Report of the Section on *Marine Birds and Mammals*

The meeting of the Section on *Marine Birds and Mammals* (S-MBM), under the auspices of the BIO Committee, was held from 14:00–17:00 hours on October 18, 2019 in Victoria, BC, Canada. The meeting focused on the current activities of S-MBM and on preparations for the next project associated with the S-MBM terms of reference.

Dr. Patrick O'Hara (Canada) and Dr. Kaoru Hattori (Japan), Co-Chairs of S-MBM, called the meeting to order and welcomed members and observers (***S-MBM Endnote 1***). S-MBM members representing Canada, Japan, Korea and USA were present. S-MBM members from China and Russia did not attend; S-MBM requests better attendance or additional members from China and Russia. S-MBM requests better participation or additional members from China and Russia. The agenda was reviewed and approved (***S-MBM Endnote 2***).

AGENDA ITEM 3
Membership changes

Dr. Liyuan Zhao is a new member, representing China. Dr. Kaoru Hattori completed her first 3-year term (2016-2018) and was approved by Science Board and Governing Council to continue a second term (2019–2021). Dr. Patrick O'Hara term as Co-Chair was from 2017–2019, he was also approved to continue for a second term from 2020–2022.

AGENDA ITEM 4
Reports

a) Dr. Yutaka Watanuki summarized BIO Workshop (W12) on *"Potential food competition between top predators and fisheries in the North Pacific"*. The ½-day workshop was held on October 18, 2019, and involved 6 presentations (including one invited) and facilitated discussion of:
   - Lack of evidence of competition,
   - Mismatch of scale of research,
   - Level of resources where competition is observed,
   - Mechanism of competition,
   - Negative effects: directional or bilateral,
   - How do positive behavioral interactions work?
   - How does prey switching influence competitive interactions?

   A brief report summarizing the presentations and conclusions was prepared by the co-convenors following the workshop (See the W12 summary in Session and Workshop Summaries at PICES-2019 report).

b) Dr. Andrew Trites introduced BIO Topic Session (S13) on *"Implications of prey consumption by marine birds, mammals, and fish in the North Pacific"*. The 1-day session was held over two days, October 22 and 23 2019. One invited, 13 contributed presentations and 2 posters were presented, including 6 for fish presentations, 9 for mammals and 1 for birds. These presentations concentrated on the following topics:
   - Consumption models,
   - Competition with fisheries,
   - Decadal changes in consumption,

- Prey switching,
- Environmental drivers of consumption,
- Spatial variation in consumption,
- Daily food requirements.

A brief report summarizing the presentations and conclusions was prepared by the co-convenors following the workshop (See the S13 summary in Session and Workshop Summaries at PICES-2019 report).

c) Participants reported past and future meetings related to S-MBM activities. Notable symposia include:
- Annual Meeting of Pacific Seabird Group held in Hawaii, USA from February 27 to March 2, 2019, and next meeting will be held in Portland, USA from February 12–15, 2020;
- World Seabird Conference will be held in Hobart, Australia from October 19–23, 2020, and overlapping with PICES-2020;
- World Marine Mammal Conference will be held in Barcelona, Spain from December 9–12, 2019;
- Salish Sea Ecosystem Conference will be held in Vancouver, Canada from April 19–22, 2020;
- Alaska Marine Science Symposium will be held in Anchorage, USA from January 27–31, 2020.

d) Participants reported linkages with other groups in PICES.
- W8: BIO Workshop on *"Synthesis of bio-acoustics programs for monitoring zooplankton and fisheries in the North Pacific"* addressed good ecological questions related to marine birds and mammals.
- *"Marine transportation"* covered in HD Topic Session S4 (*The impacts of marine transportation and their cumulative effects on coastal communities and ecosystems*) and *"Plastic pollution"* covered in MEQ Topic Session S7 (*Environmental indicators of plastic pollution in the North Pacific*) are important threats to marine birds and mammals. S-MBM will keep connection with these topics.
- Dr. William Sydeman, representing WG 35 on *Third North Pacific Ecosystem Status Report*, reported that the review process of regional reports was continuing, and reminded reviewers from S-MBM to submit their results.
- S6: FUTURE Topic Session on *"Identifying thresholds and potential leading indicators of ecosystem change: The role of ecosystem indicators in ecosystem-based management"* and W17: BIO Workshop on *"Scoping an IEA of the Northern Bering-Chukchi Seas LME"* were clearly linked to S-MBM, and we will support their activities.

e) Dr. Tsutomu Tamura provided a report on the 2019 International Whaling Commission Scientific Committee (IWC/SC) meeting in Nairobi, Kenya (***S-MBM Endnote 3***). Japan has withdrawn from IWC, but Dr. Tamura will continue as observer, representing PICES.

