Editorial

Welcome to this the supplement to the sixteenth 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 12-14 May 2014 in Bled, Slovenia. The meeting was attended by some 151 participants (including over 54 invited participants); 24 member nations were represented. It also contains the reports of eight intersessional meetings:

- (1) the Report of the Expert Workshop to Review the Japanese JARPA II Special Permit Research Programme held in February 2014 in Tokyo, Japan;
- (2) the Report of the Joint Workshop on Predicting Soundfields Global Soundscape Modelling to Inform Management of Cetaceans and Anthropogenic Noise held in April 2014 in Leiden, Netherlands;
- (3) the Report of the POLLUTION 2020 Steering Group Meeting held in March 2014 in St. Andrews, UK;
- (4) the Report of the AWMP Intersessional Workshop on Developing *SLA*s for the Greenland Hunts held in January 2014 in Copenhagen, Denmark;
- (5) the Report of the AWMP Intersessional Workshop on the *Implementation Review* for North Atlantic Fin Whales held in January 2014 in Copenhagen, Denmark;
- (6) the Report of the Workshop on the Rangewide Review of the Population Structure and Status of North Pacific Gray Whales held in April 2014 in La Jolla, California, USA;
- (7) the Report of the Meeting of the IWC-POWER Technical Advisory Group (TAG) held in September 2013 in Tokyo, Japan; and
- (8) the Report of the AWMP/RMP Joint Workshop on the Stock Structure of North Atlantic Common Minke Whales held in April 2014 in Copenhagen, Denmark.

The Commission meeting associated with this Scientific Committee meeting was held in Slovenia in September 2014 and was numbered IWC/65. This report and the report of the previous Scientific Committee meeting (SC/65a) held from 3-15 June 2013 in Jeju Island, republic of Korea, were both presented at this meeting.

Several topics were discussed in Bled. A brief summary of the work of the Scientific Committee in Bled 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 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. The major work in 2014 related to the ongoing *Implementation Review* for North Atlantic fin whales and the start of work on an *Implementation Review* for North Atlantic common minke whales.

'Aboriginal subsistence whaling' is regulated by the IWC in several parts of the world. This year, work continued on the development of advice on safe catch limits and *SLAs* for the hunts off Greenland. Completing this complex work is a high priority for the Scientific Committee and in 2014 the Committee recommended a *Humpback SLA* for Greenland; the next priorities are for bowhead, fin and common minke whales. The Committee as usual provided advice on whether proposed strike limits for subsistence hunts by subsistence whaling countries were sustainable using the existing *SLAs*, including the interim *SLA* for Greenland hunts, that is valid until 2018.

The issues of 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 certain populations. The Scientific Committee has been working on these issues for several years. In 2014, discussions focussed on entanglement of large whales in fishing gear as well as ship strikes. The Committee has collaborated with the Commission's Working Group on Whale Killing Methods and Associated Welfare Issues and the Ship Strikes Working Group on these issues. Progress on the IWC ship strike database and work on training people to free entangled whales has continued.

The Committee has now agreed abundance estimates for Antarctic minke whales for the final two sets of circumpolar international cruises undertaken by the IWC. Work on explaining the differences between the two estimates is ongoing, as is an In-Depth Assessment of Antarctic minke whales. Work is also progressing on a special volume of papers reviewing the results of the IDCR/SOWER Antarctic cruises. Plans for the future of the international 'POWER' series of cruise, in the North Pacific, were also discussed.

The Committee continued work on assessments of other Southern Hemisphere species including blue whales, humpback whales and right whales where work with the Southern Ocean Research Partnership (SORP) makes an important contribution. Humpback whale Breeding Stocks D, E and F were assessed, and work continues on the small Arabian Sea population of humpbacks, particularly with respect to the development of a conservation management plan.

Understanding North Pacific gray whale stock structure is essential for determining the status of animals on the western and eastern feeding grounds and assessing human impacts including subsistence hunting and oil and gas operations. The Committee is undertaking a major review of information from telemetry, genetic and photo-identification studies. Work continued on this issue this year, culminating in a major review workshop held in La Jolla in April 2014. Plans for an In-Depth Assessment of North Pacific sei whales have been developed.

The Committee examined a number of topics related to the environment and cetaceans. These included progress on: the POLLUTION 2020+ research programme; the impacts of oil spills on cetaceans; cetacean disease and unexplained mortality events; the effects of anthropogenic sound on cetaceans including consideration of the report from the Soundscapes Workshop held in Leiden in April 2014; the effects of climate change on cetaceans; and the regular SOCER report. In addition, progress was made on a number of topics related to ecosystem modelling. More work is planned in all of these important areas.

