

Report of the 66th Meeting of the International Whaling Commission 2016

Portorož, Slovenia



Covering the period
November 2014–October 2016



INTERNATIONAL
WHALING COMMISSION

Report of the 66th Meeting of the International Whaling Commission and Associated Meetings and Workshops

**THE INTERNATIONAL WHALING COMMISSION WAS CONSTITUTED UNDER THE
INTERNATIONAL CONVENTION FOR THE REGULATION OF WHALING SIGNED AT
WASHINGTON ON 2 DECEMBER 1946**



**INTERNATIONAL
WHALING COMMISSION**

The Red House, 135 Station Road, Impington, Cambridge, UK, CB24 9NP

Tel: +44 (0)1223 233971

E-mail: secretariat@iwc.int

Cambridge 2017

List of Members of the Commission

<i>Contracting Government</i>	<i>Adherence</i>	<i>Commissioner</i>	<i>Appointment</i>
Antigua and Barbuda	21/07/82	Ambassador D. Joseph	22/07/14
Argentina	18/05/60	Minister M.J. Oyarzabal	20/10/16
Australia	10/11/48	Dr N. Gales	14/06/16
Austria	20/05/94	Dr A. Nouak	09/08/96
Belgium	15/07/04	Ms S. Langerock	16/06/15
Belize	17/06/03	Ms B. Wade	17/05/06
Benin	26/04/02	Dr A.G. Djihinto	12/09/16
Brazil	04/01/74	Ambassador H.T. Ribeiro	06/10/16
Bulgaria	10/08/09	Ms Y. Velina	08/01/16
Cambodia	01/06/06	Mr H.E.N. Thuok	14/09/09
Cameroon	14/06/05	Dr B. Emma	29/01/14
Chile	06/07/79	Mr J. Fernandez	28/06/13
People's Republic of China	24/09/80	Mr Li Jianhua	06/06/00
Colombia	22/03/11	Ms A. Ramirez Martinez	11/05/15
Republic of the Congo	29/05/08	Mr J.A. Kolelas-Ntoumi	21/07/08
Costa Rica	24/07/81	H.E. Mr F. Mora	03/07/14
Côte d'Ivoire	08/07/04	Dr Z.A. Meite	04/06/15
Republic of Croatia	10/01/07	Mrs I. Jelenic	05/04/16
Cyprus	26/02/07	Ms M. Hadjichristoforu	13/03/07
Czech Republic	26/01/05	Mr J. Mach	15/12/15
Denmark	23/05/50	Mr P.W.L. Linde	01/08/17
Dominica	18/06/92	Mr L. Pascal	10/07/01
Dominican Republic	30/07/09	Mr O.S. Reynoso	02/07/15
Ecuador	10/05/07	Dr D. Ortega-Pacheco	27/01/16
Eritrea	10/10/07	Mr S.M. Ahmed	02/10/08
Estonia	07/01/09	Mr H. Zingel	19/02/15
Finland	23/02/83	Ms P. Blankett	03/05/11
France	03/12/48	Mrs N. Deckert	05/08/15
Gabon	08/05/02	Prof L. White	14/09/14
The Gambia	17/05/05	Mr M. Bah	23/06/10
Germany	02/07/82	Mr W. Duebner	01/02/12
Republic of Ghana	17/07/09	Mr B. Nutsukpui	09/02/15
Grenada	07/04/93	<i>Not notified</i>	-
Guatemala	16/05/06	Dr F.D. Monge	05/11/08
Guinea-Bissau	29/05/07	Mr I. Barros	03/02/15
Republic of Guinea	21/06/00	Mr D.A. Telivel	12/02/14
Hungary	01/05/04	Mr Z. Czirak	11/01/11
Iceland	10/10/02	Mr S. Asmundsson	30/10/17
India	09/03/81	Dr S.C. Gairola	16/03/17
Ireland	02/01/85	Mr J. Fitzgerald	15/05/07
Israel	07/06/06	Ms R. Oberman	30/06/14
Italy	06/02/98	Mr R. Rigillo	06/05/14
Japan	21/04/51	Mr J. Morishita	21/06/13
Kenya	02/12/81	Prof M.J. Ntiba	23/09/16
Kiribati	28/12/04	Mrs R. Nikuata-Rimon	07/06/06
Republic of Korea	29/12/78	Ms S. Hee Cho	10/09/15
Laos	22/05/07	Dr B. Khambounheuang	01/10/07
Lithuania	25/11/08	Ms L. Caplikaite	24/02/12
Luxembourg	10/06/05	Mr C. Origer	10/06/05
Mali	17/08/04	Mr S. Coulibaly	16/05/08
Republic of the Marshall Islands	01/06/06	Hon M. Zackhras	19/06/10
Mauritania	23/12/03	Dr A.M. Jiddou	16/05/11
Mexico	30/06/49	Dr L. Rojas Bracho	15/07/16
Monaco	15/03/82	Prof F. Briand	13/06/03
Mongolia	16/05/02	Dr T. Damdin	02/12/15
Morocco	12/02/01	Mr Y. Ayouch	28/06/14
Nauru	15/06/05	Hon C. Buraman	04/09/14
Netherlands	14/06/77	Mr L.J. van der Heiden	22/03/17
New Zealand	15/06/76	Ms A. Laurenson	30/08/16
Nicaragua	05/06/03	Mr E. Jackson Abella	30/09/16
Norway	03/03/48	Mr O.D. Stenseth	01/06/11
Oman	15/07/80	Dr A. Al-Mazrouai	22/06/10

<i>Contracting Government</i>	<i>Adherence</i>	<i>Commissioner</i>	<i>Appointment</i>
Republic of Palau	08/05/02	Mr V. Uherbelau	19/02/09
Panama	12/06/01	Mr M. Lopez Cornejo	31/07/14
Peru	18/06/79	Mr J.P. Bravo	01/07/16
Poland	17/04/09	Mrs M. Lesz	14/05/09
Portugal	14/05/02	Mr L.A. de Andrade Freitas	30/07/15
Romania	09/04/08	Dr S. Nicolaev	22/07/08
Russian Federation	10/11/48	Ms I.B. Fominykh	02/11/15
San Marino	16/04/02	Mr D. Galassi	10/10/02
St Kitts and Nevis	24/06/92	Hon E. Hamilton	09/02/16
St Lucia	29/06/81	Mr H. Walters	25/08/16
St Vincent and The Grenadines	22/07/81	Senator E. Snagg	05/03/03
Senegal	15/07/82	Dr M. Goudiaby	24/05/15
Slovak Republic	22/03/05	Mr B. Hrabkovsky	22/10/15
Slovenia	20/09/06	Mr A. Bibič	20/01/10
Solomon Islands	10/05/93	Mr S. Diake	15/03/04
South Africa	10/11/48	Mr H. Oosthuizen	10/04/06
Spain	06/07/79	Ms C. Asencio	15/09/15
Suriname	15/07/04	Mr R. Ramkisor	11/07/16
Sweden	15/06/79	Dr J. Hagberg	01/12/15
Switzerland	29/05/80	Mr B. Mainini	03/06/05
Tanzania	23/06/08	Mr Zahor El Kharousy	09/08/14
Togo	15/06/05	Dr A. Domtani	03/11/09
Tuvalu	30/06/04	Mr P. Nelesone	13/07/04
UK	10/11/48	Dr G. Harper	08/11/16
Uruguay	27/09/07	Dr C. Rodriguez Brianza	30/06/15
USA	10/11/48	Mr R.F. Smith III	09/09/14

Kate Wilson, Interim Secretary, November 2017

Preface

In 2012, the International Whaling Commission agreed to move to biennial meetings. Given this, the previous series *Annual Report of the International Whaling Commission* (ISSN: 1561-0721) has been discontinued and replaced by this new electronic, online free access biennial series *Reports of the Meetings of the International Whaling Commission* which can be found at <https://archive.iwc.int/?c=24440>. Each volume of the series contains the Chair's report of the biennial meeting, including the reports of most of its associated Committees, sub-committees and working groups. It will also contain the reports of technical workshops and other intersessional meetings that are held in the two-year period prior to the biennial meeting concerned. As in the previous Annual Report series, this series will also contain the text of the Convention and its Protocol, and the latest versions of the Schedule to the Convention and the Rules of Procedure and Financial Regulations. Reports of meetings of the IWC Bureau will be placed upon the IWC website <http://www.iwc.int>.

The Reports of the Scientific Committee, which continues to meet annually, remain published as a supplement to the *Journal of Cetacean Research and Management* (<https://archive.iwc.int/?c=29>).

This, the Report of the 66th Meeting of the International Whaling Commission, relates to the biennial meeting held in Portorož, Slovenia in October 2016. It also contains the reports of the following workshops:

- (1) the Report of the Third Workshop on Large Whale Entanglement Issues held in April 2015 in Provincetown, MA, USA;
- (2) the Report of the IWC Expert Workshop on Aboriginal Subsistence Whaling (ASW) held in September 2015 in Maniitsoq, Greenland;
- (3) the Report of the Workshop to Support the IWC's Consideration of Non-Hunting Related Aspects of Cetacean Welfare held in May 2016 in Kruger National Park, South Africa; and
- (4) the Report of the IWC Workshop Developing Practical Guidance for the Handling of Cetacean Stranding Events held in May 2016 in Kruger National Park, South Africa.

The next meeting of the Commission will take place in September 2018. Information can be found on our website at <http://www.iwc.int>.

The cover photograph shows an unusual view of the Town Hall, Piran, Slovenia.

G.P. DONOVAN
Editor

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Summary of Main Outcomes, Decisions and Required Actions from the 66th Meeting

The main outcomes, decisions and required actions arising from the 66th Meeting are summarised in the table below.

Issue/Agenda Item	Main outcomes
Schedule Amendments <i>Item 5</i>	<ul style="list-style-type: none"> • A proposed Schedule amendment to create a South Atlantic Whale Sanctuary was not adopted.
Resolutions <i>Item 6</i>	<p>Resolution on Enhancing the Effectiveness of the International Whaling Commission</p> <ul style="list-style-type: none"> • Resolution 2016-1 on Enhancing the Effectiveness of the International Whaling Commission was adopted by consensus. <p>Resolution on Improving the Review Process for Whaling under Special Permit</p> <ul style="list-style-type: none"> • Resolution 2016-2 on Improving the Review Process for Whaling under Special Permit was adopted. <p>Resolution on Cetaceans and Their Contributions to Ecosystem Functioning</p> <ul style="list-style-type: none"> • Resolution 2016-3 on Cetaceans and Their Contributions to Ecosystem Functioning was adopted. <p>Resolution on Minamata Convention</p> <ul style="list-style-type: none"> • Resolution 2016-4 on Minamata Convention was adopted <p>Resolution on the Critically Endangered Vaquita</p> <ul style="list-style-type: none"> • Resolution 2016-5 on the Critically Endangered Vaquita was adopted by consensus. <p>Resolution on the Creation of a Fund to Strengthen the Capacity of Governments of Limited Means to Participate in the Work of the IWC</p> <ul style="list-style-type: none"> • Resolution 2016-6 on the Creation of a Fund to Strengthen the Capacity of Governments of Limited Means to Participate in the Work of the IWC was adopted. <p>Resolution on Food Security</p> <ul style="list-style-type: none"> • A Resolution on food security was discussed but no consensus was reached; Ghana indicated that it would continue to refine the proposal during the intersessional period ready for presentation to IWC/67.
Aboriginal subsistence whaling <i>Item 7</i> Reports: ASW Sub-Committee (IWC/66/Rep03); Scientific Committee (IWC/66/Rep01)	<ul style="list-style-type: none"> • The Scientific Committee presented information on good progress towards its goal of finalising long-term methods to determine safe strike limits (known as <i>Strike Limit Algorithms</i>) for each individual aboriginal hunt by its 2018 meeting (only two remain to be completed – for the Greenland fin and common minke whale hunts). It also reported progress on the Aboriginal Whaling Scheme which deals with other aspects of managing hunts that are common to all. The Scientific Committee advised that all present ASW catch/strike limits will not harm the stocks. The Commission endorsed the Scientific Committee's report and recommendations. • The Commission received the report of an Expert Workshop on ASW held in Maniitsoq, Greenland and funded by the IWC Voluntary Fund. The Commission also received a presentation from an expert member of the UN forum on indigenous peoples. After extensive discussion the Commission recognised the value of improving process and increasing understanding of issues surrounding ASW. The Commission welcomed use of a pilot timeline and process for consideration of catch/strike limit requests made in 2018. The Commission submitted the Maniitsoq expert workshop report to the ASW WG for further consideration and recommendation, as appropriate, to IWC/67 in 2018. Other intersessional discussions to improve the long-term approach will be undertaken by the Aboriginal Subsistence Whaling Working Group.
Socio-economic implications and small-type whaling <i>Item 8</i>	<ul style="list-style-type: none"> • The Commission received a report of intersessional work to exchange views on basic issues related to small type coastal whaling via a questionnaire from Japan which was distributed by the Secretariat. Noting the issues raised were relevant to the IWC's future, the Commission agreed to continue these discussions under Agenda Item 12 (The IWC in the Future).

Issue/Agenda Item	Main outcomes
<p>Status of whale stocks <i>Item 9.1</i> Reports: Scientific Committee (IWC/66/Rep01)</p>	<p>Antarctic minke whales</p> <ul style="list-style-type: none"> The Scientific Committee will publish a consolidated assessment of Indo-Pacific Antarctic minke whales in 2017. <p>Southern Hemisphere humpback whales</p> <ul style="list-style-type: none"> The Scientific Committee reported that Southern Hemisphere humpback whales are generally recovering well. Abundance in 2015 is estimated at around 97,000 – about 70% of the pre-whaling level. <p>Southern Hemisphere right whales</p> <ul style="list-style-type: none"> The Scientific Committee reiterated the importance of governments maintaining the long-term monitoring of populations off South Africa, Argentina and Australia. It provided support to Conservation Management Plans for the Southwest Atlantic and eastern South Pacific. <p>Southern Hemisphere blue whales</p> <ul style="list-style-type: none"> The Scientific Committee is reviewing new information to decide whether to undertake regional assessments of Southern Hemisphere blue whales. It continues to develop and support photo-identification catalogues throughout the region. <p>North Pacific sei whales</p> <ul style="list-style-type: none"> The Scientific Committee expects to complete its assessment of North Pacific sei whales in 2018. <p>Western North Pacific gray whales</p> <ul style="list-style-type: none"> The Scientific Committee expects to complete a rangewide review of the status of North Pacific gray whales in 2017 to support an updated Conservation Management Plan. It expressed concern over oil and gas activities and fishing activities in the western Pacific and urges governments to facilitate collaborative data sharing and analyses to support conservation measures. <p>North Pacific and North Atlantic right whales and small stocks of bowhead whales</p> <ul style="list-style-type: none"> Concern was expressed over a number of small stocks of these species, where ship strikes and entanglements are important threats. An assessment of western North Atlantic right whales is planned in 2017. <p>IWC-POWER North Pacific Research cruises</p> <ul style="list-style-type: none"> The IWC-POWER (North Pacific Ocean Whale and Ecosystem Research) international programme continues successfully, covering many areas not surveyed for decades. Seven cruises have been completed. The Bering Sea will be covered from 2017-19. Analyses of the individual identification photographs, genetic samples and sightings data is progressing. Support for obtaining permits to undertake research in national waters was requested.
<p>Small cetaceans <i>Item 9.2</i> Reports: Scientific Committee (IWC/66/Rep01); Conservation Committee (IWC/66/Rep05)</p>	<p>Small cetaceans status and review</p> <ul style="list-style-type: none"> The Scientific Committee is conducting a review on taxonomy of <i>Tursiops</i> sp. and reviewed a number of small cetaceans species and populations around the world. The Commission received several progress reports on conservation actions that were being taken or proposed for populations/species for which the Scientific Committee has expressed concern. Particular concern was expressed over critically endangered species, subspecies and populations of cetaceans (e.g. the vaquita, Māui dolphins, Yangtze finless porpoise, Baltic Harbour porpoise and the already extinct baiji) for which stringent management measures on bycatch, within well specified boundaries, are immediately needed, rather than additional research. The Commission welcomed the progress of the Small Cetaceans Task Team Initiative. <p>The fund for Small Cetacean Conservation Research.</p> <ul style="list-style-type: none"> The Commission was pleased to note the excellent work undertaken in projects funded under the Small Cetaceans Voluntary Fund and endorsed the Committee's funding recommendation for seven new projects on small cetaceans' research and conservation selected by the Scientific Committee last June. The Commission welcomed a number of additional donations to the Small Cetaceans Voluntary Fund including from Italy (€4000), the Netherlands (amount awaiting confirmation), the UK (£10,000), Animal Welfare Institute (\$500), Cetacean Society International (\$500), Whale and Dolphin Conservation (\$500), Environmental Investigations Agency (\$3,000), International Fund for Animal Welfare (\$500), LegaSeas (\$300), N C Azzam (\$500), Ocean Care (€1,000), Pro Wildlife (€2,000), Whaleman (\$1,000). These new donations allow to fund six out of seven of the newly recommended projects by the Scientific Committee. The Commission welcomed a donation from Italy of €15,000 for the Franciscana Task Team. The Commission expressed its appreciation to governments and NGOs that have contributed to the Voluntary Fund.

Issue/Agenda Item	Main outcomes
<p>Cetacean habitat and related items <i>Items...</i> Reports: Scientific Committee (IWC/66/Rep01); Conservation Committee (IWC/66/Rep05)</p>	<p>State of the Cetacean Environment (SOCER)</p> <ul style="list-style-type: none"> The Commission received reports for the Pacific Ocean and the Arctic and Antarctic regions. <p>Cetacean Health and Disease</p> <ul style="list-style-type: none"> Work on an online portal with respect to cetacean diseases of concern is ongoing. <p>POLLUTION 2020 research programme</p> <ul style="list-style-type: none"> The Scientific Committee continues good progress with its Pollution 2020 programme which is looking at effects of chemical pollution on cetaceans. An online tool for visualising contaminant concentrations in cetaceans around the world is progressing well. Specific recommendations on research and to governments were endorsed. <p>Ecosystem modelling</p> <ul style="list-style-type: none"> Modelling is an important component of understanding the role of cetaceans in the environment and any conservation implications. A joint workshop with CCAMLR (The Commission for the Conservation of Antarctic Marine Living Resources) is planned. <p>Arctic Ocean</p> <ul style="list-style-type: none"> The Scientific Committee used the scientific recommendations from a 2014 Commission workshop on the impacts of increased in marine activities on cetaceans in the Arctic as the basis for its work. Co-operation with the Arctic Councils Protection on the Marine Environment Working group was initiated and endorsed. <p>Climate Change</p> <ul style="list-style-type: none"> The Scientific Committee continued to build upon the work of previous specialist workshops on this topic. A workplan is being developed and the focus will be on riverine/freshwater and coastal small cetaceans, large whales in polar regions and further links with relevant international bodies. The Commission noted that the Conservation Committee had included the issue of climate change as a priority threat in its Strategic Plan. <p>Decadal Review of the Southern Ocean Sanctuary (SOS)</p> <ul style="list-style-type: none"> The Scientific Committee reviewed scientific aspects of the SOS and reported these to the Conservation Committee. The Conservation Committee reported on its review of the Southern Ocean Sanctuary (SOS) which concluded that the sanctuary is consistent with existing measures to protect whales from anthropogenic threats and other environmental factors, that it contributes positively to a number of existing international commitments on biodiversity and climate change, and that it is consistent with the precautionary approach. The Commission endorsed the reports from these Committees.
<p>Unintended Anthropogenic Impacts <i>Item 11</i> Reports: Scientific Committee (IWC/66/Rep01); Conservation Committee (IWC/66/Rep05)</p>	<p>Marine Debris</p> <ul style="list-style-type: none"> The Commission welcomed progress made in addressing the issue of marine debris. It endorsed the recommendations of the Conservation Committee and Scientific Committee on marine debris and encouraged further co-operation with other organisations, including the Global Partnership for Marine Litter (GPML) and the Global Ghost Gear Initiative (GGGI). <p>Cetacean bycatch</p> <ul style="list-style-type: none"> The Commission endorsed the recommendations of the Conservation Committee and Scientific Committee on cetacean bycatch including the establishment of a Standing Working Group on Bycatch under the Conservation Committee; and the development of a Bycatch Mitigation Initiative supported by an Expert Panel. The Commission welcomed the offer of Mark Simmonds (UK) to act as an interim bycatch Co-ordinator to assist with these efforts, on a voluntary basis. <p>Anthropogenic sound</p> <ul style="list-style-type: none"> The Commission endorsed the recommendations from a Scientific Committee workshop on acoustic masking and whale population dynamics, including that: there is compelling evidence that chronic human-induced noise affects the marine habitat and some cetacean populations; that management actions addressing noise issues should not wait for scientific certainty; and that this issue should be brought to the attention of the International Maritime Organisation. The Commission noted that the Conservation Committee had included the issue of anthropogenic sound as a priority threat in its Strategic Plan. <p>Ship Strikes</p> <ul style="list-style-type: none"> The Commission welcomed an update on the development of a draft Ship Strikes Strategic Plan and looked forward to the final version due by the end of November 2016. The Commission endorsed the recommendations of the Conservation Committee and Scientific Committee, including that the IWC should continue engagement with the IMO. The Commission encouraged reporting to the Ship Strikes Database.

Issue/Agenda Item	Main outcomes
The IWC in the Future <i>Item 12</i>	<ul style="list-style-type: none"> • The Commission agreed to initiate informal discussions on issues regarding differences of positions of members. • It will work initially by correspondence and its progress will be reported at least 60 days prior to IWC/67.
Whale Killing Methods and Welfare Issues (WKM&WI) <i>Item 13</i> Report: WG on WKM&WI (IWC/66/Rep06)	<ul style="list-style-type: none"> • The Commission welcomed the reports from a number of governments on their hunting operations or events requiring euthanasia. It also welcomed reports from Norway and the USA on their contributions to improvements in whaling operations and a presentation from NAMMCO on their Expert Group Meeting on Assessing Time to Death from the Large Whale Hunts. • The Commission endorsed the recommendations from the IWC Workshop to Support the Consideration of Non-Hunting Related Aspects of Cetacean Welfare in May 2016. The primary focus of these is to take forward work to further develop a draft cetacean welfare assessment framework • The Commission endorsed the recommendations of the third IWC Workshop on Large Whale Entanglement Issues and recommended the continuation of the valuable work on entanglements including training workshops and capacity building, and the development of a global entanglement database. • The Commission endorsed the recommendations presented in the summary report of the joint IWC, NOAA, NEAq Workshop on Global Assessment of Large Whale Entanglement and Bycatch Reduction in Fishing and Aquaculture Gear and looks forward to receiving and advancing its more detailed report. • The Commission endorsed the report and recommendations from the IWC Workshop to Develop Practical Guidance for the Handling of Cetacean Stranding Events, May 2016. • The Commission endorsed the Scientific Committee recommendations on strandings, including establishment of a co-ordinator and expert panel to provide guidance to response and investigations. It also provided advice on a mass mortality of sei whales in Chile in 2015. • The Commission expressed appreciation for the Voluntary contributions announced by the UK of £15,000 and by a coalition of NGOs of \$3,000. • The Commission thanked Michael Stachowitsch for his service as Chair, and a new Chair was welcomed under Item 21.
Scientific permits and related issues <i>Item 14</i> Reports: Scientific Committee (IWC/66/Rep01)	<p>NEWREP-A</p> <ul style="list-style-type: none"> • The Scientific Committee presented the results of its extensive discussions and those of an Expert Panel review of the new proposal by Japan for a special permit programme on Antarctic minke whales, in light of Resolution 2014-5. • In Commission discussions it was clear that there is no agreement on this issue and Governments recorded their statements for the report. <p>JARPN II</p> <ul style="list-style-type: none"> • The Scientific Committee presented the results of its discussions and those of an Expert Panel final review of the JARPNII special permit programme by Japan in light of Resolution 2014-5. • In Commission discussions it was clear that there is no agreement on this issue. <p>Procedures used by the Scientific Committee for reviewing special permits</p> <ul style="list-style-type: none"> • The Scientific Committee reported on its work to incorporate Resolution 2014-5 into its formal process for the review of special permit proposals or review if ongoing or completed research permit programmes. It also reported on working measure it had taken to improve such reviews. • The Commission adopted the changes to Annex P as proposed by the Scientific Committee.
Safety issues at sea <i>Item 15</i>	<ul style="list-style-type: none"> • Japan drew attention to the violent activities against its research vessels in the Southern Ocean during previous seasons and requested necessary actions by the relevant member states concerned. Several member states reaffirmed the strength of existing legal frameworks for addressing issues of safety at sea. • The Commission reiterated that it does not condone, and in fact condemns, any activities that are a risk to human life and property in relation to the activities of vessels at sea (see Resolution 2011-2).

Issue/Agenda Item	Main outcomes
<p>Conservation Management Plans (CMPs) <i>Item 16.1</i> Reports: Scientific Committee (IWC/66/Rep01); Conservation Committee (IWC/66/Rep05)</p>	<p>Western North Pacific gray whale CMP</p> <ul style="list-style-type: none"> The Commission received an update on a rangewide review of the population structure and status of North Pacific gray whales and welcomed plans to update and finalise the draft CMP. The Commission welcomed new information from the US Navy on the occurrence of gray whales in autumn, winter and spring in the western North Pacific. The Commission congratulated Korea and Mexico for signing the range state Memorandum of Cooperation on the Western North Pacific Gray Whale. Japan, the Russian Federation and the USA signed in 2014. <p>Southwest Atlantic southern right whale CMP</p> <ul style="list-style-type: none"> The Commission received an update on recent workshops to progress implementation of the Southwest Atlantic Southern Right Whale CMP. The Commission thanked Miguel Iñiguez (Argentina) for his work as coordinator and thanked Brazil for taking on the role. <p>South-east Pacific southern right whale CMP</p> <ul style="list-style-type: none"> The Commission received an update on recent work to progress implementation of the Eastern South Pacific Southern Right CMP and endorsed the revised CMP, now including Peru as a range state. <p>Additional CMP proposals</p> <ul style="list-style-type: none"> The Commission welcomed the draft Conservation Management Plan for the franciscana and agreed to nominate and endorse this CMP during this meeting. The Commission recommended dialogue between the Government of Oman and other IWC member Governments to discuss the potential of a CMP for Arabian Sea humpback whales. <p>Report of the Standing Working Group on Conservation Management Plans (SWG-CMP)</p> <ul style="list-style-type: none"> The Commission endorsed all the recommendations of the SWG-CMP including the proposal for a mid-term review of the CMP Work Plan 2014-20, to be undertaken during the 2016-18 intersessional period. The Commission encouraged further contributions to the CMP Voluntary Fund.
<p>Whalewatching <i>Item 16.2</i> Report: Conservation Committee (IWC/66/Rep05)</p>	<p>Joint workshop on capacity building for whale and dolphin watching in the Indian Ocean Region</p> <ul style="list-style-type: none"> The Committee heard a report of a workshop Sustainable Whale and Dolphin Watching Tourism in the Indian Ocean region. It endorsed the recommendations on ways that the IWC could support the IORA Network and continue to implement Objective 3 of the IWC's Strategic Plan for Whalewatching. <p>Progress report by the Whale Watching Standing Working Group</p> <ul style="list-style-type: none"> The Commission welcomed progress on the development of an online Whale Watching Handbook. It endorsed the recommendations of the Scientific Committee and the SWG-WW, including on collaboration and fund raising to support the further development of the Handbook. The Commission recommended that the CMS join the Standing Working Group to take forward Whale Watching Handbook and thanked the CMS for its offer to support the Handbook with translation in French and Spanish. The Commission agreed that the 5-year Strategic Plan on Whale Watching, which ends in 2016, should continue as the overarching strategy on whale watching and can be updated intersessionally. The Commission encouraged contributions to the Voluntary Conservation Fund to support the development of the Handbook.
<p>Other Conservation Issues <i>Item 16.3-16.4</i></p>	<ul style="list-style-type: none"> The Commission welcomed national reports on cetacean conservation from a number of countries. It noted that an intersessional group under the Conservation Committee would review and develop the report template to align it with the new Conservation Committee Strategic Plan. It agreed Terms of Reference for an annual Conservation Committee planning meeting. The Commission welcomed and endorsed the Conservation Committee (CC) Strategic Plan. It commended the work of the Joint Conservation Committee and Scientific Committee Working Group and endorsed recommendations, including to establish an intersessional working group to guide the development of a web-accessible database of conservation related recommendations. The Commission welcomed progress with engaging other organisations on conservation issues of mutual interest. The Commission thanked the UK for a contribution of £15,000 to the Voluntary Conservation Fund.
<p>The Revised Management Procedure (RMP) <i>Item 17.1</i> Reports: Scientific Committee (IWC/66/Rep01)</p>	<p>Revised Management Procedure (RMP)</p> <ul style="list-style-type: none"> The Commission reviewed progress on the Scientific Committee's work on the RMP and related matters which included matters related to the MSYR, testing, possible amendments and survey guidelines. The <i>Implementation Review</i> for North Atlantic fin whales was completed. That for North Atlantic common minke whales is ongoing and should be completed in 2017. No work was undertaken on the Revised Management Scheme.

Issue/Agenda Item	Main outcomes
Infractions <i>Item 17.2</i> Report: Infractions sub-committee (IWC/66/Rep04)	<ul style="list-style-type: none"> • The Commission reviewed: <ul style="list-style-type: none"> - infractions reported in the 2014, 2014/15, 2015 and 2015/6 seasons; - follow-up reports from previous years; - information on the domestic surveillance of whaling operations; and - information on the provision of data. • The Commission discussed the Report of the Infractions Sub-Committee including the unresolved issue of catches taken in Greenland 2013 and 2014. Some members considered that these catches should be reported as infractions. The Kingdom of Denmark, supported by others, did not agree with this view. There was support for measures to ensure that a situation in which no ASW catch limits are set should not occur in the future, such as Rule of Procedure J.4.
Catches by non-member nations <i>Item 17.3</i> Reports: Scientific Committee (IWC/66/Rep01)	<ul style="list-style-type: none"> • The Commission was pleased to receive information on catches and quotas from Canada's bowhead hunt. The Secretary will continue to request such information from Canada. • The Secretary will continue to seek information on other catches by non member Governments (eg from the Government of Indonesia).
Co-operation with other organisations <i>Item 18</i>	<ul style="list-style-type: none"> • The Commission welcomed progress on co-operation with other organisations and the work of the Secretariat, Scientific Committee and other Committee's in this respect. It endorsed the next steps proposed in Document IWC/66/4.
Finance and Administration <i>Item 19</i> Report: Finance and Administration Committee (IWC/66/Rep02)	<ul style="list-style-type: none"> • The Commission endorsed the Secretariat's report on communications and received reports on document archiving, communications and meeting arrangements. • Proposals relating to the disbursement of SORP funds were endorsed, and guidance for distribution of voluntary funds in the intersessional period was also endorsed. • The Commission noted the status of the British pound and that a Risk Management Strategy, including a review of currency management, would be developed for IWC/67. • The Commission adopted the report of the Working Group on Operational Effectiveness, including proposed changes to the rules of procedure and rules of debate. The Commission also adopted a Rule of Procedure J.4. • The Commission endorsed the work of the Working Group on Strengthening Operational Effectiveness, including that the Working Group on Website Guidance be subsumed into this group. • The Commission endorsed the work plan of the Intersessional Correspondence Group on Strengthening IWC Financing, and requested Belgium to continue as Chair. • The Commission adopted a series of changes to the Scientific Committee's Rules of Procedure in response to Resolution 2014-4 and a separate proposal from the Chair of the Scientific Committee.
Financial statements and budget <i>Item 19.4</i> Report: Finance and Administration Committee (IWC/66/Rep02)	<ul style="list-style-type: none"> • The Financial Statements for the 2013/14 and 2015 financial years, as well as the provisional financial statement for 2016, were endorsed. • The Commission adopted the budget of the Scientific Committee including the removal of square brackets from the Special Permit Review item. • The budget for 2017 and 2018 was adopted, including an increase in line with UK inflation of 0.3%. • The Commission endorsed a request from the Secretariat to incur expenditure of c.£10,000 in relation to developing proposals for the warehouse at IWC Headquarters. These proposals will be reported to IWC/67. • The Chair of the Finance & Administration Committee informed members of the Commission that there are currently vacancies on the Budgetary Sub-Committee.
Elections and Bureau <i>Items 21 and 22</i>	<ul style="list-style-type: none"> • Joji Morishita (Japan) was elected as Chair of the Commission and Andrej Bibic (Slovenia) was elected as Vice Chair. • Ghana, Australia, Argentina and St Lucia were elected to the Bureau. Thus the total membership of the Bureau will comprise the Chair (Japan), the Vice-Chair (Slovenia), the Chair of the F&A Committee (USA), the host Government for IWC/67 (Brazil) and the four elected members. • Bruno Mainini (Switzerland) was elected as Chair to the ASW sub-committee and Herman Oosthuizen (South Africa) was elected as Chair to the WKM&WI sub-committee.
Date and place of Annual Meetings <i>Item 23</i>	<ul style="list-style-type: none"> • The Commission was pleased to accept the kind offer from the Government of Brazil to host the next meeting of the Commission, IWC/67 in 2018. • The Commission was pleased to accept the kind offer from Government of Slovenia to host the Scientific Committee meeting in 2017 in Bled. • The Commission was pleased to accept the kind offer from Government of Kenya to host the Scientific Committee meeting in 2018 in Nairobi.

Chair's Report of the 66th Meeting

At the end of IWC/66, the Commission adopted, by consensus, a Summary of Main Outcomes, Decisions and Required Actions arising from the meeting (see Item 25.1). This summary document (IWC/66/Outcomes) is available through the IWC website¹ and was distributed to Commissioners and Contracting Governments through Circular Communication IWC.ALL.269 on 1 November 2016.

This Chair's Report was completed after the close of the meeting. It was compiled by a team of rapporteurs who worked alongside the Secretariat for the duration of IWC/66, and was then reviewed by the Secretariat and approved by the Chair of IWC/66, Bruno Mainini (Switzerland).

1. INTRODUCTORY ITEMS

The 66th Meeting of the International Whaling Commission (IWC) took place at the Grand Hotel Bernardin, Portorož, Slovenia from 24-28 October 2016. Bruno Mainini (Switzerland) chaired the meeting, which was attended by 67 of 88 Contracting Governments. One non-member government was present. Six intergovernmental organisations and 32 non-governmental organisations attended. A list of delegates and observers is given as Annex A.

Two meetings of the Scientific Committee were held during the intersessional period (SC/66a in San Diego, California in May/June 2015 and SC/66b in Bled, Slovenia in June 2016). Other Committees and Working Groups of the Commission had met at the Grand Hotel Bernardin from 20-22 October 2016.

1.1 Welcome address

The 66th Meeting opened on Monday 24 October 2016. Welcoming addresses are summarised below.

Mrs Irena Majcen

Her Excellency Mrs Irena Majcen, the Minister of the Environment and Spatial Planning for Slovenia, welcomed delegates to the meeting, noting that 2016 marks the 70th anniversary of IWC. She mentioned that Slovenia is trying to raise the awareness of its citizens by commissioning postage stamps depicting some of the whales and dolphins present in the Adriatic Sea. Recognising that Contracting Governments had different views on the conservation and management of whales, she nevertheless urged delegates to unite in preventing marine pollution, highlighted the impact that such pollution had on cetaceans and outlined the steps that Slovenia is taking to tackle this issue, including producing textiles from lost or discarded fishing nets. She noted the importance of the agenda item related to the proposed South Atlantic Whale Sanctuary. She acknowledged the expertise and professionalism of the IWC in addressing the sustainable management of whale populations, and expressed her wishes for this to continue into the future.

The Minister thanked the Slovenian Ministry of Foreign Affairs, the Municipality of Piran, the IWC Secretariat, the meeting venue, the Slovenian Postal Service, and Morigenos (the Slovenian Marine Mammal Society), for their hard work and cooperation in organising the meeting. In closing, she encouraged participants to take the opportunity to visit Slovenia's nearby protected areas, and wished the participants a fruitful meeting and a pleasant stay.

Mrs Darja Bavdaz Kuret

State Secretary Mrs Darja Bavdaz Kuret, Slovenian Ministry of Foreign Affairs, welcomed all participants to the meeting and extended best wishes from the Deputy Prime Minister. She said that it was a great honour to host the meeting, as well as the Scientific Committee meeting that took place earlier in the year, in the IWC's 70th year. She noted the UN's Agenda 2030 for Sustainable Development as a major advance in addressing the complexity and interrelatedness of global challenges such as climate change, biodiversity conservation and food and water security. Slovenia was aiming to raise the importance of biodiversity on the political agenda and was encouraging cooperation and engagement at the multilateral level. IWC activities are well aligned with Slovenia's own environmental protection policies and commitment to sustainable use of natural resources. She highlighted the many sightings of whales and dolphins in the Adriatic this year as reason for countries in the northern Adriatic to cooperate on conservation. In closing, she wished the participants success in protecting whales.

Mrs Meira Hot

The Deputy Mayor of Piran, Mrs Meira Hot, welcomed delegates, stressing how proud she was that they had returned to Piran for a second meeting. She noted that the local community gave special attention to whales and were well aware of their importance in the marine ecosystem. She noted the effective scientific research of Morigenos and its role in teaching and raising awareness of the marine environment, and wished everyone success in their work.

Dr Simon Brockington

In response, the Executive Secretary of the IWC, Dr Simon Brockington thanked Slovenia for hosting the IWC again. Two productive scientific meetings had been held in Bled in 2014 and 2016 and a third was planned for 2017. He noted the beauty of the country and the helpful support that the Secretariat receives from the Slovenian Commissioner Andrej Bibic and his colleagues at the Department of the Environment and the Department of Foreign Affairs. He drew attention to the large amount of activity and commitment on many issues within IWC's remit noting that over the last two years, the IWC had organised 24 workshops or other expert events. The IWC was increasingly benefitting from its collaboration with other IGOs and regional organisations, and with the NGO community, many of whom were present. The IWC's rigorous and constantly evolving scientific programme formed an excellent basis for the Commission's decision-making this week. He acknowledged that not every discussion was easy and confirmed that the Secretariat would do all it could to support the meeting.

Ministerial interventions

Ministerial interventions given by Government Ministers are in Annex D.

1.2 Opening Statements

Opening Statements from Contracting Governments and intergovernmental and non-governmental observer organisations (IGOs and NGOs respectively) were received in writing and distributed through the IWC website.

¹<https://archive.iwc.int/?r=6360>.

1.3 Secretary's Report on Credentials and Voting Rights

The Secretary reported on the status of credentials as requested under Rule of Procedure D.1 and on current suspensions of voting rights under Rule of Procedure E.2(a) and (b).

The Credentials Committee (Japan, New Zealand and the Secretariat) had met to review the credentials received from Contracting Governments and found these all to be in order.

Details of payment of fees are given in IWC/66/F&A03rev4. The Secretary announced the right to vote for the following countries had been suspended because of non-payment of fees: Belize, Benin², Bulgaria, Cameroon, Congo, Cyprus, Dominica, Ecuador, Gambia, Guinea Bissau, Mali, Senegal, Solomon Islands, Togo, Oman, Palau, Panama² and Romania.

1.4 Meeting arrangements

The Chair noted that the Chair of the Scientific Committee would make a presentation on the intersessional work of the Scientific Committee under Agenda item 3 and would be invited to comment at the start of appropriate agenda items throughout the meeting. The Chair of the Conservation Committee would make a presentation on the intersessional work of the Conservation Committee under Agenda item 4 and would also be invited to comment at appropriate agenda items throughout the meeting.

The Chair noted the importance of participation by civil society. He indicated that Inter-Governmental Organisation (IGO) and Non-Governmental Organisation (NGO) observers would be called to speak after Contracting Governments as long as sufficient time was available.

The Chair indicated that if drafting groups were to be established, these would be made up of Commission members with participation of observers at the discretion of each group.

1.5 Review of documents

A list of documents available to the meeting is provided as Annex B.

2. ADOPTION OF THE AGENDA

A draft agenda had been prepared by the Secretary under guidance from the Commission's Chair and the Bureau. It had been circulated to Commissioners and Contracting Governments on 16 July 2016 (100 days prior to the opening of the meeting) with a request for comments and additions. Following receipt of comments, a provisional agenda had been circulated 60 days prior to the beginning of the meeting and was available as IWC/66/01rev.

Antigua and Barbuda expressed reservations concerning the balance of the agenda. In particular, it believed that a number of important items, including the management and use of whale resources, were not given sufficient attention, and suggested that the Commission look at the objectives and provisions of the Convention to ensure they were fully reflected in the agenda for future meetings. It suggested that the Bureau could be charged to take this further.

The Chair replied that all interests and views should be represented at the meeting. The Bureau would consider the issues raised by Antigua and Barbuda and decide what actions might be undertaken intersessionally. The Chair advised Antigua and Barbuda to consult with colleagues and come back with suggestions for the Bureau to consider.

The Chair noted that six draft resolutions had been proposed in advance for discussion at the meeting as required under Rule J.2 of the Rules of Procedure. He noted that, at the recommendation of the Chair and in consultation with the Bureau, the Commission may decide to consider urgent draft resolutions arising after the 60-day deadline. The Chair and Bureau had decided to accept such a draft resolution, submitted by the USA concerning the vaquita. He invited the USA to introduce this.

The USA introduced the draft Resolution on the vaquita (IWC/66/20) indicating that it was intended to follow up on and reinforce decisions taken by IUCN and CITES at their recent meetings to highlight the plight of this critically endangered cetacean species and to encourage Contracting Governments to take all appropriate action to help conserve this species.

The agenda was adopted with the addition of consideration of the draft resolution on the vaquita (IWC/66/20) under Item 6 (Resolutions). The adopted agenda for the meeting is given as Annex C.

3. SCIENTIFIC COMMITTEE PRESENTATION

The Chair of the Scientific Committee gave a short presentation summarising the Committee's work since IWC/65, noting that full meeting reports were available as IWC/66a/Rep01(2015) for the SC/66a meeting and as IWC/66b/Rep01(2016)³ for the SC/66b meeting. These reports had been circulated to Commissioners and Contracting Governments and posted on the IWC website well in advance of the opening of IWC/66.

Attention was also drawn to two further documents: IWC/66/17 contained an overview of the Committee's work and a list of recommendations made at its 2015 and 2016 meetings, and IWC/66/18 contained the Committee's draft agenda and biennial work plan for 2017-18.

In 2016, the Chair and Vice-Chair of the Scientific Committee and the Secretariat Head of Science had improved the format of the Committee's reports by including important action items, agreements and recommendations in boxes with intended primary recipients identified by codes as to who the primary targets of the recommendations were. Each box had a preambular section and so could stand alone from the rest of the report. As part of its annual reviews, the Committee had also made efforts to improve its working methods, in particular in increasing transparency in its budget processes and in reviewing proposals. Some amendments had been proposed to its Rules of Procedure for the Commission to consider.

The Chair of the Scientific Committee emphasised the collaborative nature of the Committee's work, noting the number of Conventions and multilateral agreements that it had worked with, and stressed the enormous voluntary contribution of time made by Scientific Committee members. She thanked the host Governments of SC/66a (USA) and SC/66b (Slovenia) for their hospitality and for providing an excellent working environment, and urged all Contracting Governments to send delegates to Committee meetings if they could.

The Revised Management Procedure (RMP) and Aboriginal Whaling Management Procedure (AWMP) approaches pioneered at the IWC were increasingly used in

²Payment was received from Benin and Panama during the meeting.

³Published as *J. Cetacean Res. Manage. (Suppl.)* 17 [2016] and *J. Cetacean Res. Manage. (Suppl.)* 18 [2017] respectively.

wider fisheries management and remained of broad relevance to the Committee when examining the effects of all human-related cetacean mortality (e.g. bycatch and ship strikes). A review of Maximum Sustainable Yield Rates (MSYR) had been completed in 2013 and a trials approach to reviewing the *Catch Limit Algorithm (CLA)* finalised in 2015. In 2016, the Committee recommended continued use of the existing *CLA* rather than a proposed Norwegian amendment. A review of a model-based abundance estimation for use in the RMP and more widely was ongoing. An *Implementation Review* for the North Atlantic fin whale RMP had been completed and one for the North Atlantic common minke whale RMP would be completed in 2017.

Issues relating to non-deliberate human-induced mortality of cetaceans addressed by the Committee included bycatch and entanglement of large whales, ship strikes and bycatch of small cetaceans.

Regarding the AWMP, the Committee had reported to the Aboriginal and Subsistence Whaling Sub-Committee (ASW) in detail. Once all *Strike Limit Algorithms (SLAs)* had been finalised by the Scientific Committee, the Standing Working Group of the ASW would need to meet only to undertake *Implementation Reviews*. As of 2016, *SLAs* had yet to be developed for West Greenland fin whales (planned for 2017), West Greenland/East Greenland common minke whales (planned for 2017/18) and Greenland multispecies (estimated for 2018/19). At present, management advice for those is provided under a 'safe interim approach', endorsed by the Commission. The Committee had recommended long-term *SLAs* for West Greenland humpback whales in 2014 and West Greenland bowhead whales in 2015. The Committee had emphasised the need for increasing collaboration on research efforts related to ASW and had advised the Commission that all present hunt quotas would not harm stocks.

The Committee's work on whale stocks had resulted in updated information on Antarctic minke whale stocks in the Indo-Pacific region, Southern Hemisphere humpback and blue whale stocks and the eastern population of North Pacific blue whales. North Pacific sei whale stocks were the subject of an ongoing in-depth assessment; an assessment for humpback whales in the region was planned for 2017, as was an update on North Atlantic right whale stocks. A broader assessment of North Pacific blue whales was under consideration. The Committee had recognised that Arabian Sea humpback whales were the subject of serious concern. Assessments of North Pacific right whales, North Atlantic bowhead whales, Okhotsk Sea bowhead whales, sperm whales and Southern Hemisphere fin and sei whales were also needed.

Two technical working groups under the Committee had continued their work on stock definition and DNA testing. Good progress had also been made in the summary of stock abundance estimates and a new Scientific Committee working group had been established to continue this work.

The IWC-POWER cruises in the North Pacific had provided valuable information on areas not surveyed in recent decades. The Committee was very grateful to the Government of Japan for support through provision of a vessel. The final part of the initial phase of IWC-POWER was intended to cover the Bering Sea and the Chair of the Scientific Committee asked the Russian Federation to provide advice on the procedures necessary for obtaining permits. In the Southern Hemisphere, IWC-SORP had provided much valuable information and the Committee strongly supported its continuation and was grateful to the Government of Australia for their generous financial support.

The Committee had reported to the Conservation Committee on a wide range of issues of environmental concern, including strandings and mortality events, oil spill impacts, marine debris and chemical spills. Regarding the effects of anthropogenic sound, the Committee had recommended that the Commission develop a paper for submission to the IMO Marine Environment Protection Committee concerning the impacts on cetaceans of underwater noise from shipping.

The Committee was advancing its work on ecosystem modelling, in particular looking at how such models could contribute to the development of scenarios for testing the RMP, and was planning a joint workshop with CCAMLR.

Regarding small cetaceans, the Committee had provided advice to the Commission on a number of species including the franciscana, harbour porpoise, *Lagenorhynchus* spp, Maui's dolphin, South Asian river dolphins, sousa, vaquita, and Yangtze finless porpoise, as well as on general issues including direct takes and development of Conservation Management Plans (CMPs) for small cetaceans. It was also undertaking a three-year review of bottlenose dolphins. The Chair of the Scientific Committee drew attention to the valuable role of the Voluntary Fund for Small Cetacean Research.

The Committee had continued work on whalewatching and its impact on cetaceans, and was considering a contribution to the review of the Commission's five-year strategic plan on the issue.

Regarding Special Permits, an updated Annex P procedure for reviewing these was in place, following Commission Resolution 2014-5⁴. Two Expert Panel reviews had subsequently been held (NEWREP-A in February 2015⁵ and JARPN II in February 2016⁶), resulting in extensive advice and recommendations to the Commission. A number of procedural changes had been made at the Scientific Committee meeting in 2016 to give higher priority to the subject.

The Committee had undertaken a decadal review of the Southern Ocean Sanctuary and had reviewed the proposal for the South Atlantic Sanctuary; it had provided advice to the Commission on both these.

The Committee had: (1) provided updates and renewed support for three existing CMPs (western gray whales, southwest Atlantic southern right whales and eastern South Pacific southern right whales); (2) made recommendations regarding the proposed franciscana CMP; (3) identified a number of potential candidates for new CMPs; and (4) was continuing to explore the possibility of threat-based CMPs.

In concluding, the Chair of the Scientific Committee drew attention to the Committee's proposed work plan, and identified priorities and budget for 2017-2018 (see items 24 and 25 in IWC/66/Rep01(2016) for full text).

She recommended that all future Commission Chairs attend at least one Scientific Committee meeting before chairing a Commission meeting, to gain an insight into the workings of the Committee.

⁴IWC. 2016. Report of the 65th Meeting of the International Whaling Commission. Annex E. Resolutions Adopted at the 65th Meeting. Resolution 2014-5. Resolution on Whaling Under Special Permit. *Report of the 65th Meeting of the International Whaling Commission* 2014:53a-53b.

⁵IWC. 2016. Report of the Expert Panel to Review the Proposal by Japan for NEWREP-A, 7-10 February 2015, Tokyo, Japan. *J. Cetacean Res. Manage. (Suppl.)* 17:507-54.

⁶IWC. 2017. Report of the Expert Panel of the Final Review on the Western North Pacific Japanese Special Permit Programme (JARPN II), 22-26 February 2016, Tokyo, Japan. *J. Cetacean Res. Manage. (Suppl.)* 18:527-92.

Discussion

The Kingdom of Denmark, Republic of Guinea, Mexico, Monaco and Switzerland all congratulated the Scientific Committee, thanking the members, Chair, convenors and co-convenors for their hard work and encouraged the Commission to pay due attention to all the Committee's recommendations. The Kingdom of Denmark in particular commended the Committee's work on *SLAs* noting that there had been no controversial catch limits since 2009. Switzerland asked that the Voluntary Fund for Small Cetacean Research be promoted as widely as possible.

Antigua and Barbuda also congratulated the Committee on its work, noting the widespread uptake in fisheries management of RMP and *SLA* approaches. It noted, however, that while the Committee had provided information on these, it had not, to date, provided information or advice on possible maximum sustainable use rates and suggested that the next Scientific Committee report might do so. It questioned the justification for the Committee's recommendation that it develop a paper for submission to the IMO Marine Environment Protection Committee concerning the impacts on cetaceans of underwater noise from shipping, and asked that Contracting Governments provide updates on the national status of their cetacean stocks.

The Chair indicated that these subjects would be addressed under individual agenda items.

4. CONSERVATION COMMITTEE PRESENTATION

The Chair of the Conservation Committee gave a presentation summarising the Committee's work since IWC/65. The full report of the Conservation Committee (IWC/66/Rep05) is given as Annex G.

A number of intersessional meetings were highlighted, including Conservation Committee planning meetings in 2015 and 2016, meetings of the Joint Working Group of the Conservation Committee and the Scientific Committee (established through Resolution 2014-4⁷), and of the Standing Working Group on Whalewatching (SWG-WW) and the Conservation Management Plans Standing Working Group (CMP-SWG). There had also been specific meetings on the southwest Atlantic southern right whale CMP and the proposed franciscana CMP. Progress had been made on a wide range of other issues, including review of existing and proposed sanctuaries, ship strikes, bycatch, marine debris and whalewatching; these issues and associated recommendations would be discussed during subsequent agenda items.

The Committee had worked with a range of other organisations, including CMS and its daughter Agreements (ACCOBAMS and ASCOBANS), the IMO, SPREP and UNEP and agreed to continue engaging with other organisations on conservation issues of mutual interest.

The Chair of the Conservation Committee stressed that a very large amount of work had been undertaken by the Committee but that the burden of this had fallen on a relatively few Contracting Governments. He encouraged others to participate in the Conservation Committee's work.

⁷IWC. 2016. Report of the 65th Meeting of the International Whaling Commission. Annex E. Resolutions Adopted at the 65th Meeting. Resolution 2014-4. Resolution on the Scientific Committee. *Report of the 65th Meeting of the International Whaling Commission* 2014:50-53.

4.1 Strategic Plan

The Conservation Committee had developed and endorsed a Strategic Plan for 2016-2026 for the Committee whose vision was 'healthy well-managed populations and recovered cetacean populations worldwide'. The four key objectives of the Strategic Plan were: (1) to deliver effective and relevant conservation advice to the Commission and the international community that contributes to global efforts for cetacean conservation; (2) identify and promote best practice and collaborative management to address priority global threats facing cetaceans; (3) coordinate and deliver the conservation agenda across the Commission; and (4) in partnership with relevant organisations, establish and leverage financing mechanisms to resource global cetacean conservation efforts. The Strategic Plan identifies priority threats to cetaceans, priority actions, measures of success, key partnerships and resourcing.

The Conservation Committee had developed a work plan for the next intersessional period based on both the Strategic Plan and Committee recommendations (see Annex G). The Work Plan was intended to be a living document that could be adapted to take into account priority issues not currently on the Committee's agenda.

4.2 Joint Conservation Committee and Scientific Committee Working Group

The Conservation Committee endorsed the recommendations in IWC/66/CC25 that had provided an analysis of Scientific Committee recommendations of direct relevance to the Conservation Committee. The recommendations concerned: ways of standardising the presentation of recommendations in both the Conservation Committee and Scientific Committee; ways of improving accessibility, effectiveness and reach of IWC recommendations; and the need for the Conservation Committee to amend its agenda in the light of new themes of conservation importance identified by the Scientific Committee. In light of these, the Conservation Committee had established an intersessional working group to develop a draft structure and process for populating a web-accessible database of recommendations and outcomes.

5. PROPOSALS TO AMEND THE SCHEDULE

5.1 Proposal for the Establishment of a South Atlantic Whale Sanctuary

5.1.1 Introduction

Brazil introduced IWC/66/8 its proposal (co-sponsored by Argentina, Brazil, Gabon, South Africa and Uruguay) to establish a South Atlantic Whale Sanctuary (SAWS) through an amendment to the Schedule. Brazil noted that since the proposal was first tabled in 2001, it has been refined incorporating suggestions from numerous countries and experts, and that an increasing number of countries have acknowledged that actions need to be taken to protect the resources of the high seas. The primary goal of the proposed Sanctuary was to protect cetaceans in the South Atlantic Ocean; it would also serve to promote local sustainable tourism and cooperation among nations. Brazil drew attention to Resolution 086 adopted by the IUCN World Conservation Congress in September 2016, which supported the Sanctuary's establishment, and noted that the Sanctuary had wide backing by range States and civil society. It also noted that the proposal had been positively reviewed by the Scientific Committee and believed that scientific evidence indicated that the Sanctuary would have a positive rather than negative impact on the food security of coastal States

and was fully in line with Sustainable Development Goal (SDG) 14, on the conservation of marine resources, as well as the Paris Agreement. Recalling that this year the ICRW celebrates its 70th anniversary and that the Sanctuary proposal was first tabled 15 years ago, Brazil urged the Commission to adopt the proposal.

Argentina, Gabon and South Africa expressed their support for non-lethal research of cetaceans and for development of whalewatching as an alternative livelihood for the communities in the region, noting that the Sanctuary would help achieve these goals. Uruguay presented a short video prepared by the Organización de Conservación de Cetáceos in Uruguay relating to the creation of a whale sanctuary in the country in 2013.

5.1.2 Report of the Scientific Committee

The role of the Scientific Committee, as defined by the Commission, was not to recommend, or otherwise, the establishment of the Sanctuary, but to provide scientific advice. Relevant conclusions and recommendations, which had been reached by consensus, indicated: the information provided was comprehensive; that an adequate review of the scientific aspect of the SAWS proposal had been performed; and that a sanctuary such as the SAWS has, in principle, the potential to encourage collaboration and to facilitate development of coordinated scientific research and monitoring programmes relevant to meet IWC management and conservation goals (IWC/66/17 Item 19.1).

5.1.3 Report of the Conservation Committee

The Conservation Committee had provided a positive review of the Sanctuary, which it considered to provide measures to protect whales from several threats and to be consistent with the precautionary approach (IWC/66/CC14).

5.1.4 Discussion

Antigua and Barbuda, supported by Republic of Guinea, queried whether the proposed Sanctuary was a critical management tool and called for an assessment of the effectiveness of sanctuaries and whether they were essential. It suggested that Contacting Governments should instead focus on work within Exclusive Economic Zones. Iceland and Norway considered that the proposal was not science-based and therefore contrary to Article V of the Convention. The Republic of Korea also raised concerns over the scientific evidence behind the proposal. Japan opposed the proposal on the grounds that it went against the sustainable use of marine resources. It suggested that a way of addressing the very different positions on this proposal could be for countries in the region to instead establish national sanctuaries and enter into a Memorandum of Understanding for regional cooperation. The Russian Federation indicated that it was not opposed to sanctuaries in principle but was against global initiatives intended to prevent use of whale resources.

Australia, Chile, India, Mexico, Monaco, the Netherlands on behalf of the EU countries which are members of the IWC (hereafter 'on behalf of the EU'), Spain and USA supported the proposal, commending the work done by the proponents, the progress made on it since it had first been raised, and the wide range of benefits they believed it would provide, including whalewatching and non-lethal research cooperation opportunities. The Netherlands on behalf of the EU also highlighted the contribution that the proposal would provide to a number of existing international commitments, including those on biodiversity and climate change.

Australia, Mexico, the Netherlands on behalf of the EU, and Spain stressed that the proposal addressed all of the issues raised by reviews by the Scientific Committee and

Conservation Committee, and that this was the first proposed sanctuary before the IWC that included a management plan. In addition, Australia noted that the proposal builds on the success of the Indian Ocean Sanctuary and Southern Ocean Sanctuary, and that all of the IWC Contracting Governments that are range states support the proposal.

IUCN and Instituto de Conservación de Ballenas de Argentina, including on behalf of whalewatching operators in Peninsula Valdés, also expressed their support.

In the absence of consensus, Brazil asked for the proposal to be put to a vote.

The Secretariat confirmed that Benin and Croatia had had their voting rights reinstated. In relation to a request from Portugal to allow Spain to vote on its behalf, the Secretariat noted that no provision exists in the IWC for a proxy vote.

The proposal (which required a three-quarter majority in support) did not pass, with 38 votes in favour, 24 votes against and two abstentions.

Brazil, on behalf of all co-proponents, expressed its gratitude to the countries that had supported the proposal over the past 15 years. It stated its confidence in affirming the South Atlantic as an area for peace, cooperation and sustainable management, and stressed its commitment to dialogue with all countries.

In explaining its 'yes' vote, the Kingdom of Denmark noted that it was based on the common position of the European Union and the position of the proposed Sanctuary's coastal states. Its vote did not set a precedent with respect to any future sanctuary proposals.

In explaining its 'yes' vote, Costa Rica noted that it had given sanctuary status to all its marine waters, and that the South Atlantic Whale Sanctuary would protect whales in international areas of high value for cetaceans. Costa Rica recalled the support lent to the Sanctuary by the IUCN World Conservation Congress and the positive review of the proposed Sanctuary's management plan by the Scientific Committee.

New Zealand expressed its disappointment with the outcome of the vote, drew attention to the robust management plan backing the proposed Sanctuary, as well as to the contributions that the Sanctuary would make towards SDG14, cooperation and non-lethal research. It stated its hope that these activities can continue despite the rejection of the proposal.

In explaining its 'no' vote, Kenya highlighted that it takes sustainable utilisation of natural resources seriously, but believed that the recommendations from the Scientific Committee in relation to the Sanctuary were not sufficiently clear.

6. RESOLUTIONS

Seven Resolutions were proposed for adoption. In each case the proponent introduced the proposed Resolution, followed by a short discussion and, where necessary, arrangements for drafting groups were made. The agenda item remained open until all Resolutions had been fully addressed.

The Chair called for consensus to be reached wherever possible. Resolutions adopted by the Commission at this 66th meeting are given as Annex E.

6.1 Enhancing the Effectiveness of the International Whaling Commission

6.1.1 Introduction

Australia introduced a draft Resolution on Enhancing the Effectiveness of the IWC (IWC/66/10) submitted by Australia, New Zealand and the USA with Brazil as

an additional co-sponsor. Australia noted the significant reform achieved by IWC particularly over the past 10 years but believed that more work was needed to bring the Commission into line with best practice for multilateral treaty bodies. The proposed Resolution sought the Commission's endorsement of a comprehensive, independent review of the Commission's institutional and governance arrangements. The proposed review would focus on the Commission's operations not its scope. Australia pledged AUD 200,000 towards the proposed review.

6.1.2 Discussion

The USA hoped the Resolution could be adopted by consensus noting that meaningful reform required broad support and because it could eventually lead to tackling more contentious issues. The USA pledged USD 20,000 towards the cost of the proposed review.

Brazil, Mexico, Monaco and the Netherlands on behalf of the EU, supported the Resolution and noted that review is an integral part of responsible organisational management. The Netherlands on behalf of the EU asked that financial procedures and financial review methodology be included in the proposed review. It believed that the establishment of a working group would be a useful way to provide a consultative mechanism for the review process.

Iceland recalled previous reviews of the IWC, and stressed that any review should be independent. It considered that the scope of the proposed review was too limited.

Japan agreed with the importance of reviewing procedures so that all member states could benefit equitably from membership of the IWC. It proposed changes to the process outlined in the draft Resolution, especially with regards the selection of the review panel and offered to join a drafting group.

Following further drafting outside the meeting, the USA presented IWC/66/10rev. The main changes were the addition of Brazil and Mexico as co-sponsors and the addition of a preambular paragraph recognising the differing views in the Commission concerning the priority of the Commission's objective and mandates. The operative section had been modified to propose that a Steering Group of Contracting Governments representing a range of views select a panel of three to conduct the review, and a process for submitting the review was also outlined.

6.1.3 Action

IWC/66/10rev was **adopted by consensus**.

A Steering Group to take the work forward was established to include Australia, Costa Rica, Iceland, India, Japan, Monaco, Switzerland and USA. The Chair noted that further Contracting Governments were welcome to join.

6.2 Improving the Review Process for Whaling under Special Permit

6.2.1 Introduction

Australia introduced a draft Resolution on Improving the Review Process for Whaling under Special Permit (IWC/66/11), co-sponsored by New Zealand. Australia referred to Resolution 2014-5 which *inter alia* requests that no further Special Permits for the take of whales are issued under existing research programmes or any new programme of whale research until: (a) the Scientific Committee has reviewed the research programme to enable it to provide advice to the Commission in accordance with the instructions in Resolution 2014-5; (b) the Commission has considered the report of the Scientific Committee and assessed whether

the Contracting Government proposing or responsible for the Special Permit programme has acted in accordance with the review process described in Resolution 2014-5; and (c) the Commission has, in accordance with Article VI of the Convention, made such recommendations on the merits or otherwise of the Special Permit programme as it sees fit.

Australia stressed that Resolution 2014-5 was a response to the International Court of Justice (ICJ) ruling in 2014 (Judgment of 31 March 2014 concerning Whaling in the Antarctic). It regretted the decision of Japan to renew whaling unilaterally and believed the proposed review process was needed to ensure a more robust system. It stressed that the proposal did not imply its tacit approval for Special Permit whaling and that it would prefer such whaling to end. It considered the draft Resolution provided an interim solution, to give a role to Contracting Governments in the Special Permit process. It further stated that the wording in Article VI of the Convention confirmed that the Commission could advise Contracting Governments, and that Article VIII did not preclude the Commission giving advice to Contracting Governments on Special Permits. Australia also noted that the ICJ found Contracting Governments had a duty to cooperate with the Commission. The intent of the draft Resolution was to ensure due regard to international law.

New Zealand added that it believed Special Permit projects should be subject to more robust scrutiny via a fair, predictable and transparent process.

6.2.2 Discussion

The USA supported the draft Resolution noting that it did not believe lethal research was necessary and that it was important to find a way forward to address this.

The Netherlands on behalf of the EU respected the judgment of the ICJ, and considered this to be an important milestone in consideration of scientific whaling. It considered lethal research should be kept to a minimum, thanked the Scientific Committee for its work in reviewing Special Permits, and stated it would contribute to integrating the principles of the ICJ ruling into the IWC. It believed Japan should not have introduced new Special Permit whaling before the Commission had given advice. However, it sought clarification on the purpose of the proposed working group and was concerned the tasks should not repeat the work of the Scientific Committee.

Japan thanked the proponents, noting that the issue was contentious and that there was a fundamental difference of view on whales and whaling which underpinned different views on lethal and non-lethal research. It did not consider it had ignored the ruling of the ICJ and believed it was acting in good faith, trying to follow Scientific Committee guidance. At the Expert Review Panel Workshop of NEWREP special permit meeting held in Japan (NEWREP-A in February 2015) the Scientific Committee had made 29 scientific recommendations. Japan had responded to all of these (pp.93-100 of IWC/66/Rep01(2015)).

Japan further noted that Article VIII of the Convention and paragraph 30 of the IWC Schedule were the legally binding components for Special Permits and that Japan's interest was to make the proposed draft Resolution align perfectly with these.

India, Monaco and the Netherlands on behalf of the EU supported the establishment of a Standing Working Group as proposed in the draft Resolution on condition that such a group would not detract from the role of the Scientific Committee.

Dolphin Connection speaking also on behalf of sixteen other NGOs did not support the issuance of Special Permits

for whaling activities in an established Sanctuary or anywhere else, and believed the ICJ judgment made clear in paragraph 61 that whether or not the killing of whales is for the purposes of scientific research should not depend simply on the perception of the State issuing the permits. They applauded Australia and New Zealand's efforts in submitting the proposed Resolution.

IWMC speaking on behalf of eight pro-sustainable-use NGOs disagreed that the issue of Special Permits could be considered a loophole, as it was explicitly allowed under Article VIII of the Convention. They did not agree with the draft Resolution as it stood.

Following discussions outside the meeting, Australia presented IWC/66/11rev. Australia highlighted that efforts had been made to accommodate all views in the revised text, including to provide greater clarity about consistency with paragraph 30 of the Schedule to the Convention and Article VIII of the Convention, about the establishment and work of the Standing Working Group, and in the terms of reference.

The Netherlands on behalf of the EU expressed support for the Resolution.

Japan expressed its commitment to cooperate with the IWC, to share information and to discuss the scientific aspects of its research. However, Japan stated that it is against the Resolution as it is aimed at unduly limiting the implementation of Japan's scientific research programmes regardless of scientific value and in a manner inconsistent with the Convention. The Resolution could provide more opportunities for the non-scientists who are opposed to Japan's Special Permit research to express their opposition based on their own views, without having due regard to Japan's position concerning whales and the scientific basis behind Japan's research plans. For instance, the Resolution says 'The Contracting Government proposing or responsible for the Special Permit programme in question may participate in the working group as an observer only'. The Resolution has implications for all Contracting Governments that wish to propose Special Permit research programmes in future.

Japan emphasised that it is Paragraph 30 of the Schedule that sets out the binding procedure for review of Special Permit proposals. This only prescribes review and comment by the Scientific Committee and no more, as Special Permit research is essentially a scientific matter. The Resolution does not change the binding procedure for review that is currently in force under the Convention and Paragraph 30 of the Schedule.

Japan stated its understanding that in 2017 the Scientific Committee will review new, ongoing and completed Special Permit programmes, as it has done until 2016 in accordance with Annex P which is currently in force. Japan expressed its commitment to cooperate with the IWC, to share information and to discuss the scientific aspects of its research. It noted, however, that the Scientific Committee report and its summary are sufficient and that an additional process to mediate between the Scientific Committee and the Commission was not necessary and may incorporate political as well as scientific considerations.

Antigua and Barbuda concurred with Japan, regarding interpretation of paragraph 30 of the Schedule and Article VIII of the Convention.

6.2.3 Action

In the absence of consensus, Australia, also on behalf of New Zealand, asked to proceed to a vote. The vote on the resolution in IWC/66/11rev (which required a simple majority in support) **passed**, with 34 votes in favour, 17 votes against and 10 abstentions.

In explaining its 'no' vote, Switzerland noted that it did not see the need for the establishment of the Standing Working Group, as the outcomes of the Scientific Committee were sufficiently clear.

In explaining its 'yes' vote, Colombia noted that although they supported the Resolution based on Colombia's conservation policies, it disagreed with including reference to decisions by the International Court of Justice within IWC Resolutions, as doing so may affect the impartiality of the Commission.

A Standing Working Group to take the work forward was agreed, comprising Australia, New Zealand and USA. The Chair noted that additional Contracting Governments were welcome to join.

6.3 Resolution on Food Security

6.3.1 Introduction

Ghana, supported by co-proponents Côte d'Ivoire and Republic of Guinea, introduced a draft Resolution on Food Security (IWC/66/12) drawing attention to the 2030 Sustainable Development Goals, particularly Goal 2 (End hunger, achieve food security and improved nutrition and promote sustainable agriculture) and Goal 14 (Conserve and sustainably use the oceans, seas and marine resources for sustainable development) and the strategic goals of FAO. They believed the Commission should take full account of livelihoods in developing nations, particularly small coastal and island nations that depended heavily on marine resources, where alleviating poverty and ensuring food security were major concerns. They noted that IWC was already collaborating with FAO on bycatch and believed it was appropriate to widen interaction between the two organisations.

6.3.2 Discussion

Antigua and Barbuda, Cameroon, Iceland, Japan, St Kitts and Nevis and St Vincent and The Grenadines supported the draft Resolution and reaffirmed the points raised by the proponents.

Australia, Costa Rica, Gabon, India, Mexico, the Netherlands on behalf of the EU, New Zealand, South Africa and USA did not support the draft Resolution in its current form. All acknowledged the vital importance of global food security and of alleviating hunger and stressed their commitment to meeting these goals. However, they noted that, under the IWC, food security in relation to whaling is addressed under Aboriginal and Subsistence Whaling and believed that wider issues of food security were more appropriately dealt with in other fora, notably FAO. They observed that non-consumptive use of cetaceans could contribute to livelihoods and food security and did not believe this was reflected in the draft Resolution as it stood. Australia, the Netherlands on behalf of the EU and New Zealand also believed that some of the preambular text of the draft Resolution could potentially be interpreted as undermining the moratorium on commercial whaling and could not support any such Resolution unless it contained a clear reaffirmation of the moratorium.

Seeing no consensus, the Chair asked the proponents to confer amongst themselves and more widely, and return to the Commission with suggestions for ways forward.

6.3.3 Action

Following discussions outside the meeting, Ghana expressed disappointment that no consensus had been reached on the text of the draft Resolution, noting that significant amendments had been made since it had first been presented

at IWC/65 in an attempt to incorporate all views, in particular to clarify that it was unrelated to the moratorium. Ghana did not call for a vote but stated that it would continue discussion intersessionally with a view to presenting a revised text to IWC/67 in 2018.

6.4 Resolution on the Creation of a Fund to Strengthen the Capacity of Governments of Limited Means to Participate in the Work of the International Whaling Commission

6.4.1 Introduction

The Chair of the Commission noted that this Resolution had been developed by the Working Group on Providing Options to Governments of Limited Means to Participate in the Commission's Work, chaired by Japan (see IWC/66/F&A09). He thanked the Group and its Chair for their hard work.

The Chair of the Working Group introduced the draft Resolution on the Creation of a Fund to Strengthen the Capacity of Governments of Limited Means to Participate in the Work of the IWC (IWC/66/13). He noted that all members of the IWC have recognised the importance of this issue, which has been discussed by the IWC since 2011. He drew attention to the provisions made by other international bodies such as CITES, IATTC and IOTC to support participation by developing countries. He highlighted the considerable work undertaken on the Resolution by the Working Group, which benefitted from participation from every region and represented both pro- and anti-whaling views.

6.4.2 Discussion

Ghana, a co-proponent of the Resolution, agreed that the IWC would be more effective if developing countries were supported to participate.

The Chair of the Finance and Administration Committee reported that there was support for the overall concept of the proposed Resolution within his Committee but some countries had needed more time for deliberations and had subsequently worked with the proponents.

Kiribati, St Vincent and The Grenadines, Tuvalu, Guinea, Iceland and St Kitts and Nevis expressed their support for the proposed Resolution.

The Netherlands on behalf of the EU, supported by Argentina and Australia, thanked the Working Group for its intersessional work. It recognised the importance of effective participation by developing countries and the standard practice of providing support followed by other international organisations. However, it considered the need to give due recognition to Article III.5 of the Convention and believed that further discussion was needed.

Australia believed that more work was needed to ensure the fund was consistent with Article III.5 of the Convention, to clarify how the fund would operate including the eligibility process, and to consider how the funding for capacity building and research would relate to the work plans of the Science and Conservation Committees. It noted that implementation of the proposed Resolution on Enhancing the Effectiveness of the IWC (IWC/66/10) might help with further work on increasing participation.

The USA supported the establishment of a voluntary assistance fund to enable participation and considered that this should be extended to cover participation in meetings of the Science and Conservation Committees and associated Working Groups. In response to concerns regarding the wording of Article III.5 of the Convention, the USA suggested that the fund could be used to assist eligible governments to determine and pay the costs of participation.

Following discussion outside the meeting, Japan presented IWC/66/13rev2, the result of work by a drafting group consisting of Antigua and Barbuda, Australia, Brazil, Costa Rica, Mexico, the Netherlands on behalf of the EU, USA and Japan. Revisions mainly concerned IWC's financial arrangements on eligibility.

Togo, and St Vincent and The Grenadines welcomed the revised Resolution, which they hoped could be adopted by consensus.

Colombia on behalf of the Buenos Aires Group⁸, and the Netherlands on behalf of the EU, welcomed the intention of the Resolution as revised but felt it needed further work intersessionally.

6.4.3 Action

In the absence of consensus, Japan asked to proceed to a vote. The vote on the Resolution in IWC/66/13rev2 (which required a simple majority in support) **passed**, with 30 votes in favour, 0 votes against and 31 abstentions.

Japan stated the importance of this issue to all Contracting Governments, noting the need to take into account the remaining issues through the implementation of the Resolution.

The Netherlands on behalf of the EU explained that EU Member States Party to the Convention supported the intent of the Resolution, but that due to insufficient time to resolve minor outstanding issues those present had abstained.

New Zealand firmly believed in full participation, including strengthening technical capacity for countries in IWC Groups 1 and 2 and participation within Committees and the Bureau. Australia noted that there would be opportunity to further improve the process through the review outlined in the Resolution.

The USA associated itself with comments from New Zealand and Australia and supported a fund which is consistent with Article III.5. However, it had abstained because it believed it was important the Resolution be adopted by consensus.

Argentina on behalf of the Buenos Aires Group explained their abstention because of uncertainty over eligibility criteria and need for consistency with Article III.5.

6.5 Resolution on Cetaceans and Their Contribution to Ecosystem Functioning

6.5.1 Introduction

Chile introduced a draft Resolution on Cetaceans and their Contribution to Ecosystem Functioning (IWC/66/15rev2) as a co-proponent with Argentina, Brazil, Costa Rica, Dominican Republic, Mexico and Uruguay. It noted that increasingly research had highlighted the important roles of cetaceans in marine ecosystems. Ecosystem productivity was enhanced through the release of whale faecal plumes that concentrate nitrogen and iron near the surface and biodiversity was enhanced by the decay of whale carcasses. The purpose of the draft Resolution was to acknowledge the ecosystem services provided by cetaceans and the need to consider these issues in the conservation and management of cetacean population and the marine environment more generally.

6.5.2 Discussion

The Chair of the Scientific Committee stated that if the proposed Resolution were adopted, the Committee would require clear guidance on which further aspects of ecosystem services relating to cetaceans were needed to be incorporated into its work.

⁸Buenos Aires Group countries: Argentina, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Mexico, Panama, Uruguay.

The USA, supported by Australia, Monaco, the Netherlands on behalf of the EU (who had suggestions to amend the text) broadly supported the draft Resolution, noting the growing scientific evidence that cetaceans enhance primary productivity. The USA proposed that the Resolution be referred to the Scientific Committee for better information on the current status of science and information needs.

Japan, Iceland and Norway did not support the draft Resolution. Japan considered that it was outside the scope of the IWC as it stood and could only consider supporting it if it also made reference to provisioning, cultural and supporting services. Iceland did not consider current scientific evidence adequate to provide a basis for the Resolution.

Centro de Conservación Cetacea supported by Instituto de Conservación de Ballenas and other NGOs elaborated on the important role that cetaceans played in recycling important limiting micronutrients such as iron and nitrogen and increasing the spatial extent of productive areas.

Chile reiterated that the revised version of the draft Resolution (IWC/66/15rev2) was titled 'Draft Resolution on Cetaceans and Their Contributions to Ecosystem Functioning'. This narrowed the Resolution's scope from the original version which was titled 'Draft Resolution on Cetaceans and Ecosystem Services' (IWC/66/15), so that concerns over other ecosystem services should not apply.

6.5.3 Action

Following further discussions outside the meeting, Chile presented IWC/66/15rev3, noting that it included contributions from several Contracting Governments.

Japan expressed concerns about the draft Resolution's lack of consideration for provisioning services and stated that it could not support it.

In the absence of consensus, Chile asked to proceed to a vote. The vote on the Resolution in IWC/66/15rev3 (which required a simple majority in support) **passed**, with 36 votes in favour, 16 votes against and 9 abstentions.

6.6 Resolution on the Minamata Convention

6.6.1 Introduction

Uruguay introduced a draft Resolution on the Minamata Convention (IWC/66/14rev). It reported that Australia, Mexico, Switzerland and USA had suggested amendments and that a revised version would be provided later in the meeting, indicating that proposed changes would not alter the substance or purpose of the Resolution. It noted that the IWC scope of action would be compatible with that of the Minamata Convention when the latter came into force and stated that it would expect the Scientific Committee to submit a summary of persistent contaminants around the world.

6.6.2 Discussion

The Chair of Scientific Committee indicated that the Committee would review progress with the Minamata Convention if requested, with respect to effects of mercury on cetaceans; one aspect of this work, namely the development of a portal on mercury contamination mapping (which could be expanded to other contaminants), would have budgetary implications.

Brazil, Chile, Colombia, Mexico, Monaco, the Netherlands on behalf of the EU and Switzerland supported the draft Resolution in principle, with Brazil and Monaco offering to co-sponsor it. The Netherlands on behalf of the EU noted that the issue had been raised in the past within the IWC, recalling a previous draft Resolution submitted

by the EU Member States Party to the Convention in 2012, concerning the impact of the degradation of the marine environment on the health of cetaceans and related human health effects. Switzerland considered the draft Resolution to be timely as the Minamata Convention was likely to enter into force in early 2017 once 50 countries had ratified (currently the total was over 30).

Japan and Iceland did not support the draft Resolution, believing that the issue was outside the scope of the Convention and well covered in other arenas. Japan noted that studies on whaling communities in Japan had shown no adverse impacts on human health of whale consumption - indeed consumers of whales were known for their longevity. Japan, Iceland and Norway suggested that the IWC examine this relationship further. Iceland noted that it had an extensive sampling system in place and that there was virtually no risk of contaminated whale meat entering the market.

The Russian Federation reported that it had signed the Minamata Convention. It was in general against any expansion of the remit of the IWC but was not in principle opposed to the draft Resolution. It noted that the gray whales eaten in Chukotka were benthic feeders, and that heavy metal contamination was not an issue in this case.

6.6.3 Action

Following discussions outside the meeting, Uruguay presented IWC/66/14rev3, noting that this revised draft Resolution was the result of a constructive dialogue with Contracting Governments from different regions.

Japan believed that the proposed Resolution fell outside the scope of the Convention and expressed concern that it discourages lethal research programmes that could provide useful information to further the Resolution's aims.

In the absence of consensus, Uruguay asked to proceed to a vote. The vote on the draft Resolution in IWC/66/14rev3 (which required a simple majority in support) **passed**, with 38 votes in favour, 23 votes against and no abstentions.

6.7 Resolution on Vaquita Convention

6.7.1 Introduction

The USA presented the proposed Resolution on the Critically Endangered Vaquita (IWC/66/20). Citing Rule J.2 of the Rules of Procedure, it explained that the proposed Resolution had been submitted late to the IWC given the dire status of the vaquita and because of the decisions from CITES and IUCN over the last sixty days for urgent action to address the supply and demand of totoaba swim bladders and the related vaquita bycatch impact. This draft Resolution urged actions to prevent the extinction of the vaquita, now the most endangered cetacean having undergone an estimated population decline of 80% between 2011 and 2015 and believed to number only 59 individuals. The decline was a result of dramatic escalation of illegal fishing and trade of totoaba in the Upper Gulf of California, Mexico, involving large-mesh gillnets which presented a high entanglement risk to vaquitas. The fishery was driven by the high price of totoaba swim bladders in China.

Commending Mexico for the steps that it had put in place to protect the vaquita, and noting that the USA had provided support in these efforts, the USA quoted the report of the Scientific Committee (IWC/66/Rep01(2016), p.351⁹): 'The choice is simple and stark: either gillnetting in the Upper Gulf ends or the vaquita becomes extinct very soon.'

⁹IWC. 2017. Report of the Scientific Committee. Annex M. Report of the Sub-Committee on Small Cetaceans. *J. Cetacean Res. Manage. (Suppl.)* 18:340-86.

Accepting the different views on the extent to which small cetaceans fell within the remit of the IWC, the USA explained that it had been working with Contracting Governments to find acceptable language, and aimed for approval by consensus.

The Chair of Scientific Committee confirmed that the draft Resolution incorporated all of the Committee's recommendations.

6.7.2 Discussion

Mexico thanked the USA for the support that it had provided in attempts to conserve the vaquita and confirmed that the proposed Resolution was in line with Mexican national policy. Mexico had not co-sponsored the draft Resolution so that it would come from independent Contracting Governments.

Argentina, Australia, Austria, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, the Netherlands on behalf of the EU, Republic of Korea and Switzerland supported the proposed Resolution, reaffirming that the IWC was the global authority on cetaceans and calling for urgent action. The Netherlands on behalf of the EU confirmed its willingness to co-sponsor the draft Resolution. Austria stressed that the essence of the IWC was to avoid extinction, and believed that the reputation and credibility of the IWC was at stake on this issue.

Iceland, Japan, Russian Federation and St Vincent and The Grenadines shared the concerns about the status of the vaquita, but expressed their belief that the IWC was not the appropriate forum for addressing small cetacean matters. However, Iceland and Japan indicated that they might be prepared to support the draft Resolution and the Russian Federation stated they would not block consensus.

IUCN also supported the draft Resolution, indicating that unless action were taken before IWC/67 to ban gillnetting and to support Mexico in providing alternative livelihoods for fishers, it would be too late. The Environment Investigation Agency on behalf of 56 NGOs, also supported the proposal, and called for a ban on gillnets use in corvina fisheries in Mexico as this fishery was used as cover for totoaba fishing.

6.7.3 Action

Following discussions outside the meeting, the USA presented IWC/66/20rev, expressing appreciation for the collaborative approach taken, and highlighting that the proposed Resolution does not seek to prejudice the position of different members regarding IWC's competence with regard to small cetaceans.

Antigua and Barbuda, Ghana, Republic of Guinea, Japan, Russian Federation, St Lucia and St Vincent and The Grenadines expressed concern for the status of the vaquita but reiterated their views on small cetaceans, concluding that they would not block consensus but would not join it. Japan noted that it was preparing a joint statement to clarify its position on this issue and it invited countries sharing its view to sign the statement. Russian Federation clarified that they would not sign the statement as their position was independent.

The Resolution in IWC/66/20rev was **adopted by consensus**.

Antigua and Barbuda, Benin, Cambodia, Cameroon, Cote d'Ivoire, Eritrea, Ghana, Grenada, Guinea, Iceland, Japan, Kenya, Kiribati, Lao PDR, Mauritania, Mongolia, Morocco, Nauru, St Kitts and Nevis, St Lucia, St Vincent and The Grenadines, Suriname, Tanzania, Togo and Tuvalu did not block the consensus, and supported the following statement:

'The above members make the following statement on Resolution IWC/66/20 submitted by the USA concerning the vaquita (*Phocoena sinus*), which is critically endangered with an estimated population of 59 animals. All countries putting their names to this statement are deeply concerned about the status of the vaquita, associate themselves with the many expressions of concern from other member states and Non-Governmental Organizations (NGOs) and share the hope that this species will recover. The International Convention for the Regulation of Whaling specifies that the IWC has responsibility for regulating thirteen species of cetaceans. The IWC has no legal authority over the vaquita or other small cetaceans and has no substantive means to influence its status, including managing fisheries that catch small cetaceans incidentally. Resolution IWC/66/20 is therefore only of limited and symbolic importance to the vaquita, whose precarious situation will in no way be improved by the passing of this Resolution or otherwise. While acknowledging the significant steps that Mexico has taken to conserve the vaquita, it should be apparent that another resolution at the IWC provides no further protection measures.'

7. ABORIGINAL SUBSISTENCE WHALING

This item was originally considered by the Commission's Sub-Committee on Aboriginal Subsistence Whaling, chaired by Joji Morishita (Japan). The full report of the Sub-Committee on Aboriginal Subsistence Whaling (IWC/66/Rep03) is attached as Annex F.

7.1 Report of the *Ad hoc* Aboriginal Subsistence Whaling Working Group

7.1.1 Working Group report

The Chair of the Aboriginal Subsistence Whaling Working Group (ASWWG) introduced the report of the Working Group, noting that the ASWWG was first established at IWC/63 in 2011 with terms of reference to identify and consider unresolved aboriginal subsistence whaling (hereafter ASW) issues. The purpose of this ASWWG report (see item 3.1 of Annex F) was to remind the ASW Sub-Committee of the groups past activities and provide an update on the progress of its deliberations. In 2014 the group had held a meeting with hunters¹⁰ that had resulted in the recommendation that an IWC Expert Workshop on ASW be convened to consider the long-term issues of greatest concern, focusing primarily on removing ASW catch limits from political discussion and the careful development of an appropriate standardised needs statement.

7.1.2 Report of the 2015 IWC Expert Workshop on Aboriginal Subsistence Whaling

As reported in IWC/66/ASWRep01¹¹, the Expert Workshop, hosted by Greenland in the town of Maniitsoq, had included experts on diet, nutritional, cultural and socio-economic needs, evolution in traditional societies in the modern world and international law. Emphasising the great diversity of ASW communities, Workshop participants had emphasised that it was the responsibility of the governments concerned to determine need and to present information to the Commission about such needs. The Workshop agreed that

¹⁰IWC. 2016. Report of the 65th Meeting of the International Whaling Commission. Annex F. Report of the Aboriginal Subsistence Whaling Sub-Committee. Appendix 4. Chair's Report from *ad hoc* Aboriginal Subsistence Whaling Working Group meeting with Native Hunters, 10 September 2014. *Report of the 65th Meeting of the International Whaling Commission* 2014:61-65.

¹¹Published in this volume.

ASW need does not exist only ‘upon proof’ and that there was no single way to calculate need given the diversity of the communities concerned and the factors involved. The Workshop emphasised that ASW cultures change in response to internal and external circumstances such as climate change, pollution, socio-economic and technical development and political priorities, but that this did not negate or diminish their status.

A key component of the Workshop was to consider international law. The Workshop outcomes stressed that IWC should reflect on the specific status and rights of indigenous peoples and align its practice with those that Contracting Governments had committed to elsewhere in the international system.

The Workshop agreed that there was no need to repeat information in needs statements, and that additional information be provided only when new information was required or changes to catch limits envisaged. Emphasis was placed on allowing the necessary flexibility given the large variety of hunts, while at the same time ensuring a basis for the Commission to reach a decision on catch/strike limits. To underline this, the Workshop also recommended that the expression ‘needs statement’ be replaced by ‘Description of the [insert name] hunt relevant to catch/strike limit requests’. Regarding information on needs, the Workshop recommended that it be compiled and presented on the IWC website to ease access, facilitate updates and present an overview of past information.

The Workshop recommended that consideration of catch limits renewal be initiated earlier than at present to allow more time for consideration. To achieve this, the Workshop developed a timetable (table 2 in the report) for consideration by the Commission.

7.1.3 Invited Speaker on Indigenous People’s Rights

At the invitation of the Commission, Dr Dalee Dorough, an Expert Member of the United Nations Permanent Forum on Indigenous Issues and Associate Professor at the Department of Political Science at the University of Alaska, gave a presentation in which she addressed the international human rights law developments specifically concerning Indigenous peoples. She set out the central objectives of international human rights law, including the obligations of Governments to promote and protect human rights. She noted the interrelated, interdependent and indivisible nature of human rights and referenced the International Bill of Human Rights and noted that since 1948 the UN has adopted some 80 human rights treaties and declarations, including the 2007 UN Declaration on the Rights of Indigenous Peoples [2007]. She drew attention to provisions that highlight Indigenous Peoples’ right to self-determination, to lands, territories and resources, to participate in decision-making, to free, prior and informed consent, to protection from destruction of their culture and to security, including food security and cultural security. She highlighted Article 20 of the 2007 UN Declaration, noting the right of Indigenous Peoples to pursue their own economic activities related to subsistence, including whaling. She also referred to other Indigenous-specific mandates established by the UN and to other relevant international developments including the Paris Agreement and the 2030 Sustainable Development Goals. She noted that, when rights are affirmed through international instruments, there are clear corresponding State responsibilities and obligations. The IWC, through the ASW Sub-Committee, has some control over the rights of subsistence of Indigenous People. As an intergovernmental body it had an opportunity to demonstrate respect for and

recognition of international Indigenous human rights standards by integrating them into its work. Not doing so could lead to discrimination.

7.1.4 Discussion

The Kingdom of Denmark speaking on behalf of Greenland, and supported by Norway believed it was important that the momentum from the IWC Expert Workshop in Maniitsoq be maintained, so that outstanding issues could be resolved, taking into account UN instruments on Indigenous People’s rights. It encouraged all Contracting Governments to work towards a constructive solution so that the situation that arose in 2012 would be avoided in future.

Argentina, Chile, the Dominican Republic and Mexico could not accept the report and recommendations of the Maniitsoq Workshop in their entirety, being particularly concerned with what they considered to be the unresolved issue of potential conflicts over shared resources between different sets of indigenous rights.

The Netherlands on behalf of the EU noted that regulation of aboriginal and subsistence whaling was an integral part of the IWC’s duties and recognised the need for a more consistent and long-term approach. It supported the proposed work plan with timeline (see Annex F, appendix 4, table 2), including the making of information on descriptions of hunts and existing needs statements available through the IWC website.

Switzerland, supported by St Vincent and The Grenadines, believed there was an urgent need for the IWC to align itself with other international bodies in particular by moving away from the concept of a needs statement, which it considered embodied an outmoded paternalistic approach.

The USA concurred with Switzerland and also believed the conclusions and recommendations from the Maniitsoq Workshop merited further consideration by the Commission. It believed that some of the Workshop recommendations should be addressed before new catch limits were discussed at IWC/67 and supported the work plan and timeline (see Annex F, appendix 4, table 2). It stated that it would be contributing to the voluntary fund designed to help communities fulfil requirements under the existing Schedule.

NAMMCO also believed that the requirement for a needs statement was in violation of indigenous people’s rights as embedded in international law. It believed that incorporation of such rights would streamline the quota-setting process in ASW. IWMC noted that legal findings had determined that provisions under Article 27 of the International Covenant on Civil and Political Rights continued to apply to minority groups using non-traditional techniques.

Animal Welfare Institute agreed that IWC had a duty to implement customary international law and that IWC processes with regard to ASW could be improved by doing so but believed that such rights were not absolute and that, in order to fulfil its mandate, the IWC could justifiably take actions that affected those rights.

There was general agreement that the ASWWG should continue its work. The Russian Federation asked that Dr Dorough’s presentation be made available on the IWC website, to which she assented.

The Chair noted that while there was broad support for continuing the approach outlined in appendix 4 (Annex F), there was not full support for the Workshop report and its conclusions and recommendations as a whole. He noted the need to give further direction to the ASWWG as to how to proceed and suggested that Argentina, the Kingdom of Denmark on behalf of Greenland, the USA and a small number of others confer and report back to the Commission.

7.1.5 Action

The USA reported on further discussions between the four ASW countries and others and submitted the following proposed wording:

‘With the goal of improving the process and increasing understanding, the Commission endorses the recommendation of the Sub Committee to emphasise the value of the process, such as outlined in Table 2 of the Expert Workshop on Aboriginal Subsistence Whaling report (IWC/66/ASWRep01). It welcomes the pilot use of the table as an important step in the process for consideration of catch/strike limit requests made in 2018, and does so with the following amendment and understanding:

- Action (16) is modified so column 3 (Action) retains the words: ‘Debate and decision (ideally by consensus) on proposed Schedule amendments’. Any additional text (the last two sentences) and the footnote are deleted;
- this is without prejudice to any change in the existing terminology; and,
- that the Contracting Governments concerned will continue to submit information in support of proposed catch/strike limits for ASW to satisfy aboriginal subsistence needs.

The Commission submits the Maniitsoq Expert Workshop Report to the ASW Working Group for further consideration and recommendation, as appropriate to IWC/67 in 2018.

The Commission acknowledges that the ASW Working Group organises its own work in accordance with its terms of reference and the tasks assigned to it by the Commission. A face-to-face meeting may be necessary.

The Commission encourages contributions to the voluntary ASW fund’.

The Chair indicated that this would allow the Working Group to report back at IWC/67. The proposal was accepted.

7.2 Aboriginal Subsistence Whaling Management Procedure

In 2014 the Commission adopted Resolution 2014-4¹² which emphasised the need to regulate ASW in the future through a more consistent and long term approach. *Inter alia*, the Resolution requested the Scientific Committee to give high priority to all AWMP related objectives.

The Scientific Committee has continued to give high priority to ASW work with a focus on developing *SLAs* for the remaining Greenland hunts; and progressing work on finalising the scientific aspects of the ASW Scheme.

7.2.1 Report of the Aboriginal Subsistence Whaling Sub-Committee

The Chair of the ASW Sub-Committee updated the Commission on work to develop the management procedure approach for subsistence whaling. He drew attention to work of the Scientific Committee and the future work plan relating to *SLAs* (*Strike Limit Algorithms*) and *Implementation Reviews* given in the Report of the Aboriginal Subsistence Whaling (ASW) Sub-Committee (Annex F, table 1).

The Chair of the ASW Sub-Committee noted that the information on the completed West Greenland *Bowhead SLA* hunts was included in the 2015 Scientific Committee Report. Work on the West Greenland *Fin Whale SLA* was ongoing and should be completed with recommendations at the 2017 Scientific Committee Annual Meeting. He noted that the development of an *SLA* for the Greenland common minke whale hunts was the most complex of those for Greenland. The Scientific Committee had agreed that the approach for this *SLA* should be the RMP operating model for the entire North Atlantic.

The Scientific Committee undertakes *Implementation Reviews* to check the validity of *SLAs* at regular intervals (usually every five years) to ensure no new information is available that would require further testing. The next review is for the Bering-Chukchi-Beaufort Seas stock of bowhead whales which will start in 2017. The *Implementation Review* for gray whales is expected to begin in 2018 following completion of the rangewide review.

Acknowledging ASW Sub-Committee endorsement of Scientific Committee recommendations on these issues, the Commission endorsed recommendations concerning development of *SLAs* for Greenland subsistence whaling and an *Implementation Review* for gray whales.

7.3 Aboriginal Whaling Scheme

The purpose of the Aboriginal Whaling Scheme is to manage several practical issues including survey intervals, carry over and data collection. The Scientific Committee considers the Scheme to be an important and necessary component of safe management under the ASWMP as discussed in Item 7.2 above. The original Scientific Committee recommendation on the Aboriginal Whaling Scheme was made in 2003 but not adopted. Since 2015 the Scientific Committee has worked to review the Scheme with a view to presenting an updated recommendation prior to 2018.

7.3.1 Report of the Aboriginal Subsistence Whaling Sub-Committee

The Chair of the ASW Sub-Committee reported its discussions on the Aboriginal Whaling Scheme (i.e. the common components of aboriginal subsistence whaling management aside from the individual *SLAs* such as carryover provisions, data needs and guidelines for surveys, policy in the absence of timely abundance estimates), see item 5 of Annex F.

In 2016, the Scientific Committee agreed that the performance of the ‘interim allowance strategy’ for when an abundance estimate was not available in a timely manner, tested using the *Bowhead SLA* was acceptable from a conservation and user perspective and could be recommended. This approach was now being tested for other *SLAs*.

The Scientific Committee aimed to finish the remaining scientific components of the Aboriginal Whaling Scheme in time for the 2017 annual Scientific Committee meeting.

Noting ASW Sub-Committee endorsement of Scientific Committee recommendations on the Aboriginal Whaling Scheme, the Commission endorsed the Report and recommendations.

7.4 Annual Reviews of Aboriginal Subsistence Whaling Catch Limits

Size and duration of catch limits for Aboriginal Whaling are set out at Paragraph 13 of the Schedule to the Convention. Some of the catch limits described in the Schedule are subject to annual review by the Commission advised by the Scientific Committee. Other provisions are subject to review if new scientific data becomes available. The Chair of the ASW Sub-Committee reported its discussions on this review process (see Annex F, item 6).

7.4.1 Bering-Chukchi-Beaufort Seas stock of bowhead whales

Mexico commended the work of the Alaskan Eskimo Whaling Commission in successfully improving methods for estimating stock size; the population has now reached 16,000 animals.

¹²IWC. 2016. Report of the 65th Meeting of the International Whaling Commission. Annex E. Resolutions Adopted at the 65th Meeting. Resolution 2014-4. Resolution on the Scientific Committee. *Report of the 65th Meeting of the International Whaling Commission* 2014:50-53.

The Scientific Committee had agreed that the present catch limits will not damage the stock.

The Commission **endorsed** the catch limits.

7.4.2 *North Pacific Eastern stock of gray whales*

The Scientific Committee had agreed that the present catch limits will not damage the stock.

With regard to stinky (inedible) whales, a small working group was formed whose report was available as IWC/66/21.

The Netherlands on behalf of the EU noted that the occurrence of stinky whales in catches as reported by the Russian Federation appeared to be decreasing. However, it believed it would be beneficial for the Scientific Committee to look further at this phenomenon and report at IWC/67. In response, the Russian Federation noted that experienced whalers could differentiate between stinky and non-stinky whales at sea under good conditions so that the number struck and landed was generally decreasing. However, it believed that the proportion of stinky whales in the population had remained more or less constant at around 10% of whales approached.

The Russian Federation further noted that the present catch limits were insufficient to meet subsistence needs and a future request would take this into account. It restated its opinion that stinky whales should not be counted as part of the quota. It asked the Commission to instruct the Scientific Committee to look at the possible consequences of excluding struck or landed stinky whales from catch totals on the *SLA* for this stock and to undertake a review of scientific papers on the phenomenon.

Mexico agreed with the suggestion for the Scientific Committee to further examine the stinky whale issue.

LegaSeas agreed with the need for the stinky whale issue to be studied further by the Scientific Committee.

The Commission **endorsed** the catch limits and the approach to the issue of stinky whales outlined in IWC/66/21.

7.4.3 *Common minke whale stocks off east and west Greenland*

The Scientific Committee had agreed that the present catch limits will not damage the stock.

The Commission **endorsed** the catch limits.

7.4.4 *West Greenland stock of fin whales*

The Scientific Committee had agreed that the present catch limits will not damage the stock.

The Commission **endorsed** the catch limits.

7.4.5 *West Greenland stock of bowhead whales*

The Scientific Committee had agreed that the present catch limits will not damage the stock.

The Commission **endorsed** the catch limits.

7.4.6 *Humpback whales off West Greenland*

The Scientific Committee had agreed that the present catch limits will not damage the stock.

The Commission **endorsed** the catch limits.

7.4.7 *North Atlantic humpback whales off St Vincent and The Grenadines*

The Scientific Committee had advised that the present catch limits would not damage the stock.

Dominican Republic observed that relevant research was last undertaken 11 years ago, noting the increased incidence of ship strikes and bycatch since then.

In response to a question from Costa Rica on whether results of the analysis of skin and/or blubber samples taken from one male humpback caught in 2015 had been

received, the Chair of Scientific Committee reported that no information had been received on this or on whether any humpback whales had been landed in 2016.

The Commission **endorsed** the catch limits.

7.5 Status of the voluntary fund for Aboriginal Subsistence Whaling

At IWC/65 in 2014 the Commission agreed to establish a dedicated ASW Fund. Voluntary contributions made by the Kingdom of Denmark, Switzerland and the USA have supported the Workshop in Greenland in September 2015 and Dr Dorrough's participation in this meeting. The balance of the ASW Fund was now zero and Contracting Governments were encouraged to make contributions.

8. SOCIO-ECONOMIC IMPLICATIONS AND SMALL TYPE WHALING

A proposed Schedule Amendment at its 65th meeting in 2014 to establish a catch limit for small type coastal whaling around Japan was not adopted by the Commission at that meeting. Japan then took forward an intersessional on-line consultation on Small-type Coastal Whaling to gain an understanding of those countries opposed to the proposal and to further identify the reasons for their opposition.

Japan introduced IWC/66/16 (Responses to Japan's Questionnaire and a Way Forward) which was the outcome of the consultations. It thanked those Contracting Governments that had responded to the questionnaire, noting that opposition to the proposed Schedule Amendment was mainly based on the principle of opposition to any form of whaling. It believed that this was preventing balanced outcomes and hindering progress. It was not asking Contracting Governments to change their basic positions but believed it should be possible for outcomes to deliver mutual benefits and that issues should be addressed through an equitable consideration of law, science and public opinion. Japan believed that if the IWC were to remain functional then change was needed. It hoped that the paper would encourage positive discussions about the future of IWC and noted that the item was also relevant to Item 12.

8.1 Discussion

Antigua and Barbuda, Guinea, Iceland, Norway, Russia, St Lucia and St Vincent and The Grenadines supported Japan. Antigua and Barbuda believed every attempt should be made to reach decisions on this and other issues by consensus. Iceland, St Lucia and St Vincent and The Grenadines believed that little progress had been made on this issue within IWC for many years and Norway believed there was a need to develop a better working atmosphere. The Russian Federation believed the IWC needed to pay more attention to the rights, traditions and cultures of Indigenous peoples.

Argentina on behalf of the Buenos Aires Group, Australia, the Netherlands on behalf of the EU, New Zealand and the USA thanked Japan for the paper and noted that they had taken part in the consultation organised by Japan. They reiterated their strong support for the protection of whales and the global moratorium on commercial whaling and their strong concerns regarding small-type coastal whaling, taking into account the commercial aspects. Australia stressed that science, international governance and ways of life had all developed markedly since 1946 and that IWC had moved away from merely regulating hunting to addressing multiple threats to cetaceans. The Scientific Committee was regarded as a global leader in cetacean science and the Conservation

Committee's reputation was also growing. Australia recognised the rights of each Contracting Government to hold its own views.

The Kingdom of Denmark stated its alignment with the Netherlands as part of a unified EU position. It also spoke to represent the interests of Greenland and the Faroe Islands which are not bound by the EU Treaty and which welcomed Japan's intervention.

The USA expressed concern that the Scientific Committee had reported that J-stock minke whale bycatch levels were above levels that would be acceptable under the RMP, and stated that it could not support small-type coastal whaling within 50 miles of the Japanese coast. It rejected the dichotomy that animals and people could not be conserved together. It and Argentina on behalf of the Buenos Aires Group expressed their willingness to continue cooperating with others to create trust within the forum and try to move to consensus in decision-making.

Monaco and New Zealand did not support new categories of whaling, nor the lifting of the moratorium on commercial whaling. Monaco indicated that if Japan were to halt whaling under the guise of science then it might be willing to consider small science-based quotas for communities in Japan. New Zealand drew attention to its co-sponsorship of two proposed Resolutions to help take the IWC forward.

A representative from a traditional Japanese small-type coastal whaling community noted that they had repeatedly requested a quota for small-type coastal whaling, as the existing moratorium had caused distress in their communities. He noted that whaling operations were limited, that they considered the local common minke whale resources to be healthy and abundant, that utilisation had occurred for thousands of years and that whale meat and blubber were important traditional and ceremonial food.

Iruka and Kujira (Dolphin and Whale) Action Network, Greenpeace Japan and a collective of Japanese NGOs requested the Government of Japan to: respect earlier resolutions adopted by the IWC and the ruling of the ICJ and not issue new permits intended to approve research whaling in Antarctica and the Northwest Pacific ocean, including for 'coastal research whaling'; and reallocate the ¥5.1 billion budget currently allocated to research whaling and instead allocate this funding for research on coastal ecosystems and marine resources, to preserve the health of the sea.

8.2 Action

Japan was grateful for the statements and was pleased to have initiated such a discussion. It thanked those Contracting Governments that expressed support for small-type coastal whaling and drew attention to a series of past IWC Resolutions that resolved to work expeditiously to alleviate the distress to four small coastal whaling communities in Japan. Responding to Australia, it confirmed that it did not want to take IWC back to 1946 but that it wanted to address the future challenge of how to achieve sustainable use of resources in an equitable, balanced manner. It further clarified that it was not trying to create a new category of whaling but instead trying to work in accordance with Schedule 10(e).

Japan stated that it would make a proposal on the way forward under Item 12. The Chair therefore closed this agenda item.

9. CETACEAN STATUS AND HEALTH

9.1 Whale Stocks

The Chair of the Scientific Committee briefly summarised its work on these items.

9.1.1 *Antarctic minke whales*

In 2017, the Scientific Committee will focus on consolidating and synthesising the assessment of Antarctic minke whales in the Indo-Pacific completed in 2014, to be published in the IWC Journal. The Committee did not consider the South Atlantic and Antarctic Peninsula region a priority for assessment (IWC/66/17, item 10.1.1.).

9.1.2 *Southern Hemisphere humpback whales*

The Scientific Committee completed its assessment of Southern Hemisphere humpback whales, showing general recovery. The stock was reported to number some 97,000 animals, representing approximately 70% of carrying capacity (IWC/66/17, item 10.2).

9.1.3 *Southern Hemisphere blue whales*

The Scientific Committee provided recommendations and advice related to the importance of the blue whale catalogues, abundance estimates from the SOWER programme, new data, and to consolidating catalogues in other regions (IWC/66/17, item 10.3).

9.1.4 *Western North Pacific gray whales*

The Scientific Committee was engaged in a range-wide review of gray whales with a final workshop planned for 2017. It noted that co-operation with the IWC/IUCN WGAP had been very productive. It expressed strong concerns regarding disturbances in the Western North Pacific arising from oil, gas and other human activities off Sakhalin Island including potentially disruptive activities associated with the construction of a pier within Piltun Lagoon and the risk of entanglement in salmon set nets near Sakhalin Island. It emphasised the importance of data sharing and combined analyses amongst those operating in the area, and emphasised its willingness to assist with this. It also recommended that fishing effort be decreased in the primary areas used by western gray whales (IWC/66/17, item 10.7).

9.1.5 *Southern Hemisphere right whales*

The Scientific Committee had completed its assessment of Southern right whales in 2012 and had received new information since then. It reiterated the great value of annual surveys and long-term datasets such as those reported for Argentina, South Africa and Australia and strongly recommended that relevant Governments ensure that these continue. For the Southwest Atlantic, the Committee: reiterated recommendations to advance understanding of the cause of the recent high number of calf strandings; acknowledged the importance of the South Atlantic right whale CMP in this context; and recommended continued cooperation on the topic. Regarding the Eastern South Pacific CMP, the Committee welcomed the involvement of Peru in the Eastern South Pacific southern right whale CMP, endorsed the 2016 revised CMP submitted by Chile and Peru and reiterated that anthropogenic mortality should be kept to a minimum (IWC/66/17, item 10.8).

9.1.6 *North Pacific and North Atlantic right whales and small stocks of bowhead whales*

Regarding North Pacific right whales, the Scientific Committee welcomed new information from the USA, Japan and Russia, and recommended co-operative work on sightings data (IWC/66/17, item 10.10).

Regarding North Atlantic right whales, the Committee noted the unclear status of the stock. It noted a recent assessment indicating slow increases during 1990-2010 but expressed concern over a potential recent decline. The Committee recommended a comprehensive update on the stock in 2017 (IWC/66/17, item 10.9).

9.1.7 International Research Cruises

The Committee drew attention to the IWC-POWER research programme, covering regions of the North Pacific not surveyed in recent decades, which benefitted from both IWC funding and generous in-kind support from Japan in the form of a survey vessel. The Committee asked for support from the Russian Federation in obtaining the necessary permits to operate in Russian waters in 2018 or 2019 (IWC/66/17, item 11.1).

9.1.8 Other stocks

The eastern North Pacific blue whale population was near carrying capacity, and the assessment would be extended to the Central and Western Pacific in 2017 (IWC/66/17, item 10.4). An in-depth assessment of North Pacific sei whales initiated in 2015 was expected to be finalised in 2018 (IWC/66/17, item 10.6) and one for North Pacific humpback whales would be started in 2017 (IWC/66/17, item 10.17).

The Scientific Committee expressed serious concerns about the threats faced by the endangered Arabian Sea humpback whales, including small population size and genetic isolation, high stranding and entanglement rates, and rapid human development in critical habitats. The Scientific Committee made a number of recommendations relevant to a proposed CMP (IWC/66/17, item 10.13).

The Scientific Committee appreciated the difficulties in assessing sperm whales and agreed that the matter should be kept under review (see IWC/66/17, item 10.14.). It also noted that a synthesis of existing data and assessment of potential data sources was needed before deciding if an in-depth Southern Hemisphere fin whale assessment was possible (IWC/66/17, item 10.5).

The Committee had reviewed new information on mass stranding and die-off events for Southern Hemisphere sei whales, and made recommendations to Chile on the need to monitor populations and mortality following a stranding event in 2015 (IWC/66/17, item 10.16).

Discussion

Australia thanked the Scientific Committee for its work, stating that it sets the gold standard for international assessments for whale populations. Australia particularly welcomed the attention paid to Southern Hemisphere fin and sei whale stocks.

9.1.9 Summary of agreed whale abundance estimates

The Committee noted that compiling and updating a list of agreed abundance estimates is an ongoing task, particularly to ensure consistency in considering abundance estimates across sub-committees. An Abundance Estimate Working Group has been established to review all new estimates submitted to the Committee and to help to finalise the ongoing compilation work by the next Commission meeting in 2018 (IWC/66/17, item 10.23).

9.2 Small Cetaceans

The Chair of Scientific Committee provided an update on the work of the Scientific Committee with respect to small cetaceans, referring to item 15 of the overview document (IWC/66/17). The work had also been reported to the Conservation Committee.

9.2.1 Concerns over status

The Scientific Committee had increasingly expressed concern over species, subspecies and populations of small cetaceans listed as 'Critically Endangered' by IUCN, generally recommending stringent management measures, often the need for immediate elimination of bycatch mortality, rather than additional research. However, it noted that here had often been insufficient or no management response to these recommendations and there were cases where only immediate strong management actions had a chance to save a species or population.

The Scientific Committee requested the Commission and the Secretariat to encourage all member countries and IGOs (e.g. NAMMCO) to routinely submit information on direct takes of small cetaceans and reiterated its longstanding recommendation that no small cetacean removals (live capture or directed harvest) should be authorised for any population until a complete and up-to-date assessment of sustainability had been completed. The Committee had agreed to hold a series of regional workshops on 'poorly documented hunts of small cetaceans for food, bait or cash' in Africa, South America and South East Asia, with the first such workshop planned in Thailand in November 2017.

9.2.1.1 VAQUITA

The Scientific Committee reiterated its grave concern about the imminent extinction of this species and indicated that the draft Resolution (IWC/66/20) concerning the vaquita fully incorporated the Committee's recommendation (see Item 6.7).

Mexico drew attention to IWC/66/CC30, which contained further information, and noted that the vaquita monitoring programme had improved thanks to input from the Conservation Committee. The USA commended Mexican efforts to reduce bycatch and highlighted the ongoing close collaboration with Mexico on the species.

9.2.1.2 YANGTZE FINLESS PORPOISE

The Scientific Committee welcomed the recent positive information on *ex-situ* conservation efforts for the Critically Endangered Yangtze finless porpoise (*Neophocaena asiorientalis*) in China. It also reiterated the need for every possible effort to be made to protect this species *in situ* and had made a number of specific recommendations.