AGENDA ITEM 4
Discussions

a) *Review of Terms of Reference*

S-MBM reviewed current Terms of References (***S-MBM Endnote 4***) and agreed to propose removing two words "when requested" on the 1st paragraph.

b) *Review 2020 Topic Session/Workshop proposals*

No sessions or workshops were proposed for PICES-2020 because of conflicts with the World Seabird Conference (see Agenda Item 4c).

Support of other expert groups, other sessions, and other workshops such as "*Marine transportation*" (such as S4)", *"Plastic pollution*" (such as S7), "*Bio-acoustics*" (such as W8)" and "*Bering/Chukchi LME*" (such as W17), will continue at PICES-2020.

c) *S-MBM project*

Members reviewed the 2015–2020 S-MBM project "*Climate and Trophic Ecology of Marine Birds and Mammals*" and listed drafted chapters for the PICES Scientific Report as final products of the project. The draft will be prepared for PICES-2020, including diets and consumption of mammals, case study in breeding birds in EEZ Japan, and updated tables from Hunt *et al*. (2000).

A future five-year project (2021–2025) was discussed with a focus on the "Interaction between MBMs and other ecosystem components and stressors." This will include important sub-themes such as:

- Forecasting changes in forage species and response of top predators,
- Marine birds and mammals as ecological indicators and predictors of changing marine ecosystems.

We will continue discussing ideas for this new focal project before PICES-2020, and submit a proposal to BIO at PICES-2020.

S-MBM Endnote 1

S-MBM participation list

Members

Kaoru Hattori (Japan, Co-Chair)
Patrick D. O'Hara (Canada, Co-Chair)
Douglas F. Bertram (Canada)
Elliott L. Hazen (USA)
Miran Kim (Korea)
Ken Morgan (Canada)
Willam Sydeman (USA)
Tsutomu Tamura (Japan)
Andrew W. Trites (Canada)
Yutaka Watanuki (Japan)

Members unable to attend

China: Shuai Chen, Wei Lei, Xuelei Zhang, Liyuan Zhao
Korea: Yong-Rock An, Hyun Woo Kim
Russia: Alexander I. Boltnev, Vjatcheslav P. Shuntov, Andrey Vinnikov
USA: Rolf Ream

Observers

Kathy Kuletz (USA)
Hiroko Sasaki (Japan)

S-MBM Endnote 2

S-MBM meeting agenda

1. Call to order – Review Agenda (modify as needed)
2. Introductions
3. Membership changes
3. Reports from participants
    a) Report of W12 on "Food Competition" (Y. Watanuki)
    b) Introduction of S13 on "Prey Consumption" (A. Trites)
    c) International Symposium related to S-MBM activities
    d) Link with other groups during this meeting
    e) Report of IWC activities (T. Tamura)

4. Discussions
   a) Review S-MBM Terms of Reference and change
   b) Review 2020 Topic Session and Workshop proposals
   c) Review 2019 Topic Session and workshop proposal ideas
   d) 2015–2019 S-MBM project
      - ✓ Final products on 2015-2019 project "Climate and Trophic Ecology of Marine Birds and Mammals (Lead by A Trites), Phase 1"
      - ✓ A new focal project in 2020-2023 "Climate and Trophic Ecology of Marine Birds and Mammals, Phase 2" or others

S-MBM Endnote 3

PICES Observer Report on the 2019 IWC Scientific Committee Meeting

Tsutomu Tamura

The Institute of Cetacean Research, 4-5, Toyomi-cho, Chuo-ku, Tokyo, 104-0055, Japan

The 68a Scientific Committee (SC) meeting

Meeting place: Nairobi, Kenya

Meeting period: May 7–23, 2019

Chair: Robert Suydam

Participants: 60 national delegates, 53 invited participants (IP), 1 observer, 1 local scientist, 4 representatives of specified intergovernmental organizations, and 13 IWC Secretariat staff

Under the IWC/SC, following ten sub-committees, four working groups and two *Ad hoc* Working Group were established in this year:

