

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 9:00–17:00 hours on October 28, 2018 in Yokohama, Japan. The meeting focused on the current activities of S-MBM and on preparations for activities associated with the S-MBM project.

Dr. Kaoru Hattori (Japan), Co-Chair 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. The agenda was reviewed and approved (*S-MBM Endnote 2*).

AGENDA ITEM 3

Reports from participants

- a) Dr. Andrew Trites and Dr. Rob Suryan introduced W7: BIO Workshop on “*Diets, consumption, and abundance of marine birds and mammals in the North Pacific*” held October 25, 2018. In the Morning Session, 3 case studies and 3 contributed presentations were presented, including discussion about estimates of prey consumption by marine birds and mammals in PICES regions. In the Afternoon Session, two groups (birds and mammals) formed Breakout Groups to review data tables and the Closing Session to obtain consensus among workshop participants. It was a very productive workshop focusing on prey consumption for marine birds and mammals.
- b) S-MBM members attended the following meetings related to S-MBM activities, including:
 - Annual Meeting of Pacific Seabird Group in La Paz, Mexico, February 21–24, 2018;
 - PICES International Symposium on “*Understanding changes in transitional areas of the Pacific*” held in La Paz, Mexico, April 24–28, 2018;
 - Workshop (W7) on “*What do seabirds reveal about the effects of climate change on the World’s Oceans?*” at 4th International Symposium on “*The effects of climate change on the World’s Oceans*”, Washington, DC, USA, June 4–8, 2018.
- c) Dr. Elliot Hazen, representing, the Working Group on *Common Ecosystem Reference Points* (WG 36), suggested that having a time series from S-MBM would be particularly helpful for contributing to a WG 36 practical workshop, and topic session at the next Annual Meeting.
- d) Dr. William Sydeman, representing the Working Group on *Third North Pacific Ecosystem States Report* (WG 35), requested examples from S-MBM (population health or numbers) from each region to update the status report.
- e) Dr. Matthew Savoca, representing the Study Group on *Marine Microplastics*, reported on their activities and requested S-MBM collaboration to look at contaminants and microplastic in the diets of seabirds and marine mammals. Dr. Yutaka Watanuki offered to participate.
- f) Dr. Suryan mentioned possible S-MBM connections with the joint PICES/ICES/PAME Working Group *an Integrated Ecosystem Assessment for the Central Arctic Ocean* (WG 39) would be important as well. He offered to be a potential liaison to this group.

- g) Dr. Sydeman also mentioned connections with the Section on *Climate Change Effects on Marine Ecosystems* (S-CCME) should be made stronger. Dr. Watanuki and Dr. Hazen offered to be potential liaisons.
- h) Dr. Tsutomu Tamura provided his report on the 2018 International Whaling Commission Scientific Committee (IWC/SC) meeting in Bled, Slovenia (**S-MBM Endnote 3**). S-MBM members discussed the opportunity to analyze contaminants from biopsies, but currently there are no plans to go about that.
- j) Dr. Yasuko Suzuki, representing BirdLife International, reported their activities related to seabird bycatch. Seabird colony data and overlap with the gillnet fisheries project is starting through to March 2020. In collaboration with Watanuki, they are working on updating the IBAs (important bird areas) with newer data.

AGENDA ITEM 4

Discussions

a) *Review of Terms of Reference*

S-MBM reviewed its current Terms of Reference and debated removing the words “when requested” from the first TOR. The importance of bycatch was also discussed and it was decided that a term like “spatial risk” could be included so as not overly focus on the issues with bycatch. In both cases, S-MBM decided to leave the TORs as they stand.

b) *Review Sea Turtle Project*

S-MBM reviewed and discussed the proposed Sea Turtle special project at the request of the BIO Chair, Dr. Se-Jong Ju. Dr. Hyun Woo Kim, representing this project, provided details and answered any questions from members. S-MBM supports the project.

c) *Review 2019 Topic Session/Workshop proposal ideas*

Dr. Trites submitted a proposal for a Topic Session on “*Implications of prey consumption by marine birds, mammals, and fish in the North Pacific*” for PICES-2019 (**S-MBM Endnote 4**) as the culmination of a 4-year project to document diets and estimate amounts of prey consumed by marine birds and mammals in the North Pacific.

