
Editorial

Welcome to this the supplement to the twenty-first volume of the *Journal of Cetacean Research and Management*.

This supplement to the Journal contains the Report of the Scientific Committee from its Annual Meeting held from 10-23 May 2019 in Nairobi, Kenya. The meeting was attended by over 130 participants, including 52 invited participants; 28 member nations were represented. It also contains the reports of four intersessional meetings:

- (1) the Report of the 2018 Meeting of the IWC-POWER Technical Advisory Group (TAG) held in October 2018 in Tokyo, Japan;
- (2) the Report of the Planning Meeting for the 2019 IWC-POWER Cruise, held in October 2018 in Tokyo, Japan;
- (3) the Report of the Joint US Office of Naval Research, International Whaling Commission and US National Oceanic and Atmospheric Administration Workshop on Cetacean Tag Development, Tag Follow-up and Tagging Best Practices, held in September 2017 in Silver Spring, Maryland, USA; and
- (4) the Final Report of the First Intersessional Workshop on the *Implementation Review* for Western North Pacific Minke Whales, held in February 2019 in Tokyo, Japan.

The Commission meeting associated with this Scientific Committee meeting is planned to be held from 25 September-2 October 2020 in Portorož, Slovenia (including sub-group meetings) and will be numbered IWC/68. This report and the report of the next Scientific Committee meeting (SC/68B, which will be held virtually with a more limited agenda due to the Covid-19 situation from 11 May-25 May 2020) will both be presented to IWC/68.

This year the Scientific Committee report continues with the format which shows recommendations and agreements more clearly. Since the Commission meeting in 2014 there has been discussion on the adoption of a better way to deliver Scientific Committee advice. The Scientific Committee Chair, Vice-Chair and Head of Science have therefore developed a consistent template for recommendations which means that they should be understandable even if read alone. An example and explanation is given below.

Attention: SC, C-A

The Committee **agrees** that after the meeting and before the Scientific Committee report is published on the IWC website, the Chair and Head of Science should develop a template to highlight advice, agreements and recommendations and identify, in their judgement, the primary intended recipients (of course it is recognised that in a general sense, the whole report provides advice to the Commission). The template is as follows:

- (a) important action items, agreements and recommendations are highlighted by placing them between lines and (in the main report only) shading the text; and
- (b) the header of the paragraph provides information on the primary intended recipients in the judgement of the Chair and Head of Science, using the following codes: S=Secretariat; SC=internal to the Scientific Committee, G=general scientific recommendation; C-A=advice to the Commission; C-R= recommendation to the Commission; CC=relevant to the Commission's Conservation Committee; AWS=relevant to the Commission's Aboriginal Subsistence Whaling sub-committee; CG-A=advice to a Contracting Government or Governments; CG-R=recommendations to a contracting government or governments.

Many topics were discussed in Nairobi of which only a very brief summary is given below. Full details of the large amount of work undertaken can be found in the Report of the Scientific Committee and its many sub-groups in this supplement. The Scientific Committee is now working to a two-year work plan in line with the Commission's biennial meetings; the Reports of the Scientific Committee will reflect this change. To pave the way to this process many of the sub-groups have been altered or had their remits changed. In addition, some delegations were unable to attend the 2019 meeting that was also the final meeting at which Japan was a member of the IWC.

The Committee continued its work on matters related to the Revised Management Procedure (RMP). The RMP was developed to establish a precautionary way to evaluate anthropogenic removals in the light of potential future commercial catches (there is a moratorium on commercial catching of whales in force). The objectives for commercial catches were established by the Commission with the highest priority being to ensure that no catches would be allowed if there was a possibility that the populations subject to exploitation were below 10% of the level at which maximum sustainable yield might be obtained (i.e. 54% of the unexploited population size). There is a focus on fully taking into account scientific uncertainty when providing advice and the approach developed is now being used increasingly for the management of other marine species (often termed 'Management Strategy Evaluation, MSE'). In 2019 the Committee was pleased to report it has completed the *Implementation Review* for Western North Pacific Bryde's whales. Although progress was made with respect to an *Implementation Review* for Western North Pacific common minke whales in 2019, with the withdrawal of Japan from the IWC it was agreed that this would now become an in-depth assessment with a focus on the effect of bycatches and the status of J-stock(s).