- Sub-Committees
  1. *Implementation Reviews and Simulation Trials**
  2. In-depth Assessment (IA)
  3. Northern Hemisphere whale stocks (NH)
  4. Other Southern Hemisphere whale stocks (SH)
  5. Small Cetaceans (SM)
  6. Whale Watching (WW)
  7. Aboriginal Subsistence Whaling (AS)
  8. Conservations Management Plans (CMP)

*Sub-committee on *Implementation Reviews and Simulation Trials*, which includes the work of the former sub-committee on the RMP (Revised Management Procedure)

- Working Groups
  1. Stock Definition/DNA testing (SD/DNA)
  2. Ecosystem Modelling Approaches (EM)
  3. Abundance Estimates, Stock Status and International Cruises (ASI)

4. Non-Deliberate Human-Induced Mortality of Cetaceans (HIM)
5. Environmental Concerns (E)

- *Ad hoc* Working Groups
  1. Sanctuaries

Every substantial issue was discussed once at the sub-committees or the working group (9 days) level and then went to plenary of the committee (3 days).

- *Implications to the SC of Japan's Withdrawal from the IWC*
  Japan announced on December 26, 2018 its intention to withdraw from the IWC effective June 30, 2019. Further details were provided on the first day of plenary when Japan noted its willingness to engage with the Scientific Committee in the future (SC/68A/04, Appendix 1 in this paper). Japan has indicated that it wishes to continue to participate in future SC meetings as an observer and this was welcomed.

- *Implementation Reviews and Simulation Trials: Sub-Committee*
  The Revised Management Procedure (RMP) is the process developed by the IWC's Scientific Committee to estimate sustainable catch limits for commercial whaling of baleen whales. The RMP has two stages. The first is the *Catch Limit Algorithm* (*CLA*). The same *CLA* is used for all whale species and all areas. This is a mathematical formula which requires only the two most reliable pieces of information (abundance estimate of whales and past catch numbers) to calculate a safe catch limit. The second stage of the RMP is known as *Implementation* or *Implementation Review*. This is a review of all the available information on all the populations of a single species within a specific region (usually an ocean basin, for example the North Atlantic), at a particular time. The following topics are related to the North Pacific matters.

  1. The *Implementation Review* for common minke whales in the western North Pacific was initiated at last year's meeting, and the first Intersessional Workshop was held in Tokyo from February to March 2019. Discussions focused on the three-stock structure hypotheses agreed at the Workshop.

  2. The *Implementation Review* for the North Pacific Bryde's whales was completed in 2019. Two-stock structure hypotheses were taken forward, one of the four considered during the 2007 Implementation and one new hypothesis (Figure 1).
     (a) Hypothesis 2: There are two stocks, one feeding in sub-area 1 and the second feeding in sub-area 2.
     (b) Hypothesis 5: There are two stocks, one feeding in sub-area 1 and the second feeding in sub-area 2 with mixing occurring in sub-area 1E. There are more animals from stock 1 than stock 2 in the mixing area.

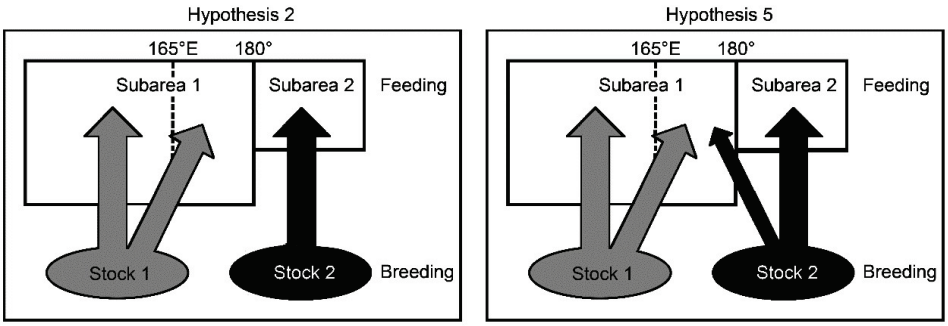

Figure 1. The two hypotheses considered in the *Implementation Simulation Trials* of Bryde's whale in the North Pacific.

Because of Japan's withdrawal from the ICRW, the Committee has agreed that rather than continue work on common minke whales in an RMP context, the work would continue as a Comprehensive Assessment from next year.