9.2.1.3 HECTOR'S DOLPHIN AND MĀUI DOLPHIN

In 2016, the Scientific Committee had endorsed the abundance estimate for Hector's dolphins (*Cephalorhynchus hectori*) around the South Island, New Zealand (excluding sounds and harbours) of 14,849 (CV:11%; 95% CI 11,923-18,492) and considered it a reasonable basis to inform management.

The Committee had welcomed updated research on Māui dolphins (*C.h. maui*) but noted that no new management actions had been enacted since 2013. In 2016, the Committee once again expressed continued grave concern over the status of this Critically Endangered subspecies of Hector's dolphin. The Scientific Committee re-emphasised the need for precautionary management with the highest priority assigned to immediate actions to eliminate bycatch and noted that within the confirmed current range, fishing methods other than set nets and trawling should be used.

New Zealand stated their strong commitment to the protection of Hector's and Māui dolphins. The country had an extensive and comprehensive range of protection measures for the latter. The Māui Threat Management Plan is being updated (scheduled for 2018) and a Māui dolphin

Research Advisory Group has been established. A recent abundance estimate (announced on 18 October 2016) indicated a population of about 63 individuals over one year of age (95% confidence limits of 57-75), slightly more than the previous 2010-11 estimate (55 adults, 95% confidence limits of 48-69) made using the same method.

The UK welcomed New Zealand's continued proactive efforts to implement a management plan.

Whale and Dolphin Conservation on behalf of 16 NGOs called on New Zealand to ban gillnetting and trawling, prohibit the use of seismic airguns and ban energy development activities including any new marine mining projects within the habitat of the Māui dolphins.

9.2.1.4 RIVER DOLPHINS OF AMAZONIA

The Scientific Committee had agreed that, with respect to Amazonian river dolphins, the Araguaian boto (*Inia araguaiaensis*) would be given a higher priority on its agenda. The Committee had also previously expressed concern about the use of *Inia geoffrensis* and *Sotalia fluviatilis* as bait for the piracatinga (*Calophrys macropterus*) fishery in the Amazon Basin. Specific recommendations had been made to relevant Contracting Governments (IWC/66/17, item 15.3.4).

Brazil reported that it had introduced a five year moratorium on fishing of piracatinga in January 2015. The Chico Mendes Institute of the Ministry of Environment had a programme to monitor river dolphins and signs of illegal activity.

The UK expressed strong support for the prioritisation of these species for future work by the IWC.

WWF, on behalf of 15 other NGOs, welcomed Brazil's commitment to strengthen enforcement efforts relating to piracatinga fishing in co-operation with other range states, notably Colombia.

9.2.1.5 FRANCISCANA

In 2015, the Scientific Committee had established a Task Team for the franciscana (*Pontoporia blainvillei*). A franciscana CMP developed by Argentina, Brazil and Uruguay had been submitted to the Commission for approval (see IWC/66/17, item 15.3.5; and Agenda Item 16.1).

9.2.1.6 SOUSA SPP.

The status of the genus *Sousa* had been reviewed recently by the IUCN and an extensive synthesis has been published. The species remained a Scientific Committee priority and all its recommendations remained valid (for details see item 8.6 of IWC/66/Rep01(2016), Annex M). Urgent priorities were protection measures for *Sousa teuszii* and increased efforts on bycatch estimation and mitigation.

9.2.1.7 HARBOUR PORPOISES (BALTIC PROPER)

The Scientific Committee had recommended that all range States urgently assess and mitigate bycatch and other anthropogenic mortality of the harbour porpoise in the Baltic proper. It recognised the great importance of the Static Acoustic Monitoring of the Baltic Harbour Porpoise (SAMBAH) project, and recommended that range States work to ensure that a follow-up research project was funded (see IWC/66/17, item 15.3.8).

Belgium acknowledge the urgent need to act on the species and stressed their commitment to reducing bycatch.

WWF, on behalf of 15 other NGOs, supported the Scientific Committee's recommendation for the Baltic harbour porpoise in collaboration with ASCOBANS.

9.2.1.8 SOUTH ASIAN RIVER DOLPHINS

A Scientific Committee Task Team on the South Asian river dolphin (*Platanista gangetica*) had been formed in 2016, in light of the information received concerning India's recently approved National Waterways Act containing a plan to convert 111 river reaches into waterways for inland navigation and goods transport. The Scientific Committee indicated that the species (and other river dolphins) was being considered as a potential future priority and encouraged India to attend Scientific Committee meetings (IWC/66/17, item 15.5.1).

WWF, on behalf of 15 other NGOs, noted the serious plight of Asian estuarine and river dolphins in general with, for example, the Mekong river dolphin (*Orcaella brevirostris*) in the Cheulal trans-boundary pool is considered functionally extinct.

9.2.2 Progress with projects undertaken through the IWC Voluntary Fund for Small Cetacean Conservation Research
The Chair of the Scientific Committee reported that since 2010, the Voluntary Fund has supported the participation of experts from developing countries in Scientific Committee meetings and had supported 15 priority projects for a total of around £350,000 (IWC/66/17, item 15.2).

During 2015-16, donations to the Voluntary Fund totalling £76,089 were received from the Governments of Italy, the Netherlands, Switzerland, and the UK as well as from Whale and Dolphin Conservation (WDC), WWF International, World Animal Protection, Pro Wildlife and Campaign Whale. The Committee thanked all those countries and organisations that have made voluntary contributions.

In 2016, there was a new call proposals and the Secretariat received 20 project proposals. Following the advice of the Review Group, the Committee recommended seven projects (see table 20 in IWC/66/Rep01(2016)) for the Commission's consideration for funding. Currently there is sufficient funding only to cover 5 of them fully or in part. The Chair of the Scientific Committee noted that any further donations will be most welcome.

The Netherlands on behalf of the EU, Switzerland and the UK expressed their support for the continued work of IWC on small cetaceans. The Netherlands pledged a donation to the Voluntary Fund of €15,000, Italy €19,000 and UK £10,000. The USA urged the Secretariat to support the participation in IWC meetings of developing countries with cetaceans assessed as threatened by IUCN.

WWF on behalf of 15 other NGOs, also supported IWC on small cetaceans. The Commission noted with gratitude pledges made from WWF (\$4,000), Pro Wildlife (€2,000), Ocean Care (€1,000), Whaleman (\$1,000), EIA (\$3,000), AWI (\$500), CSI (\$500), DC (\$500), IFAW (\$500).

9.3 Cetacean Health and Disease

The Chair of the Scientific Committee reported that in 2016 an update and demonstration of the beta version of the Cetacean Diseases of Concern (CDoC) website had been provided, and this work was ongoing (IWC/66/17, item 13.4).

9.4 Stock Definition and DNA Testing

The Chair of the Scientific Committee referred to item 12 of IWC/66/17, noting that understanding population structure is essential for conservation and management, as well as updating guidelines for the analysis of genetic data, developing consistent terminology on stock definitions, and considering simulation-based approaches to evaluate stock structure.

10. CETACEAN HABITAT

Under Resolution 1998-5¹³ the Commission agreed to establish a regular agenda item under which the Scientific Committee would report on its research on environmental concerns, and Contracting Governments could report on national and regional efforts to monitor and address the impacts of environmental change on cetaceans and other marine mammals.

Under this general item, the Chair of the Scientific Committee drew attention to the collapse of a mine tailing dam in the Rio Doce system in Brazil in November 2015 which had released iron-mining waste including heavy metals into an area inhabited by franciscana and guiana dolphins. The Scientific Committee had expressed its deep concern over the ongoing nature of the crisis. It recommended that stabilisation of the dam and work to decontaminate and restore the ecosystem be carried out urgently, and agreed that there was a critical need to learn from such disasters (IWC/66/17, item 13.10).

Brazil acknowledged the seriousness of the environmental impacts of the incident and welcomed advice on how to deal with its aftermath. Brazil outlined the actions taken by the government to address these impacts, including implementation of short, medium and long-term monitoring. It indicated that it would report on progress to the 2017 Scientific Committee meeting.

10.1 State of the Cetacean Environment (SOCER)

The Chair of the Scientific Committee drew attention to the SOCER report, prepared in response to Resolution 2000-7¹⁴, which provides an annual update on matters relevant to cetaceans and the environment. In 2015 the focus was the Pacific Ocean, in 2016 the focus was the Arctic Sea and Southern Ocean. The focus at SC/67a in 2017 would be the Indian Ocean and at SC/67b in 2018 the Mediterranean and Black Seas (IWC/66/17, item 13.1).

10.2 Ecosystem Modelling

The Chair of the Scientific Committee outlined ongoing work in this area. The Scientific Committee reviews ecosystem modelling efforts undertaken outside the IWC, including in collaboration with CCAMLR, explores how ecosystem models can contribute to developing scenarios for simulation testing of the RMP; and reviews other issues relevant to ecosystem modelling within the Committee (IWC/66/17, item 14).

10.3 Arctic Ocean

The IWC Head of Science reported that he had attended a meeting of the Arctic Council's Working Group on Protection of the Arctic Environment (PAME) in February 2016. PAME had supported ongoing communication, cooperation and collaboration with IWC on cetacean-related matters noting that there were several areas of overlap between the work of the IWC and that of the Arctic Council, including climate change, ship strikes, oil and gas activities, noise, bycatch, subsistence hunting and ecosystem modelling (IWC/66/17, item 13.8).

¹³IWC. 1999. Chairman's Report of the Fiftieth Annual Meeting. Appendix 6. IWC Resolution 1998-5. Resolution on environmental changes and cetaceans. *Ann. Rep. Int. Whal. Comm.* 1998:43-44.

¹⁴IWC. 2001. Chairman's Report of the Fifty-Second Annual Meeting. Appendix 1. Resolutions adopted during the 52nd annual meeting. IWC Resolution 2000-7. Resolution on environmental change and cetaceans. *Ann. Rep. Int. Whal. Comm.* 2000:56-57.

10.4 Climate Change

The Chair of the Scientific Committee explained that the primary focus of the Scientific Committee in 2015 and 2016 had been to develop an effective work plan focussing on: riverine or freshwater and coastal small cetaceans; large whales in polar habitats and the relationship to emerging issues of ship strikes, entanglement and underwater noise; and development of further links with appropriate international bodies. The Committee had recommended that an intersessional working group define its terms of reference and scope of work more precisely in light of these discussions (IWC/66/17, item 13.7).

The Chair of the Conservation Committee stated that the issue of climate change is in the Conservation Committee's Strategic Plan.

The USA suggested that the Scientific Committee focus attention on the Arctic in its deliberations on climate change, noting that this region was warming faster than any other and that associated changes could be expected to have a major impact on cetaceans and aboriginal and subsistence whaling.

10.5 Decadal Review of the Southern Ocean Sanctuary

The Southern Ocean Sanctuary (SOS) was established in 1994 through paragraph 7b of the Schedule to the International Convention for the Regulation of Whaling. This paragraph states that the Sanctuary shall be reviewed ten years after its initial adoption and at succeeding ten year intervals. The first review was undertaken in 2004 and a second review was completed by the Scientific Committee at its 2016 meeting.

The Chair of the Scientific Committee reported that the Committee had produced a set of consolidated recommendations on the SOS relating to development and implementation of a management plan with performance measures, and the need for explicit funding (IWC/66/17, item 19.2).

In reviewing the SOS, the Conservation Committee endorsed the recommendations of the Scientific Committee. It also established a small steering group, led by the UK and the USA, which had prepared a draft review (IWC/66/CC23; see Annex G, appendix 5). The Committee has endorsed this document as its conclusions and recommendations on the SOS, namely: that the SOS was consistent with existing measures to protect whales from anthropogenic and other environmental factors; that the SOS contributed positively to a number of existing international commitments on biodiversity and climate change; and that the SOS was consistent with the precautionary approach. The Conservation Committee had particularly welcomed the proposal that a management plan be developed for the SOS and believed that the Committee was the appropriate body to develop such a plan, in consultation with the Scientific Committee.

Australia, supported by New Zealand, welcomed the review, the first to be conducted by both the Scientific and Conservation Committees. They particularly supported the recommendation that a management plan be developed, and highlighted the success of SORP.

Japan appreciated the Scientific Committee's recommendations but noted that these had also raised some questions such as whether activities such as SORP would have taken place without a Sanctuary designation. It noted that relatively little progress had been made in implementing the recommendations arising from the Scientific Committee's 2004 review of the Sanctuary and suggested that efforts be made to implement the more recent recommendations intersessionally.

11. UNINTENDED ANTHROPOGENIC IMPACTS

The Chair of the Scientific Committee and the Chair of the Conservation Committee summarised the work of their Committees under this Item. The Netherlands on behalf of the EU stressed the importance of research into unintended anthropogenic impacts. Belgium highlighted the importance of the IWC's work, including its cooperation with other organisations, on bycatch, climate change, ship strikes and other unintended anthropogenic threats.

11.1 POLLUTION 2020 Research Programme

The Chair of the Scientific Committee reported that during the intersessional period the Committee had continued to refine the individual-based population model developed under the Pollution 2020 research programme. Good progress had been made with an online contaminant visualisation and mapping portal, allowing users to explore a database of trends in contaminants in different cetacean species globally. The Committee had made numerous recommendations relating to research (IWC/66/17, item 13.2).

The Scientific Committee had paid considerable attention to the aftermath of the Deepwater Horizon oil spill and had encouraged additional work to evaluate the effectiveness of restoration activities for cetaceans affected. The Committee re-emphasised the importance of avoiding oil spills and reiterated the importance of collecting baseline data on location, health status and other measures in areas of higher risks of impacts to cetaceans. The Scientific Committee had made a number of research recommendations and had endorsed a structured work plan on these matters (IWC/66/17, item 13.3).

11.2 Marine Debris

The Chair of the Scientific Committee reported that the Scientific Committee had explored ways of combining estimates of oceanic debris and information on cetaceans to identify priorities for mitigating and managing the impacts of marine debris. It had also discussed engagement with other organisations on the issue of marine debris and whether marine debris should be considered as a topic for a Conservation Management Plan (CMP). The Scientific Committee had tasked an intersessional group to investigate the possibility of a broader threats-based CMP (IWC/66/17, item 13.9).

The Chair of the Conservation Committee reported that the Conservation Committee had endorsed the Scientific Committee's recommendations on marine debris. Its own discussions had focused on IWC co-operation with other organisations, including the UN and the Global Ghost Gear Initiative (GGGI) (see also IWC/66/04).

Discussion

Austria and the USA welcomed collaboration with other initiatives dealing with marine debris including the GGGI and the Global Partnership on Marine Litter (GPML), and looked forward to progress on the global entanglement database. Mexico described its efforts to remove such waste from the Gulf of California. The UK welcomed input from the IWC on the issue of marine debris including plastics and microplastics to the 17th meeting of the UN Open-ended Informal Consultative Process on Oceans and the Law of the Sea (IWC/66/04 Item 1.12).

World Animal Protection, the founders of GGGI, highlighted the work of this initiative and thanked Contracting Governments for their support of the GGGI. It called for further collaboration between the IWC and relevant intergovernmental organisations such as FAO and

UNEP on marine debris and entanglement, and encouraged that the work on the Global Database on Entanglement include the development of standardised data formats, especially on ingestion.

Action

The Commission **endorsed** the recommendations of the Conservation Committee and Scientific Committee on marine debris and encouraged further co-operation with other organisations, including the GPML and GGGI.

11.3 Cetacean Bycatch

The Scientific Committee had made a number of recommendations on addressing bycatch (IWC/66/17, items 7.1 and 15.4) which it has repeatedly identified as the most serious direct threat to cetaceans globally.

The Conservation Committee had endorsed the recommendations of the Scientific Committee. It also recommended the establishment of a Standing Working Group on Bycatch and the development of a Bycatch Initiative following the example of the Entanglement Initiative, i.e. to include the establishment of an Expert Panel and appointment of a co-ordinator.

Discussion

The UK stressed the importance of bycatch as a threat to cetaceans and welcomed the proposed Bycatch Initiative. The initiative was also welcomed by Argentina, Belgium, Mexico and New Zealand. The UK indicated that Mark Simmonds had volunteered to serve as co-ordinator on an interim basis. Nominations for the Expert Panel were asked for, together with the submission of any relevant materials.

The USA indicated that as of August 2016, under the 1972 US Marine Mammal Protection Act, regulations had been enacted which would ensure that, following a five-year exemption period, imports of fisheries products into the USA would only be permitted from countries that could demonstrate that they had processes in place comparable to US programmes for avoiding bycatch of marine mammals.

WWF, on behalf of 12 NGOs, welcomed the Bycatch Initiative, stressing that bycatch represented a major threat to cetaceans and that the IWC was uniquely placed to coordinate a response. The NGOs pledged a collective contribution of \$7,800 towards the initiative.

Action

The Commission **endorsed** the recommendations of the Conservation Committee and the Scientific Committee on cetacean bycatch, including the establishment of a Standing Working Group on Bycatch under the Conservation Committee; and the development of a Bycatch Mitigation Initiative supported by an Expert Panel. The Commission welcomed the offer of Mark Simmonds (UK) to act as an interim Bycatch Co-ordinator to assist with these efforts, on a voluntary basis.

11.4 Anthropogenic Sound

The Scientific Committee had agreed that anthropogenic sound was an important factor that could adversely affect cetacean populations and had stressed that lack of scientific certainty should not hinder management actions nor prevent countries from keeping quiet areas quiet and making noisy areas quieter. It recommended that the Commission develop a paper for submission to the IMO Marine Environment Protection Committee, providing an update of recent information related to the extent and impacts on cetaceans of underwater noise from shipping (IWC/66/17, item 13.6).

The Conservation Committee had included the issue of anthropogenic sound as a priority threat in its Strategic Plan.

11.5 Ship Strikes

The Chair of the Conservation Committee reported on the progress of the Ship Strikes Working Group in preparing a Strategic Plan to Mitigate the Impacts of Ship Strikes on Cetacean Populations: 2017-20. The Conservation Committee had discussed an initial draft of the Ship Strikes Strategic Plan and tasked the Working Group with finalisation of the Plan by end of November 2016. It was recommended that engagement with the IMO on the issue of ship strikes should continue.

Brazil encouraged cooperation between IWC and IMO in addressing the issue of ship strikes to cetaceans. It announced its intention to host a workshop in 2017 to enhance regional cooperation on ship strikes. Uruguay outlined steps it had taken to assess the impact of ship strikes on southern right whales and supported the workshop proposed by Brazil. Belgium welcomed progress on engagement with the IMO and encouraged reporting to the Ship Strikes Database.

The Commission welcomed progress in development of a Ship Strikes Strategic Plan and looked forward to the final version (due by the end of November 2016). It **endorsed** the recommendations of the Conservation Committee and of the Scientific Committee, including that the IWC should continue engagement with the IMO, and encouraged further reporting to the Ship Strikes Database.

12. THE IWC IN THE FUTURE

Discussion from Item 8 was forwarded to this agenda item. Japan noted that Antigua and Barbuda, Argentina, Iceland, Japan, Norway, Russian Federation, St Lucia, St Vincent and The Grenadines, and the USA had expressed their willingness to discuss the issue of how to address the divide in basic positions between Contracting Governments.

Japan believed it would be useful to discuss this issue not just at this meeting but also intersessionally using a fully open and transparent process. One possible approach to achieving the required level of transparency was to use the IWC website to exchange views. Japan offered to prepare basic Terms of Reference to guide this process, including a provisional list of questions for discussion. It asked for suggestions from Contracting Governments on other questions they might wish to include.

Australia and the Netherlands on behalf of the EU requested more detail from Japan on the proposed process.

South Africa believed that Special Permit whaling and the extent to which the IWC should deal with small cetaceans and bycatch should be included in the questions to be considered by Japan's proposal. Japan responded that, at IWC, the overall divide on basic positions often influenced Contracting Governments positions on individual issues – including special permits, small cetaceans and bycatch. Rather than explore individual issues, it was proposing to examine the overall paradigm.

12.1 Action

The Commission **agreed** that informal intersessional discussions should be initiated. Work will be by correspondence and progress will be reported at least sixty days prior to IWC/67.

13. WHALE KILLING METHODS AND WELFARE ISSUES

The Whale Killing Methods and Welfare Issues Working Group met on 20 October 2016 and its report (see Annex H) was provided as IWC/66/Rep06. The Chair of the Working Group (Michael Stachowitsch, Austria) summarised its findings below.

13.1 Summary of Data Provided on Whales Killed

Data on whales killed or euthanised was provided by the Kingdom of Denmark, Norway, the Russian Federation, New Zealand, St Vincent and The Grenadines, the UK and the USA (Annex H, item 3). In addition, the UK provided information on UK progress in relation to implementing the recommendations made by the Workshop on Euthanasia Protocols to Optimise Welfare Concerns for Stranded Cetaceans in 2013¹⁵. Progress reported related to chemical and physical techniques for euthanasia, the testing of euthanasia methods and reporting of euthanasia data.

13.2 Improving the Humaneness of Whaling Operations

13.2.1 Reports from IWC Contracting Governments

Reports were received from the Kingdom of Denmark, Norway and the USA. The Kingdom of Denmark referred to improvements made previously and indicated that it had no new information; Norway noted an improvement in instant death rate from 80% in 2000-02 to 82% in 2011-12; and the USA reported on successful implementation of the penthrite projectile modified for use in the hand-held darting gun.

13.2.2 Report of 2015 NAMMCO Expert Group Meeting

The Working Group had welcomed a report from NAMMCO on its Expert Group Meeting on Assessing Time to Death from the Large Whale Hunts, 4-6 November 2015, Copenhagen, Kingdom of Denmark. The report contained information from Canada, Greenland, Iceland, Norway, Japan and the USA (Alaska and Makah hunts) with respect to time to death, survival time and instantaneous death rate.

Australia considered that IWC discussions on humaneness of whaling operations have been constructive in recent years and reminded Contracting Governments of the obligation to provide data on whale killing to the IWC, primarily through the Whale Killing Methods and Welfare Issues Working Group.

The Russian Federation noted that it submitted data voluntarily, with time to death being reduced every year, and requested the IWC to support Chukotka hunters, including through training. It thanked the Netherlands for funding training for hunters. It stressed the need for efforts on improvements to the humaneness of whaling operations to address both economic efficiency and hunter safety.

NAMMCO highlighted the potential for collaboration with IWC, particularly with regards to non-hunting threats to cetaceans, noting that both organisations have the same goal (conservation and sustainable management of healthy marine populations) but that countries supporting this goal have different rationales for doing so.

The Alaska Eskimo Whaling Commission drew attention to the improved efficiency of Alaskan hunters' equipment, in particular the penthrite projectile, and expressed thanks to Dr Øen from Norway for his contributions to the development of the projectile.

¹⁵IWC. 2016. Report of the IWC Workshop on Euthanasia Protocols to Optimise Welfare Concerns for Stranded Cetaceans, 11-13 September 2013, London, UK. *Report of the 65th Meeting of the International Whaling Commission 2014*: 225-45.

13.3 Whale Welfare

At IWC/65 in 2014, the Commission agreed to an updated Action Plan for the Whale Killing Methods and Welfare Issues Working Group¹⁶.

13.3.1 Report of the IWC Workshop on Non-hunting Aspects of Cetacean Welfare

A Workshop to Support the IWC's Consideration of Non-Hunting Related Aspects of Cetacean Welfare (IWC/66/WKM&WIRep01¹⁷) was held in Kruger National Park, South Africa, 3-4 May 2016. The primary objectives of the Workshop were to: (1) facilitate coherent discussion of the welfare aspects of non-hunting threats to cetaceans within the IWC; (2) provide clarity on the role of the IWC in addressing non-hunting threats to cetacean welfare; and (3) support the IWC in becoming a leading body for the provision of advice on this issue.

The Working Group endorsed the Workshop recommendations and agreed that the intersessional working group should continue its work to support implementation of the IWC Welfare Action Plan and of the recommendations from this Workshop. Revised Terms of Reference for the intersessional working group were agreed.

13.3.2 Discussion

The UK drew attention to the wide participation at the Workshop, noting that animal welfare is a rapidly evolving science. The Workshop had made important recommendations with regards to future development of a Cetacean Welfare Assessment Tool for non-hunting threats. The UK expressed willingness to continue to chair the intersessional Working Group on Welfare, welcomed new members to the group and encouraged IWC members and observers to nominate animal welfare experts to participate in intersessional work. The UK announced a donation of £15,000 towards delivering the work of the Action Plan.

The Netherlands on behalf of the EU welcomed the intersessional progress made to deliver on the Welfare Action Plan and encouraged further development of the proposed Cetacean Welfare Assessment Tool.

Argentina, the Netherlands on behalf of the EU, New Zealand, and the USA commended the UK for taking the lead on these issues and South Africa for hosting the Workshop, and supported the Workshop recommendations.

New Zealand expressed its strong support for IWC work on whale welfare and strandings. New Zealand also noted that it submitted time to death data to the IWC in respect of euthanasia for all cetacean mortalities in 2014-16, and urged all other states to do the same.

Humane Society International (on behalf of 14 NGOs) congratulated the UK and other members of the Working Group on Welfare on progress in taking forward the Welfare Action Plan and expressed support for the development of a Cetacean Welfare Assessment Tool. It announced that several NGOs wished to make contributions of at least \$3,000 towards the delivery of the Animal Welfare Action Plan, including strandings and disentanglement initiatives. It expressed opposition to the use of exploding missiles as an acceptable means of acquiring meat for commercial sale and consumption.

The Commission welcomed contributions to the Voluntary Fund.

13.3.2 Engagement of other organisations and experts on issues relating to cetacean welfare

The Working Group received a report from the Secretariat on cooperation with other organisations with respect to cetacean welfare (IWC/66/04). The Secretariat noted its readiness to take forward the relevant actions in the Welfare Action Plan and relevant Workshop recommendations and will report on progress at the next meeting of the Working Group.

13.4 Welfare Issues Associated with the Entanglement of Large Whales

13.4.1 Report of the Third IWC Expert Workshop on Large Whale Entanglement Issues

The Chair of the Working Group reported on the Third Workshop on Large Whale Entanglement Issues held in Provincetown, MA, USA from 21-23 April 2015 (IWC/66/WKM&WIRep03¹⁸). The purpose of the Workshop included: (1) review information since the 2011 Workshop¹⁹; (2) review the IWC capacity building exercises; and (3) report on the experience of recently trained entanglement networks. The Working Group endorsed the recommendations from this Workshop including those relating to establishment of a Global Entanglement Database.

13.4.2 Report of the Joint Expert Workshop on Large Whale Entanglement and Bycatch Reduction

The Chair of the Working Group reported on the joint IWC, NOAA, NEAq Workshop on Global Assessment of Large Whale Entanglement and Bycatch Reduction in Fishing and Aquaculture Gear, Portsmouth, New Hampshire, USA, May 2016. The Workshop report had not yet been finalised, but a summary report had been provided. The Workshop stressed that the ideal hierarchy for action should be to: (1) avoid encounters; (2) reduce entanglements; and (3) minimise mortality. The Workshop recognised that ultimately local solutions are required for local issues. The Working Group endorsed the overarching recommendations from this Workshop, as had the Scientific Committee.

13.4.3 Secretariat's progress report

The Chair of the Working Group reported on David Mattila's work as the Technical Adviser to the Secretariat to assist with conflicts between cetaceans and marine resource users. The Workshop had thanked David for his work and the USA for their support of David's role.

13.4.4 Discussion

Brazil and Monaco welcomed the work to reduce entanglements. Brazil noted that it had run two training groups on right whale entanglement and continued to support expert workshops. Monaco noted that entanglement is a major cause of cetacean death and that a major part of the food web is being lost leading to a proliferation of jellyfish and plankton. It stressed the need for proactive cooperation between fishermen, fish scientists, RFMOs, FAO and IWC.

13.5 Strandings Response

The Chair of the Working Group noted that this item had been included following the adoption at IWC/65 in 2014 of the Action Plan for the Whale Killing Methods and Welfare Issues Working Group, including an objective to 'work through existing strandings networks to produce specific recommendations to the Commission in relation to the welfare implications of responding to cetacean stranding events'.

¹⁶IWC. 2016. Report of the 65th Meeting of the International Whaling Commission. Annex H. Report of the Working Group on Whale Killing Methods and Associated Welfare Issues. *Report of the 65th Meeting of the International Whaling Commission 2014:79-87*.

¹⁷Published in this volume.

¹⁸Published in this volume.

¹⁹IWC. 2012. Report of the Workshop on Welfare Issues Associated with the Entanglement of Large Whales. *J. Cetacean Res. Manage. (Suppl.) 13:461-82*.

13.5.1 Report of the IWC Workshop to Develop Guidance for the Handling of Cetacean Stranding Events

The Chair of the Working Group reported on the Workshop held in Kruger National Park, South Africa from 56 May 2016. The primary objective of the Workshop was to assist the IWC in its efforts to build global capacity for effective cetacean stranding response and promote the IWC as a leading body for the provision of advice through the development of practical guidance for responders. The Workshop made a number of recommendations including: (1) the potential role of the IWC in capacity building; (2) the dissemination of guidance and best practice for strandings response; (3) coordination between the IWC and other intergovernmental organisations with respect to strandings; and (4) some specific aspects of the strandings response including public and media engagement and health and safety. These recommendations were endorsed by the Working Group.

13.5.2 Scientific Committee recommendations on strandings

The Chair of the Working Group noted that the Scientific Committee had discussed the issue of strandings at its 2015 and 2016 meetings. The Committee had developed recommendations, which the Working Group had endorsed, including the establishment of an Expert Panel to guide and inform strandings response and training activities and the appointment of an IWC Coordinator.

13.5.3 Discussion

Argentina, New Zealand and UK supported the appointment of an Expert Panel and IWC Strandings Coordinator. Argentina understood the complexity of strandings, which have led to considerable public interest.

CMS/ASCOBANS drew attention to ASCOBANS resolution 8.10 which recommends the development of best practice guidelines for strandings response and necropsy in co-operation with IWC and others. It welcomed proposals to establish an IWC Expert Panel and expressed its willingness to participate in this work.

International Fund for Animal Welfare (IFAW), on behalf of 14 NGOs, noted that strandings occur globally and that all countries can benefit from development of best practice. They supported establishment of an Expert Panel and Strandings Coordinator and encouraged the Commission mainstream this work into its practices and budgets.

14. SCIENTIFIC PERMITS

Paragraph 30 of the Schedule refers to scientific permits and states that 'Proposed permits shall be reviewed and commented upon by the Scientific Committee at Annual Meetings when possible'. The Scientific Committee has developed an approach known as 'Annex P' which provides the Terms of Reference and the procedure for the scientific review of Special Permit proposals and research results from existing and completed permits.

During the intersessional period, the Scientific Committee had held two Expert workshops and reviewed the results from: (1) the submission of a new scientific permit proposal (NEWREP-A) by Japan in 2015; and (2) the final review of JARPN II programme conducted by Japan in 2016. The Scientific Committee considered Resolution 2014-5 in relation to both, and amended its working methods at both the SC/66a and SC/66b meetings (IWC/66/Rep01(2015) item 27.3 and Annex P; IWC/66/Rep01(2016) item 26.3 and Annex P).

The Netherlands on behalf of the EU expressed disappointment that Japan did not allow time for the Commission to receive and consider the reports and recommendations of the Scientific Committee before commencing a new Special Permit whaling programme in the Southern Ocean. It considered appropriate that the Commission should be given the opportunity to comment on, and react to, the advice of the Scientific Committee before any proposal for Special Permit whaling under Article VIII commences.

14.1 NEWREP-A

The Chair of Scientific Committee reported on its review of the NEWREP-A proposal, summarising its review in IWC/66/17, item 18.1. She noted that the review of a large new proposal is highly complex and technical. The review took into account the report of the Expert Panel which met in February 2015, the response of the proponents and Scientific Committee review of the proponents' intersessional work. The Scientific Committee agreed that the objectives of NEWREP-A, were clearer than those of JARPA II and that they were directed to improvements in the conservation and management of whales.

The Scientific Committee agreed that additional work was necessary to evaluate the level of improvement that might be expected either in the Statistical-Catch-at-Age Assessment (SCAA) approach or in RMP performance by improved precision in biological parameters. It agreed that the current SCAA did not of itself constitute a full specification of the modelling work needed for management procedure testing.

The Scientific Committee agreed that it will not be able to determine whether non-lethal means can be used to achieve certain objectives or if the scale of lethal sampling can be reduced until the recommended field experiments, laboratory work and analyses are conducted. The Expert Panel had noted that the recommended analyses could be conducted with existing samples/data and non-lethal field efforts.

The proponents had estimated the required sample size only for the objective of detecting a trend in the age at sexual maturity. Japan had presented simulations that generally followed the recommended approach but that not all of the recommended parameters had been covered and the estimated sample sizes were likely to be too small.

In 2015 the Scientific Committee had agreed that, despite lack of full consensus in their deliberations concerning Resolution 2014-5, the analyses recommended by the Expert Panel should be completed, and that progress should be reviewed again in 2016. Small technical groups were established to focus on two of the more complex and important recommendations.

- RECOMMENDATION 1: Evaluate the level of improvement that might be expected either in the SCAA or in RMP performance by improved precision in biological parameters using simulation studies including updated *Implementation Simulation Trials*.
- RECOMMENDATION 26: Provide a thorough power analysis of sample sizes required to detect change in ASM and follow the other recommendations in this Item.

In 2016, the Scientific Committee agreed that their conclusions and recommendations reached in 2015 remain valid. Review of progress made by Japan on all the recommendations is summarised in table 23 of IWC/66/Rep01(2016).

Australia reminded Contracting Governments that Resolution 2014-5 was agreed to strengthen the Scientific Committee's review process, in accordance with the ICJ findings, defining the minimum characteristics that a Special Permit programme should have if it is to be considered for the purposes of scientific research. These characteristics are to be determined objectively and cannot simply be self-determined by a Contracting Government. It asserted that: (1) a number of Scientific Committee and Expert Panel recommendations had not been fulfilled; (2) the Commission has not been given the opportunity to review the advice of the Scientific Committee and provide recommendations in accordance with Resolution 2014-5; and (3) that the Scientific Committee has reiterated that NEWREP-A has not demonstrated the need for lethal research. It stated that the Commission should conclude that NEWREP-A has not been demonstrated as fit for the purposes of scientific research and that Special permits under Article VIII should not be issued.

New Zealand, concurring with the comments of Australia, highlighted that Resolution 2014-5 requests proponents of Special Permit programmes not to proceed to take whales until after the Commission has considered the proposal and made such recommendations on the merits or otherwise of such programmes. It expressed its disappointment that Japan resumed whaling under NEWREP-A before the Scientific Committee review was complete and before the Commission had the chance to consider the merits of the programme, and took 333 Antarctic minke whales from the Southern Ocean in the 2015-16 southern summer. It rejected the argument that it was not the role of the Commission to consider or comment on Special permits programmes or that Resolution 2014-5 was contrary to the Whaling Convention, citing Article VI of the Convention and the ICJ judgment. It shared its strong belief that Contracting Governments must afford the Commission the opportunity to consider Scientific Committee advice before Special Permits are issued, and indicated that the new draft Resolution on Special Permits discussed at this meeting was intended to make it easier for the Commission to consider Scientific Committee advice. It believed that there was no need to use Article VIII of the Convention to obtain the data that Japan had stated it wished to obtain.

The Netherlands on behalf of the EU also concurred that NEWREP-A did not demonstrate the need for lethal whaling. It recognised Japan's efforts to complete the Expert Panel's recommended analyses but noted that the Scientific Committee concluded by consensus in both 2015 and 2016 that the recommendation had not been fully implemented. It further urged Japan to ensure full involvement of the Scientific Committee and Commission in the process of considering its new scientific whaling programme in the North Pacific in 2017.

In considering the report of the Scientific Committee on NEWREP-A in accordance with Resolution 2014-15, Argentina, Australia, Austria, Belgium, Brazil, Chile, Colombia, Costa Rica, Croatia, Czech Republic, the Kingdom of Denmark, Dominican Republic, Estonia, Finland, France, Gabon, Germany, Hungary, India, Ireland, Italy, Luxembourg, Mexico, Monaco, the Netherlands, New Zealand, Panama, Poland, Slovak Republic, Slovenia, South Africa, Spain, Sweden, UK, Uruguay, and the United States, a majority of Contracting Parties attending the meeting:

(1) noted with concern that Japan issued Special permits before the Scientific Committee review was complete and before the Commission had considered the report of the Scientific Committee on NEWREP-A;

(2) assessed that on the basis of the information before the Commission, NEWREP-A is not 'for purposes of scientific research' as required by Article VIII.1 of the International Convention for the Regulation of Whaling; and

(3) requested that Japan cease the lethal component of NEWREP-A.

The USA and India stated their beliefs that lethal research was unnecessary. The USA highlighted the World Conservation Congress Resolution on whaling under Special Permits and its concerns about the timing of information being provided on NEWREP-A being repeated with NEWREPNP when it is launched next year.

Antigua and Barbuda, Japan, and the other Contracting Governments that opposed Resolution 2014-5 at IWC/65 reaffirmed their opposition to that Resolution. Noting that the Resolution did not have the consensus of the Commission in their view it was non-binding and in conflict with the provisions of Article VIII of the Convention (ICRW) and Paragraph 30 of the Schedule. They stated that non-legally binding Resolutions cannot alter or be taken to alter the provisions of the ICRW and the Schedule that stipulate the rights and obligations of the Contracting Governments. They stated their opposition to including any recommendation based on Resolution 2014-5 in the Commission report.

Furthermore, they affirmed, contrary to the view expressed by New Zealand and others, that NEWREP-A was entirely within Article VIII of ICRW and that Japan had fully acted in conformity with the provisions of the ICRW and the Schedule in issuing Special permits for NEWREP-A. They asserted that NEWREP-A was based upon genuine scientific premises, and Japan as well as its proponents had taken sincere efforts to engage in dialogue with the Scientific Committee and the respective Contracting Governments on the scientific merits of the programme. They also stated that NEWREP-A conformed to the judgment of the International Court of Justice in 'Whaling in the Antarctic: Australia v Japan (with New Zealand intervening)'.

Japan noted the differences of opinion, but believed that it was important that consideration of this issue was based on science. It drew attention to Paragraph 30 of the Schedule wording that calls for the Scientific Committee to review proposed Special Permits and to comment on ongoing results, and reaffirmed that the Scientific Committee had undertaken these steps. It drew further attention to the 29 recommendations from the Scientific Committee and the comments on progress included in table 23 in IWC/66/Rep01(2016), stating that this clearly indicated an ongoing process of review. In this regard, Japan asked Contracting Governments to understand that these scientific activities would not give a clear 'yes' or 'no' as to the status of the research programme at any one point. It acknowledged that NEWREP-A had restarted in the 2015-16 boreal winter and that results had been provided to the Scientific Committee. It welcomed constructive reviews and comments. Japan commented that it was not in violation of the ICJ judgment as it had taken into account the reasoning and conclusions contained in the Judgment when evaluating the possibility of granting any future permits (paragraph 246 of ICJ judgment) and that the ICJ had ruled that 'the use of lethal sampling *per se* is not unreasonable in research objectives of JARPA II'.

14.2 JARPN II

The Chair of Scientific Committee provided a report on the final review of JARPN II, a Special Permit programme operated by the Government of Japan from 2000 to 2016.

The final review was called before its real end. The Expert Panel met in February 2016. The summary of the Scientific Committee review is included in IWC/66/17, item 18.1. The review took into account Resolution 2014-5.

The review was primarily limited to data collected from 2000 to 2013, with preliminary data and analysis from 2014 and 2015. The Scientific Committee agreed that the review of any new North Pacific proposal should also include the JARPN II review with the inclusion of those data (2014 to 2016) that have subsequently been provided.

With respect to the programme's scientific output, The Expert Panel had noted the difficulties associated with the reasons for the timing of the close of the programme. It agreed that considerable scientific work had been undertaken, resulting in a number of peer-reviewed papers and influencing the work of the Scientific Committee. However the Scientific Committee also considered that much greater emphasis should have been put on improved analyses and modelling and encouraged the proponents to follow its recommendations and those of the Expert Panel and submit further work to peer-reviewed scientific journals.

The much-improved collaboration with other research projects, mainly those of Japanese institutes, compared to that found in the midterm review of 2009 was noted. The Scientific Committee encouraged additional co-operation with scientists from other regions in any further analyses of the existing data.

With regard to how the proponents had met their sub-objectives under the main objectives, Scientific Committee views and advice are summarised in table 24 of SC/66b/Rep06²⁰.

Discussion

Australia expressed concern that the JARPN II midterm review in 2009 had not been completed because information sought by the Expert Panel had not been provided. It noted that whales had been taken during and after the recent final review which concluded that two of the three research objectives had not been met. It drew attention to information as recommended by the Expert Panel justifying changes in sample sizes not being provided. It believed that the final review of JARPN II had shown that it had similar flaws to other Special Permit programmes, particularly in relation to justifying sample sizes, thus casting doubt on the programme being for the purposes of scientific research. Concerned that the results of previous final reviews had not been taken into account by new research programmes, and that JARPA and JARPA II were designed around a core of a certain number of whales that need to be killed to support various objectives, Australia hoped for a different approach to Japan's next Special Permit proposal.

New Zealand expressed doubt that JARPN II was for scientific research. It looked forward to further consideration of JARPN II by the Commission, and to further information from Japan. It called on Japan to refrain from issuing any Special Permits under the new NEWREP-NP until the programme had been reviewed by Scientific Committee and the Commission.

In response, Japan expressed its gratitude to the Scientific Committee for the constructive review of JARPN II. It noted the conclusion in item 17.1.2 of IWC/66/17, that considerable scientific work had been undertaken and that the output had been accepted in peer-reviewed journals

and had influenced the work of the Scientific Committee, applies to both NEWREP-A and JARPN II. It recognised that the research programmes were not perfect and stated that the Scientific Committee recommendations would be addressed. It confirmed that it planned to submit a proposal on NEWREP-NP in time for the Scientific Committee meeting next year.

Republic of Guinea recognised that non-lethal research enabled information on abundance to be collected through visual observation but stressed that lethal research could also provide distribution and nutrition information. It stated its support for JARPN II and other research programmes that combine whale stock and fish stock analysis.

14.3 Procedures used by the Scientific Committee for reviewing Special Permits

The Chair of the Scientific Committee reported that under Commission Resolution 2014-5, the Committee had been instructed to propose amendments to its 'Annex P' process which it uses when reviewing Special permits. The proposed amendments, set out in Annex P of IWC/66/Rep01(2016), had used wording taken where possible from Resolution 2014-5, which had been framed to reflect the ICJ judgment, and had been adopted by the Committee by consensus. In 2016 the Committee had further proposed that Annex P be amended to: incorporate text in relevant places referring to use of a self-checklist for new proposals and periodic and final reviews; include a checklist for new proposals (contents of checklists for periodic and final reviews will be finalised in 2017); incorporate text in relevant places regarding signing of confidentiality agreement by Expert Panel members and observers.

The Committee had also agreed to establish an intersessional working group to consider the need or otherwise to modify Annex P in light of findings by previous Expert Panels and the Committee's ongoing discussions and bring to the Commission's attention the issue of alignment of the Annex P process with the Commission's two-year cycle. The Committee had suggested, as a trial, the provision of a webcast of the open session of the next Expert Panel meeting.

Discussion

Australia supported the Scientific Committee's proposals and suggested that if possible reviews of Special Permits should take place at the Committee's regular meetings.

Centro de Conservación Cetacea and Instituto de Conservación de Ballenas drew attention to a letter signed in 2015 by 500 scientists from 30 countries, disputing the necessity for lethal sampling of cetaceans. It urged the Commission to instruct the Scientific Committee to seek the views of the wider international scientific community on the relative benefits of lethal and non-lethal cetacean sampling.

The Commission endorsed the amendments to Annex P proposed by the Scientific Committee and approved its proposals for further work, including the establishment of an intersessional working group.

15. SAFETY AT SEA

Japan provided an update on encounters in the Southern Ocean between its vessels and those of the Sea Shepherd Conservation Society and on legal action it had taken in Washington State, USA. The latter had resulted in the granting of a permanent injunction against the Sea Shepherd Conservation Society preventing its vessels engaging in violent activity in waters including international waters in

²⁰IWC. 2017. Report of the Expert Panel of the Final Review on the Western North Pacific Japanese Special Permit Programme (JARPN II), 22-26 February 2016, Tokyo, Japan. *J. Cetacean Res. Manage. (Suppl.)* 18:527-92.

the Southern Ocean. Japan believed that other entities and vessels associated with the Sea Shepherd Conservation Society might be planning similar action and asked any Contracting Governments under whose flags these vessels might be registered to take action to ensure that national and international regulations regarding safety at sea were fully adhered to.

Norway and the Russian Federation supported Japan, the former emphasising the right of countries to carry out scientific research.

Australia and the Netherlands on behalf of the EU believed that the appropriate forum to address safety at sea was the IMO. They, together with India, New Zealand, Switzerland and the USA all affirmed their belief in the right to peaceful protest but deplored violence, condemning any reckless behaviour by all parties involved in such encounters. All attached the highest priority to safety at sea and reaffirmed the strength of existing legal frameworks for addressing such issues. These Contracting Governments, along with the Kingdom of Denmark speaking on behalf of the Faroe Islands, reiterated the importance of full implementation of Resolution 2011-2²¹ and of national and international regulations regarding collision avoidance.

16. OTHER CONSERVATION ISSUES

16.1 Conservation Management Plans

The Chair of the Conservation Committee reported on the work of the Conservation Committee's Standing Working Group on Conservation Management Plans (Annex G, item 7). The Conservation Committee endorsed the recommendations of the Standard Working Group on Conservation Management Plans as well as those provided by the Scientific Committee.

16.1.1 Western Pacific gray whale

The Chair of the Conservation Committee drew attention to IWC/66/CC29 which provided exciting new information from the US Navy on the occurrence, determined by acoustic detections, of gray whales in offshore but shallow waters in the East China Sea in autumn and winter. He noted that scientific aspects of a revised IUCN/IWC CMP would be completed at a workshop in the USA in 2017, ready for presentation to the Commission at its meeting in 2018 after discussion at a stakeholder workshop.

Argentina, Japan, Mexico, Russia and the USA thanked Korea and Mexico for signing the Memorandum of Co-operation Concerning Conservation Measures for the Western Gray Whale. The Russian Federation noted that although it had not supported formation of the Conservation Committee it did approve of the work on the gray whale CMP.

16.1.2 South-west Atlantic southern right whale

The Chair of the Conservation Committee reported on an update from Argentina, as a Range State, including information on: (1) workshops and a research project on whale mortality; (2) use of satellite telemetry, photo identification, training on non-lethal techniques and data collection. It was noted that co-ordination of the CMP had been passed to Brazil.

16.1.3 South-east Pacific southern right whale

The Chair of the Conservation Committee highlighted the update from Chile and noted that Peru is now included as a

Range State. A draft implementation strategy for this CMP for 2016-18 had been provided and funding was sought from the IWC Voluntary Conservation Management Plans Fund.

16.1.4 Additional CMP proposals

The Chair of the Conservation Committee highlighted a progress report on the development of a CMP for the franciscana (*Pontoporia blainvillei*).

Argentina emphasised the perilous state of the franciscana, the most threatened cetacean in the southwest Pacific, and said it was working with governmental and non-governmental organisations to achieve progress. Brazil thanked Australia and Mexico for their work with the franciscana and hoped for a better understanding of its ecology to allow its survival.

The Chair of the Conservation Committee highlighted progress with the proposed CMP for the Arabian Sea humpback whale (*Megaptera novaeangliae*) and that the Committee had recommended dialogue between the Government of Oman and IWC Member Governments.

With regards to the threat-based CMPs the Chair noted that the Committee had endorsed the relevant recommendations of the SWG-CMP (IWC/66/CCR06) that:

- a proposed mid-term review of the CMP work programme include work to develop guidelines and principles for threat-based CMPs, to be presented to the 2017 planning meeting of the Conservation Committee for consideration;
- further consideration of marine debris in CMPs will be informed by discussions on bycatch and entanglement activities, as well as the proposed mid-term review and proposed guidelines and principles for development of threat based CMPs; and
- the Scientific Committee be requested to continue to provide further information on bycatch, including advice on regions.

16.1.5 Progress report by CMP Standing Working Group

The Chair of the Standing Working Group on Conservation Management Plans (SWG-CMP) welcomed new Range State members of the western gray whale Memorandum of Co-operation to the Working Group. She noted that all the recommendations in the report of the Working Group (IWC/66/CCR06) had been endorsed by the Conservation Committee, and welcomed the first CMP for a small cetacean, the franciscana. The group had decided on a midterm review to consider progress and readjust priorities, which will include guidelines and principles for threat based CMPs. She noted the importance of cooperation with the Conservation Committee and the value of their input, and encouraged Contracting Governments to support the Voluntary Conservation Fund.

16.2 Whalewatching

In 2012, the Commission adopted its Five Year Strategic Plan for Whalewatching and the Standing Working Group (SWG-WW) under the Conservation Committee has continued to make progress against the actions outlined in the plan. The scientific aspects of whalewatching are discussed by the Scientific Committee in response to a request in Resolution 1994-14²² for it to provide advice relating to whalewatching.

²¹IWC. 2012. Chair's Report of the 63rd Annual Meeting. Annex D. Resolutions Adopted at the 63rd Annual Meeting. Resolution 2011-2. Consensus Resolution on safety at sea. *Ann. Rep. Int. Whal. Comm.* 2011:60.

²²IWC. 1995. Chairman's Report of the Forty-Sixth Annual Meeting, Appendix 15, IWC Resolution 1994-14. Resolution on whalewatching. *Rep. int. Whal. Comm.* 45:49-50.

16.2.1 Report from the Joint Workshop on Capacity Building for Whale and Dolphin Watching in the Indian Ocean Region

The Chair of the Conservation Committee introduced the 2016 Indian Ocean Rim Assessment (IORA) Sustainable Whale and Dolphin Watching Tourism Workshop which had been held in February 2016 (see Annex G, item 6.2.1). He noted that the Committee had endorsed the recommendations from the Workshop, in particular that the IWC could support the IORA network and continue to implement Objective 3 of the IWC's Strategic Plan for Whalewatching by:

- sharing information, best practice, experience and expertise with IORA Member States including through the development of the Whalewatching Handbook, including with case studies relevant to the IORA region;
- providing capacity-building and training for IORA and its Member States as appropriate;
- providing guidelines on best practice and other IWC resources to the IORA Secretariat for circulation among IORA Member States; and
- seeking to engage with the IORA Secretariat and the IORA Network through scientific and technical cooperation and, where appropriate, seeking funding, to support sustainable whalewatching in the IORA region.

16.2.2 Progress report from the Whalewatching Standing Working Group

The Chair of the Conservation Committee summarised the work of the Standing Working Group on Whalewatching (see item 6.2.2 of Annex G) and noted its recommendation to continue to work on the basis of the Five Year Strategic Plan which was due to end in 2016. He highlighted ongoing work on the online Whalewatching Handbook, noting the projected costs necessary to complete this work. He also noted that the CMS Secretariat had expressed an interest in participating in the work on the Handbook and the Committee had recommended that it be invited to join the Working Group.

He noted that the Committee had endorsed a series of recommendations made by the Standing Working Group on Whalewatching, including:

- (a) explore ways to get additional industry input and outside expertise for the relevant sections of the Handbook;
- (b) Explore opportunities for collaboration with relevant intergovernmental organisations (e.g. CMS, CBD, SPREP, etc.) in the development of the Handbook;
- (c) investigate sources of funding for the Whalewatching Handbook and submit applications to potential funding bodies with the aim of completing the Handbook by IWC/67 in 2018;
- (d) develop revised Strategic plan with a new timeframe;
- (e) assist with recommendations related to the outcomes of the IORA Workshop; and
- (f) add two new *ex officio* industry members to the WG-WW from 2016-18.

16.2.3 Discussion

Australia, Belgium, India, Mexico, Monaco, New Zealand and USA supported the work of the Standing Working Group on Whalewatching, congratulated the USA on its role as Working Group Chair, and noted that whalewatching

can contribute to local livelihoods. Australia noted that an IORA Council of Ministers was meeting in Bali at that moment and hoped that this would establish a network to take the recommendations of the IORA Workshop forwards. It also commended the IORA/IWC collaboration as an excellent example of engagement. New Zealand noted that whalewatching brought in more than \$80 million annually to their country and it supported the IWC's work on whalewatching. Belgium warned of the impacts (e.g. through disturbance) of whalewatching and suggested that the Scientific Committee and Conservation Committee should collaborate to provide advice.

CMS/ASCOBANS reiterated its interest in participating in the development of the online Whalewatching Handbook and offered to support this work by translating the Handbook into French and Spanish. This was welcomed by the Commission.

16.3 National Reports on Cetacean Conservation

The Chair of the Conservation Committee welcomed the Voluntary National Reports received on cetacean conservation. A working group has been established to provide guidance on how these can be aligned with the Conservation Committee strategic plan. He encouraged all Member Governments to provide reports.

16.4 Regional Research Partnerships

16.4.1 Southern Ocean Research Partnership

The Chair of the Scientific Committee reported that currently 12 Contracting Governments are members of the IWC Southern Ocean Research Partnership (SORP), which has five lines of research in the Southern Ocean: (1) Antarctic blue whales; (2) killer whales in the Southern Ocean; (3) interactions between baleen whales and krill; (4) Southern Hemisphere humpback whales; and (5) Antarctic blue whales and fin whales. She highlighted that ten more projects had been recommended by SORP and endorsed by the Scientific Committee for funding, noting that budget issues were addressed by the Finance and Administration Committee.

Discussion

Australia, Belgium, Brazil and Mexico commended the work of SORP. Australia noted the contribution it had pledged towards the Partnership. Belgium drew attention to the many peer-reviewed publications produced by the Partnership and expressed its delight at joining as the newest member. Mexico highlighted the role of the Partnership in assessing the effects of climate change on whales. Brazil referred to the research work being undertaken by the Institute of Oceanography of Rio Grande do Sul.

16.4.2 Status of the Voluntary Fund

The IWC Secretariat provided a statement on the status of the Voluntary Fund. At the beginning of the 2016 financial year the opening balance was £19,259. Since then the following generous contributions have been made: \$1.49 million (Australian dollars) by the Government of Australia to support non-lethal research; \$10,000 US for priority research, in particular to the Antarctic Circumnavigation Expedition (ACE) voyage; and \$25,000 (Australian dollars) for the IWC project 'Foraging ecology and predator-prey interactions between baleen whales and krill'. This brings the estimated balance to just over £820,000.

17. OTHER MANAGEMENT ISSUES

17.1 Revised Management Procedure

The Revised Management Procedure (RMP) and Aboriginal Whaling Management Procedure (AWMP) approach pioneered at the IWC, and now increasingly used in fisheries management, is of broad relevance to the work of the Commission when examining the status of cetaceans and the effects of all human-induced mortality. Work by the Scientific Committee on the RMP in the intersessional period (Item 5 in IWC/66/17) had focused on: (1) a review of maximum sustainable yield rates; (2) amending the *Catch Limit Algorithm (CLA)*; (3) updating guidelines and annotations for the RMP, including review of model-based abundance estimation for use in the RMP; and (4) assessing the implications of *Implementation Simulation Trials* for consideration of 'status' and abundance estimates for which the Committee had agreed that the development of appropriate metrics of status would be considered at its 2017 meeting. In reviewing the *CLA*, the Committee had recommended continued use of the existing *CLA* rather than the proposed Norwegian amendment.

The Scientific Committee had completed its *Implementation Review* of North Atlantic fin whales and expected to complete the *Implementation Review* of North Atlantic common minke whales in 2017. Western North Pacific Bryde's whales and Western North Pacific minke whales *Implementation Reviews* will be started in 2017 and 2018 respectively.

17.1.1 Discussion

Argentina, India, Mexico, Monaco, the Netherlands of behalf of the EU, and the USA reaffirmed their commitment to the moratorium on commercial whaling and called on Iceland and Norway to cease commercial whaling and their commercial export of whale products. The Netherlands on behalf of the EU reminded the meeting that all great whales are in Appendix I of CITES and drew attention to CITES Resolution Conf. 11.4 (Rev. CoP12) on conservation of cetaceans, trade in cetacean specimens and the relationship with the IWC.

Iceland and Norway stated that their whaling and trade in whale products is science-based, sustainable, responsible, transparent, strictly regulated and in accordance with international regulations. Iceland stated that its annual harvest of North Atlantic fin whales and common minke whales was based on precautionary catch limits set by the Marine Research Institute of Iceland using the RMP and IWC and NAMMCO assessments.

Mexico and IUCN indicated that results from the RMP depended on a number of factors, including the tuning level selected and the delimitation of stock areas, and that tuning levels used by Iceland and Norway differed from those used by the Commission.

NAMMCO restated its belief in responsible and sustainable management and noted that the hunts referred to adhered to high animal welfare standards.

17.2 Infractions

The Infractions Sub-Committee met on 21 October 2016 and its report (IWC/66/Rep04) is provided as Annex I. The Chair of the Sub-Committee (Hild Ynnesdal, Norway) summarised its findings.

Infraction reports were received from the Kingdom of Denmark, the USA, the Russian Federation and the Republic of Korea. Norway, Iceland and St Vincent and The Grenadines submitted the required information on their catches to the Secretariat. Surveillance arrangements for

different whaling operations and submissions on national laws and regulations were reviewed. No reports were made on the availability, sources and trade in whale products.

The major discussion point within the Sub-Committee was the issue of catches taken in Greenland 2013-14. Since no ASW quota was assigned for Greenland at IWC/64, this was considered an infraction by some Contracting Governments. The Kingdom of Denmark and others did not agree with this view. There was support for measures to ensure that a situation in which no ASW catch limits are set should not occur in the future, e.g. the change to the Rules of Procedure suggested by the Working Group on Operational Effectiveness and Cost Saving Measures.

17.2.1 Greenland catches in 2013 and 2014

Argentina on behalf of the Buenos Aires Group stated its belief that the Greenland hunts should be considered infractions and emphasised that the Greenland catches in 2013 and 2014 should not set a precedent for future similar cases. Argentina also noted that at IWC/65 the Chair had referred the issue to the Working Group on Operational Effectiveness and Cost Saving Measures and the Working Group had stated that it did not have the mandate to evaluate infractions. Argentina therefore sought clarification from the Chair on how to address this issue.

The USA noted that it was the responsibility of each Contracting Government to interpret what an infraction is and what needs to be reported. Rather than looking to the past, it stressed the importance of avoiding similar situations in the future. In this regard, it looked forward to the implementation of the recommendations from the Maniitsoq Expert Workshop (IWC/66/ASWRep01) and the Working Group on Operational Effectiveness and Cost Saving Measures (see Annex K, appendix 4, paragraph 3).

The Russian Federation disagreed with Argentina, stating that the Greenland catches in 2013 and 2014 were not an infraction. It agreed with the USA on the importance of avoiding such situations in the future.

In response, the Kingdom of Denmark underlined that it had listened carefully and acknowledged the obligation to report data to the Infractions Sub-Committee. It reiterated that it regularly reported relevant data, had fulfilled all other reporting requirements, and that in 2013-14 the people of Greenland had a significant subsistence need. In 2014 a solution was adopted setting strike limits. The Kingdom of Denmark welcomed the views expressed in the Infractions Sub-Committee of the need to avoid a similar situation in the future, noting that it had engaged extensively in the intersessional process in follow-up to Resolution 2014-1²³, in the ASWWG and the Expert Workshop held in Maniitsoq in 2015, and expressed hope that the work will continue. It reiterated its commitment to the IWC.

OceanCare, on behalf of 13 NGOs, noted that despite unambiguous language in Article IX of the Convention, unresolved debates remain regarding: (1) if the ICJ judgment on JARPAII should be interpreted to mean previous records are listed retrospectively as an infraction; (2) whether the taking of whales in the absence of an ASW quota constitutes an infraction; (3) who interprets what constitutes an infraction; (4) whether failure to report is in itself an infraction; and (5) whether an unintentional action constitutes an infraction. It believed that this revealed a flaw in IWC rules that should be remedied.

²³IWC. 2016. Report of the 65th Meeting of the International Whaling Commission. Annex E. Resolutions Adopted at the 65th Meeting. Resolution 2014-1. Resolution on Aboriginal Subsistence Whaling (ASW). *Report of the 65th Meeting of the International Whaling Commission* 2014:46.

In conclusion, the Chair suggested that it might not be possible to resolve this issue at this meeting but noted the opportunity to discuss this further under Item 19.2.1.

17.3 Catches by non-member nations

The Commission welcomed reports from Canada on their subsistence catches of bowhead whales for the seasons 2014 and 2015. No information was available from other countries. The Secretariat was encouraged to continue its efforts to obtain information on catches by non-member nations, including by working with other intergovernmental organisations, given that contrary actions by non-members could jeopardise the work of IWC. Non-member nations were encouraged to report catches through any possible means.

18. CO-OPERATION WITH OTHER ORGANISATIONS

The Secretariat introduced IWC/66/04 which provided a comprehensive report on intersessional work undertaken to strengthen co-operation with other organisations and suggestions for next steps. The reports of the IWC's appointed observers to the meetings of other organisations during the intersessional period since IWC/65 are given as appendices 1 and 2 to IWC/66/04.

18.1 Discussion

The Dominican Republic, India, Mexico, Monaco, the Netherlands on behalf of the EU, and the USA all applauded current efforts and encouraged further cooperation with, *inter alia*: CITES; CMS and its daughter Agreements ACCOBAMS and ASCOBANS; IMO; FAO; Ramsar Convention; UNCLOS; UNFCCC; the UN Inter-Agency Support Group on Indigenous Peoples' Issues; the Regional Seas Convention; the Biodiversity Liaison Group; and RFMOs.

CMS/ASCOBANS outlined areas of potential synergy between IWC and CMS and its daughter Agreements ACCOBAMS and ASCOBANS, drawing attention to CMS Resolutions: 11.22 on live captures of cetaceans from the wild for commercial purposes; 11.23 on conservation implications of cetacean culture, and 11.29 on sustainable boat-based marine wildlife watching. They also drew attention to: guidelines on assessing the environmental impacts of marine noise-generating activities; conservation of the Baltic Harbour Porpoise; bycatch; and strandings.

Pro Wildlife e.V and Whale and Dolphin Conservation, both speaking on behalf of a number of other NGOs, emphasised the importance of co-operation with CITES in implementation of legal controls on international trade in whale products.

19. FINANCE AND ADMINISTRATION

The Finance and Administration (F&A) Committee met on 22 October 2016 and its report (IWC/66/Rep02) is provided as Annex K. The Chair of the Committee (Ryan Wulff, USA) summarised its findings (see below).

19.1 Administrative matters

19.1.1 IWC communications

The Commission endorsed the report presented in IWC/66/F&A05, which outlined progress as part of the Commission's communications work plan, including the ongoing programme of website updates. It welcomed the publication of the first edition in a new Intersessional Report series.

19.1.2 IWC document archiving

The Secretariat continues work to improve online access to the Commission's document archive. The cost of a proposed enhancement to the electronic archive to increase access speed and extend the online archive back to the first Plenary meeting of the Commission in 1949 is not included in the current budget; for the work to progress, costs would need to be included within future years' budgets, or funded from a voluntary contribution.

19.1.3 Reporting of confidential communications

No confidential communications had been distributed.

19.1.4 Meeting arrangements

The Commission noted the feedback survey of meeting arrangements from IWC/65 and endorsed the suggestion for a similar feedback survey for IWC/66. The F&A Committee also discussed additional support for the involvement of observers, in particular ways for observers to contribute to the work of the Commission during intersessional periods.

19.1.5 Dispersal of funds from the IWC-SORP research fund

The Commission endorsed a proposal by the Scientific Committee regarding the IWC-SORP Research Fund, including approval of an updated procedure for allocation of funds and development of recommendations for future intersessional allocations of funding.

19.1.6 Guidelines for allocation and use of voluntary funds in the intersessional period

The Commission endorsed the proposal on the development of guidelines to support the use of voluntary funds which are received and require disbursement during the intersessional period. The Commission has well defined procedures for core contributions. For voluntary contributions, it is proposed that the Commission Chair and the Chair of the F&A Committee advise on the appropriate IWC body to oversee distribution and reporting, as laid out in IWC/66/F&A06. Voluntary contributions are generally between £300,000 and £500,000 annually, but are likely to exceed £1 million this year because of a substantial contribution to the SORP fund.

The F&A Committee also discussed the need to give consideration to fluctuations in the exchange rate of the British Pound. In 2017 an IWC organisational risk management strategy will be developed and currency exchange considerations will be included as part of that.

19.2 Intersessional Working Groups

19.2.1 Operational effectiveness and cost saving measures

The F&A Committee endorsed the recommendations of the Working Group on Operational Effectiveness (WG-OE) on five issues, including changes to rules of procedure, with the exception of the bracketed text at Rule of Procedure J.4. The F&A Committee did not reach agreement on Rule of Procedure J.4, and it recommended that the Working Group proponents of the proposed Rule of Procedure J.4 consider revisions suggested by an NGO.

The USA supported removing the brackets around the proposed change to J.4, stressing that the changes would improve the process, and supported the text addition as suggested.

Argentina reiterated their position in relation to the 2013 and 2014 Greenland catches as infractions, but did not oppose removal of the bracketed text.

The Kingdom of Denmark drew attention to the ASW Working Group's conclusion that it had no mandate or expertise regarding infractions.

The Commission **adopted** the recommendations of the F&A Committee. The Commission also **adopted** Rule of Procedure J.4 as amended. It was noted that the Infractions Sub-Committee was the forum in which to discuss infractions.

19.2.2 Strengthening IWC financing

The Commission endorsed the work plan of the Intersessional Correspondence Group on Strengthening IWC Financing (see Annex K, appendix 5) to examine ways of integrating conservation funding into the overall budget of the IWC, and recommended that Belgium continue as Chair of this group.

19.2.3 Provisions of options to Governments of limited means to participate in the Commission's work

The F&A Committee welcomed the report of the Working Group on the Provision of Assistance to Governments of Limited Means to Participate in the Commission's Work (see Item 6.4 of this report); recognising that some Contracting Governments were not ready to endorse the draft Resolution as it stood, the Committee requested the Chair to continue work with those delegations in order to present a revised Resolution to the Commission.

The revised Resolution text in IWC/66/13rev3 was later adopted (see Item 6.4.3 of this report).

19.2.4 Website guidance

The F&A Committee **recommended** a proposal to subsume the Intersessional Working Group on Website Guidance into the WG-OE; gave guidance on the use of the IWC website and the recommended incremental approach to facilitate communication amongst Commission members. The Commission **endorsed** the F&A Committee's recommendations.

19.2.5 Development of the Scientific Committee's rules of procedure

The Commission endorsed the Scientific Committee's proposals in relation to changes in its Rules of Procedure, as initially proposed through Resolution 2014-4 and recommended the incorporation of the second option for paragraph 4(e) (see Annex K, item 5.4), regarding consideration of changes arising from the Scientific Committee meeting in 2016 (see Annex K, appendix 8). Agreed changes to the Rules of Procedure are noted on pp.303-306 of this volume.

19.3 Financial contributions formula

This is a standing agenda item allowing opportunity for discussion on the formula for calculating financial contributions or any other related matters.

The Dominican Republic requested that in future the calculation be revised, since the list of countries under Category 2 is quite wide.

19.4 Financial Statements

19.4.1 Provisional financial statements for 2016

The Commission noted that the financial outcome for 2016 will be affected by the Commission's decision to purchase its headquarters premises. In addition, receipts of doubtful debts are higher than expected at £248,000. However, the net result indicates a forecast surplus for the year of £100,104.

The Commission **adopted** the 2014 and 2015 financial statements and noted the Provisional Financial Statement for the year ending 31 December 2016. It approved the expenditure of *circa* GBP 10,000 for architectural plans for the warehouse section of the IWC headquarters property to be presented to IWC/67.

19.4.2 Scientific Committee work plan and research budget for 2017 and 2018

The F&A Committee endorsed a revised research budget (see Annex K, appendix 10) in which budget item SP01 was placed in square brackets.

Japan noted that, as required by Paragraph 30 of the Schedule, the Scientific Committee is required to review proposals for scientific permits and therefore proposed to delete the square brackets so that SP01 is included as part of the Scientific Committee budget. New Zealand and Australia expressed their desire for cooperation, recognising that Resolution 2016-2 on improving the review process for whaling under special permit had been adopted under Item 6.2, and agreed to the removing of the square brackets.

The Commission therefore **adopted** the budget without square brackets. The approved Research Budget for 2017 and 2018 is given as Annex M.

19.4.3 Commission budget for 2017 and 2018

Two budget options were considered by the F&A Committee (see IWC/66/07) both of which were balanced budgets. Option 1 (the 'business as usual' scenario) provided for a 0.3% rise in Contracting Governments contributions in order to offset the prevailing rate of UK inflation. Option 2 proposed raising Contracting Governments contributions by 3.97% in order to support new or ongoing areas of intersessional work arising from IWC/66. The two options were identical in all other respects.

The Commission endorsed budget Option 1 and the Press and Observer fees proposed in IWC/66/BSC03. The approved Commission budget for 2017 and 2018 is given as Annex L.

The F&A Committee drew attention to the following two initiatives developed during IWC/66: (1) the Bycatch Initiative recommended by the Conservation Committee (see Item 8 of IWC/66/Rep05 and IWC/66/CC05) with an estimated a budget of £50,000; and (2) appointment of an Expert Panel and Strandings Co-ordinator as recommended by the Scientific Committee and supported by the WKM&WI (see IWC/66/Rep06 and IWC/66/Rep01(2016)), for which the budget was also likely to be ~£50,000. The F&A Committee noted that costs might have to be met through voluntary contributions at least initially.

19.5 Budgetary Sub-Committee operations and membership

The current members of the Budgetary Sub-Committee are: Guinea, Guinea-Bissau, San Marino, Russian Federation, Norway, New Zealand, UK, Japan, USA. The Chair encouraged any interested Contracting Governments to put themselves forward to fill one Open Seat and the post of Vice-Chair, which remained vacant.

19.6 Scientific Committee working methods

The Chair of the Scientific Committee had nothing to report under this item.

20. ADOPTION OF COMMITTEE REPORTS

20.1 2015 Report of the Scientific Committee (SC66a)

The 2015 Report of the Scientific Committee, IWC/66/Rep01(2015) was **adopted** with all of its recommendations.

20.2 2016 Report of the Scientific Committee (SC66b)

The 2016 Report of the Scientific Committee, IWC/66/Rep01(2016) was **adopted** with all of its recommendations.

20.3 Report of the Working Group on Whale Killing Methods and Welfare Issues

The Report of the Working Group on Whale Killing Methods and Welfare Issues (Annex H) was **adopted** with all of its recommendations.

20.4 Report of the Infractions Sub-Committee

The Report of the Infractions Sub-Committee (Annex I) was **adopted** with all of its recommendations.

20.5 Report of the Budgetary Sub-Committee

The Report of the Budgetary Sub-Committee (appendix 9 of Annex K) was **adopted** with all of its recommendations.

20.6 Report of the Conservation Committee

The Report of the Conservation Committee (Annex G) was **adopted** with all of its recommendations.

20.7 Report of the Aboriginal Subsistence Whaling Sub-Committee

The Report of the Aboriginal Subsistence Whaling Sub-Committee (Annex F) was **adopted** with all of its recommendations.

20.8 Report of the Finance and Administration Committee

The Report of the Finance and Administration Committee (Annex K) was **adopted** with all of its recommendations.

21. ELECTION OF OFFICERS

21.1 Election of Chair

The USA nominated Joji Morishita (Japan) to be elected as Chair of the Commission. He was **elected by consensus**.

21.2 Election of Vice-Chair

The Netherlands on behalf of the EU nominated Andrej Bibic (Slovenia) to be Vice-Chair of the Commission. He was **elected by consensus**.

21.3 Election of Chair of the Working Group on Whale Killing Methods and Associated Welfare Issues

Austria nominated Herman Oosthuizen (South Africa) to be Chair of the Working Group on Whale Killing Methods and Welfare Issues. He was **elected by consensus**.

21.4 Election of Chair of ASW Sub-Committee

Japan nominated Bruno Mainini (Switzerland) to be Chair of the ASW Sub-Committee. He was **elected by consensus**.

22. BUREAU MEMBERSHIP

The Commissioners from Argentina, Australia, Ghana and St Lucia were elected by consensus to the four open seats of the Bureau. Thus the membership of the Bureau now comprises the Chair (Japan), Vice-Chair (Slovenia), Chair of the F&A Committee (USA), Argentina, Australia, Ghana, St Lucia and Brazil (as host of the next Commission meeting).

23. TIMING AND VENUE FOR UPCOMING MEETINGS

Brazil has offered to host the next meeting of the Commission (IWC/67) in 2018, and showed a short promotional video of the country.

The Chair of the F&A Committee announced the Committee's recommendation to accept Slovenia's offer to host the SC/67a meeting of the Scientific Committee in Bled in May 2017.

Kenya offered to host the SC/67b meeting of the Scientific Committee in either Nairobi or Mombasa in 2018.

24. OTHER MATTERS

No other matters were proposed for discussion.

25. ADOPTION OF SUMMARY OF MAIN OUTCOMES, DECISIONS AND REQUIRED ACTIONS FROM THE 66TH MEETING

A summary of the main outcomes, decisions and actions from the meeting was compiled by the Secretariat and presented for adoption on the final day of the meeting.

25.1 Adoption of summary of outcomes, decisions and required actions

The summary of main outcomes, decisions and required actions (IWC/66/Outcomes) was **adopted by consensus**. It was distributed to Commissioners, Contracting Governments, members of the Scientific Committee and accredited observer organisations after the close of the meeting through Circular Communication IWC.ALL.269 on 1 November 2016.

25.2 Chair's closing remarks

The Commission Chair thanked the IWC Executive Secretary (Simon Brockington), the IWC Secretariat, his Swiss colleagues, the Slovenian Government, and all participants. He congratulated Joji Morishita (Japan) and Andrej Bibic (Slovenia) for their appointment as Chair and Vice-Chair of the Commission, respectively. The meeting closed at 16:00 on 28 October 2016.

Annex A

List of Delegates and Observers Attending the 66th Annual Meeting

(C) Commissioner; (AC) Alternate Commissioner; (S) Support Staff; (I) Interpreter

ANTIGUA AND BARBUDA

Daven Joseph (C)

ARGENTINA

Juan Pablo Paniego (AC)
Miguel Iñíguez (AC)

AUSTRALIA

Nick Gales (C)
Deb Callister (AC)
The Hon Josh Frydenberg MP
William de la Mare (AC)
Malcolm Thompson
Joshua Thomas
Suzi Heaton
Frank Lamacchia
Pam Eiser
Darren Kindleysides
Kane Silom (S)

AUSTRIA

Andrea Nouak (C)
Michael Stachowitsch (AC)

BELGIUM

Stephanie Langerock (C)
Fabian Ritter (AC)
Allal Mesrar
Els Vermeulen

BENIN

Antoine Gaston Djihinto (C)

BRAZIL

Hermano Telles Ribeiro (C)
Rodrigo de Almeida (AC)
Thais Coutinho (S)
Fabia de Oliveira Luna (S)
Carlos Hugo Suarez Sampaio (S)
Márcia Engel (S)
Pedro Fruet (S)

CAMBODIA

Ing Try (AC)

CAMEROON

Belal Emma (C)

CHILE

Jose Fernandez (C)
Patricia Zarat
Barbara Galletti

COLOMBIA

Andrea Ramirez Martinez (C)

COSTA RICA

Eugenia Arguedas Montezuma (AC)
Ricardo Meneses Orellana (AC)
Javier Rodríguez Fonseca

CÔTE D'IVOIRE

Zoumana Meite Anlyou (C)

CROATIA

Vesna Terzic (C)
Kresimir Mahecic
Romana Franulovic-Busic
Bozena Les

CZECH REPUBLIC

Jiri Mach (C)
Barbora Hirschová (AC)

DENMARK

Gitte Hundahl (C)
Amalie Jessen (AC)
Maj Friis Munk (AC)
Nette Levermann

DOMINICAN REPUBLIC

Gilka Meléndez (AC)
Peter Sanchez

ERITREA

Seid Mohamed Abrar Ahmed (C)

ESTONIA

Kadri Alasi (AC)

FINLAND

Penina Blankett (C)

FRANCE

Nadia Deckert (C)
Vincent Ridoux (AC)

GABON

Lee White (C)
Aurélie Flore Koumba Pambo (AC)

GERMANY

Alois Bauer (C)
Andreas Taeuber (AC)
Jürgen Friedrich
Nicole Hielscher

GHANA

Benson Nutsukpui (C)

GRENADA

Alvin Da Breo (AC)

GUINEA, REPUBLIC OF

Amadou Telivel Diallo (C)

HUNGARY

Zoltán Czirák (C)

ICELAND

Johann Gudmundsson (C)
Hrund Hafsteinsdóttir (AC)
Kristján Loftsson
Gisli Víkingsson

INDIA

Sarvajit Chakravarti (C)
Ashok Kumar

IRELAND

Frank Donohoe (AC)

ISRAEL

Rachel Oberman (C)

ITALY

Alessandro Iannitti (C)
Francesca Granata (AC)
Caterina Fortuna

JAPAN

Joji Morishita (C)
Kenji Kagawa (AC)
Kazunari Tanaka (AC)
Hideki Moronuki (AC)
Yasushi Kaneko
Yoshitaka Ito
Kuniyoshi Noda
Ryuji Kasai
Koichi Sakamoto

Akio Tozawa
 Kazutaka Sangen
 Masahisa Yamashita
 Yukiya Tsuno
 Naohito Okazoe
 Mari Mishima
 Toshinori Uoya
 Yoshihiro Fujise
 Gabriel Gomez Diaz
 Kayo Ohmagari
 Dan Goodman
 Glenn Inwood
 Keiji Fukuda
 Hiroshi Abe
 Yoshiaki Makino
 Hiroaki Ishihara
 Mayu Yamamoto
 Yoshihiro Takagi (I)
 Saemi Baba (I)
 Yoko Yamakage (I)
 Hiroko Yasokawa (I)
 Sandi Stepec (S)
 Miha Babnik (S)

KENYA

Micheni Japhet Ntiba (C)
 Susan Imende (AC)

KIRIBATI

Reteta Rimon-Nakuata (C)

REPUBLIC OF KOREA

Shinhee Cho (C)
 Jeonghong Shin (AC)
 Hawsun Sohn
 Young Min Choi
 Sara Kim
 Yong-Rock An

LAOS

Akhane Phomsouvanh (AC)

LUXEMBOURG

Pierre Gallego (AC)
 Chris Wold

MAURITANIA

Mariem Aouffa (AC)
 Rachid Belgashi

MEXICO

Lorenzo Rojas-Bracho (C)
 Hernán de Jesús Ruiz Bravo (AC)

MONACO

Fredric Briand (C)
 Elisabeth Lanteri-Minet (AC)

MONGOLIA

Tserendash Damdin (AC)
 Jalbuu Choinkhor

MOROCCO

Mohamed Yassine El Aroussi (AC)

NAURU

Milton Dube (C)
 Michael Aroi (AC)

NETHERLANDS

Roel Ferlinga (C)
 Lejo van der Heiden (AC)
 Annegien Helmens (AC)
 Meike Scheidat (AC)
 Jorden Splinter (AC)
 Helen Gorter (AC)
 Maria Marotta (AC)

NEW ZEALAND

Amy Laurenson (C)
 Andrew Townsend (AC)
 Erin Morriss
 Julia Reynolds

NORWAY

Ole-David Stenseth (C)
 Hild Ynnesdal (AC)
 Alessandro Astroza
 Tore Haug
 Kathrine Ryeng
 Truls Soløy

PANAMA

Giancarlo Soler Torrijos (AC)

POLAND

Monika Lesz (C)
 Magdalena Grabowska (AC)

RUSSIAN FEDERATION

Irina Fominykh (C)
 Valentin Ilyashenko (AC)
 Kirill Zharikov
 Igor Mikhno (S)
 Olga Safonova (S)
 Nataliia Slugina (S)
 Ayvana Enmynkau (S)

SAINT KITTS AND NEVIS

Marc Williams (AC)

SAINT LUCIA

Horace Walters (C)

SAINT VINCENT AND THE GRENADINES

Edwin Snagg (C)

SAN MARINO

Ilaria Salicioni (AC)

SLOVAK REPUBLIC

Branislav Hrabkovsky (C)
 Lucia Vlckova (AC)

SLOVENIA

Andrej Bibič (C)
 Katja Piskur
 Nina Kodelja
 Mojca Deželak

SOUTH AFRICA

Herman Oosthuizen (C)
 Hester Pretorius (AC)
 Ed Couzens

SPAIN

Carmen Asencio (C)
 Begoña Santos (AC)
 Gloria Delgado

SURINAME

Randjitsing Ramkisor (C)
 Soeresh Algae (AC)

SWEDEN

Anders Alm (AC)

SWITZERLAND

Bruno Mainini (C)
 Martin Krebs (AC)
 Pierre-Yves Fux
 Patricia Holm

TANZANIA

Zahor El Kharousy (C)
 Hosea Gonza Mbiliny (I)

TOGO

Ali Domtani (C)

TUVALU

Falasese Tupau (C)

UK

Nigel Gooding (C)
 Jamie Rendell (AC)
 Donna MacKay (AC)
 Emma Rundell
 Catherine Bell
 Stuart Reeves
 Jenny Lonsdale
 Mark Simmonds

USA

Russell Smith (C)
 Ryan Wulff (AC)
 Robert Brownell
 Jordan Carduner
 Doug DeMaster
 Roger Eckert

Alexis Ortiz
 Lisa Phelps
 Michael Tillman
 Dave Weller
 Greig Arnold
 Harry Brower Jr.
 DJ Shubert
 Mike Gosliner (S)
 Taryn Kiekow (S)
 Brian Gruber (S)
 Arnold Brower (S)

URUGUAY

Gastón Lasarte (C)
 Rodrigo García Pingaro
 José Truda Palazzo

INVITED EXPERT

Dalee Dorough

INTERPRETERS

Cynthia Diez Menk
 Elizabeth Lewis
 Sharona Wolkowicz
 Schéhérazade Matallah-Salah
 Mohammed Bennis
 Leila Safi

RAPORTEURS

Harriet Gillett
 Martin Jenkins
 Robert Munroe
 Sara Oldfield
 Pablo Sinovas

IWC SECRETARIAT

Simon Brockington
 Cherry Allison
 Sue Burkett
 Andrea Cooke
 Julie Creek
 Greg Donovan
 Stella Duff
 Sarah Ferriss
 David Mattila
 Brendan Miller
 Jessica Peers
 Dave Peers
 Katie Penfold
 Sarah Smith
 Mark Tandy
 Kate Wilson

NON MEMBER COUNTRIES

Vietnam

Nguyen Thi Trang Nhung
 The Kong Tran

INTERGOVERNMENTAL ORGANISATION OBSERVERS

CCAMLR
 Japan

COMHAFAT/ATLAFCO

Abdelouahed Benabbou
 Abdennaji Laamrich
 Mohammed Haddad
 Ishikawa Atsushi

European Union

Jill Hanna
 Marc Richir

IUCN

Justin Cooke

NAMMCO

Charlotte Winsnes

UNEP/CMS/ASCOBANS

Heidrun Frisch-Nwakanma

NON-GOVERNMENTAL ORGANISATION

Alaska Eskimo Whaling

Commission
 Arnold Brower
 Jessica Lefevre
 Chris Winter
 Taqulik Hepa
 Robert Suydam

All Japan Seamen's Union

Kenji Takahashi
 Hideo Kon
 Daiju Fukano

American Cetacean Society

Bernardo Alps

Animal Welfare Society

Sue Fisher
 Kate O'Connell

BANEA

Atsushi Ishii

Centro de Conservacion Cetacea

Elsa Cabrera
 Maria Jimenez

Cetacean Society International

Heather Rockwell

Dolphin and Whale Action Network

Nanami Kurasawa

Dolphin Connection

Nancy Azzam
 Helena Symonds
 Paul Spong

Environmental Investigation Agency

Daniel Hubbell
 Clare Perry
 Danielle Grabiell

Fundacion Cethus

Carolina Cassani

Global Guardian Trust

Toshikazu Miyamoto
 Jun Akamine

Greenpeace

Gesche Juergens
 Silvia Diaz
 Phil Kline
 Ibrahima Cisse
 John Frizell
 Greg Norman

Humane Society International

Kitty Block
 Claire Bass
 Bernard Unti

Instituto de Conservacion de Ballenas

Roxana Schteinbarg
 Miguel Bottazi

International Fund for Animal Welfare

Clare Sterling
 Sonja Van Tichelen
 Sharon Livermore
 Matthew Collis
 Andreas Dinkelmeyer
 JC Bouvier
 Sidney Holt

IWMC World Conservation Trust

Eugene Lapointe
 Nikolas Sellheim
 Gavin Cater
 Helene Lapointe
 Joanne Massiah

Japan Small-Type Whaling Association

Yoshiichi Shimomichi
 Chikao Kimura
 Kota Shoji

Japan Whaling Association

Konomu Kubo
 Naoya Tanikawa
 Teruto Seko
 Seiji Ohsumi
 Yoshifumi Kai
 Masaki Wada
 Naoyuki Mizumoto
 Yoshihiro Tahara
 Isao Ueda
 Mitsuhiro Kishimoto
 Kiyokazu Yoshimura
 Jun Takahashi

Legaseas

Deborah Adams
 Candace Crespi

Makah Indian Tribe

Keith Johnson

OceanCare

Fabienne McLellan

Nicolas Entrup

ORCA Peru

Carlos Yaipen-Llanos

Luis Miguel Paz-Arancibia

**Peace Research Institute Frankfurt
(PRIF/HSFK)**

Lisbeth Zimmermann

Pro Wildlife e.V.

Sandra Altherr

Robin des Bois

Charlotte Nithart

Tamara Vilarins

**University of Tasmania, Faculty of
Law**

Lucy Smejkal

Whaleman International

Jeff Pantukhoff

Whale and Dolphin Conservation

Astrid Fuchs

Whales Alive

Mick McIntyre

Jean Paul Gouin

Meredith Fisher

Women's Forum for Fish

Akiko Sato

Yuriko Shiraishi

World Animal Protection

Nicola Beynon

World Wildlife Fund

Leigh Henry

Aimee Leslie

Annex B

List of Documents

IWC/66/		Agenda item
01	Draft Agenda and Annotations	2
01rev	Draft Agenda and Annotations	2
02	List of Documents	1
03	Delegates and Observers attending the 66th Annual Meeting	1
04	Update on co-operation with other organisations incorporating: IWC/66/04 (2014) as Annex 1 IWC/66/04 (2015) as Annex 2	18
05	Financial Statements (2014) Financial Statements (2015)	19.4
06	Un-audited Provisional Financial Statement for the International Whaling Commission 2016	19.4.1
07	Budget for the International Whaling Commission for 2017 and 2018	19.4.3
08	The South Atlantic: A Sanctuary for Whales. Objectives and Management Plan (submitted by Argentina, Brazil, Gabon, South Africa and Uruguay)	5.1
08rev	The South Atlantic: A Sanctuary for Whales. Objectives and Management Plan (submitted by Argentina, Brazil, Gabon, South Africa and Uruguay)	5.1
09	Proposal for a Schedule Amendment to Create a South Atlantic Whale Sanctuary (submitted by Argentina, Brazil, Gabon, South Africa and Uruguay)	5.1
10	Draft Resolution on Enhancing the Effectiveness of the International Whaling Commission (submitted by Australia, New Zealand and the USA)	6.1
10rev	Draft Resolution on Enhancing the Effectiveness of the International Whaling Commission (submitted by Australia, Brazil, Mexico, New Zealand and the USA)	6.1
11	Draft Resolution: on Improving the Review Process for Whaling under Special Permit (submitted by Australia and New Zealand)	6.2
11rev	Draft Resolution: on Improving the Review Process for Whaling under Special Permit (submitted by Australia and New Zealand)	6.2
12	Draft Resolution on Food Security (submitted by Ghana, Cote D'Ivoire and Republic of Guinea)	6.3
13	Draft Resolution on the Creation of a Fund to Strengthen the Capacity of Governments of Limited Means to Participate in the Work of the IWC (submitted by Cambodia, Ghana and Japan)	6.4
13rev	Draft Resolution on the Creation of a Fund to Strengthen the Capacity of Governments of Limited Means to Participate in the Work of the IWC (submitted by Cambodia, Ghana and Japan)	6.4
14	Draft Resolution on Minamata Convention (submitted by Uruguay and Brazil)	6.4
14rev	Draft Resolution on Minamata Convention (submitted by Uruguay, Brazil and Colombia)	6.6
14rev2	Draft Resolution on Minamata Convention (submitted by Uruguay, Brazil, Colombia, Switzerland and Monaco)	6.6
15	Draft Resolution on Cetaceans and Ecosystem Services (submitted by Chile)	6.5
15rev	Draft Resolution on Cetaceans and Their Contributions to Ecosystem Functioning (submitted by Chile and Brazil)	6.5
15rev2	Draft Resolution on Cetaceans and their Contribution to Ecosystem Functioning (submitted by Chile, Argentina, Brazil, Costa Rica, Dominican Republic, Mexico and Uruguay)	6.5
15rev3	Draft Resolution on Cetaceans and their Contribution to Ecosystem Functioning (submitted by Chile, Argentina, Brazil, Costa Rica, Dominican Republic, Mexico and Uruguay)	6.5
16	Discussion Paper. Responses to Japan's questionnaire and a way forward (submitted by Japan)	8
17	Short Overview of the Work of the Scientific Committee at its 2015 and 2016 Annual Meetings (submitted by the Chair and Vice-Chair of the Scientific Committee and the Head of Science)	3.1
18	Scientific Committee: Draft Agenda and Biennial Work Plan 2017-2018 (submitted by the Chair and Vice-Chair of the Scientific Committee and the Head of Science)	3.2
19	Proposed Rule of Procedure J.4 (submitted by the Chair of the Operational Effectiveness Working Group)	19.2.1
20	Draft Resolution on the Critically Endangered Vaquita (submitted by the USA)	6 and 9.2.1
20rev	Draft Resolution on the Critically Endangered Vaquita (submitted by Austria, Belgium, Czech Republic, Croatia, Denmark, Estonia, Finland, France, Germany, Hungary, Ireland, Italy, Luxembourg, Netherlands, Poland, Slovak Republic, Slovenia, Spain, Sweden, the United Kingdom and the USA)	6.7
21	Small Group to Develop an Approach to Address the Question of 'Stinky' Whales in the Chukotkan Hunt	7.4.2

Reports from Commission sub-groups

IWC/66/Rep		Agenda Item
01(2015) 01(2016)	Reports of the Scientific Committee (2015 and 2016)	3, 20 and throughout
02	Report of the Finance and Administration Committee	19 and 20
03	Report of the Aboriginal Subsistence Whaling Sub-Committee	7 and 20
04	Report of the Infractions Sub-Committee	17.2 and 20
05	Report of the Conservation Committee	4, 20 and throughout
06	Report of the Working Group on Whale Killing Methods and Welfare Issues	13 and 20

French and Spanish: Summary of Outcomes

IWC/66/		
Rep01	-FR and SP	Summary of outcomes of IWC/66/Rep01 (Reports of the Scientific Committee 2013 and 2014)
Rep02	-FR and SP	Summary of outcomes of IWC/66/Rep02 (Report of the Finance and Administration Committee)
Rep03	-FR and SP	Summary of outcomes of IWC/66/Rep03 (Report of the Aboriginal Subsistence Whaling Sub-Committee)
Rep04	-FR and SP	Summary of outcomes of IWC/66/Rep04 (Report of the Infractions Sub-Committee)
Rep05	-FR and SP	Summary of outcomes of IWC/66/Rep05 (Report of the Conservation Committee)
Rep06	-FR and SP	Summary of outcomes of IWC/66/Rep06 (Report of the Working Group on Whale Killing Methods and Associated Welfare Issues)

Opening Statements

IWC/66/OS GO (Member Governments)
Australia
Kingdom of Denmark
Buenos Aires Group
India
Japan
Kenya
Netherlands
New Zealand
South Africa
St Lucia
USA

IWC/66/OS IGO (Inter-Governmental observers)
CMS Family
IUCN
NAMMCO

IWC/66/OS NGO	
Animal Welfare Institute, OceanCare and Pro Wildlife	AWI OC PW
Global Guardian Trust	GGT
Instituto de Conservacion de Ballenas	ICB
IWMC World Conservation Trust	IWMC
Japan Small Type Whaling Association	JSTWA
All Japan Seaman's Union	JSU
ORCA	ORCA
WWF	WWF

Annex C

Agenda

1. Introductory items
 - 1.1 Welcome address
 - 1.2 Opening Statements
 - 1.3 Secretary's Report on Credentials and Voting Rights
 - 1.4 Meeting arrangements
 - 1.5 Review of documents
2. Adoption of the Agenda
3. Scientific Committee presentation
 - 3.1 Main recommendations
 - 3.2 Future work plan
4. Conservation Committee presentation
 - 4.1 Strategic plan
 - 4.2 Main recommendations and work plan
5. Proposals to amend the Schedule
 - 5.1 Proposal for the establishment of a South Atlantic Whale Sanctuary
6. Resolutions
 - 6.1 Resolution on Enhancing the Effectiveness of the International Whaling Commission
 - 6.2 Resolution on Improving the Review Process for Whaling under Special Permit
 - 6.3 Resolution on Food Security
 - 6.4 Resolution on the Creation of a Fund to Strengthen the Capacity of Governments of Limited Means to Participate in the Work of the International Whaling Commission
 - 6.5 Resolution on Cetaceans and Ecosystem Services
 - 6.6 Resolution on the Minamata Convention
 - 6.7 Resolution on Vaquita Convention
7. Aboriginal subsistence whaling
 - 7.1 Report of the *Ad-hoc* Aboriginal Subsistence Whaling Working Group
 - 7.1.1 Working Group report
 - 7.1.2 Report of the 2015 IWC Expert Workshop on Aboriginal Subsistence Whaling
 - 7.1.3 Invited speaker on indigenous people's rights
 - 7.2 Aboriginal Subsistence Whaling Management Procedure
 - 7.2.1 Report of the Aboriginal Subsistence Whaling Sub-Committee
 - 7.3 Aboriginal Whaling Scheme
 - 7.3.1 Report of the Aboriginal Subsistence Whaling Sub-Committee
 - 7.4 Annual reviews of aboriginal subsistence whaling catch limits
 - 7.4.1 Bering-Chukchi-Beaufort Seas stock of bowhead whales
 - 7.4.2 North Pacific eastern stock of gray whales
 - 7.4.3 Common minke whale stocks off east and west Greenland
 - 7.4.4 West Greenland stock of fin whales
 - 7.4.5 West Greenland stock of bowhead whales
 - 7.4.6 Humpback whales off West Greenland
 - 7.4.7 North Atlantic humpback whales off St Vincent and The Grenadines
- 7.5 Status of the Voluntary Fund for Aboriginal Subsistence Whaling
8. Socio-economic implications and small type whaling
9. Cetacean status and health
 - 9.1 Whale stocks
 - 9.1.1 Antarctic minke whales
 - 9.1.2 Southern Hemisphere humpback whales
 - 9.1.3 Southern Hemisphere blue whales
 - 9.1.4 Western North Pacific gray whales
 - 9.1.5 Southern Hemisphere right whales
 - 9.1.6 North Pacific and North Atlantic right whales and small stocks of bowhead whales
 - 9.1.7 International research cruises
 - 9.1.8 Other stocks
 - 9.1.9 Summary of agreed whale abundance estimates
 - 9.2 Small Cetaceans
 - 9.2.1 Concerns over status
 - 9.2.2 Progress with projects undertaken through the IWC Voluntary Fund
 - 9.3 Cetacean health and disease
 - 9.4 Stock definition and DNA testing
10. Cetacean habitat
 - 10.1 State of the Cetacean Environment (SOCER)
 - 10.2 Ecosystem modelling
 - 10.3 Arctic Ocean
 - 10.4 Climate change
 - 10.5 Decadal Review of the Southern Ocean Sanctuary
11. Unintended anthropogenic impacts
 - 11.1 POLLUTION 2000+ research programme
 - 11.2 Marine debris
 - 11.3 Cetacean bycatch
 - 11.4 Anthropogenic sound
 - 11.5 Ship strikes
12. The IWC in the future
13. Whale killing methods and welfare issues
 - 13.1 Summary of data provided on whales killed
 - 13.2 Improving the humaneness of whaling operations
 - 13.2.1 Reports from IWC Contracting Governments
 - 13.2.2 Report of the 2015 NAMMCO expert group meeting

- 13.3 Whale welfare
 - 13.3.1 Report of the IWC Workshop on Non-hunting Aspects of Cetacean Welfare
 - 13.3.2 Engagement of other organisations and experts on issues relating to cetacean welfare
 - 13.4 Welfare issues associated with the entanglement of large whales
 - 13.2.1 Report of the Third IWC Expert Workshop on Large Whale Entanglement Issues
 - 13.4.2 Report of the Joint Expert Workshop on Large Whale Entanglement and Bycatch Reduction
 - 13.4.3 Secretariat's progress report
 - 13.5 Strandings response
 - 13.5.1 Report of the IWC Workshop to Develop Practical Guidance for the Handling of Cetacean Stranding Events
 - 13.5.2 Scientific Committee recommendations on strandings
 - 14. Scientific permits
 - 14.1 NEWREP-A
 - 14.2 JARPN II
 - 14.3 Procedures used by the Scientific Committee for reviewing special permits
 - 14.4 Other
 - 15. Safety at sea
 - 16. Other conservation issues
 - 16.1 Conservation Management Plans
 - 16.1.1 Western Pacific gray whale
 - 16.1.2 South-west Atlantic southern right whale
 - 16.1.3 South-east Pacific southern right whale
 - 16.1.4 Additional CMP proposals
 - 16.1.5 Progress Report by the CMP Standing Working Group
 - 16.2 Whale watching
 - 16.2.1 Report from the Joint Workshop on Capacity Building for Whale and Dolphin Watching in the Indian Ocean Region
 - 16.2.2 Progress Report by the Whale Watching Standing Working Group
 - 16.3 National Reports on Cetacean Conservation
 - 16.4 Regional research partnerships
 - 16.4.1 Southern Ocean Research Partnership
 - 16.4.2 Status of the Voluntary Fund
 - 17. Other management issues
 - 17.1 Revised Management Procedure
 - 17.1.1 General issues
 - 17.1.2 *Implementation* process
 - 17.2 Infractions
 - 17.3 Catches by non-member nations
 - 18. Co-operation with other organisations
 - 19. Finance and administration
 - 19.1 Administrative matters
 - 19.1.1 IWC communications
 - 19.1.2 IWC document archiving
 - 19.1.3 Reporting of confidential communications
 - 19.1.4 Meeting arrangements
 - 19.2 Intersessional Working Groups
 - 19.2.1 Operational Effectiveness and Cost Saving Measures
 - 19.2.2 Strengthening IWC Financing
 - 19.2.3 Provision of Options to Governments of Limited Means to Participate in the Commission's Work
 - 19.2.4 Website Guidance
 - 19.2.5 Development of the Scientific Committee's Rules of Procedure
 - 19.3 Financial contributions formula
 - 19.4 Financial Statements
 - 19.4.1 Provisional Financial Statement for 2016
 - 19.4.2 Scientific Committee work plan and research budget for 2017 and 2018
 - 19.4.3 Commission budget for 2017 and 2018
 - 19.5 Budgetary Sub-Committee operations and membership
 - 19.6 Scientific Committee working methods
 - 20. Adoption of Committee Reports
 - 20.1 2015 Report of the Scientific Committee (SC/66a)
 - 20.2 2016 Report of the Scientific Committee (SC/66b)
 - 20.3 Report of the Working Group on Whale Killing Methods and Welfare Issues
 - 20.4 Report of the Infractions Sub-Committee
 - 20.5 Report of the Budgetary Sub-Committee
 - 20.6 Report of the Conservation Committee
 - 20.7 Report of the Aboriginal Subsistence Whaling Sub-committee
 - 20.8 Report of the Finance and Administration Committee
 - 21. Election of officers
 - 21.1 Election of Chair
 - 21.2 Election of Vice-Chair
 - 22. Bureau membership
 - 23. Timing and venue for upcoming meetings
 - 24. Other matters
 - 25. Adoption of summary of main outcomes, decisions and required actions from the 66th meeting
 - 25.1 Adoption of summary of outcomes, decisions and required actions
 - 25.2 Chair's closing remarks
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Annex D

Statements from Ministers

OPENING STATEMENT FROM BRAZIL

Brazil, on behalf of the co-sponsors of the proposal that calls for the establishment of the South Atlantic Whale Sanctuary, wishes to express its gratitude for the unwavering support that this initiative has received, for the past 15 years, from nations around the planet.

We are absolutely confident that we will affirm, under the IWC, the south Atlantic as a zone of peace, cooperation and sustainable management, in the best interest of all member countries.

As a country that has the privilege and honour to maintain full diplomatic relations with all members of the United Nations, Brazil highly values dialogue with all nations here represented.

Member states of the IWC represent today 70 years of dialogue, scientific research and complex negotiations. From media professionals to representatives of civil society, from professors and scientists to government officials, we pay homage to all in this moment. And it is necessary to state: all this would not have been possible without a hard-

working and balanced team led by the Executive Secretary. And your able guidance, Chair.

Brazil wishes to welcome the IWC and all members, should our proposition to host the next meeting of the Commission be endorsed by this Plenary. We also would very much like to see a sister nation of Africa hosting the Scientific Committee in 2018.

In closing, and as I seek to envisage the IWC in the coming years, I would like to cite the worlds of the poet and songwriter, winner of the 2016 Nobel Prize for literature, Bob Dylan:

*May your hands always be busy
May your feet always be swift
May you have a strong foundation
When the winds of changes shift...
And may you stay
Forever young
(Album: Planet Waves, 1972)
Thank you.*

OPENING STATEMENT FROM THE HON JOSH FRYDENBERG MP, MINISTER FOR THE ENVIRONMENT AND ENERGY, AUSTRALIA

I am pleased to present this opening statement to the 66th meeting of the International Whaling Commission, on behalf of the Australian Government.

I would like to thank the Government of the Republic of Slovenia for their generous hosting of this Commission meeting.

Ministers, Chair, Commissioners, Executive Secretary and distinguished delegates.

2016 is a significant year for whale conservation.

It marks the 70th anniversary of the International Convention for the Regulation of Whaling.

In reaching this milestone, it is important for us to reflect on history – the circumstances that existed at the time the Convention was signed in 1946, and the circumstances that we find ourselves in today in 2016.

We are marking the 30th anniversary of the global moratorium on commercial whaling – and it is as important today as it was 30 years ago.

Some whale populations have started to show signs of recovery but globally, whales still face many threats – including climate change, marine debris, bycatch, ship strikes and, of course, whaling.

The moratorium must remain in place.

The global whale-watching industry is booming – presenting significant economic and social benefits and opportunities for communities, while promoting whale conservation.

And we continue to expand our understanding of whales through non-lethal research.

Significant reform has been achieved through the Commission's history, particularly over the past decade.

But Australia believes that more can be done to ensure the Commission is an effective and contemporary multilateral organisation.

Australia, New Zealand and the United States have submitted a draft resolution to this meeting which aims to bring the Commission's operations in line with best practice for multilateral treaty bodies. We need to ensure the Commission keeps pace with the times. Brazil has indicated it will also co-sponsor this resolution.

We are confident that this proposal is something all members can benefit from, and work together on, irrespective of our differing views on whaling – let's make the Commission the best it can be.

It proposes a review to deliver a roadmap for clear and sensible reforms that will enhance the Commission's effectiveness and transparency.

Australia has contributed \$200,000 Australian dollars to the Commission to progress this important work.

A second area of focus for Australia at this meeting is to ensure the Commission takes greater responsibility for the manner in which it deals with special permit whaling, including Japanese whaling in the Southern Ocean. Australia and New Zealand have submitted a resolution on this issue.

This resolution follows on from Resolution 2014-5, which was an essential step towards embedding the legal principles set out in the International Court of Justice's judgment into the work of the Commission.

For too long, the Commission has deferred responsibility for reviewing special permit whaling to its Scientific Committee. Our resolution sets out a process for the Commission to be more engaged on this important and divisive issue and to form its own conclusions.

This is particularly important in light of the International Court of Justice's views that whether or not a special permit program is consistent with Article VIII is to be determined objectively, and cannot simply be self-determined by a Contracting Government.

The need for this resolution is clearly illustrated by the situation that we find ourselves in with NEWREP-A. Resolution 2014-5 requested proponents of special permit programs not to issue permits until the Commission had been able to consider the Scientific Committee's report, and make such recommendations on the merits or otherwise of the special permit program as it sees fit.

It is regrettable that despite this, in the last austral summer, Japan took 333 minke whales in the Southern Ocean under special permit.

Australia will have more to say on this subject under agenda item 14.1.

The other two priority areas for Australia at this meeting are whale and small cetacean conservation and science.

I am very pleased to see the progress and important work being achieved by the Commission's Conservation Committee.

At this meeting Australia will support the adoption of a Strategic Plan that sets the direction of the work of the Conservation Committee over the next 10 years.

Conservation Management Plans are now a major element of the work of the Conservation Committee and

represent a powerful tool to improve the status of the most at risk populations of whales and other cetaceans.

Another important matter before the Commission this year is the proposal for a South Atlantic Whale Sanctuary.

Australia supports sanctuaries and congratulates the proponents on an excellent, science-based proposal.

Australia has continued its support for non-lethal cetacean science, and Australian scientists have been at the forefront of this work.

Collaborative research undertaken through the Commission's Southern Ocean Research Partnership has repeatedly demonstrated that you do not need to kill whales in order to study them.

Australia recently provided an additional \$1.5 million for the Partnership to continue its very important work.

In closing, Mr Chair:

Australia strongly supports the global moratorium on commercial whaling.

We will continue to work towards a permanent end to all forms of commercial and so-called 'scientific' whaling.

We will continue to promote non-lethal research.

And we will do all that we can to preserve, protect and support the recovery of the world's magnificent whales and other cetaceans.

We look forward to working constructively with all members of the Commission at this meeting.

Annex E

Resolutions Adopted at the 66th Meeting

Resolution 2016-1

RESOLUTION ON ENHANCING THE EFFECTIVENESS OF THE INTERNATIONAL WHALING COMMISSION

NOTING that 2016 is the 70th anniversary of agreement to the International Convention for the Regulation of Whaling;

RECOGNISING that there are different views concerning the priority of the Commission's objectives and mandates among Commission member states due to the different positions on whales and whaling;

NOTWITHSTANDING the difference in positions, aware of the importance of ensuring the Commission's institutional and governance arrangements are aligned with best practice for contemporary multilateral treaty bodies;

ACKNOWLEDGING the progress the Commission has made in this respect, including through *inter alia*, strengthening the Finance and Administration Committee, moving to a biennial meeting pattern, establishing a Bureau to facilitate the work of the Commission during the intersessional period, enhancing the role of civil society in the Commission and creating an Operational Effectiveness Working Group;

RECOGNISING that the Commission's continued effectiveness is contingent upon further reform;

NOTING that a more comprehensive review of the Commission's institutional and governance arrangements will enable the efficient prioritisation of opportunities for reform;

FURTHER NOTING that independent reviews are best practice in multilateral treaty bodies, and have been used to strengthen institutional and governance arrangements in a number of organisations.

NOW, THEREFORE THE COMMISSION:

AGREES to a comprehensive, independent review of the Commission's institutional and governance arrangements, based on Terms of Reference contained in the annex to this Resolution;

CALLS UPON Contracting Governments to make voluntary contributions to support this review;

AGREES to establish, during the 66th meeting of the Commission, a Steering Group of Contracting Governments representing a range of views and interests to select a panel to conduct the review in the intersessional period;

AGREES that the review will be conducted by a panel of three independent reviewers selected by the Steering Group, in consultation with the Chair and Vice-Chair of the Commission, following a limited tender application process¹;

AGREES that the review panel submit a report to the Executive Secretary, in accordance with the Terms of Reference contained in the annex to this Resolution, for discussion at the 67th meeting of the Commission;

AGREES that the Secretariat circulates the report to Contracting Governments and Accredited Observers, and to the Working Group on Operational Effectiveness; and

REQUESTS that the Working Group on Operational Effectiveness consider the report and submit a proposal to guide the Commission in responding to the recommendations of the review at least 60 days in advance of the 67th meeting of the Commission.

Appendix to Resolution 2016-1

Terms of Reference for an Independent Review of the International Whaling Commission

Objective

The International Convention for the Regulation of Whaling was signed in 1946. Significant reform has been achieved over the past decade in particular; however, there is still much that needs to be done to bring the Commission into line with best practice for contemporary multilateral treaty bodies, including with regard to principles of transparency, accountability, credibility and effectiveness.

A review is proposed to identify opportunities to align the Commission's institutional and governance arrangements with best practice for multilateral treaty bodies, and enhance the Commission's effectiveness.

Qualifications

The review will be carried out by a review panel made up of three experts.

The review panel members should have a demonstrated understanding of multilateral treaty bodies, and experience reviewing large international organisations and/or multilateral treaty bodies. The review panel members will be required to confirm the absence of a conflict of interest.

Scope

The review panel will undertake a comprehensive review of the Commission's institutional and governance arrangements. The review will be conducted in a cost-effective manner and assess *inter alia*:

- (i) the organisation of the Commission's work, including the role, functioning, effectiveness, and governance of its sub-groups;
- (ii) the process for agreeing work programs and strategic direction;
- (iii) methods and effectiveness of communication between the Commission and its subsidiary bodies;
- (iv) the process for allocation of the Commission's resources to subsidiary bodies;
- (v) the role, functioning, effectiveness and governance of the Secretariat; and
- (vi) the Commission's rules of procedure and financial regulations.

¹Limited tender means seeking applications from a small number of suitably qualified people or organisations as opposed to a process open to any applicants.

Out of scope

The review will not take account of the Commission's objectives or mandate. The review will not specifically assess or provide recommendations on *inter alia*:

- (i) the text of the International Convention for the Regulation of Whaling;
- (ii) the Schedule of the International Convention for the Regulation of Whaling;
- (iii) the conservation and management status of cetaceans;
- (iv) Contracting Governments' compliance with the Convention and Schedule; and
- (v) aligning the Commission's operations with the International Court of Justice's judgment in the case concerning *Whaling in the Antarctic (Australia v Japan: New Zealand intervening)*.

Method

The review will be conducted through a desktop review of relevant materials, including *inter alia* the Commission's rules of procedure, resolutions, official reports, and the work of its subsidiary bodies. The Secretariat will assist to ensure all required documents are available. The review will consider the findings of the reviews of multilateral treaty bodies and other intergovernmental organisations.

The members of the review panel may consult with representatives of Contracting Governments, the Secretariat, and accredited Observers to the Commission.

Work schedule

The review will commence by 1 May 2017. The review panel will keep the Secretariat and Chair of the Working Group

on Operational Effectiveness informed of its work, and present its initial findings, for information, to the Executive Secretary by 30 October 2017. The review panel will submit a final report to the Executive Secretary by 1 March 2018.

The Secretariat will circulate the final report to Contracting Governments and observers 120 days before IWC/67.

Deliverables

The review panel's final report to the Commission will include:

- (i) a comprehensive review of the Commission's institutional and governance arrangements (including an Executive Summary);
- (ii) recommendations for reform that will enhance the Commission's effectiveness (recommendations should be prioritised);
- (iii) a draft roadmap for implementing the recommendations; and
- (iv) proposed performance indicators to track the implementation of reform measures.

Selection process

The Steering Group will request applications from any suitably qualified individuals to be selected for membership of the review panel.

Interested parties should submit a brief proposal (maximum 10 pages) responding to these Terms of Reference by 1 March 2017. The proposal must include a detailed budget.