The focus for discussions this year on whalewatching were the impacts of whalewatching on cetaceans in areas near the meeting venue in the Mediterranean and Red Seas, as well as in newly emerging areas such as Oman and Bocas del Toro in Panama. The potential use of Platforms of Opportunity to gather data on whalewatching was also discussed and supported.

The Committee's main focus for small cetaceans was a review of populations in the Mediterranean and Red Seas. Progress on previous recommendations on endangered populations of vaquita, Hector's dolphins, Amazon river dolphins and others were discussed. Progress on several workshop proposals, including a monodontid workshop to be organised by NAMMCO, was discussed.

Improvements to the Committee's ways of working were discussed and adopted, especially with respect to the budget allocation process.

The IWC website (http://www.iwc.int) is increasingly being used for document distribution. Papers for the Journal are now submitted, reviewed and, if accepted, published online. This year all Scientific Committee documents were submitted using this system as well, and primary papers and working papers were distributed online only, making a substantial saving on paper and printing costs. The Commission meetings have also gone 'paper-free'.

An electronic archive of all past Scientific Committee and Commission documents and publications is underway. Many of the earlier papers have been scanned and will be uploaded to the website in due course. This is a major undertaking. All past Journal papers and Supplements are now available online, as are the Annual Reports and the older Reports of the IWC. The Journal will now be published exclusively online and open-access.

Greg Donovan
Editor
Cambridge, 17 March 2015

Supplement Contents

This Supplement to the Journal contains the Report of the Scientific Committee from its Annual Meeting held from 12-24 May 2014 in Bled, Slovenia. It also contains: the Report of the Expert Workshop to Review the Japanese JARPA II Special Permit Research Programme, held in February 2014 in Tokyo, Japan; the Report of the Joint Workshop on Predicting Soundfields - Global Soundscape Modelling to Inform Management of Cetaceans and Anthropogenic Noise, held in April 2014 in Leiden, Netherlands; the Report of the POLLUTION 2020 Steering Group Meeting, held in March 2014 in St. Andrews, UK; the Report of the AWMP Intersessional Workshop on Developing SLAs for the Greenland Hunts, held in January 2014 in Copenhagen, Denmark; the Report of the AWMP Intersessional Workshop on the Implementation Review for North Atlantic Fin Whales, held in January 2014 in Copenhagen, Denmark; the Report of the Workshop on the Rangewide Review of the Population Structure and Status of North Pacific Gray Whales, held in April 2014 in La Jolla, California, USA; the Report of the Meeting of the IWC-POWER Technical Advisory Group (TAG), held in September 2013 in Tokyo, Japan and the Report of the AWMP/RMP Joint Workshop on the Stock Structure of North Atlantic Common Minke Whales, held in April 2014 in Copenhagen, Denmark.