'Aboriginal subsistence whaling' is regulated by the IWC in several parts of the world. In 2018, the Committee completed its MSE work to develop advice on safe hunting limits using individual *SLAs* (*Strike Limit Algorithms*) for all hunts and complete outstanding aspects of an Aboriginal Whaling Management Scheme (AWS), including how to handle 'carryover' of unused

strikes. During this process, which was adopted by the Commission, it was agreed to develop one more *SLA* for the small hunt of common minke whales off East Greenland. This was completed in 2019 and preparations were made for an *Implementation Review* of North Pacific gray whales in 2020.

The Committee continued its work to assess the status of whale stocks not subject to directed takes. The first time this occurs for a species in an ocean basin it is called a 'Comprehensive Assessment (CA)' and subsequent assessments are known as 'in-depth' assessments. The principles developed during the RMP/AWMP development process incorporating uncertainty are followed. In 2019, progress was made on two ongoing CAs: North Pacific humpback whales and North Pacific sei whales. Progress on preparations for future assessments were made for a number of species/regions including non-Antarctic Southern Hemisphere blue whales, southeast Pacific blue whales, North Pacific blue whales, North Atlantic sei whales, North Atlantic humpback whales, Southern Hemisphere fin whales and some regional populations of southern right whales.

Conservation Management Plans (CMPs) are becoming more of a focus for the Committee and new biological information and progress with existing CMPs were discussed (southeast Pacific southern right whales, southwest Atlantic southern right whales, North Pacific gray whales and franciscana). The possible development of a new CMP for Arabian Sea humpback whales was discussed and the importance of agreement from range states reiterated. Work is continuing with ACCOBAMS on a CMP for Mediterranean fin whales. Other priorities identified include Central American humpback whales and South American river dolphins.

Two important issue of relevance to assessments involve stock definition and DNA testing. Progress was made in several technical areas as well as the provision of advice on stock structure to inform assessments including western North Pacific common minke whales. Work continued on the updating of IWC guidelines on genetic data quality and analyses.

It has been agreed that all abundance estimates submitted to the Committee will be reviewed by a dedicated Working Group; this will include a review of past estimates in some cases. The objective of the group will be to produce a table with the latest agreed abundance estimates and the uses to which they can be put in the Committee's work that will be updated at each meeting. The process for achieving this was updated and agreed at the 2019 meeting along with additional guidance on model-based abundance estimates and the provision of advice on status.

The issues of non-deliberate human-induced mortality (e.g. bycatches of whales in fishing gear and collisions with ships) are important at a number of levels including animal welfare and may have conservation implications for many populations, especially small cetaceans. The Scientific Committee has been working on these issues for several years. The Scientific Committee also contributes to the Commission's Bycatch Mitigation Initiative (BMI). This year, discussions focussed on entanglement of large whales in fishing gear and mitigation of entanglements, including prevention by various means and how to deal with the important issue of small cetacean bycatch, especially for some critically endangered species such as Maui and Hector's dolphins and the vaquita. Work also continued on issues related to ship strikes and mitigation of collisions in high-risk areas. Co-operation with other organisations such as IMO was emphasised including work on Important Marine Mammal Areas in conjunction with IUCN and ACCOBAMS that is of relevance to assess high risk areas for bycatch and ship strikes.

As usual, the Committee examined a number of topics related to the environment and cetaceans. These included progress on: chemical pollution via the POLLUTION 2020 project that is now completed; cetacean disease and unexplained mortality events; the IWC stranding initiative; the effects of anthropogenic sound on cetaceans; and the effects of climate change on cetaceans. In addition, ecosystem modelling was discussed and a focus was on planning for a workshop on the role of cetaceans in ecosystem functioning.