Resolution 2016-2**RESOLUTION ON IMPROVING THE REVIEW PROCESS FOR WHALING UNDER SPECIAL PERMIT**

NOTING the judgment of March 31, 2014 of the International Court of Justice in the case concerning *Whaling in the Antarctic (Australia v Japan: New Zealand intervening)*;

NOTING the Court's view that Contracting Governments to the International Convention for the Regulation of Whaling ('the Convention') have a duty to cooperate with the International Whaling Commission and Scientific Committee;

AFFIRMING that the Scientific Committee is required to review and comment on proposed special permits as stipulated under paragraph 30 of the Schedule to the Convention, and that it is appropriate for the Commission to receive and consider the reports and recommendations of the Scientific Committee and make such recommendations under Article VI of the Convention as it sees fit;

UNDERSCORING the importance of the Commission considering these reports and recommendations of the Scientific Committee and, to that end, being able to make recommendations in sufficient time to allow the Contracting Government concerned to give such recommendations due regard, in exercise of its duty to cooperate, prior to issuing a special permit;

ACKNOWLEDGING in this respect the Scientific Committee's advice to the Commission on new, ongoing and completed special permit programmes;

RECALLING Resolution 2014-5, which *inter alia* instructed the Scientific Committee, in its review of new

and existing special permit research programmes, to provide advice to the Commission on:

- (a) whether the design and implementation of the programme, including sample sizes, are reasonable in relation to achieving the programme's stated research objectives;
- (b) whether the elements of the research that rely on lethally obtained data are likely to lead to improvements in the conservation and management of whales;
- (c) whether the objectives of the research could be achieved by non-lethal means or whether there are reasonably equivalent objectives that could be achieved non-lethally;
- (d) whether the scale of lethal sampling is reasonable in relation to the programme's stated research objectives, and non-lethal alternatives are not feasible to either replace or reduce the scale of lethal sampling proposed; and
- (e) such other matters as the Scientific Committee considers relevant to the programme, having regard to the decision of the International Court of Justice, including the methodology used to select sample sizes, a comparison of the target sample sizes and the actual take, the timeframe associated with a programme, the programme's scientific output; and the degree to which a programme coordinates its activities with related research projects.

GRATEFULLY ACKNOWLEDGING the constructive changes to the *Annex P: Process for the Review of Special Permit Proposals and Research Results from Existing and Completed Permits* (Annex P), adopted by the Scientific Committee at SC/66a in 2015, and the efforts of the Scientific Committee and the Commission to improve other procedural matters;

FURTHER RECALLING Resolution 2014-5, which *inter alia* requests that no further special permits for the take of whales are issued under existing research programmes or any new programme of whale research until:

- (a) the Scientific Committee has reviewed the research programme to enable it to provide advice to the Commission in accordance with the instructions in Resolution 2014-5;
- (b) the Commission has considered the report of the Scientific Committee and assessed whether the Contracting Government proposing or responsible for the special permit programme has acted in accordance with the review process described in Resolution 2014-5; and
- (c) the Commission has, in accordance with Article VI of the Convention, made such recommendations on the merits or otherwise of the special permit programme as it sees fit.

NOTING that the Government of Japan, notwithstanding Resolution 2014-5, issued special permits for its 'New Scientific Whale Research Program in the Antarctic Ocean (NEWREP-A)' before: (i) the Scientific Committee had provided advice to the Commission in accordance with the instructions in Resolution 2014-5; and (ii) the Commission had considered the report of the Scientific Committee and assessed whether Japan had acted in accordance with the review process described in Resolution 2014-5 and, in accordance with Article VI, made such recommendations on the merits or otherwise of the special permit programme as it saw fit.

FURTHER RECALLING Resolution 2007-1, in which the Commission recalled that it had repeatedly requested Contracting Parties to refrain from issuing special permits for research involving the killing of whales within the Southern Ocean Sanctuary.

NOW, THEREFORE THE COMMISSION:

- (1) **AGREES** to establish a Standing Working Group ('the Working Group'), in accordance with Article III.4 of the Convention. The Working Group will be appointed by the Bureau on the basis of nominations from Contracting Governments, to consider the reports and recommendations of the Scientific Committee with respect to all new, ongoing and completed special permit programmes and report to the Commission, in accordance with the Terms of Reference contained in the Appendix to this resolution.
- (2) **AGREES** that the discussion of special permit programmes be afforded sufficient priority and time allocation to allow for adequate review at both Commission and Scientific Committee meetings;
- (3) In order to facilitate the Commission's timely and meaningful consideration of new, ongoing and completed special permit programmes, **REQUESTS** Contracting Governments to submit proposals for new special permit programmes, and review documentation for ongoing and completed special permit programmes,

at least six months before the Scientific Committee meeting held in the same year as a Commission meeting (see the indicative process set out in paragraph 9 of the Appendix);

- (4) In order to facilitate the Scientific Committee's review of new, ongoing and completed special permit programmes, **REQUESTS** Contracting Governments to provide members of the Scientific Committee unrestricted and continuing access to all data collected under special permit programmes that are:
 - (a) used in the development of new programmes; or
 - (b) included in ongoing or final programme reviews.

Data made available in accordance with this request shall be used only for the purposes of evaluation and review of special permit programmes.

- (5) **INSTRUCTS** the Scientific Committee to inform the Commission as to whether Scientific Committee members had unrestricted and continuing access to data collected under special permit programmes, and analyses thereof;
- (6) **FURTHER INSTRUCTS** the Scientific Committee to provide its evaluation of proposals to the Commission in the same year as a Commission meeting (regardless of when the Scientific Committee's review commences), and to make necessary revisions to its procedures for reviewing special permit programmes, including Annex P, to incorporate the expectation that Contracting Governments will schedule any special permit programmes in accordance with the process outlined in paragraph 3;
- (7) **AGREES** that the Commission will consider the reports of the Scientific Committee and of the Working Group at the first Commission meeting after the Scientific Committee has reviewed the new, ongoing or completed special permit programme in question and, taking into account those reports, the Commission will:
 - (a) form its own view regarding:
 - (i) whether the review process has adequately followed the instructions set out in Annex P and any additional instructions provided by the Commission;
 - (ii) whether the elements of a proposed special permit programme, or the results reported from an ongoing or completed special permit programme, have been adequately demonstrated to meet the criteria set out in the relevant terms of reference in Annex P, and any additional criteria elaborated by the Commission; and
 - (iii) any other relevant aspect of the new, ongoing or completed special permit programme and review in question;
 - (b) provide any recommendations or advice it considers appropriate to the responsible Contracting Government regarding any aspect of the new, ongoing or completed special permit programme, including affirming or modifying any proposed recommendations or advice proposed by the Scientific Committee.
 - (c) provide any direction it considers appropriate to the Scientific Committee.
 - (d) make public a summary of the Commission's conclusions in this respect, by way of publication on the Commission's website, within 7 days of the end of the Commission meeting.

Appendix

Terms of Reference for a Standing Working Group on Special Permit Programmes

Membership

- (1) The Standing Working Group on Special Permit Programmes ('the Working Group') will consist of Commissioners or other Contracting Government delegates, and represent the range of opinions on the issue of special permits. The Chair of the Scientific Committee will also participate in the Working Group.
- (2) The Contracting Government proposing or responsible for the special permit programme in question may participate in the Working Group as an observer only. As an observer, this Contracting Government may provide information to the Working Group at the Working Group's request, to assist its work.
- (3) The Working Group will elect from its membership a Chair and Vice Chair. The Chair and Vice Chair will be responsible for ensuring that the business of the Working Group is carried out efficiently and in accordance with this Resolution.

Methods

- (1) The Working Group will work by correspondence in the intersessional period, or, if convenient or cost-effective, in face to face meetings.
- (2) The Working Group will consider the reports and recommendations of the Scientific Committee with respect to all new, ongoing and completed special permit programmes, and provide a factual, accessible and succinct report at least 30 days in advance of the Commission meeting. The Working Group will present its report verbally to the Commission plenary. The Commission may draw on the report in its consideration of any relevant item of business submitted in accordance with Rule J1 or J2 of the Rules of Procedure.
- (3) The Working Group will begin by considering the Scientific Committee's review of Japan's Southern Ocean whaling programme, known as 'New Scientific Whale Research Program in the Antarctic Ocean (NEWREP-A)'. The Working Group will also consider the Scientific Committee's subsequent reviews of special permit programmes.
- (4) The Commission will consider the operation of the Working Group at its 67th meeting.

Reporting

- (1) For each new, ongoing and completed special programme considered by the Scientific Committee, the Working Group will produce the following:
 - (a) A high-level summary of the outcomes and recommendations of each review of new, ongoing and completed special permit programmes conducted by the Scientific Committee, to aid the Commission's understanding of the Scientific Committee's advice;
 - (b) Advice on whether each review process has complied with the procedures set out in Annex P, and any additional procedures provided by the Commission, whether in resolutions or otherwise;
 - (c) A summary of the Scientific Committee's view on whether the elements of a proposed special permit programme, or the results reported from an ongoing or completed programme, have been adequately demonstrated to meet the criteria set out in the relevant terms of reference in Annex P, and any additional criteria elaborated by the Commission, whether in resolutions or otherwise;
 - (d) Recommendations to improve the communication of the outcomes of each review and the management of reviews, including time allocation, procedural management and data availability; and
 - (e) Any other relevant information or advice from the Scientific Committee arising from the new, ongoing or completed special permit programme and review in question.

Indicative process

- (1) An indicative process for the preparation of the Working Group's report within the biennial meeting cycle is as follows:

Potential submission of a special permit proposal and/or scheduled ongoing or final review.
Expert Panel review.
Scientific Committee (a) review in the year between Commission meetings.
Working Group receives the report of the Scientific Committee (a).
Potential submission of a special permit proposal and/or scheduled ongoing or final review (if not already submitted under step 1), followed by Expert Panel review.
Scientific Committee (b) review in the year of a Commission meeting.
Working Group receives the report of the Scientific Committee (b).
Working Group prepares its report and provides it to the Commission at least thirty days in advance of the Commission meeting.
Working Group presents its report at the Commission meeting.

Resolution 2016-3

RESOLUTION ON CETACEANS AND THEIR CONTRIBUTIONS TO ECOSYSTEM FUNCTIONING

ACKNOWLEDGING that cetaceans make significant contributions to ecosystem functioning that are beneficial for the natural environment and people;

RECOGNISING the need to integrate the values of biodiversity and the contributions made by cetaceans to ecosystem functioning into decision-making processes related to the conservation and management of cetacean populations;

FURTHER RECOGNISING the ever increasing understanding of the value of cetaceans from a social, economic and ecological perspective;

ALSO FURTHER RECOGNISING that the Commission has identified the importance of research on the effects of environmental changes on cetaceans due to increasing threats faced by cetaceans, including climate change, pollution, ship strikes, and entanglement among others;

AWARE that increasing scientific evidence suggests that whales enhance ecosystem productivity by concentrating nitrogen and iron near the surface through the release of faecal plumes, in some cases equivalent to that required to support localised prey consumption, such as has been reported for blue whales, sperm whales and humpback whales among others;

CONSIDERING that, because of their large size, live whales represent an important store of carbon while their carcasses efficiently export carbon from the surface waters to the deep sea. These carcasses also serve as important feeding opportunities for a variety of deep sea species, many of which are exclusively found on such 'whale falls', thus creating small but significant ecosystems on their own and contributing to biodiversity in great depths;

ALSO CONSIDERING that iron defecated by whales may contribute to the stimulation of carbon export into the Southern Ocean and thus whales may play a role in regulating atmospheric CO₂ levels;

RECALLING Resolution 2001-9, which acknowledged that better understanding of marine ecosystems would contribute to the conservation and management of living marine resources, and prioritised the study of interactions between whales and fish stocks; and

NOTING the wide collaboration of the IWC with other international governmental conventions and organisations.

NOW THEREFORE THE COMMISSION:

ACKNOWLEDGES increasing scientific data suggesting that whales enhance nutrient availability for primary production;

RECOGNISES the need to include consideration of the contributions made by live cetaceans and carcasses present in the ocean to marine ecosystem functioning in conservation, management strategies and decision making;

ENCOURAGES Contracting Governments to work constructively towards integrating considerations related to the role played by live cetaceans in regulating and supporting ecosystem functioning, in future decisions, agreements and resolutions;

RESOLVES to review the ecological, management, environmental, social and economical aspects related to the contributions of cetaceans to ecosystem functioning to people and natural systems, as a matter of importance;

DIRECTS the Conservation Committee to undertake the review previously identified and directs the Conservation and Scientific Committees to further incorporate the contribution made by live cetaceans to ecosystem functioning into their work;

ASKS the Scientific Committee to screen the existing research studies on the contribution of cetaceans to ecosystem functioning, to develop a gap analysis regarding research and to develop a plan for remaining research needs; and

DECIDES to increase collaboration and co-operation with governmental and non-governmental, regional, and international organisations to work on the contributions made by live cetaceans to ecosystem functioning issues, including the Commission for the Conservation of Antarctic Marine Living Resources, the Food and Agricultural Organisation of the United Nations, and the Convention on International Trade in Endangered Species of Wild Fauna and Flora, among others.

Resolution 2016-4

RESOLUTION ON THE MINAMATA CONVENTION

ACKNOWLEDGING that the United Nations Environment Programme (UNEP) and the World Health Organisation (WHO) have identified the adverse effects of pollution from mercury as a serious problem worldwide for human health and the environment.

WELCOMING the adoption in 2013 of the Minamata Convention on Mercury, the objective of which is to protect human health and the environment from the anthropogenic emissions and releases of mercury and mercury compounds.

AWARE that cetaceans which have a worldwide distribution in marine and freshwater ecosystems, can act as sentinels of ecosystem change and are vulnerable to environmental contaminants such as methylmercury.

AWARE of the 'AMAP Assessment of Mercury in the Arctic' (2011) and of the 'AMAP Assessment of Human

Health in the Arctic' (2015) carried out by expert working groups of the Arctic Council, which drew attention to the adverse effects of persistent contaminants, in particular mercury pollution, on Arctic human populations;

RECOGNISING that the Commission has adopted several Resolutions² expressing concerns on the negative impacts of environmental degradation on cetaceans including in respect to mercury;

RECALLING Resolutions 1996-8, 1998-11, 2000-6, 2001-10 and 2014-2 that foster collaboration between the IWC and other intergovernmental organisations related to pollution, among others;

²Resolutions 2012-1, 2001-10, 2000-7, 2000-6, 1999-4, 1998-11, 1998-5, 1997-7, 1996-8, 1995-10, 1994-13, 1993-13, 1993-12, 1993-11 and 1981-7.

ALSO RECALLING the precautionary approach enunciated in the Principle 15 of the Rio Declaration on Environment and Development (UNEP, June 1992);

CONSIDERING that the IWC has a continuing role to play in monitoring and providing guidance on scientific research related to levels of mercury in cetaceans;

WELCOMING the results of the POLLUTION 2000+ research programme, endorsed by the IWC at its 65st Annual Meeting;

MINDFUL that the IWC with its specific responsibility in the management and conservation of whale stocks may have an interest in cooperating with other intergovernmental organisations with common concerns.

NOW THEREFORE THE COMMISSION:

WELCOMES the adoption of the Minamata Convention and encourages its effective implementation;

DECIDES to seek collaboration with the Conference of the Parties of the Minamata Convention to exchange information, contribute in monitoring mercury levels in cetaceans and advance progress for the protection of cetacean health and related issues;

INVITES Contracting Governments, as well as relevant intergovernmental organisations, to promote non-lethal scientific research programmes related to monitoring the presence and trends in levels of mercury and mercury compounds observed in cetacean populations as indicators of ocean health and to continue providing available data to the Scientific Committee on this matter;

INVITES ALSO Contracting Governments to cooperate together and with the WHO to assess the impact of mercury and mercury compounds on human health and on the marine environment including the provision of related monitoring data.

REQUESTS the Scientific Committee to provide at IWC67 a summary of the current state of knowledge on the presence of heavy metals, with emphasis on mercury compounds, in cetaceans worldwide, and to identify areas of ocean health and human health concerns, and geographic areas where research should be prioritised in this regard; and

REQUESTS that the Secretariat share this Resolution with the Secretariat of the Minamata Convention and seeks ways to collaborate with its objectives.

Resolution 2016-5

RESOLUTION ON THE CRITICALLY ENDANGERED VAQUITA

AWARE that there exist differences in views between member states on the regulatory competence of the IWC with regard to small cetaceans, and noting that this Resolution does not seek in any way to prejudice different members' positions;

NOTING that the biology of vaquita and concerns about incidental mortality in the shark and totoaba fishery were first mentioned in the published report of the IWC Scientific Committee's first meeting on small cetaceans, Montreal, 1974 (IWC, 1975).³

NOTING that the Commission first passed Resolution 1994-3, which acknowledged the immediate need to eliminate incidental catches of vaquita throughout the entire range of the species;

AWARE that the International Union for the Conservation of Nature (IUCN) listed the vaquita as Critically Endangered in 1996, and the population has significantly declined since then as a result of bycatch in entangling fishing nets (gillnets);

RECALLING IWC Resolution 2007-5 which urged members of the IWC and the world community to support Mexico's efforts to prevent the extinction of the vaquita by reducing bycatch to zero in the immediate future and assisting in providing financial resources and technical as well as socio-economic expertise;

RECALLING the repeated recommendations of the IWC Scientific Committee, the International Committee for the Recovery of the Vaquita (CIRVA) and the IUCN that gillnets must be eliminated from the vaquita's range in order to reduce bycatch to zero;

CONCERNED about the recent escalation of the illegal totoaba fishery and the illegal international trade of totoaba swim bladders, which has precipitated a dramatic decline in vaquita numbers over the last five years;

DEEPLY CONCERNED that the estimated total abundance of vaquitas in 2015 was 59 (95% CI 22-145), compared to previous estimates of 567 (95% CI 177-1,073) in 1997 and 245 (95% CI 68-884) in 2008;

FURTHER CONCERNED that at least three vaquita were killed by totoaba gillnets in March 2016, despite strong enforcement efforts in the Upper Gulf of California;

NOTING the Scientific Committee's strong endorsement of the recommendations contained in the June 2016 CIRVA-7 report;⁴

NOTING the recent adoption of IUCN Resolution 013 on 'Actions to avert the extinction of the vaquita porpoise (*Phocoena sinus*)' and CITES Decision 17.X 'Totoaba - *Totoaba macdonaldi* - Opportunities for international collaboration within the CITES framework'

RECOGNISING the hardships faced by the fishing communities of the Upper Gulf in light of the gillnet ban, and mindful of the need to develop and support alternative livelihoods such that these communities can overcome these challenges;

NOW THEREFORE THE COMMISSION:

EXPRESSES DEEP CONCERN that the vaquita numbers less than 59 animals and is facing imminent extinction;

AFFIRMS that only a permanent, complete, and effective gillnet ban in all fisheries operating in the Upper Gulf of California will prevent the imminent extinction of the vaquita;

COMMENDS the Mexican Government for the Strategy on the Comprehensive Care of the Upper Gulf of California that includes an interagency enforcement programme, a two-year gillnet ban (from May 2015), compensation for

³IWC. 1975. Report of the Meeting on Smaller Cetaceans, Montreal, April 1-11, 1974. *J. Fish. Res. Bd. Canada*, 32, 887-983.

⁴IWC. 2017. Report of the Scientific Committee. *J. Cetacean Res. Manage. (Suppl.)* 18: 77.

fishermen and those who work in fishery-related activities and the development of alternative fishing gear;

COMMENDS the Mexican Government on the announcement of a permanent ban on gillnets in the Upper Gulf of California gillnet exclusion zone from April 2017 and the programme to remove derelict fishing gear in the Upper Gulf of California.

URGES the Mexican Government to eliminate any exemptions to the ban, which can facilitate illegal fishing for totoaba, and to prohibit the use of any gillnets within the range of the vaquita;

ENDORSES the recommendations of the IWC Scientific Committee, in particular the urgent need to strengthen enforcement efforts against illegal fishing in Mexico and totoaba smuggling out of Mexico and into transit and destination countries; the urgent need to remove active and

ghost gillnets from the range of the vaquita; and the need to maintain the acoustic monitoring programme as a key action in support of any recovery strategy;

URGES all Contracting Governments to follow the recommendations in CITES Decision 17.X and strengthen enforcement actions to eliminate the illegal international trade in totoaba swim bladders, in particular those countries where totoaba products are consumed or in transit, including the United States and China;

URGES Contracting Governments to support Mexico's efforts to prevent the extinction of the vaquita by assisting in providing financial resources as well as technical and socio-economic expertise;

REQUESTS the IWC Secretary to forward a copy of this Resolution to the CITES, FAO and IUCN Secretariats.

Annex F

Report of the Aboriginal Subsistence Whaling (ASW) Sub-Committee¹

Thursday 20 October 2016, Portorož, Slovenia

SUMMARY OF MAIN OUTCOMES

Item and Agenda Item	Main outcomes
<i>Item 3</i> Report of the <i>ad-hoc</i> Aboriginal Subsistence Whaling Working Group	After discussing the Report of the ASW Working Group, the Report of the Expert Workshop on Aboriginal Subsistence Whaling and a presentation by invited expert Dr Dorrough, the ASW Sub-Committee commended the report of the Expert Workshop on Aboriginal Subsistence Whaling (IWC/66/ASWRep01) to the Commission as an important component of the IWC's efforts to improve the way in which it considers aboriginal subsistence whaling, noting also its minority statement. It agreed to forward the recommendations from the Workshop (see Appendix 4) for further consideration by the Commission, recognising that some have important, legal, financial and procedural implications and noting the points raised in the discussion above. Given those implications, it may be that some of the recommendations should be considered intersessionally before final decisions or full endorsement is given.
<i>Item 4</i> Aboriginal Subsistence Whaling Management Procedure	The Scientific Committee reported on: (a) its work to complete the development of <i>SLAs</i> for the two remaining Greenland hunts, fin whales and common minke whales, by 2018; and (b) its schedule for future <i>Implementation Reviews</i> . The ASW Sub-Committee welcomed the report of the Scientific Committee, thanked it for its work and endorsed its recommendations including adoption of the <i>WG-Bowhead SLA</i> . It looks forward to receiving the results of this work in advance of the 2018 Annual Meeting.
<i>Item 5</i> Aboriginal Whaling Scheme	The Commission has agreed that the Aboriginal Whaling Scheme (AWS) is intended to be a generic and overarching policy that, whilst recognising the differences amongst hunts, as far as possible, applies equally to all aboriginal hunting regimes managed by the IWC. The Scientific Committee reported that it has begun to review the provisions of the AWS, beginning with testing an 'interim allowance strategy'. It will also cover such matters as carryover within and among blocks, data requirements and abundance estimation guidelines. Ideally, the scientific components of the work will be completed during the 2017 Scientific Committee meeting, i.e. well in advance of the 2018 Commission meeting when new aboriginal whaling limits are due to be established. The ASW Sub-Committee welcomed the report of the Scientific Committee and endorsed its recommendations.
<i>Item 6</i> Aboriginal subsistence whaling catch limits	The Scientific Committee reported on research recommendations and management advice related to the Alaskan, Chukotkan, Makah, Greenlandic and Bequian ASW hunts. No changes to the existing catch/strike limits were recommended. The ASW Sub-Committee welcomed the report of the Scientific Committee and endorsed its recommendations.
<i>Item 7</i> Status of the Voluntary Fund	The Secretariat reported on voluntary contributions by Denmark, Switzerland and the USA. The funds supported the ASW Expert Workshop and the attendance of an invited expert at this meeting (Dr Dorrough). The balance is now zero. The ASW Sub-Committee and strongly encouraged Contracting Governments to make contributions.

¹Presented to the meeting as IWC/66/Rep03.

1. INTRODUCTORY ITEMS

The meeting was held on the morning of Thursday 20 October 2016 at the Grand Hotel Bernardin, Portorož, Slovenia. The list of participants is given as Appendix 1. The terms of reference of the Sub-Committee are to:

‘consider relevant information and documentation from the Scientific Committee, and to consider nutritional, subsistence and cultural needs relating to aboriginal subsistence whaling and the use of whales taken for such purposes, and to provide advice on the dependence of aboriginal communities on specific whale stocks to the Commission for its consideration and determination of appropriate management measures’ (*Rep. Int. Whal. Commn* 48: 31).

1.1 Appointment of Chair

Joji Morishita, Vice-Chair of the Commission, opened the meeting and welcomed all participants, especially the native hunters who have travelled so far to attend. He noted that Jeannine Compton-Antoine (St Lucia) had chaired this group at the last meeting and intersessionally, but was unable to be here. He indicated that if acceptable to everyone, he was happy to chair the meeting. The Sub-Committee agreed.

1.2 Appointment of Rapporteur

Donovan (Secretariat) was appointed rapporteur, with assistance from the meeting team of IWC rapporteurs.

1.3 Review of documents

The list of documents is given as Appendix 3.

1.4 Observer participation

The Chair noted that this will be the first meeting where the new rules of procedure on observer interventions will be in operation. He noted that he intended to implement this in the following manner.

- (1) All Contracting Countries who wished to do so would be allowed to speak first.
- (2) After this he would invite others to speak in the following order: (a) non-member countries; (b) intergovernmental organisations (IGOs); and (c) non-governmental organisations (NGOs) as is customary practice in many other fora.
- (3) The above approach will be subject to the available time (it is likely that there may only be time for 1-2 interventions against each agenda item) and he urged that interventions be brief and directly relevant to the Agenda Item.

2. ADOPTION OF AGENDA

The adopted agenda is given as Appendix 2.

3. REPORT OF THE AD-HOC ABORIGINAL SUBSISTENCE WHALING WORKING GROUP

At IWC/63 in 2011 the Commission endorsed a recommendation to form an *Ad Hoc* Aboriginal Subsistence Whaling Working Group (ASWWG). The Group’s terms of reference are to identify and consider unresolved ASW issues, including *inter alia* those identified in the 2011 report of the ASW Sub-Committee.

Of particular interest this year was the report of the IWC’s Expert Workshop on Aboriginal Subsistence Whaling which took place in Maniitsoq, Greenland in September 2015 (IWC/66/ASWRep01²).

²Published in this volume.

3.1 Report of the *Ad Hoc* Aboriginal Subsistence Whaling Working Group (ASWWG)

Michael Tillman, Chair of the ASWWG, introduced IWC/66/ASWRep02, the 2016 report of the *Ad Hoc* Aboriginal Subsistence Whaling Working Group (ASWWG). He noted that the purpose of this report is twofold: (1) to remind the Sub-Committee of the purpose and past activities of the ASWWG; and (2) to provide an update on the progress of its deliberations.

The ASWWG’s purpose is ‘to identify and consider unanswered ASW questions, including *inter alia*, those identified in the 2011 Report of the ASW Subcommittee, prior to the IWC’s review of ASW catch limits in 2018 (IWC/67)’. Membership is comprised of the four member countries having ASW hunts, as well as four other member countries having a broad range of interests and two scientists chosen by the Scientific Committee. The Secretariat also participates in an *ex officio* capacity. Although the ASWWG primarily works by correspondence, there have been some face-to-face meetings such as that in 2012 in Panama (IWC/64) to complete work on the five ‘short-term’ tasks the ASWWG had identified. The ASWWG’s advice on these matters was presented to the ASW Sub-Committee in IWC/64/ASW5rev1³.

In response to a request from hunters, the ASWWG held a meeting with them in 2014 just prior to IWC/65. The presentations and discussions at this meeting ranged broadly, covering, among other topics, the adoption or adaptation of modern technology in the hunts; the effects of climate change on ASW; sharing, barter and subsistence need; local use versus commercialization; and the availability and cost of weapons. The report of the meeting is given in IWC/65/ASWRep01rev1⁴.

That special meeting also led to the recommendation that an IWC Expert Workshop on ASW be convened to consider the long-term issues of greatest concern, focusing primarily on removing ASW catch limits from political discussion and the careful development of an appropriate standardised needs statement.

The IWC agreed and, at the invitation of the Government of Denmark, the Expert Workshop was convened in Maniitsoq, Greenland, in September 2015. This meeting and its report (IWC/66/ASWRep01) are discussed under Item 3.2.

The Chair of the ASWWG noted that unless it is assigned new tasks at this meeting, its priority is to complete its deliberations on the seven long-term issues and submit a final report to the ASW Sub-Committee in 2018 (IWC/67).

On behalf of the Sub-Committee, the Chair thanked Tillman for his excellent and dedicated leadership of the ASWWG, as well as the members of the ASWWG. Their work is of great importance in helping to improve the process of adopting catch limits for the ASW hunts within the Commission.

Discussion of the ASWWG report can be found under Item 3.4.

³IWC. 2012. Report of the Aboriginal Subsistence Whaling Working Group, Monday 28th May 2012. Paper IWC/64/ASW5rev1 presented to the 64th meeting of the International Whaling Commission, June 2012, Panama (unpublished). 38pp. [Paper available from the Office of this Journal].

⁴IWC. 2016. Report of the 65th Meeting of the International Whaling Commission. Annex F. Report of the Aboriginal Subsistence Whaling Sub-Committee. Appendix 4. Chair’s Report from *ad hoc* Aboriginal Subsistence Whaling Working Group meeting with Native Hunters, 10 September 2014. *Report of the 65th Meeting of the International Whaling Commission* 2014:61-65.

3.2 Report of the Expert Workshop on Aboriginal Subsistence Whaling

Gitte Hundahl (Chair of the Expert Workshop Steering Committee) presented her summary of IWC/66/ASWRep01, the Report of the IWC Expert Workshop on Aboriginal Subsistence Whaling. She did this as the Chair of the Workshop, former IWC Chair Bo Fernholm, was unable to attend.

The broad objective of the Expert Workshop was to assist the Commission – through this Sub-Committee - in its efforts to improve ASW management in accordance with IWC Resolution 2014-4⁵. Greenland hosted the Workshop in the town of Maniitsoq. This gave participants an opportunity to visit an ASW community. The Workshop was financed by voluntary contributions to the ASW fund (and see Item 7 of this report).

External academic experts were invited with expertise in: diet; nutritional, cultural and socio-economic needs; evolution in traditional societies in the modern world; and international law. Experts from all five ASW communities also presented the Workshop with insight and suggestions. The Workshop was open to all interested Contracting Governments and observers.

She highlighted some of the main issues addressed in the report, noting the value of reading the full report. She stressed that this was an Expert Workshop focusing on expert recommendations rather than the views of governments.

The Workshop noted that whaling for purposes of aboriginal subsistence needs has been recognised as a distinct type of whaling by the IWC since the Convention was signed in 1946. It also noted that the question of the sustainability of requested catch limits had not been controversial for any hunt since 2009 due to the successful work of the Scientific Committee in the development of *Strike Limit Algorithms (SLAs)*.

It was noted that while there is broad support for ASW within the Commission, catch limits have not all been agreed by consensus since 2002, mainly due to differences of opinion in relation to aspects of need. The existence of a subsistence need for whaling was confirmed in all the present five ASW communities today (Alaska, Makah, Greenland, Chukotka and Bequia). The IWC has agreed that needs have nutritional, social, economic and cultural aspects and it was emphasised at the Workshop that great diversity exists among ASW communities. The Workshop acknowledged that it is the responsibility of governments concerned to determine need and to present information to the Commission about such needs.

The Workshop recognised the difficulty of formally quantifying needs given the nature of the elements involved (cultural and nutritional) some of which are qualitative. It was agreed that there is no single way to calculate need given the diversity of the communities concerned and the factors involved. The Workshop agreed that ASW need does not exist only ‘upon proof’. It was also emphasised that ASW cultures change in response to internal and external circumstances (e.g. climate, socio-economic and technical development and political priorities), and that this does not negate or diminish their status. With respect to technology, it can bring benefits in terms of more efficient and safer hunts.

A key component of the Workshop was to consider the dimension of international law. Invited legal experts informed the Workshop that over the past two decades,

a growing body of norms protecting and promoting the human rights of indigenous peoples has been developed internationally, including the right to development and self-determination.

The Workshop emphasised that the IWC should keep up-to-date with these important and ongoing developments in international law. More specifically, the IWC should reflect on the specific status and rights of indigenous peoples in the application and interpretation of the ASW framework under the ICRW and align its practice with what Contracting Governments have committed to with respect to the advancement and implementation of such rights elsewhere in the international system.

A number of proposals⁶ for the Commission’s consideration can be found in the report based on international experience in other fora. This includes tasking the Secretariat to establish international contacts, and giving a stronger voice to ASW communities themselves at the IWC. It was felt by the experts that an increased focus on this would help the IWC overcome its difficulties when deciding on catch limit proposals and contribute to depoliticising decision making.

Hundahl was pleased to note that in light of the report, the Bureau had agreed to improve the focus on this matter by agreeing that an invited expert would attend the Commission meeting (see Item 3.3 below).

The Workshop recognised that no formal general guidelines exist for information on need and that a previous attempt to develop such guidance was never finalised. The expert Workshop appreciated the extensive information on ‘needs’ that has been provided over the years. It was therefore recommended that all the available information be compiled and presented on the IWC web site to ease access and present an overview of past information (see Item 3.5 below).

The Workshop agreed that there was no need to repeat information in extensive need statements, and that additional information be provided only when new information is needed or changes to catch limits are envisaged. Emphasis was placed on allowing the necessary flexibility given the large variety of hunts, while at the same time ensuring a basis for the Commission to reach a decision on catch/strike limits. To underline this, the Workshop also recommended that the expression ‘need statement’ be replaced by ‘description of needs relating to catch limit requests’.

The Workshop also provided some advice on improvements to the process of the IWC receiving catch limit requests, discussing them and approving catch limits.

It agreed that an early dialogue among stakeholders is essential in relation to catch limits proposals. It was noted that the IWC offers little assistance in this regard and that it was left to the governments concerned. It was recommended that consideration of catch limits renewal be initiated earlier than at present, and no later than the year before the present quotas are to be renewed. A transparent and open early dialogue was encouraged to ensure a fair process and a no surprises policy.

To achieve this, the Workshop developed a timetable (Table 2 in the report and appended to this report) for consideration by the Commission and this Sub-Committee. Hundahl also noted that it was the view of the Workshop that any potential conflict between ASW and whale watching on the same population was largely a political issue suited for bilateral consultation of governments concerned.

⁵IWC. 2016. Report of the 65th Meeting of the International Whaling Commission. Annex E. Resolutions Adopted at the 65th Meeting. Resolution 2014-4. Resolution on the Scientific Committee. *Report of the 65th Meeting of the International Whaling Commission* 2014:50-53.

⁶The full conclusions and recommendations of the Workshop are provided in Appendix 4, along with a minority statement made at the Workshop.

The Workshop encouraged Governments to stay committed to an improved process and ensure early follow up to enhance the efficiency of ASW management, including assigning priority to discussions of this Sub-Committee.

In conclusion, she noted that this was the first IWC Expert Workshop on this issue held in more than 30 years. The IWC has gained important experience since then and the world outside the IWC has developed. The Workshop was very well attended by all major groupings, the Chair and Vice-Chair of the Commission, the Chair of this Sub-Committee, observers and ASW communities; all expressed a commitment to ensuring a more efficient management.

On behalf of the Sub-Committee, the Chair thanked Hundahl for summarising the Workshop report. He also thanked Prof. Fernholm for his excellent chairing of the Workshop, the whole Steering Committee for its dedicated work to ensure a valuable and stimulating Workshop in the beautiful venue of Maniitsoq and the Governments of Denmark, Switzerland and the USA for their voluntary contributions that made the Workshop possible. Discussion of the Workshop report can be found under Item 3.4.

3.3 Invited speaker on Indigenous people's rights

At the request of the Chair of the ASW Sub-Committee and the Chair of the ASW Working Group, Dr Dalee Dorough, who had attended the Workshop as an invited expert, was asked to give a short presentation. She is an Expert Member of the United Nations Permanent Forum on Indigenous Issues and is Associate Professor at the Department of Political Science at the University of Alaska.

Dr Dorough addressed the international human rights law developments specifically concerning Indigenous peoples. Her presentation introduced the central objectives of international human rights law, including the obligations of Governments to act in certain ways and to refrain from certain acts to promote and protect human rights and fundamental freedoms of individuals or groups, consistent with the purposes and principles of the UN Charter. She noted the interrelated, interdependent and indivisible nature of human rights and referenced the International Bill of Human Rights [UDHR, ICCPR and the ICESCR] and noted that since 1948 the UN has adopted some 80 human rights instruments, including the UN Declaration on the Rights of Indigenous Peoples [2007].

She stressed that the fundamental objective of each of the human rights instruments specifically concerning Indigenous peoples has been to embrace the unique cultural context of Indigenous Peoples and to outline state responsibilities in relation to the survival of Indigenous Peoples as distinct peoples, particularly with respect to the two international instruments, the UN Declaration and the International Labor Organization Convention No. 169, and the new regional OAS Declaration on the Rights of Indigenous Peoples.

Regarding each of the three instruments, she identified major highlights leading to finalization of the UN Declaration and its status as a pivotal UN international human rights instrument in favour of Indigenous Peoples. She emphasized that each instrument must be read in context and consistent with the interrelated nature of the human rights affirmed in each instrument. This was followed by examples of provisions that highlight Indigenous Peoples' right to self-determination, the profound relationship of Indigenous Peoples to their lands, territories and resources; the right to determine their own priorities for development; the right to pursue their own economic activities related to subsistence and the legitimate, traditional economies of Indigenous Peoples and their reliance upon marine resources, including

whaling. She also emphasized Article 41 of the UN Declaration, which calls upon 'other intergovernmental organizations shall contribute to the full realisation of the provisions of this Declaration', including the IWC as a significant inter-governmental organisation.

This substantive part of the presentation was followed by a brief description of all the Indigenous-specific mandates established by the UN intent upon ensuring the continuing role of Indigenous Peoples within the UN, including the Voluntary Fund, the Permanent Forum on Indigenous Issues, the Special Rapporteur and the Expert Mechanism. In addition, a quick survey of the other significant developments affirming the rights of Indigenous peoples by other intergovernmental fora, e.g. IUCN's rights based approach; FAO; IFAD; and others.

She concluded by noting that these actions reflect extraordinary progressive development of international law and that numerous other standards have been developed or are emerging in relevant international fora nearly every day, including jurisprudence at the local, national and international levels that is also contributing to greater understanding of the content of Indigenous human rights. She concluded by drawing attention to the International Law Association's work on the UN Declaration and urging the IWC to substantively integrate international Indigenous human rights norms into the work of the IWC because they reflect the 'minimum standards' necessary for the survival, well-being and dignity of Indigenous peoples as well as the clear, corresponding State responsibilities and obligations.

On behalf of the Sub-Committee, the Chair thanked Dr Dorough for her excellent presentation and for taking the time to travel such a long distance to assist and inform the IWC. Discussion of her presentation and related issues occurs under Item 3.4.

3.4 Discussion and recommendations (including work plan)

3.4.1 Discussion

There was considerable discussion of the Maniitsoq Workshop report and its recommendations.

Discussion of the work described under Items 3.1-3.3 began with the presentation by Dr Dorough.

Argentina thanked Dr Dorough and noted its strong support for Indigenous peoples' rights. For Argentina, Aboriginal Subsistence Whaling is the recognition, within the IWC, of indigenous people's rights to their means of subsistence. It asked for her advice on competing rights, noting that in this context, whales are a shared resource and the rights of other indigenous communities also have to be considered and respected, as stated in Article 46; for example, those that consider whales as a sacred animal, or use them in some other non-lethal way such as whalewatching. They believe that establishment of procedures to grant ASW quotas also helps to secure and grant the rights of other indigenous communities for this shared resource.

Noting Article 46(2) of the *UN Declaration* and the rights of others, Dr Dorough acknowledged the support for Indigenous peoples and their human rights and then explained that no right is absolute; that there is a constant tension between all competing rights and interests. However, Article 46(2) sets out strict criteria necessary for any 'limitation' and she noted that such criteria must be met by governments as well as the fact that greater weight must be given to rights affirmed in the UN Declaration. Thus first and foremost, governments must be responsive to the rights of Indigenous Peoples as beneficiaries and short of a hierarchy of rights, the spirit and intent as well as the rights affirmed in the UN Declaration must be respected and recognised.

Austria also thanked Dr Dorough and requested additional information on the definition of Indigenous peoples. Dr Dorough stated that there is no formal, official definition of the term *Indigenous Peoples*. However, the UN has adopted a working definition of the term that contains some objective criteria, including the historical continuity of such peoples with pre-invasion and pre-colonial societies that developed on their territories; consider themselves distinct from other sectors of society; determined to preserve, develop and transmit to future generations their ancestral territories and their identity as Indigenous peoples as well as other similar criteria.

The Russian Federation underlined aboriginal rights to harvest and expressed doubt about the point raised by Argentina and underlined that the response provided by Dr Dorough answered the question.

The USA noted that it is home to over two million Native Americans and it is committed to promoting and protecting the collective rights of indigenous peoples as well as the human rights of all individuals. It welcomed the participation of Dr Dorough and acknowledged her perspectives. Her presentation reminded the Commission that governments have collectively recognised the subsistence rights of indigenous peoples and that the Commission must take this into account in its work. Such rights are directly relevant to the Commission's management of aboriginal subsistence whaling. It reiterated the Workshop view that indigenous cultures can and will change without this negating or diminishing their status or rights (for example Arctic environmental changes mean that communities there have no choice but to change).

The Kingdom of Denmark thanked all involved for the Workshop in Maniitsoq and Dr Dorough for her presentation. It hoped that both these excellent initiatives will make an important difference to the way ASW issues are discussed in the IWC. It noted the Government of Greenland's policy on the blue economy and to further increase focus on food security and self-sufficiency, including marine mammals.

It also noted the need for the ASW Sub-Committee and the Commission to work in a transparent manner through a consistent and long term approach. To achieve this two issues were highlighted: (1) the importance to keep momentum going from the Workshop and the need for dialogue amongst delegations to address the unresolved ASW issues identified in 2011; and (2) the importance of taking in to account UN instruments in consideration of the unresolved issues, especially related to Indigenous peoples rights to develop their own society in their own premises, considering that Inuit are part of the modern world.

The Sub-Committee **agreed** that it would be valuable for Dr Dorough to give a presentation to the Commission Plenary and she kindly agreed.

In response to questions by Chile on the timeline and process described in Table 2, it was noted:

- (a) the discussion of a possible 7-year block in 2018 was in response to possible complications arising out of the short time between the end of the Commission meeting and the start of the new hunting season as explained in the footnote to the Table; and
- (b) one objective of developing the process and timeline provided in the table was to avoid the unfortunate circumstance that occurred in 2012 when catch limits were not adopted for the Greenlandic hunt. The text (Table 2 stage 16) referred to the possibility of alternative proposals being discussed before closing the meeting (as has occurred in the past) such that every effort to agree catch limits was explored.

Chile noted that the issue of what should happen if no proposal obtained a $\frac{3}{4}$ majority was important. This was not discussed at the Workshop. It also suggested that the footnote to Table 2 be deleted.

Argentina referred to the issue it had raised at the Maniitsoq Workshop with respect to the change in wording in the definition of subsistence use from 'each whale' in 1979 to 'such whales' in the definition adopted by the Commission in 2004 within the definition of subsistence use. It believed that this change, which arose from the adoption of the report of a small working group, should be revisited as it did not believe that the Commission had understood the implications of this change. Other delegations believed that this was unnecessary. They believed that the Commission had approved and adopted the work of the small working group in the normal manner by consensus. They believed that the definition was appropriate and reflected the nature of subsistence use in an appropriate manner and reflected, in particular, the situation in countries with isolated communities and long coastlines.

Several delegations expressed their thanks to the organisers and participants of the Workshop for an important and comprehensive report. They believed that it provided a good platform on which to base future discussions. They noted that it provided a number of useful recommendations, including on improvements to procedures, taking into account the Commission's biennial cycle, making it easier and more transparent for the Commission when agreeing ASW quotas. This includes aligning the timetable with the biennial meeting cycle. They also noted that a number of the recommendations in the report have important, legal, financial and procedural implications. All of the recommendations should be considered carefully by the Commission and it may be that some should be considered intersessionally before final decisions or full endorsement is given.

Argentina reiterated the statement Iñíguez had made at the Workshop that 'the report and its recommendations raised legal implications that need to be considered very carefully by the Government of Argentina and the rest of the members of the Buenos Aires Group. He also considered that the report contained recommendations that are beyond the mandate of the IWC. For the reasons expressed, he is unable to join the consensus.'

The USA noted that the Workshop resulted in a series of recommendations for the IWC to consider, which can be broadly separated into two categories: those where action should be considered and those where action should be undertaken. The first group is mainly comprised of recommendations regarding consideration of the rights of indigenous peoples, and improved communication with the UN Permanent Forum on Indigenous Issues and/or the UN Inter-Agency Support Group on Indigenous Issues. The USA supports such action. Regarding the second group of recommendations, the USA highlighted especially those related to changing the name of need statements, the draft outline for the provision of such information and the development of an improved timeline and process. These will increase the transparency and effectiveness of the Commission in its decision-making and contribute to a 'no-surprises' culture. The USA would like to see such a process adopted at IWC/66 so that it can be applied during the 2018 catch limit renewal.

With respect to the ASWWG, the USA thanked its Chair for his outstanding leadership and the ASWWG for the progress it has made on difficult issues. However, it noted

that more work needs to be done. The USA will continue to participate in the Working Group to its projected end in 2018.

After the Governments had had the opportunity to comment, the Chair opened the floor to the representative of NAMMCO who wished to speak on this issue and who had attended the Maniitsoq Workshop. She congratulated the IWC for an important and interesting meeting and the bringing together of experts from outside the traditional 'marine mammal world'.

She noted that NAMMCO's focus is on the right to sustainable and responsible use of marine mammals and that it does not distinguish between indigenous or other hunts, only sustainability. She highlighted two issues from the Workshop:

- (1) that indigenous people have substantial rights embedded in customary international law - denying quotas and insisting on need statements was seen as being in violation of these internationally acknowledged rights and instruments; and
- (2) culture and society is not static and fixed in time but changes due to external factors (e.g. climate, politics, and economics - Indigenous people's societies have a right to develop and change without this affecting their status or rights.

She commented that matters of the level of cash and monetary transactions are irrelevant with respect to the status of indigenes. She concluded by emphasising the importance of the Workshop in including the world outside the IWC especially with respect to internationally recognised Indigenous people's rights. Incorporation of these should streamline ASW quota approval where NAMMCO's view is that the essential and determining question should be sustainability of hunts.

The ASW Sub-Committee then heard a statement on behalf of the AEW (Alaska Eskimo Whaling Commission) made by John Hopson, its Vice-Chairman. He provided information on the extremely difficult environmental conditions in northern Alaska and the isolation of the villages and the enormous distances involved. He noted the unique traditions and practices of each of the 11 whaling villages and the common appreciation of the ocean and the great contribution of marine mammals to the diet, with the whales being the greatest single resource. The average landings of one whale can yield between 12 and 20 tons of food and the average annual catch since 1977 has been about 42 whales. He stressed the enormous benefit this provides to the community, the responsibility of the whaling Captains and the sharing of the whale amongst the communities; the whale is key to food security. He emphasised that despite the great changes caused throughout history both by commercial whaling and now climate change, the Inupiat and Siberian Yupik people remain the people of the whale. It is at the heart of the political, cultural and social organisation of the communities as well as their nutritional and psychological health. He emphasised the healthy status of the bowhead whale population, numbering around 17,000 and growing at over 3% per year. He explained the stress caused since 1977 by the threat that the IWC may reduce or halt the hunt - a threat that may be repeated in 2018. He concluded by asking where else in the world were a people subject to this kind of ongoing political threat and where else would this not be considered a shocking violation of the basic human right to food and self-determination?

The NGO Centro de Conservacion Cetacea noted that 50 Latin American NGOs had signed a statement supporting Indigenous rights but believing that the terms of reference

for the Workshop were too restrictive as they focussed virtually exclusively on that issue. They urged that the Workshop report should therefore be rejected.

3.4.2 Conclusions

In light of the discussions above the ASW Sub-Committee **commends** the report of the Expert Workshop on Aboriginal Subsistence Whaling (IWC/66/ASWRep01) as an important component of the IWC's efforts to improve the way in which it considers aboriginal subsistence whaling, noting also its minority statement. It **agrees** to forward the recommendations from the Workshop (see Appendix 4) for further consideration by the Commission, recognising that some have important, legal, financial and procedural implications and noting the points raised in the discussion above. Given those implications, it may be that some of the recommendations should be considered intersessionally before final decisions or full endorsement is given. At a more specific level, the Sub-Committee noted:

- (a) that the presence of Dr Dorrough is in part a response to recommendation (1) of the Workshop and a commitment to ensuring consistency of ASW management with indigenous peoples' rights under international law;
- (b) that it **endorsed** the change of name from 'need statements' to 'Description on the [insert name] hunt relevant to catch/strike limit requests' in light of recommendation (8) and refers to discussion under Item 3.5 below with respect to the outline for such statements and use of the IWC website;
- (c) that the value of a process such as that in Table 2 (see Appendix 4) is emphasised (see recommendation 9 of the Workshop); and
- (d) as discussed under Item 7 below, it strongly **encourages** IWC member states and interested organisations to contribute to the fund established at IWC/65 (see recommendation 10 of the Workshop).

The Chair noted that the recommendations from the Workshop should also be considered when developing a draft workplan for the ASW Sub-Committee and the ASWWG for the next biennial period.

The ASW Sub-Committee also **recommends** that the ASWWG continues its valuable work prior to the 2018 Biennial Meeting of the Commission and it thanks Dr Tillman for agreeing to continue to lead this working group.

3.5 Progress with the ASW section of the IWC website

Donovan reported on his work to provide a 'dummy' new section on the ASW section of the IWC website. This was undertaken at the request of the Chairs of the ASW Sub-Committee and the ASWWG and based upon the suggestions made in IWC/66/ASWRep01. The focus was on descriptions of the hunt. He demonstrated the work undertaken thus far. He had chosen the Greenlandic hunts as an example, recognising that as a multispecies hunt it was the most complex. The text was based upon the most recent documents produced by the Kingdom of Denmark. An introductory page explains the background to the sections on the descriptions of the hunts. It notes that it provides a summary of the most recent documentation on the hunts and includes a link to all of the relevant documentation submitted over the years. The information is presented under several broad headings with a page for each. It is recognised that different local circumstances mean that the nature of the information by hunt may be different. The broad headings are:

Table 1
Summary of the status of the work of the SWG on the AWMP.

Hunt	Year <i>SLA</i> developed	Next <i>Implementation Review</i>
Alaskan bowhead	2000	Start 2017
Chukotka gray	2001	Start 2018
Makah gray	2011	Start 2018
West Greenland humpback	2014	Start 2020
West Greenland bowhead	2015	Start 2022
West Greenland fin	2017	2023 estimated
West Greenland/East Greenland common minke	2017/18	2024 estimated
Greenland multispecies	2018/19 estimated	n/a

- Introduction;
- Information on recent catches;
- Information on the history, culture and nutritional significance of the hunts;
- Information on hunting methods;
- The most recent IWC Scientific Committee advice on the status of the whale populations; and
- Information on international and national regulations.

The dummy website is consistent with the overall IWC website in style and makes use of text, graphics and photographs and links to the IWC document archives. The intention is that it is updated when new information becomes available. Donovan asked members of the ASW Sub-Committee to provide any suggestions and comments they had and indicated his willingness to continue the work for the other hunts in consultation with the relevant Governments and hunters and the ASWWG.

The Kingdom of Denmark commented that they will assist in the work of forming the webpage on ASW, which they found timely and in conjunction with continuing dialogue and improved communication.

The Sub-Committee thanked Donovan for his good work thus far which, when complete, will provide a valuable resource. It agreed that he should continue his work for the other hunts in consultation with the relevant Governments and hunters and the ASWWG.

4. ABORIGINAL SUBSISTENCE WHALING MANAGEMENT PROCEDURE

In 2014, through Resolution 2014-4, the Commission emphasised the need to regulate ASW in the future through a more consistent and long term approach. This Resolution *inter alia* requested the Scientific Committee to give high priority to all AWMP-related activities.

Donovan, the Chair of the Scientific Committee's SWG on the AWMP (hereafter the Chair of the SWG) reported on the two years of work undertaken by the Committee on this topic (IWC/66/Rep01(2015) and IWC/65/Rep01(2016))⁷. The Committee has continued to give high priority to ASW related work and the focus was twofold: (1) continue to work on developing *SLAs* for the remaining Greenland hunts; and (2) progress work on finalising the scientific aspects of the Aboriginal Subsistence Whaling Scheme.

In 2008, the Committee developed and the Commission endorsed, a safe 'interim' approach to providing advice on Greenland hunts that is valid for up to two quota blocks. It is thus working to finalise long-term *Strike Limit Algorithms* (*SLAs*) for all of the Greenlandic hunts in time for the Commission's 2018 Biennial Meeting.

A summary of the status of the Committee's work and the future work plan is given in Table 1.

Before discussing the details of the work, he reiterated the Scientific Committee's view that the AWMP (and RMP) approach is of broad relevance to the work of the Committee when examining status and the effects of human-related mortality. The modelling framework and approach to dealing with uncertainty is of wide application, for example when assessing the effects of bycatch in fishing gear or ship strikes (see Item 7 in both reports) and the rangewide assessment of gray whales (Item 9.2 in SC/66a and Item 9.1.3 in SC/66b).

4.1 Progress with *Strike Limit Algorithms* for Greenland Subsistence Whaling [Item 8.1 in SC66a and SC66b]

4.1.1 Report of the Scientific Committee

WEST GREENLAND BOWHEAD WHALE HUNT

As can be seen in Table 1 of this report, the Scientific Committee completed the *WG-Bowhead SLA* at its 2015 meeting, thanks to considerable work from two teams of developers and intersessional workshops. The Committee recommended the *WG-Bowhead SLA* to the Commission as the best approach to providing long-term management advice for the Greenland hunt. It also recommended that information on Canadian catches be an important component of the 2021 *Implementation Review*. A new abundance estimate of bowhead whales that included Canadian waters will be discussed at the 2017 meeting.

WEST GREENLAND FIN WHALE HUNT

The Chair of the SWG reported that the Scientific Committee agreed in 2015 that from a conservation perspective, it was acceptable to try to develop an *SLA* for this hunt on the assumption that the animals off West Greenland comprised a single population represented by the abundance estimates from that area. While computationally simpler, in doing so, the Committee recognised that this will make achieving need satisfaction more difficult. The Committee made good progress at an intersessional workshop and, in reviewing results at the 2016 Scientific Committee meeting, it agreed additional sensitivity analyses are required on effects of changes to the specifications of the trials before it is possible to recommend an *SLA*. The Committee advised the Commission that its intersessional workplan, including an intersessional workshop, should allow it to recommend a West Greenland fin whale *SLA* at the Committee's 2017 Annual Meeting.

COMMON MINKE WHALE HUNTS OFF GREENLAND

As reported to previous ASW Sub-Committee meetings, the Chair of the SWG noted that the development of an *SLA* for the common minke whale hunts off West and East Greenland is the most complex of those required for Greenland. It has been agreed that the basis of the development approach should be the RMP operating model for the entire North

⁷Published as *J. Cetacean Res. Manage (Suppl.)* 17 [2016] and *J. Cetacean Res. Manage (Suppl.)* 18 [2017], respectively.

Atlantic. That *Implementation Review* should be completed in late 2016 and it will be followed immediately by an AWMP workshop to work on the Greenland issues.

The Scientific Committee advised the Commission that its interseasonal workplan should allow it to recommend an *SLA* for common minke whales off Greenland by its 2018 Annual Meeting, in advance of the Commission's 2018 biennial meeting at which new aboriginal subsistence whaling limits will be considered.

The Chair of the SWG concluded by noting that the Scientific Committee has stated in the past that it would be unable to consider the provision of flexible multispecies advice until completion of the individual *SLAs* – that remains the case.

4.1.2 Discussion and recommendations

The ASW Sub-Committee **welcomed** the report of the Scientific Committee, thanked it and **endorsed** its recommendations. It looks forward to receiving the results of this work in advance of the 2018 Annual Meeting.

4.2 Implementation Reviews

4.2.1 Report of the Scientific Committee

Although *SLAs* are designed to generate long term advice, the Scientific Committee has established the need for regular (every 5-6 years) *Implementation Reviews* to review new information and to determine whether any additional scenarios need to be tested. Depending on the new information, the reviews can be accomplished in a single meeting or take up to 3 years if major new trials need to be developed. Table 1 summarises the draft timetable for such reviews. The next review is for the Bering-Chukchi-Beaufort Seas stock of bowhead whales which will start in 2017. The *Implementation Review* for gray whales will occur when the rangewide review is completed. It is anticipated that will begin in 2018.

4.2.2 Discussion and recommendations

The ASW Sub-Committee **welcomed** the report of the Scientific Committee and **endorsed** its recommendations.

5. ABORIGINAL WHALING SCHEME (AWS)

5.1 Report of the Scientific Committee. See Item 8.2 of IWC/66/Rep01(2016)

The purpose of the Aboriginal Whaling Scheme is to manage several common practical issues related to the implementation of individual *SLAs* including interim allowance strategies (formally grace periods), survey intervals, carry over, data collection etc. The Commission has agreed that the AWS is intended to be a generic and overarching policy that, whilst recognising the differences amongst hunts, as far as possible, applies equally to all aboriginal hunting regimes managed by the IWC.

The Scientific Committee views the Scheme as constituting an important and necessary component of safe management. Its original recommendation on this was made in 2003 but was not adopted by the Commission, primarily as a result of its 'grace period' provision on how to provide advice if an abundance estimate was not available after 10 years. Subsequently, the Committee has developed several additional *Strike Limit Algorithms*, established its Data Availability Agreement (IWC, 2004⁸), considered further additional issues such as survey intervals, and developed greater experience with all aspects of the AWMP.

Beginning in 2015, the Committee has begun to review the provisions of the AWS with a view to presenting the Commission with an updated recommendation before 2018. A key step was the investigation of the performance of an alternative to the 2003 '50% allowance' grace period approach. The alternative (the 'interim allowance' strategy), involved setting the quota for one additional block at the level indicated by the *SLA*.

In 2016, the Committee agreed that the performance of the 'interim allowance strategy' tested using the *Bowhead SLA* and thus applicable to the B-C-B bowhead whale hunt is acceptable and can be recommended. It recommended that the same approach is used to test the strategy for the other hunts with a view to developing, if possible, a single 'interim allowance strategy' by its 2018 meeting as part of an updated ASW proposal (see below). The strategy is intended only to be applied in the unlikely event that exceptional unforeseen circumstances delayed obtaining an agreed abundance estimate beyond the end of the second quota block. It should not be interpreted as a routine approach for extending quotas for a third block without a concerted effort to obtain a successful survey prior to then.

Further, the Committee agreed that from a conservation perspective, either immediate updating of *SLA* calculations when a new abundance estimate is accepted or waiting until the grace period expires are both acceptable. For the former, the number of strikes taken thus far during the grace period should be subtracted from the updated quota, with the remainder being the strike limit for the rest of the grace period.

The Committee also began its review of the remaining components of the proposed AWS.

The Committee advised the Commission that its interseasonal workplan should allow it to develop a revised ASW proposal, including if possible, a single 'interim allowance strategy' for all hunts by the 2018 Scientific Committee meeting, in advance of the Commission's 2018 biennial meeting at which new aboriginal subsistence whaling limits will be considered. Other aspects to be covered will include carryover provisions within and between blocks. Carryover reflects the fact that harsh environmental conditions can lead to failed or reduced harvest levels. In the years following a reduced harvest, communities seek to regain lost food supply through increased hunting effort. The Committee will follow the previous Commission advice that:

an inter-annual variation of fifty percent is satisfactory in terms of allowing for the likely variability in hunting conditions. It therefore agreed that these values are appropriate for use in trials. It was recognised that this does not commit the Commission to these values in any final aboriginal whaling management procedure.

The Committee advised the Commission that it will review and provide advice on carryover provisions before the 2018 Commission meeting, and ideally in 2017.

The Committee emphasised that AWS provisions are one of the last major remaining components of a comprehensive aboriginal subsistence whaling management framework first requested by the Commission in 1994 and developed with an enormous expenditure of scientific effort and resources over the last two decades. The Commission has agreed that the AWS is a key component of this framework. Accordingly, in consultation with the Commission and its ASW Sub-Committee, as well as hunters and other stakeholders, the Committee intends to develop recommendations (taking into account the potential principles and approaches given in IWC/66/Rep01(2016), Annex E) for the scientific

⁸IWC. 2004. Report of the Scientific Committee. Annex T. Report of the data availability working group. *J. Cetacean Res. Manage. (Suppl.)* 6: 406-08.

components and aspects of an AWS. Ideally, the scientific components of the work will be completed during the 2017 Scientific Committee meeting, i.e. well in advance of the 2018 Commission meeting when new aboriginal whaling limits are due to be established.

5.2 Discussion and recommendations

The ASW Sub-Committee **welcomed** the report of the Scientific Committee and **endorsed** its recommendations.

6. ABORIGINAL SUBSISTENCE WHALING CATCH LIMITS

For all concerned stocks the Committee made a number of recommendations on intensifying and enlarging collaborative efforts among scientists (e.g. collecting genetic and biological samples, exchanging photo-id data) and relevant Authorities of concerned countries.

6.1 Bering-Chukchi-Beaufort Seas stock of bowhead whales (annual review)

6.1.1 Report of the Scientific Committee. See Item 9.2, IWC/66/Rep01(2016)

The Committee endorsed the 2011 abundance estimate of 16,820 (95% confidence interval of 15,176-18,643) for the B-C-B stock of bowhead whales, with an estimated annual rate of population increase of 3.7% (2.9%-4.6%).

To complement the ongoing aerial survey photo-identification programme, the Committee **recommended** that the US authorities arrange for photographs be taken of landed bowhead whales for inclusion in the photo-identification catalogue.

The Committee reiterated that the *Bowhead SLA* continues to be the most appropriate way for the Committee to provide management advice for this population. The Commission adopted catch limits for a six-year block in 2012, i.e., 2013-18. The total number of whales landed shall not exceed 336 and the number of annual strikes shall not exceed 67; however, there is a carryover provision that allows for any unused portion of a strike quota from past years be carried forward to future years provided that no more than 15 strikes be added for any one year. The Committee advised that based upon the *Bowhead SLA*, these limits will not harm the stock.

6.1.2 Discussion and recommendations

The ASW Sub-Committee **welcomed** the report of the Scientific Committee and **endorsed** its recommendations. The USA noted that it would address the recommendation regarding photographs, as possible.

6.2 North Pacific Eastern stock of gray whales (annual review)

6.2.1 Report of the Scientific Committee. See Item 9.1, IWC/66/Rep01 (2016)

SC/66b/BRG15, relating to the aboriginal need for Chukotka was not discussed by the Scientific Committee, being most relevant to Commission discussions. The Committee requested that this paper be considered by the Commission's Aboriginal Subsistence Whaling Sub-Committee at its 2016 meeting.

Concerning the so-called 'stinky whales', the Committee advised that from a conservation perspective, it is the number of strikes (i.e. actual or potential removals) that is relevant not whether the whales are inedible. However, it recognised that from a user perspective (and the Russian Federation's), as stinky whales are inedible they do not contribute to meeting need. The Committee noted that there are a number

of potential ways to take stinky whales into account using the *Gray Whale SLA* - e.g. the *SLA* could be used to evaluate a proposed increased number of strikes per block based upon either an average of the number of inedible gray whales over recent years or an assumed percentage. How such an allowance may ultimately be expressed in the Schedule is a matter for the Commission. The Committee is willing to assist on any scientific aspects of this issue.

The Committee reiterated that the *Gray Whale SLA* remains the appropriate tool to provide management advice for eastern North Pacific gray whales. It also reiterated that the proposed Makah whaling management plan remains the appropriate tool to provide management advice for hunts in Washington State, USA provided that a research programme monitors the relative probability of harvesting a PCFG whale in the Makah usual and accustomed fishing grounds (IWC, 2014c). The Committee advised that the present block quota will not harm the stock.

6.2.2 Discussion and recommendations

The ASW Sub-Committee **welcomed** the report of the Scientific Committee and **endorsed** its recommendations.

6.2.3 Consideration of the issue of 'stinky' whales

The Russian Federation presented IWC/66/ASW03 which summarised the long history of its concerns over inedible 'stinky' whales with respect to meeting the needs of the Chukotkan communities. The document noted the view of the Russian Federation that such animals should not count against its quota. It also noted the healthy status of the eastern population of gray whales and the existence of the *Gray Whale SLA*. The Russian Federation stressed that this important issue must be resolved prior to the discussion of catch limits at the 2018 Annual Meeting and suggested that the Scientific Committee should be asked to provide advice on the definition of stinky whales and the effects of allowing for such catches.

In discussion, it was noted that: (a) definitions must be pragmatic; (b) requests to the Scientific Committee must be as specific as possible; and (c) early consideration must be given to how any modifications might be incorporated into the Schedule.

Given this, the Chair formed a small working group (Morishita, Donovan, Ilyashenko and DeMaster) to consider this issue further with a view to presenting a proposal for further work to the Commission.

6.3 Common minke whale stocks off Greenland (annual review)

6.3.1 Report of the Scientific Committee. See Items 9.3 and 9.4, IWC/66/Rep01(2016)

WEST GREENLAND [ITEM 9.3 IN SC/66B]

The Committee welcomed work to date and encouraged the continued collection of samples of common minke whales landed in West Greenland and the collaborative approach to analyses. In particular, it noted the importance of comparative analyses with Canadian samples.

The Committee reiterated that the agreed interim approach (IWC, 2009c⁹) remains the appropriate tool to provide management advice for common minke whales off West Greenland up to 2018. Using the agreed interim approach and the agreed abundance estimate of 16,100 (CV=0.43) for 2007, the Committee advised that an annual strike limit of 164 will not harm the stock.

⁹IWC. 2009. Report of the Scientific Committee. Annex E. Report of the Standing Working Group on the Aboriginal Whaling Management Procedures. *J. Cetacean Res. Manage. (Suppl.)* 11:145-68.

EAST GREENLAND [ITEM 9.4 IN SC/66B]

The Committee welcomed work to date and encouraged the continued collection of samples of common minke whales landed in East Greenland and a collaborative approach to analyses.

The Committee noted that catches of minke whales off East Greenland are believed to come from the large Central stock of minke whales. The most recent strike limit of 12 represents a very small proportion of the Central stock (IWC, 2016i, p.189¹⁰). The Committee repeated its advice that the annual strike limit of 12 will not harm the stock.

6.3.2 Discussion and recommendations

The ASW Sub-Committee **welcomed** the report of the Scientific Committee and **endorsed** its recommendations.

6.4 West Greenland fin whales**6.4.1 Report of the Scientific Committee. See Item 9.5, IWC/66/Rep01(2016)**

The Committee welcomed work to date and encouraged the continued collection of samples of fin whales landed in West Greenland and a collaborative approach to analyses.

The Committee reiterated that the agreed interim approach (IWC, 2009c¹¹) remains the appropriate tool to provide management advice for fin whales off West Greenland up to 2018. Using the agreed interim approach and the agreed abundance estimate of 4,500 (95% CI 1,900-10,100) for 2007, the Committee advised that an annual strike limit of 19 will not harm the stock.

6.4.2 Discussion and recommendations

The ASW Sub-Committee **welcomed** the report of the Scientific Committee and **endorsed** its recommendations.

6.5 West Greenland bowhead whales**6.5.1 Information from the Government of Canada. See Item 9.7, IWC/66/Rep01(2016)**

The Secretariat informed that the Government of Canada had submitted information that two whales were caught in 2014 and one 2015. One animal was struck-and-lost in 2015.

6.5.2 Report of the Scientific Committee. See Item 9.7, IWC/66/Rep01(2016)

The Committee recommended continuation of the Greenland bowhead whale biopsy programme and encouraged continued collaboration with Canada on genetic and other work related to stock structure and abundance of bowhead whales. It agreed that a Canadian scientist involved in the estimation of abundance should be invited to the next Annual Meeting with a view to reviewing and endorsing new abundance estimates.

The Committee reiterated that the agreed *WG-Bowhead SLA* (IWC, 2016j¹²) remains the appropriate tool to provide management advice for bowhead whales off West Greenland. Using this, Committee **advised** that an annual strike limit of 2 will not harm the stock. Information on Canadian catches and new abundance estimates will be considered at the next *Implementation Review* in around 2022.

6.5.3 Discussion and recommendations

The ASW Sub-Committee **welcomed** the report of the Scientific Committee and **endorsed** its recommendations.

6.6 Humpback whales off West Greenland**6.6.1 Report of the Scientific Committee. See Item 9.6, IWC/66/Rep01(2016)**

The Committee noted that bycaught whales had been included in the scenarios for the development of the *Humpback SLA*. If high levels continued, then this would need to be taken into account in any *Implementation Review* (the next is expected in 2020). The Committee recognised the IWC efforts with respect to disentanglement and prevention and welcomed the news that the Greenland authorities have committed to IWC disentanglement training that occurred last June.

The Committee reiterated that the agreed *Humpback SLA* (IWC, 2015b)¹³ remains the appropriate tool to provide management advice for humpback whales off West Greenland. Using this, Committee advised that an annual strike limit of 10 will not harm the stock.

6.6.2 Discussion and recommendations

The ASW Sub-Committee **welcomed** the report of the Scientific Committee and **endorsed** its recommendations.

6.7 North Atlantic humpback whales off St Vincent and The Grenadines**6.7.1 Report of the Scientific Committee. See Item 9.8, IWC/66/Rep01(2016)**

The Committee was informed that one male humpback whale was caught on 4 April 2015 and that skin and/or blubber samples were collected from this whale that will be analysed in collaboration with the USA. No information has been received this year. The Committee strongly encouraged continued tissue sampling and collection of fluke photographs where possible from this region. Data should be shared with the appropriate databases and catalogues for the North Atlantic. It also encouraged St Vincent and The Grenadines to send a scientist to next year's meeting.

The Committee has agreed that the animals found off St Vincent and The Grenadines are part of the large West Indies breeding population (the last agreed abundance estimate was for 1992/93 - 11,570 animals, 95%CI 10,290-13,390). The Commission adopted a total block catch limit of 24 for the period 2013-18 for Bequians of St Vincent and The Grenadines. The Committee **repeated its advice** that this block catch limit will not harm the stock.

However, the Committee expressed **concern** that there is no officially agreed abundance estimate from the more recent MONAH programme that took place in 2004 and 2005. The recent NOAA status review (Bettridge *et al.*, 2015¹⁴) discusses the programme and provides an estimate of 12,312 (95%CI 8,688-15,954) for 2004/05 but references this as 'NMFS, unpublished data'. Given its importance to the provision of management advice, the Committee **requested** that the USA (NOAA, NMFS) arranges for the provision of a paper to the next meeting that will allow it to properly review this abundance estimate obtained from MONAH and, if appropriate, adopt it as an estimate suitable for providing management advice.

¹⁰IWC. 2016. Report of the Scientific Committee. Annex E. Report of the Standing Working Group on the Aboriginal Whaling Management Procedure (AWMP). *J. Cetacean Res. Manage. (Suppl.)* 17:185-203.

¹¹IWC. 2009. Report of the Scientific Committee. Annex E. Report of the Standing Working Group on the Aboriginal Whaling Management Procedures. *J. Cetacean Res. Manage. (Suppl.)* 11:145-68.

¹²IWC. 2016. Report of the Scientific Committee. Annex E. Report of the Standing Working Group on the Aboriginal Whaling Management Procedure (AWMP). *J. Cetacean Res. Manage. (Suppl.)* 17:185-203.

¹³IWC. 2015. Report of the Scientific Committee. Annex E. Report of the Standing Working Group on the Aboriginal Whaling Management Procedure (AWMP). *J. Cetacean Res. Manage. (Suppl.)* 16:144-57.

¹⁴Bettridge, S., Baker, C.S., Barlow, J., Clapham, P.J., Ford, M., Gouveia, D., Mattila, D.K., Pace, R.M., III, Rosel, P.E., Silber, G.K. and Wade, P.R. 2015. Status review of the humpback whale (*Megaptera novaeangliae*) under the endangered species act. *NOAA Tech. Mem. NOAA-TM-NMFS-SWFSC-540*: 263pp.

6.7.2 Discussion and recommendations

The ASW Sub-Committee **welcomed** the report of the Scientific Committee and **endorsed** its recommendations.

The USA noted the request of the Scientific Committee and agreed to provide a paper to the 2017 Scientific Committee meeting.

7. STATUS OF THE VOLUNTARY FUND

The Secretariat reported that the ASW Voluntary Fund was established in 2014. Since then, voluntary contributions have kindly been made by Denmark, Switzerland and two contributions from USA. These funds have supported the Workshop in Greenland held in September 2015, which was

reported under Item 3.2 and used to support Dr Dorrough's costs for attending this meeting. The balance on the fund is now zero and additional voluntary contributions are welcomed to support this Sub-Committee's work.

The USA highlighted the importance of the fund, especially in the context of enabling hunter participation. As also noted under Item 3.1, the ASW Sub-Committee echoed this view and strongly **encouraged** Contracting Governments to make contributions to this fund.

8. ADOPTION OF THE REPORT

The report was adopted by correspondence on 22 October 2016.

Appendix 1**LIST OF PARTICIPANTS****ARGENTINA**

Juan Pablo Paniego
Miguel Iñiguez

AUSTRALIA

Deb Callister
Frank Lamacchia
Nick Gales
Pam Eiser
William de la Mare

AUSTRIA

Andrea Nouak
Michael Stachowitsch

BELGIUM

Els Vermeulen
Fabian Ritter
Stephanie Langerock

BRAZIL

Marcia Engel

CAMBODIA

Ing Try

CHILE

Barbara Galletti Vernazzani

DENMARK

Amalie Jessen
Gitte Hundahl
Nette Levermann

ERITREA

Seid Mohammed Abrar

FINLAND

Penina Blankett

GHANA

Benson Nutsukpui

FRANCE

Nadia Deckert
Vincent Ridoux

GERMANY

Andreas Christian Taeuber
Jurgen Friedrich
Nicole Hielscher

ITALY

Alessandro Iannitti
Caterina Fortuna
Francesca Granata

JAPAN

Dan Goodman
Gabriel Gomez Diaz
Hideki Moronuki
Joji Morishita
Kayo Ohmagari
Naohito Okazoe
Toshinori Uoya

KENYA

Susan Imende

KOREA, REPUBLIC OF

Hawsun Sohn
Young Min Choi

LUXEMBOURG

Pierre Gallego

MEXICO

Lorenzo Rojas-Bracho

NEW ZEALAND

Amy Laurenson
Erin Morriss
Andrew Townend
Julia Reynolds

NORWAY

Arne Bjørge
Hild Ynnesdal
Kathrine Ryeng
Øle-David Stenseth

RUSSIAN FEDERATION

Valentin Ilyashenko
Kirill Zharikov
Ayvana Enmynkau
Nataliia Slugina
Olga Safonova

SLOVAK REPUBLIC

Branislav Hrabkovsky
Lucia Vlckova

SLOVENIA

Andrej Bibic
Mojca Benko

SOUTH AFRICA

Ed Couzens
Herman Oosthuizen
Hester Pretorius

ST KITTS AND NEVIS

Marc Williams

ST LUCIA

Horace Walters

SWEDEN

Anders Alm

SWITZERLANDBruno Mainini
Martin Krebs
Patricia Holm**UNITED KINGDOM**Jamie Rendell
Jennifer Lonsdale
Mark Peter Simmonds
Nigel Gooding
Stuart Reeves**UNITED STATES OF AMERICA**Brian Gruber
DJ Schubert
Doug DeMaster
Greig Arnold
Harry Brower
Arnold Brower
Jordan Carduner
Lisa Phelps
Michael Gosliner
Michael Tillman
Roger Eckert
Russell Smith
Ryan Wulff**URUGUAY**Jose Truda Palazzo
Rodrigo Garcia**INVITED EXPERT**

Dalee Sambo Dorough

OBSERVERS**European Commission**

Marc Richir

NAMMCO

Charlotte Winsnes

UNEP/CMS/ASCOBANS

Heidrun Frisch-Nwakanma

Alaska Eskimo Whaling**Commission**John Hopson
Jessica Lefevre
Taquik Hepa
Christopher Winter
Robert Suydam**Animal Welfare Institute**Kate O'Connell
Sue Fisher**Centro de Conservacion Cetacea**Maria Jimenez
Peter Sanchez**Dolphin Connection**Helena Symonds
Paul Spong**Environmental Investigation
Agency**Daniel Hubbell
Danielle Grabiell**Fundacion Cethus**

Carolina Cassani

Humane Society InternationalBernard Unti
Claire Bass
Cristobel Block**Inst. de Conservacion de Ballenas**

Roxana Shteinbarg

IWMC

Nikolas Sellheim

Japan Whaling Association

Konomu Kubo

Makah Indian Tribe

Keith Johnson

OceanCareFabienne McLellan
Nicolas Entrup**Pro Wildlife e.V.**

Sandra Altherr

Robin des Bois

Tamara Vilarins

**University of Tasmania, Faculty of
Law**

Lucy Smejkal

Whale and Dolphin Conservation

Astrid Fuchs

Whaleman International

Jeff Pantukhoff

World Animal Protection

Nicola Beynon

IWCSimon Brockington
Greg Donovan
Sarah Ferriss
Sarah Smith
Kate Wilson
Katie Penfold**Rapporteurs**Harriet Gillett
Sara Oldfield
Pablo Sinovas
Robert Munroe
Martin Jenkins

Appendix 2

AGENDA

1. Introductory items
 - 1.1 Appointment of Chair
 - 1.2 Appointment of Rapporteur
 - 1.3 Review of documents
 - 1.4 Observer participation
2. Adoption of agenda
3. Report of the *Ad Hoc* Aboriginal Subsistence Whaling Working Group
 - 3.1 Report of the *Ad Hoc* Aboriginal Subsistence Whaling Working Group
 - 3.2 Report of the Expert Workshop on Aboriginal Subsistence Whaling
 - 3.3 Invited speaker on Indigenous People's rights
 - 3.4 Discussion and recommendations (including work plan)
4. Aboriginal Subsistence Whaling Management Procedure
 - 4.1 Progress with *Strike Limit Algorithms* for Greenland Subsistence Whaling
 - 4.1.1 Report of the Scientific Committee. See Item 8.1 of IWC/66/Rep01(2016)
 - 4.1.2 Discussion and recommendations
 - 4.2. *Implementation Review* for gray whales
 - 4.2.1 Report of the Scientific Committee. See Item 9.1.3 IWC/66/Rep01(2016)
 - 4.2.2 Discussion and recommendations
5. Aboriginal Whaling Scheme (AWS)
 - 5.1 Report of the Scientific Committee. See Item 8.2 of IWC/66/Rep01(2016)
 - 5.2 Discussion and recommendations
6. Aboriginal whaling subsistence catch limits
 - 6.1 Bering-Chukchi-Beaufort Seas stock of bowhead whales (annual review)
 - 6.1.1 Report of the Scientific Committee. See Item 9.2, IWC/66/Rep01(2016)
 - 6.1.2 Discussion and recommendations
- 6.2 North Pacific Eastern stock of gray whales (annual review)
 - 6.2.1 Report of the Scientific Committee. See Item 9.1, IWC/66/Rep01(2016)
 - 6.2.2 Discussion and recommendations
- 6.3. Common minke whale stocks off Greenland (annual review)
 - 6.3.1 Report of the Scientific Committee. See Items 9.3 and 9.4, IWC/66/Rep01(2016)
 - 6.3.2 Discussion and recommendations
- 6.4. West Greenland stock of fin whales
 - 6.4.1 Report of the Scientific Committee. See Item 9.5, IWC/66/Rep01(2016)
 - 6.4.2 Discussion and recommendations
- 6.5. West Greenland stock of bowhead whales
 - 6.5.1 Information from the Government of Canada. See Item 9.7, IWC/66/Rep01(2016)
 - 6.5.2 Report of the Scientific Committee. See Item 9.7, IWC/66/Rep01(2016)
 - 6.5.3 Discussion and recommendations
- 6.6 Humpback whales off West Greenland
 - 6.6.1 Report of the Scientific Committee. See Item 9.6, IWC/66/Rep01(2016)
 - 6.6.2 Discussion and recommendations
- 6.7 North Atlantic humpback whales off St Vincent and The Grenadines
 - 6.7.1 Report of the Scientific Committee. See Item 9.8, IWC/66/Rep01(2016)
 - 6.7.2 Discussion and recommendations
7. Status of the Voluntary Fund
8. Adoption of the Report

Appendix 3

LIST OF DOCUMENTS

IWC/66/ASW		Agenda Item
01	Draft Agenda	
02	List of documents	
03	Needs of Indigenous People of Chukotka (Russian Federation) in whaling products and possible questions for the nearest future	7.2.1
04	Aboriginal Subsistence Whaling in the Russian Federation in 2014 and 2015	7.4
IWC/66/ASWRep		
01	Report of the IWC Expert Workshop on Aboriginal Subsistence Whaling (ASW)	3.2
02	2016 Report of the <i>ad hoc</i> Aboriginal Subsistence Whaling Working Group	3.1
RELEVANT COMMISSION DOCUMENTS		
IWC/66/Rep		
01 (2015)	Report of the Scientific Committee Meeting, 2015	4, 5, 6
01 (2016)	Report of the Scientific Committee Meeting, 2016	4, 5, 6
IWC/66/		
17	Short overview of the work of the Scientific Committee at its 2015 and 2016 Annual Meetings	4, 5, 6

Appendix 4

EXTRACT FROM IWC/66/ASWREP01: CONCLUSIONS AND RECOMMENDATIONS

8. CONCLUSIONS AND RECOMMENDATIONS

The Workshop highlighted a number of general conclusions that led to the recommendations below.

- (a) It is important for the IWC to integrate the rights of Indigenous peoples into all stages of its discussions of ASW from the provision of information concerning individual hunts with respect to catch/strike limit requests to the consideration of such requests in the Commission, to the participation of Indigenous peoples in its deliberations.
- (b) It is also important to recognise that as in all societies, Indigenous cultures can and will change in response to external circumstances including those related to climate, economics, technology and politics. This does not negate or diminish their status or rights. With respect to technology, this can bring benefits in terms of increased efficiency, shorter times-to-death and hunter safety.
- (c) There are advantages to both ASW countries and Indigenous peoples concerned, as well as the Commission as a whole, to adopting broad guidance for the provision of information on hunts related to catch/strike limit requests for ASW in terms of improving the IWC's long-term management of ASW and achieving consensus. This guidance must be sufficiently flexible to account for the different circumstances for each hunt.
- (d) The use of cash in ASW communities varies from region to region – this is to be expected and reflects the modern world both with respect to costs associated with hunting equipment and whale product distribution methods. It does not imply that ASW in any one community is more or less 'acceptable' than any other.
- (e) In improving its approach to long-term management of ASW, it is important that the IWC develops a common understanding of its role and the role of ASW governments and Indigenous peoples concerned. For example, in the context of Indigenous rights and in the light of Resolution 2014-1, it seems it is the responsibility of ASW governments in conjunction with the Indigenous peoples concerned to determine need and to provide the IWC with its rationale (e.g. see Resolution 2014-1).
- (f) It is important to engage in exchange of information and dialogue well before the year in which quotas are to be renewed. Transparency and trust must be built amongst all stakeholders.

It was also suggested that it is important for the ASW Sub-Committee and its ASWWG to work with those organisations and/or countries who hold different views on ASW than those broadly covered in this Workshop, including the view that it is not appropriate and that alternative sources of food and income should be sought.

Particularly in light of discussions under Item 3, the Workshop **agrees** to the recommendations below, while noting the following **minority statement**: 'Iñiguez (Argentina) stated that the report and its recommendations raised legal implications that need to be considered very carefully by the Government of Argentina and the rest of

the members of the Buenos Aires Group. He also considered that the report contained recommendations that are beyond the mandate of the IWC. For the reasons expressed, he is unable to join the consensus.'

- (1) The Workshop **recommends** that its Chair bring the Workshop's discussion on the links between the rights of Indigenous peoples and ASW to the next IWC Plenary meeting through the ASW Sub-Committee. The IWC as a whole should be informed of the recent developments in the rights of Indigenous peoples and their significance to the interpretation and application of the International Convention on the Regulation of Whaling. Additional outreach and information will be needed to achieve a higher level of understanding among relevant stakeholders; in order to assist in this process, the Workshop **recommends** that the Chair of the Commission and the Secretary, in consultation with the Bureau, give consideration to placing a special item on the significance of Indigenous peoples' rights for ASW on the agenda of the 2016 Commission Plenary meeting of the IWC (IWC/66).
- (2) The Workshop **recommends** that member states of the IWC, with the full and effective participation of the Indigenous peoples concerned, consider preparing a statement or resolution for adoption, if possible at the 2016 meeting, recognising the developments in the rights of Indigenous peoples and their relevance to the IWC. Such a document should consider the right of Indigenous peoples to self-determination as well as other civil, social, cultural, political, health, nutritional, economic and spiritual rights of Indigenous peoples and their significance in the context of the IWC. The IWC could also emphasise the importance of co-management regimes between contracting parties and Indigenous peoples consistent with the rights affirmed in the UN Declaration on the Rights of Indigenous Peoples, the ILO Convention No. 169 and other international human rights instruments. The Workshop noted that the invited international law experts would be available to provide input on the rights of Indigenous peoples to assist in the preparation of a statement or draft Resolution.
- (3) The Workshop **recommends** that the member states of the IWC should consider commissioning a survey of international Indigenous and general human rights instruments and intersecting international treaties, agreements, and other arrangements to further elaborate their significance to the work of the IWC in relation to ASW and the incorporation of dimensions distinct to Indigenous peoples (cf. also Article 41 UN Declaration on the Rights of Indigenous Peoples). Such a survey could inform the discussions at the 2016 Commission meeting of the IWC and should, *inter alia*, also include information on the status and role of Indigenous peoples in other international organisations. The Workshop recognised that this may have financial implications for the IWC.
- (4) The Workshop **recommends** that the IWC, through its ASW Sub-Committee, should consider exploring options concerning how the IWC and its relevant sub-groups could stay better informed of current developments in the field of Indigenous peoples' rights.

Table 2

Summary timetable of some possible options for improving the process described above in the generic sense (i.e. for long-term use beyond 2018). Where there are no changes to catch/strike limit proposals or 'Descriptions of the hunts relevant to ASW catch/strike limit requests' then the amount of work needed under each step may be minimal or the Commission may agree that they are unnecessary. Note that Year 0 is the calendar year a 6-year block comes into effect (i.e. we are in Year 3 in 2015). The Scientific Committee (SC) meets in May or June each year, providing updated annual advice. In Year 6, the SC provides advice on the catch/strike limit requests it receives from ASW countries. The Commission meets in September or October in Years 2, 4 and 6 and normally adopts Schedule amendments in Year 6 although in principle changes may occur at any meeting (e.g. if there is a change in SC advice or if an ASW country requests an amended limit). Reference to ASW Sub-Committee includes its ASWWG.

Time	Who	Action
(1) Years 0-6	ASW Contracting Governments and Secretariat	Make 'Descriptions of the hunts relevant to ASW catch/strike limit requests' available through the IWC website throughout the period, amended when/if circumstances and information changes
Year 4		
(2) 2 weeks prior to SC meeting	ASW Contracting Governments	If known, submission of proposed catch numbers to the SC. This is especially important if there is an increase being considered or proposed.
(3) 2 weeks after close of SC meeting	SC and Secretariat	Publication of SC report including advice on sustainability of existing and, if required, proposed ASW catch/strike limits. If new proposals under step (2) are outside the values tested during SLA development, the Committee may propose a work programme to investigate the implications
(4) 3 weeks after close of SC meeting	Chair of ASW Sub-Committee and Secretariat	Circular Communication to IWC Contracting Governments as well as IGO and NGO Observer organisations to draw attention to: (a) upcoming (2 years ahead) catch/strike limit renewals and indication of any actual or potential changes to catch/strike limit requests if known; (b) publication of SC advice on sustainability or its workplan; and (c) 'Descriptions of the hunts relevant to ASW catch/strike limit requests' on the website - and timing of any updates if intended by ASW Contracting Governments (see also step (1)). The Circular will conclude with a request for written comments related to proposed catch/strike limits by a set date e.g. 60 days before the Biennial Commission Plenary Meeting and a request for interested governments to attend the ASW Sub-Committee meeting.
(5) [x] days prior to Commission Plenary meeting	Contracting Governments, IGOs, NGOs	Submission of written comments in accordance with step (4). These may be made documents for the ASW Sub-Committee meeting.
(6) 4-5 days prior to Commission Plenary meeting	ASW Sub-Committee meeting	Opportunity for discussion of written comments in accordance with the above Circular Communication including initial responses (which may take the form of documents to the ASW Sub-Committee meeting, verbal responses or a combination of both) by ASW Governments and taking into account consideration of Indigenous peoples' rights. The ASW Sub-Committee may develop a workplan, if necessary, to assist in reaching consensus in Year 6 (in addition to the general steps outlined below for Year 6).
(7) Commission Plenary meeting	Contracting Governments	Debate and discussion of Year 6 catch/strike limit renewal including acceptance or modification of any workplan developed under step (6).
Year 5		
(7) Year 5, May-June	SC	SC continues its work and provides advice in its report circulated two weeks after the end of its meeting.
(8) Year 5, ongoing	To be decided	Activities under workplan if necessary (see steps (6) and (7)).
Year 6		
(9) 2 weeks prior to SC meeting	ASW Contracting Governments	Submission of final (in the sense of enabling the Committee to provide appropriate advice) proposed catch/strike numbers to the SC.
(10) 2 weeks after SC meeting	SC	Publication of SC report including advice on sustainability of proposed ASW catch/strike limits.
(11) 3 weeks after close of SC meeting	Chair of ASW Sub-Committee and Secretariat	Circular Communication to IWC Contracting Governments as well as IGO and NGO Observer organisations to draw attention to: (a) upcoming quota renewal and indication of any actual or potential changes to catch/strike limit requests if known; (b) publication of SC advice on sustainability or its workplan; and (c) availability of 'Descriptions of the hunts relevant to ASW catch/strike limit requests' on the IWC website - and timing of any updates if intended by ASW Contracting Governments (see also step (1)). The Circular Communication will conclude with a request for written comments related to proposed catch/strike limits by a set date e.g. 60 days before the Biennial Meeting and a request for interested governments to attend the ASW Sub-Committee meeting.
(12) [x] days before Commission Plenary meeting	Contracting Governments, IGOs, NGOs	Submission of written comments in accordance with step (11). These may be made documents for the ASW Sub-Committee meeting.
(13) 90 days before Commission Plenary meeting	ASW Contracting Governments	Proposed schedule amendments (adapted if necessary in light of SC advice) provided to IWC, made a Commission document and placed on meeting website.
(14) one month before Commission Plenary meeting	ASW Contracting Governments	Written responses by ASW Contracting Governments to comments received in response to step (11) provided to IWC, made ASW Sub-Committee documents and placed on meeting website.
(15) 4-5 days prior to Commission Plenary meeting	ASW Sub-Committee meeting	Discussion of papers submitted in steps (12)-(14) and taking into account consideration of Indigenous peoples' rights. The ASW Sub-Committee should try to develop consensus advice, or if not possible develop a formal or informal workplan to try to achieve this prior to Plenary discussions.
(16) Commission Plenary meeting	Contracting Governments	Debate and decision (ideally by consensus) on proposed Schedule amendments*. Note that it is possible for any Contracting Government to submit a revised proposal or proposals should the first proposal fail or amendments fail (e.g. see IWC, 1980, p.30**). It should not be the case that the meeting is closed with no catch/strike limits set.
(17) Within two days of end of Commission meeting	IWC Secretary	Notification of Schedule amendments to all Contracting Governments and establishment of timescale for objections procedure.

Cont.

Time	Who	Action
Year 7		
(18) Within proscribed period (may be year 6)	Contracting Governments	Lodge objection to Schedule amendment if required.
(19) After Commission Plenary meeting but prior to Schedule amendments formally coming into force	Contracting Government(s) with ASW hunts, Secretary	If necessary, send letter to confirm that the Government will not be objecting to the amendments agreed at the Commission meeting and stating that the hunts were about to start in conformity with the agreed limits*. Secretary circulates the letter and places it on the IWC website.

*Note, if desired by ASW countries and Commission, consideration may be given as one-off exercise in 2018, to extend existing ASW catch/strike limits by one year and thereby establish one seven year catch/strike limit block in order to give a 12 months period before catch/strike limits become operational in the future (see options in text).

**IWC. 1980. Chairman's Report of the Thirty-First Annual Meeting. *Rep. int. Whal. Commn* 30:25-41.

This might be initiated by inviting an Indigenous rights expert – such as the UN Special Rapporteur on the Rights of Indigenous Peoples – to the next meeting of the IWC or a relevant sub-body, and to future meetings. This may have cost implications.

- (5) The Workshop **emphasises** the constant and complex changes all people, including Indigenous peoples, undergo, *inter alia* due to external pressures such as political and economic developments, climate change and other factors affecting the access to natural resources. It **affirms** that this does not affect the status and rights of Indigenous peoples under international law. In this context, the Workshop **draws the attention** of the IWC to the importance of the right of self-identification as part of who is and belongs to Indigenous peoples. These issues are also relevant to the formulation of future guidance on information to include when providing descriptions of ASW hunts and the rationale for ASW catch/strike limit requests, with the full and effective participation of the concerned Indigenous peoples (see Item 6).
- (6) The Workshop **recommends** that the IWC considers mechanisms to improve the status of Indigenous delegates to IWC gatherings in order to establish a more timely, distinct and steady approach to ASW issues; such a move could find inspiration in approaches adopted in other organisations such as the 'Permanent Participant status' within the Arctic Council or the distinct status that is reserved for Indigenous peoples within the UN Permanent Forum on Indigenous Issues (PFII).¹⁵
- (7) The Workshop **recommends** that at the 2016 Commission meeting, the IWC discusses the appointment of an appropriate IWC representative (e.g. one nominated by the ASW Sub-Committee for approval by the Commission) to attend a session of the UN Permanent Forum on Indigenous Issues, not only to report on IWC practices regarding ASW, but also to attend the general

discussions on Indigenous rights. Consideration should also be given to the ASW/IWC participant organising a side event at the 2017 meeting of the Permanent Forum in order to inform a broader audience about the IWC's work on ASW and its relevance to Indigenous rights. This may have cost implications.

- (8) The Workshop **recommends** that the IWC Secretariat should explore the potential benefits of joining the UN Inter-Agency Support Group on Indigenous Issues¹⁶ by contacting the Chairperson and Secretariat of the UN Permanent Forum on Indigenous Issues. The relevant invited experts are available to assist the IWC Secretariat in preparing this step.

With respect to issues surrounding what have been traditionally termed 'need statements', the Workshop **agrees** on the recommendations below.

- (1) The Workshop **recommends** to the ASW Sub-Committee and the Commission that the term 'need statement' be replaced by the term 'Description on the [insert name] hunt relevant to catch/strike limit requests'. It also **recommends** that a draft outline be developed by the ASWWG for consideration by the Commission, noting that this takes into account: the need for flexibility; the need to avoid any indication of prescription or compulsion; the need to minimise the effort involved and avoid duplication; and takes into account the discussions on Indigenous rights under Item 3.1.
- (2) With respect to Commission review of ASW catch/strike limit requests, the Workshop **recommends** that the ASW Sub-Committee reviews the example draft timetable (Table 2, Item 6.3), considers modifications if necessary and submits it for the Commission's consideration.
- (3) The Workshop **strongly encourages** IWC member states and interested organisations to contribute to the fund established at IWC/65 to provide financial assistance towards achieving compliance with IWC measures identified in Schedule amendments.

¹⁵For example, the PFII is an advisory body to the UN's Economic and Social Council with a mandate to discuss Indigenous issues related to economic and social development, culture, the environment, education, health and human rights. PFII members serve in equity with member state representatives to further the PFII mandate within the UN. The PFII consists of 16 members, eight nominated by Indigenous peoples and eight elected by member states. The Arctic Council established the category of 'Permanent Participant' to guarantee the direct participation of Arctic Indigenous peoples in all of its work. The Arctic Council website notes that 'the Permanent Participants have full consultation rights in connection with the Council's negotiations and decisions. The Permanent Participants represent a unique feature of the Arctic Council, and they make valuable contributions to its activities in all areas.'

¹⁶cf for further information: <http://undesadspd.org/IndigenousPeoples/InterAgencySupportGroup.aspx>.

Annex G

Report of the Conservation Committee¹

Friday 21 October 2016, Portorož, Slovenia

SUMMARY OF MAIN OUTCOMES

Agenda Item	Main outcomes
<i>Item 3.1</i> Conservation Committee Strategic Plan	The Conservation Committee (CC) endorsed the strategic planning guidance document (IWC/66/CC10) and the Strategic Plan (IWC/66/CC08) with the changes discussed during the meeting and recommended their submission to the Commission.
<i>Item 3.2</i> Regular Conservation Committee Planning Group Meeting	The Conservation Committee endorsed the draft Terms of Reference (Appendix 4) for a regular Conservation Committee planning meeting.
<i>Item 3.3.3</i> Joint Working Group of the Conservation Committee and the Scientific Committee	<p>The Conservation Committee endorsed the recommendations in IWC/66/CC25 that the Commission:</p> <ol style="list-style-type: none"> (1) Requests that the joint SC/CC WG work with the existing Scientific Committee process (being undertaken by the Scientific Committee Chair, Vice-Chair, Head of Science and Convenors) to develop guidelines for both reports on the drafting of clear and focused stand-alone recommendations that highlight rationale/context, objectives and actors. Unless necessarily general (e.g. addressed to the broad scientific community), the emphasis should be on specific topics and tasks. The guidelines should also consider the use of consistent language (e.g. when and if to use terms such as urge, endorse, agree, recommend and request). (2) Establishes an intersessional Working Group to develop a draft structure and process for populating a web-accessible database of recommendations (and outcomes), not necessarily limited to conservation recommendations or recommendations of the Scientific Committee, taking into account initial considerations presented in Annex 2 of document IWC/66/CC25. The Working Group would comprise the following members: Argentina, Australia, Belgium, UK, Secretariat and Chair of the Conservation Committee. <p>The Conservation Committee also took note of the report's recommendation that some conservation themes identified by the Scientific Committee do not appear on the Conservation Committee agenda. When developing its workplan, the Committee agreed to consider:</p> <ol style="list-style-type: none"> (a) the need to amend its agenda to reflect additional themes identified from this analysis (i.e. conservation aspects of small cetaceans and of bycatch and entanglement) and the value of establishing intersessional working groups for priority areas to further the Committees work plan; and (b) the need to recommend to the Commission an annual Conservation Committee meeting (whilst this would have cost and logistical implications it would allow the Committee additional time to consider in more detail the progress made intersessionally on key conservation issues).
<i>Item 3.3.4</i> Consideration of the future terms of reference, timing and <i>modus operandi</i> of the Joint Working Group of the CC and SC	The Conservation Committee agreed that a proposal to hold annual meetings of the Conservation Committee would be prepared for IWC/67 in 2018. In the meantime, a Conservation Committee planning meeting would be held in 2017, back to back with the Scientific Committee.
<i>Item 4</i> Whale Sanctuaries	<p>The Conservation Committee endorsed IWC/66/CC23 to be appended to the Committee's report (Appendix 5) as its recommendations to the Commission on the decadal review of the Southern Ocean Sanctuary.</p> <p>The Conservation Committee endorsed IWC/66/CC14 to be appended to the Committee's report (Appendix 6) as its recommendations to the Commission on the proposed South Atlantic Whale Sanctuary.</p>

¹Presented to the meeting as IWC/66/Rep05.

Agenda Item	Main outcomes
<p><i>Item 5</i> Ship Strikes</p>	<p>The Conservation Committee welcomed the work undertaken to develop the Ship Strikes Strategic Plan and look forward to its completion intersessionally. The Conservation Committee recommended continued engagement with IMO on the issue of ship strikes.</p>
<p><i>Item 6</i> Whale Watching</p>	<p>The Conservation Committee endorsed the recommendations in IWC/CC/03 that the IWC could support the IORA Network and continue to implement Objective 3 of the IWC's Strategic Plan for Whalewatching by:</p> <ul style="list-style-type: none"> • sharing information, best practice, experience and expertise with IORA Member States including through the development of the Whale watching Handbook, including with case studies relevant to the IORA region; • providing capacity-building and training for IORA and its Member States as appropriate; • providing guidelines on best practice and other IWC resources to the IORA Secretariat for circulation among IORA Member States; and • seeking to engage with the IORA Secretariat and the IORA Network through scientific and technical co-operation and, where appropriate, seeking funding, to support sustainable whale watching in the IORA region.' <p>The Conservation Committee agreed that a small group, led by the Chair of the Conservation Committee and including the Vice-Chair of the Conservation Committee, Chair of the Scientific Committee, Chair of the SWG-WW and Head of Science, discuss a number of items on the Scientific Committee agenda that could be dealt with by the Conservation Committee's Standing Working Group on Whale Watching.</p> <p>The Conservation Committee recommended that the Convention on Migratory Species (CMS) join the Working Group that has been tasked to develop the Whale Watching Handbook.</p> <p>The Conservation Committee endorsed the recommendations made by the Standing Working Group on Whale Watching, as outlined in IWC/66/CCRep03 to:</p> <ul style="list-style-type: none"> • explore ways to get additional industry input and outside expertise for the relevant sections of the Handbook; • explore opportunities for collaboration with relevant intergovernmental organisations (e.g. CMS, CBD, SPREP etc.) in the development of the Handbook; • investigate sources of funding for the Whale Watching Handbook and submit applications to potential funding bodies with the aim of completing the Handbook by IWC/67 in 2018; • develop a revised Strategic plan with a new timeframe; • assist with recommendations related to the outcomes of the IORA workshop; and • add two new <i>ex officio</i> industry members to the WGWW from 2016-18.
<p><i>Item 7</i> Conservation Management Plans (CMPs)</p>	<p>The Conservation Committee endorsed all the recommendations in the report of the Standing Working Group on Conservation Management Plans (IWC/66/CCRep06). In particular, the Conservation Committee recommended that the Commission endorse the revised Conservation Management Plan for Southeast Pacific Southern Right Whales, which welcomes Peru as a range state (SC/66b/BRG23).</p> <p>The Conservation Committee noted funds will be requested from the Voluntary Conservation Management Plan Fund for: (1) the draft Eastern South Pacific Southern Right Whale Conservation Management Plan Implementation Strategy 2016-18, prepared by Chile and Peru; and (2) a proposal for a stakeholder workshop on the Conservation Management Plan for western gray whales. The Conservation Committee agree that the CMP SWG consider the two requests for funding noted above out of session, for final endorsement by the Chairs of the CMP SWG and Conservation Committee.</p> <p>The Conservation Committee endorsed the relevant recommendations from the Scientific Committee. It recommended that the Commission nominate and endorse the Conservation Management Plan for the franciscana (IWC/66/CC11).</p> <p>The Conservation Committee agreed to a proposed mid-term review of the Conservation Management Plan Work Plan 2014-20, to be undertaken by the SWG-CMP during the 2016-18 intersessional period.</p> <p>The Conservation Committee recommended dialogue between the Government of Oman and other IWC member Governments to discuss the potential of a CMP for Arabian Sea humpback whales.</p>
<p><i>Item 8</i> Bycatch</p>	<p>The Conservation Committee agreed to establish a Standing Working Group on bycatch; and to develop a Bycatch Mitigation Initiative supported by an expert panel. It welcomed the offer by Mark Simmonds to serve as an interim coordinator to assist with these efforts, on a voluntary basis.</p> <p>The Conservation Committee agreed to draw the F&A Committee's attention to the budgetary implications of these proposals (Section 3.5 of IWC/66/CC05).</p>

Agenda Item	Main outcomes
<i>Item 9</i> Marine Debris	The Conservation Committee welcomed progress made in addressing the issue of marine debris and encouraged further collaboration with other intergovernmental organisations.
<i>Item 10</i> Small Cetaceans	The Conservation Committee welcomed the progress of the Small Cetaceans Task Team and the Voluntary Small Cetaceans Fund. It thanked donors and encouraged more contributions to the fund.
<i>Item 11</i> Progress under the Voluntary Conservation Fund	The Conservation Committee thanked the Secretariat for the update on contributions and encouraged further contributions to the fund
<i>Item 12</i> Voluntary National Reports on Cetacean Conservation	The Conservation Committee thanked governments for reports received. It agreed to establish an intersessional group, comprised of Australia, Mexico, UK and the Secretariat, to review and develop the report template and align it with the new Strategic Plan.
<i>Item 13</i> Conservation Committee Development	The Conservation Committee agreed that the Secretariat should accept the invitations to join the Biodiversity Liaison Group and to participate in SPREP's 2017 Conference on 'Whales in a Changing Ocean'. The Conservation Committee welcomed the work of the Intersessional Correspondence Group on Strengthening IWC Financing. The draft Conservation Committee Work Plan was endorsed by the Committee, who agreed that it will evolve through intersessional work.

1. INTRODUCTORY ITEMS

A list of participants is given as Appendix 1.

1.1 Appointment of Chair

Lorenzo Rojas-Bracho (Mexico) was appointed Chair. He noted that Jamie Rendell (UK) was serving as Vice-Chair.

1.2 Appointment of Rapporteurs

Harriet Gillett, Martin Jenkins, Robert Munroe, Sara Oldfield and Pablo Sinovas were appointed rapporteurs.

1.3 Review of documents

The list of documents is given in Appendix 2.

1.4 Observer participation

The Chair noted that, in agreement with the Rules of Procedure, observers may be invited to speak after Governments.

2. ADOPTION OF AGENDA

The Agenda in IWC/66/CC01rev was adopted (Appendix 3).

3. STRATEGIC PLAN FOR THE CONSERVATION COMMITTEE

3.1 Draft Strategic Plan

In June 2015, a Conservation Committee (CC) planning meeting identified the need to develop a Strategic Plan for the Conservation Committee and an associated work plan (IWC/66/CCRep01). This was further discussed at a second Conservation Committee planning meeting in June 2016 (IWC/66/CCRep05). The Chair noted that this agenda item represented an important step in outlining the strategic direction and future work of the Conservation Committee.

The Chair drew attention to the draft Conservation Committee Strategic Plan 2016-2026 and supporting rationale (IWC/66/CC08 and IWC/66/CC09) and a document providing guidance on Conservation Committee strategic planning (IWC/66/CC10).

The Vice-Chair introduced IWC/66/CC10 Draft Guidance on Conservation Committee strategic planning,

thanking Australia for their work on the Strategic Plan. He explained that during the Conservation Committee Planning meetings, a nested approach to strategic planning was agreed, consisting of: an outward facing overarching Strategic Plan setting out a clear direction and priorities; thematic strategic plans, articulating more detailed objectives, actions, goals, and timescales; and work programmes, intended to deliver the thematic strategic plans by defining specific deliverables, progress, timings, and resource requirements.

Australia introduced the proposed Strategic Plan (IWC/66/CC08) and drew attention to document IWC/66/CC09, which provided further information on the development of the plan. Australia noted that the proposed Strategic Plan had been compiled following extensive intersessional consultations and had received input from both the Joint Conservation Committee and Scientific Committee (CC/SC) Working Group and Conservation Committee planning meetings. Australia sought advice on the text in square brackets in the section 'Measures of Success'.

Argentina, Belgium, Monaco, Netherlands, New Zealand and the USA thanked Australia and other participants for development of the Strategic Plan and fully supported the process. Monaco noted the relevance of this work to UN Law of the Sea discussions.

In response to a question from the Netherlands, Australia suggested that the threat of habitat degradation in riverine and coastal areas be added to the footnote on page 1.

Under 'Near Term Measures of Success' it was **agreed** that: (1) 'annually' should be removed from the first square bracket; (2) the text of the second square bracket should read 'A strategy'; (3) the square brackets should be removed from the text in the final box.

The Conservation Committee **endorsed** the strategic planning guidance given in document IWC/66/CC10 and the Strategic Plan in IWC/66/CC08 (with the changes as discussed during the meeting) and **recommended** they are submitted to the Commission.

3.2 Regular Conservation Committee planning group meeting

The Chair noted the two intersessional Conservation Committee planning meetings held in 2015 and 2016 and drew attention to the reports of the meetings (IWC/66/

CCRep01 and IWC/66/CCRep05). These were convened by the Chair and Vice-Chair of the Committee to discuss progress since IWC/65 and to identify priorities and deliverables in the lead-up to IWC/66. The Chair explained that at the second Conservation Committee planning meeting, participants agreed the need to formalise meetings and to have Terms of Reference.

The Vice-Chair introduced Document IWC/66/CC18 with draft Terms of Reference for a regular Conservation Committee Planning Group meeting to be held during the intersessional period between Conservation Committee meetings. Chile noted its support for annual meetings of the Conservation Committee.

The Committee **endorsed** the draft Terms of Reference (Appendix 4) for a regular Conservation Committee planning meeting (see Item 3.3.4 below for the discussion of timing).

3.3 Joint Working Group of the Conservation Committee and Scientific Committee

IWC Resolution 2014-4² agreed to establish a Working Group between the Conservation Committee and the Scientific Committee in order to propose a procedure to facilitate the implementation and follow-up of conservation recommendations. The Joint Working Group of the Conservation and Scientific Committees (CC/SC) met in June 2015 (IWC/66/CCRep02) and June 2016 (IWC/66/CCRep04).

3.3.1 Report from the 2015 Joint Working Group of the Conservation Committee and Scientific Committee - and - 3.3.2 Report from the 2016 Joint Working Group of the Conservation Committee and Scientific Committee

The Co-Chair of the Joint Working Group, Jamie Rendell (UK) summarised the 2015 and 2016 meetings of Joint CC/SC Working Group. He drew attention to Working Group discussions on opportunities for closer co-operation between the Conservation Committee and Scientific Committee on issues of common interest such as ship strikes, marine noise and debris; agreement of Terms of Reference for the intersessional preparatory drafting group to analyse relevant conservation recommendations; a process for the Conservation Committee to contribute to the decadal review of the Southern Ocean Sanctuary and a review of the proposed South Atlantic Whale Sanctuary. The Working Group also recommended that an options paper be developed on the timing of the joint CC/SC Working Group and the Conservation Committee planning meeting, which will be considered under agenda Item 3.3.4.

The Committee **noted** these reports.

3.3.3 Report on the collation and analysis of conservation-relevant recommendations

The Vice-Chair of the Conservation Committee introduced documents IWC/66/CC24 and IWC/66/CC25. IWC/66/CC24 provided a compilation of conservation recommendations of the Scientific Committee for the years 2013-16, with recommendations categorised by conservation theme, category of action and who they are aimed at. IWC/66/CC25 provides an analysis of the conservation recommendations included in IWC/66/CC24. The Vice-Chair noted that an intersessional Preparatory Drafting Group, established by the Joint CC/SC Working Group, provided input to this work.

The Vice-Chair noted that over 280 recommendations of direct relevance to the Conservation Committee were identified over the four-year period. Conservation recommendations relating to small cetaceans were most common, followed by bycatch and entanglement, and whale watching. Less than half of recommendations related directly to standing agenda items on the Conservation Committee's agenda.

The Vice-Chair explained that specific recommendations for follow-up intersessional work focused on three main areas: (1) consistency and clarity of language in the recommendations of the Scientific and other Committees recognising the improvements already achieved by the Scientific Committee; (2) access and availability of recommendations and (3) the scope of the Conservation Committee agenda and regularity of meetings.

Australia, Austria, Belgium, Germany, and Monaco supported the recommendations in document IWC/66/CC25 and thanked the UK and others who worked on the compilation and analysis.

Monaco queried whether Scientific Committee recommendations needed to be endorsed by the Commission before they could be acted upon and the UK suggested guidance from the Secretariat on this issue. Germany suggested that it would be useful to produce result based monitoring of recommendations to evaluate which recommendations are implemented and followed up. Australia responded that an interactive database to search for recommendations on a particular region, species or threat and their follow-up could help address this.

The Conservation Committee **endorsed** IWC/66/CC25 and **recommends** that the Commission:

- (1) Requests that the joint SC/CC WG work with the existing Scientific Committee process (being undertaken by the Scientific Committee Chair, Vice-Chair, Head of Science and convenors) to develop guidelines for both reports on the drafting of clear and focussed stand-alone recommendations that highlight rationale/context, objectives and actors. Unless necessarily general (e.g. addressed to the broad scientific community), the emphasis should be on specific topics and tasks. The guidelines should also consider the use of consistent language (e.g. when and if to use terms such as urge, endorse, agree, recommend and request).
- (2) Establishes an intersessional group to develop a draft structure and process for populating a web-accessible database of recommendations (and outcomes), not necessarily limited to conservation recommendations or recommendations of the Scientific Committee, taking into account initial considerations presented in Annex 2 of document IWC/66/CC25. The Working Group would comprise the following members: Argentina, Australia, Belgium, UK, Secretariat and Chair of the Conservation Committee.