Dr. Watanuki submitted a proposal for a Workshop on “*Potential food competition between top predators and fisheries in the North Pacific*” for PICES-2019 (**S-MBM Endnote 5**) to review and discuss the best scientific approaches to document resource competition between top predators and fisheries. This workshop will contribute to S-MBM’s project and to WG 35.

d) *2015–2019 S-MBM project*

S-MBM reviewed Phase 1 activities and agreed that: 1) Phase 1 is nearing completion and 2) the topic session proposed for PICES-2019 should focus on the final products with publications. For PICES scientific report, the marine mammal group, led by Dr. Trites, will follow the format of Hunt *et al.* (2000; PICES Sci. Rep. No. 14) regarding a potential list of papers. The marine bird group will update of the tables in Hunt *et al.* (2000) and provide a chapter focused on the ability to estimate marine bird populations, using case studies.

Phase 2 will be the next plan for 2020–2023, and S-MBM agreed on the need to develop a good plan for presentation and evaluation by BIO and the next stage of FUTURE. A potential idea for next project could be on the “*Interaction between MBMs and other ecosystem components*”. S-MBM will discuss the next Phase in more detail at PICES-2019.

S-MBM Endnote 1

S-MBM participation list

Members

Kaoru Hattori (Japan, Co-Chair)
 Elliott L. Hazen (USA)
 Hyun Woo Kim (Korea)
 Miran Kim (Korea)
 Ken Morgan (Canada)
 Willam Sydeman (USA)
 Tsutomu Tamura (Japan)
 Andrew Trites (Canada)
 Yutaka Watanuki (Japan)

Observers

Yoko Goto (Japan)
 Mijin Hong (Korea)
 Motohiro Ito (Japan)
 Hiroko Sasaki (Japan)
 Mei Sato (Canada)
 Matthew Savoca (USA)
 Robert Suryan (USA)
 Yasuko Suzuki (Japan)

Members unable to attend

Canada: Douglas Bertram, Patrick O’Hara
 China: Shuai Chen, Enyuan Fan, Wei Lei, Xuelei Zhang
 Korea: Yong-Rock An
 Russia: Alexander Boltnev, Vjatcheslav Shuntov, Andrey Vinnikov
 USA: Rolf Ream

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 W7 on “Birds and mammal diets” (A Trites and R Suryan)
 - b) International Symposium related to S-MBM activities
 - c) Link with other groups during this meeting
 - d) Report of IWC activities (T Tamura)
 - e) Introduction of BirdLife’s activities related to seabird bycatch (Y Suzuki)
4. Discussions
 - a) Review S-MBM Terms of Reference and change
 - b) Review Sea Turtle Project
 - c) Review 2019 Topic Session and workshop proposal ideas
 - d) 2015–2019 S-MBM project

S-MBM Endnote 3

PICES Observer Report on the 2018 IWC Scientific Committee Meeting

Tsutomu Tamura

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The 67th Scientific Committee (SC) meeting

Meeting place: Bled, Slovenia

Meeting period: April 24 to May 6, 2018

Chair: Caterina Fortuna

Participants: 117 national delegates, 90 invited participants (IP), 3 representatives of specified intergovernmental organizations, and 20 staff IWC Secretariat

The IWC/SC consisted of the following ten sub-committees, four working groups and two *ad hoc* Working Group this year:

- Sub-Committee
 1. Revised Management Procedure (RMP)
 2. In-depth Assessment (IA)
 3. Scientific Committee Plenary, including sessions on Special Permits (SC/SP)
 4. Other Northern Hemisphere whale stocks (NH)
 5. Other Southern Hemisphere whale stocks (SH)
 6. Small Cetaceans (SM)
 7. Whale Watching (WW)
 8. Conservation Management Plans (CMP)
 9. Non-Deliberate Human-Induced Mortality of Cetaceans (HIM)
 10. Environmental Concerns (E)
- Working Groups
 1. Aboriginal Whaling Management Procedure (AWMP)
 2. Stock Definition/DNA testing (SD/DNA)
 3. Ecosystem Modelling (EM)
 4. Abundance Estimates, Stock Status and International Cruises (ASI)
- *Ad hoc* Working Groups
 1. Photo-ID
 2. Sanctuaries