PLENARY	REPORT*	1
Annex A:	List of Participants.	88
Annex B:	Agenda	90
Annex C:	List of Documents.	93
Annex D:	Report of the Sub-Committee on the Revised Management Procedure	100
Annex E:	Report of the Standing Working Group on Aboriginal Subsistence Whaling Management Procedures	144
Annex F:	Report of the Sub-Committee on Bowhead, Right and Gray Whales.	158
Annex G:	Report of the Sub-Committee on In-Depth Assessments	176
Annex H:	Report of the Sub-Committee on the Other Southern Hemisphere Whale Stocks	196
Annex I:	Report of the Working Group on Stock Definition.	222
Annex J:	Report of the Working Group on Non-Deliberate Human-Induced Mortality of Large Whales	236
Annex K:	Report of the Standing Working Group on Environmental Concerns.	248
Annex K1:	Report of the Working Group to Address Multi-Species and Ecosystem Modelling Approaches	277
Annex L:	Report of the Sub-Committee on Small Cetaceans.	291
Annex M:	Report of the Sub-Committee on Whalewatching	320
Annex N:	Report of the Working Group on DNA	329
Annex O:	Working Group on Scientific Permits.	335
Annex P:	Process for the Review of Special Permit Proposals and Research Results from Existing and Completed Permits.	349
Annex Q:	Report of the <i>Ad hoc</i> Group on Progress Reports and the Online Data Entry Portal	354
Annex R:	Terms of Reference for Sanctuary Reviews at this Meeting.	355
Annex S:	Trial Approach to Improve the Scientific Committee's Process for Developing a Consensus Budget Recommendation to the Commission.	357
Annex T:	Email Correspondence Groups and Terms of Reference	359
Annex U:	Statements on the Agenda.	362
	OF THE EXPERT WORKSHOP TO REVIEW THE JAPANESE JARPA II SPECIAL PERMIT H PROGRAMME (SC/65b/Rep02)	367
REPORT O	F JOINT WORKSHOP ON PREDICTING SOUNDFIELDS - GLOBAL SOUNDSCAPE MODELLING M MANAGEMENT OF CETACEANS AND ANTHROPOGENIC NOISE (SC/65b/Rep03)	411
REPORT O	OF THE POLLUTION 2020 STEERING GROUP MEETING (SC/65b/Rep05)	425
	OF THE AWMP INTERSESSIONAL WORKSHOP ON DEVELOPING <i>SLA</i> S FOR THE GREENLAND C/65b/Rep06)	433
	OF THE AWMP INTERSESSIONAL WORKSHOP ON THE <i>IMPLEMENTATION REVIEW</i> FOR CLANTIC FIN WHALES (SC/65b/Rep07)	459
	OF THE WORKSHOP ON THE RANGEWIDE REVIEW OF THE POPULATION STRUCTURE CUS OF NORTH PACIFIC GRAY WHALES (SC/65b/Rep08)	487
REPORT O	F THE MEETING OF THE IWC-POWER TECHNICAL ADVISORY GROUP (TAG) (SC/65b/Rep09)	529
	OF THE AWMP/RMP JOINT WORKSHOP ON THE STOCK STRUCUTRE OF NORTH COMMON MINKE WHALES (SC/65b/Rep04)	543

^{*}Detailed contents for the Plenary Section (pp.1-87) are given on the next page.

PLENARY SECTION: CONTENTS

1-3.		uctory items	
4.		eration with other organisations	
5.	Revise	ed Management Procedure (RMP) – general issues (see Annex D)	
	5.1	Use of individual based energetics model	8
	5.2	Relationships between MSYR _{mat} and MSYR ₁₊	8
	5.3	Finalise the approach for evaluating proposed amendments to the <i>CLA</i>	8
	5.4	Evaluate the Norwegian proposal for amending the <i>CLA</i>	8
	5.5	Other computing matters related to the <i>CLA</i>	9
	5.6	Update 'Requirements and Guidelines for conducting surveys and Implementations'	9
	5.7	Imbalanced sex ratio in incidental catches.	9
	5.8	Work plan	
6.	RMP -	- Implementation-related matters.	10
	6.1	North Pacific common minke whales (additional work from completed <i>Implementation Review</i>)	10
	6.2	North Atlantic fin whales (Implementation Review).	
	6.3	North Atlantic common minke whales (Implementation Review)	
	6.4	North Atlantic sei whales.	
	6.5	Western North Pacific Bryde's whales	
	6.6	Updated table of abundance.	
	6.7	Work plan.	
7.		eliberate human-induced mortality of large whales.	
/٠	7.1	Entanglement of large whales.	
	7.1	Ship strikes.	
	7.2	Marine debris.	
	7.3 7.4	Other issues including mortality from acoustic sources.	
	7.4	Work plan.	
8.		ginal Subsistence Whaling Management Procedure (AWMP) (see Annex E).	
٥.			
	8.1	Progress on SLA development for the Greenlandic hunts.	
	8.2	Follow-up work on conversion factors for the Greenland hunt.	
	8.3	Aboriginal Whaling Management Scheme.	
0	8.4	Work plan.	
9.		ginal subsistence whaling management advice (see Annex F)	
	9.1	Bowhead whales off West Greenland.	
		North Pacific gray whales.	
	9.3	Bering-Chukchi-Beaufort (B-C-B) Seas stock of bowhead whales	22
	9.4	Common minke whales off West Greenland.	
	9.5	Common minke whales off East Greenland	
	9.6	Fin whales off West Greenland.	
	9.7	Humpback whales off West Greenland.	
	9.7	Humpback whales off St Vincent and The Grenadines	
10.	Whale	stocks	23
		Antarctic minke whales (see Annex G)	
	10.2	Southern Hemisphere humpback whales (see Annex H)	26
	10.3	Southern Hemisphere blue whales (see Annex H).	29
	10.4	Distribution of baleen and toothed whales in the Antarctic relative to spatial and environmental covariates	31
	10.5	In-depth Assessment of North Pacific sei whales.	
	10.6	Gray whales in the western North Pacific.	
	10.7	Southern Hemisphere right whales.	
		North Atlantic right whales.	
		North Pacific right whales.	
		North Atlantic bowhead whales.	
		Okhotsk Sea bowhead whales.	
		Arabian Sea humpback whales.	
		International cruises.	
		Sperm whales.	
		Overview of work plan.	
11.		definition (see Annex I).	
11.	11.1	Guidelines for DNA data quality and genetic analyses	
	11.1		
		Statistical and genetic issues related to stock definition	
	11.3	Testing of Spatial Structure Models (TOSSM).	
	11.4	Terminology and unit-to-conserve.	
1.0		Work plan.	
12.		onmental concerns (see Annex K)	39
	12.1	State of the Cetacean Environment Report (SOCER)	
		Pollution	
	12.3	Cetacean Emerging and Resurging Diseases (CERD) and mortality events	41