The Committee also took note of the report's recommendation that some conservation themes identified by the Scientific Committee do not appear on the Conservation Committee agenda. When developing its workplan, the Committee **agreed** to consider:

- (1) The need to amend its agenda to reflect additional themes identified from this analysis (i.e. conservation aspects of small cetaceans and of bycatch and entanglement) and the value of establishing intersessional working groups for priority areas to further the Committee's workplan; and

²IWC. 2016. Report of the 65th Meeting of the International Whaling Commission. Annex E. Resolutions Adopted at the 65th Meeting. Resolution 2014-4. Resolution on the Scientific Committee. *Report of the 65th Meeting of the International Whaling Commission* 2014:50-53.

- (2) The need to recommend to the Commission an annual Conservation Committee meeting (whilst this would have cost and logistical implications it would allow the Committee additional time to consider in more detail the progress made intersessionally to deliver on key conservation issues).

3.3.4 Consideration of the future terms of reference, timing and modus operandii of the Joint Working Group

The Chair introduced document IWC/66/CC19 which outlined a range of options on the timings and indicative costings of meetings of the Conservation Committee and associated Working Groups. The Chair asked the Committee to consider: (1) whether it recommended annual Conservation Committee meetings; (2) the need for regular Conservation Committee planning meetings and; (3) timing of Conservation Committee planning meetings and joint CC/SC Working Group meetings. The Secretariat noted that extra meetings would incur costs, and once the Conservation Committee had decided on its preferred arrangements, the Secretariat could provide more detailed costings.

The USA drew attention to Rule B.3 in the Rules of Procedure, which provides that committees and sub-committees other than the Scientific Committee shall meet biennially and to Rule R.1 in the Rules of Procedure which requires that any changes to the Rules of Procedure be circulated to the Commissioners at least 60 days in advance of the meeting at which the matter is to be discussed. Any proposal to change the frequency of the Conservation Committee would need to take this into consideration. The UK noted that once the frequency of Conservation Committee meetings is agreed and arrangements for smaller intersessional meetings are resolved a fully costed proposal can be developed for 2018.

Monaco, supported by Australia, Belgium and the UK, supported annual meetings of the Conservation Committee and suggested that the Conservation Committee needed to first decide on its preferred approach and then deal with procedural matters. Belgium favoured that smaller meetings were scheduled back-to-back with those of the Scientific Committee and/or Commission. Australia considered it important to look at the terms of reference of both the Joint SC/CC Working Group and the Conservation Committee planning meetings in order to avoid duplication.

The Conservation Committee **agreed** that a proposal to hold annual meetings of the Conservation Committee would be prepared for IWC 67 in 2018. In the meantime, a Conservation Committee planning meeting would be held in 2017, back to back with the Scientific Committee. Australia agreed to help develop the proposal, working with the Chair, Vice-Chair and Secretariat.

4. WHALE SANCTUARIES

4.1 Decadal review of the Southern Ocean Sanctuary

The Southern Ocean Sanctuary (SOS) was established in 1994 through Paragraph 7b of the Schedule to the International Convention for the Regulation of Whaling. This paragraph states that the Sanctuary shall be reviewed ten years after its initial adoption and at succeeding ten year intervals. The first review was undertaken in 2004.

4.1.1 Report of the Scientific Committee

The Chair of the Scientific Committee summarised that Committee's findings and recommendations resulting from its review of the SOS (IWC/66/Rep01(2016), Item 19.2). In 2016, the Scientific Committee provided advice on: status,

trends and potential threats to whales in the SOS; the present and potential threats to whale populations and habitats in the area of the SOS and the complementary Indian Ocean Sanctuary (IOS) and how the sanctuaries address these; whether the SOS is consistent with other measures to protect whales from anthropogenic and other environmental factors, including considerations on the protection of whales in breeding areas, feeding grounds, and/or migratory routes and international agreements concerning biodiversity and conservation of nature; whether the sanctuary allows for the conduct of scientific research useful for meeting IWC objectives or co-ordinated integrated research and monitoring programmes across the range of issues of global relevance; and whether the sanctuary is consistent with the precautionary approach.

At the completion of the review of scientific aspects of the SOS, the Scientific Committee agreed to a set of consolidated recommendations, relating to performance measures, a management plan, funding and review. The recommendations are provided in full in IWC/66/17 and relate to the development and implementation of a management plan with performance measures, and the need for explicit funding (the Scientific Committee suggested consideration of an area-based Conservation Management Plan). The Scientific Committee strongly recommended that the Commission considers its recommendations well in advance of the next review of the SOS

These recommendations were **endorsed** by the Conservation Committee.

4.1.2 Report on the intersessional work of the Conservation Committee

The Vice-Chair introduced IWC/66/CC22, containing background to the Committee's decadal review of the SOS, and IWC/66/CC23 containing the outcomes of that review, noting that the latter drew on information provided by Australia in IWC/66/CC04.

The Vice-Chair explained that, at its 2015 meeting, the IWC Scientific Committee agreed on a dual process to complete its review of the Southern Ocean Sanctuary. It was agreed that the Scientific Committee would review the scientific aspects, but that those aspects relating to policy would be deferred to the Conservation Committee for the provision of advice to the Commission. A process for delivering a Committee contribution to the decadal review of the SOS was agreed by the Conservation Committee planning meeting. The background to this can be found in IWC/66/CC16 and IWC/66/CC22.

At IWC/65, a Steering Group consisting of Australia, France, the UK, and the USA was established with the remit of providing a contribution to the review from the Conservation Committee. This group provided an initial draft document which was circulated to Conservation Committee members in September 2016. Comments received on this draft have subsequently been reflected in paper IWC/66/CC23. This document provides a positive review of the SOS, concluding specifically that it is consistent with existing measures to protect whales from anthropogenic threats and other environmental factors, that it contributes positively to a number of existing international commitments on biodiversity and climate change, and that it is consistent with the precautionary approach.

Australia, supported by Argentina, Brazil, Monaco and New Zealand, drew attention to the Scientific Committee's recommendation that a management plan be developed for the SOS. It believed that the Conservation Committee was the appropriate body to develop such a plan, in consultation

with the Scientific Committee. Australia noted that the development of a management plan would have cost implications which should be brought to the Commission's attention. The Chair of the Scientific Committee asked for clarification on the role of the Scientific Committee in the development of a management plan so that its workplan can be updated accordingly.

The Committee **endorsed** document IWC/66/CC23 to be appended to the Committee's report (Appendix 5) as its recommendations to the Commission on the decadal review of the Southern Ocean Sanctuary.

4.2 Proposal to establish a South Atlantic Whale Sanctuary

A proposal to establish a South Atlantic Whale Sanctuary (SAWS) has been received (IWC/66/09 Proposal for a Schedule Amendment to create a South Atlantic Whale Sanctuary). The proposal is co-sponsored by the Governments of Argentina, Brazil, Gabon, South Africa and Uruguay. Document IWC/66/08 includes Objectives and a Management Plan for the proposed SAWS.

Brazil, supported by the proposal's co-proponents (Argentina, Gabon, South Africa and Uruguay), introduced the proposal. It outlined the objectives of establishing the sanctuary and noted that the sanctuary was intended to improve knowledge on cetacean ecology; protect and foster the economic benefits of local coastal communities through responsible whale watching tourism; and increase resilience of some whale stocks; and sustain and improve ocean health by ocean fertilisation. Brazil explained that this would be the first management plan for a Whale Sanctuary in the context of the IWC.

The proposal was supported by Australia, Belgium, Chile, the Dominican Republic, France, Germany, Monaco, New Zealand, Sweden, the UK and the USA, and observers from the European Union, the Centro de Conservacion Cetacea and the Instituto de Conservacion de Ballenas. A number of Governments noted that it was the first such proposal to be accompanied by a management plan and commended its inclusive and collaborative nature.

St Lucia, supported by Iceland, did not support the proposal, believing that it was not scientifically justified and that therefore it went against Article 5 of the Convention.

New Zealand, supported by the EU and the Instituto de Conservacion de Ballenas, acknowledged St Lucia's intervention but noted that the proposal had been reviewed by the Scientific Committee and was considered to be scientifically justified and that much work had been gone into developing the management plan.

4.2.1 Report of the Scientific Committee

The Chair of the Scientific Committee drew attention to the Committee's review of the proposed sanctuary and its advice contained in IWC/66/Rep01(2016), item 19. Upon review of the SAWS proposal and its management plan, the Scientific Committee had commended the proponents for their efforts to develop a comprehensive proposal and provided suggestions to better articulate the performance measures (SC/66b/Rep08). The Scientific Committee agreed that, in general, the information provided in the proposal was comprehensive, noting that this is the first IWC Sanctuary proposal to provide a management plan. The Scientific Committee agreed that an adequate review of the scientific aspect of the SAWS proposal had been performed and that a new review of its scientific aspects by the Scientific Committee, should these aspects be slightly revised by the proponents in line with suggestions made

in the report, would not be needed. In its final report, the Scientific Committee agreed that its technical and scientific review is concluded.

The Scientific Committee agreed that if the SAWS proposal was approved by the Commission, a more detailed process to implement the management plan would need to be established as a first priority. The Scientific Committee agreed that a Sanctuary such as the SAWS has, in principle, the potential to encourage collaboration and to facilitate development of coordinated scientific research and monitoring programs relevant to meet IWC management and conservation goals. Were the proposal to be accepted, the Scientific Committee was ready to assist in scientific aspects.

These recommendations were **endorsed** by the Conservation Committee.

4.2.2 Report on intersessional work of the Conservation Committee on the South Atlantic Whale Sanctuary proposal

The Vice-Chair of the Committee introduced IWC/66/CC16, containing background information on the Committee's review of SAWS, and IWC/66/CC14, containing the outcomes of the review.

The Vice-Chair noted that, at its 2015 meeting, the IWC Scientific Committee agreed on a dual process to complete its review of the proposed South Atlantic Whale Sanctuary. It was agreed that the Scientific Committee would review the scientific aspects, but that those aspects relating to policy would be deferred to the Conservation Committee for the provision of advice to the Commission. A process for delivering a Conservation Committee contribution on the SAWS proposal was agreed by the Conservation Committee planning meeting and the background to this can be found in IWC/66/CC16.

A draft review of the proposed South Atlantic Whale Sanctuary was circulated to Conservation Committee members in September 2016. Comments received on this draft have subsequently been reflected in IWC/66/CC14. The paper provides a positive review of the sanctuary, concluding specifically that it is consistent with existing measures to protect whales from anthropogenic threats and other environmental factors, that it contributes positively to a number of existing international commitments on biodiversity and climate change, and that it is consistent with the precautionary approach.

The Committee **endorsed** IWC/66/CC14 to be appended to the Committee's report (Appendix 6) as its recommendations to the Commission on the proposed South Atlantic Whale Sanctuary.

5. SHIP STRIKES

At IWC/57 in 2005 the Conservation Committee agreed to address whales being killed or seriously injured by ship strikes, recognising that the issue is also considered by the Scientific Committee through its non-deliberate Human Induced Mortality (HIM) Sub-committee. The Conservation Committee therefore established a Ship Strikes Working Group which has reported progress regularly since 2006.

5.1 Report of the Scientific Committee

The Chair of the Scientific Committee reported on item 7.2 (ship strikes) of IWC/66/Rep01(2015 and 2016). She drew attention to the summary of ship strike mitigation measures worldwide summarised in table 5 of the 2015 Scientific Committee report, and to the recommendations from the Scientific Committee relating to ship strikes.

The Chair of the Scientific Committee highlighted recommendations regarding the ship strikes database noting that: (a) if the IWC enters into a proposed MOU with UNEP-SPAW, it should include specific actions (e.g. outreach and reporting) to encourage the reporting of ship strikes from the region; and (b) the work of the two ship strike co-ordinators should now focus on data entry and validation.

The Scientific Committee had suggested that the Conservation Committee, through its Ship Strikes Working Group, could assist in encouraging studies on estimating rates of ship strikes, risk of ship strikes and mortality. A document (SC/66b/HIM05) by Australian scientists provided an excellent model that other countries could follow. She drew attention to recommendations relating to high risk areas, such as the Northern Indian Ocean and the Hellenic Trench in Greece. The Chair of the Scientific Committee welcomed the positive engagement of the Secretariat and the Committee with IMO in 2015 and 2016. The Scientific Committee recommended that the Secretariat, relevant members of the Committee and Contracting Governments continue to engage with the IMO Secretariat and relevant IMO committees to bring the work of the IWC to their attention as appropriate.

These recommendations were **endorsed** by the Conservation Committee.

One of the Scientific Committee's two Ship Strike Data Coordinators, Fabian Ritter, presented an update on the Ship Strike Database and drew attention to SC/66a/HIM08 and SC/66b/HIM02, which provide further information. He reported that the number of records held in the database, currently well over 1,000, is increasing. Since 2014, approximately 70 new records have been added, with an increasing rate of new reports registered, indicating that the database is being more widely used. He encouraged contributions to the database and for Governments to continue to highlight the importance of its use.

5.2 Report from the Ship Strikes Working Group

5.2.1 Ship Strikes Strategic Plan

The Chair of the Ship Strikes Working Group provided an update on the intersessional work of the Group, and drew attention to a draft Strategic Plan to Mitigate the Impacts of Ship Strikes on Cetaceans: 2017-20 (IWC/66/CC20). The document defines high-risk areas; identifies a number of at-risk populations; outlines strategies related to reducing ship strikes; and presents recommended actions, including a staged approach to develop appropriate mitigation. The Chair invited comments on the draft Strategic Plan prior to a revised draft being presented at Plenary, noting that the report would then be finalised shortly after the IWC/66 meeting.

Argentina, Australia, Belgium, New Zealand and the UK expressed support for the draft Strategic Plan. Belgium and the UK also highlighted the important role of the Ship Strikes database. In addition, Belgium emphasised the importance of engagement with the IMO.

Argentina noted the establishment of a corridor in the Golfo Nuevo area to reduce strikes of Southern right whales as vessels access Puerto Madryn. New Zealand highlighted the adoption of a voluntary protocol in 2013 to reduce the speed of vessels. Only one strike has been recorded in New Zealand since then, compared to an annual average of two strikes previously. Uruguay shared their positive experience working with the Navy to reduce vessel speeds and stressed that ship strikes are a concern in the region. It suggested that

a regional workshop on ship strikes be organised. The UK highlighted work it had undertaken, in collaboration with NGOs, scientists and others, to reduce ship strikes.

The Committee **welcomed** the work undertaken to develop the Ship Strikes Strategic Plan and looked forward to its completion intersessionally.

5.2.2 Engagement with IMO

The IWC Secretariat recalled previous recommendations that called for enhanced co-operation with the IMO on various issues including ship strikes. In response, the IWC Secretariat, working with the Chair of the Scientific Committee HIM, undertook a number of recent activities to strengthen engagement with the IMO. Among these activities was a meeting with the IMO Secretariat in January 2016, resulting in actions such as continued co-operation between the IMO and IWC, joint follow-up with contacts in Sri Lanka to address the blue whale ship strike issue off Dondra Head, and that the IWC updates the IMO Secretariat on Scientific Committee discussions on Important Marine Mammal Areas (IMMAs). In addition, in collaboration with Scientific Committee and Conservation Committee members, a document on ship strikes was developed and submitted to the IMO Marine Environment Protection Committee and discussed at MEPC 69 (April 2016), where it was widely welcomed. The MEPC encouraged Member Governments to raise awareness of the ship strike issue among mariners and authorities, including on reporting incidents to the ship strike database. The IWC Secretariat invited comments on engagement with IMO and noted that further information is provided in IWC/66/04.

5.3 Committee discussions and recommendations

Brazil emphasised the importance of the issue of ship strikes to the country and indicated it will do what it can to help strengthen the collaboration between IWC and IMO and endeavour to improve its reporting of ship strikes.

The Conservation Committee **recommended** continued engagement with IMO on the issue of ship strikes.

6. WHALE WATCHING

In 2011 the Commission reviewed and updated the Terms of Reference for the Conservation Committee's Standing Working Group on Whale Watching (SWG-WW) and expanded its membership to include two members of the Scientific Committee. In 2012, the Commission adopted its Five Year Strategic Plan for whale watching and the SWG-WW has continued to make progress against the actions outlined in the plan. The scientific aspects of whale watching are discussed by the Scientific Committee in response to a request in Resolution 1994-14³ for it to provide advice relating to whale watching.

6.1 Report from the Scientific Committee

The Chair of the Scientific Committee provided an update on the Scientific Committee's work on Whale Watching (Item 16, IWC/66/Rep01(2016)). She highlighted a number of recommendations including those on commercial swim-with-whale operations; the suggestion to include the IWC Guiding Principles on sustainable whale watching in the online Whale Watching Handbook; that the Conservation Committee's Standing Working Group on Whale Watching

³IWC. 1995. Chairman's Report of the Forty-Sixth Annual Meeting, Appendix 15, IWC Resolution 1994-14. Resolution on whalewatching. *Rep. int. Whal. Commn* 45:49-50.

working with the Secretariat collect information from Member States on swim-with-whale programmes; and that template data collection forms or links to examples of forms (e.g. in published papers) should be included in the Whale Watching Handbook. These recommendations were **endorsed** by the Conservation Committee.

The Chair of the Scientific Committee noted the need to improve the co-ordination and definition of roles between the Conservation Committee and Scientific Committee. The Scientific Committee was ready to provide further advice and review of the beta version of the IWC online Handbook on Whale Watching, and that it would also be valuable for industry representatives to review it. She drew attention to the importance of securing funding for the completion of the Whale Watching Handbook and the need to actively promote it. She noted the issues that may arise from inconsistencies in national regulations for transboundary populations of whales, and the need for research on compliance with whalewatching guidelines and regulations.

6.2 Report from the Conservation Committee's Standing Working Group on Whale Watching

6.2.1 Report from the 2016 Indian Ocean region capacity building workshop

Australia introduced the report of the 2016 Indian Ocean Rim Association (IORA) Sustainable Whale and Dolphin Watching Tourism Workshop (IWC/66/CC03). It thanked the Workshop partners (IWC Secretariat, IORA Secretariat, Sri Lankan Institute of Policy Studies and Murdoch University's Cetacean Research Unit) for their work in delivering the Workshop. It noted that the IORA Council of Ministers is meeting on 27 October 2016 and will consider the Workshop report.

Workshop participants recognised that a regional approach to whale and dolphin watching offers a unique opportunity for Governments and other actors in the Indian Ocean to work together to build the profile of the region as a major tourist destination for sustainable whale and dolphin watching, and to ensure that the growth of this industry is economically, socially and ecologically sustainable, and that benefits are shared.

The Committee **endorsed** the recommendations made in IWC/66/CC03 as follows:

The IWC could support the IORA Network and continue to implement Objective 3 of the IWC's Strategic Plan for Whalewatching by:

- Sharing information, best practice, experience and expertise with IORA Member States including through the development of the Whale watching Handbook, including with case studies relevant to the IORA region.
- Providing capacity-building and training for IORA and its Member States as appropriate.
- Providing guidelines on best practice and other IWC resources to the IORA Secretariat for circulation among IORA Member States.
- Seeking to engage with the IORA Secretariat and the IORA Network through scientific and technical co-operation and, where appropriate, seeking funding, to support sustainable whale watching in the IORA region.

6.2.2 Progress with the online Whale Watching Handbook

The Chair of the Standing Working Group on Whale Watching (SWG-WW) introduced the Report of the Working Group on Whale Watching (IWC/66/CCRep03). He noted that the

5-year Strategic Plan on Whale Watching ends in 2016 but that the Working Group recommends it continues as the overarching strategy as there are still actions to complete. Part of the proposed work plan for 2016-18 will be to update this Strategic Plan. He thanked the members of the Working Group and noted that the group is working to add two new *ex officio* industry members.

The Chair of the SWG-WW presented the beta version of the online Whale Watching Handbook. This has been developed through intersessional work including during two meetings, one in San Diego in 2015 and one in Cambridge in 2016. The Chair of the SWG-WW gave a demonstration of the website, in particular the sections on 'Responsible management', 'Preparing for a trip' and 'Species Information'. He drew attention to the projected costs to complete the Handbook, which were provided in Table 1 of IWC/66/CCRep03. The Working Group welcomes feedback on the Handbook and the proposed budget. He noted the need for greater industry involvement in its development.

Argentina, Belgium, Monaco and the UK thanked the USA and the SWG-WW and supported the work on the Whale Watching Handbook. The UK suggested that the Voluntary Conservation Fund could be used to support the development of the Handbook. Monaco suggested that the 'Species' section include as many pictures and photographs as possible.

In response to a query from Monaco, the Chair clarified that hopefully the Handbook could be completed by 2018.

The Secretariat of the Convention on Migratory Species (CMS) highlighted its interest in the work on whale watching being undertaken by IWC. CMS adopted Resolution 11.29 on Sustainable Boat-Based Marine Wildlife Watching, requesting the CMS Scientific Council to develop guidelines on ecologically sustainable wildlife watching, including for cetaceans. The CMS Secretariat noted CMS' interest in supporting the Whale Watching Handbook indicating that it would likely address the request made by CMS Parties with respect to cetacean watching guidelines. The CMS Secretariat proposed that the CMS join the Standing Working Group on Whale Watching with the aim of producing a joint product that serves the needs of both IWC and CMS Contracting Governments. It offered its support in French and Spanish translations of the Handbook.

The Chair of the Scientific Committee highlighted the request from the Scientific Committee for guidance from the Conservation Committee on several Scientific Committee agenda items (noted in table 22, IWC/66/Rep01(2016)) that could be dealt with by the Conservation Committee's Standing Working Group on Whale Watching.

The Conservation Committee **agreed** that a small group, including the Chair and Vice-Chair of the Conservation Committee, Chair of the Scientific Committee, Chair of the SWG-WW and Head of Science, led by the Chair address this question.

The Conservation Committee **recommended** that the CMS join the Working Group that has been tasked to develop the Whale Watching Handbook.

The Conservation Committee **endorsed** the recommendations made by the Standing Working Group on Whale Watching, as outlined in IWC/66/CCRep03:

- Explore ways to get additional industry input and outside expertise for the relevant sections of the Handbook;
- Explore opportunities for collaboration with relevant intergovernmental organisations (e.g. CMS, CBD, SPREP etc.) in the development of the Handbook

- Investigate sources of funding for the Whale Watching Handbook and submit applications to potential funding bodies with the aim of completing the Handbook by IWC/67 in 2018;
- Develop revised Strategic plan with a new timeframe;
- Assist with recommendations related to the outcomes of the IORA workshop; and
- Add two new *ex officio* industry members to the WGWW from 2016-18.

7. CONSERVATION MANAGEMENT PLANS

In 2008 the IWC adopted Conservation Management Planning as an adaptive, flexible and tailored management tool to improve the conservation outcomes for the most at-risk cetacean populations. Three CMPs have since been endorsed by the IWC. These cover the gray whale population in the western North Pacific and separate populations of southern right whales in the southeast Pacific and the southwest Atlantic.

At IWC/60 in 2008 the Conservation Committee received the report of a Workshop on the status of right whales in the southeast Pacific. In response to this report the Conservation Committee: (1) stated the importance of continuing work on the status of right whales and recommended that this issue remains a high priority in the future work of the Scientific Committee; and (2) agreed the item be retained on the Conservation Committee's agenda. This was previously discussed as a separate agenda item, but has now been combined with the CMP agenda item for the southeast Pacific southern right whale.

Work is progressed by the Commission through the Conservation Committee's Standing Working Group on Conservation Management Plans and through the Scientific Committee's work on whale stocks.

7.1 Western North Pacific Gray Whale CMP

7.1.1 Scientific Committee update

The Chair of the Scientific Committee provided an update on Scientific Committee work on the Western North Pacific Gray Whale CMP (see Items 10.7.4, 21, IWC/66/Rep01(2015), Items 9.1.3, 22, IWC/66/Rep01(2016)). The Committee is undertaking a rangewide review of the population structure and status of North Pacific gray whales, partly in light of the CMP action on telemetry and photo-identification studies that provided new information on movements of animals that regularly feed off Sakhalin Island. That review is expected to be completed at the 2017 meeting and the Scientific Committee is in the process of updating the scientific components of the draft CMP in light of the rangewide review. The Scientific Committee has endorsed the need for a stakeholder workshop, as outlined in IWC/66/CC34. The Scientific Committee has made several recommendations relevant to North Pacific gray whales with respect to potential risks associated with oil and gas activities and fisheries and are engaged in a good working relationship with the IUCN Western Gray Whale Advisory Panel.

The Head of Science of the IWC Secretariat introduced IWC/66/CC29 which provided information from the US Navy. This document provided exciting new information on the occurrence, determined by acoustic detections, of gray whales in offshore but shallow waters in the East China Sea in autumn and winter; the first such confirmation in recent times of multiple animals together south of the Sakhalin feeding area. This important information will be considered during the workshop proposed in IWC/66/CC34 to finalise the CMP.

7.1.2 Update from range states

The USA noted that a workshop (IWC/66/CC34) to finalise the draft CMP is planned for May 2017 after the 2017 Scientific Committee meeting such as it allows the CMP to be presented to the Commission at its meeting in 2018. It also highlighted ongoing collaborative efforts on photo-identification by range state researchers, documenting migratory movements of whales within the western North Pacific between Russia and Japan.

7.1.3 Discussion and recommendations

The Committee **endorsed** the report of the Scientific Committee and its recommendations.

The Conservation Committee **endorsed** the relevant recommendations from the report of the Standing Working Group (SWG) on CMPs (IWC/66/CCRep06). It **noted** the proposal for a stakeholder workshop on the Conservation Management Plan for western North Pacific gray whales developed by several range states and in coordination with IUCN (IWC/66/CC34) and that funds will be requested from the Voluntary Conservation Management Plans Fund. It **agreed** that the CMP SWG should consider this request for funding out of session, for final endorsement by the Chairs of the Conservation Management Plan Standing Working Group and Conservation Committee.

7.2 Southwest Atlantic Southern Right Whale CMP

7.2.1 Scientific Committee update

The Chair of the Scientific Committee drew attention to item 10.8.1.1 of IWC/66/Rep01(2016), highlighting relevant recommendations, relating to continuation of work to understand habitat use, dispersal and migratory patterns; gathering of information on cows and recently deceased calves; further work to identify types of nutritional and physiological stress; and continued co-operation and collaboration amongst all research groups and stakeholders relevant to the South Atlantic Right Whale CMP.

7.2.2 Update from Range States

Argentina presented an update on intersessional work relating to the IWC Conservation Management Plan for the southern right whale Southwest Atlantic population. A 2014 workshop considered new theories on the die-off⁴ and these were considered by the Scientific Committee in 2015, which provided funding of £13,000 for a research project on the mortality of the species in the Valdes Peninsula.

Argentina noted that a workshop was held in September 2016 in Puerto Madryn (Argentina), supported by a contribution from the CMP Voluntary Fund. The Workshop reviewed actions to date and identified next steps. The Workshop report is available as document IWC/66/CC12.

Argentina summarised actions taken, such as conducting satellite telemetry, photo identification, training on non-lethal techniques and data collection. It noted its view of the importance of ongoing funding from the IWC CMP Voluntary Fund.

Argentina also noted that coordination of the CMP will be passed to Brazil. Brazil confirmed its willingness to continue the excellent work that Argentina has done.

The Committee thanked Miguel Iñíguez (Argentina) for his work as coordinator and thanked Brazil for taking on the role.

⁴Anon. 2015. Report of the Second Workshop on Mortality of Southern Right Whales (*Eubalaena australis*) at Peninsula Valdes, Argentina. Paper SC/66a/O02 presented to the IWC Scientific Committee, May 2015, San Diego, CA, USA (unpublished). 25pp. [Paper available from the Office of this Journal].

7.2.3 Conclusions and recommendations of the Committee

The Conservation Committee thanked the Scientific Committee and the Range States for this updated information and **endorsed** the Scientific Committee report and recommendations. The Conservation Committee also **endorsed** the relevant sections of the report of the Standing Working Group (SWG) on CMPs (IWC/66/CCRep06).

7.3 Eastern South Pacific Southern Right Whale CMP

7.3.1 Scientific Committee update

The Chair of the Scientific Committee drew attention to the Scientific Committee conclusions and recommendations on the CMP for this critically endangered population (items 10.8.12, 10.8.16 and Annex F of IWC/66/Rep01(2016)). The Scientific Committee welcomed the involvement of Peru in the revised Eastern South Pacific (ESP) southern right whale CMP. It endorsed the revised plan submitted by Chile and Peru (SC/66b/BRG23), noting that this should improve management and conservation. It reiterated that anthropogenic mortality be kept to a minimum. The Committee strongly recommended that further research plans focus on identifying a breeding area and noted that the use of acoustic devices may be a cost-effective approach for monitoring the presence of the species.

7.3.2 Update from the range states

Chile, also on behalf of Peru, introduced document IWC/66/CC28 containing a draft implementation strategy for 2016-2018 for the Eastern South Pacific Southern Right Whale Conservation Management Plan, noting that a revised CMP prepared in 2016, now including Peru as a range state, could be found in document SC/66b/BRG24. To date implementation of the CMP had been funded entirely by range states. Funding was now sought from the IWC Voluntary Conservation Management Plans Fund for coordination and meetings of the CMP Steering Group; a proposed budget for this was presented in the document.

7.3.3 Conclusions and recommendations of the Committee

The Committee **endorsed** the relevant recommendations from the Scientific Committee summarised in IWC/66/17 and those form the report of the CMP SWG (IWC/66/CCRep06):

- That the Commission **endorse** the revised Conservation Management Plan for Southeast Pacific Southern Right Whales, which welcomes Peru as a range state (SC/66b/BRG23).
- It **noted** the draft Eastern South Pacific Southern Right Whale Conservation Management Plan Implementation Strategy 2016-2018, prepared by Chile and Peru (Appendix 1), and that funds are being requested from the Voluntary Conservation Management Plans Fund for this strategy and **agreed** that the CMP SWG should consider the request for funding noted above out of session, for final endorsement by the Chairs of the Conservation Management Plan Standing Working Group and Conservation Committee.

7.4 Update on additional CMP proposals

7.4.1 Progress with franciscana dolphin

The Scientific Committee report (IWC/66/Rep01 (2016), item 15.3.5) had endorsed a progress report on the development of a CMP for the franciscana and reiterated the importance of establishing a CMP. It also recommended that assessment of bycatch and related issues be given high priority.

Argentina introduced document IWC/66/CC11 containing a proposed Conservation Management Plan for the franciscana (*Pontoporia blainvillei*) prepared by Argentina, Brazil and Uruguay. The development of this CMP was informed by the recommendations of the VIII workshop on research and conservation of franciscana held in October 2015 in Sao Francisco do Sul, Brazil (SC/66b/SM05). A further workshop was held in Puerto Madryn, Argentina 12-13 September 2016 as part of the Southwest Atlantic southern right whale workshop (IWC/66/C12). The draft CMP focuses on the following priority actions: (1) monitoring abundance, trends and bycatch; (2) mitigating bycatch; (3) developing and implementing protected areas; (4) encouraging the adoption and implementation of a National Action Plan to Reduce the Interactions of Marine Mammals with Fisheries in Argentina; (5) developing a strategy to increase public awareness of the franciscana; and (6) including the franciscana in bilateral and multilateral discussions.

Australia, supported by the Instituto de Conservación de Ballenas, commended Argentina, Brazil and Uruguay for their joint efforts in preparing this CMP, the first for a small cetacean, and urged that the CMP be both nominated and endorsed at the present meeting.

7.4.1.1 CONCLUSIONS AND RECOMMENDATIONS OF THE COMMITTEE

The Committee **endorsed** the relevant recommendations from the Scientific Committee and the CMP SWG and **recommended** that the Commission nominate and endorse the Conservation Management Plan for the franciscana (IWC/66/CC11).

7.4.2 Progress with Arabian Sea humpback whales

The Scientific Committee discussions and recommendations on Arabian Sea humpback whales are summarised in IWC/66/17 item 10.13. In particular, the Committee stressed the value of a regional CMP and encouraged range states to explore this possibility.

The Chair of the Standing Working Group on Conservation Management Plans (Australia) provided an update on the Arabian Sea humpback whales, as contained in document IWC/66/CCRep06, noting that as yet no CMP had been developed.

The Conservation Committee **recommended** dialogue between the Government of Oman and other IWC member Governments to discuss the potential of a CMP for Arabian Sea humpback whales.

7.4.3 Development of threat-based CMPs

The Scientific Committee's discussions on threat-based CMP's are summarised under items 7.1.7 and 15.5.2 in IWC/66/Rep01.

The Chair of the Standing Working Group on CMPs (SWG-CMPs) noted that there would be relevant discussions under agenda items 8 and 9. She drew attention to the report of the SWG-CMPs (IWC/66/CCRep06) which includes a recommendation that the proposed mid-term review of the Conservation Management Plan Work Programme (2014-2020) should include the development of guidelines and principles for threat-based CMPs.

7.4.3.1 CONCLUSIONS AND RECOMMENDATIONS OF THE COMMITTEE

The Committee **endorsed** the relevant recommendations of the SWG-CMP (IWC/66/CCRep06) that:

- the mid-term review include work to develop guidelines and principles for threat-based CMPs, to be presented to the 2017 planning meeting of the Conservation Committee for consideration (see Item 7.5 below);

- further consideration of marine debris in CMPs will be informed by discussions on bycatch and entanglement activities, as well as the proposed mid-term review and proposed guidelines and principles for development of threat-based Conservation Management Plans; and
- the Scientific Committee be **requested** to continue to provide further information on bycatch, including advice on regions.

7.4.4 Other CMP proposals

The Chair of the Standing Working Group on Conservation Management Plans (Australia) referred to the candidate CMPs identified in the Scientific Committee report (IWC/66/Rep01(2016)). She encouraged range states to develop CMPs and noted that the Standing Working Group was ready to provide advice and guidance.

7.5 Report of the Standing Working Group on Conservation Management Plans

The Chair of the Standing Working Group on Conservation Management Plans (Australia) introduced document IWC/66/CCRep06, drawing attention to the list of recommendations included in the report. She highlighted Recommendation 7 which proposed a mid-term review of the Conservation Management Plan Work Plan 2014-2020, and proposed Terms of Reference for this review in Appendix 2 of the document.

The Chair of the SWG-CMPs welcomed further contributions to the Conservation Management Plan Fund. She asked the Conservation Committee if it could endorse the recommendations in the SWG report. The Committee welcomed the re-election of Australia as Chair of the CMP Standing Working Group.

7.5.1 Conclusions and recommendations of the Committee

The Conservation Committee **endorsed** the relevant recommendations in IWC/66/CCRep06 that:

- it should continue to highlight to the Scientific Committee (through the Commission) the research actions detailed in recently revised and new Conservation Management Plans;
- there will be a mid-term review of the Conservation Management Plan Work Plan 2014-2020, to be undertaken by the Conservation Management Plans Standing Working Group during the 2016-2018 intersessional period, with the Terms of Reference at Appendix 2.
- Australia was elected to continue as Chair of the Standing Working Group on Conservation Management Plans for a second term; and
- the CMP SWG should meet during the intersessional period and report back to the Conservation Committee at IWC/67.

8. BYCATCH

In June 2016, the Scientific Committee made a series of recommendations relating to bycatch, including increased co-operation with other intergovernmental organisations. The Scientific Committee also recommended the establishment of an intersessional correspondence group to consider potential development of a Conservation Management Plan on bycatch and entanglement. The outputs will be discussed at the next Scientific Committee meeting in 2017. The issue was also discussed in two conservation planning meetings in 2015 and 2016, which tasked Mark Simmonds to work with interested Parties and observers to develop suggestions for the Conservation Committee on advancing work to reduce cetacean bycatch.

8.1 Report of the Scientific Committee

The Chair of the Scientific Committee reported on the work of the Scientific Committee summarised in Items 7.1.7 and 22, IWC/66/Rep01(2016). In 2015, a third Workshop to review progress on capacity building and provide advice on entanglement data and databases, was held in Provincetown, USA, April, 2015 (IWC/66/WI-WKRep01⁵). The Scientific Committee supported the Workshop's recommendations on establishment of a global entanglement database, housed and maintained by the IWC. This work was also presented to the WKM&WI Working Group (IWC/66/Rep06).

The Chair of the Scientific Committee reviewed the summary report of the workshop on 'Global Assessment of Large Whale Entanglement and Bycatch Reduction in Fishing and Aquaculture Gear', held in May 2016 in Portsmouth, USA and co-organised by the New England Aquarium, the Consortium for Wildlife Bycatch Reduction and IWC. The Scientific Committee made a number of recommendations with respect to the identification of gear to assist in the development of mitigation measures and priorities. The Chair of the Scientific Committee noted that a full report of recommendations from this workshop had been presented to the WKM&WI Working Group (IWC/66/Rep06).

The Scientific Committee had expressed concern at the small number of countries regularly reporting thoroughly on bycatch and entanglement in National Progress Reports, and made a number of recommendations for improvement. The Scientific Committee made additional recommendations on addressing bycatch of small cetaceans, recognising the importance of obtaining robust estimates of total bycatch and bycatch rates to prioritise conservation and management needs with respect to mitigation and prevention efforts and monitoring. These recommendations were **endorsed** by the Conservation Committee.

8.2 Progress report from intersessional work

Mark Simmonds presented document IWC/66/CC05: Proposal for an IWC Bycatch Initiative. He noted that bycatch is a significant conservation issue, which in some cases is driving certain species towards extinction, and that the stress and suffering experiences by individual animals cannot be ignored. The 2006 estimate of 308,000 cetacean deaths each year (Read *et al.* 2006)⁶, is likely to represent an underestimate given the under-detection and under-reporting for both small cetaceans and large whales. Scarring data has revealed that the level of large whale entanglements is significantly higher than previously thought. He highlighted the need for a global initiative to address this issue and urged that now was the time for the IWC to take this forward. The paper outlined a number of options for addressing bycatch within the IWC including: (1) a threats-based Conservation Management Plan addressing bycatch mitigation; (2) the establishment of a Standing Working Group on bycatch under the Conservation Committee; and (3) the development of a Bycatch Mitigation Initiative, following the example of the Entanglement Response Initiative, including the establishment of an expert panel.

The UK favoured the approach outlined in section 3.3 of the paper including the appointment of a Bycatch Mitigation Initiative Coordinator, supported by an Expert Panel, with the remit to provide advice on bycatch mitigation. The Terms of Reference for this Panel could be drawn from IWC/66/CC05

⁵Published in this volume.

⁶Read, A.J., Drinker, P. and Northridge, S. 2006. Bycatch of marine mammals in U.S. and global fisheries. *Conserv. Biol.* 20: 163-169.

section 3.3. The Panel could initiate the development of a thematic strategic plan in order to ensure effective delivery.

The USA noted that bycatch was considered a primary threat in the Conservation Committee's new Strategic Plan. It supported the development of a Standing Working Group on bycatch and offered to participate in this group. It suggested that an expert panel should include observers with relevant expertise. Budgetary implications referred to in Section 3.5 of document IWC/66/CC05 should be drawn to the attention of the F&A Committee.

Austria, Belgium, Brazil, Chile, Gabon, Italy, the Netherlands, New Zealand, and Humane Society International all supported development of a Bycatch Mitigation Initiative. Brazil outlined national actions taken to reduce bycatch. The Netherlands and New Zealand stressed the importance of co-operation with other processes. Belgium and Italy indicated they would be pleased to participate in any initiative.

WWF expressed support for a Bycatch Initiative, drawing attention to IWC/66/CCForInfo01. This document offers an analysis of threats posed by fisheries bycatch to cetacean populations, and makes a clear case for the IWC to play a greater role in mitigating this threat globally. WWF noted the need for collaboration with individual nations and other IGOs including FAO, CMS, CCAMLR, ACCOBAMS, ASCOBANS and ICES. Recent international work to mitigate the bycatch of other species (e.g. seabirds, sharks, turtles) might provide useful models of co-operation. WWF is committed to this cause and offers further assistance.

The UK reported that Mark Simmonds had volunteered to act as an interim co-ordinator, until a permanent co-ordinator is identified, should the Initiative be approved.

CMS stated that the CMS and its relevant daughter agreements (ACCOBAMS and ASCOBANS) had been working on bycatch issues and expressed their interest in co-operation with the proposed new initiative.

8.2.1 Conclusions and recommendations of the Committee

The Committee agreed to establish a Standing Working Group on Bycatch. This SWG should progress work on the development of a Bycatch Mitigation Initiative and the identification of the Expert Panel. It welcomed the offer by Mark Simmonds to serve as an interim co-ordinator to assist with these efforts, on a voluntary basis.

The Committee **agreed** to draw the F&A Committee's attention to the budgetary implications of the Initiative outlined in section 3.5 of IWC/66/CC05.

9. MARINE DEBRIS

At IWC/63 in 2011, the Commission endorsed a Conservation Committee recommendation to include a standing agenda item on marine debris. Two joint Scientific Committee and Conservation Committee Workshops on marine debris in 2014 and 2015 (SC/65a/Rep06⁷ and IWC/65/CCRep04⁸) made a range of recommendations that were agreed to by the Conservation Committee. These included the need for improved data collection and research on the impacts of marine debris on cetaceans and potential mitigation approaches. The importance of engaging with other intergovernmental organisations with respect to marine debris was highlighted.

⁷IWC. 2014. Report of the IWC Scientific Committee Workshop on Marine Debris, 13-17 May 2013, Woods Hole, USA. *J. Cetacean Res. Manage. (Suppl.)* 15:519-41.

⁸IWC. 2016. Report of the IWC Workshop on Mitigation and Management of the Threats Posed by Marine Debris to Cetaceans, 5-7 August 2014, Honolulu, Hawaii, USA. *Report of the 65th Meeting of the International Whaling Commission* 2014:275-305.

9.1 Report from the Scientific Committee

The Chair of the Scientific Committee reported on discussions in Item 13.9, IWC/66/Rep01. In 2015, the Scientific Committee agreed to a set of priorities on marine debris which focused on better understanding of the extent and significance of marine debris impacts on cetaceans; improvements to data collection and monitoring; and engaging with other intergovernmental bodies (IGOs) with respect to marine debris. An update on collaboration with other IGOs on marine debris was provided in 2016 (SC/66b/E12). The Conservation Committee **endorsed** the recommendations of the Scientific Committee.

9.2 IWC engagement with other Intergovernmental Organisations (IGOs) on marine debris

The Secretariat highlighted the IWC contribution to the report of the UN Secretary General on the issue of 'marine debris including plastics and microplastics' to the 17th meeting of the United Nations Open-Ended Informal Consultative Process on Oceans and Law of the Sea, in June 2016 and engagement with the United Nations Environment Programme (UNEP) and the United Nations Environment Assembly (UNEA). Further details were provided in IWC/66/04.

Australia, Monaco and the UK welcomed inclusion of marine debris in the Committee's deliberations and progress in engaging other intergovernmental organisations. Australia encouraged engagement with the Global Ghost Gear Initiative. The UK reported on its plans to ban the sale and manufacture of cosmetics and personal care products containing microbeads and stated it was considering further action on microbeads in other products including household and industrial cleaning products.

8.2.1 Conclusions and Recommendations of the Committee

The Committee **welcomed** progress made in addressing the issue of marine debris and **encouraged** further collaboration.

10. SMALL CETACEANS

10.1 Small Cetaceans Task Team

10.1.1 Report of the Scientific Committee

At its 2015 meeting, the Scientific Committee developed the Terms of Reference for a Small Cetaceans Task Team Initiative to assist the Scientific Committee in providing timely and effective advice on situations where a population of cetaceans is in danger of a significant decline that may eventually lead to its extinction. The ultimate aim is to ensure that extinction does not occur.

The Chair of the Scientific Committee summarised the Committee's work on this issue in 2014 and 2015 (see IWC/66/17, item 15.6). In 2015, the franciscana was proposed as a good initial case study to test the Task Team approach. In 2016, the Committee received the update from the Franciscana Task Team (FTT) Steering Committee that the following priority tasks are needed to improve conservation of the species in Franciscana Management Area (FMA) I: (1) monitor the fisheries and estimate bycatch; (2) assess areas at risk from coastal and offshore development; (3) estimate abundance and trends; and (4) plan for long-term conservation efforts. The Committee recommended supporting the fishery characterisation and bycatch monitoring and estimation work identified by the FTT for FMA I.

The UK noted the establishment of the franciscana Task Team was done by the review of a proposal provided by scientists in the field. The Task Team initiative reports

to the Scientific Committee at its annual meeting and the UK fully supports that further Task Teams can be developed intersessionally by the agreement of the expert review panel and the Chair of the Scientific Committee. These task teams can then seek funding from outside sources.

The issue of a CMP for the franciscana is discussed in more detail under Item 7.4.1 above.

The Chair of the Scientific Committee also noted a new development regarding the National Waterways Act in India. The Committee expressed grave concern of the impacts of this for the South Asian river dolphin. The Committee had recommended that the SCTT Steering Committee establish an appropriate team of experts to develop a project description and report back on progress to the next year's meeting.

Centro de Conservacion Cetacea recalled that for several years the Scientific Committee has highlighted the river dolphins of the Amazon Basin as a matter of concern, particularly with regard to their use as bait in some fisheries. Centro de Conservacion Cetacea encouraged range States to nominate these species for CMPs.

Italy announced a €15,000 contribution for the work of the franciscana CMP in Brazil, which the Committee welcomed.

10.1.2 Discussion and recommendations

The Conservation **endorsed** the report of the Scientific Committee and its recommendations.

10.2 Progress under the Voluntary Fund for Small Cetacean Conservation Research

The Chair of the Scientific Committee noted that the Small Cetacean Fund is an extremely valuable contribution to conservation of small cetaceans with an emphasis on developing countries and critical conservation needs. During the biennium 2015-16, donations to the Voluntary Fund for Small Cetacean Conservation Research totalling £76,089 were received from the Governments of Italy, the Netherlands, Switzerland, and the United Kingdom as well as from Whale and Dolphin Conservation (WDC), WWF International, World Animal Protection, Pro Wildlife and Campaign Whale.

Meike Scheidat (co-Convenor of the small cetaceans sub-Committee under the Scientific Committee) gave a presentation, on behalf of the Scientific Committee on progress under the Fund. Since 2010, as well as supporting the participation of experts to the annual meetings of the Committee, these funds have been used to support 15 projects for a total of around £350,000 disbursed.

In 2011, funding was provided for nine projects, and further voluntary contributions allowed funding of additional projects in 2013 and 2016. In 2016, there was a new call for proposals and the Secretariat received 20 project proposals. Following the advice of the Review Group, the Committee recommended seven projects (Table 20 in IWC/66/Rep01(2016)) for the Commission's consideration for funding. As of 2014 there was an emphasis in funding projects with a clear potential for producing positive conservation outcomes.

The Committee thanked all those countries and organisations that have made voluntary contributions. Italy pledged €4,000 for the fund, Ocean Care pledged £1,000, Whaleman International pledged \$1000 and Pro Wildlife pledged €2,000. The Committee applauded the generosity of all those pledging donations.

11. PROGRESS UNDER THE VOLUNTARY CONSERVATION FUND

The Secretariat provided an update on the status of the Voluntary Conservation Fund, established at IWC/65 in 2014. During 2015 and 2016 the Voluntary Conservation Fund had received £65,000 from the Government of Australia, which was used to hold a workshop on the development of a sustainable whale watching network in the Indian Ocean region (see Agenda item 6.2). USD\$10,000 were received from the USA to support the Standing Working Group on Whale Watching and this has been partially spent. £10,000 was received from the UK which is yet to be allocated.

The Committee thanked the Secretariat for this information and **encouraged** further contributions to the fund.

12. VOLUNTARY NATIONAL REPORTS ON CETACEAN CONSERVATION

Contracting Governments may submit voluntary national reports on cetacean conservation to the Conservation Committee. The Committee welcomes these reports and has encouraged more countries to submit them.

12.1 Introduction of national reports

The Chair welcomed the voluntary national reports on cetacean conservation submitted by nine countries: Argentina, Australia, France, Gabon, Mexico, New Zealand, Spain, UK and USA. The Committee thanked those countries which had submitted reports this year and encouraged more countries to report to future meetings of the Conservation Committee.

The Secretary requested that regulations and guidelines relating to the management of whales, including whale watching, be forwarded to the Secretariat.

The Chair noted the need to make the reports as useful as possible, and to record how they are used to measure success. The Committee **agreed** to establish a group to review and develop the report template to align it with the new Strategic Plan, comprising Australia, Mexico, UK and the Secretariat.

13. CONSERVATION COMMITTEE DEVELOPMENT

13.1 Engagement with other intergovernmental organisations

The Secretariat reported on progress on IWC co-operation with other intergovernmental organisations. It highlighted in particular: (1) opportunities to strengthen engagement with regional organisations, including the Secretariat of the Pacific Regional Environment Programme (SPREP); and the UNEP Caribbean Environment Programme (UNEP-CEP) as Secretariat to the Protocol Concerning Specially Protected Areas and Wildlife-SPA; and (2) the invitation to the Secretariat to join the Biodiversity Liaison Group. Further details were provided in IWC/66/04.

The Committee **agreed** that the Secretariat should accept the invitations to join the Biodiversity Liaison Group and to participate in SPREP's 2017 Conference on 'Whales in a Changing Ocean'.

13.2 Funding opportunities

At IWC/65, the Commission endorsed a series of recommendation from the Intersessional Correspondence Group on Strengthening IWC Financing. These recommendations included, *inter alia*, a proposal for working groups wishing to resource projects to establish budgeted work plans, and if possible to identify funding partners.

The Chair of the Group, Stephanie Langerock (Belgium) provided a brief introduction to the work of the group. She introduced the report of the Intersessional Correspondence Group on Strengthening IWC Finance (IWC/66/F&A08) which provides an update on the implementation of the Commission's recommendations and will be discussed in detail by the Finance and Administration Committee. She highlighting the need to establish a process to allocate the fund and that the Steering Group will review the eligibility criteria to ensure they are consistent with the Conservation Committee Strategic Plan. She stressed the need to identify new funding opportunities to implement the Commission recommendations and encouraged all working groups to develop budgeted working plans. She also welcomed new members to join the ICG-SF.

The Committee **welcomed** the work of Intersessional Correspondence Group on Strengthening IWC Financing.

14. WORK PLAN FOR THE 2016-18 BIENNIUM AND BEYOND, INCLUDING RESOURCE IMPLICATIONS

The Chair introduced the draft Conservation Committee Work Plan for the Intersessional Period 2016-18 (IWC/66/CC21), noting that it provides a work plan to deliver the Strategic Plan agreed by the Committee. The draft Work Plan included specific deliverables and associated resource requirements. The Chair would welcome volunteers to form a group to take this forward.

The draft Conservation Committee Work Plan was **endorsed** by the Committee, who agreed that it will evolve through intersessional work.

15. ADOPTION OF THE REPORT

The report was adopted by correspondence on 24 October 2016.

Appendix 1

LIST OF PARTICIPANTS

ARGENTINA

Juan Pablo Paniego
Miguel Iñiguez

AUSTRALIA

Deb Callister
Frank Lamacchia
Nick Gales
Pam Eiser
Suzi Heaton
William de la Mare

AUSTRIA

Andrea Nouak
Michael Stachowitsch

BELGIUM

Stephanie Langerock
Els Vermeulen
Fabian Ritter

BRAZIL

Hermano Telles Ribeiro
Fabia Luna
Marcia Engel
Pedro Fruet
Rodrigo Almeida
Thais Coutinho

CAMBODIA

Ing Try

CHILE

Barbara Galletti Vernazzani

CZECH REPUBLIC

Barbora Hirschova

DENMARK

Nette Levermann
Amalie Jessen
Gitte Hundahl

DOMINICAN REPUBLIC

Gilka Melendez

ERITREA

Seid Mohammed Abrar

FINLAND

Penina Blankett

FRANCE

Nadia Deckert
Vincent Ridoux

GABON

Auréli Flore Koumba Pambo

GERMANY

Andreas Taeuber
Jurgen Friedrich
Nicole Hielscher

ICELAND

Johann Gudmundsson
Gisli Víkingsson
Kristjan Loftsson

ITALY

Alessandro Iannitti
Caterina Fortuna
Francesca Granata

JAPAN

Naohito Okazoe

KENYA

Susan Imende

KOREA, REPUBLIC OF

Hawsun Sohn
Young Min Choi

LUXEMBOURG

Pierre Gallego

MEXICO

Lorenzo Rojas-Bracho

NETHERLANDS

Meike Scheidat

NEW ZEALAND

Amy Laurenson
Andrew Townend
Erin Morriss
Julia Reynolds

NORWAY

Alessandro Astroza
Arne Bjørge
Hild Ynnesdal
Kathrine Ryeng

RUSSIAN FEDERATION

Valentin Ilyashenko
Ayvana Enmynkau
Igor Mikhno
Kirill Zharikov
Nataliia Slugina
Olga Safonova

SLOVAK REPUBLIC

Branislav Hrabkovsky
Lucia Vlckova

SLOVENIA

Andrej Bibic
Tilen Genov

SOUTH AFRICA

Ed Couzens
Herman Oosthuizen
Hester Pretorius

SPAIN

Gloria Delgado Rojas
M. Begoña Santos

ST KITTS AND NEVIS

Marc Williams

ST LUCIA

Horace Walters

SWEDEN

Anders Alm

SWITZERLAND

Bruno Mainini
Martin Krebs
Patricia Holm

UNITED KINGDOM

Nigel Gooding
Catherine Bell
Emma Rundall
Jamie Rendell
Jennifer Lonsdale
Mark Peter Simmonds
Stuart Reeves

UNITED STATES OF AMERICA

Russell Smith
Ryan Wulff
Doug DeMaster
Alexis Ortiz
Brian Gruber
David Weller
DJ Schubert
Greig Arnold
Harry Brower
John Hopson
Jordan Carduner
Lisa Phelps
Michael Gosliner
Michael Tillman
Robert Brownell
Robert Suydam
Roger Eckert

URUGUAY

Jose Truda Palazzo
Rodrigo Garcia

INVITED EXPERT

Dalee Sambo Dorough

OBSERVERS**Vietnam**

Nguyen Thi Trang Nhung
The Cong Tran

NAMMCO

Charlotte Winsnes

UNEP/CMS/ASCOBANS

Heidrun Frisch-Nwakanma

Alaska Eskimo Whaling Association

Jessica Lefevre
Taquik Hepa
Arnold Brower
Christopher Winter

Animal Welfare Institute

Kate O'Connell
Sue Fisher

Centro de Conservacion Cetacea

Maria Jimenez
Peter Sanchez

Dolphin Connection

Helena Symonds
Paul Spong

Environmental Investigation Agency

Daniel Hubbell
Danielle Grabiell

European Commission

Marc Richir

Fundacion Cethus

Carolina Cassani

Greenpeace

Phil Kline
John Frizell

Humane Society International

Bernard Unti
Claire Bass
Cristobel Block

Inst. de Conservacion de Ballenas

Roxana Schteinberg

Makah Indian Tribe

Keith Johnson

OceanCare

Fabienne McLellan
Nicolas Entrup

Pro Wildlife e.V.

Sandra Altherr

Robin des Bois

Charlotte Nihart
Tamara Vilarins

University of Tasmania, Faculty of Law

Lucy Smejkal

Whale and Dolphin Conservation

Astrid Fuchs

Whaleman International

Jeff Pantukhoff

World Animal Protection

Nicola Beynon

World Conservation Trust (IWMC)

Nikolas Sellheim

WWF International

Aimee Leslie
Leigh Henry

IWC

David Mattila
David Peers
Greg Donovan
Kate Wilson
Katie Penfold
Sarah Ferriss
Sarah Smith
Simon Brockington

Rapporteurs

Harriet Gillett
Martin Jenkins
Pablo Sinovas
Robert Munroe
Sara Oldfield

Appendix 2
LIST OF DOCUMENTS

IWC/66/CC		Agenda item
01	Draft Agenda	
02	List of documents	
03	Report on the Indian Ocean Rim Association (IORA) Sustainable Whale and Dolphin Watching Tourism Workshop (submitted by Australia)	6.2
04	Observations relevant to the Conservation Committee's review of the Southern Ocean Sanctuary (submitted by Australia)	4.1
05	Proposal for an IWC Bycatch Initiative	8
06	Australian Voluntary National Cetacean Conservation Report	12.1
07	United States Voluntary National Conservation Report	12.1
08	Conservation Committee Public Strategic Plan (submitted by the Chair of the Conservation Committee)	3.1
09	Conservation Committee Draft Public Facing Strategy 2016-2026 (submitted by the Chair of the Conservation Committee)	3.1
10	Draft Guidance – Conservation Committee Strategic Planning (submitted by the Chair of the Conservation Committee)	3.1/14
11	A Conservation Management Plan for Franciscana (<i>Pontoporia blainvillei</i>) (submitted by Argentina, Brazil and Uruguay)	7.4.1
12	Report of the Workshop on the IWC Conservation Management Plan for the Southern Right Whale Southwest Atlantic Population	7.2.2
13	United Kingdom Voluntary National Cetacean Conservation Report, 2016	12
14	The IWC Conservation Committee review of the proposed South Atlantic Whale Sanctuary (SAWS)	4.2
15	Circular Communication IWC.ALL.266 – Conservation Committee's review of the proposed South Atlantic Whale Sanctuary (SAWS)	4.2
16	Background to the Conservation Committee's review of the South Atlantic Whale Sanctuary (SAWS)	4.2
17	Circular Communication IWC.ALL.267 – Conservation Committee's review of the decadal review of the Southern Ocean Sanctuary (SOS)	4.1
18	Arrangements for the establishment of a Conservation Committee Planning Meeting	3.2
19	Consideration of the timing and modus operandi of the Conservation Committee and associated meetings	3
20	Strategic Plan to Mitigate the Impacts of Ship Strikes on Cetacean Populations: 2017-2020	5.2
21	Draft Conservation Committee Work Plan for the Intersessional Period 2016-20	
22	Background to the Conservation Committees decadal review of the Southern Ocean Sanctuary (SOS)	4.1
23	The IWC Conservation Committee decadal review of the Southern Ocean Sanctuary (SOS)	4.1
24	Background Information to document IWC/66/CC25: Conservation recommendations of the Scientific Committee 2013-2016	3.3.3
25	Analysis of Scientific Committee Recommendations of Direct Relevance to the Conservation Committee	3.3.3
26	New Zealand Voluntary National Cetacean Conservation Report	12.1
27	Spain Voluntary National Cetacean Conservation Report	12.1
28	Eastern South Pacific Southern Right Whale Conservation Management Plan Draft Implementation Strategy 2016-2018	7.3
29	Western Gray Whale Activity in the East China Sea from Acoustic Data: Memorandum for Dr Brandon Southall	7.1
30	Mexico Voluntary National Cetacean Conservation Report	12.1
31	Argentina Voluntary National Cetacean Conservation Report	12.1
32	Gabon Voluntary National Cetacean Conservation Report	12.1
33	France Voluntary National Cetacean Conservation Report	12.1
34	Proposal for a Stakeholder Workshop on the CMP for Western Gray Whales	7.1
IWC/66/CCRep		
01	Minutes of the Conservation Committee Planning Meeting, 4 June 2015	3.2
02	Minutes of the Joint Conservation Committee and Scientific Committee Working Group, 4 June 2015	3.3
03	Report of the Working Group on Whale Watching (submitted by the Chair of the Standing Working Group on Whale Watching (SWG-WW))	6.2
04	Report of the joint Conservation Committee and Scientific Committee Working Group (CC/SC WG), 20 June 2016	3.3
05	Report of the Conservation Committee Planning Meeting, 20 June 2016	3.2
06	Report of the Standing Working Group on Conservation Management Plans	7.5
IWC/66		
04	Update on IWC Co-operation with other Organisations	
08rev	The South Atlantic: A Sanctuary for Whales	
09	Proposal for a Schedule Amendment to Create a South Atlantic Whale Sanctuary	
IWC/66/F&A		
08	Implementing IWC Recommendations on Strengthening IWC Financing	
Documents from previous meetings		
SC/66b/HIM02: 4 th Progress Report on IWC Ship Strike Data Coordination May 2016		
SC/66a/HIM08: 3 rd Progress Report on IWC Ship Strike Data Coordination May 2015		
SC/66b/BRG23: Revised Conservation Management Plan for Eastern South Pacific Southern Right Whale Population		

Appendix 3

AGENDA

1. Introductory items
 - 1.1 Appointment of Chair
 - 1.2 Appointment of Rapporteurs
 - 1.3 Review of documents
 - 1.4 Observer participation
2. Adoption of Agenda
3. Strategic plan for the Conservation Committee
 - 3.1 Draft Strategic Plan
 - 3.2 Joint Working Group of the Conservation Committee and Scientific Committee
 - 3.2.1 Report from the 2015 Joint Working Group of the Conservation Committee
 - 3.2.2 Report from the 2016 Joint Working Group of the Conservation Committee
 - 3.2.3 Report on the collation and analysis of conservation-relevant recommendations
 - 3.2.4 Consideration of the future terms of reference, timing and *modus operandii* of the Joint Working Group
4. Whale sanctuaries
 - 4.1 Decadal review of the Southern Ocean Sanctuary
 - 4.1.1 Report of the Scientific Committee
 - 4.1.2 Report on the intersessional work of the Conservation Committee
 - 4.2 Proposal to establish a South Atlantic Whale Sanctuary
 - 4.2.1 Report of the Scientific Committee
 - 4.2.2 Report on intersessional work of the Conservation Committee on the South Atlantic Whale Sanctuary proposal
5. Ship strikes
 - 5.1 Report of the Scientific Committee
 - 5.2 Report from the Ship Strikes Working Group
 - Ship strikes Strategic Plan
 - Engagement with IMO
 - 5.3 Committee discussions and recommendations
6. Whale watching
 - 6.1 Report from the Scientific Committee
 - 6.2 Report from the Conservation Committee's Standing Working Group on Whale watching
 - Report from the 2016 Indian Ocean region capacity building workshop
 - Progress with the online Whale Watching Handbook
7. Conservation Management Plans
 - 7.1 Western Pacific Gray Whale CMP
 - 7.1.1 Scientific Committee update
 - 7.1.2 Update from range States
 - 7.2 Southwest Atlantic Southern Right Whale CMP
 - 7.2.1 Scientific Committee update
 - 7.2.2 Update from range States
 - 7.3 Southeast Pacific Southern Right Whale CMP
 - 7.3.1 Scientific Committee update
 - 7.3.2 Update from range States
 - 7.4 Update on additional CMP proposals
 - 7.4.1 Progress with franciscana dolphin
 - 7.4.2 Progress with Arabian Sea humpback whales
 - 7.4.3 Development of threat-based CMPs
 - 7.4.4 Other CMP proposals
 - 7.5 Progress Report by the CMP Standing Working Group
8. Bycatch
 - 8.1 Report of the Scientific Committee
 - 8.2 Progress report from intersessional work
9. Marine debris
 - 9.1 Report from the Scientific Committee
 - 9.2 IWC engagement with other intergovernmental organisations on marine debris
10. Small cetaceans
 - 10.1 Small Cetaceans Task Team
 - 10.2 Progress under the voluntary fund for small cetacean conservation research
11. Progress under the Voluntary Conservation Fund
12. Voluntary National Reports on Cetacean Conservation
 - 12.1 Introduction of national reports
13. Conservation Committee development
 - 13.1 Engagement with other intergovernmental organisations
 - 13.2 Funding opportunities
14. Workplan for the 2016-2018 biennium and beyond, including resource implications
15. Adoption of the Report

ADMISSION OF OBSERVERS

Rule of Procedure C.2

2. Observers accredited in accordance with Rule [of procedure] C.1.(a) and (b) are admitted to all meetings of the Commission and the Technical Committee, and to any meetings of Committees and all subsidiary groups of the Commission and the Technical Committee, except the Commissioners-only meetings, meetings of the Bureau and closed meetings of the Finance and Administration Committee.

SPEAKING RIGHTS FOR OBSERVERS

Rule of Procedure C.3

3. Observers accredited in accordance with rule C.1.(a) and (b) will have speaking rights during Plenary sessions and sessions of Commission subsidiary groups and Committees to which they are admitted to under C.2, in accordance with the Rules of Debate of the Commission. Observers might also submit documents for information to the delegations and observers participating in such sessions, provided these are submitted through the Secretariat at least 48 hours before the session in which they are intended to be made available, and are duly authored or endorsed by the accredited organisation making the submission, which is to be held responsible for its contents.

Rules of Debate Paragraph A

A. Right to Speak

1. The Chair shall call upon speakers in the order in which they signify their desire to speak, with the exception of accredited Observers, which should be allowed to speak only after all Commissioners desiring to speak do so. As a general rule, Observers will only be allowed to speak once at each Agenda item under discussion, and at the discretion of the Chair.

Appendix 4

TERMS OF REFERENCE FOR A CONSERVATION COMMITTEE PLANNING GROUP

The Conservation Committee Planning Group is tasked with helping set the agenda for the biennial Conservation Committee meeting and progression of the Conservation Committees work plan in the intersessional period.

It will:

- consider the Committee's progress since the last meeting of the Committee, in particular with regards to intersessional work, and support continued effective delivery of its work.
- identify key discussions, priorities and deliverables for inclusion on the agenda of the next meeting of the Committee.
- support the Chair in preparing for Conservation Committee meetings.
- provide an additional opportunity for discussing the strategic development of the Conservation Committee, particularly with regards it's outward facing Strategic Plan, strategic development of priorities, engagement with other organisations, and funding.

Membership

The group is intended to be small and focused and does not replace a full meeting of the Conservation Committee. Attendance is not restricted but may be limited by available space. It will primarily be composed of the Chair and vice-Chair of the Conservation Committee, Chairs of the Committee's standing working groups, and nominees from contracted governments. Additional expertise will be invited as appropriate to the agenda by the Chair and Vice-Chair of the Conservation Committee. The meeting will be Chaired by the Chair of the Conservation Committee.

Timings

The Conservation Committee planning meeting should meet at least annually and where possible in conjunction with meetings of the Scientific and/or Conservation Committee.

Appendix 5

THE INTERNATIONAL WHALING COMMISSION (IWC) CONSERVATION COMMITTEE DECADAL REVIEW OF THE SOUTHERN OCEAN SANCTUARY (SOS)

Conservation Committee Vice-Chair (Jamie Rendell, UK)

Consider whether the SOS is consistent with other measures to protect whales from anthropogenic and other environmental factors

- (1) Human induced threats are likely to be lower in the SOS than the adjacent IOS, given the much lower levels of ship traffic and human activity. This is one of the reasons why the SOS was chosen as a Sanctuary. With other threats being much lower than elsewhere, the recovery of whale stocks was likely to be relatively rapid.
- (2) The Scientific Committee agreed that the SOS was consistent with other measures to protect whales from anthropogenic and other environmental factors for example, measures established by the Commission for the Conservation of Antarctic Marine Living Resources, CCAMLR.
- (3) The IWC does not have the regulatory power to directly address other threats to whale populations. However, in line with the expanding scope of the IWC's agenda to address issues with whale conservation and management beyond the decisions on lethal takes, the Commission is encouraging and coordinating work to mitigate threats. This work is undertaken by Contracting and other Governments and international and regional organisations.
- (4) Apart from the possibility of the resumption of commercial whaling, the primary anthropogenic and other environmental factors likely to affect whales in the SOS are those due to krill fisheries and climate change (including ocean acidification).
- (5) Krill fisheries are currently managed conservatively under a precautionary approach, but these fisheries are expected to expand. Although CCAMLR has an ecosystem monitoring programme (CEMP) this relies primarily on monitoring changes in predator populations that can be studied on land (seals and penguins). CCAMLR is developing a feedback management procedure for krill fisheries, and in due course one of the questions will be whether this procedure will offer adequate allowance for whales as krill dependant predators if predator monitoring focuses on land-based species.
- (6) It is difficult to predict the effects of climate change and ocean acidification on whales in the SOS. It is generally considered likely that reductions in sea ice will adversely affect krill abundance. Recent studies have shown that ocean acidification adversely affects krill larval development (Kawaguchi *et al.*, 2013⁹).

⁹Kawaguchi, S., Ishida, A., King, R., Raymond, B., Waller, N., Constable, A., Nicol, S., Wakita, M. and Ishimatsu, A. 2013. Risk maps for Antarctic krill under projected Southern Ocean acidification. *Nature Climate Change* 3(9): 843-847.

- (7) The other relevant consideration is the role that whales may play in the global carbon cycle. The 'iron fertilisation hypothesis' (Smetacek and Nicol, 2005¹⁰) indicates that the recovery of depleted whale population is likely to be important in the continuing drawdown of atmospheric carbon dioxide and its transport to the deep ocean in the form of organic detritus. These mechanisms may help mitigate global climate change and the local Southern Ocean effects of ocean acidification.
- (8) The removal of whales by commercial whaling may both exacerbate the effects of anthropogenic and other environmental factors and diminish the local and global mitigation of climate change and ocean acidification. Consequently, the SOS is broadly consistent with other measures to protect whales from anthropogenic and other environmental factors.

The Conservation Committee therefore concludes that the SOS is consistent with existing measures to protect whales from anthropogenic and other environmental factors.

Assess the effectiveness of the SOS and any adjacent whale sanctuaries in terms of international agreements concerning biodiversity and conservation of nature

- (1) The effectiveness of the SOS and the adjacent IWC Sanctuaries are likely enhanced by co-operation with other international organisations, such as the CCAMLR, United Nations Framework Convention on Climate Change and Convention on Biological Diversity (CBD).
- (2) The CBD was developed to provide an international framework for the conservation of biodiversity and sustainable development, outlining obligatory measures for conserving biodiversity. The CBD notes that 'the fundamental requirement for the conservation of biological diversity is the in-situ conservation of ecosystems and natural habitats and the maintenance and recovery of viable populations of species in their natural surroundings'.
- (3) Article 18 of the CBD states that contracting parties shall promote international technical and scientific co-operation for conservation and sustainable development. The SOS and Indian Ocean Sanctuary (IOS) have allowed for the conduct of scientific research from a wide range of international countries, useful for meeting IWC objectives. There has been a high number of scientific documents produced which correspond to the outcomes of scientific research of monitoring carried out within the areas of the SOS or IOS. Many of the projects are long-term, coordinated, integrated, international research programmes involving collaborators from multiple IWC member countries. A common aim of all projects is to assess trends in whale abundance and distribution, and monitor species recovery.
- (4) The 'experiment' of the massive depletion of baleen whales in the Southern Ocean in principle creates an opportunity to estimate the fundamental ecology of inter-species interactions from trends in the abundance of the various species. Differential recovery rates between species reflect both properties of the environment and the interactions between the species.

The fastest recovering species could be expected to reach a peak in abundance (see de la Mare, 2011¹¹ for an example). The recent review of MSY rates relied on estimating the rate of recovery of depleted stocks (IWC, 2014, pp.8-10¹²). Observing abundance trends in the SOS thus meet IWC objectives relating to the future management of whaling. Relevant observations of abundance have been underway for three decades but observations over more decades will be needed to estimate the effects of inter-specific interactions. The resumption of commercial whaling would confound these observations by truncating the recovery of the fast recovery populations before they otherwise might peak and decline.

- (5) The Convention of Migratory Species (CMS), recognised as CBD's leading partner on issues regarding migratory species, presents another key opportunity to bring together collaborative work with the IWC sanctuaries. There are currently CMS Agreements relevant to the conservation of migratory whales, dolphins and porpoises, and CMS has adopted a series of Resolutions to address these species – including numerous policies towards bycatches, ocean noise, marine debris, data-deficiencies and other impediments to their optimum conservation status.

The Conservation Committee therefore concludes that the SOS contributes positively to a number of existing international commitments on biodiversity and climate change.

Assess whether the SOS is consistent with the precautionary approach in accordance to Principle 15 of the 1992 Rio Declaration

- (1) The precautionary approach, as defined by Principle 15 of the 1992 Rio Declaration states that 'In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.' The concept of the precautionary approach is commonly invoked in the literature to justify the establishment of marine reserves and marine protected areas.
- (2) At the time of the adoption of the SOS, the state of science in relation to whale conservation was clearly uncertain. Although, progress has been made over the last 20 years, many of the earlier uncertainties remain, while new uncertainties have arisen due to the potential impacts of anthropogenic and other environmental factors. Consequently, the SOS has been and remains consistent with the precautionary principle.

The Conservation Committee therefore concludes that the SOS is consistent with the precautionary approach.

¹⁰Smetacek, V. and Nicol, S. 2005. Polar ocean ecosystems in a changing world. *Nature* 437: 362-88.

¹¹De La Mare, B. 2011. A note on some implications of inter-specific competition when estimating MSYR by monitoring the recovery of depleted populations. Paper SC/63/RMP25 presented to the IWC Scientific Committee, June 2011, Tromsø, Norway (unpublished). 7pp. [Paper available from the Office of this Journal].

¹²IWC. 2014. Report of the Scientific Committee. *J. Cetacean Res. Manage. (Suppl.)* 15: 1-75.

Appendix 6

THE INTERNATIONAL WHALING COMMISSION (IWC) CONSERVATION COMMITTEE REVIEW OF THE PROPOSED SOUTH ATLANTIC WHALE SANCTUARY (SAWS)

Conservation Committee Vice-Chair (Jamie Rendell, UK)

Consider whether the SAWS is consistent with other measures to protect whales from anthropogenic and other environmental factors

- (1) Whale sanctuaries established by the IWC have been primarily directed at preventing direct takes of whales in a given geographical area. However, in line with the expanding scope of the IWCs agenda to address issues with whale conservation and management beyond the decisions on lethal takes, the SAWS proposal considers present and potential threats to whale stocks and their habitats. These threats include contaminants, noise pollution, interactions with fisheries, collisions with ships, hydrocarbon exploration, climate change, and others. To help mitigate these threats, one of the objectives for the SAWS is the coordination of regional efforts to help ensure the recovery of cetacean resources and its non-extractive and non-lethal use by coastal States.
 - (2) The Management Plan included as part of the SAWS proposal was the first initiative of its kind. The Plan focuses on all great whales that occur in the SAWS area and provides accurate and up-to-date scientific information about structure, threats, abundance estimates and trends for each recognised stock. The Sanctuary Management Plan was designed to provide guidelines on the management of threats faced by whales and on the monitoring of their potential recovery for the next ten years in the South Atlantic Ocean. The Sanctuary Management Plan should therefore be reviewed and updated every ten years to account for ecological, oceanographic and other possible changes.
 - (3) Two Action Plans, comprising 11 actions, are proposed: the Research and Monitoring Action Plan (REAP) and the Education and Outreach Action Plan (EOAP). The aim of REAP is to achieve the main goals of the SAWS which are: (1) the assessment and addressing of threats; and (2) the monitoring of the recovery of whale populations; while the aim of the EOAP is to increase the development of the non-extractive sustainable use of whales and to disseminate the information gathered to local, national and international communities. This Sanctuary Management Plan was designed to provide a scientific basis to facilitate the reviewing process regarding the effectiveness of SAWS in accordance with its objectives.
 - (4) The identification of different stocks, included in the plan, would allow the mapping of the main areas used by different stocks and monitor the use of these areas as migratory pathways, for feeding/foraging and reproduction.
 - (5) The creation of the SAWS will allow the direct benefit of protecting great whales through banning whaling but will also provide indirect benefits including greater research opportunities and increased collaboration with other international agreements.
 - (6) Establishing SAWS with a draft management plan already in place provides scope for improved coordination when it comes to dealing with ship collisions and reducing underwater noise from ships.
- This can be achieved through collaborative measures implemented through the International Maritime Organization (IMO). A coordinated approach to identifying high risk areas and mitigation measures, with support from stakeholders and all States across the region, would be one clear benefit of establishing the Sanctuary. The Scientific Committee is expected to provide advice on the details if it is adopted.
- (7) The SAWS would also provide contiguous marine environmental protection with other areas created in national coastal regions of the South Atlantic countries. Nationally protected areas of coastal states would act as an anchor for conservation, research, monitoring, education and capacity-building initiatives that could spread over the SAWS' area, optimising resources to protect whales.
 - (8) The primary anthropogenic and environmental factors likely to affect whales in the SAWS are those due to krill fisheries and climate change (including ocean acidification). It is difficult to predict the effects of climate change and ocean acidification on whales in the South Atlantic and Southern Ocean Sanctuaries (SOS). It is generally considered likely that reductions in sea ice will adversely affect krill abundance. There is therefore concern around the combined effects of climate change, ocean acidification and expanding fisheries on krill populations and their dependent predators. Recent studies have shown that ocean acidification has adverse effects on larval development and survival (Kawaguchi *et al.*, 2013¹³) of Antarctic krill (*Euphausia superba*).
 - (9) There is existing management in place for krill fisheries which impact feeding areas of Whales in the Antarctic. They are managed conservatively under a precautionary approach by CCAMLR. As whales that feed in Antarctic are krill-dependent predators, the CCAMLR has an important role in the long term conservation of large whales throughout the range of stocks in the SOS and SAWS.
 - (10) The other relevant consideration is the role that whales may play in the global carbon cycle. The 'iron fertilisation hypothesis' (Smetacek and Nicol, 2005¹⁴) indicates that the recovery of depleted whale population is likely to be important in the continuing drawdown of atmospheric carbon dioxide and its transport to the deep ocean in the form of organic detritus. These mechanisms may help mitigate global climate change and the local Southern Ocean effects of ocean acidification.
 - (11) The SAWS is consistent not only with the protection of whales from commercial whaling, but is also consistent with current practices regarding marine conservation worldwide and has the potential to enhance socially important activities such as research and public education, particularly in developing countries.

¹³Kawaguchi, S., Ishida, A., King, R., Raymond, B., Waller, N., Constable, A., Nicol, S., Wakita, M. and Ishimatsu, A. 2013. Risk maps for Antarctic krill under projected Southern Ocean acidification. *Nature Climate Change* 3(9): 843-847.

¹⁴Smetacek, V. and Nicol, S. 2005. Polar ocean ecosystems in a changing world. *Nature* 437: 362-88.

Assess the effectiveness of the SAWS and any adjacent IWC Sanctuaries in terms of international agreements concerning biodiversity and conservation of nature

- (1) The effectiveness of the SAWS and the adjacent IWC Sanctuaries (SOS, Indian Ocean Sanctuary) may be enhanced by co-operation with other international organisations, such as the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR), United Nations Framework Convention on Climate Change and Convention on Biological Diversity (CBD).
- (2) The 1992 United Nations Framework Convention on Climate Change (UNFCCC) notes that (article 4) all parties shall: *'Promote sustainable management, and promote and co-operate in the conservation and enhancement, as appropriate, of sinks and reservoirs of all greenhouse gases not controlled by the Montreal Protocol, including biomass, forests and oceans as well as other terrestrial, coastal and marine ecosystems'*. This article takes into account national and regional development priorities, objectives and circumstances of each party. As discussed above, the CCAMLR has an important role in managing Krill fisheries and the long term conservation of large whales throughout the range of stocks in the SOS and SAWS.
- (3) The CBD was developed to provide an international framework for the conservation of biodiversity and sustainable development, outlining obligatory measures for conserving biodiversity. The CBD notes that *'the fundamental requirement for the conservation of biological diversity is the in-situ conservation of ecosystems and natural habitats and the maintenance and recovery of viable populations of species in their natural surroundings'*.
- (4) Article 13 of the CBD refers to Public Education and Awareness and notes that the Contracting Parties shall promote and encourage understanding of the importance of biodiversity conservation and co-operate with other states to develop educational and awareness programmes. In accordance with this, the EOAP (presented in the SAWS management plan) outlines plans to disseminate information gathered for national and international communities to help raise awareness and engagement and develop the sustainable use of whales.
- (5) Article 14 of the CBD which requires environmental impact assessments to be carried out to ensure that any impact of programmes or policies are minimised; while Article 18 states that contracting parties shall promote international technical and scientific co-operation for conservation and sustainable development. In accordance with these articles, the REAP (presented in the SAWS management proposal) has been developed to achieve the main goals of the SAWS which are: (1) the assessing and addressing of threats; and (2) the

monitoring of the recovery of whale populations. These focus on stimulating coordinated research in the area and promoting data sharing alongside goals to maintain or increase the whale population size while assessing the distribution, status and trends of populations. This demonstrates that proposals for the SAWS and adjacent IWC sanctuaries are consistent with the CBD.

- (6) The Convention on Migratory Species (CMS), recognised as CBD's leading partner on issues regarding migratory species, presents another key opportunity to bring together collaborative work with the SAWS. There are currently CMS Agreements relevant to the conservation of migratory whales, dolphins and porpoises, and CMS has adopted a series of Resolutions to address these species— including numerous policies towards bycatches, ocean noise, marine debris, data-deficiencies and other impediments to their optimum conservation status.

Assess whether the SAWS is consistent with the precautionary approach in accordance to Principle 15 of the 1992 Rio Declaration

- (1) The precautionary approach, as defined by Principle 15 of the 1992 Rio Declaration states that: *'In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation'*. The concept of the precautionary approach is commonly invoked in the literature to justify the establishment of marine reserves and marine protected areas.
- (2) The establishment of the SAWS would improve resilience and contribute to reducing the impact of multiple threats to whales' stocks using the best available scientific advice. There remain some outstanding questions concerning the biological and ecological aspects which can be answered with the establishment of the sanctuary and the subsequent implementation of the REAP which aims to define whale stock identity, determine habitat use patterns and critical areas, and produce abundance and trend estimates. The REAP will focus on actions to stop deliberate whale catches in the Sanctuary, reduce the number of mortalities from entanglements in fishing gear and reduce whale-vessel collision rates in breeding grounds. These actions are to protect and promote population recovery despite not yet having the full scientific information, in line with the Precautionary Principle. In addition to this, the establishment of whale sanctuaries in accordance with the rules of the ICRW is, therefore, also in line with the application of the Precautionary Principle established in the Principle 15 of the 1992 UNCED Rio Declaration.

Annex H

Report of the Whale Killing Methods and Welfare Issues Working Group¹

Thursday 20 October 2016, Portorož, Slovenia

SUMMARY OF MAIN OUTCOMES

Agenda Item	Main outcomes
<i>Item 3</i> Data provided on whales killed	The Working Group (WG) reviewed reports from a number of governments on their hunting operations or events requiring euthanasia.
<i>Item 4</i> Information on improving the humaneness of whaling operations	The WG welcomed reports from the Kingdom of Denmark, Norway and the USA on their improvements in whaling operations. The WG thanked NAMMCO for its presentation on the report of its Expert Group Meeting on Assessing Time to Death from the Large Whale Hunts, November 2015, Copenhagen, Denmark.
<i>Item 5</i> Whale welfare	The WG endorsed the recommendations from the IWC Workshop to Support the Consideration of Non-Hunting Related Aspects of Cetacean Welfare, May 2016, Kruger National Park, South Africa (see Appendix 4). The primary focus of these is to take forward work to further develop a draft cetacean welfare assessment framework. The WG agreed that the Intersessional Working Group on welfare should continue its work in support of implementation of the IWC Welfare Action Plan and to progress the recommendations from the recent workshops; and agreed revised Terms of Reference for this group as follows: <ol style="list-style-type: none">(1) support implementation of the IWC Welfare Action Plan and report back to the WKM&WI WG, including on any need for updating or revision; and(2) identify and agree upon important issues or themes to progress the promotion of good animal welfare and agree a timetable of regular future technical workshops on these issues, that would report back to the relevant working groups, recognising the success of previous IWC workshops on specific issues incorporating invited external experts.
<i>Item 6</i> Whale issues associated with the entanglement of large whales	The WG endorsed the recommendations from the third IWC Workshop on Large Whale Entanglement Issues, April 2015, Provincetown, MA, USA, (Appendix 5), including those relating to development of a Global Entanglement Database. The WG endorsed the recommendations presented in the summary report of the joint IWC, NOAA, NEAq Workshop on Global Assessment of Large Whale Entanglement and Bycatch Reduction in Fishing and Aquaculture Gear, May 2016, Portsmouth, New Hampshire, USA (Appendix 6). The WG thanked David Mattila, the technical adviser to the Secretariat to assist with reducing conflicts between cetaceans and marine resource users for his progress report and recommended that this valuable work continue.
<i>Item 7</i> Strandings	The WG endorsed the recommendations from the IWC Workshop to Develop Practical Guidance for the Handling of Cetacean Stranding Events, May 2016, Kruger National Park, South Africa (Appendix 7). The WG endorsed the Scientific Committee recommendations on strandings, including the proposal to establish an Expert Panel on strandings, to convene the first meeting of this panel and to appoint a Strandings Coordinator. The WG agreed to forward the discussion on funding for the first Expert Panel and Coordinator to the Finance and Administration Committee.

¹Presented to the meeting as IWC/66/Rep06.

1. INTRODUCTORY ITEMS

A list of participants is given as Appendix 1.

1.1 Appointment of Chair

Michael Stachowitsch (Austria) was appointed as Chair.

1.2 Appointment of Rapporteurs

Harriet Gillett, Martin Jenkins, Robert Munroe, Sara Oldfield and Pablo Sinovas were appointed as rapporteurs.

1.3 Review of documents

The list of available documents is given as Appendix 2.

2. ADOPTION OF AGENDA

The adopted agenda is given as Appendix 3.

3. DATA PROVIDED ON WHALES KILLED

The Chair introduced this agenda item, noting that it allows Contracting Governments to provide the information specified in Resolutions 1999-1² and 2001-2³. Resolution 1999-1 encourages reporting of data on whales killed including the number killed by each method, the number killed instantaneously, times to death, number of whales targeted and missed, number of whales struck and lost, calibre of rifle where used, number of bullets used and methods to determine unconsciousness/time to death. Resolution 2001-2 encourages governments to submit information on variance data on times to death (to the extent possible) and comparative data from the killing of other large mammals. This item also allows reporting of data relevant to administration of euthanasia. The Chair noted that, this year Contracting Governments were also invited to report on progress made in implementation of the recommendations from the IWC Workshop on Euthanasia Protocols to Optimise Welfare Concerns for Stranded Cetaceans, 11-13 September 2013, London, UK⁴.

3.1 Reports from Contracting Governments on Whales Killed

Reports were received from the Kingdom of Denmark, Norway, the Russian Federation, New Zealand, St Vincent and The Grenadines, the United Kingdom and the United States of America (IWC/66/WKM&WI05; IWC/66/WKM&WI07 and IWC/66/WKM&WI09). The Working Group thanked them for these reports.

3.1.1 Kingdom of Denmark

The Kingdom of Denmark presented the data for 2014 and 2015 in IWC/66/WKM&WI05. They noted one error, the omission of one bowhead whale from the 2015 report, giving a total of one whale killed.⁵ Methods used are penthrite grenades as primary and secondary method for the larger species and penthrite grenades as primary with high calibre rifles as the secondary killing method for the

common minke whale, apart from the collective rifle hunt for common minke whales (which comprised 45% in 2014 and 59% in 2015). The presented Greenlandic data on the time to death (TTD) is biased high for those hunts where the TTD are estimated by the hunters and are not corrected by post-mortem examinations. In both 2014 and 2015, the median TTD for common minke whales was 1 minute with about 55% estimated to have died instantly in the harpoon hunt; times are longer in the rifle hunt than the harpoon hunt. For fin whales, the median TTD was about 10 minutes and the percentage killed instantly around 40% in both years. For humpback whales, the median TTD was 10 minutes in 2014 and 20 minutes in 2015. The percentage killed instantly was around 20% in 2014 and zero in 2015.

3.1.2 Norway

Norway introduced the data for 2014 and 2015 in IWC/66/WKM&WI07. In addition to information on whales taken in 2014 and 2015 and weapons used (penthrite grenades using 50mm or 60mm harpoon cannons with high calibre rifles and round nosed, full metal jacket bullets as back-up weapons) they reported on obligatory shooting tests for gunners and the inclusion of NAMMCO observers on board and at processing plants in some seasons. Norway noted that research and developments on whale killing methods being undertaken have been continuously reported to the IWC and that from 2008 similar reports have been presented to NAMMCO.

3.1.2 Russian Federation

The Russian Federation presented the data for 2014 and 2015 in IWC/66/WKM&WI05, noting that the methods and quantity of ammunition used remains comparable to previous years. The mean TTD was 23-35 minutes.

3.1.3 New Zealand

New Zealand presented the data for 2014 and 2015 in IWC/66/WKM&WI05, noting that all killings related to euthanasia. Killing was usually accomplished using high calibre rifles. Median TTD was 5 min. for long-finned pilot whales ($n=11$) and instant for pygmy sperm whales ($n=11$) and for a single Gray's beaked whale, common dolphin and Cuvier's beaked whale. In light of the difficulties they encountered with stranded animals, they expressed their view that killing whales humanely under whaling conditions would be much more difficult. They encouraged submission of full data sets to the IWC.

3.1.4 St Vincent and The Grenadines

The Chair noted that St Vincent and The Grenadines had submitted data for 2014 and 2015 in IWC/66/WKM&WI09. The weapons used were a harpoon and lance.

3.1.5 United Kingdom

The United Kingdom presented the data for 2014 and 2015 in IWC/66/WKM&WI05 noting that all killings related to euthanasia. Methods used were either chemicals or shooting. Species concerned included, bottlenose dolphins, short-beaked common dolphins, striped dolphins, white-beaked dolphins, Risso's dolphins, long-finned pilot whales and common minke whales. They had not routinely collected information on times to death previously but had begun to do so and presented some estimated times for 2015. They thanked other countries for providing reports but noted that, in some cases, reported time to death can be long. They urged increased efforts to reduce times to death, and encouraged other countries to submit data.

²IWC. 2000. Chairman's Report of the Fifty-First Annual Meeting. Appendix 2. IWC Resolution 1999-1. Resolution arising from the Workshop on Whale Killing Methods. *Ann. Rep. Int. Whal. Comm.* 1999:51-52.

³IWC. 2002. Chair's Report of the 53rd Annual Meeting. Annex C. Resolutions Adopted During the 53rd Annual Meeting. Resolution 2001-2. Resolution on whale killing methods. *Ann. Rep. Int. Whal. Comm.* 2001:54-55.

⁴IWC. 2016. Report of the IWC Workshop on Euthanasia Protocols to Optimise Welfare Concerns for Stranded Cetaceans, 11-13 September 2013, London, UK. *Report of the 65th Meeting of the International Whaling Commission* 2014: 225-45.

⁵A revised document including this whale was submitted after the conclusion of the meeting of the Working Group as IWC/66/WKM&WI05rev.

3.1.6 United States

The United States presented the data for 2014 and 2015 in IWC/66/WKM&WI05. The primary methods used were the penthrate projectile alone or the black powder projectile alone from the darting gun with a black powder projectile from a darting gun also used as a secondary/backup method where necessary. The most common combination was a black powder projectile from a darting gun with the black powder projectile from a shoulder gun (80%). Time to death was estimated to be instant for about 30% of the whales in 2014. The prevailing environmental conditions of the hunt make estimating time to death using cessation of movement difficult.

3.2 Reports from Contracting Governments on implementation of the recommendations from IWC Workshop on Euthanasia Protocols to Optimise Welfare Concerns for Stranded Cetaceans

3.2.1 United Kingdom

The United Kingdom introduced IWC/66/WKM&WI04, which provided information on UK progress in relation to implementing each of the sixteen recommendations made by the workshop. Many of the recommendations already form guiding principles and practice within the UK rescue community and, where this is not the case, relevant recommendations are being assessed and integrated into protocols as appropriate. Progress reported related to chemical and physical techniques for euthanasia, the testing of methods on dead animals and reporting of euthanasia data. The UK noted that euthanasia is often an important part of a humane response to strandings and that establishing best practice is highly desirable. They encouraged other countries to submit reports on these issues, and welcomed further discussion when these were available.

4. INFORMATION ON IMPROVING THE HUMANENESS OF WHALING OPERATIONS

The Chair introduced this Item which allows Contracting Governments to provide information specified in Resolution 1997-1⁶ and supported by Resolution 2001-2. Resolution 1997-1 concerns steps being taken to improve the humaneness of aboriginal whaling operations. Resolution 20012 encourages all Contracting Governments to provide appropriate technical assistance to reduce time to unconsciousness and death in all whaling operations.

Three Contracting Governments (Norway, the Kingdom of Denmark and the USA) provided information on this item and a presentation was also received from NAMMCO.

4.1 Reports from Contracting Governments

4.1.1 Kingdom of Denmark

The Kingdom of Denmark presented the relevant information in IWC/66/WKM&WI05. It referred to the improvements reported previously but noted that it had no new information to present this year.

4.1.2 Norway

Norway presented the relevant information in IWC/66/WKM&WI07. An improvement in instant death rate from 80% in 2000-02 to 82% in 2011-12 was reported.

4.1.3 USA

The USA presented the relevant information in IWC/66/WKM&WI06. The USA has had great success in the implementation of the penthrate projectile modified for

use in the hand-held darting gun and the Alaska Eskimo Whaling Commission continues to conduct training for whaling captains and crew members in the use of the penthrate projectiles. It was noted that large whales have shifted northwards and that some whaling villages have food shortages due to the change in distribution of bowhead whales. Some other changes in Alaska arise from to climate change, leading to increased offshore oil and gas activity and shipping, all of which can affect subsistence hunting and reduce its efficiency.

4.2 Report of the NAMMCO expert group meeting

NAMMCO presented a report on its Expert Group Meeting on Assessing Time to Death from the Large Whale Hunts, 4-6 November 2015, Copenhagen, Denmark (see IWC/66/WKM&WI03). The aim of the Expert Group meeting was to review and evaluate whale killing data and give recommendations with respect to possible improvements.

Data and information were presented from Greenland, Iceland, Norway, Japan, USA (Alaska and Makah hunts) and Canada with respect to Time to Death (TTD), Survival Time (ST) and Instantaneous death rate (IDR). It gave evidence that the considerable efforts and resources channelled into research and development of more efficient hunting methods have been very successful, resulting in substantial improvements in TTD and IDR. Looking at the NAMMCO countries (Greenland, Iceland and Norway) the IDR has increased from 17% in 1981 to 82% in 2012 in the harpoon gun hunt for minke whale and TTD mean from 11 to 1 minute. In the Icelandic fin whale hunt the IDR is as high as 84%. The Expert group meeting had identified and agreed to recommendations on how to improve the TTD/IDR in all hunts. They also underlined the importance of using standardised methods for collection and analysis of TTD data and recommended monitoring of TTD/IDR at 10-year intervals unless the situation required more frequent monitoring, and finally a continued emphasis on training and exchange of information between hunters focusing on the importance of the strike location and angle of the shot.

Commenting on possibilities for cooperation between NAMMCO and IWC on animal welfare issues, NAMMCO argued that both organisations have the same goal; conservation and rational management of healthy marine mammal populations, but that countries supporting this goal have different rationales for doing so. NAMMCO views marine mammals as valuable resources that people have a right to utilise. This basic difference may deter cooperation on killing methods. Animal welfare concerns related to other human induced activities may on the other hand represent possibilities for cooperation, and special attention was drawn to the IWC's important work on entanglement.

4.3 Discussion and action arising

The UK thanked NAMMCO for the presentation. They acknowledged the request for cooperation with IWC and would like such information from countries to be submitted directly to the IWC in the future so that it can be included in discussions. They noted that lance/cold harpoons clearly result in poor whale welfare outcomes and considered it important for the use of these killing methods to be reduced or stopped as quickly as possible and welcomed further consideration in this group on the progress made. They noted the concern from NAMMCO in its report over the increase in Greenland's rifle hunt of minke whales, which has more than doubled in size over the last ten years, and that TTD is extremely long in comparison with other minke whale

⁶IWC. 1998. Chairman's Report of the Forty-Ninth Annual Meeting. Appendix 1. IWC Resolution 1997-1. Resolution on improving the humaneness of aboriginal subsistence whaling. *Rep. int. Whal. Commn* 48:45.

hunts. They therefore would welcome action to review this and other methods and request that use of rifles as a primary killing method be limited to the greatest extent possible.

The Kingdom of Denmark thanked NAMMCO for the presentation. They noted that Greenland is working to improve hunting efforts and hunting associations have been working to improve technology. The Greenland Government has a policy to reduce rifle use in minke whaling. The Kingdom of Denmark noted two further issues. The Department of Fishing and Hunting in Greenland is working to increase subsidies to incentivise the use of Penthrite Grenades for hunting of large whales. Greenland is experiencing some decrease in numbers of large whale hunts using harpoon canons as a result of the dynamics of fishery management (vessels often combine fishing with whaling)

The Russian Federation welcomed this as useful and interesting work. They noted that various factors have to be considered with regards to TTD, the difficulties of estimating TTD at sea, and that determinations of TTD should take into account killing methods used. They also noted that the use of modern weapons is expensive and unaffordable to small whaling communities. They expressed willingness to cooperate further with NAMMCO with regards to efforts to assess and improve TTD.

The Humane Society International thanked NAMMCO for its presentation, and considered that data should be submitted directly to IWC. They drew attention to the Commission's cold harpoon ban (to which Japan lodged an objection) and underlined the NAMMCO Expert Group's comments on the ineffectiveness of the steel lance as a secondary killing method. They asked Japan to comment on any progress towards minimising or eliminating use of these killing methods in its North Pacific hunt. Japan needed further information before responding to the question from the Humane Society International and therefore had no comment at this time.

5. WHALE WELFARE

The Chair introduced this item and recalled that, at IWC/65 in 2014 the Commission agreed to reflect the full scope of the IWC's consideration of welfare within the Terms of Reference of the Whale Killing Methods and Welfare Issues Working Group and agreed to an updated Action Plan for the Working Group (provided as IWC/66/WKM&WI11). There were several items of progress to be considered by the Working Group.

5.1 Chair's report of the 2016 IWC Workshop to Support the Consideration of Non-Hunting Related Aspects of Cetacean Welfare

The Chair of the intersessional Working Group on Welfare presented the report of a Workshop which was held in Kruger National Park, South Africa from 3-4 May 2016 (IWC/66/WKM&WIRep01). The primary objectives of the workshop were to: (i) facilitate coherent discussion of the welfare aspects of non-hunting threats to cetaceans within the IWC by synthesising the state of current knowledge and identifying priority issues on which the IWC should work to develop management advice on and/or work to address knowledge gaps; and (ii) provide clarity on the role of the IWC and other organisations in addressing non-hunting threats to cetacean welfare; and (iii) to support the IWC in becoming a leading body for the provision of advice on this issue.

The workshop explored how non-hunting threats to cetacean welfare can be assessed. The assessment of animal welfare itself is a rapidly evolving science, therefore the

workshop drew extensively on experience from elsewhere. In particular, it proposed an adaptation of the 'Five Domains Model' (Mellor and Beausoleil, 2015; Mellor and Reid, 1994)⁷ which had previously been used for livestock. The potential to use a modified version of this model as a tool for assessing the welfare implications of non-hunting threats to wild cetaceans was recognised by the workshop and its further development recommended.

Even in the early stages of developing and testing this tool, entanglement in fishing gear was clearly identified as a significant welfare concern. The workshop thus reiterated the importance of the Global Whale Entanglement Response Network and the development of a global entanglement database. The workshop made a number of additional recommendations, provided in Appendix 4.

The Chair of the intersessional working group expressed the UK's willingness to continue chairing the intersessional working group and encouraged further members to join this group.

5.2 Discussion and actions arising

The Working Group thanked the UK and the intersessional working group for their work in convening the workshop, South Africa for hosting the workshop, and workshop participants for their efforts. The Working Group **endorsed** the workshop recommendations and agreed that the intersessional working group should continue its work to support implementation of the IWC Welfare Action Plan and of the recommendations from the workshop. Revised Terms of Reference for the intersessional working group were agreed as follows:

- (1) support implementation of the IWC Welfare Action Plan and report back to the WKM&WI WG, including on any need for updating or revision; and
- (2) identify and agree upon important issues or themes to progress the promotion of good animal welfare and agree a timetable of regular future technical workshops on these issues, that would report back to the relevant working groups, recognising the success of previous IWC workshops on specific issues incorporating invited external experts.

5.3 Engagement of other organisations and experts on issues relating to cetacean welfare

The Secretariat introduced relevant aspects of document IWC/66/04 which provides a report on progress to date and suggestions for next steps with respect to cooperation on a range of issues, including those related to cetacean welfare. It was noted that the Welfare Action Plan agreed at IWC/65 includes a work stream on communications and outreach. The workshop considered under Item 5.1 had recommended that the IWC Secretariat proactively engage with organisations with a welfare remit and experts to share information and facilitate the use of existing welfare principles, standards and definitions as appropriate. The Secretariat noted its readiness to take forward the relevant actions in the Welfare Action Plan, and the relevant workshop recommendations and will report on progress at the next meeting of this Working Group.

⁷Mellor, D.J. and Beausoleil, N.J. 2015. Extending the 'Five Domains' model for animal welfare assessment to incorporate positive welfare states. *Animal Welfare* 24(3): 241-53; Mellor, D.J. and Reid, C.S.W. 1994. Concepts of animal wellbeing and predicting the impact of procedures on experimental animals. pp.3-18. In: Baker, R.M., Jenkin, G. and Mellor, D.J. (eds). *Improving the Well-being of Animals in the Research Environment*. Australian and New Zealand Council for the Care of Animals in Research and Teaching, Glen Osmond, Australia.

5.4 Discussion and actions arising

The Working Group thanked the Secretariat for its report. There was no discussion or actions arising.

6. WELFARE ISSUES ASSOCIATED WITH THE ENTANGLEMENT OF LARGE WHALES

6.1 Report of the third IWC Workshop on Large Whale Entanglement Issues

Arne Bjørge (Norway) presented the report of the workshop (IWC/66/WKM&WIRep03⁸), held in Provincetown, MA, USA from 21-23 April 2015. The workshop conducted a review of information since the 2011 workshop⁹; and reviewed the IWC capacity building including training conducted from 2012-2014, the experience of recently trained entanglement networks and principles, guidelines and training criteria. Recommendations from the workshop (Appendix 5) included those relating to a Global Entanglement Database to improve the understanding of the impacts of entanglements on whale populations, as well as factors associated with entanglement risks and assist with mitigation efforts.

Australia and Mexico stressed the importance of preventing entanglements.

World Animal Protection noted that they act as the current Secretariat of the Global Ghost Gear Initiative (GGGI) and encouraged the development of a global IWC entanglement database to help mitigate the impact of entanglements in active fishing gear and abandoned, lost and otherwise discarded fishing gear (ALDFG). The GGGI would welcome data sharing with the IWC and World Animal Protection encourages member governments to submit entanglement data.

The Working Group **endorsed** the report of the Workshop and its recommendations.

6.2 Report of the joint IWC, NOAA, NEAq Workshop on Global Assessment of Large Whale Entanglement and Bycatch Reduction in Fishing and Aquaculture Gear

Greg Donovan (co-Chair of the Workshop) provided a summary of the general recommendations from a Workshop held in Portsmouth, New Hampshire, USA, in May 2016. The Workshop was co-organised by the IWC with the New England Aquarium and the Consortium for Wildlife Bycatch Reduction and co-funded by NOAA (USA). The Workshop had arisen out of the frequent advice from the Scientific Committee and the Workshops on entanglement that the ultimate goal should be the prevention of bycatch. He noted that the report was relevant to both this Working Group as well as to the Conservation Committee. He also noted that the focus was on large whales and noted the great need for similar work on small cetaceans, where the problem of bycatch is huge.

Donovan noted that the final report of this Workshop is still being developed and that it will provide a valuable technical resource. His presentation concerned the overall conclusions and recommendations that were discussed at the end of the workshop; although the final wording may be modified slightly, the intent will not change.

When considering bycatch mitigation measures, workshop participants noted that, where possible, the 'ideal' hierarchy for action should be to: (1) avoid encounters; (2)

reduce entanglements where encounters cannot be avoided; and (3) minimise mortality associated with entanglement when entanglement occurs. Actions on all three can proceed in parallel depending on circumstances. Any mitigation action should include a commitment to an appropriate monitoring programme to evaluate the effectiveness of the mitigation technique over time. From the outset it was recognised that there are common issues but that ultimately local solutions are required for local issues.

The Workshop developed seven overarching recommendations (Appendix 6). The key themes addressed included:

- (a) that governments should recognise the global importance of the issue and act to: (i) facilitate rapid development of methods, testing, implementation and monitoring, including issuance of permits; (ii) work multilaterally given the transboundary nature of whale populations; and (iii) emphasise the importance of this issue and encourage action in inter-governmental organisations and regional fishery management organisations;
- (b) recognise that solutions require support by fishers and fishery sectors including: (i) the need for full collaboration with fishers, technologists, scientists, and regulators; (ii) the value of identifying test areas (throughout the world); (iii) that fishers should communicate the issue in their communities, innovate reduction approaches and promote socio-economic perspectives;
- (c) scientists should consider innovative approaches to testing and analysing data evaluating techniques, recognising the difficulty of establishing traditional experimental testing;
- (d) a concerted effort is needed to collect and disseminate data and information on the frequency and process of entanglement; and
- (e) given the scale of the problem for artisanal fisheries and the socio-economic impacts, nations and scientists should assist them with the development and evaluation of prevention measures.

Donovan concluded by noting that the last day of the workshop had focussed on IWC-related issues with respect to: gear marking, the role of disentanglement in developing prevention measures, the need for international collaboration on data collection (including discussion of the global database); and abandoned, lost or otherwise discarded fishing gear (ALDFG). These matters were considered by the Scientific Committee and will be reported elsewhere. He thanked the organisers, funders and especially the participants for an excellent and productive workshop.

The USA noted that the full report will be circulated as soon as it is completed. The USA expressed its full support for the work undertaken by the participants of the workshop and for the continuation of work on entanglement and bycatch of cetaceans. They also stressed that priority should be given to preventing entanglements, noting that disentanglement is not itself a prevention measure.

The Working Group welcomed the summary report and **endorsed** the recommendations therein.

6.3 Secretariat report on progress

David Mattila presented an overview of his work as the technical adviser to the Secretariat to assist with reducing conflicts between cetaceans and marine resource users (October 2014 to October 2016) (IWC/66/WKM&WI08). Key accomplishments in this intersessional period included the delivery of 14 entanglement response trainings of over

⁸Published in this volume.

⁹IWC. 2013. Report of the Second Workshop on Welfare Issues Associated with the Entanglement of Large Whales, with a Focus on Entanglement Response. *J. Cetacean Res. Manage. (Suppl.)* 14:417-35.

500 trainees, in response to requests from governments and five apprenticeships for training participants identified in Brazil, Chile and Mexico. He highlighted the broad national support, in particular that from impacted communities, and the value of conducting this work through the IWC with the endorsement of its 88 member countries.

6.4 Discussion and action arising

The Working Group, including Australia, Belgium, Argentina and Whaleman International, thanked David Mattila and the trainers for their work and the USA for the initial secondment and continued support of David's role.

Dolphin Connection highlighted the potential role of local initiatives as a component of a government's national response.

7. STRANDINGS

The Chair introduced this item, noting that the Action Plan agreed at IWC/65 includes several objectives on strandings. He drew attention to document IWC/66/WKM&WI10 which provides a collation of IWC recommendations from the Scientific Committee; the IWC Workshop to Develop Practical Guidance for the Handling of Cetacean Stranding Events; and the IWC Workshop on Investigations of Large Mortality Events, Mass Strandings, and International Stranding Response, 11-12 December 2015.

7.1 Report of the IWC Workshop to Develop Practical Guidance for the Handling of Cetacean Stranding Events

The Chair of the intersessional working group on welfare presented the workshop report (IWC/66/WKM&WI Rep02¹⁰). The Workshop was held in Kruger National Park, South Africa from 5-6 May 2016, back to back with the Workshop to Support the Consideration of Non-Hunting Threats to Cetacean Welfare discussed under agenda item 5.1. The primary objective of this workshop was to assist the IWC in its efforts to build global capacity for effective cetacean stranding response and promote the IWC as a leading body for the provision of advice through the development of practical guidance for responders.

The workshop made a number of recommendations (see Appendix 7) including on the potential role of the IWC in capacity building, and the dissemination of guidance and best practice for strandings response; coordination between the IWC and other intergovernmental organisations with respect to strandings; and some specific aspects of the strandings response including public and media engagement and health and safety.

7.2 Discussion of the IWC Workshop to Develop Practical Guidance for the Handling of Cetacean Stranding Events and actions arising

The Working Group thanked the UK and the intersessional group for its efforts in organising the workshops and thanked

workshop participants for their efforts. The Working Group **endorsed** the workshop recommendations (see Appendix 7) and **agreed** that the intersessional group on welfare should support their implementation.

7.3 Scientific Committee recommendations on strandings

The Chair of the Scientific Committee introduced recommendations on strandings from the Scientific Committee. The Scientific Committee had discussed the issue of strandings at both its 2015 and 2016 meetings (IWC/66/Rep01(2015) and IWC/66/Rep01(2016)). The recommendations are summarised in IWC/66/WKM&WI10 which relate to the development of capacity for stranding response, the investigation of strandings events and the collection and reporting of strandings data. She drew particular attention to the recommendations to establish an Expert Panel to guide and inform strandings response and training activities and to appoint an IWC Coordinator to oversee these activities.

The USA noted the Scientific Committee recommendation that additional funding would be required for a first expert panel meeting and IWC strandings coordinator and suggested that the Finance and Administration (F&A) Committee add this to its agenda for discussion. In response to a request for clarification from the USA, the Chair of the Scientific Committee suggested that the proposed strandings coordinator could be a member of the proposed Expert Panel, but reiterated that this was open for discussion.

UN Agreement on the Conservation of Small Cetaceans in the Baltic, North East Atlantic, Irish and North Seas (ASCOBANS), highlighted ASCOBANS Resolution 8.10 on Small Cetacean Stranding Response, its complementarity to the recommendations in IWC/66/WKM&WI10, and its interest in participating in the proposed Expert Panel. The Working Group welcomed the interest of ASCOBANS and looked forward to increased cooperation.

The Working Group **endorsed** the recommendations from the Scientific Committee and **agreed** to forward the discussion on funding for the first Expert Panel meeting and IWC strandings coordinator to the Finance and Administration (F&A) Committee.

8. ADOPTION OF THE REPORT

Before closing the meeting, the Chair invited nominations for a new Chair. The UK thanked the Chair for his work, and wished him all the best in his future endeavours.

The meeting closed at 16:32. The report was **adopted** by correspondence on 24 October 2016.

¹⁰Published in this volume.