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

- Revised Management Procedure (RMP): 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 Sub-Committee noted that discussion of stock structure for western North Pacific minke whales by the SD working group. The *Implementation Review* for western North Pacific minke whales will start in 2019.
 2. The *Implementation Review* for the North Pacific Bryde’s whales was held in February, 2018. The Workshop made considerable progress. It reviewed the new information relevant to stock structure and agreed to take forward two stock structure hypotheses. Work had begun by updating the previous Implementation Simulation Trials for the North Pacific Bryde’s whales to include the new hypotheses and trials, as well as estimated additional variance. The *Implementation Review* will be completed in 2019.

- 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 IWC’s second workshop on the Comprehensive Assessment of North Pacific Humpback Whales was planned for 2018. Unfortunately, this workshop was postponed.
 2. The Committee **agrees** to proceed with assessment modelling for North Pacific sei whales based on two alternative hypotheses – a single stock and 5-stocks, though the evidence for the latter is weak.

- Scientific Committee Plenary, including sessions on Special Permits (SC/SP): Sub-Committee
 The SC/SP discusses proposals and results of research programs that accompany lethal methods in accordance with Article VIII of the International Convention for Regulation of Whaling.
 1. In 2018, the Sub-Committee discussed JARPNII, NEWREP-NP and NEWREP-A. Tables were constructed showing a detailed update on progress regarding previous recommendations.

- Aboriginal Whaling Management Procedure (AWMP): Working Group
 This Working Group looks at stock structure, movement, and provides management advice on Bowhead and gray whales. 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.

- Abundance Estimates, Stock Status and International Cruises Stock Definition and DNA testing: Working Group

1. North Pacific Sighting survey (IWC/POWER): The project includes a 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 2018 POWER cruise was conducted in the central Bering Sea from July to September.

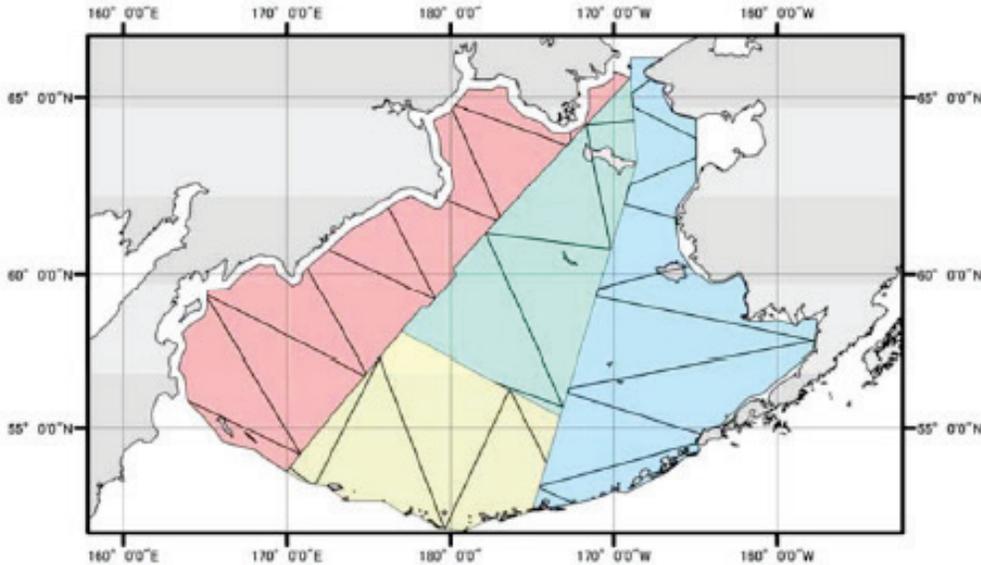


Figure 1. Survey strata and proposed tracklines for the POWER cruise for the period 2017–2019. In 2018, the central (green and yellow) block was covered.

