SC concluded that the present catch levels for these respective stocks would not be harmful.

4. Environment issues

For environment issues regarding cetacean stock management, the IWC/SC has two working groups (E, Environmental concern; EM, ecosystem modeling), and a number of matters related to environmental factors that affect cetaceans were discussed. This year the following issues were reviewed in the E Working Group:

1. Status of the cetacean Environment Report,
2. Review progress in planning for POLLUTION 2000+, Phase II,
3. Review new information on anthropogenic sound,
4. Review progress on work from the 2nd Climate Change Workshop.

For ecosystem modeling, the EM Working Group dedicated its time to three general tasks: (1) reviewing ecosystem models and modeling approaches that were developed outside of the IWC/SC; (2) learning about the Climate Impacts on Oceanic Top Predators (CLIOTOP) project which is a global project implemented under two International Geosphere-Biosphere Programme (IGBP) research programmes: Global Ocean Ecosystem Dynamics (GLOBEC) and Integrated Marine Biogeochemistry and Ecosystem Research (IMBER). CLIOTOP and the IWC share many common scientific interests, including: studying the behaviour, movement patterns and habitat of large predators; developing and applying technology for animal tracking; estimating food consumption rates; understanding and modeling predation by, and competition among, large predators; modeling and acoustic monitoring of prey fields; investigating various approaches to ecosystem modeling; and addressing issues of by-catch. The IWC/SC encourages the establishment of collaborations between the IWC and CLIOTOP.

The IWC/SC also agreed, during the relevant sessions to ecosystem models, that the EM Working Group should be structured around the timetable of RMP assessments and implementations, enabling ecosystem models relevant to a specific stock being assessed to be reviewed prior to the assessment; the North Pacific is the appropriate region for 2011. The Working Group will make efforts during the inter-sessional period to engage researchers involved in the North Pacific Marine Science Organization (PICES) and the North Pacific Research Board (NPRB) to collaborate on primary papers for next year's meeting on how North Pacific ecosystem models can be used to inform the RMP process.

5. North Pacific Sighting survey cruise

It was agreed the comprehensive cetacean sighting survey project would commence in summer 2010 under cooperation between Japan, Republic of Korea and United States under the auspices of the IWC. The project

includes line transect sighting for estimating population abundance, biopsy skin-sampling, and photo ID for stock structure on major large cetaceans. It was also agreed that for the years 2011 onwards, the project will be conducted by the IWC/SC directly as its own middle to long-term research project. A possible survey area to cover entire North Pacific region (north of 30°N) is planned.

6. Other issues

The IWC/SC also covers relevant issues on small cetaceans, whale watching, by-catch, humane-deduced mortality, *etc.*, as in other previous years.

Next year's annual meeting of the IWC/SC will be held at Tromso, Norway for two weeks from May 27 to June 14, 2011. The IWC meeting will take place in the middle to late June 2011 in the United Kingdom, place to be determined.

MBM-AP Endnote 5

**Proposal for a 1-day BIO Topic Session at PICES-2011 on
“Mechanisms of physical-biological coupling forcing biological “hotspots” in the western North Pacific
and western North Atlantic”
(later renamed to “Mechanisms of physical-biological coupling forcing biological “hotspots””)**

This topic session will examine the physical and oceanographic factors that correspond to ecological or economic hotspots in the North Pacific and North Atlantic. Spatially, this session will focus on the Kuroshio/Oyashio extensions and ecotone, the intersection of the Sea of Okhotsk and the western North Pacific (Kuril Islands region), and the Western Bering Sea. For the Atlantic, this session will focus on the intersection of the Gulf Stream and Labrador Current in addition to tidally driven systems such as the Gulf of Maine and Gulf of St. Lawrence. “Hotspots” can broadly be defined as areas encompassing high species diversity, high abundance of individuals, especially of important indicator species, or areas of high economic value. More specifically, we seek interdisciplinary contributions on physical-biological coupling and resulting seasonal or year-round “hotspots” in primary to tertiary productivity. This includes data on physics, phyto- and zoo- plankton, forage fish, and upper trophic level predators (*e.g.*, fish, seabirds, mammals, humans). We are particularly interested in simultaneous multi-species multi-use hotspots (*i.e.*, sites of ecological importance that overlap highly with sites of economic value) and potential changes in hotspots under future climate change scenarios. Modeling and empirical studies are encouraged. We would solicit a special publication in the primary literature pending subscription to the session.

We request funding for conveners, 2 invited speakers (PICES) and 2 invited speakers (ICES).

PICES Committee sponsorship: BIO/POC with potential for FIS

Recommended Co-conveners:

Elliott Hazen, Robert Suryan (U.S.A.)

Suggested: Yutaka Watanuki (MBM co-chair), Ichiro Yasuda (Japan)

Suggested: Oleg N. Katugin, Vladamir Radchenko (Russia-TBD)
(ICES – TBD)

Potential Invited Speakers:

Sei-Ichi Saitoh (Japan)

Jum Nishioka (Japan)

Yuri Artukin (Russia)

Gail Davoren (Canada/ICES)

Per Fauchald (Norway/ICES)

Andrew Pershing (U.S.A./ICES)