Appendix 1**LIST OF PARTICIPANTS****ARGENTINA**

Juan Pablo Paniego
Miguel Iñíguez

AUSTRALIA

Nick Gales
Pam Eiser
William de la Mare
Frank Lamacchia

AUSTRIA

Andrea Nouak
Michael Stachowitsch

BELGIUM

Stephanie Langerock
Els Vermeulen
Fabian Ritter

BRAZIL

Marcia Engel

DENMARK

Gitte Hundahl
Amalie Jessen
Nette Levermann

FINLAND

Penina Blankett

FRANCE

Nadia Deckert
Vincent Ridoux

GERMANY

Andreas Christian Taeuber
Jurgen Friedrich
Nicole Hielscher

GHANA

Benson Nutsukpui

ICELAND

Johann Gudmundsson
Gisli Víkingsson
Kristjan Loftsson

ITALY

Alessandro Iannitti
Caterina Fortuna
Francesca Granata

JAPAN

Joji Morishita
Toshinori Uoya
Naohito Okazoe

KENYA

Susan Imende

KOREA, REPUBLIC OF

Hawsun Sohn
Young Min Choi

NEW ZEALAND

Amy Laurenson
Andrew Townend
Erin Morriss
Julia Reynolds

NORWAY

Ole-David Stenseth
Arne Bjørge
Hild Ynnesdal
Kathrine Ryeng

RUSSIAN FEDERATION

Valentin Ilyashenko
Ayvana Enmynkau
Kirill Zharikov
Nataliia Slugina
Olga Safonova

SLOVAK REPUBLIC

Branislav Hrabkovsky
Lucia Vlckova

SLOVENIA

Andrej Bibic
Tilen Genov

SOUTH AFRICA

Herman Oosthuizen
Ed Couzens
Hester Pretorius

ST KITTS AND NEVIS

Marc Williams

ST LUCIA

Horace Walters

SWEDEN

Anders Alm

SWITZERLAND

Bruno Mainini
Patricia Holm

UNITED KINGDOM

Nigel Gooding

Catherine Bell
Jamie Rendell
Jennifer Lonsdale
Mark Peter Simmonds

UNITED STATES OF AMERICA

Ryan Wulff
Brian Gruber
DJ Schubert
Greig Arnold
Arnold Brower, Jr.
Harry Brower, Jr.
Jordan Carduner
Michael Gosliner
Michael Tillman
Robert Brownell

OBSERVERS

European Commission
Marc Richir

NAMMCO

Charlotte Winsnes

UNEP/CMS/ASCOBANS

Heidrun Frisch-Nwakanma

Alaska Eskimo Whaling Commission

John Hopson, Jr.
Jessica Lefevre
Taquilik Hepa
Christopher Winter
Robert Suydam

Animal Welfare Institute

Kate O'Connell

Centro de Conservacion Cetacea

Maria Jimenez
Peter Sanchez

Dolphin Connection

Paul Spong

Environmental Investigation Agency

Daniel Hubbell

Fundacion Cethus

Carolina Cassani

Humane Society International

Bernard Unti
Claire Bass
Cristobel Block

Inst. de Conservacion de Ballenas

Roxana Schteinberg

Makah Indian Tribe

Keith Johnson

OceanCareFabienne McLellan
Nicolas Entrup**Pro Wildlife e.V.**

Sandra Altherr

Whale and Dolphin Conservation

Astrid Fuchs

Whaleman International

Jeff Pantukhoff

University of Tasmania, Faculty of Law

Lucy Smejkal

World Animal Protection

Nicola Beynon

World Conservation Trust (IWMC)

Nikolas Sellheim

IWCSimon Brockington
David Mattila
Greg Donovan
Kate Wilson
Katie Penfold
Sarah Ferriss
Sarah Smith**Rapporteurs**Harriet Gillett
Pablo Sinovas

Appendix 2**LIST OF DOCUMENTS**

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02	List of documents	
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04	Update from the United Kingdom on follow up to IWC workshop 'Euthanasia Protocols to Optimize Welfare Concerns for Stranded Cetaceans' (submitted by the United Kingdom)	3
05	Summary of Activities Related to the Action Plan on Whale Killing Methods (based on Resolution 1999-1)	3.1 and 4.1
06	Report on Weapons, Techniques and Observations in the Alaskan Bowhead Whale Subsistence Harvest (submitted by the USA)	4
07	Norwegian minke whaling 2014 and 2015	3 and 4
08	Overview of the work of the technical adviser to the Secretariat to assist with reducing conflicts between cetaceans and marine resource users: October 2014 to October, 2016	6.3
09	Whaling Report from St Vincent and The Grenadines 2014-2015	3
10	Update on discussions and strandings (Submitted by: (1) the Chair of the Scientific Committee; (2) the Chair of the Whale Killing Methods and Welfare Issues Working Group and (3) the Chair of the Standing Working Group on Environmental Concerns on the Topics of Strandings and Mortality Events)	7
11	IWC Whale Killing Methods and Welfare Issues Action Plan (submitted by the Secretariat)	5
12	Summary of the General Recommendations from the Global Assessment of Large Whale Entanglement and Bycatch Reduction in Fishing and Aquaculture Gear Workshop	6.2
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01	Report of the Workshop to Support the IWC's Consideration of Non-Hunting Related Aspects of Cetacean Welfare	5.1
02	Report of an IWC Workshop Developing Practical Guidance for the Handling of Cetacean Stranding Events	7.1
03	Report of the Third Workshop on Large Whale Entanglement Issues	6.1

Appendix 3

AGENDA

1. Introductory items
 - 1.1 Appointment of Chair
 - 1.2 Appointment of Rapporteurs
 - 1.3 Review of documents
2. Adoption of agenda
3. Data provided on whales killed
 - 3.1 Contracting Government reports
4. Information on improving the humaneness of whaling operations
 - 4.1 Reports from Contracting Governments
 - 4.2 Report of the NAMMCO expert group meeting
5. Whale welfare
 - 5.1 Chair's Report of the 2016 IWC Workshop to Support the Consideration of Non-Hunting Related Aspects of Cetacean Welfare
 - 5.2 Engagement of other organisations and experts on issues relating to cetacean welfare
6. Welfare issues associated with the entanglement of large whales
 - 6.1 Report of the third IWC Workshop on Large Whale Entanglement issues
 - 6.2 Report of the joint IWC, NOAA, NEAq Workshop on Global Assessment of Large Whale Entanglement and Bycatch Reduction in Fishing and Aquaculture Gear
 - 6.3 Secretariat report on progress
7. Stranding
 - 7.1 Report of the IWC Workshop to Develop Practical Guidance for the Handling of Cetacean Stranding Events
 - 7.2 Scientific Committee recommendations on strandings
8. Adoption of the Report

TERMS OF REFERENCE

The Working Group is tasked with reviewing information and providing advice to the Commission on issues relating to whale killing methods and all aspects associated with ensuring good welfare of cetaceans that are hunted or otherwise impacted by human activities (Report of the 65th Meeting of the International Whaling Commission in 2014. Annex H, Appendix 4).

ADMISSION OF OBSERVERS

Rule of Procedure C.2

2. Observers accredited in accordance with Rule [of procedure] C.1.(a) and (b) are admitted to all meetings of the Commission and the Technical Committee, and to any meetings of Committees and all subsidiary groups of the Commission and the Technical Committee, except the Commissioners-only meetings, meetings of the Bureau and closed meetings of the Finance and Administration Committee.

SPEAKING RIGHTS FOR OBSERVERS

Rule of Procedure C.3

3. Observers accredited in accordance with rule C.1.(a) and (b) will have speaking rights during Plenary sessions and sessions of Commission subsidiary groups and Committees to which they are admitted to under C.2, in accordance with the Rules of Debate of the Commission. Observers might also submit documents for information to the delegations and observers participating in such sessions, provided these are submitted through the Secretariat at least 48 hours before the session in which they are intended to be made available, and are duly authored or endorsed by the accredited organisation making the submission, which is to be held responsible for its contents.

Rules of Debate Paragraph A

A. Right to Speak

1. The Chair shall call upon speakers in the order in which they signify their desire to speak, with the exception of accredited Observers, which should be allowed to speak only after all Commissioners desiring to speak do so. As a general rule, Observers will only be allowed to speak once at each Agenda item under discussion, and at the discretion of the Chair.

Appendix 4

RECOMMENDATIONS OF THE WORKSHOP TO SUPPORT THE IWC'S CONSIDERATION OF NON-HUNTING RELATED ASPECTS OF CETACEAN WELFARE, KRUGER NATIONAL PARK, SOUTH AFRICA, MAY 2016

The Workshop recommended that:	Action by:
The IWC endorse the further development and application of the cetacean welfare assessment framework in assessing non-hunting threats to cetacean welfare and promote its use beyond the IWC.	Whale Killing Methods and Welfare Issues Working Group (WKM&WI) (Intersessional working group on welfare)
Further work on the assessment framework be taken forward, in particular to continue to adapt the Five Domains model for wild cetaceans; address how best to assess welfare impacts and changes in welfare status over time; define and incorporate potential stressors and include accepted best practice/limits (e.g. for whale watching and noise); determine the most appropriate scale for scoring severity; address how best to incorporate a consideration of cumulative, in-combination effects and long-term impacts and identify any further improvements that can be made.	WKM&WI (Intersessional working group on welfare)
Terms of Reference be drafted to guide further work to refine the assessment framework and that its refinement and application be progressed through the existing IWC Intersessional Working Group on Welfare with the aim of submission to IWC67 in 2018 for endorsement.	WKM&WI (Intersessional working group on welfare)
The Intersessional Working Group on Welfare and the IWC Secretariat ensure that appropriate experts are engaged in the continued development and application of the assessment framework.	WKM&WI (Intersessional working group on welfare) IWC Secretariat
Care be taken to ensure that the practical application of the assessment framework be assisted by appropriately trained experts, including animal welfare experts and cetacean experts and that the conclusions be shared with local communities in order to facilitate education and promote best practice.	IWC Contracting Governments
Consideration is given to progressing further work where uncertainty may reduce the confidence in the application of the proposed assessment framework including in relation to prey depletion, chemical pollution, anthropogenic sound, marine litter, and biotoxins	WKM&WI; IWC Scientific Committee; IWC Conservation Committee
A process be established that allows for the continued re-assessment of welfare threats as knowledge and understanding improves.	WKM&WI (Intersessional working group on welfare)
In cases where the welfare implications of certain activities are only poorly understood, management of a particular activity or threat should be precautionary and adopt a risk based approach based on best available scientific knowledge.	IWC Contracting Governments; IWC Scientific Committee
The assessment framework be submitted to the Scientific Committee and other relevant IWC committees and working groups for further scrutiny and comment, and eventual transmission to the IWC Commission for endorsement.	WKM&WI; IWC Scientific Committee; IWC Conservation Committee
Application of the assessment framework be considered by the IWC entanglement expert group for its utility and potential addition to the existing entanglement intervention framework to enhance welfare considerations in the decision-making process.	IWC Secretariat
The encouragement of monitoring of wound healing, wound progression, and time to death in cetaceans in the wild that have incurred vessel-strike or entanglement injuries, in order to provide greater understanding of the welfare implications for individuals.	IWC Contracting Governments; IWC Scientific Committee; IWC Conservation Committee; IWC Ship Strikes Working Group
IWC Contracting Governments ensure national ship strike data, including non-lethal incidents, are submitted to the IWC Ship Strike Database and that the IWC promote the importance of submission of this data directly to the IWC database in order to develop understanding of the welfare risk to cetaceans.	IWC Contracting Governments; IWC Ship Strikes Working Group
IWC Contracting Governments and the IWC Secretariat place a high priority on developing effective entanglement mitigation and prevention measures, and until such time as that is developed, continue support for the palliative care offered by further developing the Global Whale Entanglement Response Network and database.	IWC Contracting Governments; IWC Secretariat
A more detailed consideration is carried out on the implications of entanglement and bycatch for small cetaceans	IWC Conservation Committee; IWC Scientific Committee
IWC Secretariat proactively engages with organisations with a welfare remit and experts to share information and facilitate the use of existing welfare principles, standards, and definitions as appropriate, for example with the OIE, NAMMCO, and CITES.	IWC Secretariat
IWC Contracting Governments identify national experts in the assessment of welfare for inclusion on the list of welfare experts to be compiled under the IWC Welfare Action Plan.	IWC Contracting Governments; IWC Secretariat
The Secretariat provide clear cost estimates for work necessary to facilitate the delivery of the IWC Welfare Action Plan, starting with the completion of the welfare assessment framework.	IWC Secretariat
IWC gives consideration to the establishment of a dedicated funding stream to help progress the assessment and mitigation of non-hunting threats to cetacean welfare.	IWC Contracting Governments

Appendix 5

RECOMMENDATIONS OF THE THIRD WORKSHOP ON LARGE WHALE ENTANGLEMENT ISSUES, PROVINCETOWN, MA, USA, APRIL 2015

1. NEW INFORMATION SINCE 2011 WORKSHOP

1.1 Aspects of reports from relevant workshops in 2011-2014

The Workshop **endorsed** the recommendations (A15/ER/ALL/22) of a workshop about large whale entanglements on the U.S. west coast, convened in Portland, Oregon, which made a number of general recommendations to assist in understanding and reducing large whale entanglements, summarised as follows:

- (1) engage commercial fishermen and commercial fishery managers to better understand the fisheries and what measures may be taken to fill existing data gaps;
- (2) address the unknowns surrounding large whale entanglement by conducting research needed to encourage or support fishery management actions or legislation changes, including:
 - (a) identifying the level of conservation concern surrounding population level impacts from entanglement for different whales species;
 - (b) conducting fine scale research on areas identified as having high co-occurrence of fishing gear and large whales;
 - (c) studying the mechanisms by which whales become entangled in gear;
- (3) evaluate possible gear modifications (e.g. related to increasing the number of traps per line, which may reduce entanglement risk by reducing the number of vertical lines with which whales could interact; and
- (4) support lost gear and marine debris removal efforts to reduce the risk of whale entanglements.

1.2 New of unusual relevant cases since 2011 (Guadelupe, Korea)

The Workshop **recognised** the increase in aquaculture (including expansion offshore) around the world and the particular difficulties that may entail with respect to entanglement response. It **stressed** the importance of developing prevention measures as a priority in addition to entanglement response training.

1.3 New tools or techniques

The Workshop highlighted the fact that gillnet is a complicated gear to cut, partially due to the range of materials involved (monofilament, rope and lead). It was **agreed** that smooth blades are more effective than serrated blades for monofilament entanglements.

In discussion, the Workshop **noted** that knives with box cutter style blades are useful and cost-effective because the blades can be replaced as needed. However, the Workshop **stressed** that the appropriate tools to use will depend on the situation.

The Workshop **thanked** Smith for this information [on testing protocols for new equipment and techniques before approval for use within the Atlantic Large Whale Disentanglement Network]. It stressed the need for careful evaluation of new tools and techniques both in terms of safety of responders and the animals. It noted the value of a formal approval scheme in this regard and **encouraged** other groups to consider whether it was appropriate for their

areas. The Workshop also **highlighted** the importance of sharing information on failure as well as success to improve safety and reduce issues in future events.

The Workshop discussed the concept of sharing AutoCAD tool designs to allow them to be manufactured in other countries, reducing the cost of manufacture and logistics of transport. The Workshop **strongly recommends** that neither tools nor design specifications are provided to anyone who has not undergone training. The current practice for IWC trainings is to share a basic kit of tools (see Item 2.3.2) with trained teams and they are then allowed to replicate those designs from what they have in hand. However, the manufacture of those original tools is closely scrutinised and efforts to replicate those designs have not always been successful even with the tool in hand. Efforts to reproduce them in Mexico, for example, did not meet the design specifications and so some were not as effective. The group **agreed** that the AutoCAD designs might be helpful to avoid such situations, but they should only be given to the proper authority within the officially trained network.

1.4 New safety or risk assessment tools or protocols

The Workshop **thanked** Lyman for these updates [on use of 'Site Cams' in the USA] and **endorsed** both the value of new technology and approaches after careful evaluation and the cautions he highlighted in their use. It also **recognised** the different local needs, resources and in some cases legislative frameworks that must be taken into account in addition to the importance of adequate training.

The Workshop **thanked** Coughran for his presentation [on Unmanned Aerial Vehicles in Western Australia] and **commended** the thorough testing that had been undertaken. It **agreed** that this is potentially a very valuable and relatively inexpensive tool (ca USD 2000). It recognised that there are a number of important issues to be addressed before being used widely including proper training, consideration of legal frameworks etc.

The Workshop **thanked** Smith for drawing this useful document to its attention [Decision Tree for Tagging (A15/ER/ALL/14)] and **endorsed** the principles therein, recognising that such decision trees will necessarily reflect local conditions and norms.

2. REVIEW OF IWC CAPACITY BUILDING

2.1 Summary of work since last meeting

The Workshop **congratulated** the trainers and the trainees, recognising the importance of this work, not only in terms of training the entanglement teams but also in stimulating discussion surrounding the ultimate goal of prevention (see below). It noted the advantage of having more than one trainer where this was feasible (e.g. see Item 3.2.3) and **agreed** that efforts would be made to expand the international pool of trainers in the future.

2.2 Overview of newly trained participating national networks

The Workshop **thanked** the Argentinian team for its report. It was noted that as part of the IWC's Conservation Management Plan for right whales in the southwest Atlantic, a refresher course and advanced training was being planned.

The Workshop **thanked** the Brazilian team for its report. In discussion, the importance of archiving gear and related items (e.g. bone and gear) was highlighted and this is considered further under Item 4.5.3. It was also noted that when examining proportions of entanglements by gear type and/or age or reproductive class by region, account must be taken of information of temporal/geographical availability of various gear types and any temporal/geographical segregation by age or reproductive class.

The Workshop **thanked** the RABEN team for its report and **commended** them for their thoughtful and comprehensive dedication to further training and improvements following the IWC guidelines and principles, and for the careful manner in which a range of stakeholders have been involved. In discussion, the importance of documenting certain types of information (e.g. behaviour) was raised as well as the importance of public outreach in all languages.

2.3 Review of strategy, curriculum and prioritisation

The Workshop **reiterated** its support for the existing strategy and curriculum, including emphasis on the long-term goal of prevention, recognising that local circumstances must be taken into account when finalising individual workshops. In particular, the Workshop **emphasised** the importance of involving members of the commercial sector in the process (e.g. fishing, whalewatching); it noted that in many cases the effort expended by the fishing community in prevention involves business decisions; as witnessed for example by the successful work undertaken in Newfoundland over several decades, it is important to work with fishermen in the context of how improved practices will assist them as well as whales.

Subsequently, the criteria for evaluating requests that come through the IWC for training have evolved into the following:

- (a) Conservation: How endangered is the whale population and how significant is the entanglement impact?
- (b) Human Safety: Are well-meaning but un-trained people currently responding with dangerous techniques?
- (c) Animal Welfare: How many whales are likely to benefit from the range states developing a response network?
- (d) Socio-economic impact: How much impact do entanglements have on the affected fishers?
- (e) National support: Has the country requested and is supporting the training?
- (f) Added impact: Does the training fit into and/or encourage other productive initiatives?
- (g) Funding: Is there logistical and financial support?

The Workshop **agreed** that it was important to evaluate priorities in the light of experience and **endorsed** the above criteria. These should be made clearly available on the IWC website. It **agreed** that a degree of flexibility would be required in assigning the balance amongst the above criteria on a case-by-case basis. The importance of some commitment to a reasonable level of longer-term funding to ensure that training was not wasted was also stressed. With respect to funding, it was noted that the issue of entanglement response and bycatch prevention are attractive to outside funders and it is particularly important that evidence of the success of the Networks be visible.

The Workshop also **stressed** the importance of follow-up training. This can take a number of complementary forms including:

- (1) apprenticeships of several weeks, such as those hosted by CCS which can provide broad-based training
- (2) including attendance at actual entanglement response events should they occur as well as exposure to photoidentification, biopsy sampling and other relevant research activities;
- (3) follow-up workshops held by expert trainers, primarily aimed at participants from initial workshops and which can be tailored in the light of local experience and events with on-water training focussing on more difficult scenarios than the initial training; and
- (4) internal follow-up work (such as that discussed under Item 3.2.3 undertaken by RABEN) involving a considerable degree of self-critique that may also involve remote interaction with other experts from the global network.

2.4 Consideration of adding additional subjects to the IWC training programme

The Workshop **agreed** that in general it was more productive to hold focussed entanglement response workshops rather than combined workshops that may dilute the effectiveness of either topic. However, it **agreed** that requests to hold combined workshops should be considered on a case-by-case basis.

There was also a brief discussion of how to handle requests for entanglement response for other marine species (e.g. small cetaceans, pinnipeds, turtles etc.). The Workshop **stressed** that the appropriate authority, responses, expertise, equipment and logistics may be quite different to those for large whales, which is the primary focus of the present global network; where appropriate expertise is available, the network may direct requesters to relevant advice/advisors.

2.5 Discussion of cooperation between Government and private sector

The Workshop **agreed** that the involvement of a wide range of stakeholders at a variety of levels ranging from direct participation to fundraising was important and valuable and probably inevitable. However, it also provides a number of organisational challenges that must be faced. In particular, careful organisation and an agreed 'chain-of-command' are crucial. It is essential that all know their duties and responsibilities, the limits of their involvement and the legal framework. Such an organisational framework is essential to prevent 'well-meaning disasters'.

The Workshop noted the different situations from around the world and **agreed** that it was not possible to be prescriptive about particular frameworks but rather **recommended** that such frameworks be developed if they do not exist. To assist in the development process, the Workshop **recommended** that participants should submit relevant existing documents to the IWC Secretariat and that these be made available as examples on the IWC website.

2.6 Review of different approaches to legal authority

As for previous items (e.g. Item 3.5), the Workshop **noted** that it was not its responsibility to be prescriptive with respect to recommendations on appropriate legislative frameworks but rather to note that it is important that such frameworks be developed. It **stressed** that the IWC and the global network, whilst providing training, were not formally 'authorising' responders. National networks must take care of themselves in terms of legislation, authorisation and responsibility.

Discussion under this item focussed rather on the importance of regular training, the sharing of both successful and unsuccessful events amongst members and, for specific agreed events, with the public through *inter alia* the IWC website. As part of this process, the Workshop **recommended** that networks provide regular updates to the global network of: (1) training exercises; (2) successful and unsuccessful case studies; (3) proposed example case studies for the public section of the IWC website.

3. REVIEW OF PRINCIPLES AND GUIDELINES

3.1 Consideration for ‘less than idea’ situations

The Workshop **thanked** Marcondes for this presentation [on the results of interviews with fishermen in the northern portion of Abrolhos Bank, Brazil about the impact of the recovery population of humpback whales]. It **reiterated** the importance of dialogue with the fishing community and the need to involve them in an active way in developing mitigation measures. The Workshop noted that there may be a workshop on artisanal gillnets at the SMM (Society for Marine Mammalogy) conference in December 2015.

3.1.2 Using heavier boats when an inflatable is not available

The Workshop noted that there are advantages and disadvantages to using larger vessels as compared to the ‘traditional’ inflatable rescue boats as discussed above. The Workshop **agreed** that there may be practical and logistical reasons such that in some cases larger vessels may be appropriate (or the only option). In such cases, the Workshop **recommended** that responders fully examine any potential dangers and manage the situations accordingly in the safest possible manner (which may include not proceeding with the release effort).

3.1.3 ‘Remote’ advice to non-trained responders

There was considerable discussion on whether it was a good idea to provide advice directly to fishermen on disentanglement. The Workshop recalled previous recommendations and the principles and guidelines that **stressed** the importance of having trained personnel present. However, the Workshop recognised that circumstance may arise in which advice/messaging may need to be provided to reporters/ fishermen in cases where authorised, experienced, well-equipped network response is not possible. In such circumstances the following was **agreed**.

- (1) Ask if they have reported to local/ regional authorities? If possible get contact information. Depending on circumstances may need to provide advice here as well.
- (2) Obtain basic information to try to make a typical assessment of the entanglement if this is possible.
- (3) Given (1), in most cases it should be possible to let them know that whale is probably not in immediate danger – it may also be appropriate to explain that some animals free themselves of entanglements over time.
- (4) Emphasise human safety i.e. their life is the most important consideration. If they were to get hurt it may have a detrimental effect on whale response for years to come.
- (5) Further assess their safety. If they are attached to the gear (i.e. in a tended fishery), primarily advise them to not approach closely (i.e. maintain at least one whale body length) and release the vessel from the animal, perhaps with a small buoy if there is a chance that a trained team may be in a position to find and release the whale later. If not attached, re-emphasise the dangers

involved and stress that they should not approach the animal and they should leave any gear on it. Stress that it is not appropriate to try to haul the animal to remove gear.

- (6) Emphasise the importance of documentation and the value of gaining information towards potentially helping this animal later (even if unlikely) and addressing the threat in general.

3.2 Improvements in assessment and documentation of events

The Workshop **thanked** the authors [van der Hoop and colleagues work measuring drag from sets of fishing gear removed from entangled North Atlantic right whales] for their innovative work, recognising that it was inevitable that certain assumptions had to be made, and encouraged its continuation. The Workshop **endorsed** the following recommendations made by the authors:

- (1) the current disentanglement response practice of reducing trailing lines/rope to ~20m to accommodate a telemetry or marking buoy should be continued;
- (2) estimates of drag based on length, and consequent energetic costs, should be incorporated into response assessments and serious injury determinations.

The Workshop **thanked** Knowlton for presenting this information [a study on the parameters of ropes removed from entangled large whales from the western North Atlantic] and encouraged its continuation. As noted elsewhere (see Item 4.5.3) in its report, it **recommended** the archiving of entangled gear as a valuable resource in terms of revisiting and understanding past events. The Workshop **recommended** that other archives be tested for trends in rope breaking strength, as this could help validate the work presented and potentially produce broader recommendations for mitigation.

3.3. New tools for veterinary assessment and survival

3.3.1 Use of sedation

The Workshop **recommended** to establish a similar analysis for other species, to enable more routine deployment of this tool in a commonly entangled species such as humpback whales, to increase experience and understanding of the approach. To do so could reduce disentanglement stress significantly, akin to the benefit to restraining a horse chemically as compared to the use of a hobble, a practice that is no longer widely used in veterinary medicine for reasons of safety and animal welfare.

3.4 Determining gear/debris type and origin

The Workshop participants **recommended** that countries consider developing similar protocols investigating entangling gear removed from animals, highlighting a proactive relationship with fisheries to document and learn as much as possible about the entangling gear and scenarios resulting in an entanglement and ultimately sharing of that information with other nations. However, it was also understood that, while working cooperatively with the fishing industry to identify entangling gear is the ideal goal, there can be numerous challenges to developing this type of framework, ranging from lack of reporting infrastructure to varying legal frameworks which might make a fisher more or less likely to participate.

The Workshop **thanked** Toole for her presentation of a complex and major initiative. It noted that its objectives were far more ambitious than simply relating to large whale entanglements, which the available evidence suggested was

due more to active fishing gear. However, it **encouraged** participants to cooperate with the initiative as appropriate and noted that the IWC would consider the GGGI in the context of marine debris.

The Workshop **agreed** that archiving entangling materials is valuable and encouraged all entanglement response networks to do so, in partnership with the relevant National authority.

4. DATABASE COMPONENTS AND STRUCTURE

The Workshop **agreed** that lessons learned from the development of the ship strikes database will be valuable in consideration of an entanglement database for large whales.

4.4 Recommendations to IWC with respect to a global database

The Workshop considered the need for a global database from a number of perspectives, taking into account (1) the review of existing databases under Item 5.1 and the need to avoid duplication of effort; (2) the importance of providing advice and resources to new entanglement networks with respect to data management and archiving; (3) possible confusion arising out of having separate databases recording impacts to animals, especially given difficulties in attempting to make determinations of mortality or serious injury from stranded animals; (4) lessons learned from the development of the IWC global ship strikes database (Item 5.3).

Initial discussion **stressed** the importance of agreeing to the potential objectives of any IWC-related database before discussing development details. The Workshop **agreed** that the primary long-term goal of the IWC initiative is to improve the understanding of the impacts of entanglements on whale populations and the factors associated with entanglement risks in order to minimise and ultimately eradicate entanglement of large whales in fishing gear, recognising that complete eradication may prove impossible.

Although entanglement is a widespread problem, in many areas the sample sizes of reliable observations are small. Thus any centralised global database could facilitate informative analyses of factors that may affect entanglement risk by species and gear type at a broader level than may be achieved by looking at regional data alone.

Sub-objectives for a database could be to:

- (1) determine the incidence of lethal entanglement and relevant sub-lethal effects (or at least put reasonable bounds on incidence that can be incorporated into population dynamics models);
- (2) identify the fisheries/gear types and specific practices that lead to a high risk of entanglement (globally and regionally), differentiate COAFG from ALDFG and other debris, and identify particularly vulnerable species, reproductive/age classes, seasons etc.;
- (3) record and archive the information obtained from entanglement response networks (both successful and unsuccessful) in order to:
 - (a) improve present practice;
 - (b) obtain a better understanding of how entanglement occurs and survival of animals;
 - (c) inform mitigation/prevention measures
- (4) combine information from (1)-(3) to prioritise and develop mitigation and prevention measures.

The Workshop **agreed** that these sub-objectives are appropriate and valuable and are sufficient to justify its **recommendation** that a fully specified, costed proposal is developed for submission to the IWC at the 2016 Annual

Meeting. It recognised that there was insufficient time to achieve this at the present workshop and that it would require a concerted effort of a small group to develop such a proposal. In this regard it **recommended** that a small sum (e.g. £3,000) be allocated by the IWC, to allow one short meeting of the group in 2015/16 in order to develop the database proposal, and that the task be assigned to a small group (e.g. six) comprising: the IWC Secretariat, and others.

The Workshop **agreed** that the fully specified proposal should take into account *inter alia*:

- (1) maximising synergies with existing databases, learning from their strengths and weaknesses;
- (2) meeting the objectives and sub-objectives given above (and consideration of likely analytical methods associated with these where appropriate);
- (3) the discussions on important fields arising out of this workshop (including the discussions on the data form at the present workshop and that in 2011) and emphasis on consistent and specified definitions;
- (4) lessons learned from the development of the ship strikes database including those related to data entry (both new data and the inclusion of data from existing databases) and validation (including levels of uncertainty);
- (5) data availability considerations (authorisation; confidentiality; data sharing amongst networks, the IWC Scientific Committee and others; what summaries might be made public etc.);
- (6) links with other mortality-related databases and archives;
- (7) mapping capabilities;
- (8) links to other material (e.g. photographs, videos, original field reports);
- (9) alternative software approaches (including web-based, stand alone, metadata etc.);
- (10) the provision of a service to new entanglement response networks; and
- (11) consideration of curation and maintenance.

5. NEW TOOLS OR PROTOCOLS FOR EUTHANASIA (ESPECIALLY AT SEA)

5.2 Euthanasia at sea

The Workshop **thanked** Øen for his presentation that had been based on previous recommendations from IWC Workshops. When considering the applicability of this tool for euthanasia of species other than right whales, it was clarified that the penthrate grenade is already used in the hunt of a variety of large cetacean species in several countries. On the question of possible deployment by air rifle, Øen clarified that the force would be inadequate to penetrate the body to the appropriate depth and to trigger the firing pin. The explosion could occur at or near the surface of the whale and thereby fail to euthanise and also create a hazardous situation for humans. He further clarified that the grenade produces a radiant charge but that there have been no injuries to humans yet in deployment. When asked about failed killing attempts, he noted that this had occurred in the past, due to improper targeting (i.e., outside of the required neck or chest areas) by individuals who had not had adequate training.

As noted in Item 6.1, further development of a gun-type delivery system had been recommended at the IWC euthanasia workshop, but Øen clarified that this had not advanced further because funding is required. The Workshop **endorsed** the earlier recommendation and encourages individual nations where this approach may be appropriate to support development of system further.

6. INTERFACING WITH THE PUBLIC

Participants **confirmed** their earlier agreement to send stories of successful rescues to the IWC Secretariat for potential posting on the IWC web site, and for distribution to organisations supporting the global network. These stories would be tailored for the public, and of course will not contradict the consensus principles and guidelines developed in 2011, and reviewed and re-endorsed here. The Workshop also **agreed** that an accessible, public-friendly regular summary of achievements of the global network be included on the IWC website and sent to contributors to the initiative.

7. GATHERING AND ANALYSING INFORMATION TOWARD PREVENTION

The Workshop **stressed** that even if the use of pingers (or any other mitigation methods) is found to be effective in an experimental situation, monitoring should be undertaken to ensure that the desired effect persists.

Appendix 6

SUMMARY OF THE GENERAL RECOMMENDATIONS FROM THE GLOBAL ASSESSMENT OF LARGE WHALE ENTANGLEMENT AND BYCATCH REDUCTION IN FISHING AND AQUACULTURE GEAR WORKSHOP, PORTSMOUTH, NEW HAMPSHIRE, USA, 23-26 MAY 2016

Note: the final report of the Workshop is not yet complete and thus has not been reviewed by all participants and agreed. The conclusions and recommendations below were discussed at the end of the workshop and although the final wording may be modified, the intent will not change.

BACKGROUND TO OVERALL RECOMMENDATIONS

Forty participants (from Australia, Brazil, Canada, Europe, Mexico, South Africa, South Korea and the USA) attended a workshop co-organised by the IWC with the New England Aquarium and the Consortium for Wildlife Bycatch Reduction and co-funded by NOAA (US), to exchange information on preventing large whale entanglements. Although the focus of this workshop was on devices and techniques that can be incorporated into or in the vicinity of fishing gear, it was recognised that switching gear, reducing effort, or spatial-temporal management have a role in managing bycatch of large whales in some situations, and that in some cases the alternative types of fishing gear might produce comparable fishing revenues while reducing entanglement risk. The workshop participants stressed that there is no single solution for large whale entanglements and recognised that whilst there are lessons to be learned from global examples and great value in international co-operation and information sharing, local problems require local solutions.

When considering bycatch mitigation measures, workshop participants noted that, where possible, the 'ideal' hierarchy for action in descending order should be to:

- (1) avoid encounters with fishing gear;
- (2) reduce entanglements in such gear where encounters cannot be avoided; and
- (3) minimise mortality associated with entanglement when entanglement occurs.

This does not imply that actions on all three cannot proceed in parallel, and promising (e.g. simple, cost effective, and effective) actions that enjoy support among fishermen should be encouraged. Within this framework, assessments of the overall cost-benefits of different options (including consideration of user and conservation goals) can help identify priority techniques for testing and implementation.

The Workshop **stresses** that any mitigation action should include a commitment to a well-designed and long-term monitoring program to evaluate the effectiveness of the bycatch mitigation technique over time.

MAIN OVERARCHING RECOMMENDATIONS¹¹

- (1) Acknowledging that development and implementation of solutions has lagged behind the increasing threat in many locations and around the globe, the workshop participants **recommend** that governments recognise the importance of the issue and work internationally and nationally to promote an environment that facilitates a more rapid development and testing of methods, and implementation and monitoring of mitigation measures. Multi-national approaches are especially important as entanglement risk assessment, and the implementation and monitoring of entanglement prevention measures must consider the species'/population full geographic distributions that generally span multiple countries.
- (2) Given the scope and urgency of this issue, workshop participants strongly **recommend**:
 - (a) that inter-governmental organisations and regional fishery management organisations elevate bycatch of whales to the level that spurs these entities to evaluate their data to assess the risk of cetacean bycatch in their fisheries and, where necessary, develop and implement bycatch prevention and mitigation measures; and
 - (b) that authorities facilitate the evaluation of bycatch mitigation measures, and expedite any administrative requirements or permits needed to test such mitigation.

¹¹In addition to these broader recommendations, the final report will contain a number of technical recommendations.

- (3) The development and implementation of effective solutions requires full collaboration between fishers and gear technologists, for innovation, development of practical ideas and their application, and scientists for appropriate testing methodology; therefore, workshop participants **recommend** that fisheries associations, individual fishers, technologists, scientists, and regulators collaborate to develop, test, and implement whale entanglement prevention techniques. In this regard, the participants also **recommend** that fishermen and scientists identify test areas (throughout the world) that can optimise evaluation of techniques that can either advance our understanding of or significantly prevent/reduce entanglement. These collaborations should be encouraged and facilitated by national and regional authorities.
- (4) Recognising that the fishing sector uses practices in meeting global demand for seafood that result in whale entanglements and that it needs to be central to the solutions to the bycatch issue, the workshop participants **recommend** that respected members in the fishing community use their understanding of the urgency and magnitude of the bycatch problem to: (1) communicate the issue within their community; (2) lead the innovation of bycatch reduction measures; and (3) promote socio-economic perspectives of the problem so that appropriate mitigation measures can be implemented that have the greatest probability of achieving long-term use and support within the fishery.
- (5) While structured experiments are the preferred and optimal approach for developing and evaluating bycatch mitigation measures, they are often difficult to conduct with respect to whale entanglements; workshop participants **suggest** that other analytical techniques be considered/developed for such studies, and that evaluation of field work should be augmented by simulation studies and appropriate incorporation of opportunistic information.
- (6) Given the present lack of sufficient data to understand the frequency and process of entanglement, the workshop **recommends** that nations and scientists make a concerted effort to gather and make available current and historic data on entanglement and to promote frequent exchange of information among fishers, scientists, and policy makers on bycatch mitigation through workshops, websites, and other collaborations.
- (7) Artisanal fisheries represent the largest sector of global fishers and may be the greatest contributor to cetacean bycatch; therefore, workshop participants **recommend** that nations and scientists assist and engage artisanal fishers in the development and evaluation of prevention measures for their fisheries.

CONCLUSION OF THE LAST DAY DISCUSSIONS WITH A FOCUS ON IWC-RELATED ISSUES

1. Gear marking – goals and feasibility globally

Identifying the source of gear that has caused an entanglement is important for developing mitigation measures but has proven to be challenging. In most cases of disentanglement of free swimming whales, the gear that is recovered is just rope. Only 10% of gear recovered from whales off the US east coast has been identified to a fishery.

Gear marking is one way in which the source of gear that caused the entanglement may be identified. This has been a subject of discussion for many years and there are a number

of issues that need to be considered when considering the type of marking scheme that may be useful. In particular, these relate to the questions that the marking scheme is intended to address.

Gear marking can be used to demonstrate that a particular fishery did *not* cause an entanglement. For example, in South Africa, any gear from bather protection nets recovered from an entangled whale would be expected to be identified back to the Shark's Board. No such gear has ever been recovered. However, gear marking may also result in 'blame'. Fishers have concerns over gear being identifiable to the individual because of the possibility of negative publicity or even prosecutions in some countries.

FAO held a recent technical meeting on gear marking and this will be discussed further at the COFI meeting in July. The ultimate objective for FAO is to develop a system for tracing gear back to a licensed vessel. Discussion of gear marking within FAO has primarily focused on IUU fishing and ALDFG (Abandoned, Lost and Discarded Fishing Gear). Other reasons for marking gear which may benefit a fishery include allowing gear theft to be identified.

Gear marking in relation to bycatch of turtles and sea birds has been considered by FAO (FAO, 2016 ECFG/2016/Inf.1). IWC has been engaged with FAO to assist in gear marking schemes that FAO is working on, including drawing attention to whale entanglement at the technical FAO meeting in April 2016.

Given the opportunity to input into the FAO process, the workshop participants discussed questions that might be addressed through gear marking and ways that this might be achieved. The questions can be divided into two broad categories, those that help assess the extent of a problem and those that help inform and evaluate mitigation measures.

For assessment of the scale of a problem there is a need for information on the type of gear involved, and the amount of effort within fisheries using that type of gear. At a minimum, gear needs to be identifiable throughout the range of the whale population and the full range of the fishery. Information at finer spatial scales is often needed if management measures such as area closures are being evaluated, or for example, identifying localised risk hot spots for species with long migrations.

Relevant issues to assist in developing whale entanglement prevention measures include:

- (1) the need to distinguishing vertical line from ground line in pot or trap fisheries;
- (2) evaluation of the relative risk from the different ways and water depths in which gear is set;
- (3) evaluation of whether sinking ground line reduces risk compared to floating line; and
- (4) Evaluation of the effectiveness of gear modifications in reducing entanglement risk through identifying incidents in modified and unmodified gear (such analyses need information on frequency of use of the modifications as well as the frequency of gear involved in whale entanglements).

The FAO marking scheme just requires some part of the gear to be identifiable. In the case of whale entanglements there are only likely to be fragments of gear remaining and so multiple marks are required (e.g. at specified intervals closer than the length of a typical recovered fragment along all ropes). Gear marking for identifying the source of ALDFG has rather similar requirements to identifying gear recovered from a whale. The ideal marking system would allow identification of gear from photographs but this would be a huge challenge.

The gear marking scheme on the US east coast is now quite complex and time consuming with marks needing to be changed for fishing in different regions. Marking rope at the manufacturing stage is preferable to asking individual fishers to do this. Rope may be marked such that each individually manufactured spool can be identified, but then needs to be traced through the supply chain and all users.

One potential alternative to gear marking that is worth exploring is the use of natural biological or chemical markers for forensic analysis of the gear origin. This could for example include analysis of fouling species which vary between areas and by depth. Stable isotope signatures may also be useful.

Given the challenges and complexities, there were different views on the value of gear marking in developing measures to prevent large whale entanglements. It was **agreed** that there is a need for resources that disentanglement teams can use to find out information about the gear that they find on whales. The workshop participants also **recommended** a review to investigate the potential for biological forensic techniques to assist in identifying the origin of the gear. In addition, a localised study of a gear marking scheme for a specific area and fishery could help develop practical systems and evaluate the value of the information they generated.

2. Role of disentanglement efforts in prevention

Disentanglement is not itself a prevention measure and only a small fraction of the entanglements that occur are likely to be successfully disentangled. Even in the Gulf of Maine off the US east coast, with highly developed reporting systems, the detection probability for a whale carrying gear is only around 10-15%.

However, disentanglement does provide an opportunity to gather information which can assist in developing prevention measures (e.g. studies evaluating weak rope work as a prevention measure such as Knowlton *et al.*, 2015 have been greatly informed by disentanglement work on whales).

Disentanglement efforts also create awareness of the issue. The disentanglement outreach and training provided by the IWC has led to a number of initiatives in several countries, including substantially higher reporting rates. For example, in Mexico it has led to workshops to help fishers avoid losing their gear, and also resulted in proposals for management measures in some fisheries.

In most countries, disentanglement teams are a combination of fishers, NGOs, and government representatives. The IWC suggests the type of skills that are needed within a disentanglement team. Other areas of expertise needed include experience with whales, gear and safety. Therefore, teams may typically include biologists, fishers and coastguard or navy.

It was noted that any disentanglement without collecting data does not achieve one of the key objectives. The workshop participants therefore **recommended** that all data collection opportunities are maximised.

The IWC has developed a data form for use during disentanglement. This is introduced to teams as part of the training sessions. Some participants believed that the form was too complicated since a lot of people trained in disentanglement are not whale biologists and that this might be overwhelming for them. However, others thought that having all the fields shows what data are considered useful even if it is not possible to complete them all every time fill. It was also noted that there is increasing scope for collecting video and photographic data (particularly from devices such as helmet mounted cameras) that can be analysed later, allowing some additional data fields to be completed.

The IWC has less of a structured data collection scheme for following up after the event, for example to try and identify gear. It was noted that retrieving samples such as pieces of rope can be very informative. Biological samples from fouling organisms could also be very informative if developing forensic methods but would need to be archived in a way that allowed suitable analysis. The workshop participants **recommended** that the IWC expert group provide further suggestions for follow up data that may be useful for future studies as part of training programs and to other groups.

3. International coordination on data collection

The IWC currently collects limited data on whale entanglements through National Progress Reports. These provide a summary of available information plus the name of a contact person for further information. There is limited information on the extent of data collection effort within these reports. Some countries provide more detail than others but in many cases it is limited to a list of known fatal entanglements by species. For some years, the IWC has been considering developing a global entanglement database that could be hosted by the IWC. The overarching goals of the database would be to identify the species involved, gear type, configuration and origin, whether the entangling materials were in active use or debris, and the geographic region and timing of the entanglement. The ultimate goal would be to use this information to inform mitigation initiatives by the Commission, relevant partner inter-governmental organisations, regional fishery councils or member Nations.

A global IWC database would supplement rather than duplicate national databases. Some countries without national databases have requested centralised data collection through IWC for the disentanglement networks.

The currently available information held by IWC may be sufficient to identify suitable locations to trial entanglement mitigation methods. These would involve a high reported entanglement rate but not necessarily a population where there were serious conservation concerns.

It was **agreed** that a global database would be a useful initiative, particularly to include data from countries that are not members of IWC. For example, there are around 120 nations that have cetacean bycatch that export to the US but reporting is very limited in many of these countries. It was suggested that a first step could include a survey by country of any reported bycatch. There is a need for greater awareness of the extent of the large whale entanglement problem globally. Awareness could be increased by a global review.

4. ADLFG/marine debris

The proportion of entanglements in lost gear compared to active gear is not well known. Most estimates are around 5-15% but it could be as high as 30% in some areas. The majority of entanglements that have been attributed to marine debris appear to originate from gear that was original used for fishing.

One way to evaluate the entanglement risk from ghost gear could be an evaluation of gear washed up on beaches. This can be assessed through the initiatives such as the International Coastal Clean Up and NOAA's projects in various part of the USA¹². Incentives and recycling facilities may also reduce any gear abandoned at sea. The IMO currently requires adequate port reception facilities for end of life fishing gear. Some countries including Korea and Norway have incentive programs for gear recovery.

¹²<https://marinedebris.noaa.gov/>.

In studies of the North Atlantic right whale, only one piece of rope taken off in the last 20 years appeared to be ghost gear. In this context, ghost gear was defined as gear that had been lost for some time. Recently lost gear such as static gear cut by large commercial ships cannot be readily distinguished from actively fished gear.

Given the relatively low proportion of entanglements attributed to ghost gear, the workshop participants **recommended** that large whale entanglement prevention should focus primarily on active gear. However, it also **recommended** that recovery of ghost gear should continue (Marine debris report). It was noted any prevention techniques should try to avoid a higher risk of creating ghost gear. However, evaluating such risks may not always be straightforward. For example, lighter gear associated with weak ropes may make gear more likely to be lost but easier to retrieve.

5. Gear characterisation

The IWC has recommended using FAO codes to describe fisheries gear for use in National Progress Reports. This was mainly intended for use in broad scale risk analyses to

try and estimate the extent of bycatch and entanglement. It was noted that these codes were of limited relevance for entanglement prevention. Even in limited areas there can be a great variety of different types and configurations of fishery that may fall within the same FAO category.

It was **agreed** that from entanglement prevention perspective, gear has to be described beyond such simple codes. Gear descriptions (such as available for Gulf of Maine lobster fisheries) can help with disentanglement efforts by giving more information on how gear was set. In addition to basic descriptions, information on the weight of gear is important for consideration of measures such as weak ropes.

It was noted that the current codes (as used by IWC) did not list aquaculture facilities. It was **agreed** that these should be included because of the recent expansion of such facilities and the potential risk to large whales. Entanglement risk from Fish Aggregating Devices (FADs) also needs to be considered.

It was also **agreed** that there were some categories in the FAO codes that could not pose a risk to whales and these could be eliminated from the options provided in entanglement reporting systems to make data entry simpler.

Appendix 7

RECOMMENDATIONS FROM THE WORKSHOP TO DEVELOP PRACTICAL GUIDANCE FOR THE HANDLING OF CETACEAN STRANDING EVENTS, KRUGER NATIONAL PARK, SOUTH AFRICA, MAY 2016

The Workshop recommended that:	Action by:
The IWC establish a framework to provide advice to contracting governments on critical elements to include in the establishment of a national strandings response network.	IWC Scientific Committee
The IWC promote capacity building by acting as a repository for the dissemination of best practice on strandings response, including national strandings response strategies, appropriate training materials, and euthanasia.	IWC Secretariat; IWC Scientific Committee
Case study examples from around the world be pulled together, with information on successes and failures, to help illustrate best practice in responding to stranding events, and that these be hosted on the IWC webpage.	IWC Secretariat; IWC Scientific Committee
The IWC Scientific Committee actively engage in the phase 2 development of the GMAST by facilitating a meeting of relevant experts and providing advice to the Commission on its use within the IWC.	IWC Scientific Committee
IWC Contracting Governments should be invited to provide updates on how the recommendations of the IWC Workshop on Euthanasia Protocols to Optimise Welfare Concerns for Stranded Cetaceans have been implemented at a national level	IWC Working Group on Whale Killing Methods and Welfare Issues (WG WKM&WI); IWC Secretariat; IWC Contracting Governments
The IWC Scientific Committee consider the need to develop a global strandings data portal	WG WKM&WI; IWC Scientific Committee
Coordination between the IWC and other organisations including ASCOBANS/ACCOBAMS, the European Cetacean Society and other relevant regional processes be continued, in order to promote consistent data collection on the causes of strandings and potential welfare issues.	IWC Contracting Governments IWC Secretariat
IWC Contracting Governments establish clear and effective strategies for media handling and promote proactive engagement with the media and public during high profile stranding events.	IWC Contracting Governments
Rescue attempts should ideally be undertaken by appropriately trained individuals. In addition, those involved in rescues are encouraged to give careful consideration to appropriate insurance coverage.	IWC Contracting Governments
The Secretariat create a document, drawing on existing material, to be hosted on the IWC website that provides basic advice to the general public on health, safety, and animal welfare during live stranding events and during the handling of dead cetaceans.	IWC Secretariat; IWC Scientific Committee
The IWC give consideration to the establishment of a dedicated funding stream to help improve cetacean stranding response globally.	IWC Contracting Governments

Annex I

Report of the Infractions Sub-Committee¹

Friday 21 October 2016, Portorož, Slovenia

SUMMARY OF MAIN OUTCOMES

Issue and Agenda Item	Main outcomes
<i>Item 3.1</i> Infractions Reports for 2014 and 2015	A summary of infraction reports received by the Commission for 2014 and 2015 was reviewed and is given in Appendix 3, Tables 1 and 2.
<i>Item 3.2</i> Follow-up on earlier reports	Information on the completion of the one previously unresolved infraction from earlier seasons is given in Appendix 3, Table 3.
<i>Items 4-6</i> Other information	Information on the surveillance of whaling operations in the 2014 and 2015 is summarised under Item 4. The information provided as required or requested under Section VI of the Schedule is summarised under Item 5. A summary of national legislation supplied to the Commission is given in Table 1.
Other matters	Some members considered that the catches taken in Greenland 2013 and 2014 should be reported as infractions. The Kingdom of Denmark, supported by others, did not agree with this view. There was support for measures to ensure that a situation in which no ASW catch limits are set should not occur in the future, such as the change to the Rules of Procedure suggested by the Working Group on Operational Effectiveness and Cost Saving Measures. The issue was referred to the Commission.

1. INTRODUCTORY ITEMS

The Infractions Sub-committee considers matters and documents relating to the International Observer Scheme and Infractions insofar as they involve monitoring of compliance with the Schedule and penalties for infractions thereof (*Rep. int. Whal. Commn.* 29: 22).

A list of participants is given in Appendix 1.

1.1 Appointment of Chair

Ms Hild Ynnesdal, Norway was appointed Chair. She welcomed participants to the meeting.

1.2 Appointment of Rapporteurs

Cherry Allison (Secretariat) was appointed rapporteur with assistance from Robert Munroe and Pablo Sinovas.

1.3 Review of documents

The following documents were available to the Sub-Committee:

IWC/66/INF

- 01 Revised draft Agenda
- 02rev Annotated draft Agenda
- 03 National Legislation details supplied to the IWC
- 04rev Draft summary of Infraction Reports received by the Commission for 2014 and 2015.

1.4 Observer Participation

Following the change in the Commission's Rules of Procedure agreed at IWC/65 in 2014, the Chair welcomed observers to the Infractions Sub-Committee. She explained that, so long as time permitted, she would call observers to speak at the end of discussions on each agenda item.

2. ADOPTION OF AGENDA

The Agenda was adopted unchanged, see Appendix 2.

3. INFRACTIONS REPORTS FROM CONTRACTING GOVERNMENTS

The Secretariat circulated forms for annual reporting of current and unresolved infractions on 14 April 2016 (Circular Communication IWC.CCG.1199) and on 11 March 2015 (Circular Communication IWC.CCG.1145). While the use of the form is not compulsory, Contracting Governments must fulfil reporting obligations under Article IX.4 of the Convention.

3.1 Reports for 2014 and 2015

The Sub-Committee reviewed IWC/66/Inf04, the draft summary of infraction reports received by the Commission for 2014 and 2015, which is given as Appendix 3 to this report.

3.2 Follow-up on earlier reports

Information on the completion of the one previously unresolved infraction from earlier seasons (by Denmark (Greenland)) is given in Appendix 3.

4. SURVEILLANCE OF WHALING OPERATIONS

The Infractions Report submitted by the USA and the Russian Federation stated that 100% of their catches are under direct national inspection. Catches by Denmark (Greenland) are subject to a random check (1%) and in 2014 1% of the catch was inspected by an observer from NAMMCO. For Iceland 33.5% of the catch was under direct national inspection in 2014 and 15.2% in 2015.

5. CHECKLIST OF INFORMATION REQUIRED OR REQUESTED UNDER SECTION VI OF THE SCHEDULE

The checklist was developed as an administrative aid to the Sub-Committee in helping it to determine whether

¹Presented to the meeting as IWC/66/Rep04.

obligations under Section VI of the Schedule were being met. It is not compulsory for Contracting Governments to complete the checklist although they must fulfil their obligations under this Section of the Schedule.

The available information is summarised below.

Denmark: Information on date, species, length, sex, whether the whale is lactating and the length and sex of any foetus if present is collected for between 68-100% of the catch, depending on the item. The position of each whale killed is collected for 58-63% of the catch and the name of the area where whales are hunted is reported for the remainder. Information on killing methods and numbers of struck and lost animals are also collected.

USA: Information on date, time, species, position, length, sex, the length and sex of any foetus if present, killing method and number of struck and lost is collected for 80-100% of the catch. 39-83% of the adult females were checked for lactation. Biological samples are collected from at least 50% of animals.

Russian Federation: Information on date, time, species, position, length, sex, the length and sex of any foetus if present, whether the whale is lactating, the killing method and numbers struck and lost is collected for 100% of the catch.

Norway, Iceland and St Vincent and The Grenadines: The required information has been submitted to the Secretariat as noted in the Scientific Committee reports (IWC/66/Rep01(2015) and (2016)).

6. SUBMISSION OF NATIONAL LAWS AND REGULATIONS

A summary of national legislation supplied to the Commission is given in Table 1.

7. OTHER MATTERS

7.1 Reports from Contracting Governments on availability, sources and trade in whale products

The Commission has adopted a number of Resolutions inviting Contracting Governments to report on the availability, sources and trade in whale products. This agenda item provides the opportunity for Contracting Governments to provide the information specified in these Resolutions:

- 1994-7² on international trade in whale meat and products.
- 1995-7³ on improving mechanisms to prevent illegal trade in whale meat.
- 1996-3⁴ on improving mechanisms to restrict trade and prevent illegal trade in whale meat.
- 1997-2⁵ on improved monitoring of whale product stockpiles.

²IWC. 1995. Chairman's Report of the Forty-Sixth Annual Meeting, Appendix 7. IWC Resolution 1994-7. Resolution on international trade in whale meat and products. *Rep. int. Whal. Commn* 45:44-45.

³IWC. 1996. Chairman's Report of the Forty-Seventh Annual Meeting, Appendix 8. IWC Resolution 1995-7. Resolution on surveys intended to provide abundance estimates for the implementation of the revised management scheme. *Rep. int. Whal. Commn* 46:45-46.

⁴IWC. 1997. Chairman's Report of the Forty-Eighth Annual Meeting, Appendix 3. IWC Resolution 1996-3. Resolution on improving mechanism to restrict trade and prevent illegal trade in whale meat. *Rep. int. Whal. Commn* 47:49.

⁵IWC. 1998. Chairman's Report of the Forty-Ninth Annual Meeting, Appendix 2. IWC Resolution 1997-2. Resolution on improved monitoring of whale product stockpiles. *Rep. int. Whal. Commn* 48:46.

- 1998-8⁶ *inter alia* reaffirmed the need for Contracting Governments to observe fully the above Resolutions addressing trade questions, in particular with regard to the problem of illegal trade in whale products, and urged all governments to provide the information specified in previous resolutions.

No reports were received by the Secretariat on these resolutions and no comments were made during the meeting.

7.2 Other

Argentina recalled the unresolved issues concerning catches taken in Greenland in 2013 and 2014. At the IWC/64 meeting, no ASW quota was assigned for Greenland. In view of this, Argentina noted that it and the Buenos Aires group maintain that the catches taken by Denmark (Greenland) in 2013 and 2014 should be considered as infractions. Following discussion at IWC/65, unresolved issues relating to these catches were referred to Working Group on Operational Effectiveness and Cost Saving Measures (WG-OE). The WG-OE considered that it did not have the mandate to make recommendations as to whether these catches should be considered as infractions. Argentina stated that it was important to resolve this issue both for the 2013/14 situation and any future situations.

Mexico, Chile and Cetacean Conservation Centre agreed with Argentina. They consider the 2013 and 2014 Greenlandic catches to be infractions and urged that the matter be resolved in order to prevent reoccurrences in the future.

The Kingdom of Denmark responded that it considers it to be the responsibility of the government concerned to report data to the Infractions Sub-Committee. Accordingly, it regularly reports the relevant data to this body. The situation following IWC/64 was exceptional, when an indigenous people of Greenland had a significant subsistence need which had to be met. The Kingdom of Denmark engaged in comprehensive and substantial efforts to address this issue and to find a solution consistent with the Convention. At IWC/65 a solution was adopted.

The Kingdom of Denmark has continued to engage in efforts to improve ASW management, including through participation in the ASWWG (IWC/66/AWSRep02) and by hosting the IWC expert workshop on aboriginal subsistence whaling held in Maniitsoq in 2015 (IWC/66/ASWRep01). It is committed to ensuring the IWC does not find itself in a similar situation in the future. The Kingdom of Denmark shares the commitment to the International Convention on the Regulation of Whaling and its Schedule and fully recognises the competence of the IWC under this framework.

The USA noted that it is the responsibility of each country to interpret the Schedule and determine what to report as an infraction. It did not view extended discussion on this issue as productive, nor will it be resolved at this meeting. In its view, it is more important to move forward and avoid repeating what happened at IWC/64. Recommendations from the IWC Expert Workshop on Aboriginal Subsistence Whaling will help, as will recommendations from the WG-OE.

Iceland supported the Kingdom of Denmark, noting that there is no benefit in reconsidering past events. It also agreed with the USA. Japan observed that the 2013-14 situation was an unfortunate and exceptional case. It is more important that the IWC move towards avoiding this situation in future rather than trying to define violations and what happened in the past.

⁶IWC. 1999. Chairman's Report of the Fiftieth Annual Meeting, Appendix 9. IWC Resolution 1998-8. Resolution on cooperation between the IWC and CITES. *Ann. Rep. Int. Whal. Comm.* 1998: 45-46.

Table 1
National Legislation held at the IWC.

Country	Date of most recent material	Country	Date of most recent material
Antigua and Barbuda	None	Kiribati	None
Argentina	2003	Korea, Republic of	2011
Australia	2000	Laos	None
Austria	1998	Lithuania	None
Belgium	2002	Luxembourg	None
Belize	None	Mali	None
Benin	None	Marshall Islands, Republic of	None
Brazil	2008	Mauritania	None
Bulgaria	None	Mexico	2006
Cambodia	None	Monaco	None
Cameroon	None	Mongolia	None
Chile	2011	Morocco	None
China, People's Republic of	1983	Nauru	None
Colombia	None	Netherlands, The	2002
Congo, Republic of	None	New Zealand	1992
Costa Rica	None	Nicaragua	None
Cote D'Ivoire	None	Norway	2000
Croatia, Republic of	None	Oman	1981
Cyprus	None	Palau, Republic of	None
Czech Republic	None	Panama	None
Denmark (including Greenland)	2014	Peru	1984
Dominica	None	Poland	None
Dominican Republic	None	Portugal	2004
Ecuador	2000	Romania	None
Eritrea	None	Russian Federation	1998
Estonia	2008	San Marino	None
Finland	1983	Saint Kitts and Nevis	None
France	1994	Saint Lucia	1984
Gabon	None	Saint Vincent and The Grenadines	2003
Gambia	None	Senegal	None
Germany	1982	Slovak Republic	None
Ghana, Republic of	None	Slovenia	None
Grenada	None	Solomon Islands	None
Guatemala	None	South Africa	1998
Guinea-Bissau	None	Spain	2008
Guinea, Republic of	None	Suriname	None
Hungary	None	Sweden	2004
Iceland	1985	Switzerland	1986
India	1981	Tanzania	None
Ireland	2000	Togo	None
Israel	None	Tuvalu	None
Italy	None	UK	1996
Japan	2008	Uruguay	2002
Kenya	None	USA	2004

¹Up to the 20 October 2016. Dates in the table refer to the date of the material not the date of submission.

²Member states of the European Union (Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Ireland, Italy, Lithuania, Luxembourg, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and UK) are subject also to relevant regulations established by the Commission of the European Union. The date of the most recent EU legislation supplied to the International Whaling Commission is 2005.

Russia drew attention to the wording in Para 13(b)3 of the Schedule. At IWC/64 the Commission rejected a proposal to increase the Greenlandic catch limits. Therefor para 13(b)3 remained as follows: 'the taking by aborigines of minke whales from the West Greenland and Central stocks and fin whales from the West Greenland stock and bowhead whales from the West Greenland feeding aggregation and humpback whales from the West Greenland feeding aggregation is permitted and then only when the meat and products are to be used exclusively for local consumption'. Thus Russia believes that Denmark (Greenland) may legally take whales for aboriginal purposes without any quota. Russia faced a similar situation in 2002 in relation to bowhead whales, but the matter was resolved at a Special Meeting of the Commission. Appropriate amendments of the Rules of Procedure will help to avoid such situations in future.

Australia strongly believes that aboriginal subsistence whaling should only proceed under agreed strike limits. It regretted that such was not the case for Greenland at that

time, and that what it believed to be unregulated whaling was carried out. Australia recognises that there are legitimate arguments to record this as an infraction, but the case is not sufficiently clear given historic precedent. However, it was concerned that undertaking aboriginal subsistence whaling in the absence of an IWC-approved quota should not be seen as an acceptable default. Australia is willing to work together with others to prevent such an occurrence in future.

In conclusion, the Chair noted that this matter cannot be resolved here and hence it should be forwarded to the Commission for further discussion. She noted the proposed change to the Rules of Procedure from the WG-OE which could help to prevent a situation in which no ASW catch limits are set in the future.

8. ADOPTION OF THE REPORT

The report was adopted by correspondence on 22 October 2016.

Appendix 1**LIST OF PARTICIPANTS****ARGENTINA**

Juan Pablo Paniego
Miguel Iñíguez

AUSTRALIA

Nick Gales
Frank Lamacchia
Pam Eiser
William de la Mare

AUSTRIA

Andrea Nouak
Michael Stachowitsch

BELGIUM

Els Vermeulen
Fabian Ritter

CAMBODIA

Ing Try

CHILE

Barbara Galletti Vernazzani

CZECH REPUBLIC

Barbora Hirschova

DENMARK

Nette Levermann
Amalie Jessen
Gitte Hundahl

FINLAND

Penina Blankett

FRANCE

Nadia Deckert
Vincent Ridoux

GERMANY

Andreas Taeuber
Jurgen Friedrich
Nicole Hielscher

ICELAND

Johann Gudmundsson
Gisli Víkingsson
Kristjan Loftsson

JAPAN

Joji Morishita
Hideki Moronuki
Naohito Okazoe
Toshinori Uoya

KENYA

Susan Imende

KOREA, REPUBLIC OF

Hawsun Sohn
Young Min Choi

MEXICO

Lorenzo Rojas-Bracho

NEW ZEALAND

Amy Laurenson
Andrew Townend
Julia Reynolds

NORWAY

Ole-David Stenseth
Alessandro Astroza
Arne Bjørge
Hild Ynnesdal
Kathrine Ryeng

RUSSIAN FEDERATION

Ayvana Enmynkau
Igor Mikhno
Kirill Zharikov
Nataliia Slugina
Olga Safonova

SLOVAK REPUBLIC

Branislav Hrabkovsky
Lucia Vlckova

SOUTH AFRICA

Ed Couzens

SPAIN

Gloria Delgado Rojas

ST KITTS AND NEVIS

Marc Williams

ST LUCIA

Horace Walters

SWEDEN

Anders Alm

SWITZERLAND

Bruno Mainini
Martin Krebs
Patricia Holm

UNITED KINGDOM

Catherine Bell
Jennifer Lonsdale

UNITED STATES OF AMERICA

Russell Smith
Ryan Wulff
Brian Gruber
David Weller
DJ Schubert
Greig Arnold
Harry Brower
Arnold Brower
Jordan Carduner
Lisa Phelps
Michael Gosliner
Michael Tillman
Robert Brownell
Robert Suydam
Roger Eckert

INVITED EXPERT

Dalee Sambo Dorough

OBSERVERS**Vietnam**

Nguyen Thi Trang Nhung
The Cong Tran

NAMMCO

Charlotte Winsnes

**Alaska Eskimo Whaling
Commission**

John Hopson
Jessica Lefevre
Taquik Hepa
Arnold Brower
Christopher Winter

Animal Welfare Institute

Kate O'Connell
Sue Fisher

Centro de Conservacion Cetacea

Maria Jimenez
Peter Sanchez

Dolphin Connection

Helena Symonds
Paul Spang

Fundacion Cethus

Carolina Cassani

Greenpeace

Phil Kline
John Frizell

Humane Society International

Bernard Unti
Claire Bass
Cristobel Block

Inst. de Conservacion de Ballenas

Roxana Schteinbarg

Makah Indian Tribe

Keith Johnson

OceanCare

Fabienne McLellan

Nicolas Entrup

Pro Wildlife e.V.

Sandra Altherr

Robin des Bois

Tamara Vilarins

University of Tasmania, Faculty of**Law**

Lucy Smejkal

Whale and Dolphin Conservation

Astrid Fuchs

Whaleman International

Jeff Pantukhoff

World Animal Protection

Nicola Beynon

World Conservation Trust**(IWMC)**

Nikolas Sellheim

IWC

Cherry Allison

Greg Donovan

Kate Wilson

Simon Brockington

Katie Penfold

Rapporteurs

Robert Munroe

Pablo Sinovas

Appendix 2**AGENDA**

1. Introductory items
 - 1.1 Appointment of Chair
 - 1.2 Appointment of Rapporteur
 - 1.3 Review of documents
 - 1.4 Observer participation
 2. Adoption of the Agenda
 3. Infractions reports from Contracting Governments
 - 3.1 Reports for 2014 and 2015
 - 3.2 Follow-up on earlier reports
 4. Surveillance of whaling operations
 5. Checklist of information required or requested under Section VI of the schedule
 6. Submission of national laws and regulations
 7. Other matters
 - 7.1 Reports from Contracting Governments on availability, sources and trade in whale products
 - 7.2 Other
 8. Adoption of the Report
-

Appendix 3

SUMMARY OF INFRACTIONS REPORTS RECEIVED BY THE COMMISSION FOR 2014 AND 2015

Under the terms of the Convention, each Contracting Government is required to transmit to the Commission full details of each infraction of the provisions of the Convention committed by persons and vessels under the jurisdiction of the Government. Note that although lost whales are traditionally reported, they are not intrinsically infractions.

Aboriginal subsistence catches and infractions are summarised in tables 1a-b. Catch and associated data for commercial and scientific permit catches were submitted to the IWC Secretariat (IWC/66/Rep01(2015) and (2016)). The data for commercial catches and other infractions are summarised in tables 1c-d.

Table 2 gives details of the infractions reported in the 2014 and 2015 seasons and Table 3 gives information on the unresolved infractions from previous years.

Table 1a
Summary of Aboriginal subsistence catches and infractions reported for the 2014 season.

Country	Species	Males	Females	Total landed	Struck and lost	Total strikes	Infractions/comments
Denmark							
West Greenland	Fin whale	6	5	11	1	12	None
	Minke whale	27	115	144 ¹	2	146	None
	Humpback whale	2	4	6	1	7	None
East Greenland	Minke whale	1	9	11 ²	0	11	None
St Vincent and The Grenadines							
	Humpback whale	0	0	0	2	2	None
USA							
	Bowhead whale	19	18	38 ²	15	53	None
Russian Federation							
	Gray whale	42	80	122	2	124	None

Table 1b
Summary of Aboriginal subsistence catches and infractions reported for the 2015 season.

Country	Species	Males	Females	Total landed	Struck and lost	Total strikes	Infractions/comments
Denmark							
West Greenland	Fin whale	2	8	10	2	12	None
	Minke whale	26	101	130 ³	3	133	None
	Humpback whale	2	4	6	0	6	None
	Bowhead whale	0	1	1	0	1	None
East Greenland	Minke whale	0	6	6	0	6	None
St Vincent and The Grenadines							
	Humpback whale	1	0	1	0	1	None
USA							
	Bowhead whale	20	19	39	10	49	1 (Infraction 2015.1)
Russian Federation							
	Gray whale	49	75	124 ⁴	1	125	None

¹Includes 2 whales of unknown sex. ²Includes 1 whale of unknown sex. ³Includes 3 whales of unknown sex. ⁴Includes 1 whale that was inedible due to strong chemical smell.

Table 1c
Summary of Commercial catches and any infractions reported for the 2014 season.

Nation	Species	Males	Females	Total landed	Lost	Total	Infractions/comments
Iceland							
	Fin whale	81	53	134	3	137	None (see note ⁵)
	Minke whale	16	7	23	1	24	None
Norway							
	Minke whale	235	494	731 ⁶	5	736	None
Republic of Korea							
	Minke whale					11	11 (Infractions 2014.1-11)

Table 1d
Summary of Commercial catches and any infractions reported for the 2015 season.

Nation	Species	Males	Females	Total landed	Lost	Total	Infractions/comments
Iceland							
	Fin whale	87	67	154	1	155	None
	Minke whale	21	8	29	0	29	None
Norway							
	Minke whale	159	501	660	0	660	None
Republic of Korea (see⁷)							
	Minke whale					14	14 (Infractions 2015.3-16)
	Fin whale ⁸					1	1 (Infraction 2015.17)
	Unidentified					1	1 (Infraction 2015.2)

⁵The catch included a lactating whale but it was not accompanied by a calf and could not be identified as such until after it was caught. Hence it is not reported as an infraction. ⁶Includes 2 whales of unknown sex. ⁷Korea also reports that 23 porpoises were taken illegally. ⁸Originally reported as a right whale. Corrected at the meeting of the IWC/66 Infractions Sub-Committee.

Table 2a
List of infractions from the 2014 season.

No. 2014-	Nation	Species	Sex	Length h	Date	Infraction (specify)	Explanation ²	Penalty/action ³	Investigation complete?
1	Korea	Minke whale (1)	Unk.	Unk.	11 Nov. 2014	No quota (illegal catch)	On 11 Nov 2014 ~12:20 a minke whale was seen 6 miles east of Samechoek Port. The violators harpooned the whale which died from blood loss. A vessel waiting nearby dismembered and transported the whale.	Total: Eight violators. - 2 violators: 8-month imprisonment - 2 violators: 7-month imprisonment 2-year probation - 2 violators: monetary penalty (KRW 5 million) - 1 violator: monetary penalty (KRW 3 million)	Yes
2	Korea	Minke whale (1)	Unk.	Unk.	27 Jan. 2014	No quota (illegal catch and transportation)	On 27 Jan 2014 ~12:00 the suspected ship, <i>Chilsan</i> , departed from Yeong-gwang for gray mullet. On the same day ~16:00 at the southeast from Ahmma-do, an unidentified fishing vessel in preparation for fishing operation suddenly approached and asked for the destination. After identifying the destination as Jeollanam-do, Yeonggwang-gun, Yeomsan-myun, Weolpyung, they handed over one mobile phone and ~50 sacks onto the <i>Chilsan</i> and stated that a car will approach on entry into the port and hand over KRW 3 million. Thus, while transporting the 50 sacks, the ship got caught in a fishing net then they disposed the sacks.	Total: Two violators - 1 violator: monetary penalty (KRW 5 million) - 1 violator: prosecution suspended	Yes
3	Korea	Minke whale	Unk.	Unk.	3 Mar 2014	No quota (illegal catch and transportation)	On 3 Mar 2014 ~18:00, the captain of the ship 2011 <i>Dongjin</i> received an offer of KRW1.5 million in return for transportation by an unknown person when he was about to board the ship. He received 3 sacks of dismembered whale (approximately 500kg) in waters between Okdo-myun, Bangehook-do and Myung-do, and took them to the oil depot of National Fisheries Federation Cooperation in Gunsan-si, Beung-do the same day. They were found on arrival when they were about to be transhipped to a 1 ton refrigerator truck and distributed.	Total: Seven violators - 1 violator: monetary penalty (KRW 3 million) - 1 violator: non-prosecution - 1 violator: monetary penalty (KRW 1 million) - 1 violator: monetary penalty (KRW 3 million) Dismembered whale meat: confiscated	Yes
4	Korea	Minke whale	Unk.	Unk.	20 May 2014	No quota (illegal transportation)	On 20 May 2014 ~00:20, at the Yamido dock of Okdo-myun, Yamido-ri, chief Yamido branch officer identified ship <i>Youngjin</i> unloading products which he assumed to be an illegal catch from a refrigerator. The ship was arrested at once while transferring dismembered whale (approximately 1,500kg) from a refrigerator truck.	- 1 violator: 6-month imprisonment, 1-year probation Dismembered whale meat: confiscated	Yes
5	Korea	Minke whale	Unk.	Unk (dismembered)	20 Mar 2014	No quota (illegal transportation and storage)	On 20 Mar 2014 ~03:00, on the road near Gyeongju-si, Angang-eup, Nodang-ri, a violator was approached by an unknown person transporting an illegal Minke whale on a ton porter vehicle, and moved it to a rented workplace in 496 Nodang-ri, Angang-eup, for dismemberment. 93 sacks of illegally captured and dismembered whale meat were handed over and stored.	Total: Four violators - Two violators: on trial - Two violators: non-prosecution (lack of evidence)	No
6	Korea	Minke whales (1)	Unk.	4.5m	1 Apr 2014	No quota (illegal catch)	On 1 Apr 2014, ship 205 <i>Gwangsung</i> departed Yangpo port and on 3 Apr, ~13:30, a Minke whale was found caught in the line while hauling up the fishing trap set on an unidentified date. The whale was raised and then reported to Yangpo branch office.	Non-prosecution (stay of prosecution) Suspect unidentified	Yes
7	Korea	Minke whale	Unk.	Unk.	27 Jun 2014	No quota (illegal catch)	On 27 Jun 2014, ~19:50, at sea 2 miles east from Pohang-si, Songra-myun, Hwajin-ri, a violator was caught while pulling up 3 nets of whale meat from a signal buoy. An unknown person informed on him.	- 1 violator: monetary penalty (KRW 5 million)	Yes
8	Korea	Minke whales (1)	Unk.	6m	21 Jul. 2014	No quota (illegal catch)	On 21 Jul 2014, ~07:00, at Chuksan port of Gyeongbuk, Yeongdeok-gun, Chuksan-myeon, a captain departed for illegal snow crab fishing boat observation. On the same day, around 10:50, a dead minke whale caught using a harpoon was found and reported.	Non-prosecution (prosecution suspended) Suspect unidentified	Yes
9	Korea	Minke whale	Unk.	Unk.	21 Aug. 2014	No quota (illegal catch)	On 21 Aug 2014, ~12:00, at sea about 14 miles northeast from Jukbyun port of Uljin-gun, Jukbyun-myeon, ship 212 <i>Hochang</i> (57 ton, Jukbyun vessel, trawler, 10 crew on board) in operation detected a piece of meat (length 110cm, circumference 140cm) which was assumed to be a minke whale when hauling the net, and reported it to the Jukbyun police substation.	Conclusion of examination Suspect unidentified	Yes

No.	Nation	Species	Sex	Length	Date	Infraction (specify) ¹	Explanation ²	Penalty/action ³	Investigation complete?
2014-10	Korea	Minke whale	Unk.	Unk.	28 Sep. 2014	No quota (illegal catch)	On 28 Sep 2014, ~11:00, at Chiksan port of Ulljin-gun, Pyeonghae-eop, the violators boarded the ship <i>Haeju</i> (4.91 ton) for an unknown sea where they caught a Minke whale, dismembered it on board, put the meat into sacks and concealed them under water near the seawall of Ulljin-gun, Pyeonghae-eop, Jiksan-ri (14 net sacks of whale meat found).	- Three violators: on trial	No
11	Korea	Minke whale	Unk.	Unk.	20 Oct. 2014	No quota (illegal transportation and storage)	On an unknown date, an unknown ship caught a minke whale in an illegal way not permitted by the Fishing Act, transported 20 boxes of meat to the Ilshin Machinery's cold storage area and stored them.	- Two violators: on trial - One violator: non-prosecution (lack of evidence)	No

Table 2b

List of infractions from the 2015 season.

No.	Nation	Species	Sex	Length	Date	Infraction (specify) ¹	Explanation ²	Penalty/action ³	Investigation complete? ⁴
1	USA	<i>Balaena mysticetus</i>	F	5.7m	5 May 15	Calf	A very experienced crew inadvertently struck a calf, having incorrectly identified it as a larger whale.	The AEWG staff and Board of Commissioners conducted an investigation of the incident and held a hearing to take testimony from the captain and crew. Under the circumstances, including recognition of the fact that this experienced captain had never before committed an infraction, it was determined that a warning would be issued but no penalty would be imposed.	Yes
2	Korea	Unidentified	Unk.	Unk.	13 Jan. 2015	No quota (illegal transportation)	On 13 Jan 2015 at 5:00pm the violators departed from a port in Eocheong Island (Okdo-myeon, Gunsan city) on board the vessel <i>Changshin</i> in order to transport illegally captured whales. The <i>Changshin</i> was moored with another whaler (7 tons, no other details) 0.5 miles northeast of Eocheong Island at 8:00pm. The two violators illegally captured and dismembered a whale, and were arrested 0.5 miles north of Hyeonggyeongdo (Okdo-myeon) at 11:30pm.	Total: Two violators - 1 violator: monetary penalty (US\$5 thousand) - 1 violator: prosecution suspended Dismembered whale meat: confiscated	Yes (Gusan police office)
3	Korea	Minke whale (1)	Unk.	4.6m	21 Feb. 2015	No quota (illegal catch)	It was reported as follows: when hauling a set net at a point about two miles east of Osan Port at 4:10am on 21 Feb 2015, the violators found a live minke whale entangled in the net. They tied a rope to the whale's tail and kept it hanging upside down with its head and blowhole submerged under the sea. By doing so, they let whale die and illegally captured it.	Total: Three violators - 3 violators: non-prosecution (lack of evidence)	Yes (Pohang police office)
4	Korea	Minke whale	Unk.	Unk.	10 June 2015	No quota (illegal transportation and storage)	After plotting in advance, the violator received about 68 bags of illegally caught whale meat (1,100kg) from an unknown vessel on 10 June 2015 at a prearranged place. On the same date, the vessel was detected by police officers while mooring at Hajeong 3-ri Port (Guryongpo-eup, Nam-gu Pohang-si) at 3:50pm and the violators ran away abandoning the vessel.	Total: Seven violators - 5 violators: on trial - 1 violator: non-prosecution (suspension of prosecution) - 1 violator: non-prosecution (lack of evidence)	No (Pohang police office)
5	Korea	Minke whale	Unk.	Unk.	24 Aug. 2015	No quota (illegal transportation and storage)	Upon proposal by an unknown person to transport whale meat, the violator went on board the vessel <i>Bijong</i> at Jigyeong Port at 2:00pm on 23 Aug 2015. The vessel received 40 bags of dismembered whale meat at a point twelve miles east of Jigyeong Port.	Total: Three violators Three violators: on trial	No (Pohang police office)

No.	Nation	Species	Sex	Length	Date	Infraction (specify) ¹	Explanation ²	Penalty/action ³	Investigation complete? ⁴
6-9	Korea	Minke whales (4) and porpoise (23)	Unk.	1*6.3m Others: unk.	2 April 2015	No quota (illegal catch)	In the period from early Nov. 2014 to late April 2015, four minke whales and 23 porpoise (total of 27) had been captured.	Total: Eight violators - 1 violator: 10-month imprisonment, monetary penalty (US\$3,000) - 1 violator: 6-month imprisonment, monetary penalty (US\$1,000) - 1 violator: 6-month imprisonment, monetary penalty (US\$2,000) - 2 violators: monetary penalty (US\$4,000) - 1 violator: 6-month imprisonment, monetary penalty (US\$1,000) - 1 violator: 6-month imprisonment, 2 year probation, monetary penalty (US\$1,000) - 1 violator: non-prosecution (lack of evidence)	Yes (Ulsan police office)
10-13	Korea	Minke whales (4)	Unk.	Unk.	25 April 2015	No quota (illegal catch)	In February 2015, a minke whale was captured in the waters off Jeollanam-do. In April 2015, three minke whales were captured in the East Sea.	On trial	No (Ulsan police office)
14	Korea	Minke whale (1)	Unk.	Unk.	29 May 2015	No quota (illegal catch)	A minke whale swimming in the coastal sea of Dong-gu, Ulsan was captured illegally.	On trial	No (Ulsan police office)
15	Korea	Minke whale	Unk.	Unk.	16 June 2015	No quota (illegal transportation)	Violators were prompted by unknown person(s) to transport illegally captured and dismembered whale meat to land in return for KRW 3.5 million. At 5:00pm on 16 June 2015, the violators received 34 bags of illegally captured and dismembered minke whale meat (340.2kg, confiscated) from the captain of unknown illegal whaler in waters near Songi Island (Yeonggwang-gun, Jeollanam-do) and retained them on board. They were alleged to take the meat to waters 1.5 miles from Songseok-ri, Muan-gun Jeollanam-do at 00:17 am on 17 June 2015.	Total: Three violators - 1 violator: monetary penalty US\$ 5 thousand Proceeds from sale of whale meat: confiscated (sentence handed down on April 12 / not yet finalised) - 2 violators: non-prosecution	No (Mokpo police office)
16-17	Korea	Minke whale (1) and fin whale (1)	Unk.	Unk.	19 Oct. 2015	No quota (illegal catch and transportation)	Violators were arrested while transporting illegally captured and dismembered whales by a leisure boat in the coastal waters of Ilsan-dong, Dong-gu, Ulsan. The whaler(s) is being traced.	Total: Seventeen violators - 1 violator: 8-month imprisonment - 16 violators: under investigation	No (Ulsan police office)

Table 3

List of unresolved or previously unreported infractions from earlier seasons and follow-up actions.

Year and no.	Nation	Species	Sex	Length	Date	Infraction (specify) ¹	Explanation ²	Penalty/action ³	Investigation complete? ⁴
2012-1	Denmark (Greenland)	Humpback whale	Female	14m	07/11/2012	Killing method, use of cold harpoon	Ilulissat (West Greenland). Report from regional Wildlife Officer on killing method (cold harpoon) used for secondary killing.	Reported to the police. Investigation stopped, expired	Stopped.

Annex J

Catches by IWC Member Nations in the 2014 and 2015 Seasons

Prepared by the Secretariat

Bycatches are not included.

2014 and 2014/15 seasons

	Fin	Humpback	Sei	Bryde's	Minke	Sperm	Bowhead	Gray	Operation
North Atlantic									
Denmark									
(West Greenland)	12 ¹	7 ¹	-	-	146 ²	-	-	-	Aboriginal subsistence
(East Greenland)	-	-	-	-	11	-	-	-	Aboriginal subsistence
Iceland	137 ³	-	-	-	24 ⁴	-	-	-	Whaling under reservation
Norway	-	-	-	-	736 ⁵	-	-	-	Whaling under objection
St. Vincent and The Grenadines	-	2 ²	-	-	-	-	-	-	Aboriginal subsistence
North Pacific									
Japan	-	-	90	25	81	-	-	-	Special Permit
Russian Federation	-	-	-	-	-	-	-	124 ⁶	Aboriginal subsistence
USA	-	-	-	-	-	-	53 ⁷	-	Aboriginal subsistence
Korea	-	-	-	-	11	-	-	-	Illegal catches
Antarctic									
Japan	-	-	-	-	-	-	-	-	Special Permit

2015 and 2015/16 seasons

	Fin	Humpback	Sei	Bryde's	Minke	Sperm	Bowhead	Gray	Right	Operation
North Atlantic										
Denmark										
(West Greenland)	12 ⁸	6	-	-	133 ⁹	-	1	-	-	Aboriginal subsistence
(East Greenland)	-	-	-	-	6	-	-	-	-	Aboriginal subsistence
Iceland	155 ¹⁰	-	-	-	29	-	-	-	-	Whaling under reservation
Norway	-	-	-	-	660	-	-	-	-	Whaling under objection
St. Vincent and The Grenadines	-	1	-	-	-	-	-	-	-	Aboriginal subsistence
North Pacific										
Japan	-	-	90	25	70	-	-	-	-	Special Permit
Russian Federation	-	-	-	-	-	-	-	125 ¹¹	-	Aboriginal subsistence
USA	-	-	-	-	-	-	49 ¹²	-	-	Aboriginal subsistence
Korea	-	-	-	-	14	-	-	-	1	Illegal catches ¹³
Antarctic										
Japan	-	-	-	-	335 ¹⁴	-	-	-	-	Special Permit

¹ Including 1 struck and lost.

² Including 2 struck and lost.

³ Including 3 lost.

⁴ Including 1 lost.

⁵ Including 5 lost.

⁶ Including 2 struck and lost.

⁷ Including 15 struck and lost.

⁸ Including 2 struck and lost.

⁹ Including 3 struck and lost.

¹⁰ Including 1 struck and lost.

¹¹ Including 1 struck and lost and 1 unfit for consumption.

¹² Including 10 struck and lost.

¹³ Plus 1 unidentified (total catch = 16).

¹⁴ Including 2 lost.

Annex K

Report of the Finance and Administration Committee¹

Saturday 22 October 2016, Portorož, Slovenia

SUMMARY OF MAIN OUTCOMES

Agenda Item	Main outcomes
<p><i>Item 3</i> Administrative matters</p>	<p>Reports on communications (IWC/66/F&A06), archiving (IWC/66/F&A15) and meeting feedback (IWC/66/F&A04) were endorsed by the Committee. Three items concerning the IWC-SORP research fund were recommended (see Item 3.5). The approach to developing guidelines for allocation and use of voluntary funds in the intersessional period as set out in IWC/66/F&A06 were endorsed.</p>
<p><i>Item 4</i> Intersessional Working Groups (WG)</p> <p><i>Item 4.1</i> WG on Operational Effectiveness (WG-OE)</p> <p><i>Item 4.2</i> Correspondence Group on Strengthening IWC Financing</p> <p><i>Item 4.3</i> WG on Governments of Limited Means</p> <p><i>Item 4.4</i> WG on Website Guidance</p> <p><i>Item 4.5</i> Scientific Committee's Rules of Procedure</p>	<p>The Committee endorsed the recommendations from the WG-OE (as listed under Item 4.1) and their suggested changes to the Rules of Procedure and Rules of Debate (see Appendix 4) with the exception of bracketed text. The Committee endorsed the work plan of the Intersessional Correspondence Group (see Appendix 5) and recommended that Belgium continue as Chair. The recommendations of the WG are listed under Item 4.3. The Committee welcomed the report and was generally supportive of finding a way to improve developing country participation. The WG Chair will work with delegations in order to bring a revised Resolution to the IWC/66 Plenary meeting. The Committee endorsed a proposal to subsume the website WG into the WG-OE, endorsed the guidance on the use of the IWC website and the recommended incremental approach to facilitate communication amongst Commission members given in Appendix 7 (A and B). The Committee endorsed the revised Scientific Committee Rules of Procedure listed in their report (IWC/66/Rep01(2015) Annex R) and recommended incorporation of the following option for paragraph 4(e): <i>'Papers submitted under the Rule of Procedure 4(a) must be based on science and facts and shall not contain disrespectful statements to any participating person, organisation or government'</i>. The Commission endorsed the proposal from the Scientific Committee to update their procedures regarding Invited Participants (see Appendix 8).</p>
<p><i>Item 5</i> Proposed Resolutions</p>	<p>The Committee expressed general support for the draft resolution IWC/66/10, with some reservations, and noted that the Committee's role, if any, in implementing it would require clarification upon its adoption.</p>
<p><i>Item 7</i> Financial Statements, budgets and other matters addressed by the Budgetary Sub-Committee</p>	<p>The Committee noted the Provisional Financial Statement for the year ending 31 December 2016 and recommended that the Commission approve the expenditure of ~£10,000 to draw up plans for the warehouse section of the IWC headquarters property to be presented to IWC/67. The Committee endorsed the research budget for the Scientific Committee as revised by the Committee and given as Appendix 10 The Committee recommended that budget Option 1 (the 'business as usual' scenario) given in IWC/66/07 which includes a 0.3% inflationary increase and the 0.3% increase in Observer fees proposed in IWC/66/BSC03 be adopted by the Commission. The Committee recommended initiatives arising from: (i) the Conservation Committee's proposed work on Bycatch; and (ii) the Expert Panel and Co-ordinator on Strandings, noting that costs might have to be met through voluntary contributions at least initially</p>

¹Presented to the meeting as IWC/66/Rep02.

1. INTRODUCTORY ITEMS

The Finance and Administration Committee advises the Commission on expenditure, budgets, scale of contributions, Financial Regulations, staff questions, and other such matters as the Commission may refer to it from time to time (Rule of Procedure M.8).

A list of participants is given as Appendix 1.

1.1 Appointment of Chair

Ryan Wulff, USA was appointed Chair.

1.3 Appointment of Rapporteurs

Martin Jenkins, Robert Munroe, Sara Oldfield, Pablo Sinovas and Harriet Gillett were appointed as rapporteurs.

1.4 Review of documents

The list of documents is given as Appendix 2.

1.5 Observer participation

The Chair noted that, under new rules agreed at IWC/65, this was the first time the Commission had invited observers to attend the F&A Committee meeting.

2. ADOPTION OF AGENDA

The Chair noted that two issues referred to the F&A Committee from the CC and from the WKM&WI Working Group may have cost implications and would be addressed under Item 7.3.2.

With the above additions, the Agenda was adopted (see Appendix 3).

3. ADMINISTRATIVE MATTERS

3.1 IWC communications

The Secretariat introduced Document IWC/66/F&A05 on progress to develop the Commission's external and internal communications capabilities based on a communications workplan which began in 2013. Of particular note was the ongoing programme of website section updates, and publication of a new intersessional report series, the first edition of which was published one month prior to IWC/66.

The Committee **endorsed** the report presented in IWC/66/F&A05.

3.2 IWC document archiving

The Secretariat presented a report (IWC/66/F&A15) on continuing work to provide online access to the Commission's extensive document archive. All IWC publications and IWC meeting documents since 2006 are available for free download. An online archiving system using open source software is in use but this requires additional programming and investigation to make it suitably fast and user-friendly. The Secretariat holds electronic files for IWC documents dating back to the first Plenary meeting of the Commission in 1949 which are yet to be uploaded. Appendix 1 of IWC/66/F&A15 gives an estimated budget for the work involved.

The Chair commented that the cost of the proposed electronic archive is not included in the current budget. For the work to progress, costs would need to be included within future year budgets, or funded from a voluntary contribution.

3.3 Reporting of confidential communications

Rule of Procedure P.3 requires the Secretary to report any confidential communications arising during the preceding year to the Commission or Bureau in years when the Commission does not meet.

The Secretary reported that no confidential communications had been distributed.

3.4 Meeting arrangements

At IWC/65 in 2014, the Commission recommended that the Secretariat should conduct a survey of meeting arrangements in the light of previous procedural changes. The Secretariat reported the results of the feedback survey undertaken at the close of IWC/65, contained in IWC/66/F&A04. As a result of suggestions in the survey, improvements have been made in the following four areas:

- internet speed;
- presentation of the financial statements;
- online registration payments; and
- length of meeting - the plenary session is extended from four days to five days at IWC/66.

The USA reiterated their support for involvement of observers, noting that transparency within the IWC will give it greater legitimacy, and that observers can provide a beneficial contribution to the Commission's deliberations. It encouraged the Chairs of both the plenary and its sub-groups to call on observers during substantive agenda items, following member government interventions, as time allows. Finally, it encouraged the Commission to consider additional ways observers can contribute to the work of the Commission in the intersessional periods, perhaps by allowing their participation as technical experts on working groups.

The Committee thanked the Secretariat for their work and **endorsed** the suggestion for a similar feedback survey for IWC/66.

3.5 Dispersal of funds from the IWC-SORP research fund

Since IWC/65 in 2014, the Commission had received voluntary contributions totalling £784,866 towards the work of the IWC's Southern Ocean Research Partnership. A call for proposals to utilise the first portion of this funding was issued through Circular Communication IWC.ALL.259 on 26 July 2016.

Financial contributions from Australia, Netherlands, International Fund for Animal Welfare and WWF Australia were noted with thanks.

An update on progress to disperse funds from the IWC-SORP Research Fund was given by the Scientific Committee Chair who noted that the process had been revised at SC/66b (see documents IWC/66/F&A13rev and IWC/66/Rep01, Annex W).

The Scientific Committee Chair sought approval from the Commission for the allocation of £144,058 from the IWC-SORP research fund according to the interim procedure developed and implemented by the Scientific Committee. She also sought advice on how best to obtain Commission endorsement for any proposed expenditure exceeding £15,000 during the 2017/2018 intersessional period.

Australia commented that they were pleased to be able to contribute to SORP and appreciate the robust procedures of the Scientific Committee as the work of the Partnership grows.

The Committee **recommended** endorsement of the following three issues detailed in Document IWC/66/F&A13rev.

- Approval of an updated procedure for allocation of funds from the IWC-SORP Research Fund as set out in IWC/66/Rep01, Annex W.
- Approval for allocation of a total of £144,058 from the IWC's SORP voluntary fund ahead of 2016-2017 austral summer survey season according to the interim procedure developed and implemented by the Scientific Committee [see Items 3-5 IWC/66/F&A13rev].

- Development of recommendations for future intersessional allocations of funding [see IWC/66/F&A13rev].

3.6 Guidelines for allocation and use of voluntary funds in the intersessional period

The Secretary presented IWC/66/F&A06 on the development of guidelines to support the use of voluntary funds which are received and require disbursement during the intersessional period. He noted that the Commission has well defined procedures for core contributions. For voluntary contributions, it is proposed that the Commission Chair and the Chair of the F&A Committee advise on the appropriate IWC body to oversee distribution and reporting, as laid out in IWC/66/F&A06.

In response to a question about the relative proportion of the budget coming through voluntary contributions, the Secretary noted that the core IWC annual budget is approximately £1.6 million. Voluntary contributions are generally between £300,000 and £500,000 annually, but are likely to exceed £1 million this year because of a substantial contribution to the SORP fund, amongst other contributions.

Monaco noted the need for prudence in keeping the overall budget in balance and asked whether, given the uncertainty of the British pound, it would be prudent to hold some of the IWC funds in different currencies. The Secretary noted that in 2017 an organisational risk management strategy will be developed and that currency exchange considerations would be included as part of that.

The USA supported the proposal for intersessional allocation of funding and urged caution when handling funds in different currencies to avoid putting the Commission's resources at risk.

The Committee **endorsed** the approach to developing guidelines for allocation and use of Commission Funds set out in IWC/66/F&A06, noting the discussion that has taken place.

4. INTERSESSIONAL WORKING GROUPS

4.1 Report of the Working Group on Operational Effectiveness and Cost Saving Measures

At IWC/64 in 2012, the Commission endorsed a recommendation from the F&A Committee to establish a Working Group on Operational Effectiveness and Cost Saving Measures. The Working Group has continued to progress its aims and its report is given as IWC/66/F&A07.

The Chair of the Working Group on Operational Effectiveness and Cost Saving Measures (WG-OE) introduced IWC/66/F&A07 and thanked member countries and observers for their input to the Working Group. She noted that the Commission endorsed the work of the Working Group at IWC/65 and recommended that it continue its work with an enhanced membership. The Chair reminded the Committee that membership remains open and encouraged additional countries to join.

The Chair of WG-OE noted that that the Working Group considered five issues and that it had provided associated recommendations. Their suggested changes to the Rules of Procedure given in IWC/66/F&A07 Annex I are included here as Appendix 4. The recommendations are listed below.

- (1) Consideration of the new biennial meeting pattern. The WG-OE:
 - (a) recommend the IWC Chair, Secretariat, and Bureau should continue to keep the length of the Plenary meeting under consideration when planning future IWC meetings;

- (b) supports the recommendation of the Website WG to adopt an incremental approach to facilitate communication between Commission members intersessionally. The WG-OE also suggests modifying the draft guidance document developed by the Website WG to refer work that has not been endorsed by the Commission to both the Chair and Vice Chair;
 - (c) recommends that the Commission adopt the proposed changes to the Rule of Procedure E.4 in Appendix 4;
 - (d) suggests that chairs of working groups, committees and subcommittees solicit input from observers in their intersessional work; and
 - (e) recommends that the Commission adopt the proposed changes to the Rules of Debate A.1 in Appendix 4.
- (2) A review of the operations of the Commission such that its limited resources are used effectively.
 - (a) The WG-OE recommends the Secretariat continue to work to ensure that wireless connectivity is secure and can accommodate a large number of participants during Commission meetings. In addition, the WG-OE recommends exploring the use of web-conferencing tools to facilitate intersessional discussions.
 - (b) The WG-OE recommends that the Commission adopt proposed changes to the Rules of Procedure F.2(g) and Rules of Debate C.3 in Appendix 4.
 - (3) Provide for closer engagement of the Commission in the setting of the Scientific Committee work plans by formulating advice to the Scientific Committee. The WG made no recommendations on this subject at this time.
 - (4) Unresolved issues concerning catches taken in Greenland in 2013 and 2014.
 - (a) The WG-OE recommends that the Commission consider the proposed changes to the Rule of Procedure J.4 found in Annex I.
 - (5) Consideration of transferring a percentage of money donated to voluntary funds into the IWC general fund.
 - (a) The WG-OE recommends no changes to the Commission's acceptance of voluntary funds policy adopted at IWC/65.

Australia considered the website guidance to be an important contribution and welcomed the proposed modification to the draft guidance to refer work that has not been endorsed by the Commission to both the Chair *and* Vice-Chair.

Monaco supported enhancing the input that Observers are able to provide to the discussions. Centro de Conservación Cetacea expressed support for this view.

In response to a query from Belgium, the Chair of the WG-OE and the Secretary clarified that the last sentence of the proposed change to Rule of Procedure E.4 aims to ensure that a sufficient number of Contracting Governments (a simple majority) have cast a vote in any postal vote to have a quorum. If a quorum was not met, the motion could be considered again later.

Argentina and Chile considered that the proposed changes to the Rule of Procedure J.4 are premature, as the ASW subcommittee has not yet reported back to the Commission on the discussion of the outcomes of the ASW workshop held in Greenland in 2015. Centro de Conservación Cetacea expressed support for this view.

The USA, Denmark, Japan, Norway and Monaco expressed support for the adoption of the changes to Rule of Procedure J.4. They noted that the proposed change is

simply a procedural matter and that it is designed to increase transparency and communication and to ensure that ASW quota proposals are given sufficient consideration. The USA noted that, if Rule J.4 is not adopted at this meeting, the Commission is more likely to repeat the problems that occurred in 2012.

The Alaska Eskimo Whaling Commission stated that a failure to set quotas can impose fear, hunger and social anxiety on subsistence communities and expressed support for the adoption of Rule of Procedure J.4.

The Animal Welfare Institute suggested adding words to the proposed Rule of Procedure J.4 to ensure that responses provided by proponents in advance of a meeting are circulated to all Commissioners.

The Committee **endorsed** the recommendations in the report (and as listed in points (1) to (5) above, with the exception of the bracketed text (see Appendix 4)). In addition, the Chair recommended the WG proponents of the proposed Rule of Procedure J.4 consider the Animal Welfare Institute's comments if submitting revisions to the Commission for further consideration.

4.2 Report of the Intersessional Correspondence Group on Strengthening IWC Financing

At IWC/62 in 2010 the Commission endorsed a recommendation from the F&A Committee that it convene a small group to examine ways to integrate conservation funding into the overall budget of the IWC. The terms of reference for this group stated that it would 'develop proposals for strengthening the financing of conservation with a view to striking a balance between funding for conservation and funding for management'. At IWC/63 the Commission received the group's first report and agreed that its work should continue subject to updated terms of reference. The Correspondence Group gave a further progress update at IWC/64 in 2012 and IWC/65 in 2014.

The Chair of the Correspondence Group reported on recent progress (IWC/66/F&A08). She sought endorsement of the proposed work plan of the Correspondence Group in Annex 1 of IWC/66/F&A08, offered to continue as Chair, and asked for additional members of the Group.

The Committee **endorsed** the work plan of the Correspondence Group (see Appendix 5) and **recommended** that Belgium continue as Chair.

4.3 Report of the Working Group on Providing Options to Governments with Limited Means to Participate in the Commission's work

At IWC/65 in 2014 the Commission reconstituted its Working Group on Providing Options to Governments of Limited Means to Participate in the Commission's Work. The Chair of the Working Group reported on progress and presented its recommendations as IWC/66/F&A09rev. The recommendations are:

- the establishment of a Voluntary Assistance Fund to strengthen the capacity of Governments of limited means to participate in the work of the Commission;
- the endorsement of a guidance document on activities to be supported by the Voluntary Assistance Fund (IWC/66/F&A09rev, Appendix 4);
- that Groups 1 and 2 of the 'Capacity to Pay Groups' should be designated as eligible countries, with a set of criteria for prioritisation (IWC/66/F&A09rev, Appendix 4); and
- the adoption of a Resolution (IWC/66/13rev) with its amendments to the Financial Regulations (IWC/66/F&A09rev, Appendix 4).

The most recent list of Capacity to Pay Groups 1 and 2, as the proposed eligible countries of the Voluntary Assistance Fund, is attached as Appendix 6.

Kenya and St Lucia supported for the recommendations and draft resolution as included in the report.

Argentina, Brazil and Chile thanked the Working Group for its work and asked for further time to coordinate with the Buenos Aires Group. Argentina sought clarity on the prioritisation process and the criteria for applying for funding, and suggested that the report and draft Resolution could be made more specific. The Chair of the WG drew attention to the application process and criteria, which are outlined in the guidelines attached as Annex 2 to the draft Resolution (IWC/66/13rev).

Recognising that some Contracting Governments were not yet ready to endorse the draft resolution as it stood, the F&A Chair welcomed the report of the Working Group and requested the Chair to work with those delegations and bring a revised draft Resolution to plenary.

4.4 Intersessional Working Group on Website Guidance

In March 2015, the IWC Bureau established an Intersessional Working Group on Website Guidance to provide general principles and practical guidance on the use of the IWC website. The Working Group has completed its work and its report is given as IWC/66/F&A10.

The Secretariat introduced IWC/66/F&A10 highlighting the draft Guidance document (see Appendix 7A of this report) which describes the principal objective of the website. It outlined that the Guidance gives responsibility for day-to-day management of the website to the Secretariat but makes a distinction between subjects that have and have not been endorsed by the Commission, and noted the amendment made under Item 4.1 above, to change the current wording of the final sentence of the Practical Guidance to now read 'Work that has not received endorsement should be considered on a case-by-case basis, and referred by the Secretariat to the Chair *and* the Vice Chair'. A series of measures on facilitating communication across the Commission membership is captured in Section 2 of the document.

The USA and Australia expressed support for the increased use of the Commission's website to facilitate both its intersessional work as well as the transparency of that work. This included support for a trial use of the IWC portal for sharing documents in the development of agreed text.

The Committee:

- (a) **endorsed** a proposal from the USA to subsume the Intersessional Working Group on Website Guidance into the Working Group on Operational Effectiveness and Cost Saving Measures;
- (b) **endorsed** the guidance given in Appendix 7A on the use of the IWC website; and
- (c) **endorsed** the recommended incremental approach to facilitate communication amongst Commission members given in Appendix 7B, noting that a listserv capability would be offered to all working groups including one for Commissioners only; and that the new Cetacean Disease and Entanglement sites would be used as test cases which would be evaluated and potentially offered to other working groups on a rolling basis and within existing Secretariat resources.

4.5 Development of the Scientific Committee's Rules of Procedure

4.5.1 Consideration of changes arising from IWC Resolution 2014-4

The Chair of the Scientific Committee reported the Committee's proposals in relation to changes to its Rules of Procedure as initially proposed through Resolution 2014-4. The proposals are provided in IWC/66/Rep01(2015) (Item 27.1 and Annex R) and were also presented to the meeting as document IWC/66/F&A11. She sought endorsement for the amended Rules of Procedure, including guidance on whether or not a new paragraph 4(e) is required, and if so, which of the two options below should be incorporated:

[Papers submitted under Rule of Procedure 4(a) must be scientific in character and shall not contain statements that defame any participating organisation or person, or cause serious offence to any government[1]] or

[Papers submitted under the Rule of Procedure 4(a) must be based on science and facts and shall not contain disrespectful statements to any participating person, organisation or government.]

Australia stated its preference for the second option as it requires scientific evidence.

The Committee **endorsed** the revised Scientific Committee Rules of Procedure and **recommended** the incorporation of the second option for paragraph 4(e) (see above).

4.5.2 Consideration of changes arising from the Scientific Committee's meeting in 2016

The Scientific Committee Chair reported on a request to update the Committee's procedures regarding Invited Participants arising from discussions at its 2016 meeting (see IWC/66/F&A12). She provided clarity following a question from Australia that the rule concerned (A6h) had never previously been used because Article 3.5 of the Convention provides suitable clarification, but that the proposed revision was made to avoid confusion.

Australia suggested that there are two options to address this issue, the first as proposed, and the second to clarify that participants funded by a Contracting Government could be national delegates, and if not then they would have Invited Participant status. However, it stated that if there were no other views then it was happy to accept the proposal from the Scientific Committee.

The Commission **endorsed** the proposal from the Scientific Committee (see Appendix 8).

5. PROPOSED RESOLUTIONS

Australia introduced document IWC/66/10, submitted jointly with New Zealand and the USA, containing a draft resolution on enhancing the effectiveness of the IWC and, in its Annex, draft Terms of Reference for an independent review of the IWC. Australia was pleased to advise that it would make a voluntary contribution of AUD 200,000 towards any costs that might be incurred in such a review. The USA reported that it will contribute an additional USD 20,000 towards the conduct of the performance review, if approved.

Iceland expressed doubts about the specific purpose of the review, questioning its apparently narrow scope in relation to the objectives of the Convention and asked what role the proposed intersessional Working Group was intended to play. Japan sought further information on how proposed reviewers would be selected.

Australia indicated that the review was intended to be undertaken by independent reviewers with the Working

Group playing a role in administration and oversight. The focus of the review was explicitly on governance, institutional arrangements and decision-making processes within the IWC, to ensure that these met Contracting Governments' needs in an efficient and transparent way. It was not the intention to engage in a broad dialogue regarding the objectives or purpose of the Commission. Australia acknowledged that operational aspects of the review, including mechanisms for appointing independent reviewers and for disbursement of funds, as well as the precise role of a Working Group needed further elaboration, and believed there was opportunity to do so before the IWC/66 Plenary Commission meeting.

Monaco expressed support for the proposed review.

The Committee expressed general support for the draft resolution, with some reservations, and noted that the Committee's role, if any, in implementing it would require clarification upon its adoption.

6. FORMULA FOR CALCULATING CONTRIBUTIONS AND RELATED MATTERS

The Chair noted that this is a standing agenda item allowing opportunity for discussion on the formula for calculating financial contributions or any other related matters.

There were no comments under this item.

7. FINANCIAL STATEMENTS, BUDGETS AND OTHER MATTERS ADDRESSED BY THE BUDGETARY SUB-COMMITTEE

The report of the Budgetary Sub-Committee is given as Appendix 9.

7.1 Review of the provisional financial statement year ending 31 December 2016

7.1.1 Report of the Budgetary Sub-Committee

The Chair of the Budgetary Sub-Committee reported that the Sub-Committee had recommended that the F&A Committee take note of the unaudited provisional financial statement for the financial year ending 31 December 2016 as given in document IWC/66/06. The 2016 outcome will be affected by the Commission's decision to purchase its headquarters premises for £1 million in the early part of the year funded by £200,000 of cash balances and an £800,000 bank loan. In addition, receipts of doubtful debts are higher than expected at £248,000. The net result indicates a forecast surplus for the year of £100,104 resulting in a balance on the General Fund of £1,124,221.

7.1.2 Secretary's report on the collection of financial contributions

The Secretariat introduced document IWC/66/F&A03rev noting that the amount of outstanding contributions was lower than in previous years. In addition, Costa Rica had cleared its arrears since the report had been produced and its voting rights had been restored. Cameroon had also made a significant contribution to clearing its arrears but this was as yet insufficient to restore voting rights. An updated version of the document would be produced for the Commission meeting.

7.1.3 Update on purchase of the Commission's Headquarters Premises in February 2016

The Secretary introduced document IWC/66/F&A14 concerning the purchase of the Commission's headquarters including a proposed schedule for repairing and renovating the main part of the building to be funded from the accrued

dilapidations provision. The Secretariat sought approval to spend an additional *circa* £10,000 to draw up plans for the warehouse section of the property to be presented to IWC/67.

In response to a question from Dolphin Connection, the Secretary reaffirmed the Secretariat's commitment to energy efficiency and the use of low-energy technologies at its headquarters wherever possible.

7.1.4 F&A Committee discussions and recommendations

The Committee took note both of the recommendations of the BSC that the 2014 and 2015 financial statements should be adopted; and of the Provisional Financial Statement for the year ending 31 December 2016. The Committee **recommended** that the Commission approve the expenditure of *circa* £10,000 to draw up plans for the warehouse section of the IWC headquarters property to be presented to IWC/67.

7.2 Scientific Committee Future Work Plan and Research Budget

7.2.1 Report of the Budgetary Sub-Committee

The Budgetary Sub-Committee had recommended that the Committee approve the Scientific Committee's research budget given in IWC/66/Rep01(2016), Table 27 taking into account reservations expressed by New Zealand concerning item SP01 (a Workshop to Review of a special permit proposal for Japan's new whale research program in the Western North Pacific) and with the 2017 budget for BRG01 (aerial photographic survey of southern right whales in South Africa) moved to SC02.

7.2.2 F&A Committee discussions and recommendations

Australia requested that the budget associated with SP01 be placed in square brackets.

The Committee **endorsed** the revised research budget in which the budget from BRG01 is transferred to SC02 and item SP01 placed in square brackets. The revised version is given as Appendix 10.

7.3 Consideration of the proposed budget for 2017 and 2018

7.3.1 Report of the Budgetary Sub-Committee

The Budgetary Sub-Committee had discussed the Commission Budget for the financial period 1 January 2017 to 31 December 2018 (see Appendix 9, Item 6). The Chair of the Budgetary Sub-Committee noted that two options had been presented to the BSC (see IWC/66/07), both of which were balanced budgets where income and expenditure were planned to be equal. Option One, described as a 'business as usual' scenario, provided for a 0.3% rise in Contracting Government contributions in order to offset the prevailing rate of UK inflation. Option Two proposed raising Contracting Government contributions by 3.97% in order to generate £65,000 to support new or ongoing areas of intersessional work arising from the Commission's discussions at IWC/66. In all other respects the two budget options were identical.

The Sub-Committee had recommended that budget Option 1 (the 'business as usual' scenario) be forwarded to the Committee for consideration, and that the Press and Observer fees proposed in document IWC/66/BSC03 be forwarded to the Committee for approval.

7.3.2 F&A Committee discussions and recommendations

The Committee **recommended** that budget Option 1 (the 'business as usual' scenario) given in document IWC/66/07

and the Press and Observer fees proposed in document IWC/66/BSC03 be adopted by the Commission.

The Chair noted that the Conservation Committee had recommended approval of a By-catch Initiative under item 8 of its agenda (see IWC/66/Rep05 and document IWC/66/CC05) and that under item 7 of its agenda the WKM&WI had supported the Scientific Committee's recommendation that an Expert Panel and co-ordinator on strandings be appointed (see IWC/66/Rep06 and IWC/66/Rep01(2016), Item section 13.5). IWC/66/CC05 estimated a budget of £50,000 for the former for 2017-2018 and it was likely that a budget for the latter would be similar.

The Committee noted that funding had not been allocated to these two initiatives, which had arisen in the preceding subcommittees, and **recommended** them for consideration by the Commission noting that costs might have to be met through voluntary contributions at least initially.

7.4 Budgetary Sub-Committee Operations

The Chair of the Budgetary Sub-Committee noted that current membership of the Sub-Committee is listed in document IWC/66/BSC04. Switzerland has volunteered to serve as one of the Open Seat members. One Open Seat and the post of Vice-Chair remain vacant. The Chair encouraged any interested Contracting Governments to put themselves forward to fill these posts.

8. DATE AND PLACE OF FORTHCOMING MEETINGS

The Commission's biennial schedule means that its next meeting is due in September or October 2018. The Secretary noted that Rule of Procedure B.1 encourages any Contracting Government desiring to extend an invitation to provide notice two years in advance. The Secretariat is able to provide detailed information to any Contracting Government considering an offer to host either a Commission or a Scientific Committee meeting. No offer to host the 2018 Commission meeting has as yet been received.

The Bureau will make a decision on the location of IWC/67 by March 2017 at the latest. If no offers had been received by then, it was suggested that the meeting might be held at the headquarters of the International Maritime Organisation in London.

New Zealand asked that efforts be made to ensure that the dates of IWC/67 did not clash with those of CCAMLR and CITES.