	10 :		
	12.4 12.5	Effects of anthropogenic sound on cetaceans and approaches to mitigate these effects.	
	12.5	Impacts of climate change on cetaceans.	
		Habitat-related issues.	+4 1 1
	12.7 12.8	Other habitat-related issues.	
		Conservation Management Plans.	
12	12.9 Easer	Work plan.	+4 1 1
13.		stem modelling (see Annex K1). Review of ecosystem modelling efforts undertaken outside the IWC.	+4 15
	13.1		
		Explore how ecosystem models contribute to developing scenarios for simulation testing of the RMP 4	
	13.3	$\boldsymbol{\omega}$	
4.		Work plan and budget requests.	
4.	14.1	cetaceans (see Annex L)	+ / 17
	14.1	Review of status of small cetaceans in the Red Sea.	
	14.2	Report on the Voluntary Fund for Small Cetacean Conservation Research.	
	14.3	Progress on previous recommendations.	
	14.4	Takes of small cetaceans.	
	14.5	Update on proposed joint workshop on monodontids.	
	14.7	Conservation and Management Plans.	56
		Other information on small cetaceans.	
5		Work plan and budget requests.	
5.		Assess the impacts of whalewatching on actageons	
	15.1	Assess the impacts of whalewatching on cetaceans)() 57
	15.2 15.3	Review whatewatching in the Mediterranean and Red Seas. Review reports from intersessional working groups.) 57
	15.3	Consider information from Platforms of Opportunity of potential value to the Scientific Committee	
	15.4		
		Review whalewatching guidelines and regulations	
	15.6	Consider emerging whalewatching industries of concern	
	15.7	Other issues.	
	15.8	Work plan.	
6.		testing (see Annex N).	
	16.1	Review genetic methods for species, stock and individual identification	
		Review results of the amendments of sequences deposited in <i>GenBank</i>	
	16.3	Collection and archiving of tissue samples from catches and bycatches.	5U
	16.4	Reference databases and standards for diagnostic DNA registries	
7.	16.5	Work plan	
1.		Al permits	
		Review of results from ongoing permits.	
	17.2	Review of new or continuing proposals.)4 (5
	17.3	Work plan (see Table 19).)) (6
8.			
0.	18.1	e sanctuaries	
		South Atlantic Construction proposal) / (7
	18.2	South Atlantic Sanctuary proposal.	
n	10.3	Work plan.	ソソ
9. 0	South	ern Ocean Research Partnership	17 50
0.		ist of recognised species.	
1. 2.	Linds	ervation Management Plans	ソソ
2. 3.			
٥.		rch and Workshop proposals and results)9 (0
	23.1	Review results from previously funded research proposals.)9 70
4.	23.2 Com-	Review Workshop proposals for 2014/15.	/ U 70
4. 5.	Doto -	nittee priorities and initial Agenda for the 2015 and 2016 meetings	/ U 70
). 5.	Data]	processing and computing needs for 2014/15.	/ U
۶.		ng requirements for 2014/15 and 2015/16.	
		Rationale for the reduced budget items.	/ I
	26.2	Summary information on all proposals received.	0 / 0
7	26.3	Unspent and unallocated budget monies.	5U
7.	work	ng methods of the Committee.	51
		Increasing the support of the Scientific Committee on conservation-related issues	
		Data access under Annex P.	52
0	27.3	Improving the Scientific Committee budget review process.	
8.		on of officers	
9.		rations	
0.		business	84 84
1.	Adon	ION OF REDOLE	s / I