- In-depth assessment (IA): Sub-Committee
  In this Sub-Committee, the in-depth assessment of several whale species is discussed. An in-depth assessment includes the examination of current stock size, recent population trends, carrying capacity and productivity. The following topics are related to the North Pacific matters.

  1. The Committee agreed to postpone the *Implementation Review* for North Pacific gray whales until the 2020 meeting.
  2. Work towards a Comprehensive Assessment of humpback whales in the North Pacific began in 2016, and included an intersessional workshop held in 2017. A simplified aggregated assessment model and four potential stock structure hypotheses were proposed in this year.

- Scientific Committee Plenary, including sessions on Special Permits (SC/SP): Sub-Committee
  SC/SP discussed proposals and results of research programs that accompany lethal methods in accordance with Article VIII of the International Convention for Regulation of Whaling.

  1. The Special Permit (SP) group's meeting was shorter this year and will be eliminated next year because of Japan's withdrawal as an IWC Contracting Government. The several documents regarding to JARPNII, NEWREP-NP and NEWREP-A were discussed in relevant sub-groups in this year. Any future documents arising out of the analyses of data from special permit catches will be discussed in relevant sub-groups next year.

- Aboriginal Subsistence Whaling (AS): Sub-Committee
  In this Sub-committee, stock structure, movement, and management advice of Bowhead and gray whales was discussed. The following is related to the North Pacific matters.

  1. The Committee agreed that the Gray Whale SLA (Strike Limit Algorithm) remains the best available way to provide management advice for the gray whale. Next *Implementation Review* will be started in 2020.

- Abundance Estimates, Stock Status and International Cruises (ASI): Working group
  North Pacific Sighting survey cruise (IWC-POWER): The IWC-POWER (North Pacific Ocean Whale and Ecosystem Research) program is an international collaborative effort coordinated by the IWC and Japan. The project includes line transect sighting for estimating population abundance and biopsy skin-sampling and photo ID for stock structure on major large cetaceans. It started in 2010. The Committee endorsed the 2019 POWER cruise conducted in the Gulf of Alaska from July to September (Figure 2). (The 2019 POWER cruise was expected to occur in the western Bering Sea, but there were difficulties in obtaining a permit to survey in Russian waters). Although Japan withdrew from ICRW, it indicated it wishes to continue providing a vessel and crews for future cruises.

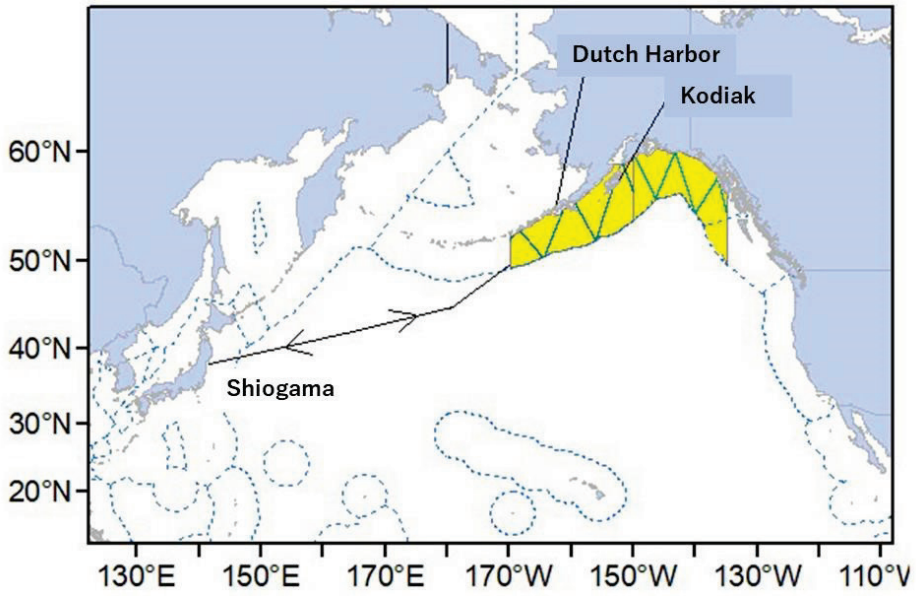

Figure 2. Survey strata and proposed trackline for POWER-cruised in 2019.

- Other matters
  The SC also covers the other Sub-Committees and Working Groups such as environmental concerns, small cetaceans, whale watching, by-catch and humane deduced mortality *etc*. The 2019 Scientific committee report of IWC can be downloaded at https://archive.iwc.int/pages/view.php?ref=9570&k=.