The Committee thanked Slovenia for its kind offer to host the next meeting of the Scientific Committee in Bled in May 2017 and **recommended** that the offer be accepted.

The Scientific Committee is also expected to meet during the following year (SC/67b) in late May or early June 2018. No offer to host the 2018 Scientific Committee meeting has as yet been received.

9. BUREAU MEMBERSHIP

The Bureau is constituted under Rule of Procedure M.9 which also describes its membership. The Committee thanked the Bureau for its work in the Intersessional period.

10. ADOPTION OF REPORT

The meeting was closed at 12h40 on 22 October 2016. The report was adopted by correspondence on 25 October 2016.

Appendix 1**LIST OF PARTICIPANTS****ARGENTINA**

Juan Pablo Paniego
Miguel Iñíguez

AUSTRALIA

Nick Gales
Deb Callister
Frank LaMacchia
Pam Eiser
Suzi Heaton
Bill de la Mare

AUSTRIA

Andrea Nouak

BELGIUM

Stephanie Langerock
Els Vermeulen
Fabian Ritter

BRAZIL

Hermano Telles Ribeiro
Rodrigo Almeida
Thais Coutinho

CAMBODIA

Ing Try

CHILE

Barbara Galletti Vernazzani

CZECH REPUBLIC

Barbora Hirschova

DENMARK

Nette Levermann
Amalie Jessen
Gitte Hundahl

ERITREA

Seid Mohammed Abrar

FINLAND

Penina Blankett

GABON

Aurelie Flore Koumba Pambo

GERMANY

Andreas Taeuber

GHANA

Benson Nutsukpui

ICELAND

Johann Gudmundsson
Gisli Víkingsson
Kristján Loftsson

ITALY

Caterina Fortuna
Francesca Granata

JAPAN

Hideki Moronuki
Dan Goodman
Gabriel Gomez Diaz
Kazunari Tanaka
Naohito Okazoe
Toshinori Uoya
Yukiya Tsuno
Mari Mishima

KENYA

Micheni Japhet Ntiba
Susan Imende

KOREA, REPUBLIC OF

Hawsun Sohn
Young Min Choi

LAOS, PDR

Akhane Phomsouvanh

MEXICO

Lorenzo Rojas-Bracho

MONACO

Frederic Briand

MONGOLIA

Choinkhor Jalbuu
Damdin Tserendash

NEW ZEALAND

Amy Laurenson
Julia Reynolds

NORWAY

Ole-David Stenseth
Alessandro Astroza

SLOVENIA

Andrej Bibic
Mojca Benko
Mojca Dezelak

SOUTH AFRICA

Herman Oosthuizen

SPAIN

Carmen Asencio

ST KITTS AND NEVIS

Marc Williams

ST LUCIA

Horace Walters

SURINAME

Randjitsing Ramkisor
Soeresh Algoe

SWEDEN

Anders Alm

TANZANIA

Hosea Gonza Mbilinyi
Zahor El Kharousy

UNITED KINGDOM

Nigel Gooding
Donna Mackay
Jamie Rendell
Jennifer Lonsdale
Mark Simmonds

UNITED STATES OF AMERICA

Russell Smith
Ryan Wulff (Chair)
Alexis Ortiz
Brian Gruber
David Weller
DJ Schubert
Greig Arnold
Lisa Phelps
Robert Brownell
Robert Suydam
Roger Eckert

URUGUAY

Jose Truda Palazzo

VIETNAM

Nguyen Thi Trang Nhung
The Cong Tran

OBSERVERS**Alaska Eskimo Whaling Commission**

Jessica Lefevre
Taquilik Hepa
Christopher Winter

Animal Welfare Institute

Kate O'Connell
Sue Fisher

Centro de Conservacion Cetacea

Maria Jimenez
Peter Sanchez

Dolphin Connection

Helena Symonds
Paul Spong

Environmental Investigation Agency

Clare Perry

European Commission

Richir Marc

Fundacion Cethus

Carolina Cassani

Inst. de Conservacion de Ballenas

Roxana Schteinbarg

Makah Indian Tribe

Keith Johnson

Robin des Bois

Charlotte Nithart
Tamara Vilarins

Whale and Dolphin Conservation

Astrid Fuchs

World Animal Protection

Nicola Beynon

IWC

Simon Brockington
Cherry Allison
Greg Donovan
Kate Wilson
Katie Penfold
Mark Tandy
Sarah Ferriss
Sarah Smith

Rapporteurs

Harriet Gillett
Pablo Sinovas
Robert Munroe
Martin Jenkins
Sara Oldfield

Appendix 2**LIST OF DOCUMENTS**

IWC/66/F&A		Agenda item
01rev	Provisional Agenda	
02rev	List of documents	
03rev	Secretary's Report on the Collection of Financial Contributions for 2016	7.1.2
04	Feedback Survey from IWC/65 in 2014 – Summary of Results	3.4
05	IWC Communications Capability	3.1
06	Guidelines for allocation and use of Commission Funds	3.6
07rev	Report of the Working Group on Operational Effectiveness and Cost Saving Measures	4.1
08	Implementing IWC Recommendations on Strengthening IWC Financing	4.2
09rev	Report of the Working Group on Providing Options to Governments of Limited Means to Participate in the Commission's work	4.3
10	IWC Website Guidance and Proposals to Facilitate Communication amongst Commission Members	4.4
11	Annex R from the 2015 Scientific Committee Report. Proposed amendments to the Scientific Committee Rules of Procedure	4.5.1
12	Proposed revision of the Scientific Committee Rules of Procedure: on Invited Participants (submitted by Scientific Committee Chair)	4.5.2
13rev	Dispersment of funds from the IWC-SORP research fund	3.5
14	Update on progress with the Red House	7.1.3
15	IWC Document Archiving: a way forward	3.2
16	Report of the Budgetary Sub-Committee	7
Commission documents		
IWC/66		
06	Un-audited Provisional Financial Statement for the International Whaling Commission 2016	7.1.1
07	Budget for the International Whaling Commission for 2017 and 2018	7.3
Rep01(2016)	Report of the Scientific Committee, 2016	7.2
Rep01(2015)	Report of the Scientific Committee 2015	4.5

Appendix 3

AGENDA

1. Introductory items
 - 1.1 Appointment of Chair
 - 1.2 Appointment of Rapporteurs
 - 1.3 Review of documents
 - 1.4 Observer participation
2. Adoption of agenda
3. Administrative matters
 - 3.1 IWC communications
 - 3.2 IWC document archiving
 - 3.3 Reporting of confidential communications
 - 3.4 Meeting arrangements
 - 3.5 Dispersal of funds from the IWC-SORP research fund
 - 3.6 Guidelines for allocation and use of voluntary funds in the intersessional period
4. Intersessional working groups
 - 4.1 Report of the Working Group on Operational Effectiveness and Cost Saving Measures
 - 4.2 Report of the Intersessional Correspondence Group on Strengthening IWC Financing
 - 4.3 Report of the Working Group on Providing Options to Governments with Limited Means to Participate in the Commission's work
 - 4.4 Intersessional Working Group on Website Guidance
 - 4.5 Development of the Scientific Committee's Rules of Procedure
 - 4.5.1 Consideration of changes arising from IWC Resolution 2014-4
 - 4.5.2 Consideration of changes arising from the Scientific Committee's meeting in 2016
5. Proposed Resolutions
6. Formula for calculating contributions and related matters
7. Financial Statements, budgets and other matters addressed by the Budgetary Sub-Committee
 - 7.1 Review of the provisional financial statement year ending 31 December 2016
 - 7.1.1 Report of the Budgetary Sub-Committee
 - 7.1.2 Secretary's report on the collection of financial contributions
 - 7.1.3 Update on purchase of the Commission's Headquarters premises in February 2016
 - 7.2 Scientific Committee Future Work Plan and Research Budget
 - 7.2.1 Report of the Budgetary Sub-committee
 - 7.2.2 F&A Committee discussions and recommendations
 - 7.3 Consideration of the proposed budget for 2017 and 2018
 - 7.3.1 Report of the Budgetary Sub-committee,
 - 7.3.2 F&A Committee discussions and recommendations
8. Date and place of forthcoming meetings
9. Bureau membership
10. Adoption of Report

TERMS OF REFERENCE

The Finance and Administration Committee shall advise the Commission on expenditure, budgets, scale of contributions, Financial Regulations, staff questions, and other such matters as the Commission may refer to it from time to time (*Rules of Procedure, Rule M.8*).

ADMISSION OF OBSERVERS

Rule of Procedure C.2

2. Observers accredited in accordance with Rule [of procedure] C.1.(a) and (b) are admitted to all meetings of the Commission and the Technical Committee, and to any meetings of Committees and all subsidiary groups of the Commission and the Technical Committee, except the Commissioners-only meetings, meetings of the Bureau and closed meetings of the Finance and Administration Committee.

SPEAKING RIGHTS FOR OBSERVERS

Rule of Procedure C.3

3. Observers accredited in accordance with rule C.1.(a) and (b) will have speaking rights during Plenary sessions and sessions of Commission subsidiary groups and Committees to which they are admitted to under C.2, in accordance with the Rules of Debate of the Commission. Observers might also submit documents for information to the delegations and observers participating in such sessions, provided these are submitted through the Secretariat at least 48 hours before the session in which they are intended to be made available, and are duly authored or endorsed by the accredited organisation making the submission, which is to be held responsible for its contents.

Rules of Debate Paragraph A

A. Right to Speak

1. The Chair shall call upon speakers in the order in which they signify their desire to speak, with the exception of accredited Observers, which should be allowed to speak only after all Commissioners desiring to speak do so. As a general rule, Observers will only be allowed to speak once at each Agenda item under discussion, and at the discretion of the Chair.

Appendix 4

WG-OE PROPOSED CHANGES TO THE RULES OF PROCEDURE AND RULES OF DEBATE

Modification to Rules of Procedure

E.4 Between meetings of the Commission or in the case of emergency, a vote of the Commissioners may be taken by post, or other means of communication in which case the necessary simple *majority shall be of those Contracting Governments whose right has not been suspended under paragraph 2 casting an affirmative or negative vote*, or where required, *the necessary* three-fourths majority; shall be of *those Contracting Governments whose right to vote has not been suspended under paragraph 2 casting an affirmative or negative vote* the total number of Contracting Governments whose right to vote has not been suspended under paragraph 2. *In each case, a simple majority of the members of the Commission must have cast a vote.*

F.2(g) The Chair may form ad hoc groups of interested Commissioners at any time to facilitate the reaching of consensus consistent with Rule E.

[J.4 If a proposal to amend Schedule paragraph 13 is circulated to the Commissioners 90 days or more in advance of the Commission meeting at which that proposal is to be

discussed, then Contracting Governments should endeavor to submit comments on the proposal for circulation to the Commissioners at least 30 days in advance of the meeting to facilitate consideration by the Commission.]

Modification to Rules of Debate

A.1 The Chair shall call upon speakers in the order in which they signify their desire to speak, with the exception of accredited Observers, which should be allowed to speak only after all Commissioners desiring to speak do so. Observers *Each Observer organisation* will only be allowed to speak once at each Agenda item under discussion, and at the discretion of the Chair.

C.3 Notwithstanding anything in these Rules, the Chair may suspend the meeting for a brief period at any time in order to allow informal discussions aimed at reaching consensus consistent with Rule E of the Rules of Procedure. *The Chair may also extend a session in order to facilitate decision-making.*

Appendix 5

RECOMMENDED WORK PLAN OF THE INTERSESSIONAL CORRESPONDENCE GROUP ON STRENGTHENING IWC FINANCING, 2016-18²

Activity	Undertaken by	Resource implications ³
Report to IWC/67 on the need for a Code of Ethical Fundraising.	ICGSF	Core
Maintain the financial pages on the IWC website to ensure they remain current and relevant.	IWC Secretariat	Core
Continue the administration of the Voluntary Conservation Fund and explore ways to publicise the Fund and encourage contributions.	ICGSF and IWC Secretariat	Core
Establish a process to allocate the Voluntary Conservation Fund, building on the experience from the Small Cetaceans Fund.	ICGSF and IWC Secretariat	Core
Review the eligibility criteria to ensure they are consistent with the Conservation Committee Strategic Plan.	ICGSF	Core
Further develop the IWC's website to highlight funding opportunities of potential relevance to the IWC's work programmes. This will include a dedicated section on external funding opportunities that may be relevant.	IWC Secretariat	Core
Continue to engage with other organisations and identify new opportunities. Where appropriate, joint fund raising or partnership work to implement the Commission's recommendations will be taken forward. Outreach to potential funders will also be undertaken as appropriate.	IWC Secretariat	Core
Ongoing review of opportunities to engage with Trust Funds/Foundations and their relevance to the IWC work programme, including outreach where appropriate.	IWC Secretariat	Core
Develop budgeted work plans including a list of projects that require external funding.	ICGSF, IWC Secretariat, Chairs of the Conservation Committee and its Standing Working groups	Core
Ongoing review of available funding streams that could potentially be accessed to support the implementation of the Commission's recommendations.	IWC Secretariat	Core
Develop project templates and outline standard costs, to support the development of project proposals.	IWC Secretariat	Core
Develop funding proposals and submit grant applications to support activities recommended by the Commission.	ICGSF, IWC Secretariat, Chairs of the Conservation Committee and its Standing Working Groups	Core and additional Secretariat capacity may be required
Agree the Chair of the ICGSF for the next intersessional period. Stephanie Langerock (Belgium), current interim Chair, has offered to undertake this role.	ICGSF	-

²Annex 1, IWC/66/F&A08.

³Core - will be undertaken as part of ongoing Secretariat work. Core and additional Secretariat capacity may be required: Secretariat time is limited and any substantive activity may require, for example, input from the IWC standing working groups or the use of consultants. If and where possible costs incurred will be recovered from grant bodies.

Appendix 6

2016 CAPACITY TO PAY GROUPS 1 AND 2

Contracting Governments are allocated into Capacity to Pay groupings dependent upon Gross National Income (GNI) and Gross National Income per capita (GNIC). The thresholds for the capacity to pay groups are adjusted each year for global inflation.

When issuing invoices for the 2017 financial year the Secretariat will review the position of each country against these criteria using updated information from the World Bank, so the list will change.

Capacity to Pay Group 1 (in 2016)

Definition: GNI less than \$14.057 billion and GNI/capita less than USD \$14,057.

Belize	Kiribati	Solomon Islands
Benin	Lao PDR	St Kitts and Nevis
Congo, Rep.	Mali	St Vincent and The Grenadines
Dominica	Marshall Islands	St Lucia
Eritrea	Mauritania	Suriname
Gambia, The	Mongolia	Togo
Grenada	Nauru	Tuvalu
Guinea	Nicaragua	
Guinea-Bissau	Palau	

Capacity to Pay Group 2 (in 2016)

Definition: GNI greater than USD \$14.057 billions and GNI/capita less than USD \$14,057 or 'very small countries' (population <100,000 and GNI < USD \$7.209 billions and GNIPC > USD \$14,057)

Brazil	Ecuador	Panama
Bulgaria	Gabon	Peru
Cambodia	Ghana	Poland
Cameroon	Guatemala	Romania
China, P.R. of	Hungary	Russian Federation
Colombia	India	San Marino
Costa Rica	Kenya	Senegal
Côte D'Ivoire	Mexico	South Africa
Croatia	Monaco	Tanzania
Dominican Republic	Morocco	

Appendix 7

GUIDANCE ON THE USE OF THE IWC WEBSITE AND RECOMMENDED INCREMENTAL APPROACH TO FACILITATE COMMUNICATION AMONGST COMMISSION MEMBERS

A. GUIDANCE ON THE USE OF THE IWC WEBSITE

General Principles

The objective of the IWC website is to improve public understanding and increase transparency of the work of the IWC.

It does this by recording factually and neutrally, the business of the Commission.

The website should cater for different audiences by dividing content into three levels: introductory, intermediate and practitioner.

Wherever possible, images should be incorporated onto web pages, to support the text and enhance presentation.

Practical guidance

The Secretariat is responsible for maintaining, developing and updating the IWC website in line with the principles above.

Members of the Commission are invited to provide or suggest content, all of which will be edited by the Secretariat to ensure coherence of style and format across the site as a whole.

Work that has been clearly endorsed by the Commission should be recorded on the website in as timely a fashion as resources allow.

Work that has not received this endorsement should be considered on a case-by-case basis, and referred by the Secretariat to the IWC Chair and/or Vice Chair.

B. RECOMMENDED INCREMENTAL APPROACH TO FACILITATE COMMUNICATION AMONGST COMMISSION MEMBERS

Short term (Winter 2016)

The existing IWC intranet forum framework is offered and promoted to all working groups and to kick-start a programme of web-based discussion and information exchange.

An e-mail listserve is established for Commissioners. This will help gauge the appetite for more sophisticated online information-sharing tools amongst Commissioners.

Medium term (intersessional period 2016-18)

The Secretariat IT Department develops an integrated information sharing/e-mail distribution tool to be piloted by one of the working groups and, assuming it's useful for members, offered to other working groups.

Longer term: (post IWC/67-2018)

If feedback from Commissioners and Working Groups is positive, resources are allocated to develop a separate, restricted intranet site for Commission-members, integrating the existing e-mail distribution listserve with a secure information sharing/discussion site.

Appendix 8

PROPOSED REVISION OF THE SCIENTIFIC COMMITTEE RULES OF PROCEDURE ON INVITED PARTICIPANTS⁴

RATIONALE

An issue has been identified in our current Rules of Procedure concerning the procedure used for Invited Participants. In particular, some wording in Rule A.6.h is inconsistent with Rule A.6.b.

Rule A.6.b states that:

[...]

At the same time as (b) a letter will be sent to the government of the country where the scientist is domiciled for the primary purpose of enquiring whether that Government would be prepared to pay for the scientist's participation. If it is, the scientist is no longer an Invited Participant but becomes a national delegate.

Rule A.6.h appears to contradict the last part of Rule A6b, by stating the following:

After an Invited Participant has his/her participation confirmed through the procedures set up above, a Contracting Government may grant this person national delegate status, thereby entitling him/her to full participation in Committee proceedings, without prejudice to funding arrangements previously agreed upon to support the attendance of the scientist in question.

Solution

In order to avoid any potential misinterpretation of these two rules, we propose the following amendment to Rule A6h:

After an Invited Participant has his/her participation confirmed through the procedures set up above, a Contracting Government may grant this person national delegate status, thereby entitling him/her to full participation in Committee proceedings, ~~without prejudice to funding arrangements previously agreed upon to support the attendance of the scientist in question.~~

⁴IWC/66/F&A12.

Appendix 9

REPORT OF THE BUDGETARY SUB-COMMITTEE

Thursday 20 October 2016, Portorož, Slovenia

SUMMARY OF MAIN OUTCOMES

Agenda Item	Main outcomes
<i>Item 3</i> Audited Financial Statements for previous financial years	<ul style="list-style-type: none"> • The Sub-Committee recommended that the Finance and Administration Committee take note of the audited accounts for financial year ending 31 August 2014 in document IWC/66/05(2014). • The Sub-Committee recommended that the Finance and Administration Committee take note of the audited accounts for the 16 month financial year ending 31 December 2015 in document IWC/66/05(2015).
<i>Item 4</i> Provisional Financial Statement	<ul style="list-style-type: none"> • The Sub-committee recommended that the Finance and Administration Committee take note of the provisional financial statement subject to audit for financial year ending 31 December 2016 in document IWC/66/06.
<i>Item 5</i> Scientific Committee Future Work Plan/Research Budget	<ul style="list-style-type: none"> • The Sub-committee recommended that the Finance and Administration Committee approve the research budget set out in Table 27 of document IWC/66//Rep01(2016) taking into account the points raised during the meeting.
<i>Item 6</i> Review of Proposed Budget	<ul style="list-style-type: none"> • The Sub-Committee recommended that budget Option 1 in document IWC/66/07 be forwarded to the Finance and Administration Committee for consideration, acknowledging that the increasing workload of the Secretariat may not be fully covered by cost savings and that therefore the budget should be kept under review. • The Sub-Committee recommended that the Press and Observer fees in document IWC/66/BSC03 be forwarded to the Finance and Administration Committee for approval
<i>Item 7</i> Budgetary Sub-Committee membership	<ul style="list-style-type: none"> • The Budgetary Sub-committee adopted the membership contained in document IWC/66/BSC04. The Committee requested nominations for the role of Budgetary Sub-committee Vice-Chair.

1. INTRODUCTORY ITEMS

At IWC/51 in 1999 the Commission agreed to establish a Budgetary Sub-committee to review income and expenditures and proposed budgets to help expedite the work of the full Finance and Administration Committee (*Ann. Rep. Intl. Whaling Comm.* 1999: 46). It first met at IWC/52 in 2000.

A list of participants is given in Adjunct 1.

1.1 Appointment of Chair

Lisa Phelps (USA) was appointed Chair.

1.2 Appointment of Vice Chair

The Vice-Chair's position remains vacant and the Sub-Committee asked the Commission to make a call for candidates.

1.3 Appointment of rapporteurs

Martin Jenkins and Sara Oldfield were appointed as rapporteurs.

1.4 Review of documents

A list of the documents available to the Sub-Committee is given in Adjunct 2.

1.5 Observer participation

Following the change in the Commission's Rules of Procedure agreed at IWC/65 in 2014, the Chair welcomed observers to the Budgetary Sub-Committee. She explained that, so long as time permitted, she would call observers to speak at the end of discussions on each agenda item.

2. ADOPTION OF AGENDA

The Agenda in document IWC/66/BSC01 was adopted (see Adjunct 3).

3. AUDITED FINANCIAL STATEMENTS FOR PREVIOUS FINANCIAL YEARS

Two sets of audited financial statements covering the 2013/14 and 2015 financial years have been produced since the Commission last met in September 2014. The audited statements for both years were circulated to Contracting Governments by the Secretariat following completion of the audit (documents IWC/66/05(2014) and IWC/66/05(2015)).

In 2015 the IWC changed its financial year dates to run from 1 January to 31 December (previously the dates were 1 September to 31 August). This change is reflected in the 2015 audited statements, which cover a sixteen month period.

3.1 Audited accounts for financial year ending 31 August 2014

3.1.1 Introduction by Secretary

The Secretary presented document IWC/66/05(2014) (Financial Statements 31 August 2014). This document shows that the Commission ended the year with a surplus of £83,704 which was credited to the General Fund, raising the balance from £1,027,801 in 2013 to £1,111,506 in 2014.

3.1.2 Committee discussion and recommendations

The Sub-Committee **recommended** that the Finance and Administration Committee take note of the audited accounts for financial year ending 31 August 2014 in document IWC/66/05(2014).

3.2 Audited accounts for the 16 month financial year ending 1 December 2015

3.2.1 Introduction by Secretary

The Secretariat presented document IWC/66/05(2015) (Financial Statements for 16 Months to 31 December 2015). The Commission ended the 16 month period with a surplus of £114,872. At the time of setting the 2015 budget, the Commission had expected to end the year with a surplus of £73,700 in order to offset a predicted deficit in 2016. Consequently the end of year result was £41,172 better than expected, mainly because of a greater recovery of doubtful debts than was expected. Following from this outcome, the balance on the General Fund increased from £1,111,506 at the end of the 2014 financial year to £1,226,378 at 31 December 2015.

3.2.2 Committee discussion and recommendations

The Sub-Committee **recommended** that the Finance and Administration Committee take note of the audited accounts for the 16 month financial year ending 31 August 2015 in document IWC/66/05(2015).

4. PROVISIONAL FINANCIAL STATEMENT

4.1 Introduction by Secretary for financial year ending 31 December 2016

The Secretariat introduced IWC/66/06 (Provisional Financial Statement). This provisional statement is an estimate of the financial position at the end of the current year based upon income and expenditure to date and has been prepared in fulfilment of Financial Regulation D.1.

The estimates of total income and expenditure given in the Statement predict the level of the Commission's General Fund reserve as at 31 December 2016. This prediction has been used as a basis for preparing the Commission's budget for 2017 and 2018.

The Secretary noted that the 2016 outcome will be affected by the Commission's decision to purchase its headquarters premises for £1 million in the early part of the year funded by £200,000 from cash balances and an £800,000 bank loan. In addition, in a similar result to 2015, receipts of doubtful debts are higher than expected at £248,000. The net result of these items, plus the Commission's other routine income and expenditure, indicates a forecast surplus for the year of £100,104 resulting in a balance on the General Fund of £1,124,221.

4.2 Committee discussions and action arising

The Sub-committee recommended that the Finance and Administration Committee take note of the provisional financial statement subject to audit for financial year ending 31 December 2016 given in document IWC/66/06.

5. SCIENTIFIC COMMITTEE FUTURE WORK PLAN AND RESEARCH BUDGET

5.1 Report of the Scientific Committee

The Chair of the Scientific Committee presented the Scientific Committee's two year work plan and associated request for use of research funds in 2017 and 2018. The research budget is to be found at Item 25.2 of IWC/66/Rep01(2016).

5.2 Discussions and action arising

New Zealand expressed reservations concerning use of funds for item SP01 in Table 27 of document IWC/66/Rep01(2016). They agreed to engage in informal discussions with Japan regarding this.

Mexico, echoed by the USA, emphasised how much the Scientific Committee had achieved with limited resources and thanked the Committee's chair and convenors for their efforts.

In response to a request from the USA for clarification regarding item BRG01 in Table 27 of the document, the Chair of the Scientific Committee indicated that the South African government had provided funds for the survey referred to under this item for 2017 and recommended that the £20,000 included here be moved to item SC02 in the table.

In response to a question from Humane Society International regarding any costs beyond 2017 for the global entanglement database referred to in item HIM02, the Chair of the Scientific Committee indicated that if such funding were needed this could be drawn from item SC02.

The Sub-committee **recommended** that the Finance and Administration Committee approve the research budget set out in Table 27 of document IWC/66/Rep01(2016) taking into account the points raised during the meeting.

6. REVIEW OF PROPOSED BUDGET

The draft budget was provided to Commission members on 25 August 2016 in accordance with Financial Regulation D.2. The draft budget was available to the meeting as document IWC/66/07.

6.1 Secretary's introduction to the budget 1 January 2017 to 31 December 2018

The Secretariat presented IWC/66/07 (Commission Budget for 2017 and 2018), for the financial period 1 January 2017 to 31 December 2018. The Secretary noted that two options were presented, both of which were balanced budgets where income and expenditure were planned to be equal. Option One, described as a 'business as usual' scenario, provided for a 0.3% rise in Contracting Government contributions in order to offset the prevailing rate of UK inflation. Option Two proposed raising Contracting Government contributions by 3.97% in order to generate £65,000 to support new or ongoing areas of intersessional work arising from the Commission's discussions at IWC/66. In all other respects the two budget options were identical.

The Secretary also noted that both budget scenarios contained the following cost savings measures.

- The annual contribution to the Commission's severance pay fund is ended, and the balance on the fund which is expected to total £500,000 by the end of 2016 will be transferred to the General Fund.
- Any future requirement for severance pay will be included in the budget process and met either from the General Fund, or by sale of the Red House in the event the Commission is wound down.

The Secretariat presented document IWC/66/BSC03 on the level of Press and Observer fees for 2016-2018. This proposes an increase in NGO fees in line with UK inflation and a freeze in fees for non-member governments and intergovernmental organisations. Press will continue to be admitted to the meeting without charge.

6.2 Committee discussions and action arising

Belgium and the USA supported the proposal to pay down the bank loan on the Red House.

Belgium, France, Japan, the USA, and the Russian Federation indicated that they were not in a position to support budget Option 2. France indicated its willingness to explore other ways of supporting the Commission's work.

Germany and the USA acknowledged the increased workload on the Secretariat and could consider supporting a real budget increase but were willing to accept the majority view of the Sub-Committee.

The Sub-Committee **recommended** that budget Option 1 be forwarded to the Finance and Administration Committee for consideration, acknowledging that the increasing workload of the Secretariat may not be fully covered by cost savings and that therefore the budget should be kept under review.

The Sub-Committee **recommended** that the Press and Observer fees in document IWC/66/BSC03 be forwarded to the Finance and Administration Committee for approval.

The Sub-Committee noted the recent decrease in the value of British currency in relation to other major currencies. While recognising that this made core contributions cheaper in real terms for many Contracting Governments, the Sub-committee also requested the Secretary to monitor the Commission's expenditure, especially in relation to the costs of Commission meetings and workshops held outside the UK, and to draw the Chair and Bureau's attention to any deviation from budget.

7. BUDGETARY SUB-COMMITTEE MEMBERSHIP

Membership of the BSC is through rotation of Contracting Governments. Two seats are allocated to Contracting Governments in each capacity to pay group, and Governments serve for four years with membership then passing on in alphabetical order. Two open seats are also available to any Contracting Government.

The Secretary introduced document IWC/66/BSC04 containing a list of current and future Budgetary Sub-committee members indicating that Switzerland had volunteered to serve as one of the Open Seat members.

The Chair asked that any other Contracting Governments willing to serve on the Sub-Committee put themselves forward and reminded the Sub-Committee that the post of Vice-Chair remained open.

8. SUMMARY OF RECOMMENDATIONS TO THE F&A COMMITTEE

The Sub-Committee recommended that the Finance and Administration Committee take note of the audited accounts for financial year ending 31 August 2014 in document IWC/66/05(2014).

The Sub-Committee recommended that the Finance and Administration Committee take note of the audited accounts for the 16 month financial year ending 31 December 2015 in document IWC/66/05(2015).

The Sub-committee recommended that the Finance and Administration Committee take note of the provisional financial statement for financial year ending 31 December 2016 in document IWC/66/06.

The Sub-committee **recommended** that the Finance and Administration Committee approve the research budget set out in Table 27 of document IWC/66//Rep01(2016) taking into account the points raised during the meeting.

The Sub-Committee **recommended** that budget Option 1 in document IWC/66/07 be forwarded to the Finance and Administration Committee for consideration, acknowledging that the increasing workload of the Secretariat may not be fully covered by cost savings and that therefore the budget should be kept under review.

The Sub-Committee **recommended** that the Press and Observer fees in document IWC/66/BSC03 be forwarded to the Finance and Administration Committee for approval.

9. ADOPTION OF REPORT

The report was adopted by correspondence on 21 October 2016.

Adjunct 1**List of Participants (Budgetary Sub-Committee)****ARGENTINA**

Juan Pablo Paniego
Miguel Iñiguez

AUSTRALIA

Deb Callister
Suzi Heaton
Frank LaMacchia

AUSTRIA

Andrea Nouak

BELGIUM

Els Vermeulen
Stephanie Langerock

CAMBODIA

Ing Try

CZECH REPUBLIC

Barbora Hirschova

DENMARK

Amalie Jessen
Gitte Hundahl
Nette Levermann

FRANCE

Nadia Deckert

GERMANY

Nicole Hielscher

ITALY

Alessandro Iannitti
Caterina Fortuna
Francesca Granata

JAPAN

Hideki Moronuki

MEXICO

Lorenzo Rojas-Bracho

NEW ZEALAND

Amy Laurenson
Erin Morriss

RUSSIAN FEDERATION

Ayvana Enmynkau
Olga Safonova

SLOVENIA

Andrej Bibic

ST KITTS AND NEVIS

Marc Williams

SWITZERLAND

Martin Krebs

UK

Jennifer Lonsdale
Mark Peter Simmonds

USA

Brian Gruber
DJ Schubert
Doug DeMaster
Jordan Carduner
Lisa Phelps
Michael Gosliner
Robert Brownell
Roger Eckert
Ryan Wulff

URUGUAY

Jose Truda Palazzo

OBSERVERS**UNEP/CMS/ASCOBANS**

Heidrun Frisch-Nwakanma

Alaska Eskimo Whaling Commission

Arnold Brower

Dolphin Connection

Helena Symonds
Paul Spong

Fundacion Cethus

Carolina Cassani

Humane Society International

Bernard Unti

University of Tasmania, Faculty of Law

Lucy Smejkal

Whale and Dolphin Conservation

Astrid Fuchs

IWC Secretariat

Simon Brockington
Katie Penfold
Cherry Allison
Greg Donovan
Sarah Ferriss
Kate Wilson

Rapporteurs

Martin Jenkins
Sara Oldfield

Adjunct 2**List of documents****IWC/66/BSC**

01. Agenda
02. List of Documents
03. Observer fees for 2016 to 2018
04. Future membership of the Budgetary Sub-committee

Relevant Commission documents

- IWC/66/Rep01 (2016): Report of the Scientific Committee (Item 25.2, including Tables 27, 28 and 29 contain the proposed research budget for 2017 and 2018).
- IWC/66/05 (2014 and 2015): Audited Financial Statements
- IWC/66/06: Provisional financial statement for 2016
- IWC/66/07: Proposed budget for 2017 and 2018
-

Adjunct 3

Agenda

1. Introductory items
 - 1.1 Appointment of Chair
 - 1.2 Appointment of Vice Chair
 - 1.3 Appointment of rapporteurs
 - 1.4 Review of documents
 - 1.5 Observer participation
2. Adoption of agenda
3. Audited financial statements for previous financial years
 - 3.1 Audited accounts for financial year ending 31 August 2014
 - 3.1.1 Introduction by Secretary
 - 3.1.2 Committee discussion and recommendations
 - 3.2 Audited accounts for the 16 month financial year ending 1 December 2015
 - 3.2.1 Introduction by Secretary
 - 3.2.2 Committee discussion and recommendations
4. Provisional financial statement
 - 4.1 Introduction by Secretary for financial year ending 31 December 2016
 - 4.2 Committee discussions and action arising
5. Scientific Committee future work plan and research budget
 - 5.1. Report of the Scientific Committee
 - 5.2 Discussions and action arising
6. Review of proposed budget
 - 6.1 Secretary's introduction to the budget 1 January 2017 to 31 December 2018
 - 6.2 Committee discussions and action arising
7. Budgetary sub-committee membership
8. Summary of recommendations to the F&A committee
 - 8.1 A recommendation in regard to the Provisional Financial Statement for the current year ending 31 December 2016
 - 8.2 A recommendation in regard of the level for the NGO, Observer and Media fees for the biennial period 2017-2018
 - 8.3 A recommendation in regard to the proposed budget for 2017-2018
9. Adoption of Report

TERMS OF REFERENCE

At IWC/51 in 1999 the Commission agreed to establish a Budgetary Sub-committee to review income and expenditures and proposed budgets to help expedite the work of the full Finance and Administration Committee (*Ann. Rep. Intl. Whaling Comm. 1999: 46*). It first met at IWC 52 in 2000.

ADMISSION OF OBSERVERS

Rule of Procedure C.2

2. Observers accredited in accordance with Rule [of procedure] C.1.(a) and (b) are admitted to all meetings of the Commission and the Technical Committee, and to any meetings of Committees and all subsidiary groups of the Commission and the Technical Committee, except the Commissioners-only meetings, meetings of the Bureau and closed meetings of the Finance and Administration Committee.

SPEAKING RIGHTS FOR OBSERVERS

Rule of Procedure C.3

3. Observers accredited in accordance with rule C.1.(a) and (b) will have speaking rights during Plenary sessions and sessions of Commission subsidiary groups and Committees to which they are admitted to under C.2, in accordance with the Rules of Debate of the Commission. Observers might also submit documents for information to the delegations and observers participating in such sessions, provided these are submitted through the Secretariat at least 48 hours before the session in which they are intended to be made available, and are duly authored or endorsed by the accredited organisation making the submission, which is to be held responsible for its contents.

Rules of Debate Paragraph A

A. Right to Speak

1. The Chair shall call upon speakers in the order in which they signify their desire to speak, with the exception of accredited Observers, which should be allowed to speak only after all Commissioners desiring to speak do so. As a general rule, Observers will only be allowed to speak once at each Agenda item under discussion, and at the discretion of the Chair.

Appendix 10

IWC/66/REP01(2016) TABLE 26 AS REVISED BY THE F&A COMMITTEE

Summary of budget requests for the 2017-18 period. For explanation and details of each project see text.

RP no.	Title	Relevance to sub-committees and working groups	2017 (£)	2018 (£)
Meetings/Workshop				
SC01	Invited Participants - SC/67a and b	SC	45,000 ¹	76,000
SH09	Workshop on integration of eastern South and Central Pacific blue, humpback, and fin whale photo catalogues	SH	4,600	0
IA01	Pre-meeting for an in-depth assessment of North Pacific humpbacks	IA	6,000	
EM01	Two Joint SC-CAMLR and IWC-SC Workshops	EM	5,500 ²	16,000
AWMP-RMP01	AWMP/RMP Joint Intersessional Workshop	AWMP, RMP	8,000 ³	0
AWMP01	AWMP Intersessional Workshop	AWMP	0	10,000
BRG02	Fourth Workshop on the rangewide review of population structure and status of North Pacific gray whales	BRG, AWMP	9,500	0
BRG04	Satellite tagging best practices Workshop	E, CMP		
BRG04	Satellite tagging best practices Workshop	BRG, SH, E	15,000	0
WW01	Intersessional Workshop - data gaps and modelling requirements for assessing the impacts of whalewatching	WW	10,000	11,500
RMP01	Intersessional Workshops - <i>Implementation Review</i> , North Pacific Bryde's whales	RMP	10,000	10,000
[SP01]	[Review of a special permit proposal for Japan's new whale research program in the Western North Pacific]	SP, IA, SD, RMP, EM, E	[23,000 ⁴]	
E05	Cumulative impacts premeeting or intersessional	E		10,000
E03	HAB focus/pre-meeting	E	12,000	
SM01	Intersessional Workshop: resolving <i>Tursiops</i> taxonomy	SM, SD	0	8,500
Modelling/computing				
SH07	Defining blue whale population boundaries and estimating associated historical catches, using catch data in the Southern Hemisphere and northern Indian Ocean	SH	0	9,500
AWMP02	AWMP Developers Fund	AWMP	200	2,000
SH10	Modelling analyses for future assessments of Southern Hemisphere humpback populations	SH	2,000	2,500
IA02	Assessment modelling for an in-depth assessment - North Pacific sei whales	IA	2,500	2,500
E02	Pollution 2020: contaminants, data integration and mapping	E, SM, BRG	0	4,000
RMP02	Essential computing support to the Secretariat for RMP	RMP	2,000	10,000
Research				
<i>Sub-total</i>				
BRG01	Aerial photographic survey of southern right whales on the southern Cape nursery ground in South Africa	BRG	20,000	0
BRG05	Tracking southern right whales through the southwest Atlantic	BRG	11,000	0
BRG03	Passive acoustic monitoring of the eastern South Pacific Southern right whales, improving CMP outputs	BRG	14,500	14,500
SH03a	Northern Indian Ocean humpback subspecies determination - genetics	SH	0	7,500
SH05	Acoustic monitoring of 'pygmy' blue whales in the Mozambique Channel off the northwest coast of Madagascar	SH	11,500	0
IA03	IWC-POWER cruise	IA	36,000	36,000
Database/catalogues				
SH01	Antarctic humpback whale photo catalogue	SH	15,000	0
SH02	Southern Hemisphere blue whale catalogue	SH	17,500	15,500
SH03b	Data archiving tool for Northern Indian Ocean humpbacks	SH	10,000	0
SH08	Development of a permanent blue whale song reference library	SH	0	4,000
HIM01	Ship strike database coordinator	HIM	10,000	10,000
HIM02	Design and construction of an initial global entanglement database	HIM	8,000	0
E01	Cetacean Diseases of concern	E	4,000	2,000
Report				
E04	SOCER	E	3,000	4,000
Follow-up from recommendations				
SC02	Follow-up from recommendations relevant to the work of all groups	SC	20,000	49,800
Total request			£315,800	£315,800

Notes: ¹£76,000 was the expected financial need for 2017 but savings from 2016 allowed for the reduced budget of £45,000. ²£16,000 was the expected financial need for 2017 but savings from 2016 allowed for the reduced budget of £5,500. ³The AWMP and RMP intersessional Workshops are held jointly to reduce the cost of invited participants that are common to both meetings. ⁴Some delegations expressed some reservation over the use of funds for this Workshop; the Chair clarified that these funds are exclusively used to cover the costs of the Independent Panel Experts.

Annex L

Approved Commission Budget for 2017 and 2018 as Adopted at the 66th Meeting

Note: The Budget does not include voluntary contributions which are accounted separately. Voluntary contributions vary in magnitude and regularity and have totalled around £400k to £500k per annum in recent years.

	2017	2018
Income	£	£
Contributions from member governments	1,642,874	1,647,803
Interest on overdue financial contributions	3,600	3,600
Observers registration fees	0	40,000
Staff assessments	210,443	213,056
Interest receivable	6,894	6,894
Dilapidation provision from previous years	-	-
Total Income	1,863,811	1,911,353
 Expenditure		
Secretariat	1,203,428	1,219,737
Publications	4,000	4,000
Scientific Committee meeting	120,000	120,000
Contribution to meeting fund for Commission meeting	118,125	158,125
Bureau meeting	5,000	5,000
Scientific Research	315,800	315,800
Red House refurbishment	19,000	19,000
Total Expenditure	1,785,353	1,841,662
 Provisions		
Doubtful debts	78,458	69,691
Severance pay	0	0
Total Provisions	78,458	69,691
 Surplus / (-deficit) for the year	0	0

Annex M

Approved Research Budget for 2017 and 2018

RP no.	Title	Relevance to SC sub-committees and working groups	2017 (£)	2018 (£)
Meetings/Workshops				
SC01	Invited Participants - SC/67a and b	SC	45,000	76,000
SH09	Workshop on integration of eastern South and Central Pacific Blue, Humpback, and fin whale photo catalogues	SH	4,600	0
IA01	Pre-meeting for an in-depth assessment of North Pacific humpbacks	IA	6,000	
EM01	Two Joint SC-CAMLR and IWC-SC Workshops	EM	5,500	16,000
AWMP-RMP01	AWMP/RMP Joint Intersessional Workshop	AWMP, RMP	8,000	0
AWMP01	AWMP Intersessional Workshop	AWMP	0	10,000
BRG02	Fourth workshop on the rangewide review of population structure and status of North Pacific gray whales.	BRG, AWMP	9,500	0
BRG04	Satellite tagging best practices workshop	E, CMP		
BRG04	Satellite tagging best practices workshop	BRG, SH, E	15,000	0
WW01	Intersessional workshop-data gaps and modelling requirements for assessing the impacts of whalewatching	WW	10,000	11,500
RMP01	Intersessional workshops-Implementation review, North Pacific Bryde's whales	RMP	10,000	10,000
SP01	Review of a special permit proposal for Japan's new whale research program in the Western North Pacific	SP, IA, SD, RMP, EM, E	23,000	
E05	Cumulative Impacts premeeting or intersessional	E		10,000
E03	HAB focus/premeeting	E	12,000	
SM01	Intersessional workshop: resolving <i>Tursiops</i> taxonomy	SM, SD	0	8,500
Modelling/Computing				
SH07	Defining blue whale population boundaries and estimating associated historical catches, using catch data in the Southern Hemisphere and northern Indian Ocean	SH	0	9,500
AWMP02	AWMP developers fund	AWMP	200	2,000
SH10	Modelling analyses for future assessments of Southern Hemisphere humpback populations	SH	2,000	2,500
IA02	Assessment modelling for an in-depth assessment—North Pacific sei whales	IA	2,500	2,500
E02	Pollution 2020: contaminants, data integration and mapping	E, SM, BRG	0	4,000
RMP02	Essential computing support to the Secretariat for RMP	RMP	2,000	10,000
Research Sub-total				
BRG05	Tracking southern right whales through the southwest Atlantic	BRG	11,000	0
BRG03	Passive acoustic monitoring of the eastern South Pacific Southern right whales, improving CMP outputs	BRG	14,500	14,500
SH03a	Northern Indian Ocean humpback subspecies determination-genetics	SH	0	7,500
SH05	Acoustic monitoring of 'pygmy' blue whales in the Mozambique Channel off the northwest coast of Madagascar	SH	11,500	0
IA03	IWC-POWER cruise	IA	36,000	36,000
Database/Catalogues				
SH01	Antarctic humpback whale photo catalogue	SH	15,000	0
SH02	Southern Hemisphere blue whale catalogue	SH	17,500	15,500
SH03b	Data archiving tool for Northern Indian Ocean humpbacks	SH	10,000	0
SH08	Development of a permanent blue whale song reference library	SH	0	4,000
HIM01	Ship strike database coordinator	HIM	10,000	10,000
HIM02	Design and construction of an initial global entanglement database	HIM	8,000	0
E01	Cetacean Diseases of concern	E	4,000	2,000
Report				
E04	SOCER	E	3,000	4,000
Follow-up from recommendations				
SC02	Follow-up from recommendations relevant to the work of all groups	SC	20,000	49,800
Total request			£315,800	£315,800

Annex N

Amendments to the Schedule

At the 66th Meeting of the International Whaling Commission held in Portorož, Slovenia from 24-28 October 2016, no modifications were made to the provision for zero catch limits for commercial whaling with effect from the 1986 coastal and 1985/86 pelagic seasons.

The following updates to the Schedule of the International Convention for the Regulation of Whaling therefore become necessary (changes in *bold italic* type):

For paragraphs 11 and 12, and Tables 1, 2 and 3:

- Substitute the dates 2014/2015 pelagic season and 2015 coastal season for **2016/2017** pelagic season and **2017** coastal season as appropriate.

In accordance with Article V of the Convention, these amendments become effective with respect to each Contracting Government ninety days following the date of this letter, unless any Contracting Government lodges an objection, in which case the procedure under Article V, paragraph 3 of the Convention will be followed.

The ninety days period will expire on 05 February 2017. In the absence of objections by that date the updates will become effective. Contracting Governments will be notified accordingly.

**Report of the Third Workshop
on Large Whale Entanglement
Issues**

Report of the Third Workshop On Large Whale Entanglement Issues¹

The Workshop was held at the Center for Coastal Studies, Provincetown, MA (USA) from 21-23 April 2015. The list of participants is given as Annex A.

1. INTRODUCTORY ITEMS

1.1 Opening remarks

Mattila welcomed the group on behalf of the IWC, who convenes the global whale entanglement response network, which is made up of affiliated national and regional response networks, who adhere to the IWC consensus principles and guidelines for whale disentanglement. In particular he welcomed the new members of the network including some who were attending as networks for the first time (Argentina, Brazil, Mexico, Panama and UK). He also thanked Egil Øen for attending, as he had provided the original inspiration for the group to be convened at IWC/58 in 2006, and has played an essential role in its continued progress, assisting the group to focus on common ground and advance work on the welfare aspects of entanglement. In this spirit, Mattila encouraged the participants to undertake healthy debate, but to focus on the shared goal of easing animal suffering, and to attempt to move forward with consensus where possible.

1.2 Chair and Rapporteur(s)

Bjørge was appointed Chair. Rapporteurial duties were undertaken by Donovan, Mattila, Robbins and Simmonds.

1.3 Review and adopt Agenda and documents

The Agenda is given as Annex B and the list of documents can be found as Annex C.

2. NEW INFORMATION SINCE 2011 WORKSHOP

2.1 Aspects of reports from relevant Workshops in 2011-2014

2.1.1 IWC Workshops on Marine Debris

Apparently increasing trends in interactions of cetaceans with marine debris underpinned two recent Workshops held under the auspices of the IWC; clearly of most relevance to the present Workshop are the discussions they held concerning 'abandoned, lost or discarded fishing gear' or ALDFG². Both Workshops had noted that the available evidence strongly suggested that 'commercial and other active fishing gears' or COAFG was responsible for most large whale entanglements but that more work was needed to determine robustly the proportions of entanglements due to each (see below) in term of assessing threats at the population level.

FIRST WORKSHOP, WOODS HOLE, MAY 2013

The first Workshop had focused on what was known of the effects of marine debris on cetaceans and was held at the Woods Hole Oceanographic Institution (IWC, 2014). It included an overview of marine debris distribution; ingestion-related issues including microplastics; the IWC's work on

disentanglement; and a number of case studies. The latter included entanglement reporting in Italy; USA west coast entanglement records; and gear recovery and modelling in Puget Sound. The Workshop made many recommendations on a variety of topics. Of special relevance to the present Workshop was the highlighting of the importance of trying to distinguish whether or not entangling gear was active or derelict at the time of entanglement. It outlined some potential methods to achieve this and also pathology techniques. It called for improved data-sharing and recommended that:

- (1) marine debris interactions should be reported by member nations in their IWC progress reports;
- (2) debris sampling should be conducted during cetacean field studies;
- (3) there should be improved efforts to work with industry and fishermen; and
- (4) the IWC Scientific Committee should work to further evaluate the risks of ingestion; and
- (5) the desirability of working in collaboration with other intergovernmental bodies.

SECOND WORKSHOP, HONOLULU, AUGUST 2014

A second Workshop on marine debris was held in Honolulu in August 2014 (IWC, 2016b). This Workshop attracted participants from ten countries and representatives from the United Nations Food and Agriculture Organisation (FAO), the United Nations Environment Programme (UNEP) and the Convention for Migratory Species (CMS) along with relevant industry bodies and a number of non-governmental organisations concerned with marine debris. Its primary objectives were to: (i) explore how the IWC can engage with the existing international and regional mitigation efforts concerning the management of marine debris; (ii) determine how best to ensure those efforts are informed by the growing understanding of the cetacean-specific impacts of marine debris; and (iii) advise on how best the IWC can lead/engage with action in regions where marine debris has the greatest potential impacts on cetacean populations.

Focal Workshop topics included fishing gear marking, using practices in the USA as an example; potential gear modifications; methods for identifying debris hot spots; modelling approaches; work conducted on other species (principally the work of CSIRO in Australia on risk analysis for ingestion and entanglement in seabirds and turtles); debris ingestion; the role and responsibilities of the International Convention for the Prevention of Pollution from Ships (MARPOL); the Nofir project for recycling fishing gear in Norway and elsewhere; the NOAA Marine Debris Programme and the Hawaii Marine Debris Action Plan; the Korean Gear Buyback Programme; the European Healthy Seas Initiative; the Philippines Net-Works programme; Ghost-Nets Australia; WAP's new Sea Change initiative; and the exemplary outreach work by Northwest Straits Foundation, UNEP and NOAA.

The second Workshop emphasised in its conclusions and recommendations that the issue of marine debris, while important for cetaceans, was a major environmental issue in its own right that was already the subject of a number of important international and national initiatives and that there is a need for a coordinating body to help bring these initiatives together. It was agreed that the IWC's primary

¹Presented to the Commission as IWC/66/WKM&WIRep03.

²This report follows the terminology agreed at the second Workshop on marine debris i.e. fishing gear that is being used (operationally active) by fishermen is called 'both commercial and other active fishing gears' or COAFG to distinguish it from 'abandoned, lost or discarded fishing gear' or ALDFG.

contribution should be to ensure that cetacean-related issues are adequately represented within existing initiatives and that its strong scientific and other expertise is made available in collaborative efforts.

The second Workshop strongly recommended as the highest priority that the IWC and its Secretariat work together with the Secretariats of the other Intergovernmental Organisations (IGOS) and Regional Fisheries Management Organisations (RFMOs) relevant to this issue to ensure consistency of approach, synergy of effort and exchange of information to develop appropriate mitigation strategies that recognise that: (a) prevention is the ultimate solution; but that (b) removal is important until that ideal is realised. It also recommended that individual IWC member countries collaborate with such initiatives and that the IWC continues to highlight issues surrounding marine debris and cetaceans.

It also recommended that every effort is made to work with fishing, and other relevant industries and NGOs as appropriate and that the IWC (and other IGOs) encourage their member states to review national level implementation of MARPOL Annex V and other conventions relevant to marine debris reduction. The IWC should encourage its members to prioritise the strategic use of a range of measures to improve marine and terrestrial waste management, including national legislation and policy, stakeholder partnerships, industry training schemes and economic tools aimed at reducing public consumption of key types of debris such as packaging waste.

The second Workshop also made specific recommendations for collaboration and endorsed the research recommendations from the first (IWC, 2014) and the 2014 Scientific Committee meeting (IWC, 2015), including incorporation of data on marine debris into IWC national progress reports in a standard format and development of a global IWC entanglement database.

In addition it recommended that:

- (1) effort to collect data using a standard approach to enable better assignment of entanglements;
- (2) IWC encouragement to FAO's Committee on Fisheries (COFI) to complete its work on gear marking;
- (3) IWC encouragement to disentanglement and stranding teams to collect detailed information on entangling gear/material that is removed from whales, and on marine debris present in the immediate environment;
- (4) the IWC Scientific Committee explores ways to identify priorities for mitigating and managing the impacts of marine debris on cetaceans;
- (5) continued IWC support for the disentanglement network, consideration of incorporating all marine debris into the initial training programme, the importance of involving the local fishing communities in the training;
- (6) IWC promotion of the model of expert training/capacity building into existing marine debris initiatives;
- (7) IWC investigation of ways to most effectively communicate the Workshop's recommendations to the relevant target audience(s), including considering highlighting the IWC's work on the impacts of marine debris on cetaceans at meetings of other IGOs e.g. the forthcoming COFI in 2016; and
- (8) improved methods to encourage IWC member nations and others to provide the marine debris related data.

Finally, it endorsed the present Workshop agreeing that it should incorporate entangling debris as well as in-use gear. It encouraged all members and non-members of the IWC to take advantage of the IWC disentanglement network

especially in those regions where entanglement represents a threat at the population level (e.g. western Pacific, eastern South Atlantic, and Arabian Sea).

DISCUSSION

On the topic of marine debris, Ledwell reported that gear is tagged in Newfoundland and so fishermen have to report when it is lost. As a result, there should be records from Canada that could be used to further understand these questions.

Mattila commented that the IWC intends to engage the FAO on questions of gear involved in whale entanglement. The IWC expert group was encouraged to put more training components on marine debris in relation to entanglement and to make use of Workshop reports, other documents and outreach materials. Toole reported to the Workshop that the FAO will be undertaking expert consultation on gear marking in 2016. It is likely that there will be a call for expertise and members of this group might consider participating.

2.1.2 Large whale entanglements on the US west coast, Portland, November 2013

SUMMARY

IWC/A15/ER22 reported on a Workshop about large whale entanglements on the US west coast, convened in Portland, Oregon. This Workshop brought together experts in the fields of marine mammals, fisheries, modelling, bycatch, lost gear/marine debris, and management, to share information relevant to the issue. It also sought to identify data gaps, data needs, and research and outreach priorities. The overall goal was to better understand large whale entanglement and continue to build a strong science-based foundation for any actions that may be necessary to protect whales.

The Workshop made a number of general recommendations to assist in understanding and reducing large whale entanglements. These were as follows:

- (1) engage commercial fishermen and commercial fishery managers to better understand the fisheries and what measures may be taken to fill existing data gaps;
- (2) address the unknowns surrounding large whale entanglement by conducting research needed to encourage or support fishery management actions or legislation changes, including:
 - (a) identifying the level of conservation concern surrounding population level impacts from entanglement for different whale species;
 - (b) conducting fine scale research on areas identified as having high co-occurrence of fishing gear and large whales; and
 - (c) studying the mechanisms by which whales become entangled in gear;
- (3) evaluate possible gear modifications (e.g. related to increasing the number of traps per line, which may reduce entanglement risk by reducing the number of vertical lines with which whales could interact; and
- (4) support lost gear and marine debris removal efforts to reduce the risk of whale entanglements.

The Workshop also received Saez *et al.* (2013) [provided to this Workshop as IWC/A15/ER21] which described the co-occurrence of large whales and fixed fisheries on the US west coast. IWC/A15/ER24 was also provided as a guide to identifying fixed gear types off California, Oregon, and Washington.

DISCUSSION

The present Workshop **endorsed** the recommendations as summarised above.

2.2 New or unusual relevant cases since 2011

(Guadalupe, Korea)

2.2.1 Guadeloupe

SUMMARY

IWC/A15/ER12 described an unusual event in which two sperm whales, an adult female and a dead calf, were entangled together in what the authors believed to be a local artisanal fish aggregating device (FAD). The net, rope and debris were entangled around the female's jaw and the peduncle of the dead calf. The female was dragging the carcass behind her as she dove with other adults on what appeared to be foraging dives. One of the authors (R. Rinaldi) had been recently trained, and after consultation with the IWC expert group, was able to safely remove the carcass from the entanglement. However, the risk was considered too high to try to remove the remaining entangling materials from the female's jaw.

Along with the unusual configuration and gear, the entanglement was atypical because the entangling materials were only attached to the tip of the jaw. Based on this observation and images of the drag already created by the carcass, the IWC expert group advised the responders not to add the typical 'control line' and to remove what they could safely, without adding undue additional drag. The responders have seen the female a year later, and she seems healthy and behaving normally, but they could not determine how much, if any, of the entangling materials remain.

DISCUSSION

The Workshop **agreed** that it could be challenging to identify a FAD as the source of entangling material given the varied materials and haphazard construction used in many instances. In this case, identification was based on local knowledge. It was clarified, however, that large, commercial FADs used in the North Pacific tuna fishery, for example, are more likely designed in a systematic fashion incorporating guidance to minimise entanglement risk (International Seafood Sustainability Foundation Guide for Non-Entangling FADs³), and often have characteristic electronics attached (e.g. telemetry and sonar).

2.2.2 Korea

SUMMARY

An updated the Workshop on the entanglement of a North Pacific right whale in aquaculture gear off Korea in 2015. This was the first sighting of this species in Korean waters since the last one had been landed in the East Sea in 1974. This was also the first disentanglement performed in aquaculture gear in Korea, as previous entanglements have all involved non-protected species. The young male right whale was entangled in hanging aquaculture for mussels off the island of Namhae, in the Korea Strait, on 11th February 2015. The whale was entangled by the main rope (2cm in diameter) at the caudal peduncle. Untrained responders, including fishermen, first tried unsuccessfully to cut the ropes using poles with hooked knives. Two scuba divers then entered the water and cut two wraps with diver's knives, but they had to cease the operation due to the limited visibility in the late evening. The responders returned to resume the rescue the next morning, but found that the whale was gone. An aerial survey was conducted to find the whale, which they assumed had escaped the remaining loose rope on its own. Photos, video clips and biopsy sample of the right whale were taken during the rescue in order to identify and register the animal. An highlighted several safety issues that resulted from

responders approaching the whale too closely, positioning themselves over the tail and ultimately entering the water once they were unable to cut lines from the surface.

DISCUSSION

The Workshop **concurred** with the safety concerns highlighted by An and **stressed** the value of disentanglement training to facilitate safe practice at any future events. An clarified that the main line in this case was set out horizontally in 5m segments to approximately 150m total length with anchors set at periodic intervals. It was noted that it can be difficult to manoeuvre in such an extensive surface system and so the use of small inflatables would have been preferred. Furthermore, it can be very difficult gear to work with due to its weight and the fact that the tensile strength of the rope also changes as it is manipulated. Attaching buoys to the whale during disentanglement operations can provide important support for the whale, offsetting the weight from the gear.

The Workshop discussed other instances of aquaculture entanglement and how they were resolved. Coughran described a humpback whale calf that had been disentangled from thick diameter line in mussel aquaculture off Australia. The entangling line was so tight that release required cutting into the body, but the individual was re-sighted after disentanglement. Morrissey described an entanglement in mussel aquaculture in New Zealand. In that case, the whale was released without the offered assistance of trained responders, and unfortunately this was achieved by winching the tail of the whale out of the water.

In conclusion, the Workshop **recognised** the increase in aquaculture (including expansion offshore) around the world and the particular difficulties that may entail with respect to entanglement response. It **stressed** the importance of developing prevention measures as a priority in addition to entanglement response training.

2.3 New tools or techniques

The Workshop received several presentations on specialised tools and their appropriate use in large whale entanglement response efforts.

2.3.1 Gillnets

Two presentations focussed on gillnet entanglements, which can pose a high risk to the animals, as well as to responders. Gillnet entanglements are increasingly reported in some developing areas, and safely addressing gillnet disentanglements require appropriate protocols and tools.

Lyman outlined that in general he, and networks he has worked with, have used two basic types of tools for gillnet entanglements: (1) hooked knives (fixed and/or flying) to cut head and foot lines, including leadline; and (2) longer and slightly curved blades for cutting the mesh itself. He clarified that the use of hooked knives to cut head and foot ropes attached to netting is in many ways little different than cutting any line. However, leadlines, especially if multiple lines are grabbed, can be very challenging and require very strong and sharp models. In cases where the netting is open and represents only a few panes, the mesh may tear or be fairly easy to cut. However, if rolled, gillnet mesh itself is extremely strong. Lyman reviewed knives that have worked in the past, namely Spyderco's Whale Knife, bamboo knives and lawn sickles. All have long slightly curved blades to maintain contact with the mesh and provide plenty of action while at the same time limiting binding with the net. He also pointed out that with any knife how it is presented to the gear being cut (i.e. the angle of attack should maximise the knife's intended cutting surface) is critically important to the successful use of the tool.

³<https://www.iattc.org/Meetings/Meetings2013/MaySAC/Pdfs/ISSF-Non-entangling-FADs-Revised-10-18-12.pdf>

Sandilands presented the results of a test of the ability of three different flying knives to cut a section of rolled gillnet and leadline. Flying knives are knives that can be placed from a pole and have a rope attached to keep the responder at a safe distance from an entangled whale. The test was motivated by the cow/calf sperm whale entangled together in Guadalupe in 2013 (see Item 2.2.1). The knives that were available to be tested at CCS included: (1) a welded flying knife with custom stainless blades and a 9cm opening; (2) a welded flying knife with a H1 Spyderco blade and a 4.5cm opening; and (3) a curved stock flying knife with box cutter blades and 7cm opening. Knives (2) and (3) cut easily through the gillnet and leadline (with one easy pull), however, knife (1) required significantly more effort (with three hard pulls). Tests were undertaken on 3inch diameter rolls of gillnet because that was what had been available; Sandilands recommended that larger diameter rolls should also be evaluated.

In discussion, the Workshop highlighted the fact that gillnet is a complicated gear to cut, partially due to the range of materials involved (monofilament, rope and lead). It was **agreed** that smooth blades are more effective than serrated blades for monofilament entanglements.

2.3.2 Other tools

Lyman also introduced several other tools and their use, many of which were modification of tools used for other purposes and tools revisited from past disentanglement efforts. These included longer, lighter poles, such as those made using carbon fibre. Some poles, like simple hardware poles and those made using sailboard masts are economical. Poles help deliver the tool and do so by extending the range, and thereby increasing safety. However, a byproduct of the greater range is the difficulty in gauging the range. As a potential remedy, he introduced the use of live streaming, real-time goggles providing a vantage point at the end of the pole. Use of knives on long poles with real-time viewing could allow large whale disentangles to cut whales free from greater and safer distances. Lyman also reviewed the use of the newer cutting grapple, an extremely dangerous tool that should be used only after careful assessment. Finally, he introduced a duel edge hooked knife, used to cut into an embedded line entangling a whale (a similar knife had been designed to disentangle a right whale #2030 in 1998). Its use was demonstrated in an event involving an entangled humpback whale calf with tight wraps of embedded line. He stressed that there are risks involved with using any tools and it essential that careful assessment and preparation are undertaken alongside training. Tools should not be used simply because they are available, but only when it is appropriate and safe to do so.

In discussion, the Workshop **noted** that knives with box cutter style blades are useful and cost-effective because the blades can be replaced as needed. However, the Workshop **stressed** that the appropriate tools to use will depend on the situation. Specialized tools can be challenging to obtain and to afford, but they are necessary in some situations, such as when it is not possible to work in close proximity to the whale. In close, controlled situations, standard knives (e.g. standard fillet knives) and tools can also be effective. The basic supply kit supplied as part of IWC trainings consists of a jam grapple, snap hooks with a remote (mooring) attachment fitting, telescoping pole, a fixed 'V' knife, flying knife and safety knife.

2.3.3 Protocols for testing

Smith presented IWC/A15/ER15, which described testing protocols for new equipment and techniques before approval for use within the Atlantic Large Whale Disentanglement Network (ALWDN).

Smith explained that these protocols were developed in response to an event that occurred during the disentanglement of a North Atlantic right whale (#3311) in which a Prusik knot (commonly used in climbing) was used to ascend additional buoys up the trailing line. This action resulted in two of the three responders being ejected into the water with a close interaction amid the gear entangling the whale. The detailed case study of this event described numerous planning calls and response debriefings. Any new tool or technique deviating from existing and approved tools and techniques must now be described to NOAA Fisheries, thoroughly tested in on-water simulations, including a recovery plan if the tool or technique fails and ultimately be approved through NOAA Fisheries permitting office prior to use on an entanglement case in the United States.

The Workshop **thanked** Smith for this information. It stressed the need for careful evaluation of new tools and techniques both in terms of safety of responders and the animals. It noted the value of a formal approval scheme in this regard and **encouraged** other groups to consider whether it was appropriate for their areas. The Workshop also **highlighted** the importance of sharing information on failure as well as success to improve safety and reduce issues in future events.

2.3.4 Protocols for sharing tools

The Workshop discussed the concept of sharing AutoCAD tool designs to allow them to be manufactured in other countries, reducing the cost of manufacture and logistics of transport. The Workshop **strongly recommends** that neither tools nor design specifications are provided to anyone who has not undergone training. The current practice for IWC trainings is to share a basic kit of tools (see Item 2.3.2) with trained teams and they are then allowed to replicate those designs from what they have in hand. However, the manufacture of those original tools is closely scrutinised and efforts to replicate those designs have not always been successful even with the tool in hand. Efforts to reproduce them in Mexico, for example, did not meet the design specifications and so some were not as effective. The group **agreed** that the AutoCAD designs might be helpful to avoid such situations, but they should only be given to the proper authority within the officially trained network.

2.4 New safety or risk assessment tools or protocols

2.4.1 Use of 'Site cams' in the USA

Lyman provided an overview and reminder of the value of small, remotely operated cameras ('site cams') towards improving both operational/response and informational/threat assessment, and thereby potentially reducing associated risk. Cameras over time have become more affordable, easier to use, of greater quality, and with better remote operation. Site cams can be (and have been) attached to helmets, poles, both the approach and support vessels, to the entangling gear, and drones or UAVs (unmanned autonomous vehicles). Video clips of recent efforts using pole cams were shown illustrating their value in both clear water low latitude breeding grounds, as well as lower visibility high latitude feeding grounds.

Lyman also referred to the value of drones (and see Item 2.4.2) to provide both aerial imagery and in-water full body assessment. In regard to response efforts, assessment could be fully obtained without even actually approaching the animal or otherwise harassing the animal. He noted that during a response, the rule of thumb is to assess fully prior to action, but there is a fine line since animals may become evasive and otherwise uncooperative after so many approaches.

Lyman cautioned that the use of site cams for general photo-documentation should not be the priority of primary responders or less experienced responders in close approach situations; site-cams can be remotely operated by other individuals and training should be required. The value of such cameras in risk assessment includes operational risk assessment of particular cases, informational and operational risk assessment of past cases, and operational examples for training. They are also valuable in drafting detailed debrief reports (one of which was provided to the Workshop) and gaining information that otherwise would be lost.

With respect to training, Lyman noted that this is continuously evolving and he provided video illustrations of training exercises. The depth of training required depends on the need (likelihood of response) and capacity (personnel and resources) among other factors. In the USA, in some regions and teams, the amount of past training and participation in efforts is such that network responders have an excellent foundational experience. In such cases, training has evolved to provide hands-on experience with a variety of scenarios that may result from large whale entanglement response efforts. Some of these include: addressing different gear types and location of gear on the animals; dealing with medical emergencies (e.g. back and neck injuries); dealing with vessel-based scenarios⁴ (e.g. a capsized approach boat; responders getting caught in the gear and being pulled overboard); etc. Two teams in Hawaii have been undertaking such training exercises for 3 years now and they now have become multi-day efforts.

Lyman concluded that the development of new tools and techniques is only helpful if responders are prepared to use them and they are subject to proper assessment (and see Item 2.3.4). Otherwise their use may increase risk. Furthermore, training in the use of such tools is only advised after responders have received and mastered the basics; responders should not get ahead of themselves.

In discussion, the Workshop **thanked** Lyman for these updates and **endorsed** both the value of new technology and approaches after careful evaluation and the cautions he highlighted in their use. It also **recognised** the different local needs, resources and in some cases legislative frameworks that must be taken into account in addition to the importance of adequate training.

2.4.2 Unmanned Aerial Vehicles (UAVs) in Western Australia

The Western Australian Department of Parks and Wildlife is investigating the use of UAV's (also known as quadcopters or drones) as a useful tool in the decision making process at sea for entanglement events for large whales. In particular, this relates to assessing response related operational activity and associated risk management for human safety working around entangled stressed large whales. This method has been used successfully as a tool to locate, photograph/film and assess entangled whales to achieve a safe response by minimising risks to response teams and minimising stress and disturbance to compromised whales. A one month sea trial was undertaken during the northern migration of Breeding Stock D humpback whales in 2014 off the Western Australian Kimberley coast. 130 test flights were carried out using the 'Phantom 2' quadcopter, a unit weighing less than 2kg. Each flight (ca 16 minutes) involved the use of a remote control unit with real time camera viewing throughout the

flight. A *GoPro* camera unit was suspended beneath the quadcopter that had the ability to be set at tight, medium and wide angle views and image capture capacity. The unit was sent to test for behavioural stimulus by overflying all age groups of humpback whales, including nursing mother/calf pods. The testing included flights away from the vessel out to a maximum of 500m and as low as 1m above whales. This entailed the operation of a minimum of a team of two operators up to a team of four.

The test flights resulted in no obvious or apparent behavioural change with any of the focus animals throughout the testing. Most remarkable was the results associated with mother/calf pods.

There is currently much discussion by aviation regulatory authorities on their legal use, both from a licensed commercial application and private use of such units. At the time of the test the regulatory approach was still in its development stage and responsible use of such devices is being closely managed.

The Workshop **thanked** Coughran for his presentation and **commended** the thorough testing that had been undertaken. It **agreed** that this is potentially a very valuable and relatively inexpensive tool (ca USD \$2,000). It recognised that there are a number of important issues to be addressed before being used widely including proper training, consideration of legal frameworks etc.

2.4.3 Protocols for the use of telemetry packages in the USA

Smith described the development of the document, Decision Tree for Tagging (IWC/A15/ER14) based on the objective to identify the needs of deploying and/or retaining a satellite telemetry package on an entangled whale case. The intent behind development of this decision tree was to assist Entanglement Response Program managers in conducting a cost/benefit analysis to assess the 'cost' to the welfare of the animal and cost of satellite tag package in comparison to the benefit to the individual animal welfare and overall knowledge base of health effects of entanglements on animals.

The Workshop **thanked** Smith for drawing this useful document to its attention and **endorsed** the principles therein, recognising that such decision trees will necessarily reflect local conditions and norms.

3. REVIEW OF IWC CAPACITY BUILDING

3.1 Summary of work since last meeting

The second (2011) IWC Workshop on entanglement, also held in Provincetown, was focused on developing a strategy, curricula and advisory group to carry out the capacity building recommended at the 2010 Workshop (IWC, 2012). The result was a three-pronged training strategy comprising: (1) provision of an overview of the issue and a context for IWC-endorsed capacity building; (2) discussions with appropriate resource managers about feasible team and network structure; and (3) detailed entanglement response training by members of the IWC expert advisory group.

The two-day training consists of one day on land, largely in a classroom, where all participants are given an overview of the issue globally, with background information on how other countries are approaching this problem. In addition, the host Government is asked to provide a brief overview of what is known for the region, including: species and gear involved, examples of local events, and any local regulations. An overview of the science and methodologies used to understand the issue is also presented, and two

⁴A video was shown of an alternate use of the cutting grapple used by a dedicated person on the support vessel to address the possible scenario of person or approach boat caught in the entangling gear.

overarching ‘principles’ are reiterated. Firstly, that human safety must come first, and secondly, that disentanglement is only the first step in helping whales and fishers. On the latter point it is made clear that prevention is the ultimate solution to this problem, and all responses to an entangled whale should include gathering information (safely) that will eventually lead to prevention.

The remainder of the first day is spent going over safe disentangling procedures using many images and video clips to illustrate the proper use of tools, techniques and safe decision-making procedures. The number of attendees for the first day in the class is only limited by the size of the room. However, not all of the attendees will be candidates for the hands-on training on the water, during the second day (see below).

The second day takes place on the water. Two small boats (per trainer) are used; one acting as the ‘whale’ and the other as the ‘rescue’ boat. The ‘whale’ boat tows a long rope with a variety of objects on the end (e.g. buoy, tangle of net....etc.), as the ‘rescue’ boat makes multiple approaches using various tools. As only two trainees are in the ‘rescue’ boat at any time, and the process is time-consuming, only 10-12 trainees can be accommodated.

Because the ‘hands on’ work releasing a whale can be dangerous, and the second day can only accommodate 10-12 trainees, the following consensus criteria are provided in order to identify key trainees for the second day:

- experience with whale behaviour and driving small boats around whales;
- experience with fishing gear and with handling lines under powerful ‘load’ or strain;
- experience with small boat safety;
- physical fitness (does not need to be an athlete!);
- availability for the network (there is no point training someone who will not be available to respond);
- has appropriate insurance and authorisation of the relevant authority; and
- level-headed (is able to remain calm and think clearly in stressful situations).

At the conclusion of the training, the trainees are evaluated and the trainer works with the relevant authority to identify key participants who may be able to undertake a three week apprenticeship with one of the existing networks. So far these apprenticeships have been conducted at the Center for Coastal Studies, Provincetown in the USA, as they have: rescue facilities, proximity to whales, ongoing entanglement related research and proximity to other valuable sources of related experience (e.g. necropsy and stranding, fishing gear research....etc.). This is effectively training future trainers for the country represented.

Training is only undertaken with the knowledge of the authorities of the relevant countries. In some cases, they themselves request and support the training. Requests that come through the IWC to the expert trainers are prioritised using a number of criteria and this is discussed further under Item 3.3.

A valuable approach has been to partner with regional IGOs in order to provide the training in fulfilment of regional action plans (e.g. the SPAW marine mammal action plan in the Wider Caribbean, and the SPEP whale and dolphin action plan in the South Pacific). The global entanglement response network now includes established networks from 19 countries. Table 1 lists the training exercises that have been undertaken and the trainers involved whilst Table 2 summarises the overview seminars.

The Workshop **congratulated** the trainers and the trainees, recognising the importance of this work, not only in terms of training the entanglement teams but also in stimulating discussion surrounding the ultimate goal of prevention (see below). It noted the advantage of having more than one trainer where this was feasible (e.g. see Item 3.2.3) and **agreed** that efforts would be made to expand the international pool of trainers in the future.

Further discussion of the programme is considered under Item 3.3.

3.2 Overview of newly trained participating national networks

3.2.1 Argentina

On behalf of Dr. Uhart, Marcondes presented an update on Southern Right whale entanglements in Chubut, Argentina. The report was kindly provided by Bellazzi *et al.*, of the Chubut Cetacean Stranding and Disentanglement Network. Between 2012 and 2014, five entangled whales were reported at the breeding ground off Península Valdés. There was one case, an entangled female (that was accompanied by a calf), where the team was able to partially disentangle the animal (with ropes successfully cut in most life-threatening areas involving the mouth and head) but was then unable to make further attempts to cut the remaining ropes because of interference by the calf. Disentanglement of the other animals (one adult, two sub-adults and one calf, all of unknown sex) was not possible despite efforts to approach them (one case), or find them after initial reporting (three cases). Three entanglements were with rope, one was a net, and one was monofilament fishing line. The main limitation for disentanglement success thus far was the inability to relocate animals after receiving initial reports (3 cases). In the other two cases, someone stayed by the whale until the response team arrived.

The Workshop **thanked** the Argentinian team for its report. It was noted that as part of the IWC’s Conservation Management Plan for right whales in the southwest Atlantic, a refresher course and advanced training was being planned.

3.2.2 Brazil

Marcondes presented data on entanglements of whales along the east coast of Brazil. Two databases (strandings 1990-2014 and research cruises 2005-14) were interrogated and information on those cases where the presence of fishing equipment was confirmed and the type could be identified was presented. A total of 11 entanglements were recorded between 1993 and 2014 (mainly humpback whales (9 cases) with one case each of a southern right whale and a sperm whale. Entanglements in floating gillnets were the most frequent (6 cases) followed by ropes (4 cases) and longline (one case). There were two attempts at disentanglement. One was successful (made by a non-trained captain of a whalewatching boat) and the other (by a trained vet) was aborted because of the behaviour of the whale. The southern right whale was entangled in Abrolhos Bank and moved south along the coast for at least 1,750km where was observed no longer entangled. Three of the selected cases were long term entanglements that probably caused great suffering to the animals.

Groch also presented a summary of southern right whale entanglements cases recorded between 1999 and 2014 in southern Brazil. During austral winter and spring, southern right whales concentrate off the coast of Santa Catarina State, for breeding and calving. Aerial and boat surveys have been regularly conducted for ecological studies and

Table 1

IWC endorsed Seminars and Trainings: 2012-14. Countries represented with numbers of trainees. Response training only in the classroom takes one day; response training takes two days.

Dates of training	Countries, Commonwealths, Territories and Organizations	Response training in classroom only*	Response training	Trainer(s)
17-20/03/2012	Brazil	3	40	Mattila
27-29/03/2012	Argentina	50	10	Mattila
03-06/11/2012	United Kingdom	11	12	Mattila
15-16/11/2012	Mexico (Pt Vallarta)	17	36	Mattila and Landry
28-29/11/2012	Mexico (La Paz)**	18	20	Mattila and Lyman
	Costa Rica		3	
	Dominican Republic		2	
	Panama		3	
27-28/06/2013	Ecuador**(Salinas)	9	16	Mattila and Lyman
	Chile		3	
	Colombia	2	1	
	Panama		3	
	Peru	1	2	
26-27/09/2013	Panama	10	20	Mattila and Lyman
13-14/11/2013	French Caribbean**	2	10	Mattila and Sandilands
	Anguilla		1	
	Belize	1		
	Colombia		1	
	Dutch Caribbean		4	
	Trinidad and Tobago		1	
	Puerto Rico		1	
	St. Lucia		1	
	St. Kitts and Nevis		2	
	Venezuela		1	
18-19/01/2014	Mexico (El Vizcaino Biosphere Reserve)	14	20	Mattila and Lyman
03-04/04/2014	Dominican Republic**	10	14	Mattila
	Puerto Rico		2	
29-30/07/2014	Tonga	2	7	Mattila
	Vanuatu	1	2	
22-23/09/2014	Mexico (Oaxaca)	0	35	Landry
09-10/10/2014	Mexico (La Paz, advanced)	0	33	Lyman
03-04/11/2014	Mexico (Pt Vallarta, advanced)	10	30	Mattila

*These numbers are estimates, as the seminars and classroom training were open to Government staff, Universities, Scientists, Veterinarians, Navy and other potential support or decision-making parties, but who were not candidates for the practical training on the water. **Several 'National' trainings which were arranged in conjunction with regional IGO's such as UNEP-CEP-SPAW, UNEP-SPREP and CPPS, brought some trainees from member countries to participate in the National trainings for Ecuador, the French Caribbean and Mexico.

Table 2

Summary of invited overview seminars.

Date	Venue	Participants	Countries
8/11/2011	ICMMPA2	150	42
14/2/2012	Korea (CRI)	40	
25/3/2012	Argentina (Univ.)	30	
31/10/2012	Norway (Science Council, Fisheries)	20	
4-6/12/2012	WSPA Debris Symposium	60	20
11/4/2013	Permanent Commission of the South Pacific (CPPS)	30	5
13/5/2013	WHOI (Scientists)	40	8
6/9/2013	SPREP	30	26 (Pacific Islands)
17 and 20/10/2014	American Samoa (DMWR, NPS, NOAA)	25	
1/12/2014	SOLOMAC and SOMMEMA	90	15 (Latin American)
27-29/1/2015	Arabian Sea	30	12
22/3/2015	European Cetacean Society	30	

evidence of entanglement of right whales in fishing gear have been recorded. A total of 38 entangled right whales were reported, the majority adult females accompanied by a calf (74%, $n=25$). In most of the cases (97.4%), the fishing gear involved consisted of parts of monofilament gillnet, which became attached to the whales callosities when they swam through the fishing net. Photo-identification studies enabled the individual recognition of 20 right whales, a follow up of 16, from which nine (56%) were free of fishing gear when resighted. No signs of external physical

injuries associated to the entanglements were observed or recorded. Because of the nature of the entanglements, and the documented cases of identified whales resighted free of gillnet, no interventions have been necessary. Entanglements were recorded from July to November, peaking in August (45%, $n=17$), corresponding to the beginning of the species' wintering season. A mean of one entanglement/year was recorded in the first 10 years (1999-2008), and 4.7 entanglements/year were recorded in the later period, comprising six years (2009-14). The number of records per

year represents a mean of 3.4% of the total number of whales sighted/year during aerial surveys conducted in September, the peak month of whale occurrence. Most of the records (79%, $n=30$) occurred in the species' main aggregation area, the Right Whale Environmental Protection Area (APABF) region. A formal Entanglement Response Network was established in 2012 in APABF region, involving cetacean experts and marine authorities. The evaluation of interactions between fishery and whales requires regular monitoring of the whale population and fishing activities, and continuing efforts to document whale entanglements. The acquisition of a disentanglement tool-kit, as well as training of a disentanglement team is required, to enable appropriate response if necessary.

The Workshop **thanked** the Brazilian team for its report. In discussion, the importance of archiving gear and related items (e.g. bone and gear) was highlighted and this is considered further under Item 4.5.3.

It was also noted that when examining proportions of entanglements by gear type and/or age or reproductive class by region, account must be taken of information of temporal/geographical availability of various gear types and any temporal/geographical segregation by age or reproductive class.

3.2.3 Mexico

Frisch reported on 'RABEN', the Mexican network that comprises 15 teams with 180 members along the Mexican Pacific coast and Baja California peninsula. Most of the teams work mainly with humpback whales and one team works with gray whales. RABEN follows the IWC disentanglement protocol. RABEN teams are inter-institutional with members from NGO's, universities, whalewatching tour operators and government institutions (Navy, Wildlife Ministry and harbour masters).

In 2004, the first successful team disentanglement took place in Banderas Bay (Puerto Vallarta) and in 2006 David Mattila (NOAA) gave the first training Workshop. Since then RABEN Banderas Bay worked on their own capacity, building their own tools and annual self-training; the team has now successfully released 16 whales. Since 2012, the NGO Ecology and Conservation of Whales (ECOBAC) has been receiving support from CONANP (Mexican National Park System) for training and gear in order to build a National Network. In 2012, two large whale disentanglement Workshops and one stranding Workshop were carried out with the collaboration of the IWC; David Mattila (IWC), Scott Landry (CCS), Ed Lyman (NOAA), Michael Moore (Woods Hole Oceanographic Institute) and Frances Gulland (Marine Mammal Center, San Francisco) conducted the Workshops. In 2013, training conducted by ECOBAC took place and in 2014 again in collaboration with the IWC, three disentanglement Workshops took place in three different locations (each Workshop was conducted by a different instructor: David Mattila (IWC), Scott Landry (CCS) and Ed Lyman (NOAA)). The support of the IWC and the ability to have Workshops conducted by instructors with great expertise has proved to be extremely valuable, since they have their own experiences to share. This has proved to be particularly helpful with the RABEN members that used to conduct snorkelling or even diving disentanglements. RABEN is coordinated by ECOBAC and fuel and boats have to be provided by team members or local individuals. Thus far, RABEN has followed up on 59 entanglement reports and following IWC protocols, successfully released 27 whales (two gray whales, the rest humpback whales). Of the other 32 reports, responders were either not able to

release the whale, to relocate it or to confirm the report. For 2015, RABEN will work to improve documentation, communication and the database.

The Workshop **thanked** the RABEN team for its report and **commended** them for their thoughtful and comprehensive dedication to further training and improvements following the IWC guidelines and principles, and for the careful manner in which a range of stakeholders have been involved. In discussion, the importance of documenting certain types of information (e.g. behaviour) was raised as well as the importance of public outreach in all languages. This is discussed further below.

3.3 Review of strategy, curriculum and prioritisation

3.3.1 Introduction

In discussing this item, the Workshop took into account the 2011 Workshop report (especially Annexes E and F), the discussions under Items 3.1 and 3.2 and consideration of IWC/A15/ER9. This last document comprised a brief report from one of the IWC sponsored trainings, held in La Paz, Mexico in 2012. It was co-sponsored by the IWC, UNEP-CEP-SPAW and the Mexican Government. It was noted that the training included an extra day of training in the determination of human impacts to whales. It was noted that the training had been very well received by the trainees, based on their evaluations and comments (Tables 1 and 2, and Annex 5 of the report). It was also noted that, as at previous and subsequent trainings, all trainees on the second day of practical training on the water, were evaluated using criteria which became the basis for the trainee evaluation form that is currently used.

Mattila noted that since the first Workshop in 2010 (Maui) (IWC, 2012), which prioritised whale populations of highest management concern, the prioritisation of when and where to conduct capacity building had evolved to include criteria other than just the recovery status of the population concerned. Subsequently, the criteria for evaluating requests that come through the IWC for training have evolved into the following.

- (a) Conservation: How endangered is the whale population and how significant is the entanglement impact?
- (b) Human Safety: Are well-meaning but un-trained people currently responding with dangerous techniques?
- (c) Animal Welfare: How many whales are likely to benefit from the range states developing a response network?
- (d) Socio-economic impact: How much impact do entanglements have on the affected fishers?
- (e) National support: Has the country requested and is supporting the training?
- (f) Added impact: Does the training fit into and/or encourage other productive initiatives?
- (g) Funding: Is there logistical and financial support?

3.3.2 Conclusions and recommendations

The Workshop **reiterated** its support for the existing strategy and curriculum, including emphasis on the long-term goal of prevention, recognising that local circumstances must be taken into account when finalising individual Workshops. In particular, the Workshop **emphasised** the importance of involving members of the commercial sector in the process (e.g. fishing, whalewatching); it noted that in many cases the effort expended by the fishing community in prevention involves business decisions; as witnessed for example by

the successful work undertaken in Newfoundland over several decades, it is important to work with fishermen in the context of how improved practices will assist them as well as whales.

The Workshop **agreed** that it was important to evaluate priorities in the light of experience and **endorsed** the above criteria. These should be made clearly available on the IWC website. It **agreed** that a degree of flexibility would be required in assigning the balance amongst the above criteria on a case-by-case basis. The importance of some commitment to a reasonable level of longer-term funding to ensure that training was not wasted was also stressed. With respect to funding, it was noted that the issue of entanglement response and bycatch prevention are attractive to outside funders and it is particularly important that evidence of the success of the Networks be visible.

The Workshop also **stressed** the importance of follow-up training. This can take a number of complementary forms including:

- (1) apprenticeships of several weeks, such as those hosted by CCS which can provide broad-based training including attendance at actual entanglement response events should they occur as well as exposure to photo-identification, biopsy sampling and other relevant research activities;
- (2) follow-up Workshops held by expert trainers, primarily aimed at participants from initial Workshops and which can be tailored in the light of local experience and events with on-water training focussing on more difficult scenarios than the initial training; and
- (3) internal follow-up work (such as that discussed under Item 3.2.3 undertaken by RABEN) involving a considerable degree of self-critique that may also involve remote interaction with other experts from the global network.

3.4 Consideration of adding additional subjects to the IWC training programme

3.4.1 Introduction

Mattila noted that the training described in IWC/A15/ER9 was the result of a joint proposal developed in discussions between some IWC member countries, UNEP-CEP-SPAW representatives and representatives of the Sister Sanctuary agreement between the Dominican Republic Whale Sanctuary, the AGOA Sanctuary (French Caribbean) and Stellwagen Bank Sanctuary (USA). It was submitted at IWC/64 by the Dominican Republic, France, Mexico, Netherlands, Panama and the USA, and proposed three Workshops and trainings addressing common goals to understand and mitigate human impacts, in particular entanglement and ship strikes. As such an extra day for instructing veterinarians in the most current techniques to determine human impacts to both free-swimming and stranded whales was added to the standard two day entanglement response training. This training was conducted on the first of three days, and was primarily attended by veterinarians from Mexico, Panama, Peru and the Dominican Republic, all of whom stayed the next day for the first (classroom) day of the entanglement response training. Additionally, some of them were able to participate in the practical training on the water, on the third and final day of the Workshop. In this particular situation, this arrangement seemed to work, although extra trainers were needed. Both the standard entanglement response training, and the 'impact determination' training received high trainee evaluations.

3.4.2 Discussion and conclusions

Within the Workshop, there was considerable discussion of the advantages (e.g. cost, common personnel especially in 'developing' areas, related 'human impact' considerations) and disadvantages (diluting the focus, size, time, different management requirements) of adding an additional component to training Workshops such as 'strandings'. In conclusion, the Workshop **agreed** that in general it was more productive to hold focussed entanglement response Workshops rather than combined Workshops that may dilute the effectiveness of either topic. However, it **agreed** that requests to hold combined Workshops should be considered on a case-by-case basis.

There was also a brief discussion of how to handle requests for entanglement response for other marine species (e.g. small cetaceans, pinnipeds, turtles etc.). The Workshop **stressed** that the appropriate authority, responses, expertise, equipment and logistics may be quite different to those for large whales, which is the primary focus of the present global network; where appropriate expertise is available, the network may direct requesters to relevant advice/advisors.

3.5 Discussion of co-operation between Government and private sector

The Workshop noted that in most if not all response networks, to some extent there is involvement of a combination of stakeholders including authorities, academic institutions, NGOs, fishing industry, other marine users etc. The relative proportions of these vary from country to country and sometimes by region within countries.

The Workshop **agreed** that the involvement of a wide range of stakeholders at a variety of levels ranging from direct participation to fundraising was important and valuable and probably inevitable. However, it also provides a number of organisational challenges that must be faced. In particular, careful organisation and an agreed 'chain-of-command' are crucial. It is essential that all know their duties and responsibilities, the limits of their involvement and the legal framework. Such an organisational framework is essential to prevent 'well-meaning disasters'. The Workshop noted the different situations from around the world and **agreed** that it was not possible to be prescriptive about particular frameworks but rather **recommended** that such frameworks be developed if they do not exist. To assist in the development process, the Workshop **recommended** that participants should submit relevant existing documents to the IWC Secretariat and that these be made available as examples on the IWC website.

3.6 Review of different approaches to legal authority

3.6.1 USA

Smith provided a brief presentation highlighting key points from two documents: 'criteria for response roles and training levels' (IWC/A15/ER17) and 'policy for advancement between response roles' (IWC/A15/ER18). The US entanglement response programme was described with a focus on programme accomplishments, authority and permitting, responder training, criteria for advancement to higher levels within the network and number of advanced responders within the US programme. Smith requested informal feedback from Workshop participants on the development of a US national training plan with requirements on routine proficiency trainings, issuance of responder ID cards, and required first aid and CPR trainings.

3.6.2 Australia

As a brief overview for the Australian and particularly from the Western Australian perspective, Coughran noted that all cetacean species both resident and migratory are protected under Commonwealth and State legislative processes. The Commonwealth and the States administer certain statutes and management of those statutes are the responsibility of designated Government Agencies.

The Acts that protect cetacean species determine, or define legal authority to do certain things associated with responding to interact with protected species as in the case with whale entanglement response and mitigation. There are other legislative mechanisms associated with the legislative Acts such as Regulations, notices, legal authority (e.g. permits, licenses and approvals).

In addition there is legislation for humane treatment of animals, including cetaceans that not only binds the public and corporate bodies, but also binds Government. Response projects are assessed and either approved or rejected by Ethics committees. The issuing of such ethics approval carries with it reporting and audit processes.

It is important to note, updated legislative processes allow ongoing adjustment to changing protection processes and circumstances.

Annex D to this report provides a summary of the approach adopted in Australia related to training to manage risk at a high standard to ensure team safety.

3.6.3 Discussion

As for previous items (e.g. Item 3.5), the Workshop **noted** that it was not its responsibility to be prescriptive with respect to recommendations on appropriate legislative frameworks but rather to note that it is important that such frameworks be developed. It **stressed** that the IWC and the global network, whilst providing training, were not formally 'authorising' responders. National networks must take care of themselves in terms of legislation, authorisation and responsibility

Discussion under this item focussed rather on the importance of regular training, the sharing of both successful and unsuccessful events amongst members and, for specific agreed events, with the public through *inter alia* the IWC website.

As part of this process, the Workshop **recommended** that networks provide regular updates to the global network of:

- (1) training exercises;
- (2) successful and unsuccessful case studies;
- (3) proposed example case studies for the public section of the IWC website.

4. REVIEW OF PRINCIPLES AND GUIDELINES (SAFETY, PROCEDURES, DECISIONS, TOWARD PREVENTION) AND TRAINING CURRICULA

4.1 Considerations for 'less than ideal' situations

4.1.1 Advice to artisanal fishermen

Marcondes presented the results of interviews with 153 fishermen in the northern portion of Abrolhos Bank, Brazil, about the impact of the recovery population of humpback whales over the fishery. Nearly 40% of the fishermen reported cases of entanglement. Over 56% considered that whales hinder the fishery, the remainder were indifferent to the presence of the whales. The fishery gear types reported as most affected by whales were floating gillnets (26%), longlines (19%), hooks and lines (19%) and bottom

gillnets (19%). Some 8% of fishermen reported collisions with whales. Many fishermen considered that it is almost impossible to fish with the whales in the area and so to avoid loss of equipment they preferred not to fish but receive some kind of compensation by the Government. Some fishermen reported that to reduce the losses they replaced the surface longlines by bottom lines or hooks and lines. They believed that this reduces the risk of losing equipment but also reduces likelihood of capture. The replacement of gillnets and driftnets by longlines and hooks and lines during the whale season were suggested as possible ways to reduce losses. There is no easy solution to the conflict between whales and fishermen in Abrolhos Bank and a consensus solution is unlikely to be reached. Nevertheless dialogue is necessary to develop ways to minimise the problem both to the fishermen and to the whales.

The Workshop **thanked** Marcondes for this presentation. It **reiterated** the importance of dialogue with the fishing community and the need to involve them in an active way in developing mitigation measures. The Workshop noted that there may be a Workshop on artisanal gillnets at the SMM (Society for Marine Mammalogy) conference in December 2015.

Ledwell reported on the way the system in Newfoundland/Labrador has evolved in conjunction with the fishermen and the guidelines developed for whales trapped in anchored gear. An important component of the work is to save the gear or to try to lose as little of the fishermen's gear as possible. The first question is whether or not the whale is entrapped; then what species it is; whose gear it is (the gear cannot be touched until this is established); whether other fishing gear is nearby (a further entanglement threat that may need to be moved through contact with the owner). He highlighted the need to monitor the animal's behaviour (e.g. ability to swim, 'aggressivity'), discourage other boats from approaching and the need to slowly approach the animal. It is necessary to first look with mask and snorkel at the gear underwater. The last rope to be cut away from the animal is the one holding it in place. With humpback whales, if the animal is caught by the mouth this rope is often removed last as it is the most sensitive position on the animal. A rope is tied to a safety boat or anchor to pull personnel away from the whale, if needed. Successful disentanglement events can vary in time from very short (as little as half an hour) to long (up to a week) to get a whale out of gear.

Discussion of the provision of advice to non-trained personnel including fishermen is given under Item 4.1.3.

4.1.2 Using heavier boats when an inflatable is not available USA

In introducing this topic, Lyman pointed out that vessels are in effect tools, and like any tool their use depends on their appropriateness, and secondly, availability and familiarity. While one may not always have the best tool, using the tool that you have access to and are familiar with can be valuable and appropriate if adjustments (procedural or to the tool) are implemented as necessary. Concerns regarding vessel use in large whale disentanglement efforts lie with maintaining control of the immediate environment. Larger vessels generally, due to their greater mass, are not as responsive, provide less accessibility to the gear and animal, and are complicated by complex super structures that create dangerous snag points. All these may pose additional risks, especially on close approaches to the animal and the gear. Operational adjustments to large, heavier boats might allow their greater use (e.g. the use of lighter, longer poles, and remote tools such as flying knives and cutting grapples).

Lyman noted that there might be situations where a larger, heavier vessel might be more appropriate towards certain large whale entanglement response efforts (e.g. in cases involving mother/calf pairs, competitive groups or surface-active animals). The advantages of larger vessels might be platform height and stability to address sea state. There may also be cases where there are no advantages to using a smaller vessel and no disadvantages from a larger platform. Cases where small vessels may pose greater risk include: the drag created on small diameter line when a small boat is dragged by the whale, may pose more risk to animal; gear types such as gillnet and longline posing greater risk to responders; or where no keggings or line handling is warranted and/or possible. He provided several video examples of the cutting grapple and fixed knives being used from larger vessels.

It is important that responders to make every attempt to use the right tool; if a smaller vessel is warranted, then it should be used. However, in cases where only the larger platform is available, investment in remote tools (poles and flying tools) that decrease the platform's proximity to animal and gear, might allow their greater use. Familiarity with a tool is a consideration, but still not an excuse to not to use the right tool or to not adjust. Ultimately, be aware of the risks and if the risks cannot be managed, then stand-down.

NEWFOUNDLAND AND LABRADOR

Ledwell reported on the increasing incidence of large whales entangled in long strings of from 25 to 300 snow crab pots with typically 14mm polysteel rope in deep water from 80-165 or more fathoms. This has required a diversion from the traditional methods of releasing whales using the inshore methods and protocols. The method of releasing whales from fishing gear in this area has always been 'do whatever needs to be done to get the animal **clean** of gear' as safely as possible and with as little gear loss as possible. Entangled whales in snow crab gear are so heavily weighted down with often multiple wraps of rope around the peduncle, pectorals and through the mouth that the release team cannot reach the gear to remove it. In those cases, longliners (15-20m long) are used in combination with the disentanglement inflatable. The longliners use a large grapple to attach to the gear holding the whale using a 'creeping' technique. The longliner raises the gear, releasing tension on the whale allowing the animal to rise and giving the release team in the inflatable access to the gear on the animal. He noted that this is a potentially a risky technique as the animal is tethered to the winch on the longliner and could end up close to it; the risk is managed by the release team and it has proved to be a highly successful and valuable disentanglement technique.

LATIN AMERICA

Mattila raised the issue of using 'pangas', small rigid boats which are widely available in Latin America and may in some cases be the only option available. Currently, in areas where light inflatables are not available and pangas are used, the advice is to add more drag to slow the whale to a speed where the panga can be towed. But always be aware of trailing line, especially if the motor cannot be lifted.

DISCUSSION

The Workshop noted that there are advantages and disadvantages to using larger vessels as compared to the 'traditional' inflatable rescue boats as discussed above.

The Workshop **agreed** that there may be practical and logistical reasons such that in some cases larger vessels may be appropriate (or the only option). In such cases, the Workshop **recommended** that responders fully examine any

potential dangers and manage the situations accordingly in the safest possible manner (which may include not proceeding with the release effort).

4.1.3 'Remote' advice to non-trained responders

INTRODUCTION

Mattila noted that as the convenor of the Global Whale Entanglement Response Network [editor's note: This name and acronym (GWERN) is temporary and may soon change through email vote of the network], the Secretariat periodically receives requests for real-time advice on how to respond to an entangled whale, from untrained responders. This takes on extra urgency when the animal belongs to a critically endangered population, as has happened recently from Chile (a southern right whale), Oman (a humpback whale), Panama (a humpback whale) and Russia (a gray whale). These requests for advice are circulated to the current IWC entanglement expert advisory group. He has acted as a conduit to help consolidate the advice of the group into a few (email) communications, and he asked the Workshop participants if this procedure was working and if it should be expanded to the broader global network coordinators. He noted that any advice provided is necessarily very conservative and may only consist of educating the untrained responders about the ultimate value of good documentation of the species, individual animal, health, entangling gear and configuration, as this can help lead to prevention in the future.

In addition, Mattila noted that these requests for advice were often accompanied by a request for one of the expert group to travel to the country and assist in the release of the animal. As these requests often come from individuals or governments who are not familiar with the practicalities of entanglement response, the technical advisor must often deal with the delicate matter of informing them that this is extremely unlikely to be productive, and instead, use the event as a teachable moment and suggest that a local response team should be trained. However, he noted that there may be instances (e.g. severely anchored whale from an endangered population) where the global group might consider sending an expert.

ADVICE TO FISHERMEN IN THE USA

Lyman reviewed two documents⁵ that relate to US fishermen's involvement in large whale entanglement response efforts in the state of Alaska. Both documents are products of fishermen Workshops performed in Alaska to engage and enlist the assistance of fishermen towards the goal of reducing large whale by-catch. The first document provided recommendations and review of legal obligations of fishermen towards large whale entanglement response efforts. It emphasized reporting, preventive measures, and assisting authorized response. In cases where the entangling gear was tended (i.e. their vessel was attached), recommendations were provided to the best course of action. Recommendations included *not* approaching closer than 30ft to the animal, and/or 'overhauling' an animal using the vessel's equipment which may put human safety (and possibly animal) at risk. Authorisation to otherwise engage in disentanglement efforts was not provided. The document was reviewed by NOAA legal counsel, and was based on the efforts of fishermen, Alaska Sea Grant, NOAA Fisheries, and NOAA's Hawaiian Islands Humpback Whale National Marine Sanctuary.

⁵<http://seafa.org/wp-content/uploads/2014/05/NOAA-Large-Whale-Entanglement-Obligations-Response.pdf> and wheelhouse card No. 13. <http://nsgd.gso.uri.edu/aku/aku08002.pdf>.

The second document was a wheelhouse card outlining preventive measures for fishermen and from fishermen in the state of Alaska. The 'tips' focused on preventing 'tended' gillnet entanglements to large whales like humpback whales.

CONCLUSIONS

There was considerable discussion on whether it was a good idea to provide advice directly to fishermen on disentanglement. The Workshop recalled previous recommendations and the principles and guidelines that **stressed** the importance of having trained personnel present. However, the Workshop recognised that circumstance may arise in which advice/messaging may need to be provided to reporters/ fishermen in cases where authorised, experienced, well-equipped network response is not possible. In such circumstances the following was **agreed**.

- (1) Ask if they have reported to local/ regional authorities? If possible get contact information. Depending on circumstances may need to provide advice here as well.
- (2) Obtain basic information to try to make a typical assessment of the entanglement if this is possible;
- (3) Given (1), in most cases it should be possible to let them know that whale is probably not in immediate danger – it may also be appropriate to explain that some animals free themselves of entanglements over time;
- (4) Emphasise human safety i.e. their life is the most important consideration. If they were to get hurt it may have a detrimental effect on whale response for years to come.
- (5) Further assess their safety. If they are attached to the gear (i.e. in a tended fishery), primarily advise them to not approach closely (i.e. maintain at least one whale body length) and release the vessel from the animal, perhaps with a small buoy if there is a chance that a trained team may be in a position to find and release the whale later. If not attached, re-emphasise the dangers involved and stress that they should not approach the animal and they should leave any gear on it. Stress that it is not appropriate to try to haul the animal to remove gear.
- (6) Emphasise the importance of documentation and the value of gaining information towards potentially helping this animal later (even if unlikely) and addressing the threat in general;

4.2 Improvements in assessment and documentation of events (e.g. determining gear type and configuration, whale species, health and stress)

4.2.1 New information on impacts to individuals and populations

ENERGETIC CONSIDERATIONS

van der Hoop provided an overview of her and her colleagues' work measuring drag from sets of fishing gear removed from entangled North Atlantic right whales, as well as the satellite telemetry buoy used to relocate animals for disentanglement. Drag forces measured from entangling fishing gear vary considerably, increasing from a minimum of 8.5N by 36 fold, to 315N. The telemetry buoy adds on average 70N of drag across measured speeds (0.3-2.2m/s). Removing 75% of a line's original length can reduce the line's drag by 90%, but interference drag and changes in swimming behaviour will still apply. Mean drag can be predicted from the dry weight or length of an entangling gear set.

Combining gear drag measurements with theoretical estimates of drag on whales' bodies suggests that entangle-

ment increases drag and propulsive power by 1.35 fold at minimum, and 1.98 fold on average. Integrated over the course of each entanglement, individuals require on average 8.20×10^9 ($\pm 9.87 \times 10^9$) J to 8.05×10^{10} ($\pm 1.34 \times 10^{11}$) J more energy than non-entangled whales (1.0457×10^{10} to 9.6550×10^{10} J) to complete the additional work required due to entanglement.

Large gaps in individuals' sightings histories can make it difficult to infer the date that entanglement occurred. For the 15 cases in van der Hoop's study, 80% were disentangled within 6 months of the initial entangled sighting (median = 57 days), and 75% of disentanglements were resolved within 17 days of telemetry buoy being added (median = 9.5 days).

In discussion, the Workshop **thanked** the authors for their innovative work, recognising that it was inevitable that certain assumptions had to be made, and encouraged its continuation. The Workshop **endorsed** the following recommendations made by the authors:

- (1) the current disentanglement response practice of reducing trailing lines/rope to ~20m to accommodate a telemetry or marking buoy should be continued;
- (2) estimates of drag based on length, and consequent energetic costs, should be incorporated into response assessments and serious injury determinations.

4.2.2 Rope strength

Knowlton presented a study on the parameters of ropes removed from entangled large whales from the western North Atlantic. For 30 right whales, 30 humpback whales, 8 common minke whales, the breaking strength of the strongest ropes at manufacture (based on polymer type and diameter) was significantly lower in minke whales than in right and humpback whales. Adult right whales were found in stronger ropes than juvenile right whales and all humpback whale age classes. For right whales, rope breaking strength was significantly stronger for those with severe injuries compared to those with minor injuries. For right whales, when all entanglement interactions were evaluated (both with attached gear and scars only; $n=1,032$ events), moderate and severe injuries have been increasing and gear configurations have become of higher risk (constricting wraps or multiple anchoring points or trailing gear greater than one body length) over the past three decades, possibly due to changes in rope manufacturing in the mid 1990's that resulted in stronger ropes at the same diameter. Our results suggest that broad adoption of ropes with breaking strengths of 1,700lbs or less could reduce the number of life-threatening entanglements for large whales and still be strong enough to withstand the routine forces involved in most fishing operations. Load cell testing will be conducted to understand the strains placed on ropes while fishing and to define water depths and gear configurations where reduced breaking strength ropes could be effectively used. Reduced breaking strength ropes should be developed and tested to determine the feasibility of its use in a variety of fisheries. Ropeless fishing techniques are being explored and may be useful in offshore waters where reduced breaking strength ropes would not be feasible. Collection, archiving, and assessment of entangling gear is recommended for all countries to help inform the nature of the entanglements within each country and how it relates to this global problem.

The Workshop **thanked** Knowlton for presenting this information and encouraged its continuation. As noted elsewhere (see Item 4.5.3) in its report, it **recommended** the archiving of entangled gear as a valuable resource in terms of revisiting and understanding past events. The Workshop

recommended that other archives be tested for trends in rope breaking strength, as this could help validate the work presented and potentially produce broader recommendations for mitigation.

4.3. New tools for veterinary assessment and survival

4.3.1 Use of sedation

Barracough *et al.* (2014) describes a method for a best estimate of body weight to calculate a safe sedative dose for an entangled North Atlantic right whale, to facilitate gear removal. It is based on acquisition of vertical, aerial, scaled images to estimate body length and widths. These data are then entered into a matrix generated from known weights, lengths and widths of other right whales. The discussion centred on the practical limitations of implementing sedation as a routine tool in disentanglement response. Narcotic regulatory, veterinary care and drug supply chain practicalities have limited the uptake of this tool in routine disentanglement.

The Workshop **recommended** to establish a similar analysis for other species, to enable more routine deployment of this tool in a commonly entangled species such as humpback whales, to increase experience and understanding of the approach. To do so could reduce disentanglement stress significantly, akin to the benefit to restraining a horse chemically as compared to the use of a hobble, a practice that is no longer widely used in veterinary medicine for reasons of safety and animal welfare.

4.3.2 Evaluation of serious injury/mortality

Robbins described a mark-recapture study of North Atlantic right whale survival after entanglement (Robbins and Knowlton, 2012). The study was possible thanks to the efforts of the Atlantic Large Whale Disentanglement Network and intensive population studies by the North Atlantic Right Whale Consortium. Fifty individuals were identified in entangling gear between 1995 and 2008 and their subsequent survival was compared to 459 individuals that were not observed with gear during the same period. The results indicate an approximately 20% lower survival of right whale adults and juveniles after entanglement. Of the three entanglement characteristics examined, apparent health was most predictive of subsequent survival, but the entanglement configuration and the resulting injuries also appeared to affect outcome. When the entanglement configuration was assessed as high risk, human intervention (disentanglement) improved the survival outcome. These results point to the importance of early entanglement detection, intervention and prevention.

The Workshop **thanked** Robbins and colleagues for this valuable study. It noted that such work makes an important contribution to trying to quantify the effects of entanglement when examining the status and future trends in populations. The Workshop **endorsed** the authors' conclusions that this study emphasises the importance of early entanglement detection, intervention and prevention.

Morin introduced the approach used to evaluate serious injuries and mortalities of whales in the USA. The Marine Mammal Protection Act (MMPA) requires the National Marine Fisheries Service (NMFS) to analyse any human-induced large whale incidents that could result in a serious injury or mortality (SI&M). The SI&M criteria was developed for all cetaceans with a primary focus on entanglements and ship strikes. If a positive confirmation of a SI&M is made, that count will go against the potential biological removal (PBR; the maximum number of animals,

not including natural mortalities, that may be removed from a stock, while allowing it to reach or maintain an optimum sustainable population) for the stock and reported in the annual stock assessment reports. Large whale entanglement SI&M determinations fall in to 5 categories: positive or negative findings for gear involving hooks; positive or negative findings for gear with constricting wraps; a prorated value for cases with insufficient information to define in the first 4 categories. A positive value=1 and negative value=0 which is counted against PBR. Prorate value is based on a 5-year summary of entanglements (additional years will be added as they become available) and the percentage of large whale entanglements that showed deteriorating health or ending in a mortality. The current prorate value for large whale entanglements is 0.75.

The Workshop **thanked** Morin and Smith for introducing this document. It noted that this information is extremely important in an IWC context when using population modelling to assess status and the effects of a variety of human impacts on populations. Data using this approach was valuable in the recent IWC North Pacific gray whale Workshop (IWC, 2016c). With this in mind it **encourages** presentation of this paper at the forthcoming IWC Scientific Committee meeting in May 2015.

4.4 Determining gear/debris type and origin

4.4.1 Best methods to determine fishing gear

Smith provided a brief overview of two documents: NOAA Fisheries Gear Collection and Retention Policy for Gear Collected from Entangled Protected Marine Species (IWC/A15/ER25) IWC/A15/ERWP20, WP to be elevated) and NOAA Fisheries Marine Forensics Chain of Custody Form (IWC/A15/ER26) IWC/A15/ERWP21, WP to be elevated). The gear collection, retention and investigation procedures were developed based on fisheries regulated by NOAA Fisheries on the Atlantic coast while trying to learn as much as possible on the origin of gear, compliance with fisheries regulations, and effectiveness of required fishery gear and technique modifications. It was emphasized how important it is to have experts familiar with fisheries, e.g. previous fishermen, examining removed gear and interviewing owners of gear that was removed from entangled whales.

Lyman provided a recent example of the process, where the gear removed from a humpback whale off of Hawaii, was retrieved, processed and tracked to a specific fishery, location and fisher in the Aleutian Islands, and which, it was determined, had been on the whale for around four months and a minimum of 2,050 n.miles.

The Workshop participants **recommended** that countries consider developing similar protocols investigating entangling gear removed from animals, highlighting a proactive relationship with fisheries to document and learn as much as possible about the entangling gear and scenarios resulting in an entanglement and ultimately sharing of that information with other nations. However, it was also understood that, while working cooperatively with the fishing industry to identify entangling gear is the ideal goal, there can be numerous challenges to developing this type of framework, ranging from lack of reporting infrastructure to varying legal frameworks which might make a fisher more or less likely to participate.

4.4.2 Marine debris discussion

The Workshop noted the summary of the previous IWC Workshops on marine debris that had included consideration of ALDFG and other debris. These Workshops noted that

determining whether materials removed from entangled whales were actively fished or ALDFG upon original contact, could be very difficult, but it was recognized that, in regions where entangling gear was tracked to its origin, the majority was actively fished when the whale encountered it. The Workshop participants agreed that, in their experience, this was predominantly the case. They also recommended that all entangling materials be retrieved and archived, including detailed images, descriptions and samples of organisms removed from the gear, in order to better determine the relative risk of actively fished gear vs ALDFG and other debris.