- 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. The 2018 Scientific Committee report of IWC can be downloaded from <https://archive.iwc.int/pages/search.php?search=%21collection73&k>

This was the final year of office for the SC Chair (Dr. Caterina Fortuna) and the Vice-Chair (Dr. Robert Suydam). In accordance with its Rules of Procedure, the Vice-Chair becomes the new Chair for the next three years. The Committee elected Dr. Alex Zerbini (Brazil) to be the new Vice-Chair by consensus.

- 2019 Schedule

1. The RMP workshop on the *Implementation Review* of western North Pacific minke whales, February 25–March 1, 2019 (Tokyo, Japan);
2. Scientific Committee (SC/68a) meeting, May 7–23, 2019 (Nairobi, Kenya).

S-MBM Endnote 4

**Proposal for a Topic Session on
 “Implications of prey consumption by marine birds, mammals, and fish in the North Pacific”
 at PICES-2019**

Duration: ½-day

Conveners: A.W. Trites (Canada), R. Suryan (USA), T. Tamura (Japan), K. Holsman (USA)

Consumption by marine birds, mammals and fish has implications for ecosystem health and sustainability of fisheries. It has the potential to induce trophic cascades and influence the dynamics of species sought by fisheries—and has bearing on how fish, seabirds and marine mammals will adapt to climate change. However, there is uncertainty about how much they currently consume, how their consumption has changed over time, and whether or not they compete with fisheries and impede the recovery of species. This topic session invites papers that address 1) decadal changes in prey consumption by marine birds, mammals and fish, 2) direct and indirect effects of consumption on food webs and species recovery, 3) impacts of climate change and inter-annual variability on food consumption, 4) the influence of prey quality on the health and dynamics of top predators, and 5) potential competitive interactions between fisheries and marine birds, mammals and fish. This session is the culmination of a 4-year project to document diets and estimate amounts of prey consumed by seabirds and marine mammals in the North Pacific. Presenters will be encouraged to submit manuscripts from this session to a special issue being proposed in a leading scientific journal.

Publication: We propose to submit papers presented at our session to a special issue on *Implication of Prey Consumption by Marine Birds, Mammals and Fish*. Possible journals are *Deep Sea Research II* or *Marine Ecology Progress Series*. Session conveners will be editors of the special issues. A minimum of 15 papers (birds, mammals and fish) are expected for publication.

S-MBM Endnote 5

**Proposal for a Workshop on
 “Potential food competition between top predators and fisheries in the North Pacific” at PICES-2019**

Duration: ½-day

Conveners: Y. Watanuki (Japan), W. Sydeman (USA), E.A. Logerwell (USA), A. Trites (Canada)

Suggested invited speaker: Richard Sherley (South Africa)

Potential of resource (food) competition between large predatory fish, marine mammals, seabirds, and fisheries is a long-standing concern in many marine ecosystems globally, but is extremely difficult to study and document. These top predators and fisheries may target similar resources (e.g., small pelagic fish and euphausiid crustaceans), but simple overlap in prey species, consumptions and landings is insufficient to document competition. For example, changes in the forage fish and mesozooplankton populations targeted by both fisheries and upper trophic level predators may be primarily forced by climate more so than consumption by top predators or harvest by fisheries. In this workshop, we seek presentations on the evidence and the non-evidence of resource competition between large predatory fish/squids, marine mammals, seabirds, and fisheries within PICES regions. We will review these works and conduct discussions on the best scientific approaches to document resource competition between these top predators and fisheries. This workshop will contribute to S-MBM program on Climate and the Trophic Ecology of Marine Birds and Mammals, production of comprehensive PICES North Pacific Ecosystem Status Reports, as well as interface with the fundamental goals of FUTURE to understand and predict the interaction of climate and anthropogenic factors on marine ecosystems.