  This was the first year of office for the Chair (Robert Suydam, USA) and the Vice-Chair (Alex Zerbini, Brazil)

- 2020 Schedule
  Scientific Committee (SC/68b) meeting, May 12–24, 2020 (Cambridge, UK). The 2020 Schedule information can be downloaded at https://iwc.int/sc68b.

Appendix. Statement from Japan regarding Japan's withdrawal from IWC

Annex U

Statement from Japan Regarding Japan's Withdrawal from IWC

Last December, Japan notified its withdrawal from the International Convention for the Regulation of Whaling (ICRW) in accordance with Article 11 of the Convention. The withdrawal will become effective on 30 June this year (2019), and Japan will resume sustainable whaling from 1 July (2019) in its exclusive economic zone and coastal waters.

This statement explains the background for the withdrawal and Japan's future involvement in the work of the Scientific Committee.

1. Background for the Withdrawal

Since the adoption of 10(e) of the Schedule, so-called "commercial whaling moratorium" in 1982, IWC had been engaged in numerous negotiations in order to find some solutions for resolving the conflicts caused by the different positions among its members regarding whales and whaling. However, such efforts have all failed. Japan has been engaged in the negotiations with a spirit of compromise and science-based discussions. Japan regrets that the sincere attempts was met with the absolute position of zero tolerance to whaling insisted by some Member States. At the last IWC Commission meeting held in Brazil last year, Japan submitted a proposal for co-existence of different positions within IWC. This was substantial compromise by Japan but it was denied. It was clearly demonstrated that the co-existence of Member States with different views on whales and whaling cannot be materialized at the current IWC. After thorough examination of the result of the IWC67 meeting, Japan made a difficult decision of the withdrawal.

2. Japan's future involvement in the work of the Scientific Committee

Japan remains committed to international cooperation for the proper conservation and management of marine living resources including cetaceans, and in this regard, will continue its participation in and scientific contribution to SC as an observer.

Following the resumption of commercial whaling within its EEZ and coastal waters, Japan will cease its two whale research programs: NEWREP-A and NEWREP-NP. Japan will however continue research programs with non-lethal methods in both the North Pacific and the Antarctic Oceans, collect fisheries-dependent scientific data through commercial whaling, and provide SC with scientific findings derived therefrom. In addition to those scientific data, standard statistics in relation to commercial whaling will be duly provided. As for the data collected through its special permit programs (JARPA I & II, NEWREP-A, JARPN I & II and NEWREP-NP), Japan will continue to be engaged in their analyses and provide SC with scientific findings thereon. Japan will maintain provision of access to those data and samples in accordance with relevant protocols.

Japan is prepared to continue the IWC-POWER Program which has long provided SC with critical scientific information. A research vessel and crew will be provided as was in the past.

Japan will only harvest those species whose populations have been assessed by the SC as abundant: i.e. minke, Bryde's and sei whales. The catch limits will be calculated in accordance with the Revised Management Procedure (RMP), taking into account relevant scientific progress achieved by SC such as outputs from the *Implementation Reviews* and *In-depth Assessment*. Japan reiterates its intention to continue to engage with SC in the conservation and management of cetaceans. Japan will duly provide SC with scientific information of the catch limits by July 2019.

Finally, Japan has long been contributing to SC's activities through the provision of the wide range of scientific findings including those from its whale research programs. It is Japan's strong belief that its contribution to SC will continue to be essential for the materialization of the very basic objective of ICRW: promotion of proper conservation and sustainable use of whale resources.

S-MBM Endnote 4

S-MBM Terms of Reference

(**bold strikethrough** indicates 2019 revisions)

1. Provide information and scientific expertise to the PICES community and the FUTURE program, as well as to BIO and other scientific and technical committees ~~**when requested**~~, about the biology and ecological roles of marine birds and mammals (MBMs) in the PICES region;

2. Identify important problems, scientific questions, and knowledge gaps for understanding the impacts of climate change and anthropogenic factors on MBMs and ecosystems in the PICES region through Workshops, Topic Sessions and Scientific Reports;

3. Assemble information on the status and key parameters of MBMs, and contribute to the Status Reports and Outlooks—and improve collaborative, interdisciplinary research with MBM experts and the PICES scientific community.