THE GLOBAL GHOST GEAR INITIATIVE

Toole introduced the Global Ghost Gear Initiative (GGGI)⁶. Whale entanglements can occur due to both active gear and inactive, or derelict gear, also known as ghost gear. There are challenges to understanding how many large whale entanglements can be attributed to ghost fishing gear because the strength of large whales will often cause the entangled part of the gear to break away from the active part. Whilst information from this group suggests that the majority of large whale entanglements occur in active fishing gear, (Johnson *et al.*, 2005), ghost gear is a huge problem in our oceans. It is estimated that 640,000 tonnes of fishing gear ends up lost or discarded in our oceans each year. That is the equivalent of 2,000 tonnes a day – this gear travels great distances via ocean currents and can persist in the ocean for up to 600 years, continuing to catch and entangle marine animals. A 2012 review of all available literature at the time estimated that between 57,000 and 136,000 seals, sea lions and large cetaceans are impacted by ghost gear each year⁷. This estimate is heavily caveated because it is only based on published literature which is scarce for developing countries and doesn't account for animals that die unseen. So the true number of animals entangled each year in ghost gear is likely to be hundreds of thousands, if not millions.

World Animal Protection has founded the Global Ghost Gear Initiative (GGGI) a cross sectoral alliance of partners seeking to ensure safer, cleaner oceans by driving economically viable and sustainable solutions to the problem of ghost gear globally. It's three specific objectives, reflect the cross sectoral nature of the initiative and are to: (1) improve the health of marine ecosystems; (2) protect marine animals from harm; and (3) to safeguard human health and economies.

The GGGI structure includes three working groups: (1) build evidence; (2) define best practice and inform policies; and (3) catalyse and replicate solutions.

Standardisation of data collection on ghost gear and development of a ghost gear data portal will be a objective under the Build Evidence working group.

World Animal Protection recommends involvement of the IWC and the disentanglement network in the Global Ghost Gear Initiative, so that data collected by disentanglement teams can help inform the GGGI and for partnership opportunities for working on mitigation. Toole emphasised that that the GGGI can help strengthen the IWC's work on marine debris and disentanglement.

The Workshop **thanked** Toole for her presentation of a complex and major initiative. It noted that its objectives were far more ambitious than simply relating to large whale entanglements, which the available evidence suggested was

due more to active fishing gear. However, it **encouraged** participants to cooperate with the initiative as appropriate and noted that the IWC would consider the GGGI in the context of marine debris.

4.4.3 Retrieved gear archiving

While Smith had previously (Item 4.5.1) outlined the protocols for handling and investigating gear that is removed from entangled whales in the Atlantic coast of the USA, the Workshop participants discussed the importance of retaining and archiving entangling materials for future study and forensics. Smith, Knowlton and Moore emphasized that in the USA, NOAA fisheries retains gear removed from entanglements in a specific facility in Rhode Island. The potential for research and information is tremendous and has been very helpful in showing fishermen the extent of the fishing gear and whale interactions given that these interactions are rarely observed at sea by fishermen. In some cases managers have worked with fishermen to 'reverse engineer' entanglements, gaining insights into high risk attributes of the gear and even whale behaviour. The Workshop **agreed** that archiving entangling materials is valuable and encouraged all entanglement response networks to do so, in partnership with the relevant National authority.

5. DATABASE COMPONENTS AND STRUCTURE

5.1 Overview of existing data collection, archival and databases

5.1.1 USA

ATLANTIC COAST

NOAA Fisheries Atlantic coast database developed out of a regional NMFS need to address commonly asked management questions (IWC/A15/ER16). A number of primary data fields were used or adapted from work done in the Center for Coastal Studies (CCS) database. The database is Oracle based with a PHP front end design, with a primary goal of recording any large whale incidents including entanglements, ship strikes, mortalities/general injuries. The user workflow follows on the case type (ex. entanglement) -> animal (ex. humpback - ID is 'Reflection' a known adult female) - > case (ex. NMFS specific identification numbers for this case) -> observations (the event specifics such as location, reporter, who responded, how the whale was entangled, outcome, etc.). This user workflow allows multiple cases for an animal and multiple observations within a case. Documentation such as photographs and forms are another key component and are linked with the case. Gear fields have also been added for an in depth analysis of any gear witnessed or recovered. Some gear field highlights include compliance to current regulations, gear modifications based on mandated requirements, gear type, measurements of recovered gear, and gear owner information. Serious Injury and Mortality determinations have also been incorporated within the database.

Smith added that NOAA is adapting the database so that it can easily produce annual reports, and share appropriate information with different groups (e.g. public, response network, etc.)

HAWAII AND PACIFIC

Lyman provided an overview of the database used in Hawaii to compile data on large whale entanglement reports. The FilemakerPro database was established in 2003 for the Hawaiian Islands Humpback Whale National Marine Sanctuary for entanglement case documentation and reporting to NOAA Fisheries' Marine Mammal Health

⁶<http://www.ghostgear.org/>.

⁷Estimated animals affected by entanglement per annum (entanglement rate X population estimate) World Animal Protection, *Untangled*, 2012.

and Stranding Program. Today it includes over 100 large whale entanglement cases. The objectives of the database are to gather information on anthropogenic threats, their impacts, response efforts, and outcomes all towards risk reduction associated with both the threat of entanglement and the response to the threat. While the database is not yet integrated with the associated information-sharing website, plans are underway to do so, and also implement a mobile (iPad) data logger that can be used during research and response efforts to better gather information in real time. Lyman suggested that an app could be designed that would fulfil the same purpose of the data logger, but at a greater scale, and potentially provide much greater data gathering capability.

CCS

The Center for Coastal Studies database focuses on whale entanglement reports from the Bay of Fundy to Florida with records going back to 1979. The database tracks individual entanglement cases, entanglement responses and relevant associated data such as telemetry, gear samples and biological samples. The database has been used to answer questions about the veracity of entanglement reports, species specific details of entanglement and disentanglement, trends in entangling gear types, and fate of entangled whales, among other subjects.

DISCUSSION

It was noted that the two NOAA entanglement databases are very similar (and had their origins in the CCS database). They are both designed to handle all distressed large whales, including ship strike reports, unhealthy or 'out of habitat' animals, as well as entanglements. In addition, they are organized around individually identified animals as 'cases' with the possibility for many 'events' occurring under one case. For instance each new report of the animal, or each attempt to release it is recorded as a new event for that case. Subsequently, each database has many fields (more than 150 for NOAA's Atlantic database).

5.1.4 Canada

BRITISH COLUMBIA

The BCMRN is coordinated by Fisheries and Oceans Canada (FOC). The network consists of government agencies, non-government organizations, whale watch industry, academia and hundreds of volunteers. An expert large whale disentanglement team was put together in 2008. The Pacific large whale entanglement and response data base is managed and maintained by Fisheries and Oceans Canada. All reported large whale entanglements are investigated and a detailed data base maintained. The information collected for the data base includes all details of the entanglement and response. All gear removed and recovered from a response is archived. The type, time and origin of where the gear became entangled is investigated and documented.

NEWFOUNDLAND/LABRADOR

Summary reports marine animal entanglements, strandings, ice entrapments, species at risk and those uncommon are written each year and have been in a consistent format for the past 36 years. These reports have been submitted yearly to the Department of Fisheries and Oceans. Entanglements are recorded by species, date, area, gear type, description, outcome, size and sex if known. This information is also entered into a running Excel file. Detailed accounts of entanglements are also kept in yearly diaries describing how the animal was entangled and disentangled, gear types, water depth, injuries, fishermen involved and the outcome.

5.1.5 Australia

Coughran reported that the Western Australian (WA) Cetacean Stranding Database provides a tool with which to assess some of the key issues relating to baleen whale entanglement by investigating patterns in reported entanglements.

Reports of stranded, entangled or otherwise cetaceans along the WA coast are routinely submitted to the Department of Parks and Wildlife (DPAW). These reports are investigated and records with sufficient detail and certainty of correct species identification are entered into the WA Cetacean Stranding Database. The database has had a single custodian (DKC) maintaining data quality control since it was created in 1982.

Prior to 1981 there was no formal process in place to maintain accurate records of stranding events in Western Australia and only a portion of events were captured through specimen records of the Western Australian Museum. In 1982 the Western Australian Cetacean Stranding Database was created. Reports of cetacean incidents (i.e. stranding, entanglement, ship/vessel strike etc) on the Western Australian coast are now routinely made to the Western Australian Department of Parks and Wildlife and recorded in the database. The department is responsible for administration of the Wildlife Conservation Act 1950 and managing issues relevant to fauna as defined under the Act, which includes whales and dolphins (cetaceans). In this capacity, DPAW staff attend strandings either to investigate the cause of death of animals or to assess the live animals to determine what action, if any, is required (e.g. rescue attempt, euthanasia) and consequently are the major source of information in the database. In a small number of cases information was obtained from other government officers (e.g. officers from the Department of Fisheries), or from members of the public.

In discussion it was noted that W. Australia's database only contains reports that are confirmed by trained responders. As such it is simpler than those that try to keep track of all reports, with the associated varying levels of certainty.

5.1.6 S. Africa

Meyer reported that prior to the formation of the South African Whale Disentanglement Network (SAWDN), the only standardised data (with sampling survey/effort) on whale entanglements were collected by the KwaZulu-Natal Sharks Board (KZNSB). These data were exclusively for shark net operations along the KwaZulu-Natal (KZN) coastline, commencing in 1981. The establishment of SAWDN in 2006 led to greater formalisation of incident reporting and data collecting outside of KZN, with incidents being reported to a central coordinator, residing within the Department of Environmental Affairs (DEA). Since 2006, data were collected by SAWDN in collaboration with KZNSB, and both sets of data were maintained in identically designed Excel spreadsheets. Reports on incidents of confirmed entanglement by both groups were sent to the DEA coordinator where the information was validated after interviewing persons involved in the disentanglement. Analyses are aimed at determining long-term trends in entanglement, inter-annual/seasonal trends, the breakdown of entangling materials, mortality and the outcomes of entanglement events including resightings of entangled, disentangled or partially disentangled animals. The database mainly consists of records of humpback and southern right whales, which are the species that are most prone to entanglement in South Africa.

5.1.7 Korea

An reported that virtually all of the reports in Korea are from fishermen with a whale anchored and dead in their gear, as the vast majority are smaller minke whales. Therefore the database contains a lot of very specific data about the gear and entanglement configuration, as well as the sex and length of the bycaught whales. Morrissey reinforced the value of these type of data and reported that in New Zealand they were finding that most entangling gear was set in 30-40m, and that most entanglements occurred during June and July. The group agreed that wherever possible, specific information about gear type, location and other set characteristics, along with entanglement configuration, and accurate measurements of the entangled whale, were very valuable toward understanding the issue.

5.1.8 Brazil

Marcondes presented the Brazilian Monitoring System of Marine Mammals – SIMMAM. Dr André Barreto from Vale do Itajai University (UNIVALI) created this system based in open source technology. SIMMAM integrates data from strandings, sightings and bycatch of marine mammals along the Brazilian coast and rivers. The Brazilian Government have bought the rights to use this system as a databank. All institutions that are members of Brazilian Stranding Network (REMAB) submit information to SIMMAM. Scientists are encouraged to input data into SIMMAM. Some 'basic' data are public e.g. species, location and date; information available in the scientific literature is also public. The Brazilian Government has access to all data and can use this information for management purposes e.g. the establishment of marine protect areas or for environmental impact evaluation. The institutions members of the SIMMAM can choose share their data with other institutions or with the public. They also can choose keep the data private for a maximum of five years to have time to analyse the information. After that, all data are for public access. SIMMAM was on-line⁸ and have a public access area.

5.2 Review of current ongoing information gathered by IWC and other IGO or NGOs

5.2.1 IWC National Progress Reports

The Workshop reviewed the current relevant data fields for recording large whale entanglements in the annual National Progress Reports provided by member countries to the IWC Scientific Committee. While the information required is rather limited, it was noted that the National Progress Reports are intended to provide a summary of cetacean research and impacts with contact details for where detailed information can be obtained. It is not intended to be a source of data for a comprehensive analysis of the topic. A similar situation is that for ship strikes, where the Scientific Committee agreed to develop a global database on the topic rather than complicate the progress reports (see Item 5.3).

5.2.2 Other

Mattila noted that, as the IWC begins to engage more frequently with other Intergovernmental Organisations, it has begun dialog with COFI and a number of regional seas organizations. Some of these gather bycatch data, however this is usually from fishery observer data, and these programs are known to severely underestimate large whale entanglement, as whales very frequently drag all or part of the gear far away from where it was originally set. A number of these organizations have indicated that they look to the IWC to provide data on large whale entanglements.

The Global Ghost Gear Initiative was discussed under Item 4.5.2.

5.3 Brief review of IWC ship strike database (e.g. structure, challenges, pros and cons)

Ship strikes are similar to entanglement cases in that the data can come from a range of sources including observations of dead animals on the beach, dead animals at sea, or live animals with obvious injuries. The same entangled whale may be reported in a number of different ways. The database needed to be structured to link potential duplicates but bearing in mind there may be a level of uncertainty in the link. The mechanisms in the ship strike database for linking separate records into 'cases' seem to work well for identifying duplicates but did require considerable development work.

A large amount of effort was put into a web based data entry system for the ship strike database. This was intended to be used by the public (e.g. mariners who had no specific knowledge of the issue who had observed a collision). This data entry system has had minimal use. It is proven cumbersome for anyone entering multiple records. There is still a need for better tools for scientists contributing small numbers of records (typically 5-20) which has been the most common source of data. The database fields were designed to match national databases (e.g. in the US and Australia) with a view to fully electronic data transfer, but this has not been put to the test yet.

So far, the greatest challenge for the ship strike database has been persuading people to submit data. The only real solution seems to have co-ordinators who are prepared to take data in any form from a contributor and do whatever work is needed to get it into a suitable form for the database. The reluctance to submit data appears to be more often related to the time and work involved than any unwillingness to share the data in principle. Maintaining even a small, simple database generates a substantial workload. Any global effort will require a dedicated co-ordinator who takes ultimate responsibility for all aspects of the maintenance and functioning of the database. There is also a need for a clear policy on dealing with requests for data. The great majority of correspondence regarding the ship strike database are requests for data.

The Workshop **agreed** that lessons learned from the development of the ship strikes database will be valuable in consideration of an entanglement database for large whales.

5.4 Recommendations to IWC with respect to a global database

5.4.1 Background

The IWC is the recognised international body responsible for managing whaling and addressing all other human-caused mortality to whales including welfare aspects. For many years it has recognised that entanglement in fishing gear and debris is a known source of injury and mortality, which may be of concern both as an animal welfare issue and potentially a population level problem. It is for this reason the IWC has held three Workshops on this topic, including the present one. The IWC recognised that the capacity for reporting, documentation and mitigation varies across nations which *inter alia* affects the ability to determine numbers and possible population level effects.

The most recent Workshops (IWC, 2012) (Provincetown, 2011), had recognised the potential value of a global database dedicated to entanglement of large whales. It had recommended that a review of the value of different database models (e.g. single international, metadatabase, online etc.)

⁸<http://simmam.acad.univali.br/s/03/app/web/bin/Simmam2.html>.

with the aim of submitting a formal recommendation for a database system that will assist in the collection, recording and dissemination of data related to data on entanglements and entanglement response (including human issues) to allow a better quantitative understanding of the issues and in particular to assist in developing solutions to reduce entanglement risk. Taking this work forward is one of the important tasks of the present Workshop.

5.4.2 Recommendations regarding a global database

The Workshop considered the need for a global database from a number of perspectives, taking into account: (1) the review of existing databases under Item 5.1 and the need to avoid duplication of effort; (2) the importance of providing advice and resources to new entanglement networks with respect to data management and archiving; (3) possible confusion arising out of having separate databases recording impacts to animals, especially given difficulties in attempting to make determinations of mortality or serious injury from stranded animals; and (4) lessons learned from the development of the IWC global ship strikes database (Item 5.3).

Initial discussion **stressed** the importance of agreeing to the potential objectives of any IWC-related database before discussing development details. The Workshop **agreed** that the primary long-term goal of the IWC initiative is to improve the understanding of the impacts of entanglements on whale populations and the factors associated with entanglement risks in order to minimise and ultimately eradicate entanglement of large whales in fishing gear, recognising that complete eradication may prove impossible.

Although entanglement is a widespread problem, in many areas the sample sizes of reliable observations are small. Thus any centralised global database could facilitate informative analyses of factors that may affect entanglement risk by species and gear type at a broader level than may be achieved by looking at regional data alone.

Sub-objectives for a database could be to:

- (1) determine the incidence of lethal entanglement and relevant sub-lethal effects (or at least put reasonable bounds on incidence that can be incorporated into population dynamics models);
- (2) identify the fisheries/gear types and specific practices that lead to a high risk of entanglement (globally and regionally), differentiate COAFG from ALDFG and other debris, and identify particularly vulnerable species, reproductive/age classes, seasons etc;
- (3) record and archive the information obtained from entanglement response networks (both successful and unsuccessful) in order to:
 - (a) improve present practice;
 - (b) obtain a better understanding of how entanglement occurs and survival of animals;
 - (c) inform mitigation/prevention measures; and
- (4) combine information from (1)-(3) to prioritise and develop mitigation and prevention measures.

The Workshop **agreed** that these sub-objectives are appropriate and valuable and are sufficient to justify its **recommendation** that a fully specified, costed proposal is developed for submission to the IWC at the 2016 Annual Meeting. It recognised that there was insufficient time to achieve this at the present Workshop and that it would require a concerted effort of a small group to develop such a proposal. In this regard it **recommended** that a small sum (e.g. £3,000) be allocated by the IWC, to allow one short meeting of the group in 2015/16 in order to develop the database proposal, and that the task be assigned to a small group (e.g. six) comprising: the IWC Secretariat, and others.

The Workshop **agreed** that the fully specified proposal should take into account *inter alia*:

- (1) maximising synergies with existing databases, learning from their strengths and weaknesses;
- (2) meeting the objectives and sub-objectives given above (and consideration of likely analytical methods associated with these where appropriate);
- (3) the discussions on important fields arising out of this Workshop (including the discussions on the data form at the present Workshop and that in 2011) and emphasis on consistent and specified definitions;
- (4) lessons learned from the development of the ship strikes database including those related to data entry (both new data and the inclusion of data from existing databases) and validation (including levels of uncertainty);
- (5) data availability considerations (authorisation; confidentiality; data sharing amongst networks, the IWC Scientific Committee and others; what summaries might be made public etc.);
- (6) links with other mortality-related databases and archives;
- (7) mapping capabilities;
- (8) links to other material (e.g. photographs, videos, original field reports);
- (9) alternative software approaches (including web-based, stand alone, metadata etc.);
- (10) the provision of a service to new entanglement response networks; and
- (11) consideration of curation and maintenance.

5.3.3 Entanglement response data form

The Workshop revisited the entanglement response data form that was developed during the last Workshop (IWC, 2013). This form was intended to enhance and better standardise data collected by entanglement response teams (existing and new). It incorporated fields on health that had been identified in the first Workshop, as well as data on wounds, entangling gear configuration and behaviour that are not always easily captured by other means. Most Workshop members had not used the form *per se*, but have their own data collection schemes already in place, sometimes including much of the same types of detail. The CCS response team had added the form to its usual documentation since the last Workshop in order to help to evaluate its format, content and potential value in research and management. They highlighted several recommended modifications, including fields that could be added and fields for which greater specificity and guidance would be useful. Several further discussions and modifications were then made during the Workshop. Changes included a tiered approach that differentiated between the minimum essential data (for less experienced responders) and other detailed data that should be collected whenever possible. However, there was not adequate time to finalize the form during the Workshop and so further work was recommended to take place intersessionally.

6. NEW TOOLS OR PROTOCOLS FOR EUTHANASIA (ESPECIALLY AT SEA)

6.1 Euthanasia Workshop

Moore reported on the IWC Workshop on Euthanasia Protocols to Optimize Welfare Concerns for Stranded Cetaceans held at the Institute of Zoology, London 11-13 September 2013 (IWC, 2016a). Participants came from Argentina, Australia, Brazil, Germany, Iceland, Ireland, Japan, Norway, South Africa, United Kingdom, and USA.

The objectives of that Workshop were to:

- (1) improve the evidence base for future assessments of when and how to euthanize stranded cetaceans to optimise animal welfare, using the most effective technologies available and taking into account different circumstances (e.g. economic, logistical and available expertise);
- (2) identify how to improve the efficiency and quality of information/data generated by large whale stranding events, including lessons that can be learned from them;
- (3) focus on biological considerations and technological measurements taking into account the decisions that need to be considered such as health and safety, logistics, physical - both location and species, triage at Mass Stranding Events (MSEs), and existing protocols/guidelines;
- (4) generate a list of techniques (established protocols) for each method of euthanasia (chemical, ballistics, explosives, etc.); and
- (5) provide advice on how to manage different situations in the context of the media and the general public.

Recommendations of that Workshop included as follows.

- (1) IWC member nations refine existing or develop new incident response protocols based on the principles and guidelines found in this report.
- (2) Collection of appropriate data, full documentation of the event and the sharing of experiences/data to refine decisions and situation handling in the future.
- (3) Addition of a number of 'outcome' fields to the existing IWC National Progress report database for live strandings: released/rescued; euthanized (method categories as in Table 3); no intervention.
- (4) Establishment of a voluntary group of experts that can be consulted by the IWC and others to: (1) provide advice on euthanasia protocols and methods to relevant authorities; (2) provide objective information to the media if requested and (3) assist the IWC Secretariat in populating the IWC website.
- (5) Establishment of a live stranding response component of the IWC website with a layered capacity.
- (6) More work is needed on the environmental persistence and potential effects of some chemical methods and encourages this research and provision of information.
- (7) Encouraged the development of a darting-gun type delivery system that it is suitable for beached animals and may also be appropriate for entangled whales at sea (see Item 6.2, below).
- (8) The need to develop methods for euthanasia of cetaceans at sea (entangled or otherwise requiring human intervention).
- (9) IWC consider holding or facilitating the holding of a future Workshop on mass stranding events, including management, social, welfare and euthanasia considerations.

In the context of next steps, it was noted in discussion that cetacean mass strandings will be the topic of one or more Workshops planned for the 21st Biennial Conference of the Marine Mammal Society (December 2015) and euthanasia will probably form part of the discussions.

6.2 Euthanasia at sea

Øen presented an overview of the need to develop methods for euthanasia at sea which had been recognised by the IWC Workshop on Euthanasia Protocols to Optimize Welfare Concerns for Stranded Cetaceans in 2013 recognised *inter*

alia the need to develop methods for euthanasia at sea. It stated that the humaneness should be the first criteria for any euthanasia method rather than concerns over aesthetics or public acceptance and that a humane death will often involve the very shortest time to death. It also recommended that criteria for the chosen method of euthanasia should include availability of equipment, knowledge, expertise and relevant legal/regulatory framework like cultural, political, aboriginal, socio-economic differences between countries. The Workshop stressed that human safety should always be considered paramount.

For practical and safety reasons euthanasia of whales in open sea has to be carried out by means that can be remotely delivered. Remote delivery requires specific tools to safely deploy the euthanizing/killing devices at/into the site/organ where it is can be expected to take effect. Remote delivery therefore limits the potential methods that can be expected to give a successful outcome grossly to the following three principles:

- (1) explosives (whaling grenades);
- (2) high-velocity/high energy projectiles; and
- (3) fast acting and potent drugs.

6.2.1 Explosives

The explosive Penthrite (Pentaerythritol tetranitrate, PETN)) has been successfully used in modern whale (harpoon) grenades. Penthrite creates pulsating, supersonic 'shock' and pressure waves that fatally injure and damage organs and tissue vital for life like nerves and central nervous system and heart, lungs and blood vessels.

Penthrite grenades are remotely delivered from deck-mounted harpoon guns used in the coastal whaling operations from fishing boats in Greenland, Iceland, Japan and Norway or from hand thrown darting guns used in Alaska for the hunt of bowhead whales. The grenade used for deck-mounted harpoon guns is triggered to detonate at a predetermined depth in less than 1/10 sec after penetration. The darting gun grenade is triggered to detonate after 4.5 sec.

Modern penthrite grenades are currently probably the most secure and most effective means for instant or very rapid killing/euthanasia of large whales at sea. Deck-mounted harpoon guns using penthrite grenades are available in Greenland, Iceland, Norway and Japan and can be used to kill/euthanise entangled large whales of all species at sea in the countries where such tools are available. Darting guns and darting gun penthrite grenades designed for the hunt of bowhead whales are probably the most rapid tool for killing/euthanasia of right whales at sea. To be used for other large whale species parts of the delivery system need probably to be slightly modified or adjusted for the different species. The current darting guns used are manufactured in USA while the darting gun grenades are produced in Norway.

Penthrite grenades should only be handled and used by trained personnel.

6.2.2 High-velocity/high energy projectiles

Several papers and reports have been published and/or submitted to the IWC Working group on Whale Killing Methods and Associated Welfare Issues that describes and document how firearms have been successfully used for euthanasia of small and larger cetaceans. The effect of ballistics to euthanise/kill stranded large whales was also thoroughly discussed during the 2013 IWC Workshop.

The brain is extremely vulnerable for high-velocity/high energy projectiles because its inelasticity and also because it is enclosed by rigid bones where there is no room

for expansion. The sudden energy transformation from a high-velocity/high energy bullet when it passes the brain will dramatically increase the pressure inside the cranial cavity resulting grossly destructive brain damages that may be almost 'explosive' in character ('Krönlein' shots). Øen reminded of the need for preparation of figures and maps showing the position of brain and upper neck in relation to external features like flippers, eyes, blowhole and other external characteristics for large whales like it has been done in Norway for minke whale, to help directing the shot correctly. He also reminded that if firearms are to be used for euthanizing at sea it has to be taken into account that water has a tremendous braking effect on bullets. By passing only through a short distance of water the speed and impact energy of the bullet will be significantly reduced and will negatively affect the bullet's penetration ability and efficiency.

6.2.3 Drugs

With regard to drugs, it was pointed out that the drugs had to be injected directly into well vascularised tissues like muscles or directly into the thorax or abdominal cavity to be absorbed rapidly. Injection into the blubber will result in a slow and delayed absorption of the drug. To avoid spilling of drugs in the blubber, the syringe has to be equipped with needles that delay injection until the needle has penetrated past the blubber. Currently, the only drug known, which has a potential to euthanise whales with remote delivery, is etorphine. However the use of etorphine carries a great risk of intoxication for users and bystanders and should only be permitted used by well-trained personnel. The drug also carries a risk for intoxication of scavengers.

6.2.4 Discussion

The Workshop **thanked** Øen for his presentation that had been based on previous recommendations from IWC Workshops (IWC, 2012; 2016a). When considering the applicability of this tool for euthanasia of species other than right whales, it was clarified that the penthrate grenade is already used in the hunt of a variety of large cetacean species in several countries. On the question of possible deployment by air rifle, Øen clarified that the force would be inadequate to penetrate the body to the appropriate depth and to trigger the firing pin. The explosion could occur at or near the surface of the whale and thereby fail to euthanize and also create a hazardous situation for humans. He further clarified that the grenade produces a radiant charge but that there have been no injuries to humans yet in deployment. When asked about failed killing attempts, he noted that this had occurred in the past, due to improper targeting (i.e. outside of the required neck or chest areas) by individuals who had not had adequate training.

As noted in Item 6.1, further development of a gun-type delivery system had been recommended at the IWC euthanasia Workshop, but Øen clarified that this had not advanced further because funding is required. The Workshop **endorsed** the earlier recommendation and encourages individual nations where this approach may be appropriate to support development of system further.

6.3 Western Australian procedures for euthanasia and firearms

Coughran presented IWC/A15/ER5, which is a standard operating procedure (SOP) for the use of firearms for euthanasia. Live cetacean strandings are relatively common along the west Australian coastline (Groom and Coughran, 2012b), and the frequency of stranding events is expected to increase over coming decades (Schumann *et al.*, 2013).

While some stranded animals can be successfully returned to the ocean if viable, many stranded cetaceans require euthanasia. While operating procedures are in place to use explosive charges to humanely euthanise large, meaning >7m cetaceans (Coughran *et al.*, 2012), the use of firearms has been demonstrated to be the most humane method for euthanising small (<7m) animals (Blackmore *et al.*, 1995). IWC/A15/ER5 provides instruction on how to undertake this with appropriate firearms and ammunition. The Department of Parks and Wildlife (DPAW) is the designated lead agency for all cetacean stranding events in Western Australia, and the SOP applies to moribund small cetaceans undertaken by them across the state. When the DPAW is unable to respond to stranding events, this SOP may also be used to guide euthanasia of stranded small cetaceans undertaken by other authorised individuals or organisations. All DPAW personnel involved in attending to cetacean stranding events should be familiar with the content of this document. The SOP only applies to the use of firearms for euthanasia of stranded cetaceans up to about 7m in length. Euthanasia methods for larger cetaceans, such as use of explosive charges (Coughran *et al.*, 2012), or chemical injection (Barco *et al.*, 2012; Harms *et al.*, 2014), are not covered. Other euthanasia methods may be more appropriate in some cases and their use is not precluded by the SOP. Euthanasia of cetaceans through chemical injection is an established method but requires specialised equipment (Barco *et al.*, 2012; Harms *et al.*, 2014). Personnel should be appropriately licensed, trained or where necessary, supervised when using any method.

6.4 Other

In discussion, Øen described the possible use of a lethal dose of etorphine to euthanize large whales at sea. But he clarified that etorphine is highly toxic and so its use at sea could result in unintended impacts in the environment (such as for scavengers). Thus, consideration would have to be given for appropriate containment and disposal of the carcass. In addition, it was noted that it is dangerous to humans, expensive and a controlled substance in many countries.

7. INTERFACING WITH THE PUBLIC

7.1 Working with media

As the IWC Secretariat is serving as the convener of the global whale entanglement response network, Mattila began discussion on this topic by providing some background on recent proposals to help the group increase its visibility, in order to counter incorrect, and even dangerous, information that get can sometimes become 'viral' on the internet and social media. Firstly, as had been so effectively demonstrated by Mexico at this meeting, it is recognized that 'branding' can be an effective tool to increase visibility and impact. In response to a query, the group confirmed that the working name, Global Whale Entanglement Network, and its acronym, GWERN, are temporarily acceptable for the networks working together under the auspices of the IWC, but that a new name and acronym may be chosen by email vote shortly after the Workshop ended.

Participants **confirmed** their earlier agreement to send stories of successful rescues to the IWC Secretariat for potential posting on the IWC web site, and for distribution to organisations supporting the global network. These stories would be tailored for the public, and of course will not contradict the consensus principles and guidelines developed in 2011, and reviewed and re-endorsed here. The

Workshop also **agreed** that an accessible, public-friendly regular summary of achievements of the global network be included on the IWC website and sent to contributors to the initiative.

The Workshop discussed the particular challenge of countering incorrect and inappropriate messages on line, particularly given that many of these are ‘feel good’ stories. It can be difficult to provide an appropriate counterpoint in such cases without appearing negative or having the proper message lost or diluted. One strategy when commenting on websites or blogs is to first applaud the good intentions of the actions before clarifying what the appropriate action should have been taken. Mattila noted a recent instance where a group of respected climate scientists used online software, currently still in development by a non-profit called ‘Hypothes.is’, to insert a layer of factual corrections and references in a prominent news story on climate change. He noted that if this software becomes usable, it may be worth considering using it to correct erroneous information, especially in highly visible sources. Another strategy is to contact parties offline (or outside the web) and share the appropriate message with them privately. Some have been happy to revise stories to incorporate a more appropriate message. This approach takes advantage of the visibility of the original post while avoiding a negative interaction. Some members have also tried with some success to provide response awareness training to key members of the news media and filmmakers.

An important, parallel strategy is maximizing positive, appropriate stories and information online. It was noted in discussion that Google searches can help to determine the visibility of the GWERN, as well as individual groups and websites with legitimate information on disentanglement. Searches in English and Spanish conducted during the Workshop suggest that these currently hold the highest rank. Several members were reassured that although there have been some very persistent and damaging stories that circulate online, by and large most of these events tended to fall into relative obscurity over time online. Wikipedia was identified as a potentially valuable tool for putting reliable information online in a place where it was very likely to be accessed by the public. Mattila **agreed** to look at initiating topics there and populating with reliable information.

7.2 Working with the fishing community

Several approaches were suggested to improve communication with and engagement by the fishing community. Whale response at Newfoundland/Labrador is the first example of strong engagement, as it began as a fisherman assistance program and continues to operate with that understanding. They do not touch fishing gear without first obtaining permission from the fisher, and often have the gear owner on site where information can be relayed directly to the team. The success of this approach is evident, as it continues to be well-known and well-advertised within the fishing community. In many entanglement situations where the whale is free-swimming, this particular outreach approach is not possible and other outreach efforts are equally valuable. The Workshop also discussed the benefits of outreach through participation in fishermen Workshops/fora, actively involving fishermen in gear studies (also studies of pingers and depredation), and including them directly in response efforts whenever possible (including in a support capacity). Lyman relayed that the State of Massachusetts Division of Marine Fisheries made it a high priority to interact with fishers and to meet with them on their own vessels. He considered that practice to have been

quite valuable for developing his relationships and dialogs with the fishers. Finally, it was suggested that in areas where fishermen fear ramifications for reporting entanglements, limiting the amount of personal information (i.e. allowing anonymous reporting) may put them at greater ease.

8 GATHERING AND ANALYSING INFORMATION TOWARD PREVENTION

8.1 Review of work in various regions

8.1.1 USA

The Workshop discussed recent and on-going work on the issue of entanglement prevention. The co-occurrence of whale distribution and fisheries has been modelled for both the east coast and areas of west coast (IWC/A15/ER21) of the USA. The east coast co-occurrence model was instrumental in a federal strategy and recent law to reduce lethal large whale entanglements by strategically reducing the number of vertical lines in the water column. The Atlantic Large Whale Take Reduction Team also maintains an on-line matrix of research that has been identified to potentially facilitate entanglement understanding and prevention⁹.

Successful prevention depends on the quality of the underlying data on entanglements and their impacts. Lyman described efforts to reach out to the fishing community and the public on line to assist with aspects of entanglement case follow up. He also highlighted the value of scar studies and new analytical approaches, such as studies of skin-associated bacteria on whales to better understand health (Apprill *et al.*, 2011; 2014). A study is underway in Alaska by Kate Wynne and colleagues to evaluate the potential effectiveness of pingers for reducing net entanglements of large whales (see further discussion of pingers under 11.2). Finally, Lyman reported a preliminary insight from a comparative analysis of gear removed from humpback whales in their feeding and breeding ranges. A lower frequency of gillnet entanglements in Hawaii versus Alaska may indicate that individuals that become entangled in net are less likely to survive, or that some gillnet entanglements are minor and their cryptic nature makes them difficult to detect. Knowlton called attention to the Consortium for Wildlife Bycatch, which is coordinated by the New England Aquarium. They maintain a searchable database at bycatch.org that attempts to keep track of entanglement research and mitigation efforts worldwide.

8.1.2 Australia

Coughran presented a case study of research and mitigation efforts surrounding whale entanglements in the western rock lobster fishery off Western Australia. The northern migration of humpback whales along the Western Australian coast coincides with the ‘traditional’ end of the Western Rock Lobster Fishery (WRLF) (June 30). Half of all reported whale entanglements are associated with rock lobster pots, however there are also entanglements associated with aquaculture and other pot based fisheries (crab and octopus) (Groom and Coughran, 2012a). Analysis of entanglement rates with WRLF gear has shown an increase since recording began back in the early 1990’s (Groom and Coughran, 2012b). Entanglement rates did drop between 2006 and 2010, which was likely result of the introduction of industry codes of conduct for a range of fisheries to reduce the likelihood of interactions (Groom and Coughran, 2012a), as well as significant pot reductions in the WRLF during this time (de Lestang *et al.*, 2012). However, over the last few

⁹http://www.greateratlantic.fisheries.noaa.gov/whaletrp/plan/gear/Gear%20Research%20Matrix_Oct%202010_final.pdf.

seasons (2010/11 and 2011/13) there have been significant changes to the management arrangements for the western rock lobster fishery. A move to quota-based management has also included an increase in pot usage and a change to season length with the season extending until the end of August in 2011 and September in 2012. The 2013/14 season was the first season with no temporal closure, allowing fishing to occur year round.

Coughran explained that an extension of the season has led to a movement of fishing effort into more months when the humpback migration occurs, resulting in a significant increase in the number of whale entanglements in fishing gear, and predominantly lobster fishing gear. While there are more pots being fished in the winter months, they are also being left for longer (greater soak times), resulting in significantly more pot-lines in the water. In 2012, there were 22 entanglements of humpbacks in fishing gear, with 13 of these being confirmed as WRLF gear. Previously entanglements have occurred predominantly in June. It should be noted that these are the dates at which the entangled whale was spotted, and represent some period of time after the entanglement actually occurred. In the last two years, with the increase of pots in the water in later months, the number of recorded entanglements has moved to more entanglements in these later months. There were 16 entanglements in the last 2 years where the identification of the fishing gear could be determined. Thirteen of these were lobster gear, with 3 entanglements from octopus fishing.

Based on this work, it was concluded that changing fishing behaviour or gear would be necessary to prevent increasing interaction rates. Most interactions appeared to occur with the float gear and ropes of set pots. They appeared to occur throughout the fishery and in all depths (but perhaps more 30+ fathoms). Interactions began in June and overlapped the fishing season duration. New mothers travel coast-wise later in the season (Oct.-Nov.) and because there had not been fishing their previously, there was a risk of further interactions. This has led to a collaborative approach among government and industry to reduce entanglements. Two projects have been funded to study mitigation strategies. Spatial information has been gathered and gear modifications were employed in 2014. Entanglements appear to have diminished by approximately 50% since 2013, but the assessment is on-going.

In discussion, it was clarified that some key elements of mitigation involved eliminating unnecessary slack in the surface system and profile, and also minimizing the amount of time that gear was in the water. The Workshop noted with interest that humpback whales on their northbound migration appeared to turn south and head coastward after entanglement. It had been possible to establish this because the fishermen provided information on exact location of where gear was set and when it went missing and this was compared to where the entangled whale was later encountered. The behaviour was interpreted by Coughran as possible predator avoidance.

The Workshop discussed pingers as an entanglement prevention tool for large whales. There is conflicting anecdotal evidence on this to date, and systematic studies have been lacking. Meyers reported that there was the possibility of increased humpback whale entanglements in one circumstance after pingers were added, even with four pingers on a single net panel. Some of the issues with pingers include that their batteries can die without the fisher being aware, and led lights are now being added to make this more apparent. Additionally, the effectiveness of pingers depends on whether they are spaced appropriately. There has been considerable research on the effectiveness of pingers

in preventing entanglement in small cetaceans and this has been discussed for many years by the IWC Scientific Committee. Aspects of how those studies were designed and implemented could be a valuable resource when considering the design of a systematic study of large whale pingers. The Workshop **stressed** that even if the use of pingers (or any other mitigation methods) is found to be effective in an experimental situation, monitoring should be undertaken to ensure that the desired effect persists.

8.1.3 South Africa

Meyer reported that towards the close of 2013, the Department of Agriculture, Forestry and Fisheries (DAFF) in South Africa issued several experimental octopus longline permits along the South African coastline. Within four months of the start of the 2014 whale season, three whales had been entangled of which two had died and one was successfully released by SAWDN. Together, DAFF and the Department of Environmental Affairs (DEA) summoned all permit holders and cetacean biologists to review the permit conditions for the Octopus longline. Permit holders were given a presentation on whale disentanglement to understand the issues involved and the meeting discussed possible mitigation measures. The permit conditions were reviewed to include gear modifications to reduce the amount of rope in the water column both horizontally and vertically. These included sinking rope or lead weights spliced into the bottom rope to reduce floating line in the water column. To reduce entanglement vertically an initial 10m of chain from the buoy was spliced into the floating rope to the anchor. Diving surveys indicated that the design presented by a permit holder restricted floating rope at traps to 1 m above the ocean floor. These modifications despite 500 traps being presently deployed appear to have prevented further entanglements by the industry.

Workshop members welcomed this information, noting the magnitude and immediacy of the effect after this experimental fishery was initiated. This gear is also in use in Australia and so the timely sharing of information has provided valuable information to managers there. A question was asked as to whether the fishery could be prevented from moving forward. Meyer explained that it could be done with some effort and it might be considered if the issue continues.

In discussion of the profile of the floating line, it is valuable to look at these patterns at different stages in the tide (where tide is a factor) because this can affect the profile. In New England, sensors have been placed on the gear to track the profile over time versus a snapshot.

8.1.4 Canada

Cottrell relayed information from Canada in which floating lines were replaced with neutrally buoyant lines in 50 trap strings in a certain area. The entanglement rate appears to have diminished from 2-3 humpback whales per year to none observed since the modification was implemented.

9. OTHER BUSINESS

The Workshop participants thanked the Center for Coastal Studies for hosting the Workshop, David Mattila for convening, and Arne Bjørge for chairing the meeting.

The IWC Secretariat thanked the supporters of the capacity building initiative as follows:

Initial support was provided by the USA through the secondment of a technical adviser (Mattila) and an initial Voluntary Contribution to the IWC, which created an 'entanglement fund' to use in order carry out trainings, purchase tools and support apprenticeships. Further significant contributions (>\$20,000 USD), to support

these activities have been provided by the USA, World Animal Protection and UNEP Specially Protected Areas and Wildlife, Regional Action Committee (SPAW-RAC). Other contributions to the fund or trainings identified by the IWC, using criteria developed by its entanglement expert advisory group, include: Permanent Commission of the South Pacific (CPPS), Secretariat of the Pacific Regional Environment Programs (SPREP), NOAA, Center for Coastal Studies, National Resource Defense Council, Animal Welfare Institute, International Fund for Animal Welfare, Humane Society International and OceanCare. In addition, considerable financial and in kind support have been contributed by the Governments hosting the trainings, through numerous National Agencies and NGOs.

10. REVIEW AND ACCEPT REPORT

Part of the report was able to be reviewed at the end of the Workshop. The remainder was adopted by email on 24 May 2015.

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Annex A

List of Participants

ARGENTINA

Marcela Uhart
Australia
Doug Coughran

BRAZIL

Milton Marcondes

CANADA

Paul Cottrell
Wayne Ledwell

KOREA

Yong Rock An
Hawsun Sohn

MEXICO

Astrid Frisch

NEW ZEALAND

Mike Morrissey

NORWAY

Arne Bjørge
Egil Øen

PANAMA

Lisette Trejos Lasso

SOUTH AFRICA

Mike Meyer

UK

Greg Donovan
Russel Leaper
Mark Simmonds
Joanna Toole

USA

Amy Knowlton
Scott Landry
Ed Lyman
David Mattila
Stormy Mayo
Michael Moore
Jooke Robbins
Jamison Smith

OBSERVERS

USA

Bob Lynch
Katie Moore
David Morin
Doug Sandilands
Lisa Sette
Jenn Tackeberry
Julie van der Hoop

Annex B

Agenda

1. Introductions
 2. Nominate Chair and Rapporteur(s)
 3. Review and adopt Agenda and documents
 4. New information since 2011 Workshop
 - 4.1 Aspects of reports from relevant Workshops in 2011-14
 - 4.2 New or unusual relevant cases since 2011 (Guadalupe, Korea)
 - 4.3 New tools or techniques (net cutters, cutting grapple...etc.)
 - 4.4 New safety or risk assessment tools or protocols.
 5. Review of IWC capacity building
 - 5.1 Summary of work since last meeting (challenges, successes)
 - 5.2 Overview of newly trained participating national networks (e.g. Argentina, Brazil, Mexico, Panama)
 - 5.3 Review of strategy, curriculum and prioritization
 - 5.4 Should stranding and/or other complementary capacity building be added? In what instances?
 - 5.5 Discussion of cooperation between Government and private sector (NGO, fishers, ecotour.... etc.): advice for success?
 - 5.6 Review of different approaches to legal authority (e.g. in different countries)
 6. Review of principles and guidelines (safety, procedures, decisions, toward prevention) and training curricula
 - 6.1 Considerations for less than ideal situations
 - 6.1.1 Advice to artisanal fishers (Latin America, Arabian Sea...etc.)
 - 6.1.2 Using heavier boats when inflatable is not available
 - 6.1.3 'Remote' advice to non-trained responders (e.g. Chile right whale, Russian gray whale, Panama humpback....etc.)
 7. Improvements in assessment and documentation of events (e.g. determining gear type and configuration, whale species, health and stress)
 - 7.1 New information on impacts to individuals and populations
 - 7.2 New tools for veterinary assessment?
 - 7.3 Determining gear/debris type and origin
 - 7.3.1 Best methods to determine fishing gear.
 - 7.3.2 Marine debris discussion
 - 7.3.3 Retrieved gear archiving
 - 7.4 Quad copters
 8. Database components and structure
 - 8.1 Overview of existing data collection, archival and databases
 - 8.1.1 US National
 - 8.1.2 Hawaii and Pacific
 - 8.1.3 CCS
 - 8.1.4 Canada (BC, Newfoundland and Labrador)
 - 8.1.5 Australia
 - 8.1.6 South Africa
 - 8.1.7 Other
 - 8.2 Review of current ongoing information gathered by IWC and other IGO or NGOs
 - 8.2.1 IWC National progress reports
 - 8.2.2 Other: UN Regional Seas, WAP
 - 8.3 Brief review of IWC ship strike database (e.g. structure, challenges, pros and cons)
 - 8.4 Recommendations to IWC
 - 8.4.1 Improved National Progress Reports only, or full web-based, public entry
 - 8.4.2 Important data fields
 9. New tools or protocols for euthanasia (esp. at sea)
 - 9.1 See review of euthanasia Workshop
 - 9.2 Penthrite grenade gun (pros and cons, costs, appropriateness for different species...etc.)
 10. Interfacing with the public
 - 10.1 Working with media
 - 10.2 Working with fishers
 11. Gathering and analysing information toward prevention
 - 11.1 What is currently happening in various regions?
 12. Other business
 13. Review and accept Report
-

Annex C

List of Documents

IWC/A15/ER

1. Draft Agenda.
 2. C.J. Groom and D.K. Coughran. Entanglements of baleen whales off the coast of Western Australia between 1982 and 2010: patterns of occurrence, outcomes and management responses.
 3. [Status changed to working paper]
 4. Barratclough, A., Jepson, P.D., Hamilton, P.K., Miller, C.A., Wilson, K., Moore, M.J. How much does a swimming, underweight, entangled right whale (*Eubalaena glacialis*) weigh? Calculating the weight at sea, to facilitate accurate dosing of sedatives to enable disentanglement.
 5. Hampton, J., Mawson, P. and Coughran, D. Euthanasia of small stranded cetaceans using firearms.
 6. Department of Parks and Wildlife. Carcass Disposal in Australia.
 7. International Whaling Commission. 2014. Report of the IWC Scientific Committee Workshop on Marine Debris, 13-17 May 2013, Woods Hole, USA. *J. Cetacean Res. Manage. (Suppl.)* 15:519-41.
 8. D. Mattila. Report of IWC-SPAW training Workshop (2012).
 9. IWC report. Annex E Principles and Guidelines.
 10. International Whaling Commission. 2013. Report of the Second Workshop on Welfare Issues Associated with the Entanglement of Large Whales, with a Focus on Entanglement Response. Annex D data form. *J. Cetacean Res. Manage. (Suppl.)* 14:417-35.
 11. Rinaldi and Rinaldi. A deadly mother-calf bond in Caribbean sperm whales?
 12. State of Alaska, NOAA, Fishermen. Wheelhouse card for Alaskan Fishermen
 13. NMFS. Decision tree for tagging
 14. NMFS. New equipment testing protocol
 15. NMFS. Online entanglement report form
 16. NMFS. Criteria for response roles and training levels
 17. NMFS. Policy for advancement between response roles
 18. NMFS. USA serious injury determination
 19. Ballazzi, G., Orri, R.S. and Montanelli, S. Update on Southern Right Whale entanglements at Península Valdés, Argentina (2012-2014).
 20. Saez, L., Lawson, D., DeAngelis, M., Petras, E., Wilkin, S., Fahy, C. Understanding the co-occurrence of large whales and commercial fixed gear fisheries off the west coast of the United States. *NOAA Tech. Mem.* NOAA-TM-NMFS-SWR-044.
 21. NMFS. US west coast large whale entanglement information sharing Workshop report.
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 23. NMFS. Fixed Gear Guide: California, Oregon and Washington Commercial Fisheries, trap/pot, gillnet, longline/set line.
 24. NMFS. NOAA Fisheries Gear Collection and Retention Policy For Gear Collected From Entangled Protected Marine Species.
 25. NMFS. Marine Forensics, Chain of Custody.
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Annex D

Training to Manage Risk at a High Standard to Ensure Team Safety

D. Coughran

The Department of Parks and Wildlife, Western Australia is a Registered Training Organisation. The department as a training provider is registered by the Australian Skills Quality Authority (ASQA) to deliver Vocational Education and Training (VET) services. RTOs are recognised as providers of quality-assured and nationally recognised training and qualifications. This type of training has been delivered to all other nationwide Australian State Environmental Agencies that have the Legislative responsibility to risk manage incidents related to large whale entanglement response.

As an RTO the department is approved to train and assess qualifications, units of competency and accredited courses in the areas of:

- (1) conservation and land management;
- (2) frontline management;
- (3) government; and
- (4) public safety.

Each of these areas has a Custodian who works with the departments Learning and Development's RTO Coordinating team to ensure currency and compliance with training and assessment material and processes. At the competent completion of learning, the RTO is responsible for issuing the learner with the appropriate qualification or statement of attainment.

Trainers and Assessors are employees of Department of Parks and Wildlife who have the appropriate qualifications and vocational experience to deliver accredited training and assessment, relevant to the training subject, in this case the risk management of large whale entanglement response.

The Department of Parks and Wildlife's RTO support the departments' formal training program (accredited training) through competency based training and assessment. This means the focus is on what can be done in practice or in the workplace so that learners can demonstrate competency against a particular set of standards. Learners are either competent or not yet competent. There is no pass or fail.

The level of knowledge and skills accredited training and assessment will cover will depend on the certificate level the learner is studying.

Certificate II: At the end of the studies the learner will be able to do a wide range of activities where the choice of actions required is clear and there is a limited difficulty in the tasks they will be completing.

Certificate III: The learner will be able to choose the best action to take in new environments and be able to give advice and some leadership to solve problems.

Certificate IV: The learner will be able to show leadership in a variety of situations and give in-depth advice to solve difficult problems.

Training is the process of learning and the department offers its employees the opportunity to learn by:

Accredited Training is training and assessment that results in the participant/s undertaking a Nationally Recognised qualification, accredited course or unit of competency.

Nationally Recognised Training has been developed based on the National Training Package for the given industry and is conducted in accordance with the requirements of the *National Vocational Education and Training Regulator Act 2011* and Standards for NVR Registered Training Organisations 2012.

Non-accredited Training is training that doesn't result in the participant/s attaining competence in a Nationally Recognised qualification, accredited course or unit of competency.

Non-accredited training may include licences, product-specific certifications, 'internal' certifications or other training which are not aligned to a Nationally Recognised qualification.

Assessment is the process of collecting evidence and making judgments on whether competency has been achieved, to confirm that an individual can perform to the standard expected in the workplace, as expressed by the relevant endorsed industry/enterprise competency standards of a Training Package or by the learning outcomes of a VET accredited course.

SNR3 Standards for NVR Registered Training Organisations 2012. The Department of Parks and Wildlife relies on its RTO's qualified assessors to determine the competency of learners, based on the evidence collected during the assessment process.

Learners are considered competent when they are able to show sufficient evidence of consistent application of their knowledge and skills in a range of new situations and environments, in accordance with the standards of performance expected in the workplace.

Evidence is collected through the assessment processes of:

- (1) assessment activity;
- (2) credit transfer; and
- (3) recognised prior learning.

**Report of the IWC Expert
Workshop on Aboriginal
Subsistence Whaling (ASW)**

Report of the IWC Expert Workshop on Aboriginal Subsistence Whaling (ASW)¹

The Workshop was held at the Hotel Maniitsoq, Maniitsoq, Greenland, from 14-18 September 2015. The list of participants is given as Annex A.

1. INTRODUCTORY ITEMS

1.1 Welcoming remarks

Gitte Hundahl (IWC Commissioner for Denmark and Chair of the Workshop Steering Group) welcomed participants to Maniitsoq on behalf of Denmark and Greenland.

She recalled that two years ago, the Danish Government had given notice that Denmark would withdraw from the Convention and was close to leaving the IWC if a solution acceptable to both Greenland and the IWC to ASW issues could not be found. This decision followed developments leading up to 2012, when the IWC was not able to set catch/strike limits for Greenland. This effectively left an Indigenous people on its own, despite its having a longstanding subsistence need for whaling which had been recognised by the IWC. She remarked that discussions on ASW appeared to be influenced by a much larger disagreement on commercial whaling. This disagreement reflected negatively upon Indigenous peoples, hindered their development and stigmatised their way of life.

She emphasised that the Kingdom of Denmark remains a strong supporter of international cooperation on the conservation and management of whales. It wishes to see a strengthened IWC, and at the same time it has a profound understanding and support of the significant historic and present importance of ASW in Greenland.

She recalled that at IWC/65 in 2014 (IWC, 2014), the Commission resolved the issue of catch/strike limits for Greenland for four years. Equally importantly, through Resolution 2014-1 (IWC, 2014), the IWC committed itself to improving the ASW management process. By offering to host this IWC Expert Workshop, she noted that Denmark and Greenland are sending a strong signal of a joint commitment to this endeavour and emphasised four aspects: improving consideration of 'need statements' in order to ease the burden on hunters and ASW administrations and provide a more efficient instrument; improving the ASW review process by removing the politics surrounding larger disagreements from the IWC's ASW management process; rebuilding trust between hunters and the IWC so that ASW communities truly feel the organisation serves their needs; and ensuring better synergy between the IWC and other international commitments, including those on the rights of indigenous peoples, on the sustainable use of natural resources, on science-based decision making and on global food security.

In closing, she hoped that the Workshop report will present next year's IWC meeting with professional input that can contribute to these goals.

On behalf of the IWC, Simon Brockington (IWC Secretary) thanked Denmark and Greenland for their hosting of the Expert Workshop, and expressed thanks to the Governments of Denmark, Switzerland and the USA for providing funding.

He recalled that the purpose of the Workshop was to provide advice to the IWC to support the development of its work on subsistence whaling as described in the report of the

Aboriginal Subsistence Whaling Working Group (ASWWG) (IWC, 2014) and Resolution 2014-1. The ASWWG had identified a series of long-term issues and associated actions for improving the Commission's management of subsistence whaling. The Resolution emphasised the need to regulate ASW through a more consistent long-term approach. It specifically requested the Commission, through its ASW Sub-committee, to address issues surrounding needs statements and the relationship between needs and consumption patterns. This includes, amongst other things, use and extent of monetary transactions in an ASW context.

He noted that the discussions ahead would include not only examination of IWC material, but also the first formal IWC consideration of progress made on the rights of Indigenous peoples under a variety of bodies including the United Nations, the International Labour Organization and the Convention for Biological Diversity and how these Indigenous Peoples rights are recognised and implemented at the international level.

He believed that the IWC has made considerable progress since the last ASW Expert Workshop was held 36 years ago in Seattle, Washington (Donovan, 1982). At that time, the motivation for the Workshop was concerns over sustainability, especially surrounding the Alaska take of bowhead whales. Since that time, a considerable investment in science, both by national governments and the IWC's own Scientific Committee, has resolved concerns over sustainability. This Workshop will build on that work and make a significant contribution to improving the IWC's management of subsistence whaling and consideration of the rights of Indigenous Peoples.

1.2 Appointment of Chair

Professor Bo Fernholm, a past Chair of the Commission, was appointed Chair of the Workshop by the Steering Committee. He noted the importance of the Workshop to the work of the Commission and looked forward to a productive Workshop. He drew attention to its importance in progressing the work of the Commission at its 2016 meeting leading to the discussions of new catch/strike limits at the 2018 Commission meeting.

1.3 Appointment of rapporteurs and procedure for adopting report

Donovan was appointed co-ordinating rapporteur with assistance from Brockington and others as appropriate. The objective was as a minimum to agree the conclusions and recommendations by the end of the Workshop with the final report (to be agreed by email) being placed on the IWC website and circulated to Contracting Governments by mid-October.

1.4 Adoption of Agenda

The adopted agenda is given as Annex B.

1.5 Available documents

The list of primary documents available to the Workshop is given as Annex C. In addition, the Secretariat made available a large number of background papers including past 'need statements', sub-group reports and past IWC Resolutions relevant to subsistence whaling.

¹Presented to the meeting as IWC/66/ASWRep01.

2. BACKGROUND AND OBJECTIVES OF THE EXPERT WORKSHOP

2.1 Summary of the IWC decision-making process with respect to ASW including the role of sub-groups, existing IWC definitions of terms and recent decisions

Donovan provided a short summary of the IWC process with respect to ASW. He noted that his presentation was primarily for the benefit of the participants who were not familiar with the IWC and thus it was necessarily simplified given the time available. Additional information can also be found in IWC/S15/ASW4.

ASW has been recognised by the IWC since the International Convention for the Regulation of Whaling (ICRW) was signed in 1946. It is whaling for purposes of local aboriginal consumption carried out by or on behalf of aboriginal, indigenous, or native peoples who share strong community, familial, social, and cultural ties related to a continuing traditional dependence on whaling and on the use of whales (see Donovan, 1982). ASW hunts now recognised by the IWC include those of Greenland, Chukotka, Alaska, Bequia and Washington State, although the last of these is not active at present pending internal US procedures (for more details of these hunts see Item 4). ASW catch limits first became an important focus of the IWC due to questions of sustainability raised about the Alaskan bowhead whale hunt in the late 1970s (and see Item 5).

He noted that the different nature of ASW was reflected in the objectives for ASW and commercial whaling agreed by the Commission and presented to the Scientific Committee for its work to develop long-term management advice under the RMP (Revised Management Procedure for commercial whaling) and the AWMP (Aboriginal subsistence Whaling Management Procedure) as summarised in Table 1.

Today, the main process leading to the adoption of quotas for ASW is summarised in Fig. 1, although relevant information may also be provided by other sub-groups (e.g. with respect to killing methods) as well as interventions in Commission Plenary.

Decisions in Commission Plenary are based upon two primary information types: (1) scientific advice provided by the Scientific Committee (based upon requests for catch/strike limits provided by ASW countries); and (2) 'need' (see Table 1) provided in what are termed 'need statements' (see discussion under Item 5.1) that explain *inter alia* the rationale behind the catch/strike limit requests put forward to the Commission. In principle, if agreement is reached on both sustainability and 'need', then reaching Commission consensus on catch/strike limits should be straightforward. However, as witnessed by the fact that in no quota block years since 2002 have all ASW quotas been agreed by consensus (and see Item 1.1), this process has not been straightforward.

Donovan noted that the question of the *sustainability* of proposed catch/strike limits has not been controversial for any hunts since 2009. This is due to the Scientific Committee's successful development of long-term *SLAs* (*Strike Limit Algorithms*) for most species and an interim approach to be used until the remaining *SLAs* are completed (now just two to be completed - for West Greenland fin and common minke whales) for providing consensus advice by the Scientific Committee to the Commission (IWC, 2016).

Thus the main difficulties in agreeing catch/strike limits have arisen during the consideration of 'need' at the Commission. The issues are complex (see the discussion under Item 5) and involve many stakeholders. These difficulties are the driving force behind the initiatives

Table 1
Summary of agreed objectives for commercial whaling and ASW.

Commercial	Aboriginal subsistence
User	User
The highest possible continuing yield should be obtained from the stock	Allow harvests (in long-term) at levels appropriate to cultural and nutritional needs
Stability (i.e. no major fluctuations from year to year) in catch limits	Stability implicit
Conservation	Conservation
Zero catches for stocks estimated at <54%* of carrying capacity	Risk of extinction not seriously increased
* i.e. 10% below the 60% level at which highest net recruitment is assumed	Maintain at highest net recruitment level; if below must move towards it

of Resolution 2014-1 and the present Workshop with the objective of improving the process and working to consensus. Ideas for improving the process that have been suggested at various times include: early dialogue amongst stakeholders; consideration of the issues by the Commission earlier than the year in which quotas are to be renewed; transparency and dialogue to ensure 'no surprises' either in catch/strike limit requests or objections/questions to 'need statements'; increased understanding of 'need' – in terms of the information presented (see Item 5) and the nature and role of the IWC review (see Item 6) and the need to place IWC discussions in a more global context (see Item 3).

2.2 Objectives of the Workshop based upon Resolution 2014-1 and IWC/65/ASWRep01, Appendix 2

The broad objectives of the Workshop are to assist the Commission in its efforts to improve the long-term management approach to ASW as identified under Resolution 2014-1. More specifically, the Workshop proposal adopted by the Commission (IWC, 2014) noted that an important focus of the Workshop must be consideration of 'need statements' in the broad sense, including *inter alia*: types of subsistence need (e.g. cultural, subsistence and nutritional); cultural and sociological variation across whaling communities with regard to conditions of the hunt and methods of distribution of products, including changes over time; methods used to present information on need to the Commission in an informative manner; consideration of approaches to objectively review 'need statements' presented to the Commission; and food security considerations.

With this in mind, the Steering Group of the Workshop developed the Workshop Agenda that was subsequently adopted under Item 1.4.

3. GENERAL CONSIDERATION OF CULTURAL AND SUBSISTENCE ISSUES OUTSIDE THE IWC RELEVANT TO ASW DISCUSSIONS

The purpose of this item was to introduce human rights, cultural, subsistence and nutritional issues in the broader world context than the discussions that have taken place previously within the IWC.

3.1 The Work of the Arctic Council, the United Nations Declaration on the Rights of Indigenous Peoples, the ILO and other relevant international fora

The ASW Working Group invited four international law experts (Dorough, Lefevre, Mennecke and Stamatopoulou) to the Workshop. Each invited expert gave a presentation on

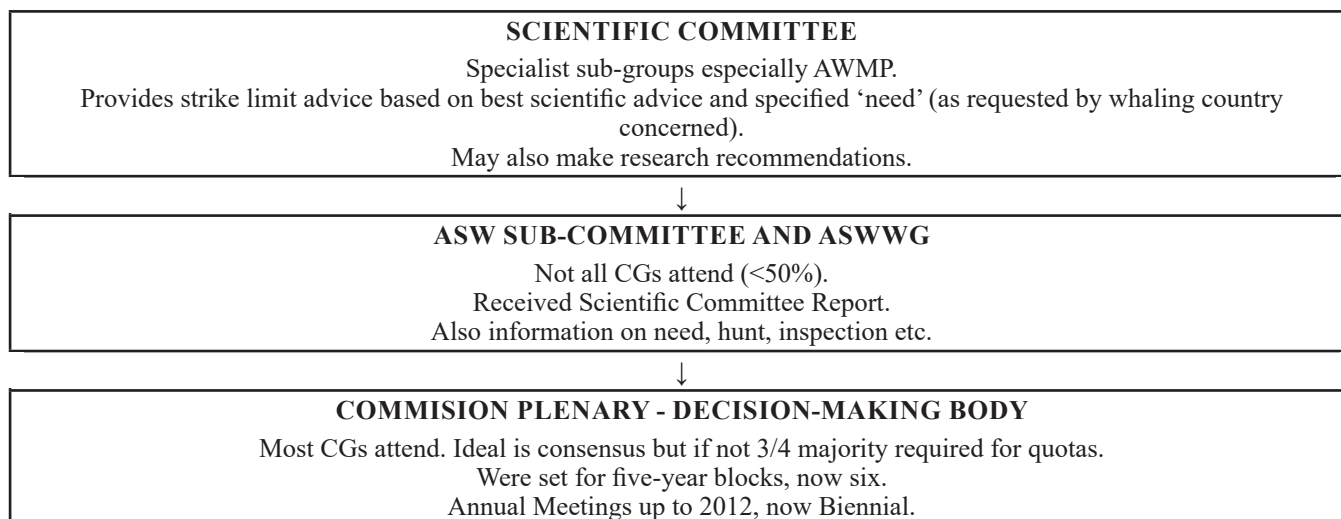


Fig. 1. Simplified schematic summary of the main IWC ASW process (CG= Contracting Government).
For more information see text and IWC/S15/ASW4.

Indigenous rights and subsistence issues outside the IWC and noted their relevance for ASW discussions (IWC/S15/5-8). The invited experts agreed on a number of points, which are summarised below.

At the outset, the invited experts noted that over the past two decades (in other words, after the last ASW Expert Workshop took place in 1979), UN member states have, together with Indigenous peoples, made major achievements in regard to Indigenous peoples' rights. They have developed a growing body of norms protecting and entitling Indigenous peoples and have created a number of international organs to advance these matters. The experts underscored the need for the IWC and its member states, including relevant committees and working groups, to inform themselves of this important and ongoing development in international law. More specifically, the invited experts recommended that IWC member states need to reflect the specific status and human rights of Indigenous peoples in their application and interpretation of the ASW framework under the International Convention on the Regulation of Whaling.

Relevant instruments in this regard include a number of treaties, declarations, and other norms and standards ranging from the UN Charter, the Universal Declaration of Human Rights, the International Covenant on Civil and Political Rights, the International Covenant on Economic, Social and Cultural Rights to the Addis Ababa Principles and Guidelines for the Sustainable Use of Biodiversity published by the secretariat of the Convention on Biological Diversity. In particular, the experts emphasised the need to engage with the rights affirmed in the UN Declaration on the Rights of Indigenous Peoples (hereafter UN Declaration), adopted by the UN General Assembly in 2007), as well as the International Labour Organization (ILO) Convention No. 169², which now is to be read together with the UN Declaration as complementary and mutually reinforcing. While the UN Declaration is not a legally binding treaty, many Indigenous peoples' rights today reflect customary international law. These are unwritten rules of international

law that build on state practice and States' views of international law and are as binding as treaties. In addition, the experts noted that both the UN Declaration and the ILO Convention No. 169 are an integral part of international human rights law. Their standards are relied upon to interpret Indigenous rights and related state obligations. Reference was also made to the Outcome Document of the 2014 World Conference on Indigenous Peoples, wherein member States unanimously reaffirmed their support for the UN Declaration from 2007. Similarly the invited experts highlighted the need for IWC member States to align their practices within the IWC with how governments committed to the advancement and implementation of Indigenous rights elsewhere in the international system. This includes fora such as the Arctic Council, the UN Permanent Forum on Indigenous Issues, the UN Expert Mechanism on the Rights of Indigenous Peoples and the UN Human Rights Council. The invited experts agreed that ASW and the IWC had to be seen in the context of general international law and its developments regarding the rights of Indigenous peoples.

The Workshop thanked the invited experts for their informative presentations. Their conclusions formed the basis of a number of recommendations (see Item 8) and informed discussions on a number of the later Agenda Items.

3.2 Evolution of traditional societies in the modern world, including the role of subsistence hunting in communities, nutritional considerations with respect to local vs outside food, food security and socio-economic factors including the role of cash

Regarding the evolution of traditional societies in the modern world, including the role of subsistence hunting in communities, invited expert Trujillo gave a presentation that underlined the complexity of this issue based upon his experience of almost 30 years in the Amazon basin where there are similarities and differences among Indigenous communities for hunting and fishing (IWC/S15/ASW9).

He stressed that Indigenous peoples and their communities are not fixed in time (and should not be expected to be). Inevitably, all or most are affected in different ways by external factors such as changes in climate, politics, economics and even religion.

²The ILO Convention itself only creates rights and obligations for its currently 22 contracting parties. Among IWC member states, the following States have also ratified ILO Convention No. 169: Argentina; Brazil; Chile; Colombia; Costa Rica; Denmark; Dominica; Ecuador; Guatemala; Mexico; Netherlands; Nicaragua; Norway; Peru and Spain.

Increasing human population and new economic activities are influencing, and in some cases affecting negatively, hunting and fisheries in different regions with an impact on both the accessibility and in some cases the safety (from a human health perspective) of the food.

The Workshop thanked Trujillo for his informative presentation. It recognised that the issues raised, although from a different part of the world and for different species than ASW, were of great relevance to discussions of ASW. His presentation formed the basis of a recommendation under Item 8 and informed discussions on a number of the later Agenda Items.

4. INTRODUCTION TO ASW HUNTS

The purpose of this item was to provide a short introduction to the different ASW hunts solely as background information, not in order for the Workshop to review or comment upon them. In particular, this item was to inform those participants that do not normally participate in IWC discussions. The accounts below were provided by the presenters. Only brief discussion took place after these presentations.

4.1 Greenlandic hunts

Nette Levermann of the Greenland Ministry of Fisheries, Hunting and Agriculture provided information on the Greenland hunts, summarising previously available information. She noted that Greenland is a self-governing part of the Danish realm under the sovereignty of Denmark. The economy in Greenland is heavily dependent on the sustainable use of all marine resources, including whales. Food gathering has taken place for thousands of years and it is only since the 1980s that there has been a specific obligation to demonstrate 'needs' for large whales to the IWC.

Whale hunting is part of modern life today. However, Greenland is also a traditional hunting society, where food is gathered by those who are able to do it. Opportunities for employment in Greenland and especially in its settlements are limited and for many people the hunting and sharing of food resources offers the only opportunity for local food. Hunting is opportunistic, given the resources available, as different species migrate past settlements. These resources are shared throughout Greenland (there is no export of whale products). There is some local distribution, especially to areas with no or limited access to fresh whale meat and maktak (skin and blubber).

Consistent with IWC recognition of ASW, a total of 14 out of the 18 whale hunting villages are able to take a combination of minke, fin, and humpback whales (and in the Disko Bay area, also bowhead whales). The Greenland large whale hunt consists of two forms: the collective rifle hunt for common minke whales conducted from small boats by special permit; and the harpoon hunt conducted from fishing vessels, mounted with harpoon cannon (for common minke, fin, humpback and bowhead whales). Hunting methods have continually been evaluated and improved since the end of the 1980s.

The distribution of meat is a significant and important factor in Greenland. Meat from the collective hunt is distributed in the village, primarily amongst those participating in the hunt and their families. Only a small part (if any) is sold at local markets depending on the hunters need for money to maintain gear and cover expenses. The catches from the harpoon cannon hunt are primarily distributed locally, first and foremost to the members of the crew, to

family members and friends. Most hunters sell some of their catch in the open local markets, but sometimes the meat is sold directly to community institutions such as hospitals and nursing homes to ensure that the people in these institutions can get fresh meat and eat traditional food. Some meat may be sold to authorised local stores. Finally, some meat may be sold to the processing plant in Maniitsoq to ensure that some meat is distributed to villages with limited or no possibility to hunt large whales. The plant is only allowed to process, pack and transport whale meat, in accordance with veterinary regulations, to other places along the coast. The prices of products at the open air market are fixed prices agreed by local hunters and the municipality. The amount of the earned income is reported to the municipal tax authority. The sale and distribution of edible products provides necessary income for the individual hunter and the community.

The hunt is monitored by local authorities and fisheries and hunting inspectors. All (numbered) harpoon grenades, are distributed under a tightly regulated system and their use can be monitored. The Greenland Government Ministry of Fisheries and Hunting gathers information and follows the development of the hunt through a self-reporting system. Permits are required for the killing of large whales. Products cannot be sold before the municipal authorities have registered the hunt and stamped the licence. Hunters must deliver a catch report to the municipal authorities. The catch report incorporates the information described in Section IV of the Schedule.

The 2014 White Paper on Management and Utilisation of Large Whales in Greenland (Denmark (Greenland), 2012), among many other topics, described efforts to keep up with technology and to train hunters in order to ensure that large whales are killed as humanely as possible, while at the same time taking into consideration the safety of the crews. Most of this work is done in close collaboration with hunters, NAMMCO, weapon experts and veterinarians.

Levermann commented that in 1991, the IWC accepted that the annual need of meat from large whales in West Greenland was 670 tonnes. This was estimated from the average annual catch (232 common minke, 9 fin and 14 humpbacks whales) for the period 1965 to 1985 (IWC, 1991). This need has never been met by the catch/strike limits allocated by the IWC. The number of Greenlanders living in Greenland has increased by around 20% since the last calculation presented in 1991. In addition, in recent years, catches of other key species of marine mammals and sea birds have been reduced by increasing management regulations. The projected minimum need today presented by Greenland in 2014 is 799 tonnes (based upon Denmark (Greenland), 2012). The West Greenland catches in the previous catch/strike limit block brought approximately 594 tonnes of whale meat, 76 tonnes less than the documented need of 670 tonnes ((based on the conversion factors determined by the IWC expert group (Donovan *et al.*, 2010) and reviewed by the IWC Scientific Committee)).

She concluded that with the cash obtained through the distribution methods described above, hunters can buy and replenish hunting equipment, fuel and other costs to continue subsistence whaling and buy meat and other products from other towns. This has been the way in Greenland for many generations. It is how Greenlanders live and are able to share, given that Greenland is a large island with an enormous coastline, scattered villages and little infrastructure. Whale hunting and meat distribution does not follow the strategy of a commercial enterprise aiming for profit maximisation.

The cash income is necessary to enable the hunting and distribution system to function and use improved killing methods.

The Workshop thanked Levermann for her informative report. In response to questions, it was noted that the cost of penthrite grenades was expensive (over Dkr 6,000 or about US\$1,000) and that the Government of Greenland annually provides around Dkr 500,000 (about US\$75,000) to subsidise costs and especially training in safety of use of grenades and support for maintenance of equipment. It was also noted that Greenland provides voluntary information on killing methods (including weapons) and times to death to the IWC. The need statement applies to large whales in West Greenland only.

A statement by the Hunters Association of Greenland was presented by Leif Fontaine and is provided as Annex D.

4.2 Alaskan hunts

John Hopson, Jr., Alaska Eskimo Whaling Commission (AEWC) Vice-Chair and Commissioner from Wainwright, Alaska, gave a talk on the bowhead whale subsistence harvest. Noting the extreme northern locations of the AEWK communities, Hopson pointed out that archaeological evidence indicates that the bowhead whale harvest has been ongoing for several millennia and that Barrow, Alaska has been inhabited for at least 6,000 years.

The people of the AEWK communities view the ocean as their garden and marine mammals are the staple of the diet, with the whale being the single greatest resource. A single bowhead whale can yield between 12 and 20 tons of food, on average. Since 1997, the AEWK villages have taken an average of 42 whales per year. This translates into an average of 504-840 tons of food per year, a quantity of food which would not otherwise be available locally to feed these communities. It also would require an expenditure on the order of US\$20.2M-\$33.6M to replace the annual whale harvest with beef at northern Alaskan prices. However, even if such quantities of beef could be provided, they would be nutritionally inferior and would not satisfy the economic, social and cultural needs of the people for the participation in and sharing of the harvest.

Hopson explained that, just as the whale is important to the nutritional health of the AEWK communities, the activity of the harvest and the sharing of the whale are critical to their social and cultural health. Northern Alaskan communities are in the middle of very extensive environmental and social changes. Such changes can be extremely difficult, especially for young people. It is well-recognised that healthy Alaska Native communities are those that *inter alia* continue their cultural traditions, including subsistence practices and respect for their elders, and that provide meaningful local employment opportunities.

Preparations for the whale harvest occur year-round and the entire village contributes to the preparations so that the captain and crew can have the equipment, food and clothing to support them during the weeks of round-the-clock work involved in the scouting and harvesting. Whatever else is happening, when it is time for whaling, everyone comes together and cooperates to produce a successful harvest for the entire village.

Those who are employed contribute gasoline and other items that have to be purchased and young people learn through participation. The entire community receives a share of the harvest and participates in the ceremonies, celebrations and holiday festivities hosted by successful captains. Children are part of the activities and elders are

always fed and cared for first. This practice ensures that the younger people understand how important the elders and their wisdom are. The children learn to respect and care for their elders by always sharing with them first.

The modern economy has brought paid employment to some of the villages, and residents are adapting to new lifestyles as a result. Hopson is the Mayor of Wainwright and employed by the regional Native Corporation. But most importantly, he is a whaling captain. Like others lucky enough to have jobs, he uses the money he earns to help outfit his whaling crew so that he can feed his community. Hunting equipment has become very expensive. A single projectile costs \$1,000 apiece and gasoline can cost between \$7.00 and \$10.00 per gallon. With climate change and ice retreat, the AEWK villages now rely increasingly on fall hunting, which requires more purchased equipment and gasoline than spring whaling.

Northern Alaska has always had a healthy subsistence economy based on sharing and barter among the villages - both coastal villages and inland villages. With different subsistence resources more abundant in different areas, sharing both ties communities together and provides a more nutritionally varied diet. Additionally, recent changes in the conditions of the sea ice as a hunting platform are making it more dangerous to harvest resources in the spring. This is causing food shortages in some villages, especially in the Bering Strait Region. The animals remain abundant but are less accessible. Therefore, fall harvesting communities are having to take on the responsibility of sending meat and muktuk (skin and blubber) to spring harvesting villages.

However, Hopson underscored that the villages experiencing reduced harvest opportunities retain their identity and their village quota allocations. Maintaining the ongoing opportunity to hunt, even in the present period of adversity, is crucial to community and individual identity. Moreover, in the culture of the AEWK communities, people think in terms of interdependence, helping, sharing, and supporting each other. This perspective reflects the value system and the means of survival. Residents do not think in terms of taking more, only in terms of sharing so that all may benefit.

The loss of sea ice is also making the Arctic less predictable and more dangerous. Many think of sea ice retreat as opening the Arctic and creating a more welcoming climate, yet the reality is harsher. The Arctic is experiencing unprecedented storm surges, flooding, hurricane-strength winds, coastal erosion, the threat of subsidence due to melting permafrost, and declines in terrestrial mammal populations. New species are appearing, including humpback and common minke whales, as well as increasing numbers of killer whales. The bowhead whale population continues to grow at a high rate.

Hopson stated that the residents of the AEWK villages intend to remain resilient and to continue to adapt, as they have for millennia. Their mix of subsistence resources may change, along with the tools and other methods for obtaining resources. However, the people will continue their subsistence way of life and sharing culture.

In conclusion, Hopson noted that AEWK representatives have been coming to IWC meetings for almost 40 years, always with the same information: they are hunters and whaling captains; their communities depend on marine mammals for nutritional and cultural survival. Hopson expressed concern that the IWC continues to ask the same questions of the hunters, hoping for different answers. But the answers remain the same. The bowhead whale harvest is who they are and who they always have been, and as long as the Inupiat and Siberian Yupik people of northern Alaska survive, it is who they always will be.

The Workshop thanked Hopson for his informative presentation. There was a short discussion over the relative use of the skin boats usually shown in presentations and other boats, such as aluminium skiffs that are also used. It was noted that there is variation amongst villages but the primary difference is that skin boats are typical of the spring hunt whereas aluminium boats are typical of the fall hunts, reflecting the ice conditions. Changes in the ice as a result of climate change have changed the balance between the spring hunt (which used to be dominant) and the fall hunt which is now more prevalent. Reference was also made to the need to balance the traditional approaches with the more modern innovations that improve the efficiency of the hunt (with respect to minimising struck-and-lost animals) and the time-to-death. In Alaska, there has been a move over recent years in conjunction with the Norwegian specialist Egil Øen, to modify the traditional Yankee darting gun by upgrading the grenade from black powder to penthrite (for further discussion see, for example, the 2014 report of the ASWWG, (IWC, 2014). The high cost of these improvements to the hunters was noted. It was also recognised that cultures change over time and that improvements are welcome and do not alter the Indigenous status and nature of the hunt.

4.3 Makah hunt

Greig Arnold of the Makah Tribal Council provided a presentation on the Makah hunt.

The Makah people have been whale hunters since the first light of day, according to Makah stories. Archaeologists say that the time period is more like 1,500 years, but the Makah tell the story of the Thunderbird, the creature that first brought whales to them at the dawn of time. The Makah Tribal flag represents this story, and shows the Thunderbird and his lightning snakes grasping a whale in his talons. Makah prowess as mariners and pelagic whalers is demonstrated in the written logs of the first non-Indians to come to Makah territory, who recount connecting with whaling canoes 100 miles from shore. These canoes were carved from a single cedar log and carried a crew of eight men and the gear necessary to kill the whale. Before beginning to hunt, men prepared themselves spiritually for months, and if done correctly, it was believed that the whale would offer its life to feed the Makah people. Whale hunting is at the heart of Makah life, now as then.

Oral history and archaeology reinforce each other, and show that the Makah hunted large numbers of gray and humpback whales in historic times, along with other species in their waters. The Makah were so committed to whaling that they negotiated the explicit right to whale in the Treaty of Neah Bay signed with the United States in 1855. By the early twentieth century, the Makah voluntarily gave up whaling because Euro-American whaling had seriously reduced the whale populations. When the gray whale came off the US endangered species list in the early 1990s, the Makah people began their efforts to resume the hunt. Granted a quota to hunt gray whales by the IWC in 1997, the Makah were able to land only one gray whale in 1999 before domestic legal issues stopped the hunt. The Makah are now engaged in a protracted legal struggle involving a variety of American federal processes. Sixteen years after the 1999 hunt, the Makah people still invest considerable resources to regaining their right to hunt. Current expenditures in legal fees are measured in millions of dollars.

The whale hunt is informed by science, and a rigorous management and permitting process. As was the case for the 1999 hunt, the Makah still choose to hunt from a cedar

canoe, in spite of the risks involved from aggressive gray whales. The eight-man crew follows ceremonial rigour, and the first strike is made with a cold steel harpoon. A fifty calibre rifle fires a kill shot from an assist boat once the harpoon is landed; the time-to-death for the 1999 whale was eight minutes. As in past times, the whale was pulled to the beach in front of the Neah Bay village, and the butchered meat and blubber were distributed to Makah families. The Makah Tribe kept a portion of the meat and blubber in order to hold a ceremonial potlatch, the traditional Tribal feast that marks significant events. The Makah people continue to look to the day when they can once again give their children this important connection with their ancestors.

The Workshop thanked Arnold for his informative presentation.

4.4 Chukotkan hunts

Ettyne and Kavry presented information on the hunt from Chukotka, Russian Federation. In summary, in answer to the question 'What is the significance of whaling for Chukotkans?', their answer is 'life'. The presentation began by explaining the importance of integrating traditional knowledge and academic science. Both can assist in subsistence whaling management, from an understanding of populations and migration timings to individual behaviour. A hunter sees whales not simply as an object of scientific knowledge but as an equal, the continuation of his personality and his own inner world. They noted that after many years of working together, hunters and scientists in the region have developed a strong new relationship embracing academic and traditional knowledge.

Chukotka is a region with difficult geographic and climatic conditions. From the north it is affected by the Arctic Ocean and to the south and south-east the Pacific Ocean. The cyclones and anticyclones originating in these oceans have an important impact on the entire region. For successful hunting and hunter safety, before going hunting the hunter takes into account many factors including: the hunting season; the species available; the direction and force of wind and currents; ice conditions; and the hunting location.

They noted that two types of hunting occur in the village of Neshkan, depending on the season. In early spring or summer, hunters travel by boat and create a base camp on the Ostrov Ildidlya (Ildidlya Island), located 9km east of the village, where they search for whales to hunt from the cliffs. In the autumn, the hunters go to sea and anchor in front of Neskynpil'gyn Lagoon where they can shelter in case of a sudden change in the weather.

As noted above, the nature of the hunt depends on the location, the weather, the season, the sea state, and the behaviour of animals. Climate change is affecting hunting conditions and whale migration. Hunters have to operate further from the shore and in poorer conditions. Chukotka whalers hunt in the traditional way – striking the animal with a hand harpoon and using rifles as the secondary killing method. They do not have access to darting guns and ammunition is scarce. Hunting can be dangerous because of the weather conditions and the aggressiveness of the gray whale (known as 'devil fish' by the Yankee whalers). There have been cases of loss of hunter life in the field.

Ettyne and Kavry noted that hunting contributes significantly to food security in the region as well as to health. Indigenous food contains the essential amino acids necessary to maintain the immune system and the production of vitamin 'D'. Whale meat and blubber are distributed

without charge and only used for personal consumption. They also referred to the issue of inedible (or 'stinky') whales that has been discussed for several years within the Conservation Committee of the IWC.

The needs of the Indigenous peoples of Chukotka have been shown to be 350 gray and 10 bowhead whales annually, but since 1997 the catch/strike limits have been for an annual average of 122 (with no more than 135 in a single year) gray whales and 7 bowhead whales (including two struck and lost). While this is clearly insufficient, the request has not been raised due to the limited hunting capacity with respect to equipment (and its maintenance) in very difficult times. In addition, the Chukotka Indigenous population has increased from around 11,000 to 16,500. It is the intention of the local people to ask the Russian government to apply to the IWC for an increase in the number of gray whales.

ASW and marine mammal products in general have historically been a major part of employment of Indigenous (onshore) peoples of Chukotka and remain so today, providing for socio-economic and cultural development as well as marine products for sustenance. However, the economic status of the region is extremely difficult and threatens aspects of traditional hunting. Changes in settlement patterns have increased the cost of fishing, hunting and the distribution of products not only on the coast but also in other parts of inland Chukotka. Traditionally, the meat was stored in pits in the permafrost but storage in line with modern health and packaging regulations has become expensive and thus unavailable to Indigenous whalers; meat cannot be sold by law and thus only carvings can be used to obtain money. They also referred to the large risks to Indigenous peoples and their way of life posed by the development of shipping along the Northern Sea Route, as well as the development of the extraction of oil and gas deposits on the Shelf.

The Workshop thanked Ettyne and Kavry for their informative presentation. In discussion, the increasing Indigenous population and the need to find practical solutions to food security was noted.

4.5 Bequian hunt

Herman Belmar provided information on the Bequian hunt. Bequia (Island of the Cloud), the largest of the St Vincent Grenadines, is located nine miles south of the main island of St Vincent, has a population of just over 5,000 persons, and a land mass of seven square miles. The natives depend solely on tourism and the bounties of the sea for survival.

In 1876, just after the failure of agriculture for the export market, there was a growing need for a viable income as well as additional protein in their diet, to improve their corn, pease and cassava diet, and so whaling using the methods of the Yankee whalers, was introduced.

Today the same traditional methods of hunting and killing and processing of a humpback whale as taught by the Yankees is practiced, using the same implements, with the only distinction being that the export market has fallen from 4th in the GDP to zero since the hunt became regulated by the IWC and export stopped.

Today the whalers of Bequia carry out their historical, cultural activity under the IWCs regime, under the ASW quota of four whales per year, and under a strict reporting mechanism. This limit has been reached just once since it was introduced, due largely to the weather conditions and the use of traditional open boats. The whale boats used are near replicas of the original beetle boats (the *Nancy Dawson* and *Iron Duke*) brought from New Bedford in the 1860s and

the hunting equipment (harpoons, lances, bombs, guns and other tools and implements) is identical to that used over 130 years ago.

Whalers continue to practice their cultural tradition of 'blessing of the boats' before the start of the annual hunt, which is followed by a festive party which sets the mood for the hunt, and prepares the men psychologically for the dangers of the hunt. The whales, when harpooned, are wrestled near the six-man boat, where they are lanced or bombed until they are dead. In modern times, they are assisted in this process by other whalers, who use their normal fishing boats (speed boats) to help with the hunt. Once dead, the whalers must risk life and limb to venture into the water, which can sometimes be infested with sharks, to sew up the mouth of the whale, so that water does not enter the stomach and cause it to sink and be lost.

Small armadas of fishing boats with outboard motors assist with the towing of the whale and the boat back to the flensing station, where it is processed using traditional methods, and where the meat and blubber are shared using the same method introduced by the Yankee (and Scots) whalers. The owner gets a double portion as his share, as it is generally his responsibility to provide all the equipment and to repair and maintain the boat. No financial assistance is provided, therefore some of the meat is sold to the villagers at a cost of East Caribbean \$5.00 or approximately US \$1.50 per lb., to help with the recovery of some costs.

The processing of a whale attracts hundreds of visitors and island people to Whale Cay, to join the festivities, take photographs, or to obtain a portion of the meat, which is highly prized in the community and treated as a special treasure.

An adult whale would take about two days to be completely processed, and to clean up afterwards. The ropes must be dried, harpoons straightened and sharpened, and preparation for the next hunt or the storage of the boats until the next season begins. The entire process from the launching of the boats to the hauling, cutting and sharing of the whale must be done manually, as there is no machinery or electricity on the Whale Cay.

Whale meat was traditionally eaten in one of two ways: deep fried (doved) in its own oil; or salted and dried in the sun (corned) and boiled with potatoes. It is now eaten in every conceivable manner, or stored in refrigerators for very special occasions. The bones are dried and processed into souvenirs, and other handicraft, and sometimes used as handrails and banisters in homes, as well as decorative pieces in restaurants and bars.

The preservation and protection of the species is of prime importance to the people of Bequia who recognise the importance of the animal to their food security, as well as the preservation of their historical, cultural and religious observations and rights.

The Workshop thanked Belmar for his informative presentation. In discussion it was noted that each member of the crew has a special function, e.g. harpooner, captain, rope handler, sail handlers, and all are required to haul the whale in. It was also noted that in humpback whaling off Greenland, the use of larger vessels and equipment means that it is not necessary to sew up the mouth of the whale to prevent it sinking.

5. CONSIDERATION OF THE CONCEPT OF 'NEED' FOR ASW

5.1 Introduction explaining how 'need statements' are incorporated into the present IWC system including reference to difficulties encountered

Donovan provided a short introduction to 'need statements' within the IWC (and see IWC/S15/ASW4). The concept arose out of the difficulties surrounding the Alaska bowhead

hunt in the late 1970s when the IWC Scientific Committee had recommended a zero catch due to concerns at that time over the sustainability of the hunt. The Commission had initially removed the exemption allowing aboriginal subsistence whaling for bowhead whales but at a Special Meeting in 1977 (IWC, 1979) had introduced a small catch/strike limit along with a focus on both the scientific information and any trade-off with respect to documented subsistence, nutritional and cultural needs of the Indigenous people. Thus the driving force was a serious concern about sustainability and the need to determine the *minimum* number of whales necessary to meet Indigenous needs. Later, in the early-1980s, this was extended to other hunts. There were (and still are) no formal general guidelines for documenting need although the 1979 Resolution (IWC, 1980) with respect to the bowhead whale hunt had indicated a number of factors including the importance of whale products in the traditional diet, possible adverse effects to human health due to change to a non-native diet, availability/acceptability of other food sources, historical takes, cultural considerations and ecological considerations.

There was an attempt to develop guidelines in the mid-1980s (e.g. see IWC, 1984) but that was not finalised. Since then what had become termed 'need statements' have been presented in a variety of formats and have incorporated a variety of information types. This lack of guidance has, on the one hand, allowed necessary flexibility given the variety in the different hunts while, on the other hand, it has acted as a possible hindrance to the Commission reaching consensus.

In order to provide food for thought, Donovan then presented one possible approach that had been identified in Donovan (2011). He reiterated that there are two important components to this issue: (1) guidance for presentation of 'need statements'; and (2) guidance for the review of such statements in the Commission.

With respect to the first it was suggested that general guidance was more appropriate than prescription given the flexibility required to accommodate the different natures of the hunts. The objectives would not be to increase the burden on ASW nations but rather to assist them in putting together documents that would provide sufficient information to assist the ASW Sub-committee and the Commission to reach consensus and to avoid late requests for new information that cannot easily be met. As such the guidance might be in the form of a broad 'template' with headings and perhaps some associated 'usage notes' that might be developed as to the nature of the type of information provided under broad headings (e.g. by making reference to discussions at this Workshop or to examples from past need statements). He then went on to describe the broad headings discussed in IWC/S15/ASW19.

With respect to the guidance for review by the Commission, he noted that this was a more complex and sensitive issue, even to the extent that the IWC must decide upon the purpose of such 'review'. For example in the past various terms have been used ranging from 'noting', 'thanking' and 'recognising' through to 'adopting.' In terms of determining need, the 1979 Resolution (IWC, 1980) had stated that '...the needs of the aboriginals of the USA shall be determined by the Government of the USA' and the recent Resolution 2014-1 had stated that 'the Commission intends that the needs of aboriginals shall be determined by the Governments concerned and explained in needs statements that are submitted to the Commission'.

In terms of recent difficulties within the Commission when discussing 'need statements', he briefly noted three

issues that have proved difficult. The first related to methods to quantify cultural, nutritional and subsistence need (see Item 5.2.1 and 5.2.2 below). There are no formally approved generally applicable methods and there are a number of possible methods that could be undertaken that may give slightly different answers. Rather than trying to fix specific methods it may be more appropriate for any review to consider whether any proposed approaches are reasonable amongst options. The second related to the use of cash where different hunts have different practices and different associated costs (see discussion under Item 5.2.3). The third related to questions of 'conflict of use' which is discussed under Item 5.2.4 below.

Finally, he noted that consideration could be given to the frequency of the provision of 'need statements'. Recent practice has been that that documentation was produced each time there was a new quota year (once every five years, now every six). It was suggested that if the 'need statements' are placed on the IWC website it was probably sufficient for them to be updated only when there was new information, recognising the costs and effort involved. It was also suggested that discussions related to 'need' should begin two years prior to a quota renewal year to prevent surprises.

As a result of discussions under Item 3, the Workshop **agreed** that an Indigenous rights perspective should be introduced into its discussions on developing guidance for future ASW 'need statements' and their review; amongst others, such documents should refer not only to 'needs', but to 'rights'. This could include references to the international legal framework on Indigenous rights in order to explain their existing basis for ASW and to clarify that ASW rights do not only exist 'upon proof'. It was also **agreed** that the governments involved in ASW, when contributing to the development of draft guidance notes for future 'need statements', should consider, in consultation with the Indigenous peoples concerned, how to ensure that Indigenous peoples' rights are fully reflected.

5.2 Discussion of factors that might be considered in a 'need statement', how they might be incorporated and quantified and how they might change over time

The issues of the need for guidance on terminology related to 'need statements' and the nature of any guidance that might be provided to ASW countries presenting information is discussed under Item 6. The objective of this item is to consider factors that may be relevant to the provision of information leading to catch/strike limit requests.

Before considering the individual items below, the Workshop considered a number of papers that were relevant to more than one of the items below.

USE OF HOUSEHOLD SURVEYS

In her presentation (IWC/S15/ASW10) on data collection methods based upon experience in developing need statements for the Makah hunt, Ann Renker referred to Resolution 2014-1 and the need 'to work to improve the process for ASW in the future through a more consistent and long-term approach'. She noted that the Resolution contains language relating to the standardisation of the ASW need statements, as well as the collection and analysis of data relating to 'local consumption and use and the extent of monetary transactions' relating to whale products. In addition, ASW countries were invited by the Commission 'to continue to provide regular data and improve information on all aspects of their hunts and needs'. Given the potential conflict in goals calling for both standardisation and differentiation, the question for consideration becomes

‘How can we collect data that uncovers the needs unique to each ASW community, while simultaneously providing a practical basis for evaluating such needs?’

She provided information about and opportunities for discussion surrounding the use of a Household Survey Methodology. The overall strategy provides mechanisms for approaching the standardisation of needs statements at one level, while providing for an elegant collection of social, cultural, nutritional, and economic data in a manner that respects the diversity and autonomy of ASW peoples and their respective nations. Philosophically informed by the work of John Ogbu (*Voluntary v. Involuntary Minorities*), the methodology also prioritises authentic involvement of ASW community members in all aspects of survey operations, instrument construction, and data collection/management; this inclusion assists ASW peoples in their quest for the rights secured by the United Nations Declaration on the Rights of Indigenous Peoples (United Nations 2007). These rights include that of self-determination (Article 3), the right to practice and revitalise their cultural traditions and customs (Article 11), the right to participate in decision-making that would affect their rights (Article 18), and the right to determine priorities and strategies for exercising their right to development (Article 23), among others.

In addition, she noted that involving members of the ASW group as interviewers in the actual survey process, increases the cultural validity of the process while bringing important technical skills into the community, building capacity and increasing local familiarity and expertise with data collection and management. Drawbacks to the use of this methodology include the cost of the process, the time and effort involved, and the perception of some ASW community members that the process itself is intrusive and not one required for other citizens of ‘dominant’ societies.

The Workshop thanked Renker for this informative presentation. There was a short discussion on potential biases that may be caused by using local people in the interview phase and in explaining the purpose of the survey. Renker noted that of course there is always the potential for bias in such surveys whoever undertakes the interviews. Understanding this is reflected in the design of such surveys, the training of the interviewers and the analysis of the results. It is also important to be transparent about the purpose of such surveys. In fact with respect to the Makah surveys, she noted that there is no evidence of any significant bias.

QUANTIFYING SUBSISTENCE AND CULTURAL NEED FOR BOWHEAD WHALES BY ALASKA ESKIMOS

The Workshop then received a presentation from Braund reflecting his experience in quantifying need with respect to the Alaska bowhead whale hunt (IWC/S15/ASW11). His presentation provided the historic context for the quantification of subsistence and cultural need for bowhead whales by Alaska Eskimos, a review of the methods used to quantify this need between the 1980s and 2010, and information related to the mixed-cash subsistence economy in rural Alaska. Until the 1970s, coastal Alaskan Eskimos had hunted bowhead whales free of IWC regulation of numbers, but low bowhead stock estimates and reports of an increase in the annual number of bowhead whales landed or struck and lost led the IWC, in 1977, to remove the exemption that had allowed aboriginal subsistence harvests of bowhead whales (IWC, 1978). This prompted the formation of the Alaska Eskimo Whaling Commission (AEWC) made up of representatives from nine Alaskan communities. The USA proposed a limited hunt to satisfy the subsistence and

cultural needs of Alaska Eskimos, and the IWC reconsidered its decision at a December 1977 (IWC, 1979) meeting and set a 1978 limit of 12 whales landed or 18 struck whichever occurred first.

The USA subsequently began to address questions regarding the Alaska bowhead hunt and the determination of subsistence and cultural need. In 1979, a panel of social science experts met in Seattle to address aboriginal/subsistence whaling and described the cultural importance of bowhead whaling to the Eskimos of northern Alaska. The US Department of the Interior (USDOI) provided an interim report in 1980, which assessed historical bowhead harvests by community, and USDOI sponsored a more thorough investigation through 370 household surveys in the nine AEWC communities in 1982 and 1983 (which documented the cultural and nutritional importance of bowhead whales and whether either store-bought foods or other subsistence resources could be substituted for bowhead whales). In 1983, the USA submitted a needs report to the IWC quantifying the need for bowhead whales by tying current need to the historic data on landed whales. Responding to IWC questions, the US conducted additional research producing a 1988 needs report (Braund *et al.*, 1988) that resulted in the IWC granting a quota of 41 bowhead whales. The IWC-accepted method developed in the 1980s documented historic *per capita* harvests and multiplied them by current community populations. Subsequent to the 1988 needs statement, Little Diomed (1991) and Point Lay (2008) gained bowhead quotas bringing the total number of Alaska Eskimo whaling communities to 11. In 2010, an updated needs statement (IWC, 2012) resulted in a total need of 57 landed whales for 11 communities.

Today, rural Alaskan communities operate under what is characterised as a ‘mixed-cash subsistence economy’ whereby jobs supply a cash income which is used to procure the tools and equipment needed to conduct subsistence activities. Thus, households with higher incomes often provide support to hunters who provide subsistence foods for the community. In what is often referred to as the ‘30-70 rule,’ a number of studies have shown that a small percentage of households in a community (e.g., 30%) often provide a majority of the community’s harvest (e.g., 70%). These households are often those with a higher income.

The Workshop thanked Braund for his informative paper. Discussion around this also referred to the presentation under Item 4 and focussed on the two related issues summarised below.

- (1) The Workshop **agreed** that any perception that hunts must be depicted as using old hunting and distribution methods for them to be considered ASW is misplaced. As discussed under Item 3.2, for example, change in Indigenous peoples culture and society is to be expected, including use of improved technology, and this does not negate their rights or the classification of their whaling as ASW.
- (2) The Workshop also **agreed** that animal welfare issues are important and hunters’ desire to improve efficiency (by reducing struck-and-lost rates) and time-to-death are to be encouraged – this usually comes about from improved technology (e.g. the adoption of harpoon cannon and penthrite grenades in Greenland or the use of a modified darting gun with penthrite in Alaska) which also carries with it increased costs of hunting (see the discussion under Item 5.2.3). Such information is voluntarily provided to the IWC.

THE IMPORTANCE OF SUBSISTENCE TO INDIGENOUS PEOPLES OF THE ARCTIC

Invited expert Birger Poppel reported on the results of a study of different aspects of subsistence activities in contemporary Arctic economies and cultures (IWC/S15/ASW12). The theme is closely related to one of five international analysis themes suggested by the indigenous peoples' representatives participating in the Survey of Living Conditions in the Arctic, SLiCA³.

He reported that the analysis was based on more than 8,000 personal interviews (about 10 years ago) with Inuit adults in Greenland, Northern Canada, Chukotka, and Northern Alaska and Sami adults in Northern Norway, Northern Sweden and the Kola Peninsula. The international core questionnaire applied in SLiCA offered opportunities to examine the importance of subsistence activities, harvest of renewable resources and herding, etc. to Indigenous peoples in modern Arctic economies and cultures and to assess the respondents' satisfaction with the actual composition of the different activities as well as the preferred composition and the relationship to individual well-being and quality of life.

The economic aspect can be illustrated by the fact that on average more than four out of ten Inuit and Sami households perceive that about half or more of the foods consumed in the households were harvested from the wild by members of the household. This means less demand for imported food and thus financial savings for the households. It is worth noting, though, that subsistence activities also demand financing.

A long series of investigations have documented that the traditional diet of the Inuit both contributes to total energy consumption and is also a source of important nutritional elements including protein, vitamin A and D, iron, zinc, calcium, phosphorus, selenium and omega-3 fatty acids. Consumption of traditional foods is considerable in all regions. In all Inuit regions, at least six out of ten or more perceive their consumption of traditional food to be at least half of total household diet and almost 90% in both Northern Norway and Northern Sweden perceive their consumption of traditional food to be about or more than half.

Seven to nine in ten Inuit, Sami and other indigenous people of the Kola Peninsula think 'the way they view nature' and traditional activities and customs like eating and preserving traditional food, use of the indigenous language, fishing and hunting are important to their identity.

For the Inuit regions, analysis shows that the availability of subsistence resources and higher levels of subsistence activity both explain significant variations in overall well-being and thus quality of life.

He noted that by focusing on a series of aspects of subsistence activities (economic aspects, nutrition, socio-cultural and identity related aspects as well the integration of market and subsistence economies in mixed economies), it becomes clear that the meaning of these activities extends beyond what can be measured in dollars and cents. Thus, participation in subsistence activities such as hunting and fishing (and activities closely related to these) seems to affect the individual's sense of identity, social relations, social cohesion and cultural continuity. If the goal for political activities is to enhance quality of life for its citizens and if the efforts to ensure diversity shall not alone apply to plants and animals but also to people(s) and the societies in the Arctic, visions and strategies for the Arctic shall be based on the rights of the Indigenous Peoples and other Arctic residents and include these groups in the developing of visions and strategies as well as in the actual implementation.

The Workshop thanked Poppel for his informative presentation, noting that changes may be expected in the ten years since the survey took place. In discussion, it was noted that it is important to recognise that whilst discussions often focus on 'hunters' then it should be recognised that the whole household and communities (male and female, young and old) play a part and have an interest and make a contribution to the hunt and distribution network.

5.2.1 Subsistence and nutritional needs

The Workshop noted that the issue of subsistence and nutritional needs covered a variety of factors ranging from food security to health. It **agreed** that the relative emphasis on these factors in the provision of information related to 'need' and quota requests may vary from hunt to hunt and was the responsibility of ASW countries in co-operation with local communities. There is an important body of literature related to the health benefits of local foods in the diet of Indigenous peoples as well as potential problems related, for example, to pollution. The Workshop **affirmed** that while this information may be deemed relevant by ASW countries when providing information, nutritional advice was the responsibility of national governments and communities and not the IWC when considering need requests.

The quantification of numbers of animals or the amount of edible products required for ASW communities was related to human population size and nutritional requirements. However, it was recognised that there is no single way to calculate subsistence need from this perspective and the approach should be left to ASW countries and communities and their chosen method or methods reported to the Commission. The previously used methods can be found in past need statements (e.g. Borodin *et al.*, 2012; Braund, 2012; Government of Greenland, 2014; Government of Saint Vincent and the Grenadines, 2012; Ilyashenko, 2012; Renker, 2012). The approach used by the USA was discussed by Braund (see above).

5.2.2 Cultural/societal needs related to the role ASW hunts, local foods and distribution systems play in ASW communities

The Workshop **agreed** that for all of the hunts discussed here and previously at the IWC, cultural and societal needs had been demonstrated. The extent and nature of the different components of such needs varies amongst the different hunts. Quantifying such needs is complex and it is important to recognise that changes over time are natural and inevitable (see Item 3.2) and do not alter their status as ASW hunts.

5.2.3 The relationship between needs and consumption patterns, including socio-economic and direct or indirect commercial aspects of need

Morishita presented a discussion paper on local consumption and commercialism (IWC/S15/ASW13) prepared jointly by Japan and the USA with assistance from the Head of Science at the IWC Secretariat. The paper summarised historical developments in the IWC of the concept and definitions of such terms as subsistence use of whale products, aboriginal subsistence whaling, local consumption and subsistence catches. He noted that the most recent definition of ASW highlighted acceptance of some transaction beyond the aboriginal whaling communities and involvement of 'generalised currency' (i.e. money) under certain conditions. The paper also noted that the IWC has not formally defined 'commercial whaling' or 'commercialism' and the IWC has historically acknowledged that use of money in some aspects of ASW does not render it 'commercial' in the context of the commercial whaling moratorium.

³<http://www.arcticlivingconditions.org>.

Based on the points raised in the presentations by native hunter representatives at the 2014 *Ad Hoc* ASWWG meeting, the paper presents some possible issues for discussion. They include the approach of the dichotomy of local consumption versus commercialism, consistency of the IWC definitions with similar aboriginal subsistence hunting practices, the use of money and its extent in ASW that could imply 'commercialism', and potential distinctions between the use of money related to the sales of different parts/products of whales. In his presentation, Morishita noted the change in wording in the definition of subsistence use from 'each whale' in 1979 provided by the expert working group (Donovan, 1982) to 'such whales' in the definition adopted by the Commission in 2004 within the definition of subsistence use⁴.

Tillman briefly summarised IWC/S15/ASW14. This paper arose as an extension of IWC/S15/ASW13, wherein it was mentioned that the lack of definitions for certain terms within IWC's accepted definition for subsistence use had given rise to the issue of 'Ensuring Local Consumption versus Commercialism'. In particular, the lack of a definition for the term 'predominant portion' gave rise to fears by some that commercialisation could grow to levels that they considered were unacceptable. During the 2014 meeting of the ASWWG with Native Hunters (IWC, 2014), it was further noted that when such commercial use was of a 'small scale' it was not generally considered problematic. However, 'small scale' was also an undefined term. In this situation, some members of IWC began to call for countries with ASW hunts where there was such commercial use to begin reporting data on the quantities of products being sold. However, most countries in this situation lacked the resources, infrastructure or domestic legislation enabling such data collection.

Drawing upon hunters comments at the 2014 ASWWG meeting (IWC, 2014) that aboriginal subsistence is an expensive undertaking, with the need to pay for purchasing and maintaining hunting gear, supporting and housing whaling crews, fuelling skidoos and vessels, etc., IWC/S15/ASW14 suggested that another approach for considering commercialism would be to examine the uses to which the income from sale of products was applied, e.g. towards defraying the undertaking of whaling. Given that the ASW Sub-committee's terms of reference included examining 'the use of whales taken for such [subsistence] purposes', it would in Tillman's view (referring to the paper he submitted to the Workshop in his own name as an expert) seem appropriate for the Sub-committee to ask for and examine information on whether income from the sale of edible products, where allowed, helped support subsistence use. Including such information in needs statements would, according to Tillman, seem to be a useful addition, helping the Commission make judgments about the aboriginal subsistence nature of the hunts undertaken by the affected native communities. No suggestions were offered, however, on how governments might obtain and present this information.

There was considerable discussion of this item within the Workshop. It was noted that there was no formal definition of commercialism but that the objectives of ASW were quite different from maximising profit, irrespective of the amount of cash that may be involved in the hunting and distribution systems in the different hunts. Such differences reflected the different natures of the communities involved, different

traditions and even different laws (e.g. in the USA edible products cannot be sold). There was **broad agreement** that it was not appropriate to try to quantify in a formal way the amount of whale products that could enter the distribution systems in particular ways or to undertake an 'accounting' exercise to try to quantify the amount of cash involved in sales to the capital costs of whaling equipment, vessels, fuel and maintenance or to the distribution mechanisms. In addition to the resources and infrastructure that would be required for such an exercise, this is also counter to the fact that cash is a legitimate component of many Indigenous peoples' societies. Reference was made to the discussions of the rights of Indigenous peoples under Item 3 and the recommendations under Item 8 in this regard.

The relatively high costs of ASW are clear (as has been documented in several past needs statements) and this is particularly the case as more efficient and humane technologies are adopted. The Workshop noted that in some countries, financial assistance from the relevant Governments was provided to hunters to assist with these costs. The Workshop **agreed** that improvements in such techniques should be encouraged, again reiterating that this does not negate or diminish the status of these hunts as ASW. The Workshop also **agreed** that provision of information on the broad costs associated with the different aspects of the hunting and distribution systems is useful information to provide.

5.2.4 Other 'uses' (e.g. whalewatching, hunting from the same populations in other areas) that may be in conflict with hunting

Donovan provided a brief introduction to this issue. The question of conflict of use is one of the most recently considered within the Commission (although its potential has been noted in the past - for example, if there was a case where commercial and subsistence whaling was to occur on the same stock it has been agreed that subsistence use takes priority, as reflected in the work of the Scientific Committee when developing *SLAs*). Most recently, it has been raised in the case of Greenlandic humpback whales and whalewatching (although there are other examples of whalewatching on populations subject to subsistence hunting, most notably eastern gray whales where the Chukotkan hunt and whalewatching along the migratory routes and breeding areas have continued for several decades). Where any potential conflict is within the waters of one country then the matter should be resolved by the government concerned. The issue is more complex if the ASW and whalewatching operations occur in the waters of different countries. Determining *conclusively* if and to what extent hunting alone affects whalewatching is a difficult scientific task, would require a major long-term study and it is not clear whose responsibility it would be to undertake this work. Other human-caused mortality such as ship strikes and bycatch would also need to be taken into account, should a study be undertaken.

After some discussion, where several participants expressed the view that this was mainly a political issue, and the scientific experts agreed that to determine the effects of hunting on whalewatching could possibly be a difficult scientific task, the Workshop **agreed** that the best way forward would be bilateral consultation among the Contracting Governments concerned. Denmark indicated that it acknowledged the political sensitivity that had developed around some issues and expressed a willingness to continue the dialogue between range states that had already taken place in the margins of previous IWC meetings.

⁴As part of the 2004 definition it was stated that 'A generalised currency is involved in this barter and trade, but the predominant portion of the products from such whales are ordinarily directly consumed or utilised in their harvested form within the local community'.

5.2.5 Other matters

A statement developed by the hunters is provided under Annex E and was considered when developing the recommendations below.

6. HOW TO IMPROVE THE FUTURE CONSIDERATION OF 'NEED' IN THE IWC

6.1 Consideration of the advantages and disadvantages in the provision of more 'standardised' needs statements

There was considerable discussion of this issue within the Workshop.

The Workshop **stressed** the need:

- (1) for flexibility;
- (2) for avoidance of any indication of prescription and compulsion;
- (3) to minimise the effort involved and avoid duplication; and
- (4) to take into account the discussions on Indigenous rights under Item 3.1.

It was also **agreed** that development of any document or documents should continue to be undertaken by ASW Governments with the full participation of the Indigenous communities.

The Workshop **agreed** that overall it was helpful both to the ASW countries and the Commission to develop simple general guidance that could take the form of a template or outline comprising headings with guidance notes based upon the discussions at this Workshop and past practice by ASW countries. In addition, the Workshop agreed that rather than being termed 'need statements', the information provided should be considered by a new term, 'Description of the [insert name] hunt relevant to ASW catch/strike limit requests'. Such a summary (with links to documentation), posted on the IWC website, will also prove valuable for new Commissioners, especially when there may be a high 'turnover' between one catch/strike limit year meeting and the next.