The Committee's main focus for small cetaceans was a review of small cetaceans in Africa. In addition, the Committee considered further the results of a series of workshops on poorly documented takes for food, bait or cash and changing patterns of use. Progress on previous recommendations on endangered populations of Hector's dolphins, Amazon river dolphins and others were discussed, as well as direct and accidental takes of small cetaceans. The case of the critically endangered vaquita received special attention, and a strong statement was made by the Committee on the importance of stopping the illegal totoaba fishery in the Gulf of Mexico.

Whale watching issues were discussed and the impacts of whale watching on different cetacean populations continues to be monitored. Planning for a further workshop on the modelling and assessment of whale watching impacts (MAWI) was undertaken. Other issues concerned the use of citizen science and platforms of opportunity, assistance in updating the IWC's whale watching handbook and the updating of the IWC's general principles for whale watching.

An important initiative co-sponsored by the IWC was the development of best practice guidelines for electronic tagging (Andrews *et al.*, 2019¹). The Committee also received reports from several international research cruises, including the ongoing IWC-POWER which is undertaking a systematic set of surveys of the North Pacific.

The Chair of the Scientific Committee, Robert Suydam (USA), has completed his first year in office and at the end of the meeting the Committee thanked him for his dedicated and effective work so far. There is no need for any elections this year so he will continue in the role of Chair and Alex Zerbini (Brazil) continues as Vice-Chair.

The IWC website (<http://www.iwc.int>) has been used for all document distribution now for several years. All Scientific Committee, Commission and intersessional documents are now submitted using the online Portal system which has made a substantial saving on paper and printing costs. These systems will be further developed to improve the user experience. In addition, papers for the Journal are now submitted, reviewed and, if accepted, published exclusively online and open-access (<https://iwc.int/jcrm>). The Journal now has a new team of editors in place to increase efficiency and streamline the publication process.

While all new documents are now available online, an electronic archive of all past Scientific Committee and Commission documents and publications was underway but has stalled due to lack of funds. This is a major undertaking. Many of the earlier papers have been scanned and will be uploaded to the website in due course. In the meantime they are available to SC members on request. All past Journal papers and Supplements are now available online, as are the Annual Reports and the older Reports of the IWC.

¹Andrews, R.D., Baird, R.W., Calambokidis, J., Goertz, C.E.C., Gulland, F.M.D., Heide-Jørgensen, M.P., Hooker, S.K., Johnson, M., Mate, B., Mitani, Y., Nowacek, D.P., Owen, K., Quakenbush, L.T., Raverty, S., Robbins, J., Schorr, G.S., Shpak, O.V., Townsend Jr, F.I., Uhart, M., Wells, R.S. and Zerbini, A.N. 2019. Best practice guidelines for cetacean tagging. *J. Cetacean Res. Manage* 20: 27-66.

Finally, on a personal note, this will be the last supplement of the Journal for which I will be Editor. I am leaving my post as Head of Science on 12 May and taking up a one-year Emeritus position. After over 42 years at the IWC this is probably a good time to go. Iain Staniland will take over the role as Editor of the Journal as part of his new role as Lead for Science at the IWC Secretariat.

I have been lucky in my IWC life to meet and work with many people who have been dedicated to conservation and management science – way too many to name – and sadly several greats who are no longer with us. It has been my privilege to know so many impressive people from so many countries. I hope in my own small way to have contributed to the work of the unique body called the IWC Scientific Committee that has had a worldwide positive impact on cetacean science in a conservation and management context. Despite our successes much remains to be done and I hope to be able to continue working with the Committee as an independent scientist in the years to come.

I would also like to pay tribute to the many wonderful and dedicated people who have worked on publications at the IWC Secretariat with me over the years – and indeed all the IWC Secretariat staff. In particular, I would like to thank the present team who are quite simply amazing colleagues and friends – Stella Duff, Andrea Cooke, Jessica Rowley and Jemma Jones. Their dedication, skill and patience is way beyond the call of duty.

Finally, I must thank my beautiful wife, Jette Donovan Jensen, who cruelly died from cancer on 14 April 2019. Whatever I have managed to achieve would not have been possible without her love, strength and support over the decades; life will never be the same without her smile, faith and unconditional love.

*Greg Donovan
Cambridge, April 2020*

Supplement Contents

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