6.2 Consideration of options for guidance on the provision of information including flexibility and the need for updates

The Workshop **agreed** that sufficient information had already been provided by all hunts with respect to them being considered ASW hunts. It suggested that a concise summary of the available information describing those broad aspects of the hunts identified below should be provided and included on the IWC website, with links to more detailed reports and papers as appropriate. This information should be updated when new information became available (e.g. if there is a request for a change in the previous catch/strike limits). It was recognised that the information may not require updating very often and that review in the Commission would therefore not need to be in-depth unless important changes were made, particularly with respect to catch/strike limit requests. The Workshop **agreed** that it would be a valuable exercise for the ASWWG to consider developing a draft guidance outline in advance of the 2016 Annual Meeting.

6.3 Consideration of how to improve the review of ASW catch/strike limit requests by the Commission

The Workshop recognised that there are several levels to improving the review by the Commission (via the ASW Sub-committee and the ASWWG). As had been noted under Item 2, in an ideal situation the Commission would receive:

(1) information from the Scientific Committee with respect to the sustainability of the requested catch/strike limits; and (2) a request for catch/strike limits with associated documentation (see Item 6.2) from the ASW countries that had been discussed by the ASW Sub-committee. If there were no sustainability questions or major issues with methods under Item 6.2, then the proposed catch/strike limits would be approved by consensus. This should be the objective of any improved process.

The Workshop **agreed** that the recommendations related to the rights of Indigenous peoples should also assist the Commission with respect to reaching consensus. They should help the Commission to agree its role in the review process, and in particular help in limiting the number of relevant issues in the discussions with respect to catch/strike limit requests. For example: (1) it is not appropriate for the IWC to discuss whether ASW communities should change to other food types, but rather recognise the rights of Indigenous peoples concerned; and (2) similarly, in the context of catch/strike limits, it is not appropriate for the IWC to discuss possible health effects on humans, unless raised by the Indigenous peoples, or whether consumption of certain products should be limited or even prohibited - this is the responsibility of the ASW governments and the Indigenous peoples concerned.

The Workshop also noted the need for a greater degree of transparency, fairness and trust in the context of 'no surprises' both with respect to new catch/strike limit requests or comments on information supporting such requests so that dialogue can occur well in advance of meetings. It was noted that the issue of 'no surprises' should in principle apply to submissions by and dialogue with IGOs or NGOs as well as Contracting Governments although achieving this may be more difficult. In order to assist in this, the Workshop **agreed** that a more structured timetable may be of value, including submission and review of catch/strike limit request documentation.

A timetable would describe the stages which occur: (1) before a meeting where a catch/strike limit renewal is expected (i.e. advance issues); (2) those which take place during the meeting; and (3) would also clarify actions taken after limits are agreed.

In respect of advance issues, the Workshop **agreed** that the stages undertaken by the Scientific Committee in terms of its providing advice on the sustainability of catches were already well described, particularly in terms of publishing its advice through the Scientific Committee report at least 100 days before a Commission Plenary meeting. The Workshop **recommended** that the Commission, through its ASW Sub-committee, could also start its final work by correspondence at a similar time in advance of the Commission Plenary meeting. In particular, this would include drawing attention to the existence of:

- (1) the 'Descriptions of the hunts relevant to ASW catch/strike limit requests' and any updates on the Commission's website;
- (2) the proposed catch/strike limits as submitted to the Scientific Committee; and
- (3) the Committee's advice, and an invitation to provide comments in respect of these documents from Contracting Governments and Observer organisations by a specified deadline.

This would prevent surprises at the Commission Plenary meeting and should allow Contracting Governments sufficient time to respond to written concerns in advance.

The Workshop also recognised the importance of initial discussions on ASW issues beginning two years in advance of the year in which the Schedule could be amended to reflect changes in ASW catch/strike limits or other conditions.

With respect to the process during the Commission Plenary meeting, the Workshop considered the development of guidance to better inform Contracting Governments and Observer organisations of the nature of the decisions required. This would indicate issues which were sovereign in respect of determination of ASW needs and may also contain a brief description of the process used by the Scientific Committee to advise on sustainability.

The Workshop went on to discuss whether the framing of the question used by the IWC to adopt Schedule amendments could be adjusted so as to better reflect the separate roles of Contracting Governments in documenting need and the role of the Commission in adopting catch/strike limits. One suggestion was for the question used by the IWC to be adapted from 'Can we adopt this schedule amendment?' to 'Is the catch/strike limit as stated by the Schedule amendment proposal sustainable and in accordance with the requirements of paragraph 13a?'

The Workshop **recognised** that clarity was also required on the options available to Contracting Governments should a Schedule amendment proposal not be adopted in respect of a particular hunt. Accordingly the guidance could indicate the possibility, if so desired, for a Contracting Government to bring forward a modified proposal.

With respect to process issues after the Biennial meeting at which catch/strike limits are set, the Workshop recognised that the new timing of Commission Plenary meetings in the fourth quarter of the calendar year, combined with an 'objections' procedure that may in theory last for up to 7 months⁵ means that Schedule amendments may not formally be adopted until after the start of the hunting season in the following year. The minimum period for a provision to come into force, even without objections, is 90 days after formal notification of the Schedule amendments to Contracting Governments. In practice, with respect to recent ASW limits, objections have only been received by non-ASW countries in the context of updating their own domestic legislation, not in relation to the ASW limits themselves.

The timings may cause problems for national authorities who are required to enact procedures to include such IWC catch/strike limits into their legislation and to distribute catches/strike limits to individual hunters or communities.

Therefore the Workshop **suggested** the two alternative solutions summarised below.

- (1) Any ASW Contracting Government that is intending to implement the ASW limits agreed by the Commission although these have not yet been formally adopted because of an ongoing objections procedure, should provide a letter of intent to the Secretariat for distribution to Contracting Governments. This letter would confirm that the Government would not be objecting to the amendments agreed at the Commission meeting and would state that the hunts were about to start in conformity with the agreed limits.

- (2) For the IWC to adopt catch/strike limits for seasons 12 months in advance - this would require an initial catch/strike limit block of seven rather than six years after which six-year blocks would return. This would bring the added advantage of allowing time for an intersessional meeting should the Commission fail to agree catch limits at its regular meeting.

The above suggestions, coupled with the Commission's current processes are summarised in Table 2.

7. OTHER BUSINESS

There was no other business.

8. CONCLUSIONS AND RECOMMENDATIONS

The Workshop highlighted a number of general conclusions that led to the recommendations below.

- (a) It is important for the IWC to integrate the rights of Indigenous peoples into all stages of its discussions of ASW from the provision of information concerning individual hunts with respect to catch/strike limit requests to the consideration of such requests in the Commission, to the participation of Indigenous peoples in its deliberations.
- (b) It is also important to recognise that as in all societies, Indigenous cultures can and will change in response to external circumstances including those related to climate, economics, technology and politics. This does not negate or diminish their status or rights. With respect to technology, this can bring benefits in terms of increased efficiency, shorter times-to-death and hunter safety.
- (c) There are advantages to both ASW countries and Indigenous peoples concerned, as well as the Commission as a whole, to adopting broad guidance for the provision of information on hunts related to catch/strike limit requests for ASW in terms of improving the IWC's long-term management of ASW and achieving consensus. This guidance must be sufficiently flexible to account for the different circumstances for each hunt.
- (d) The use of cash in ASW communities varies from region to region – this is to be expected and reflects the modern world both with respect to costs associated with hunting equipment and whale product distribution methods. It does not imply that ASW in any one community is more or less 'acceptable' than any other.
- (e) In improving its approach to long-term management of ASW, it is important that the IWC develops a common understanding of its role and the role of ASW governments and Indigenous peoples concerned. For example, in the context of Indigenous rights and in the light of Resolution 2014-1, it seems it is the responsibility of ASW governments in conjunction with the Indigenous peoples concerned to determine need and to provide the IWC with its rationale (e.g. see Resolution 2014-1).
- (f) It is important to engage in exchange of information and dialogue well before the year in which quotas are to be renewed. Transparency and trust must be built amongst all stakeholders.

It was also suggested that it is important for the ASW Sub-committee and its ASWWG to work with those organisations and/or countries who hold different views on ASW than those broadly covered in this Workshop, including the view that it is not appropriate and that alternative sources of food and income should be sought.

⁵According to Article V.3 of the Convention, if there are no objections, Schedule amendments become binding 90 days after notification of the amendments to Contracting Governments by the Commission. During that period, a Contracting Government may object, in which case there is a further 90-day period before the amendments take force. If an additional objection (or objections) is made during that period then there is provision for an extra 30-day period after the last objection is received (if that is later than day 60 of the period). Note that the original amendments are binding on those Contracting Governments that do not object.

Table 2

Summary timetable of some possible options for improving the process described above in the generic sense (i.e. for long-term use beyond 2018). Where there are no changes to catch/strike limit proposals or 'Descriptions of the hunts relevant to ASW catch/strike limit requests' then the amount of work needed under each step may be minimal or the Commission may agree that they are unnecessary. Note that Year 0 is the calendar year a 6-year block comes into effect (i.e. we are in Year 3 in 2015). The Scientific Committee (SC) meets in May or June each year, providing updated annual advice. In Year 6, the SC provides advice on the catch/strike limit requests it receives from ASW countries. The Commission meets in September or October in Years 2, 4 and 6 and normally adopts Schedule amendments in Year 6 although in principle changes may occur at any meeting (e.g. if there is a change in SC advice or if an ASW country requests an amended limit). Reference to ASW Sub-Committee includes its ASWWG.

Time	Who	Action
(1) Years 0-6	ASW Contracting Governments and Secretariat	Make 'Descriptions of the hunts relevant to ASW catch/strike limit requests' available through the IWC website throughout the period, amended when/if circumstances and information changes
Year 4		
(2) 2 weeks prior to SC meeting	ASW Contracting Governments	If known, submission of proposed catch numbers to the SC. This is especially important if there is an increase being considered or proposed.
(3) 2 weeks after close of SC meeting	SC and Secretariat	Publication of SC report including advice on sustainability of existing and, if required, proposed ASW catch/strike limits. If new proposals under step (2) are outside the values tested during SLA development, the Committee may propose a work programme to investigate the implications
(4) 3 weeks after close of SC meeting	Chair of ASW Sub-Committee and Secretariat	Circular Communication to IWC Contracting Governments as well as IGO and NGO Observer organisations to draw attention to: (a) upcoming (2 years ahead) catch/strike limit renewals and indication of any actual or potential changes to catch/strike limit requests if known; (b) publication of SC advice on sustainability or its workplan; and (c) 'Descriptions of the hunts relevant to ASW catch/strike limit requests' on the website - and timing of any updates if intended by ASW Contracting Governments (see also step (1)). The Circular will conclude with a request for written comments related to proposed catch/strike limits by a set date e.g. 60 days before the Biennial Commission Plenary Meeting and a request for interested governments to attend the ASW Sub-Committee meeting.
(5) [x] days prior to Commission Plenary meeting	Contracting Governments, IGOs, NGOs	Submission of written comments in accordance with step (4). These may be made documents for the ASW Sub-Committee meeting.
(6) 4-5 days prior to Commission Plenary meeting	ASW Sub-Committee meeting	Opportunity for discussion of written comments in accordance with the above Circular Communication including initial responses (which may take the form of documents to the ASW Sub-Committee meeting, verbal responses or a combination of both) by ASW Governments and taking into account consideration of Indigenous peoples' rights. The ASW Sub-Committee may develop a workplan, if necessary, to assist in reaching consensus in Year 6 (in addition to the general steps outlined below for Year 6).
(7) Commission Plenary meeting	Contracting Governments	Debate and discussion of Year 6 catch/strike limit renewal including acceptance or modification of any workplan developed under step (6).
Year 5		
(7) Year 5, May-June	SC	SC continues its work and provides advice in its report circulated two weeks after the end of its meeting.
(8) Year 5, ongoing	To be decided	Activities under workplan if necessary (see steps (6) and (7)).
Year 6		
(9) 2 weeks prior to SC meeting	ASW Contracting Governments	Submission of final (in the sense of enabling the Committee to provide appropriate advice) proposed catch/strike numbers to the SC.
(10) 2 weeks after SC meeting	SC	Publication of SC report including advice on sustainability of proposed ASW catch/strike limits.
(11) 3 weeks after close of SC meeting	Chair of ASW Sub-Committee and Secretariat	Circular Communication to IWC Contracting Governments as well as IGO and NGO Observer organisations to draw attention to: (a) upcoming quota renewal and indication of any actual or potential changes to catch/strike limit requests if known; (b) publication of SC advice on sustainability or its workplan; and (c) availability of 'Descriptions of the hunts relevant to ASW catch/strike limit requests' on the IWC website - and timing of any updates if intended by ASW Contracting Governments (see also step (1)). The Circular Communication will conclude with a request for written comments related to proposed catch/strike limits by a set date e.g. 60 days before the Biennial Meeting and a request for interested governments to attend the ASW Sub-Committee meeting.
(12) [x] days before Commission Plenary meeting	Contracting Governments, IGOs, NGOs	Submission of written comments in accordance with step (11). These may be made documents for the ASW Sub-Committee meeting.
(13) 90 days before Commission Plenary meeting	ASW Contracting Governments	Proposed schedule amendments (adapted if necessary in light of SC advice) provided to IWC, made a Commission document and placed on meeting website.
(14) one month before Commission Plenary meeting	ASW Contracting Governments	Written responses by ASW Contracting Governments to comments received in response to step (11) provided to IWC, made ASW Sub-Committee documents and placed on meeting website.
(15) 4-5 days prior to Commission Plenary meeting	ASW Sub-Committee meeting	Discussion of papers submitted in steps (12)-(14) and taking into account consideration of Indigenous peoples' rights. The ASW Sub-Committee should try to develop consensus advice, or if not possible develop a formal or informal workplan to try to achieve this prior to Plenary discussions.
(16) Commission Plenary meeting	Contracting Governments	Debate and decision (ideally by consensus) on proposed Schedule amendments*. Note that it is possible for any Contracting Government to submit a revised proposal or proposals should the first proposal fail or amendments fail (e.g. see IWC, 1980, p.30**). It should not be the case that the meeting is closed with no catch/strike limits set.
(17) Within two days of end of Commission meeting	IWC Secretary	Notification of Schedule amendments to all Contracting Governments and establishment of timescale for objections procedure.

Cont.

Time	Who	Action
Year 7		
(18) Within proscribed period (may be year 6)	Contracting Governments	Lodge objection to Schedule amendment if required.
(19) After Commission Plenary meeting but prior to Schedule amendments formally coming into force	Contracting Government(s) with ASW hunts, Secretary	If necessary, send letter to confirm that the Government will not be objecting to the amendments agreed at the Commission meeting and stating that the hunts were about to start in conformity with the agreed limits*. Secretary circulates the letter and places it on the IWC website.

*Note, if desired by ASW countries and Commission, consideration may be given as one-off exercise in 2018, to extend existing ASW catch/strike limits by one year and thereby establish one seven year catch/strike limit block in order to give a 12 months period before catch/strike limits become operational in the future (see options in text). **IWC. 1980. Chairman's Report of the Thirty-First Annual Meeting. *Rep. int. Whal. Commn* 30:25-41.

Particularly in light of discussions under Item 3, the Workshop **agrees** to the recommendations below, while noting the following **minority statement**: 'Iñiguez (Argentina) stated that the report and its recommendations raised legal implications that need to be considered very carefully by the Government of Argentina and the rest of the members of the Buenos Aires Group. He also considered that the report contained recommendations that are beyond the mandate of the IWC. For the reasons expressed, he is unable to join the consensus.'

- (1) The Workshop **recommends** that its Chair bring the Workshop's discussion on the links between the rights of Indigenous peoples and ASW to the next IWC Plenary meeting through the ASW Sub-committee. The IWC as a whole should be informed of the recent developments in the rights of Indigenous peoples and their significance to the interpretation and application of the International Convention on the Regulation of Whaling. Additional outreach and information will be needed to achieve a higher level of understanding among relevant stakeholders; in order to assist in this process, the Workshop **recommends** that the Chair of the Commission and the Secretary, in consultation with the Bureau, give consideration to placing a special item on the significance of Indigenous peoples' rights for ASW on the agenda of the 2016 Commission Plenary meeting of the IWC (IWC/66).
- (2) The Workshop **recommends** that member states of the IWC, with the full and effective participation of the Indigenous peoples concerned, consider preparing a statement or resolution for adoption, if possible at the 2016 meeting, recognising the developments in the rights of Indigenous peoples and their relevance to the IWC. Such a document should consider the right of Indigenous peoples to self-determination as well as other civil, social, cultural, political, health, nutritional, economic and spiritual rights of Indigenous peoples and their significance in the context of the IWC. The IWC could also emphasise the importance of co-management regimes between contracting parties and Indigenous peoples consistent with the rights affirmed in the UN Declaration on the Rights of Indigenous Peoples, the ILO Convention No. 169 and other international human rights instruments. The Workshop noted that the invited international law experts would be available to provide input on the rights of Indigenous peoples to assist in the preparation of a statement or draft Resolution.
- (3) The Workshop **recommends** that the member states of the IWC should consider commissioning a survey of international Indigenous and general human rights instruments and intersecting international treaties, agreements, and other arrangements to further elaborate their significance to the work of the IWC in relation to

ASW and the incorporation of dimensions distinct to Indigenous peoples (cf. also Article 41 UN Declaration on the Rights of Indigenous Peoples). Such a survey could inform the discussions at the 2016 Commission meeting of the IWC and should, *inter alia*, also include information on the status and role of Indigenous peoples in other international organisations. The Workshop recognised that this may have financial implications for the IWC.

- (4) The Workshop **recommends** that the IWC, through its ASW Sub-committee, should consider exploring options concerning how the IWC and its relevant sub-groups could stay better informed of current developments in the field of Indigenous peoples' rights. This might be initiated by inviting an Indigenous rights expert – such as the UN Special Rapporteur on the Rights of Indigenous Peoples – to the next meeting of the IWC or a relevant sub-body, and to future meetings. This may have cost implications.
- (5) The Workshop **emphasises** the constant and complex changes all people, including Indigenous peoples, undergo, *inter alia* due to external pressures such as political and economic developments, climate change and other factors affecting the access to natural resources. It **affirms** that this does not affect the status and rights of Indigenous peoples under international law. In this context, the Workshop **draws the attention** of the IWC to the importance of the right of self-identification as part of who is and belongs to Indigenous peoples. These issues are also relevant to the formulation of future guidance on information to include when providing descriptions of ASW hunts and the rationale for ASW catch/strike limit requests, with the full and effective participation of the concerned Indigenous peoples (see Item 6).
- (6) The Workshop **recommends** that the IWC considers mechanisms to improve the status of Indigenous delegates to IWC gatherings in order to establish a more timely, distinct and steady approach to ASW issues; such a move could find inspiration in approaches adopted in other organisations such as the 'Permanent Participant status' within the Arctic Council or the distinct status that is reserved for Indigenous peoples within the UN Permanent Forum on Indigenous Issues (PFII)⁶.

⁶For example, the PFII is an advisory body to the UN's Economic and Social Council with a mandate to discuss Indigenous issues related to economic and social development, culture, the environment, education, health and human rights. PFII members serve in equity with member state representatives to further the PFII mandate within the UN. The PFII consists of 16 members, eight nominated by Indigenous peoples and eight elected by member states. The Arctic Council established the category of 'Permanent Participant' to guarantee the direct participation of Arctic Indigenous peoples in all of its work. The Arctic Council website notes that 'the Permanent Participants have full consultation rights in connection with the Council's negotiations and decisions. The Permanent Participants represent a unique feature of the Arctic Council, and they make valuable contributions to its activities in all areas.'

- (7) The Workshop **recommends** that at the 2016 Commission meeting, the IWC discusses the appointment of an appropriate IWC representative (e.g. one nominated by the ASW Sub-committee for approval by the Commission) to attend a session of the UN Permanent Forum on Indigenous Issues, not only to report on IWC practices regarding ASW, but also to attend the general discussions on Indigenous rights. Consideration should also be given to the ASW/IWC participant organising a side event at the 2017 meeting of the Permanent Forum in order to inform a broader audience about the IWC's work on ASW and its relevance to Indigenous rights. This may have cost implications.
- (8) The Workshop **recommends** that the IWC Secretariat should explore the potential benefits of joining the UN Inter-Agency Support Group on Indigenous Issues⁷ by contacting the Chairperson and Secretariat of the UN Permanent Forum on Indigenous Issues. The relevant invited experts are available to assist the IWC Secretariat in preparing this step.
- With respect to issues surrounding what have been traditionally termed 'need statements', the Workshop **agrees** on the recommendations below.
- (9) The Workshop **recommends** to the ASW Sub-committee and the Commission that the term 'need statement' be replaced by the term 'Description on the [insert name] hunt relevant to catch/strike limit requests'. It also **recommends** that a draft outline be developed by the ASWWG for consideration by the Commission, noting that this takes into account: the need for flexibility; the need to avoid any indication of prescription or compulsion; the need to minimise the effort involved and avoid duplication; and takes into account the discussions on Indigenous rights under Item 3.1.
- (10) With respect to Commission review of ASW catch/strike limit requests, the Workshop **recommends** that the ASW Sub-committee reviews the example draft timetable (Table 2, Item 6.3), considers modifications if necessary and submits it for the Commission's consideration.
- (11) The Workshop **strongly encourages** IWC member states and interested organisations to contribute to the fund established at IWC/65 to provide financial assistance towards achieving compliance with IWC measures identified in Schedule amendments.

9. ADOPTION OF REPORT

Most sections of the report were adopted by the participants on the final day of the Workshop, noting in particular the important role the invited experts had played in providing advice and expertise to its conclusions and recommendations. The remaining items were adopted by email. The Workshop thanked the Chair for his fair and wise handling of the meeting, the Steering Group and its Chair for the excellent preparatory work and Greenland for providing such an excellent venue and support. Most importantly of all it wished to thank Julie Creek of the Secretariat for her seemingly endless patience in dealing with the incredibly complex travel and subsistence arrangements and Mark Tandy of the Secretariat for liaising with the hotel prior to the Workshop.

It is **important** to note that whilst the Chair allowed full participation by observers (see list in Annex A) in the discussions, the report of the Workshop is not their responsibility and **it should not be implied** that their

presence at the Workshop reflects either their agreement or disagreement with the content of the report including its Conclusions and Recommendations.

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⁷c.f. for further information: <http://undesadspd.org/IndigenousPeoples/InterAgencySupportGroup.aspx>.

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Annex A

List of Participants

CHAIR

Professor Emeritus Bo Fernholm
Swedish Museum of Natural History
P.O. Box 50007 SE-104 05,
Stockholm, SWEDEN
Email: bo.fernholm@nrm.se

ARGENTINA

Miguel Iníguez
IWC Alternate Commissioner for
Argentina
Monteverde 3695, (B1636AEM),
Olivos - Prov. Buenos Aires,
ARGENTINA
Email: miguel.iniguez@cethus.org

DENMARK/GREENLAND

Gitte Hundahl
(Steering Committee Chair)
Minister Counsellor/Arctic and
Northern America
Ministry of Foreign Affairs
Asiatisk Plads 2/DK-1448
København K, DENMARK
Email: githun@um.dk

Amalie Jessen
Head of Department, Ministry of
Fisheries, Hunting and Agriculture
P.O. Box 269, 3900 Nuuk, Kalaallit
Nunaat, GREENLAND
Email: AMALIE@nanoq.gl

Nette Levermann
Ministry of Fisheries, Hunting and
Agriculture
P.O. Box 269, 3900 Nuuk
GREENLAND
Email: NELE@nanoq.gl

ITALY

Caterina Fortuna (SC Chair)
Istituto Superiore per la Protezione e
la Ricerca Ambientale (ISPRA),
via Vitaliano Brancati 60, I-00144
Roma, ITALY
Email: fortuna.cm@gmail.com

JAPAN

Joji Morishita
Director-General, National Research
Institute of Far Seas Fisheries
(NRIFSF)
c/o International Affairs Division,
Fisheries Agency of Japan
1-2-1 Kasumigaseki, Chiyoda-ku,
Tokyo 100-8907, JAPAN
Email: jmorishita@fra.affrc.go.jp

NETHERLANDS

Sabine Ketele
Policy Advisor, Ministry of
Economic Affairs
Department for Nature and
Biodiversity, Section Species
Bezuidenhoutseweg 73 2500 EK Den
Haag, THE NETHERLANDS
Email: s.h.ketele@minez.nl

ST LUCIA

Jeannine Compton-Antoine (ASW
Chair)
c/o Department of Fisheries, Ministry
of Agriculture, Food Production,
Fisheries and Rural Development
Government Buildings
Castries, SAINT LUCIA
Email: jeannine.compton@gmail.com

SWITZERLAND

Bruno Mainini (IWC Chair)
Federal Veterinary Office,
Schwarzenburgstrasse 155
CH-3003 Bern, SWITZERLAND
Email: Bruno.Mainini@blv.admin.ch

USA

Melissa Andersen Garcia
NOAA National Marine Fisheries
Service
Office of International Affairs, 1315
East West Highway, Silver Spring,
MD 20910, USA
Email: melissa.garcia@noaa.gov

Michael Tillman (ASW Working
Group Chair)
US Marine Mammal Commission
249 Sea View CT Encinitas
CA 92024-7718, USA
Email: mftillman@mac.com

SCIENTIFIC EXPERT

Lars Walløe (Norway)
University of Oslo, Faculty of
Medicine
Postboks 1103, Blindern 0317, Oslo
NORWAY
Email: lars.walloe@medisin.uio.no

IWC

Simon Brockington
Executive Secretary, International
Whaling Commission
135 Station Road, Impington,
Cambridge
CB24 9NP, UK
Email: simon.brockington@iwc.int

Greg Donovan
Head of Science, International
Whaling Commission
135 Station Road, Impington,
Cambridge, CB24 9NP, UK
Email: greg.donovan@iwc.int

REPRESENTATIVES OF ASW COMMUNITIES/HUNTERS

Leif Fontaine (Greenland)
Organisation of Fishermen and
Hunters in Greenland
Aqqusinersuaq 31, Box 386, Nuuk
3900, GREENLAND
Email: lefo1955@gmail.com

John Hopson (Alaska)
Alaska Eskimo Whaling Commission
PO Box 570, Barrow, AK 99723,
USA
Email: johopson@asrc.com

Greig Arnold (Makah)
Makah Tribal Council
PO Box 115, Neah Bay,
WA 98357, USA
Email: greig.arnold@makah.com

Nikolay Ettyne (Chukotka)
Executive Secretary
Association of Traditional Marine
Mammal Hunters of Chukotka
(ATMMHC)
689000, Anadyr, Energetikov street
26, apt.27
RUSSIAN FEDERATION
Email: nasaa2005@gmail.com

Sergey Kavry (Chukotka)
Chukchi Association of Indigenous
People
689230, Vancarem, Rentyrgina, bib 2.
RUSSIAN FEDERATION
Email: skavry@rambler.ru

Herman Belmar (St Vincent and The
Grenadines)
Port Elizabeth, Box 266, Bequia
Saint Vincent and The Grenadines
Email: belmar.herman@gmail.com

INVITED EXPERTS:

Ann Renker
Education Consultant, Serving
Diverse Linguistic and Cultural
Communities, PO Box 43, Neah Bay,
WA 98357, USA
Email: arenker52@hotmail.com

Stephen Braund
Stephen R. Braund and Associates
P.O. Box 101480, Anchorage, Alaska
99510, USA
Email: srba@alaska.net

Dalee Dorrough
Department of Political Science,
University of Alaska Anchorage
Expert Member, United Nations
Permanent Forum on Indigenous
Issues, UNPFII, 3237 W. 32nd
Avenue, Anchorage, Alaska,
99517, USA; Associate Professor,
Department of Political Science
University of Alaska, Anchorage
USA
E-mail: DSDorough@uaa.alaska.edu

Jessica Lefevre
429 N St. Asaph Street, Alexandria,
VA 22314, USA
Email: Jessica@LefevreLaw.org

Martin Mennecke
Law Department
University of Southern Denmark
Campusvej 55, 5230 Odense M
DENMARK
Email: marme@sam.sdu.dk

Birger Poppel
Project Chief, Emeritus - Survey
of Living Conditions in the Arctic/
SLiCA, University of Greenland,
Postboks 1061, 3900 Nuuk
GREENLAND
Email: bipo@uni.gl

Elsa Stamatopoulou
Columbia University
Director, Indigenous Peoples' Rights
Program,
Institute for the Study of Human
Rights,
Adjunct Professor, Center for the
Study of Ethnicity and Race, &
Department of Anthropology
420 Hamilton Hall, 1130 Amsterdam
Ave., New York, NY 10027, USA
Email: es3054@columbia.edu

Fernando Trujillo
Director Científico - Fundación
Omacha, Calle 84 21-64, Barrio el
Polo, Bogotá D.C., COLOMBIA
Email: Fernando@omacha.org

OBSERVERS

Animal Welfare Institute

DJ Schubert
Animal Welfare Institute
900 Pennsylvania Avenue SE
Washington DC 20003, USA
Email: dj@awionline.org

Sue Fisher
Consultant, Animal Welfare Institute
900 Pennsylvania Avenue
Washington DC 20003, USA
Email: sue.fisher@balaena.org

Inuit Circumpolar Council

Hjalmar Dahl
ICC Greenland's President, Inuit
Circumpolar Council (ICC)
Box 204, 3900 Nuuk
GREENLAND
Email: hjalmar@inuit.org

NAMMCO - North Atlantic Marine Mammal Commission

Charlotte Winsnes
Deputy Secretary, NAMMCO -
North Atlantic Marine Mammal
Commission
POB 6453, N-9294, Tromsø,
NORWAY
Email: charlotte@nammco.no

KNAPK

Henrik Sandgren
Chairman, Organisation of Fishermen
and Hunters in Greenland
Aqqusinersuaq 31, Box 386
Nuuk 3900
GREENLAND
Email: henrik@knapk.gl

Petrus Biilmann, Director
Organisation of Fishermen and
Hunters in Greenland
Aqqusinersuaq 31, Box 386
Nuuk 3900
GREENLAND
Email: Petrus@knapk.gl

Nathan Josefsen, (local whaler from
Maniitsoq)
Box 316, Pavia Petersen 586 A
3912 Maniitsoq
GREENLAND
Email: Knapk@knapk.gl

Annex B

Agenda

1. Introductory items
 - 1.1 Welcoming remarks
 - 1.2 Appointment of Chair
 - 1.3 Appointment of Rapporteurs and procedure for adopting report
 - 1.4 Adoption of Agenda
 - 1.5 Available documents
2. Background and objectives of the Expert Workshop
 - 2.1 Summary of the IWC decision process with respect to ASW including the role of sub-groups, existing IWC definitions of terms and recent decisions
 - 2.2 Objectives of the Workshop based upon Resolution 2014-1 and IWC/65/ASWRep01, Appendix 2
3. General consideration of cultural and subsistence issues outside the IWC relevant to ASW discussions
 - 3.1 The Work of the Arctic Council, the United Nations Declaration on the Rights of Indigenous Peoples, the ILO and other relevant international fora
 - 3.2 Evolution of traditional societies in the modern world including the role of subsistence hunting in communities, nutritional considerations with respect to local vs 'outside' food, food security and socio-economic factors including the role of cash
4. Introduction to ASW hunts
 - 4.1 Greenlandic hunts
 - 4.2 Alaskan hunts
 - 4.3 Makah hunt
 - 4.4 Chukotkan hunts
 - 4.5 Bequian hunt
5. Consideration of the concept of 'need' for ASW
 - 5.1 Introduction explaining how 'need statements' are incorporated in to the present IWC system including reference to difficulties encountered
 - 5.2 Discussion of factors that might be considered in a 'need statement', how they might be incorporated and quantified and how they might change over time
 - 5.2.1 Subsistence and nutritional needs
 - 5.2.2 Cultural/societal needs related to the role hunts, local foods and distribution systems play in ASW communities
 - 5.2.3 The relationship between needs and consumption patterns, including socio-economic and direct or indirect commercial aspects of need
 - 5.2.4 Other 'uses'
 - 5.2.6 Other matters
6. How to improve the future consideration of 'need' in the IWC
 - 6.1 Consideration of the advantages and disadvantages in the provision of more 'standardised' needs statements
 - 6.2 Consideration of options for guidance on the provision of information including flexibility and the need for updates
 - 6.3 Consideration of how to improve the review of ASW catch/strike limit requests by the Commission
7. Other business
8. Conclusions and recommendations
9. Adoption of Report

Annex C

List of Documents

IWC/S15/ASW

- 1 Secretariat. Provisional Agenda.
- 2 Secretariat. List of Participants.
- 3 Secretariat. List of Documents.
- 4 Donovan, G. Some thoughts on facilitating the process to agree catch limits for aboriginal subsistence whaling (ASW): an update of IWC/63/13.
- 5 Dorough, D.S. Presentation on: the Arctic Council and its recent initiatives; and the international human rights standards specifically responsive to the distinct cultural context of Indigenous peoples.
- 6 Lefevre, J. Subsistence whaling through the lens of international human rights.
- 7 Mennecke, M. The relevance of international law 'outside' the ICRW for the IWC.
- 8 Stamatopoulou, E. Presentation on: A. Subsistence rights as part of Indigenous Peoples cultural human rights; B. Subsistence rights as part of the new development paradigm; and C. Some policy conclusions and recommendations.
- 9 Trujillo, F. Hunting in the Amazon Basin: inputs for management and sustainability in a changing world.
- 10 Renker, A. Household Survey Methodology: An Option for Collecting, Analysing, Disseminating, and Reporting Aboriginal Subsistence Whaling Data about Cultural, Subsistence and Nutritional Need.
- 11 Braund, S. Quantification of subsistence and cultural need for bowhead whales by Alaska Eskimos: overview.
- 12 Poppel, B. The importance of subsistence to indigenous peoples of the Arctic Different Aspects of Subsistence Activities in Contemporary Arctic Economies and Cultures Findings Based on the Survey of Living Conditions in the Arctic, SLiCA.
- 13 Governments of Japan and USA. A discussion paper on matters related to 'Local Consumption' and 'Commercialism' within Aboriginal Subsistence Whaling (ASW).
- 14 Tillman, M.F. Different Approach to Commercialism in ASW Hunts.

Annex D

Statement by KNAPK⁸

The fishers and hunters association in Greenland highly appreciates this opportunity to express our views regarding our centuries old developing whaling traditions.

As part of our culture, sharing of the meat and skin for the appreciation of as many people as possible is of course associated with some costs.

None of the approximately 40 harpoon vessels in Greenland are fulltime whalers, it is unrealistic to earn a living through whaling alone, thus vessel owners must earn a living through other activities such as fishing. Fishing requires quotas, skilled crew and effective gears. As whales are unpredictable, they may show up right in the middle of the best cod season that makes whaling economically risky as you can lose quotas, crew or fishing gears if you abandon them in the fishing season.

Costs associated with killing alone, according to IWC standards, are minimum 50,000 DKK (approx. 7,500 USD). Besides that there are costs related to flensing, transport, conservation and distribution to 56,000 people living in more than 60 settlements all over the coast, all according to some minimum veterinary requirements.

As many modern societies, we have very diverse and continuously developing eating habits. Still though, traditionally prepared dry meat, raw kidneys, skin and blubber, simply cooked chins (*qiporaq*), form the base food of our traditions related to whaling. But also whale meat is also prepared in new ways, like the global cuisine.

In every modern society, cultural traditions are associated with costs for the time energy and resources you put to it. Likewise cultural traditions are allowed to inspire, open eyes and develop the modern world.

Annex E

Statement of the Aboriginal Subsistence Hunters

The hunters of Alaska, Chukotka, Greenland, Bequia, and Makah appreciate the efforts of the IWC ASW Subcommittee and Working Group to bring together the Expert Workshop on Aboriginal Subsistence Whaling. Much useful information and discussion are being brought forward through this effort. Consistent with the positive spirit of the Workshop, we provide the following recommendations and information, and ask that they be sent forward to the IWC.

RECOMMENDATIONS

- (1) When establishing ASW quota levels the IWC should only consider:
 - (a) the SC report on the status of the whale stock; and
 - (b) the level of harvest requested by the community.
- (2) The established documentation on social and cultural importance, as well as use and welfare, should be made available to all IWC Members and other interested parties through the IWC website and should be updated as necessary to reflect any new information.
- (3) We strongly encourage the IWC Member States to incorporate the modern human rights perspective in all future deliberations pertaining to ASW.
- (4) We strongly encourage IWC Member States and interested organisations to contribute to the fund established at IWC/65 for support of ASW compliance with IWC requests.

Background information

We are hunters, mariners, and providers to our communities who have relied upon whale and other marine resources throughout our histories. We come from different locations, histories, and nationalities. Our hunting practices are unique to each of our harvests, just as our approaches to addressing

the requests of the IWC regarding the various concerns of its members are unique. However, these differences do not extend to that which is most important to us and which we share in common.

As hunters, we constantly adapt our practices, tools, and means of distribution to the challenges of location, season, weather conditions, and species available to us. The decisions we make are based on our knowledge, experience, and traditions as hunters and our understanding of the safest, most effective, and most efficient means available, as well as the financial and other resources to which we have access. We strongly encourage the Members of the IWC to acknowledge our experience, our efforts, and the responsibilities we carry within our communities.

We appreciate the many political forces brought to bear upon IWC Member States in their modern deliberations on the subject of whale hunting. As hunters, we respect our living resources and actively work to manage risks to those resources and their habitats. Therefore, we share the sensibilities and concerns of peoples for the conservation and welfare of hunted animals.

Our communities are committed to accepted conservation and welfare regimes, including cooperation with relevant IWC initiatives.

However, we must convey that the ongoing requirement for justification of our lifeways and social, cultural, spiritual, and nutritional existence places our communities and peoples in a defensive, even demeaning, posture. As the human rights presentations given this week demonstrate⁹ this continuing requirement for justification also promotes a view that the human rights universally agreed to be available to all peoples may legitimately be circumscribed (without rational justification) in reference to the ways in which our communities live within the world.

⁸Kalaallit Nunaanni Aalisartut Piniartullu Kattuffiat – The Association of Fishers and Hunters in Greenland.

⁹See paper on International Human Rights Agreements under Agenda Item 3 of this report.

**Report of the Workshop
to Support the IWC's
Consideration of Non-Hunting
Related Aspects of Cetacean
Welfare**

Report of the Workshop to Support the IWC's Consideration of Non-Hunting Related Aspects of Cetacean Welfare¹

CHAIR'S SUMMARY AND RECOMMENDATIONS

The Workshop was held in Kruger National Park, South Africa from 3-4 May 2016. There were 33 participants from 12 different countries. Participants included individuals from a wide range of stakeholders including national authorities from IWC member countries; veterinarians and veterinary pathologists; animal welfare specialists; biologists and academics working on aspects of cetacean welfare; and experts from animal welfare organisations. This Workshop was held back to back with the Workshop Developing Practical Guidance for the Handling of Cetacean Strandings Events held from 5-6 May 2016 (IWC/66/WKM&WI Rep02).

The primary objectives of the Workshop were to: (i) facilitate coherent discussion of the welfare aspects of non-hunting threats to cetaceans within the IWC (Commission and the Scientific Committee) by synthesising the state of current knowledge and identifying priority issues on which the IWC should work to develop management advice on and/or work to address knowledge gaps; (ii) provide clarity on the role of the IWC and other organisations in addressing non-hunting threats to cetacean welfare; and (iii) to support the IWC in becoming a leading body for the provision of advice on this issue.

Key principles established by the Workshop at the outset were:

- (1) the term 'cetaceans' was taken to refer to both large and small cetaceans;
- (2) discussion of threats was confined to non-hunting threats and did not include discussion of the impacts of scientific research; and
- (3) the Workshop focus was on the welfare of individual animals, though it also sought to identify where this may translate to a conservation concern.

The first part of the Workshop explored the concept of animal welfare, its ethical and philosophical dimension and its development as an academic discipline. It reflected on the relationship and differences between welfare and conservation. The Workshop reviewed national perspectives on welfare including legislation, policies and responsibilities and explored international organisations' efforts on animal welfare including those of the World Organisation for Animal Health (OIE), Organisation for Economic Cooperation and Development (OECD), the Food and Agriculture Organization of the United Nations (FAO), the European Union (EU), the North Atlantic Marine Mammal Commission (NAMMCO) and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

Drawing on a series of expert presentations, participants considered a range of non-hunting threats to cetacean welfare including entanglement in active fishing gear and Abandoned, Lost and Discarded Fishing Gear (ALDFG); ship strikes; whale watching; marine litter and matters related to habitat degradation (climate change, chemical and noise pollution and prey depletion). The Workshop considered the science of animal welfare and how welfare status can be assessed. In particular, the Workshop reviewed the Five Domains model for assessing welfare status (Mellor and Beausoleil, 2015; Mellor and Reid, 1994) and its potential

application for the consideration of non-hunting threats to cetacean welfare. The use of the Five Domains welfare assessment model within the Workshop also represented the first time that it had been considered for wild cetaceans. The Workshop tested the model against a range of welfare threats and applied it to a series of defined welfare scenarios. The Workshop also explored means to assess welfare status over time, in order to consider the implications of a welfare-impacting event against 'normal life' and to examine long-term cumulative impacts. The Workshop considered the potential application of a welfare assessment framework, adapted from the Five Domains model in informing: (i) the assessment of welfare threats to inform the case for (or against) action; (ii) the review of policy and mitigation options, including to ensure that welfare issues are appropriately addressed in conservation strategies; and (iii) the development of response and rescue guidelines, for example entanglement and strandings response.

Finally, on the basis of the above considerations, the Workshop created a version of the Five Domains model adapted specifically as a framework to consider and guide the assessment of welfare in wild cetaceans. The Workshop proposed this for further development and use by the IWC and its member countries.

Conclusions and recommendations

The Workshop agreed that, despite some limitations in its application to wild animals, the use of the Five Domains model for assessing welfare status (Mellor and Beausoleil, 2015; Mellor and Reid, 1994) had been relevant and useful as a tool to help consider non-hunting threats to cetaceans, particularly for defined case studies and scenarios. It was agreed that a cetacean welfare assessment framework (adapted from the Five Domains model, and further developed by the IWC), designed for the assessment of non-hunting welfare threats, would be useful for a range of potential applications. These could include the review of welfare threats to inform the case for (or against) action, informing the development of policy and mitigation strategies, and the development of response and rescue guidelines. On this basis, the Workshop proceeded to develop and test a draft Cetacean Welfare Assessment Framework and **recommended** that the IWC endorse the further development and application of the draft Cetacean Welfare Assessment Framework in assessing non-hunting threats to cetacean welfare and promote its use beyond the IWC.

The Workshop **recommended** that further work on the assessment framework be taken forward, in particular to continue to adapt the Five Domains model for wild cetaceans; address how best to assess welfare impacts and changes in welfare status over time; define and incorporate potential stressors and include accepted best practice/limits (e.g. for whale watching and noise); determine the most appropriate scale for scoring severity; address how best to incorporate a consideration of cumulative, in-combination effects and long-term impacts and identify any further improvements that can be made. The Workshop thus **recommended** that Terms of Reference be drafted to guide further work to refine the assessment framework and that its refinement and application be progressed through the existing IWC Intersessional Working Group on Welfare with the aim of submission to IWC/67 in 2018 for endorsement.

¹Presented to the Commission as IWC/66/WKM&WI Rep01.

The Workshop **recommended** that the Intersessional Working Group on Welfare and the IWC Secretariat ensure that appropriate experts are engaged in the continued development and application of the assessment framework.

The Workshop emphasised that appropriately trained experts should be engaged in the assessment of welfare threats. It, however, agreed that the results from application of the assessment framework could be useful in engaging local communities and industry in the development of mitigation options and best practice guidelines. Thus the Workshop **recommended** that care be taken to ensure that the practical application of the assessment framework be assisted by appropriately trained experts, including animal welfare experts and cetacean experts and that the conclusions be shared with local communities in order to facilitate education and promote best practice.

The Workshop agreed that the assessment of welfare threats is more feasible where there is a strong evidence base. It **acknowledged** that it was more difficult to assess the significance of, and develop appropriate mitigation strategies for threats, species and areas of the world for which there were more limited data and agreed that further work was necessary to address evidence gaps. The Workshop therefore **recommended** that consideration is given to progressing further work where uncertainty may reduce the confidence in the application of the proposed assessment framework including in relation to prey depletion, chemical pollution, anthropogenic sound, marine litter, and biotoxins. It also **recommended** that a process be established that allows for the continued re-assessment of welfare threats as knowledge and understanding improves.

The Workshop noted that it is appropriate, in some cases not to wait until the full scientific evidence is available before taking mitigation action and thus notes the value of application of the precautionary principle when assessing animal welfare and providing mitigation advice to avoid potentially poor welfare situations.

The Workshop **recommended** that in cases where the welfare implications of certain activities are only poorly understood, management of a particular activity or threat should be precautionary and adopt a risk-based approach based on best available scientific knowledge.

The Workshop agreed that the development and application of the proposed cetacean welfare assessment framework could help to further strengthen the consideration of welfare within existing IWC programmes. The Workshop emphasised that this would require a greater understanding of the welfare implications for individual animals over time (including wound healing, wound progression and times to death); and of the welfare implications of disruption of normal behavioural routines and social behaviours. The Workshop emphasised the need for improved data collection associated with welfare threats and in particular the importance of the IWC ship strikes database in this regard.

Thus, the Workshop **recommended** that the assessment framework be submitted to the Scientific Committee and other relevant IWC committees and working groups for further scrutiny and comment, and eventual transmission to the IWC Commission for endorsement. The Workshop further **recommended** that application of the assessment framework be considered by the IWC entanglement expert group for its utility and potential addition to the existing entanglement intervention framework to enhance welfare considerations in the decision-making process.

The Workshop **recommended** that the IWC give further consideration to identifying any conservation strategies that may inadvertently compromise individual cetacean

welfare and to seek solutions that optimise both welfare and conservation goals. The Workshop **recommended** the encouragement of monitoring of wound healing, wound progression, and time to death in cetaceans in the wild that have incurred vessel-strike or entanglement injuries, in order to provide greater understanding of the welfare implications for individuals.

The Workshop **recommended** that IWC Contracting Governments ensure national ship strike data, including non-lethal incidents, are submitted to the IWC Ship Strike Database and that the IWC promote the importance of submission of this data directly to the IWC database in order to develop understanding of the welfare risk to cetaceans.

The Workshop emphasised that, of the threats considered by the Workshop, entanglement in fishing gear is the most significant threat to wild cetacean welfare. Thus the Workshop **recommended** that IWC Contracting Governments and the IWC Secretariat place a high priority on developing effective entanglement mitigation and prevention measures, and until such time as that is developed, continue support for the palliative care offered by further developing the Global Whale Entanglement Response Network and database. The Workshop **recommended** that a more detailed consideration is carried out on the implications of entanglement and bycatch for small cetaceans.

During the Workshop participants were asked to identify any additional cetacean welfare threats that were relevant to the work of the IWC including existing threats not sufficiently discussed at the Workshop and new and emerging threats. The Workshop noted other issues of concern including biotoxins from harmful algal blooms; the consequences of the repeated entrapment and release of dolphins in tuna purse seine nets; habitat loss from human activities such as mining and the animal welfare implications of swim-with cetacean programmes.

The Workshop noted that there were a range of other international organisations engaged in efforts related to animal and cetacean welfare including OIE, OECD, FAO, EU, NAMMCO and CITES and agreed that it would be useful for the IWC to engage with these organisations. The Workshop acknowledged with gratitude the contribution of animal welfare experts to the Workshop and agreed that the IWC should continue to engage these experts as this work progresses. The Workshop thus **recommended** that the IWC Secretariat proactively engages with organisations with a welfare remit and experts to share information and facilitate the use of existing welfare principles, standards, and definitions as appropriate, for example with the OIE, NAMMCO, and CITES. The Workshop **recommended** that IWC Contracting Governments identify national experts in the assessment of welfare for inclusion on the list of welfare experts to be compiled under the IWC Welfare Action Plan.

The Workshop emphasised that further work to deliver the IWC Welfare Action Plan and to take forward recommendations from the Workshop would have cost implications and agreed that it would be useful to establish these costs in order to inform budgeting processes and potential fundraising. The Workshop **recommended** that the Secretariat provide clear cost estimates for work necessary to facilitate the delivery of the IWC Welfare Action Plan, starting with the completion of the welfare assessment framework. The Workshop therefore further **recommended** that the IWC gives consideration to the establishment of a dedicated funding stream to help progress the assessment and mitigation of non-hunting threats to cetacean welfare.

Table 1
Table of recommendations.

The Workshop recommended that:	Action by:
The IWC endorse the further development and application of the cetacean welfare assessment framework in assessing non-hunting threats to cetacean welfare and promote its use beyond the IWC.	Whale Killing Methods and Welfare Issues Working Group (WKM&WI) (Intersessional working group on welfare)
Further work on the assessment framework be taken forward, in particular to continue to adapt the Five Domains model for wild cetaceans; address how best to assess welfare impacts and changes in welfare status over time; define and incorporate potential stressors and include accepted best practice/limits (e.g. for whale watching and noise); determine the most appropriate scale for scoring severity; address how best to incorporate a consideration of cumulative, in-combination effects and long-term impacts and identify any further improvements that can be made.	WKM&WI (Intersessional working group on welfare)
Terms of Reference be drafted to guide further work to refine the assessment framework and that its refinement and application be progressed through the existing IWC Intersessional Working Group on Welfare with the aim of submission to IWC/67 in 2018 for endorsement.	WKM&WI (Intersessional working group on welfare)
The Intersessional Working Group on Welfare and the IWC Secretariat ensure that appropriate experts are engaged in the continued development and application of the assessment framework.	WKM&WI (Intersessional working group on welfare) IWC Secretariat
Care be taken to ensure that the practical application of the assessment framework be assisted by appropriately trained experts, including animal welfare experts and cetacean experts and that the conclusions be shared with local communities in order to facilitate education and promote best practice.	IWC Contracting Governments
Consideration is given to progressing further work where uncertainty may reduce the confidence in the application of the proposed assessment framework including in relation to prey depletion, chemical pollution, anthropogenic sound, marine litter, and biotoxins	WKM&WI IWC Scientific Committee IWC Conservation Committee
A process be established that allows for the continued re-assessment of welfare threats as knowledge and understanding improves.	WKM&WI (Intersessional working group on welfare)
In cases where the welfare implications of certain activities are only poorly understood, management of a particular activity or threat should be precautionary and adopt a risk based approach based on best available scientific knowledge.	IWC Contracting Governments IWC Scientific Committee
The assessment framework be submitted to the Scientific Committee and other relevant IWC committees and working groups for further scrutiny and comment, and eventual transmission to the IWC Commission for endorsement.	WKM&WI IWC Scientific Committee IWC Conservation Committee
Application of the assessment framework be considered by the IWC entanglement expert group for its utility and potential addition to the existing entanglement intervention framework to enhance welfare considerations in the decision-making process.	IWC Secretariat
The encouragement of monitoring of wound healing, wound progression, and time to death in cetaceans in the wild that have incurred vessel-strike or entanglement injuries, in order to provide greater understanding of the welfare implications for individuals.	IWC Contracting Governments IWC Scientific Committee IWC Conservation Committee IWC Ship Strikes Working Group
IWC Contracting Governments ensure national ship strike data, including non-lethal incidents, are submitted to the IWC Ship Strike Database and that the IWC promote the importance of submission of this data directly to the IWC database in order to develop understanding of the welfare risk to cetaceans.	IWC Contracting Governments IWC Ship Strikes Working Group
IWC Contracting Governments and the IWC Secretariat place a high priority on developing effective entanglement mitigation and prevention measures, and until such time as that is developed, continue support for the palliative care offered by further developing the Global Whale Entanglement Response Network and database.	IWC Contracting Governments IWC Secretariat
A more detailed consideration is carried out on the implications of entanglement and bycatch for small cetaceans	IWC Conservation Committee IWC Scientific Committee
IWC Secretariat proactively engages with organisations with a welfare remit and experts to share information and facilitate the use of existing welfare principles, standards, and definitions as appropriate, for example with the OIE, NAMMCO, and CITES.	IWC Secretariat
IWC Contracting Governments identify national experts in the assessment of welfare for inclusion on the list of welfare experts to be compiled under the IWC Welfare Action Plan.	IWC Contracting Governments IWC Secretariat
The Secretariat provide clear cost estimates for work necessary to facilitate the delivery of the IWC Welfare Action Plan, starting with the completion of the welfare assessment framework.	IWC Secretariat
IWC gives consideration to the establishment of a dedicated funding stream to help progress the assessment and mitigation of non-hunting threats to cetacean welfare.	IWC Contracting Governments

1. INTRODUCTION

The Workshop was held from 3-4 May 2016 at Skukuza Rest Camp, Kruger National Park, South Africa. Nigel Gooding, Chair of the intersessional Working Group on Welfare, was appointed Chair. The list of participants is given as Annex A and the Agenda as Annex B. This Workshop was held back-to-back with the Workshop Developing Practical Guidance for the Handling of Cetacean Stranding events held from 5-6 May 2016 (IWC/66/WKM&WI Rep02).

1.1 Participants

Participants included individuals from a wide range of stakeholders including national authorities from IWC member countries; veterinarians and veterinary pathologists; animal welfare specialists; biologists and academics working on aspects of cetacean welfare and animal welfare organisations. There were 33 participants from 12 different countries.

2. MEETING OPENING

2.1 Opening remarks

Nigel Gooding welcomed participants. He thanked South Africa for hosting the Workshop and the Workshop steering group and Secretariat for all their preparatory work. Herman Oosthuizen, on behalf of the South African Government, welcomed everyone to Kruger National Park and wished them a successful Workshop.

Simon Brockington, Executive Secretary of the IWC introduced the IWC and its previous work on welfare, and noted that the programme had evolved over the years to consider aspects ranging from recording of data on hunting methods, improvements to harpoons, and more recently to responding to entanglements and to strandings. The Welfare Action Plan, adopted by the Commission at IWC/65 in 2014 (IWC/65/WKM&AWI05rev2 Annex 1) now reflects this wider scope of IWC considerations relating to welfare. He noted that this Workshop was the first time that the IWC would consider welfare implications arising from other factors including issues such as prey depletion and climate change. In concluding, he thanked the government of South Africa for hosting the Workshop, as well as the governments of the United Kingdom and New Zealand and World Animal Protection for funding the Workshop.

2.2 Appointment of rapporteurs

Sarah Smith was appointed rapporteur with assistance from Claire Bass, Simon Brockington, and Rob Deaville.

2.3 Available documents

Gooding drew attention to the Workshop supporting document [IWC/M16/CW01] and to the IWC Welfare Action Plan [IWC/65/WKM&AWI05rev2 Annex 1]. A set of information documents was also available. The list of documents is given at Annex C.

3. WORKSHOP AIMS, OBJECTIVES AND FOCUS

3.1 Overview

Gooding outlined the primary objectives of the Workshop which were to: (i) facilitate coherent discussion of the welfare aspects of non-hunting threats to cetaceans within the IWC (Commission and the Scientific Committee) by synthesising the state of current knowledge and identifying priority issues on which the IWC should work to develop management advice on and/or work to address knowledge gaps; (ii) provide clarity on the role of the IWC and

other organisations in addressing non-hunting threats to cetacean welfare; and (iii) support the IWC in becoming a leading body for the provision of advice on this issue. The Workshop would focus on identifying the priority welfare issues for wild cetaceans and to the identification of and communication of evidence, advice and mitigation needs to the Working Group on Whale Killing Methods and Welfare Issues (WG WKM&WI) and other IWC working groups.

Key principles were established for the Workshop by participants at the outset: (1) the term 'cetaceans' was taken to refer to both large and small cetaceans; (2) discussion of threats was confined to non-hunting threats and would not include discussion of the impacts of scientific research; and (3) the Workshop focus was on the welfare of individual animals, though it also sought to identify where this may also translate into a conservation concern.

3.2 Relationship with the IWC Welfare Action Plan

Jamie Rendell introduced the IWC Welfare Action Plan agreed at IWC/65 in 2014. This sets out key welfare actions to take forward to improve our understanding of, and efforts to improve, the welfare status of cetaceans globally. Following agreement at IWC/65, an Intersessional Group was established, reporting to the IWC Working Group on Whale Killing Methods and Welfare Issues, to progress the actions contained within the plan. This Workshop is the culmination of the work of the Intersessional Group and seeks to address the following actions.

- (1) Action 2.1.1 - Identify and agree upon priority areas of work, where welfare issues are considered most relevant; and
- (2) Action 2.1.2 - Identify and quantify (where possible) the nature and extent of threats to cetacean welfare, gaps in our understanding, and specific data needs. Where appropriate, propose possible mitigation measures for consideration by the Commission.

Rendell noted that this is not a new issue for the IWC. Both the Conservation and Scientific Committees consider issues with welfare implications, in particular whale watching, marine litter, entanglement, noise, contaminants, and strandings. There was a need for this Workshop to provide a clear steer on key issues and the most effective way to address them, and to identify any additional actions for the IWC.

4. GENERAL BACKGROUND ON WELFARE APPROACHES FOR CETACEANS

4.1 Understanding animal welfare and recent developments in the field

Christine Nicol gave an overview of the concept of animal welfare, the ethical and philosophical dimension and its development as an academic discipline. She noted that societal interest in improving human relations with animals is increasing globally (Anon., 2016; Manfredo *et al.*, 2016). One strand of this interest relates to animal welfare and, from its early focus on cruel treatment, animal welfare science now takes a broad perspective of all aspects of animal experience. In reflecting on the relationship between conservation and welfare, Nicol noted that conservation has traditionally been concerned with healthy and sustainable populations, and not with individual animal experience, but that this is also changing (Castle *et al.*, 2016; Dubois and Fraser, 2013; Ramp and Bekoff, 2015). There are some shared aims to build on and individual animals with good

welfare may contribute to healthy, sustainable populations. But there are also some potentially conflicting aims which need to be identified, argued and dealt with.

Nicol went on to describe the concept of sentience, and associated subjective experience. This cannot be directly measured, but can be ascribed with increasing confidence to mammalian species as knowledge about the shared neural and cognitive correlates of human consciousness increases. Cetaceans are classified as sentient animals. The subjective experiences that matter to animals – those that are experienced positively or negatively are termed affective states. Animal welfare science has developed tools and methods to measure welfare state across a range of domains, and to infer associated affective state using animal-centred information obtained from preference and cognitive bias tests. The cumulative impact of an animal's experiences can be integrated over time to assess its quality of life.

Nicol noted that wild animals are also impacted by human activities and there is increasing recognition that their welfare is also a legitimate moral concern. By sharing expert knowledge across different fields of endeavour, protocols to assess the welfare of wild cetaceans can be developed and methods of future validation proposed.

In concluding, Nicol commented on the role of welfare assessment in decision-making. Welfare assessment by itself does not dictate policy, but it provides objective background information. Policy will depend on ethical, cultural, economic and political contingencies. For cetaceans there are a range of ethical perspectives ranging from a utilitarian view to a view that these animals have a special moral status and should be treated ethically in a different way.

4.2 National perspectives

4.2.1 USA

Sarah Wilkin presented an overview of the United States legislation relevant to animal welfare generally, wildlife welfare, and marine mammal welfare. The Animal Welfare Act of 1966 (AWA) is the primary statute in the US to explicitly cover animal welfare, and it is enforced by the US Department of Agriculture Animal and Plant Health Inspection Service (USDA-APHIS). The AWA applies to a subset of animal species in certain settings. For marine mammals, the AWA requires licensing for exhibitors (public display) and registration for transporters and research facilities. Licensed and registered entities must comply with minimum standards of care spelled out in AWA implementing regulations, and are periodically inspected by USDA-APHIS to assess compliance. Additionally, the AWA established Institutional Animal Care and Use Committees (IACUCs) for each research facility or laboratory to provide oversight when conducting research on animals; for marine mammals this has been applied to both captive and wild animals. Therefore, the relevant IACUC for the researcher's facility reviews any research protocols proposed for work on wild marine mammals. Besides the AWA, other US legislation for animal cruelty, neglect, and abuse is typically at the state or local level. Additionally, numerous laws have been passed that reference the minimum standards in the AWA and may provide additional protections for certain species or groups. The Marine Mammal Protection Act of 1972 (MMPA) is one example. The MMPA prohibits the 'take' of marine mammals, where take is defined as harass, hunt, capture or kill. Exemptions to the prohibition may be obtained for scientific research, enhancement, public display, or incidental take. Marine mammals that are considered threatened or endangered (at risk of extinction)

also fall under the Endangered Species Act of 1973 (ESA). The ESA also has a prohibition on take, where take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct. Wilkin noted that in the implementation of these statutes for marine mammals, impacts of activities have been considered and limited or mitigated, but such consideration has typically been from a conservation perspective (reducing reproductive impacts, serious injury and mortality) rather than from a welfare perspective. For stranded marine mammals, the Marine Mammal Health and Stranding Response Program (a program operated by the National Oceanographic and Atmospheric Administration, National Marine Fisheries Service) has developed policies that do provide a welfare context for stranded marine mammals, namely the Rehabilitation Facility Guidelines and minimum qualification standards for stranding network members.

4.2.2 Discussion on the approach to cetacean welfare in the USA

In response to a question about the provisions on wound and harm and whether there was any differentiation between intent or not, Wilkin confirmed that agencies have prosecutorial discretion. So, for example, a ship strike could be seen as a violation of the MMPA, but the decision to prosecute lies with agency. It was also asked whether there were updates planned to the MMPA. It was confirmed there are minor modifications underway but no significant update planned.

4.2.3 Colombia

Andrea Recalde-Salas presented the Colombian perspective on threats to cetacean welfare. She reported that Colombia has a high diversity of cetaceans distributed along the Pacific and Caribbean regions (including islands and archipelagos), and in river ecosystems. The threats affecting cetaceans have been identified as follows.

- (1) Unregulated whale watching: the information for this threat is on behavioural responses for particular species (i.e. humpback whales, river dolphins).
- (2) Entanglement and ship strikes: there are estimates on numbers of individuals impacted and rates of impact according to type of fishing method (i.e. humpback whales are more likely to be entangled in nets, bottlenose dolphins are more affected by long-lines and river dolphins by monofilament nets). An increment in the rates of entanglements/ship strikes have been observed for humpback whales since 1996 but there is certain uncertainty in terms of the reason behind it.
- (3) Habitat degradation threats (noise and chemical pollution, and damage to the habitat): these are increasing threats and there is not much baseline information available. Legislation to regulate and mitigate the impacts is in progress for many of the threats and include guidelines for whale watching, entanglements and stranding, and for marine seismic explorations.

At the moment, some regional or local regulations (i.e. Directiva 001/2001 DIMAR for whale watching), manuals and guidelines and international policy for seismic exploration are followed. In addition, national environmental offices (i.e. Ministry of Environment and Sustainable Development, National Agency for Environmental Licences) consider the impact of industrial activities to cetaceans through environmental impact assessment processes and other regulations. She noted that development of policy is important but ensuring that the regulations are followed

is also a priority. In that sense, work with communities in environmental education and training in the legislation is very important as it could lead to self-regulation and support of environmental office's actions. Finally, she reported on some observed gaps in research/policy including long-term impacts, cumulative effects and the development of a local network for entanglement response.

4.2.4 Discussion on the approach to cetacean welfare in Colombia

In response to a question on whether policy was developed at governmental or NGO level, Recalde-Salas confirmed that this was at government level with ongoing collaboration with both NGOs (providing reports and support to government) and the local community. There was also a question on regulation and whether there was an approval or certification system for the whale watching industry. Recalde-Salas confirmed that each year there was training for whale watching operators. However, it had been observed that those licensed from outside of the area (Pacific Coast) may not have the same level of attachment to the resource. Therefore, the long term conservation of the resource requires continuity in terms of community engagement.

4.2.5 South Africa

Mike Meyer gave an overview of legislation and policy relevant to cetacean welfare in South Africa. He presented excerpts from the Marine Living Resources Act that applied to welfare in South Africa, highlighting that only persons appointed and trained by the Department were allowed to assist trapped or entangled whales. These regulations are expected to move to the Threatened and Protected Species Regulations under the Biodiversity Act (NEMBA). He noted that, presently the Department of Environmental Affairs (DEA) has a draft National Policy for Cetacean Disentanglement and Stranding Response, to provide guidance for the development of a national management plan, including response plans for the rescue and management of stranded and entangled cetaceans. The objective was to facilitate and ensure a national coordinated management and the establishment of regional partnerships for responses to stranding and disentanglement of cetaceans and to manage and control rescue attempts using appropriate response plans (developed by the South African Stranding Network; SASN) for the safe and effective release of cetaceans. The response plans would ensure that the correct procedures and humane treatment of entangled, stranded, sick or injured cetaceans and the compliance with the Occupational Health and Safety Act would be undertaken. To address the complexities of managing events DEA created the SASN and the South Africa Whale Disentanglement Network (SAWDN) to coordinate responses. The response plan outlines response strategies, procedures and protocols, legislative responsibilities and the key roles and responsibilities of SASN members as well as external stakeholders under a SASN communication control system. In these cases, DEA's responsibility is limited to the welfare of the animals, safety of rescuers, post mortem investigation and sampling, while other partners would have the responsibility of crowd control, traffic control and carcase disposal.

4.2.6 Discussion on cetacean welfare in South Africa

Meyer was asked about health and safety of volunteers in the water (e.g. strandings responders). He confirmed that they sought to establish first responders who are well trained in how to handle animals, and that beaches were closed during strandings events to people without identification and

training. Coordinators have the authority to instruct different groups, by agreement with the army/navy. Meyer was also asked about the strength of marine mammal legislation. He noted that the provisions of the Marine Living Resources Act were set to move under the Threatened and Protected Species Regulations under the Biodiversity Act (NEMBA) which would bring them in line with high profile terrestrial species such as rhino and elephant.

4.3 International organisations perspectives on animal welfare

Claire Bass presented on multilateral efforts to promote good animal welfare. She outlined the key motivating factors behind such efforts, including disease prevention and control; food security, rural economic development and food quality; responding to consumer and public demands for good animal welfare, for example in agricultural supply chains; and harmonisation of international markets for traded goods, including via free trade agreements. She noted that in recent decades there has been a growing societal focus on and recognition of animal welfare as 'a global common good', for example by the UN Organisation for Food and Agriculture - FAO², and that this has been underpinned by increasing scientific understanding of key concepts in animal welfare, such as sentience. The presentation provided case studies on policies and actions on animal welfare in six other intergovernmental/multilateral organisations – the World Organisation for Animal Health (OIE), the Organisation for Economic Cooperation and Development (OECD), FAO, the European Union (EU), the North Atlantic Marine Mammal Commission (NAMMCO) and the Convention on International Trade in Endangered Species (CITES), including examples of collaborative efforts between some of these organisations. Bass noted that animal welfare is increasingly widely recognised as both a science and a management imperative and that while perceptions of animal welfare are influenced by scientific, ethical, historical, cultural, religious, economic and political dimensions in different countries and regions, multilateral agreement on animal welfare principles and goals is achievable (see chapter 7 of the OIE's Terrestrial Health Code) and, often, desirable. The presentation concluded by recognising that while the majority of animal welfare science and management to date has been focused on captive animals, and to wild animals trapped, hunted or traded, there is a growing philosophy of thought that collective responsibility towards animal welfare should extend to all wild animals whose welfare is negatively impacted by human activities in their habitats.

4.3.1 Discussion on International Organisations perspectives on animal welfare

The Workshop reflected on the work of other international organisations engaged in efforts related animal and cetacean welfare and agreed that it would be useful for the IWC to further engage with organisations with a remit on animal welfare, including to share information and facilitate the use of existing welfare principle, standards and definitions. A recommendation on this issue can be found in Item 8.4.

5. ASSESSING WELFARE THREATS TO WILD CETACEANS AT THE INDIVIDUAL AND THE POPULATION LEVEL

5.1 The science of cetacean welfare

David Mattila gave a presentation on behalf of Greg Donovan (Head of Science, IWC) on the scientific aspects of examining

²<http://www.fao.org/3/a-i4002e.pdf>, page v.

non-hunting issues relating to cetacean welfare. He noted that the IWC has a history of examining the welfare impacts of specific human activities on wild cetaceans. Originally it looked at those associated with hunting and more recently those associated with the entanglement of whales in man-made materials. As the IWC expands its scope of concern to the welfare impacts from other human activities (e.g. non-hunting or research related), it is helpful to examine the role that science can play, and cases where some immediate actions may be warranted. Human activities can be directly lethal (e.g. entanglement and ship strike) or have indirect impacts, that are often not lethal (e.g. noise and chemical pollution, coastal development and loss of critical habitat, marine debris, overfishing and climate change). A simplified categorization, with which to consider the welfare impacts of human activities, might be as follows:

- (1) non-‘instantaneous’ death (>a few minutes?);
- (2) pain (e.g. wounds, trauma);
- (3) ‘excess’ individual stress (how to define and quantify/measure?); and
- (4) ‘social’ stress (how to define and quantify/measure?).

Of these four, the first (i.e. time to death) may be the most quantifiable. We cannot currently measure or interpret ‘pain’ for wild cetaceans, but we might safely assume that severe wounds (e.g. from entanglement and ship strikes), generate pain. Stress, both individual and social, can be a natural response to elicit compensatory behaviours (e.g. feed, flee from predator, establish social stability), but in excess can negatively impact an individual or group’s welfare. Whilst new techniques are being developed to assess stress levels (e.g. hormone assays, behaviour cues, visual health assessments), we are still just beginning to understand baselines and make interpretations.

The presentation noted that welfare in wild animals will likely be complicated by considerations of time (e.g. acute, chronic, duration) and synergies between multiple stressors of both human and/or natural origin. These are further complicated because wild cetaceans are often difficult (and expensive) to study, and thus determining impact, and cause and effect can be extremely difficult. However, in some instances the IWC can and has taken mitigating action without full scientific evidence, for instance:

- developing a global response network to (in part) offer palliative care to entangled whales, while also working to prevent entanglements before they happen;
- work to understand and reduce chemical pollutants under the assumption that their impact is not positive; or
- developed good practice mitigation principles for some forms of acute noise (e.g. seismic surveys).

This presentation asserted that, whilst further work is needed to develop tools to assess welfare impacts, it is appropriate to take action in some key cases where actions are both feasible and prioritised by the existing weight of evidence and level of effect. These actions must also take into consideration the synergy between individual welfare and population conservation goals, perhaps using a process similar to Conservation Management Plan’s tabulation of issues and knowledge.

5.1.1 Discussion on the science of cetacean welfare

Following discussion, the Workshop agreed with the assertion made in the presentation by Donovan/Mattila that it is appropriate, in some cases not to wait until the full scientific evidence is available before taking mitigation

action and thus noted the value of application of the precautionary principle when assessing animal welfare and providing mitigation advice to avoid potentially poor welfare situations. It was further noted that this is supported by existing IWC Scientific Committee recommendations on issues such as pollution. A recommendation on this can be found in Item 8.1.

5.2 The ‘Five-Domains’ model for assessing welfare status

Craig Johnson presented the background and rationale of the ‘Five Domains model’ for assessing welfare status (Annex D). He noted that the ‘Five Freedoms’ defined by the Farm Animal Welfare Council (Farm Animal Welfare Council, 1979) have been used for many years as a scaffold to aid the analysis of animal welfare in a variety of situations. Over time since the freedoms were first described, there have been a number of developments in thought relating to the cognitive abilities of animals. Most notably, mammals and a number of other animals are now thought to be sentient and to be subject to affective states. The Five Freedoms model was no longer fully able to cope with animal welfare analysis in this environment, especially in relation to changing concepts of physiological drives and positive welfare and the Five Domains model was evolved and later adapted to encompass positive welfare (Mellor and Beausoleil, 2015; Mellor and Reid, 1994).

Johnson noted that animal welfare thought has been developed primarily through work with domestic animals and using the principles of welfare in the analysis of animals in the wild is a very recent development. He expressed the view that care needs to be taken to avoid approaching the welfare of wild animals with a conservation perspective. While conservation deals with animals at a population level and is more concerned with the implicit value of animals in their natural environment, welfare is much more focussed on the subjective experience of individual animals and applies utilitarian principles rather than the value ethics of conservationism. He noted that the ‘compassionate conservation’ concept (Bekoff, 2010; Paquet and Darimont, 2010; Ramp and Bekoff, 2015) is an effort to bring conservation and welfare together. It recognises that humans have an impact on wild animals and that therefore it is appropriate to have some concern for their welfare.

He concluded that, despite the difficulty of adapting the Five Domains model to wild animals, this approach represents a valuable way of analysing the welfare costs of situations that cetaceans may find themselves subject to and prioritising needs for interventions to improve welfare in these animals.

5.2.1 Discussion on application of the Five Domains model to wild populations

In response to a question on whether there had been any attempts to apply the Five Domains model to wild population, Johnson reported that it had been applied to the potential eradication of possums (due to their impact on natural habitats) and to look at the experience of animals subjected to different toxins. This example was concerned with mitigating harm and Johnson was not aware of any research on improving the welfare of wild animals, presumably because of presumption that a natural environment is the optimum environment. Domestic and farm animals are not in natural environments. One participant explored further the issue of natural vs non-natural environments with the example of whales covered in barnacles. This is considered

natural, and something that we would not intervene on, regardless of whether they cause pain (itchiness), though it was also noted that barnacles are often an indication of health and poor prognosis so they may indicate the presence of other welfare impacts. The issue of man-made changes to environments (e.g. climate change, pollution) that could also have welfare impacts was also raised. It was also noted that cetaceans are far less well known than species for which this model have been traditionally applied (e.g. farm animals), and that this should be allowed for.

6. SUMMARY OF NON-HUNTING THREATS TO CETACEAN WELFARE

6.1 Entanglement in active gear and ALDFG (abandoned, lost and discarded fishing gear)

David Mattila gave a presentation (on behalf of Mattila and van der Hoop) on the welfare implications of entanglement and bycatch. All large whale species have been reported entangled in fishing gear. This can be any type of fixed or drifting fishing gear wherever whales are found. Impacts include acute impacts (e.g. underwater entrapment) or chronic death (e.g. bleed out, infection, starvation, killed while mobility is impaired); physical wounds (pain) and deformity; energetic costs and other possible non-lethal impacts disturbance (fleeing contact); and possible displacement. Most entanglements occur in actively fished gear; an unknown percentage of entanglements are in Abandoned Lost and Discarded Fishing Gear (ALDFG) with a continuing risk profile in water column. New technologies such as Fish Aggregation Devices (FADs) are having an impact, as are other ropes and nets similar to fixed gear (e.g. moorings, aquaculture). Variables which can be measured to determine effects include time to death; duration and severity of physical wounds; assessment of energetic costs and other possible non-lethal impacts; geographic scope and encounter rates (e.g. annual scarring); measurable stress and/or health impacts (e.g. visual assessments, skin bacteria, stress hormones) and displacement and/or exclusion (though this is difficult).

In discussing the potential role of different stakeholders in monitoring and identifying welfare threats Mattila highlighted the role of: (1) fishers, in accommodating observers, report and photograph entanglements, work toward prevention, provide some indication of geographic fishing areas; (2) management to provide observers, support scar monitoring and prevention studies and trials; (3) researchers to monitor population scarring and health, compare population vs. fishery distribution, develop stress assessments and other measures of welfare impacts; and (4) the public, to exert pressure management on high risk fishing and ALDFG, support products from low risk fishing, and to report and photograph observed entanglements.

Mattila outlined a number of knowledge gaps including for the development of socioeconomically acceptable risk-free fishing gear and/or practices, on to what extent is ALDFG a portion of the problem and the need for better quantitative measures (e.g. stress, energetics, health). He outlined a set of existing or potential mitigation and prevention measures and identify organisations or bodies that have advisory or regulatory interests at national and international levels. These included seasonal closures (responsibility of national, and provincial/State fisheries management and possibly some IGO regional fisheries management); a reduction of rope and net in water column (national and provincial fisheries managers, possibly regional IGOs), and perhaps

FAO-COFI; visual and/or auditory alerting devices; a ban on high risk or switch to lower risk gear (national and provincial fisheries managers, possibly some IGO regional fisheries and perhaps FAO-COFI) and the formation of disentanglement networks.

Mattila outlined the existing work of the IWC in this field including the work of the Scientific Committee (Human Induced Mortality subgroup) in determining the scope and impact on populations; the IWC Global Whale Entanglement Response Network, and capacity building initiative; the IWC entanglement prevention Workshops; various marine debris initiatives and IWC engagement on the issue with other relevant IGOs, for example FAO Committee on Fisheries (COFI), the United Nations Environment Programme Caribbean Environment Programme (UNEP-CEP), the South Pacific Regional Environment Programme (SPREP) and the Permanent Commission for the South Pacific (CPPS).

Mattila noted that, from a welfare perspective, the higher priorities are not necessarily the high priority conservation populations (e.g. Arabian Sea, western gray whale, North Atlantic right whale), but are more likely in areas where high numbers of whales overlap with high-risk fishing activities (e.g. Coastal Australia, Brazil, much of the Pacific coast of South America, much of the Pacific and Atlantic coasts of North America, South Africa); and many coastal artisanal fisheries (e.g. Brazil, Pacific coast of South America, Mexico). There are a number of areas where the evidence base is insufficient including much of Africa, the Indian Ocean and the Arabian Sea.

6.1.1 Discussion on entanglement in active gear and ALDFG

During the discussion it was noted that this presentation and the IWC entanglement programme was focused primarily on large whales. Simmonds noted that there are also major welfare concerns associated with death by entanglement for small cetaceans and cited evidence from research undertaken at the University of Bristol on sub-lethal impacts in small cetaceans (Soulsbury *et al.*, 2008). Recommendations relevant to entanglement of large whales and small cetaceans can be found in Item 8.2 and 8.3.

6.2 Ship strikes

Julie van der Hoop presented on vessel-strike threats to cetaceans and highlighted the varied outcomes of a vessel-strike incident between any size of cetacean and any size of ship. While lethal vessel strikes are a conservation issue for some specific species or populations where incidence is high and population levels are low, non-lethal strikes or those that are not immediately lethal present a welfare concern. Van der Hoop highlighted the importance of continuing to collect morbidity and mortality data to diagnose the extent of the issue and identify conservation issues where relevant, and that the use of high-resolution shipping and cetacean distribution data (dynamic in space and time) can identify areas with high risk and/or potential for mitigation. Van der Hoop stressed that we currently do not know the prevalence of wounds in living populations which would reflect the extent to which vessel-strikes are survived, or the incidence of non-lethal interactions; the time course to death and the processes it may entail; the processes of wound healing and progression specific to vessel-strike sharp trauma; or whether or to what extent blunt trauma injuries are survivable and what healing or recovery entails. The role of all communities to report observations of incidents whether

lethal or non-lethal, and to document, diagnose, and share data to contribute to long-term data sets was emphasised. Education of all parties (mariners, managers, researchers, public, stranding networks) to collect information and share it at the global level (i.e. to the IWC Ship Strike Database) is necessary. Management needs to work with research and mariner communities to develop mitigation to address both welfare and conservation aspects of the issue, and to communicate and enforce these regulations to ensure compliance. Vessel strikes can be reported from the perspective of the incident (i.e. by a mariner) or of the observation of the wounded, live or dead, animal. The degree to which data from these two streams are reported at each local, regional, national, and global levels are unknown and need to be encouraged. Vessel strikes have historically been mitigated as a conservation issue, leaving the welfare aspects largely unquantified.

6.2.1 Discussion on ship strikes

During the discussion attention was drawn to the TSS proposal for Panama humpbacks (Guzman *et al.*, 2013) which was approved by the IMO in 2014. This was discussed at the IWC-SPAW Workshop to Address Collisions Between Marine Mammals and Ships with a Focus on the Wider Caribbean (IWC, 2016a) and it was noted that the Workshop report provided a good review of current mitigation measures. Participants also recalled the importance that had been attached to the initial establishment of the Ship Strike Database and the need for this to become operational. It was suggested that the Commission should be provided with information about the current challenges associated with the Ship Strike Database and what is needed to further develop it.

It was noted that in addition to the welfare impacts described in the presentation, it was possible that ship strikes could lead to more blood in the water and therefore to increased predation.

Recommendations relevant to ship strikes and the ship strikes database can be found in Item 8.2.

6.3 Whale watching

6.3.1 The impacts of whale watching tourism

Lars Bejder presented lessons from studies evaluating impacts of whale watching tourism. He noted the significant global growth in marine and whale watching tourism (Higham *et al.*, 2016; Hoyt, 2001; O'Connor *et al.*, 2009). Whale watching tourism has significant potential to contribute to conservation and local economies but the potential for welfare issues and biological impacts must be recognised. Impacts of whale watching tourism are difficult to detect because they are indirect, cumulative and not readily detectable. Over 30 years of impact assessment (Higham *et al.*, 2014) has found that typical short-term behavioural responses to whale watching include changes in behaviour, movement and social dynamics. This can lead to impacts on abundance and reproduction and can lead to cumulative population-level impacts (Bejder *et al.*, 2006a; 2006b; Higham *et al.*, 2014; Lusseau and Higham, 2004). A study in Shark Bay (Monkey Mia), Australia demonstrates a unique scenario in which the dolphin population had been studied for 130 years, with greater than 1,500 individuals identified, and data on age, sex, habitat use and reproductive success. Data was available before the onset of tourism and the tourism activity was in a well-defined area. The study showed an increase in tour vessel activity over 15 years from 1988 to 2003 (0 trips per day to 8 trips per day),

with a corresponding long term decline in relative dolphin abundance of 14.9% within the tourism site over the same period as compared to an increase in relative abundance of 8.5% in the control site. This finding contributed to a Ministerial decision in 2006 to reduce the number of commercial boat tour licences in the area.

6.3.2 Case studies on whale watching in Argentina

Miguel Iñíguez presented three different case studies of whale watching in Argentina and Panama. The first one, relating to Bocas del Toro, Panama, summarises the information already presented at the IWC mainly by May-Collardo (2015; 2015) and Kassamali-Fox *et al.* (2015) on the bottlenose dolphin resident population and reiterated previous IWC recommendations (IWC, 2013; 2015; 2016b). The second case study was on the open process developed in Península Valdés until the promulgation of a new whale watching regulation in 2008, which had also been previously discussed by the IWC. The third presentation related to an acoustic study developed by Reyes Reyes *et al.* (2016) in Argentina. Broadband acoustic recordings for different types of vessels were obtained using an omnidirectional hydrophone in two shallow waters of Patagonia Argentina: Ría Deseado and San Julián Bay. Both areas are inhabited by Commerson's dolphins (*Cephalorhynchus commersonii*), especially during spring and summer seasons, where they are exposed to recreational nautical activities, whale watching and in the case of Ría Deseado to the ship traffic of the harbour located there. The potential range reduction for communication on Commerson's dolphins was calculated for third-octave bands of 1, 10 and 125 kHz for each single vessel. Ship noise from a range of different vessel types substantially elevated ambient noise levels across the entire recording band from 0.2 to 250 kHz at ranges between 10 and 1,000m. Vessel noise is able to produce about 90% range reductions within a distance of 500m in the third-octave bands of 1 and 10 kHz and increase noise levels by 18 dB at a range of 100m from the recording platform. These results support previous studies on harbor porpoises (*Phocoena phocoena*) showing that several types of vessels produce substantial noise at medium and high frequency, where toothed whale hearing is most sensitive, and thus have the potential to mask relevant sounds used by the species.

6.3.3 Discussion on whale watching

In response to a question on whether animals would not simply move if they were adversely impacted by repeated interactions with whale watching vessels, it was noted that displacement could have quite a significant impact for some species if the area in question is optimised for what they need, and if animals have learnt how to use a particular area.

Bejder was asked about the impetus for the policy change described in Monkey Mia. He indicated that this was prompted by a decline in numbers and reproductive decline in females that had been subjected to long-term exposures.

Iñíguez was asked for more detail on the zoning strategy that he reported had been used in Península Valdés and whether there was evidence of whales using respite areas. He confirmed that a zone was designated for whale watching, along with a corridor for ships to enter the harbour. These together occupied approximately one third of the space combined and the remaining area of the gulf was set aside as respite for whales. It was, however, unknown whether whales preferentially use this area.

In response to a question on whether the greater impact would come from smaller boats or fewer people, or fewer larger boats, Bejder suggested that fewer large boats would

be better than many small ones in some ways but that acoustic impacts of large boats might be greater. Iñiguez reported that in Península Valdés, cooperation between operators (e.g. filling the boat of one operator before another took any passengers) to reduce numbers had worked to decrease numbers of boats but that it took a long time for operators to meet agreement on this sort of practice. In this context the importance of self-regulation by operators was noted, but that this can be a long process of cooperation with local communities.

It was asked whether there was an evidence that growth in whale watching was resulting from a switch from consumptive to non-consumptive use. Iñiguez reported some anecdotal evidence of this for fishing communities (fishers spending six months of the year fishing and the other six months as whale watching operators).

6.4 Marine litter excluding ALDFG

Andrew Butterworth gave a presentation on the non-entanglement impacts from marine debris, particularly plastics. He reported that plastics are a major component of persistent marine debris - polypropylene, polyethylene, nylon, polystyrene, polycarbonate and polyvinyl chloride are very durable, are close to the density of seawater, and are easily carried by currents. Tracing of barcodes shows that plastic can be found 10 years later and 10,000km away from its country of origin. Literature review suggests that ingestion of debris has been documented in 48 (56%) of cetacean species. Butterworth outlined published explanations for why marine species ingest marine debris which include: (i) they are opportunistic feeders, ingesting debris encountered in the environment; (ii) they ingest debris because it resembles their prey; (iii) they ingest prey with debris in their gastrointestinal tract; and/or; (iv) they ingest debris accidentally during predation, or through curiosity or play. He then went on to discuss: (a) published example cases where the volume of debris consumed may have resulted animal welfare impacts, for example, if the larynx is obstructed, or if digestion compromised; and (b) cases where ingestion of plastic micro-particles is reported, with the possibility that ingested debris (particularly degraded plastics) may be a potential cause of toxicity in cetaceans. In conclusion, he suggested that the incidence rate of ingestion events, which severely compromise the animals is likely to be low (when compared for example to entanglement), and that the potential welfare impact from toxins derived from ingested plastics is unclear and represents a knowledge gap. However, the presence of marine debris in the sea does appear to have the potential to be one of the anthropogenic hazards for cetaceans.

6.4.1 Discussion on marine litter

During the discussion Jepson noted that media reports on marine debris ingestion contrast with the results from the UK strandings programme, for which there is only one record of death as a result of marine debris ingestion from over 3,500 cetacean necropsies conducted during a 25-year period. Although marine debris ingestion was found in a small number of UK examined strandings, in many cases it was thought to have been incidentally ingested during a live stranding event. Deaville further suggested that although it was important to note the presence of marine debris, pathological impact had to be demonstrated for the ingestion to be considered to be a causal factor in the animal's death. Other participants noted that more records of death from marine ingestion debris do exist from other parts of the world. Deaville suggested that it was important

to record negative as well as positive data, to help build up a broader picture of where debris ingestion might be an issue (in relation to species and regions) and where it is not, highlighting potential knowledge gaps on this topic.

6.5 Matters related to habitat degradation

Mark Simmonds provided brief introductions to a range of issues under this agenda item: climate change, chemical and noise pollution, and prey depletion. He asserted that the potential links between climate change and welfare concerns for marine mammals requires a novel approach. A recent literature review considering climate change and marine mammals showed that a growing proportion of publications make links between observed changes in the field and climate changes, with much literature focused on the Arctic region (Nunny and Simmonds, 2016). (None of this literature considers any welfare implications.) Linkages have been made between observed and predicted changes in the physical environment (e.g. loss of ice cover and changes in water circulations) and habitat and species-level changes (e.g. decline in primary productive leading to changes in prey availability; see Simmonds, 2016). The literature indicates that declines in prey availability, access and quality were perhaps the primary concerns for cetaceans but loss of habitat, displacement and the potential for increased competition further to range changes was also highlighted. Changes in human behaviour in response to the climate change could also impact them (for example increasing activities in Arctic waters such as fishing, boat traffic and fossil fuel exploration) and may even be the most immediate impacts in some cases (Alter *et al.*, 2010). Climate change might cause some benefits for some populations - for example in terms of enhanced feeding opportunities in waters that might not have previously been hospitable to them - at least initially. However, overall, Simmonds suggested that climate change might be expected to enhance many significant welfare concerns that affect wild cetaceans.

Chemical pollution has been recognised as a threat to cetaceans and especially those at the apex of marine food chains. Special note was taken of the meticulous investigations into the 2010 *Deepwater Horizon* event in the Gulf of Mexico linking health concerns in dolphins, including loss of calves, to exposure to this major oil spill event. In particular, Schwacke *et al.* (2014) recently reported that dolphins within the Barataria Bay, Louisiana region demonstrated a high prevalence of advanced lung disease, blood values consistent with hypoadrenocorticism or inflammation, poor body condition, and overall a guarded to poor prognoses for survival. Most recently, Colegrove *et al.* (2016) revealed that from 2011 to 2013, during the northern Gulf of Mexico UME [unusual mortality event], 'bottlenose dolphins were particularly susceptible to late-term pregnancy failures and development of in utero infections including brucellosis.'

Simmonds also drew attention to the recent work by Jepson *et al.* (2016) and Murphy *et al.* (2015) on organochlorine pollutants, showing that health concerns (i.e. immunosuppression and reproductive suppression) continue in the North Atlantic region caused by the persistence of PCBs. Pathological findings were consistent with immunosuppression and increased susceptibility to disease included macro-parasitic and bacterial pneumonias, high lung and gastric macro-parasite burdens, and generalised bacterial infections (septicaemias). From a conservation perspective the implications for some populations are severe and there will be associated welfare concerns.

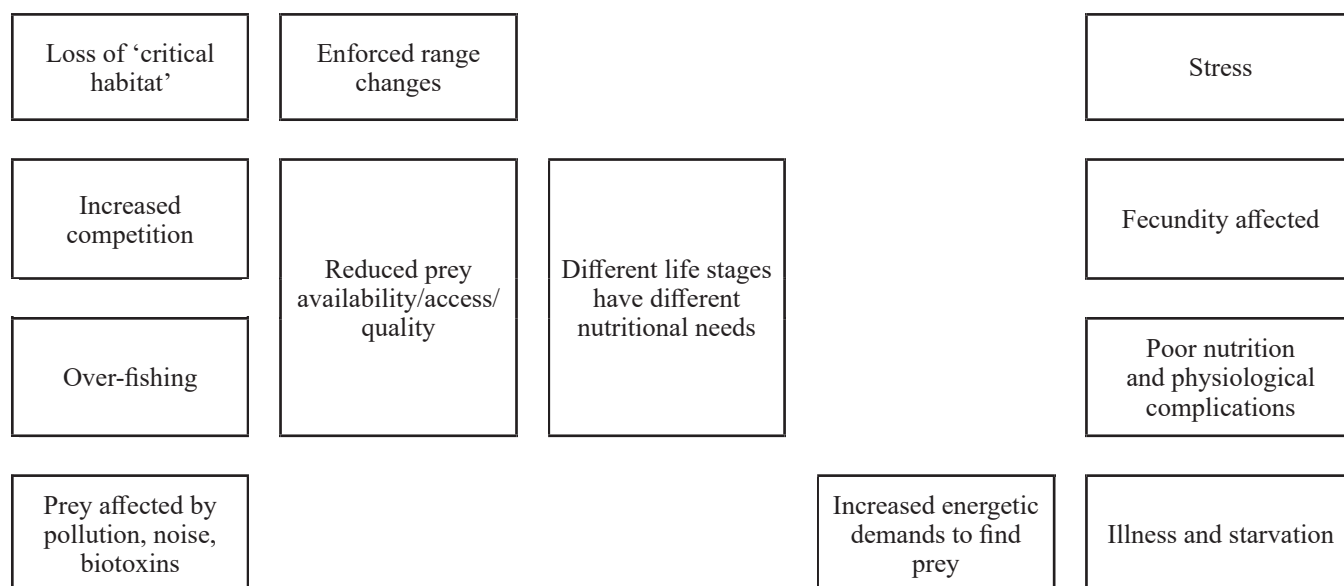


Fig. 1. Potential causes of changes in prey quantity, quality and abundance and implications for cetacean welfare.

As an introduction to noise pollution, Simmonds referred to the summary made by Todd *et al.* (2015). They note that the ocean is a very noisy environment, with both natural and anthropogenic sources contributing significantly to background noise levels. If noise levels are sufficiently elevated at an animal's most sensitive hearing frequencies this can result in TTS or PTS (temporary or permanent threshold shift). Lower intensity sounds could invoke behavioural reactions, including avoidance or vocalisation alterations. Masking is also a concern, and can reduce the ranges at which marine mammals communicate. Todd *et al.* (2015) add that military SONAR has been correlated with mass stranding events.

In terms of observed effects of marine noise pollution, Simmonds noted that TTS had been extensively studied in several species; localised avoidance have been observed; changes in other behaviour e.g. dive times and calling have been observed; stress responses are expected and there is some evidence of this; impulse trauma has been observed; strandings observed and also noise-associated *in vivo* gas bubbles in tissues. There was no time to explore these issues in depth, but Simmonds noted that chronic embolisms in tissue might well be very painful and, in support of this, showed images from the post mortem of a Risso's dolphin (*Grampus griseus*) examined in the UK by the Cetacean Strandings Investigation Programme, showing a grossly distended spleen.

Finally, Simmonds presented Fig. 1, which shows a series of potential causes and consequences of issues relates to prey quantity, quality and abundance and the welfare concerns that may result. Simmonds noted that the IWC already had work streams looking at some of these issues and that this was primarily through the work of the Scientific Committee and predominantly from a conservation perspective. He suggested that prey depletion and chemical and noise pollution stood out as potentially having significant, related welfare concerns.

6.5.1 Discussion on matters related to habitat degradation
Discussion on the 2010 *Deepwater Horizon* event in the Gulf of Mexico noted the importance of the research programme that has taken place there, which provided a hugely valuable set of evidence on the impacts of such events.

Questions on PCBs focused on the likely geographical extent of PCBs and whether the impacts described (for killer whales in the Atlantic) were likely to be confined to the Northeast Atlantic area. Jepson confirmed that the Northeast Atlantic has the highest recorded levels in the world - up to 6.5 times levels in the Southern Resident killer whale population in the North Pacific which was previously considered to be the highest. There are very high levels of PCBs in killer whales from the Arctic to the Antarctic, with the highest levels in industrialised regions, indicating that there are likely to be significant PCB related impacts throughout their range. There are geographical hotspots including the Mediterranean Sea in Europe and the River Yangtze in China, one of the most polluted rivers in the world, home to the Yangtze finless porpoise and previously home to the now extinct baiji. Thus it was noted that the problem is not confined to Europe and was likely to extend to other species feeding at similar trophic levels as killer whales, including false killer whales and bottlenose dolphins. Work was needed to fill in data gaps for these species.

There was some discussion on prey depletion and the potential for this to occur as a result of climate change. Prey depletion had been studied in other species (e.g. Oozthuisen noted that there had been studies in South Africa on impacts of overfishing on penguins) and the workshop noted that more studies relevant to cetaceans would be useful-including in relation to cumulative impacts from climate change. Some participants expressed a view that this could be more significant than currently realised.

7. INTRODUCTION OF A WELFARE ASSESSMENT MODEL AND ITS APPLICATION

7.1 Comparative assessment of welfare threats

Following on from the presentation of the Five Domains model for the assessment of welfare threats (Item 5.2) participants agreed that it would be useful to consider further the potential usefulness of this framework to the consideration of non-hunting cetacean welfare threats. It was thus agreed that the workshop would establish five break-out groups to test the framework against a set of

threats to cetacean welfare, using the proforma in Appendix 1. Each group discussed each welfare threat against four of the Five Domains (Nutritional, Health, Behavioural and Psychological - leaving out the Environmental domain on the basis that this was thought more relevant to captive animals) in the framework in qualitative terms and in relation to both acute and chronic impacts. Each individual was then asked to complete the proforma by scoring each welfare threat for both acute and chronic impacts against each domain in the model, using a score of 0-3 (0=no impact; 1=minor impact; 2=moderate impact; 3=severe impact). These scores were then collated and combined in an effort to explore the utility of the framework for comparative assessment of welfare threats.

Following this exercise, Rendell presented briefly on the collated results from the individual scoring exercise. 84% of people rated entanglement the highest welfare threat, with lots of variation in what threats were ranked in second and subsequent places. Whale watching was rated lowest by 53% of participants. Despite the lack of information on prey depletion as a welfare threat there seemed to be a view that this was an important issue, with 21% of participants rating this as the second most severe threat. Following brief discussion of these results, the Workshop agreed that, rather than undertake in-depth analysis of this very exploratory exercise, it should reflect on some more general experiences in undertaking this exercise, and on use of the Five Domains model. This discussion led to a number of generic observations on applicability of the Five Domains model to the assessment of welfare threats to wild cetaceans. These are summarised in Item 7.1.1 below.

7.1.1 Observations on the applicability of the Five Domains model to the assessment of welfare threats to wild cetaceans

Overall, the groups had positive experiences with working with the Five Domains model and found it relevant to apply in the consideration of non-hunting cetacean welfare threats. There had been some challenges in terms of definitions - particularly of acute vs. chronic impacts. For example, some groups defined 'acute' as 'quick, lethal impact' whilst others defined this more on a time-series in terms of immediate impact or impact within a few hours - regardless of whether this was a lethal impact or, in fact a 'good' outcome (e.g. brief entanglement, panic and then escape). Participants agreed that clearer definition of terms would have aided the assessment.

There was some discussion on the Psychological Domain. The Workshop noted that Domains 1 to 4 are all measurable by normal scientific methods. There may of course be practical difficulties in obtaining data on some aspects, but these raise technical not fundamental problems that could in time be solved. Domain 5 is the one that is not directly measurable but requires an analogical leap based on similarities between mammalian brains. The fifth welfare state is seen as an overall integration of the other domains

Groups had found it hard to make a generalised assessment for each threat. There could be such a spectrum of impacts that assessments could vary quite significantly between a 'worse-case scenario' or situation with 'highest numbers of animals affected' vs a case of more moderate impact. Strength of threat could also vary significantly e.g. amplitude or frequency of noise. There would also be variations in extent and significance of impact depending on the species (including large vs small cetaceans). Thus a case by case approach could be much more useful than trying to make a generalised assessment.

In addition, it was noted that some welfare threats (e.g. pollution and disease; marine litter ingestion and chemical pollution; noise and whale watching) can be interconnected so assessing them separately can be difficult and not always as useful.

Groups noted that impacts of some threats were directly observable (e.g. entanglement, ship strike) whereas others were not directly observable (chemical etc.). In addition, there were a range of evidence gaps, particularly for certain threats, that made the assessment difficult. There had thus been discomfort in the application of a single uncertainty score for each threat. In this context groups had found it easier to assess welfare threats which cause trauma and injury and thus have clear welfare effects. Others causing loss of health, e.g. pollution, prey depletion, had been more difficult. It was agreed that it would be useful to try to capture evidence gaps in more detail.

There was some further discussion on use of terminology. Terms such as 'fear' and 'panic' can perhaps be observed and quantified more easily in some animals (e.g. captive farm animals) but this is more difficult in wild animals. It was also agreed that there was a need for more understanding of the baseline behaviour of wild animals in order to better understand human impacts.

There was some discussion on whether it was possible to consider the positive welfare states that humans can bring to cetaceans. This was considered in the Five Domains model but not considered for this exercise and some participants asked for more consideration of whether this should be included.

Some groups would have found it helpful to have a bigger range for scoring in the assessment.

In conclusion, the Workshop agreed that the model was limited in its use for an overall comparative and generalised assessment of different welfare threats; and that it would potentially be much more useful to consider its applicability to different case studies and scenarios. This could potentially also include assessment of the human response to welfare situations e.g. strandings response and various decisions (e.g. euthanasia) associated with this. Clearer definitions (e.g. chronic vs acute) would also be helpful.

The group noted that some elements of the assessment had been opinion based due either to lack of evidence or difficulties in assessing or relating the domains to wild animals. There was a need to accumulate an evidence base to test expert opinion against other measures e.g. stress studies. It was also agreed that this assessment was essentially a 'point in time' assessment but that in longer-lived animals, quality of life over time might be more important.

7.2 Applying the Five Domains model to cetacean welfare scenarios

During the previous discussion participants had expressed interest in exploring the use of the Five Domains model further through its application to some specific scenarios, framed with a clear description of species, impacts, definitions and timelines. The Workshop agreed to split into different groups to define and explore scenarios related to entanglement; pollution; whale watching and ship strikes. Mattila, Jepson, Bejder and van der Hoop agreed to chair these groups. Some worked examples from this exercise are in Appendix 2. Feedback from the groups working on particular scenarios is summarised below.

7.2.1 Whale watching

Feedback from this group reiterated that the framework would not be useful to compare whale watching with other

threats, and that the exercise had been focused on how it could be used to inform whale watching activities. The group had included both scientists and managers and there had been useful discussion on how this assessment tool could be used by both disciplines. The group identified different stressors from whale watching activities and tried to quantify welfare impacts associated with each of these stressors - for each stressor taking a best and worse-case scenario. The group attempted to align with existing approaches to identify exposure and impacts of whale watching as developed by IWC and other organisations. These are typically evaluated in four different scenarios: (i) resident coastal population; (ii) migration; (iii) feeding; (iv) breeding. For the purpose of this exercise a best- and worst-case scenario was developed with the worst-case scenario being a resident coastal population repeatedly exposed to stressors. Using this approach, the group had developed a more context-specific approach, which they thought was critical. The approach mainly looked at short-term responses but had a column for cumulative responses in the longer term. Results for this followed a similar pattern to short-term responses but with less confidence in the numbers. Information on the long-term and cumulative impacts of whale watching on cetacean welfare was identified as a knowledge gap.

During the discussion, the Workshop noted that the development of a more context-specific approach had been important. The introduction of multiple stressors had been useful and might be useful to work through for the other welfare threats. An advantage of using the tool in the whale watching context was that it pushed for good welfare, which would also push towards the industry behaving more responsibly and more sustainable practices in the long term. It was also noted that it might be possible to use the tool to help compare two scenarios, e.g. a comparison between two different whale watching proposals. This led to some discussion on who should use the tool. Some participants expressed concern that it could be open to misuse by less responsible operators and that appropriately trained experts should be involved in the assessment. However, it was noted that the results from using the framework could be useful for communicating threats to local communities and industry.

In conclusion, the Workshop noted that if this tool were to be used for whale watching it needed to include multiple stressors and should be used against the four categories of animals (above) defined in the literature. It was also noted that this tool could be considered by the IWC whale watching standing working group in its work to further develop the whale watching handbook.

7.2.2 Ship strikes

The group defined four cases. They reported that confidence in their assessment had been high – they were dealing with very specific cases, with existing evidence and analysing in the context of this evidence. This had also helped to define acute vs chronic impacts. In each scenario they were retrospectively reviewing cases where the eventual outcome was known. This had led to a discussion on the best point in time to make a welfare assessment. In a chronic case then there may be healing over time so the assessment would be very different depending on which stage the framework assessment was completed. The group had concluded that the assessment needed to be done at the final end point. But there were obvious limitations with this and in many cases this would not be possible.

This exercise had led to a broader discussion on the use of the tool to review management approaches for ship strikes. The group had noted that some mitigation measures designed to prevent strikes, e.g. traffic separation should

lead to positive conservation and welfare outcomes but had queried whether mitigation designed to reduce mortality from a conservation perspective e.g. slowing down might result in an increased number of non-lethal strikes and potentially an increased problem from a welfare perspective. A recommendation on this can be found in Item 8.2.

7.2.3 Entanglement

The group had looked at four different cases: (1) a small cetacean entangled in a net; (2) a large whale with a minor entanglement, which was shed; (3) a large whale in severe entanglement where it was not possible to intervene; and (4) a large whale with a lethal entanglement that was released. An “acute” impact was defined according to the time taken for an animal to drown and anything over a longer timespan was defined as “chronic”. The group had encountered similar issues with timescale as the ship strikes group and noted the likelihood of being forced to rate at the point of observation.

The group had noted that the original Five Domains model had a large glossary of effective state definitions and that it might be possible within this to find better descriptors for wild cetaceans. It was also thought a five-point scoring scale might have helped.

In discussing the case of the released animal, it was noted that its welfare did not improve straight away, and indeed open wounds persisted for the rest of its life. Thus the tool could be useful in assessing when to intervene.

There was some discussion on the scoring scale. The group had suggested that a five-point scoring scale might have helped. However, it was noted that fewer point scales may be more appropriate in a data poor scenario.

The Workshop noted that the Global Entanglement Network have an assessment tool for judging when to intervene and this framework could potentially help with this discussion. A recommendation on this can be found in Item 8.2.

7.2.4 Chemical pollution

The group had explored several scenarios involving PCBs (pilot whales in the Mediterranean with moderate exposure and killer whales in the Mediterranean with high exposure), as well as an oil spill (bottlenose dolphin in the Gulf of Mexico). For PCBs, it was determined that given the impacts came from bioaccumulation then there were no major acute effects. Discussion had focused around immunosuppression and reproductive suppression including increases in abortions and mortality of live born calves. It was noted that, for these scenarios, impacts on some domains were secondary in affect, e.g. once an animal is diseased (as a result of immunosuppression) then nutrition and behaviour (for example) might start to be more affected.

Chronic impacts considered in one scenarios included a case of death within days/months of a calf as a result of toxicity from the high levels of PCBs in milk. In this scenario it had been noted that a measure of the welfare status of a female could improve following offload of PCB burden to her calf (which can be up to 90%) but that reduced welfare could be observed in a grieving response.

For oil spills the group had used ‘short’ (period of oil spill itself) and ‘long-term’ impacts rather than acute and chronic. Inhalation and ingestion led to both short and long-term effects, with long-term effects also being observed on health and reproduction. During its discussions the group had noted the importance of the research programme on impacts of the 2010 *Deepwater Horizon* event in the Gulf of Mexico. This assessment would not have been possible without it.

Finally, the group noted that, although fairly good data existed for the scenarios used, there are significant data gaps for other species.

There was some discussion on the welfare impacts of calf mortality. It was noted that there was evidence of grieving behaviour demonstrated by mothers losing their calves (Reggente *et al.*, 2016; Simmonds, 2006).

7.3 Assessing welfare over time and cumulative impacts

The Workshop concurred with an observation by Butterworth that although the Five Domains tool presents positive and negative welfare states in binary format for ease of presentation and understanding, the reality is that animal welfare is on a continuum. Taking this into account, it was noted that ostensibly minor welfare burdens on individuals whose welfare is already compromised in other ways could reduce their overall resilience beyond their coping capacity, and that assessment of cumulative impacts was therefore important.

Earlier discussions had noted that it would be useful to consider further means of mapping welfare over a lifetime—moving from assessment of instantaneous welfare state to an assessment of overall quality of life (Yeates, 2011); and help with the examination of long-term cumulative impacts. Christine Nicol presented a model developed by Wolfensohn *et al.* (2015), which was developed to try to capture the long-term impacts on primates of being kept in laboratories for long periods. The model requires consideration of how long an animal is likely to suffer impacts from a particular welfare event. This is plotted out to look at the impact of this event over a lifespan and it provides a useful visual presentation of how welfare is affected over time. The time interval between data capture points can be decided by the average life span of the animal. Nicol suggested that this model could be modified and used to consider cetacean welfare and it most likely to be useful for particular scenarios and for the assessment of best practice. The Workshop noted a key limitation for wild animals, in that often, it is only possible to get one observation but it was acknowledged that it might be possible to make some judgment on the length of time that impacts would be suffered for compared to the lifetime. Nicol further added that there were some developing measures, such as telomere shortening that could, from one observation or biopsy sample, be developed as indicators of stress over time. Johnson offered some further observations on when different types of models might be useful. If assessing at the policy level (i.e. significance of threat and whether to take action or not) then a point in time assessment might be sufficient; but making a decision about a particular animal and whether to intervene or not (and how) e.g. a stranded or entangled animal requires some assessment of what it likely to happen to that animal in the future.

7.4 Development of a cetacean welfare assessment framework

Overall, the Workshop concluded that the Five Domains model had performed fairly well in application to the wild animal context and in the assessment of cetacean welfare threats. It was therefore considered appropriate to explore the possibility of adapting this model towards the development of a cetacean welfare assessment framework, designed for the assessment of non-hunting welfare threats.

A small group led by Bass was asked to undertake some work in the margins to develop a draft framework. The Workshop briefly discussed which of the (original) Five Domains should be included in this framework and agreed that all Five Domains should be considered. Though the

Environmental Domain had been excluded from the initial testing of this framework (Item 7.1.1), it was considered that there would be some human impacts on the environment of wild animals that could be considered within this domain. The group was also asked to consider how positive welfare states of cetaceans could be reflected in the framework. A draft framework was subsequently developed by the group and modified on the basis of plenary discussion.

The draft proposed Cetacean Welfare Assessment Framework agreed by the Workshop is in Annex E. Recommendations on the further development and application of a cetacean welfare assessment framework, including on application of welfare expertise and evidence gaps can be found in Item 8.1. Recommendations on how development and application of the proposed cetacean welfare assessment framework could help to further strengthen the consideration of welfare within existing IWC programmes can be found in Item 8.2.

8. CONCLUSIONS AND RECOMMENDATIONS

8.1 Development and application of a cetacean welfare assessment framework

The Workshop **agrees** that, despite some limitations in its application to wild animals, the use of the *Five Domains model for assessing welfare status* has been relevant and useful as a tool to help consider non-hunting threats to cetaceans, particularly for defined case studies and scenarios (Item 7.1 and 7.2). It **agrees** that a cetacean welfare assessment framework (adapted from the Five Domains model, and further developed by the IWC), designed for the assessment of non-hunting welfare threats, would be useful for a range of potential applications. These could include: (1) the review of welfare threats to inform the case for (or against) action; (2) informing the development of policy and mitigation strategies, including to ensure that welfare issues are appropriately addressed in conservation strategies; and (3) the development of response and rescue guidelines.

On this basis, the Workshop **recommends** that the IWC endorse the further development and application of the draft Cetacean Welfare Assessment Framework in assessing non-hunting threats to cetacean welfare and promote its use beyond the IWC (Item 7.4).

The Workshop **recommends** that further work on the assessment framework be taken forward, in particular to: (1) continue to adapt the Five Domains model for wild cetaceans; (2) address how best to assess welfare impacts and changes in welfare status over time; (3) define and incorporate potential stressors and include accepted best practice/limits (e.g. for whale watching and noise); (4) determine the most appropriate scale for scoring severity; (5) address how best to incorporate a consideration of cumulative, in-combination effects and long-term impacts; and (6) identify any further improvements that can be made.

The Workshop thus **recommends** that Terms of Reference be drafted to guide further work to refine the assessment framework and that its refinement and application be progressed through the existing IWC Intersessional Working Group on Welfare with the aim of submission to IWC/67 in 2018 for endorsement. The Workshop **recommends** that the Intersessional Correspondence Group on Welfare and the IWC Secretariat ensure that appropriate experts are engaged in the continued development and application of the assessment framework.

8.1.1 Application of welfare expertise

The Workshop **emphasises** that appropriately trained experts should be engaged in the assessment of welfare threats (Item

7.2.1). It, however, **agrees** that the results from application of the assessment framework could be useful in engaging local communities and industry in the development of mitigation options and best practice guidelines (Item 7.2.1).

The Workshop **recommends** that care be taken to ensure that the practical application of the assessment framework be assisted by appropriately trained experts, including animal welfare experts and cetacean experts and that the conclusions be shared with local communities in order to facilitate education and promote best practice.

8.1.2 Evidence gaps

The Workshop **agrees** that the assessment of welfare threats is more feasible where there is a strong evidence base. It **acknowledges** that it was more difficult to assess the significance of, and develop appropriate mitigation strategies for threats, species and areas of the world for which there was more limited data and **agrees** that further work was necessary to address evidence gaps (Item 7.1.1).

The Workshop therefore **recommends** that consideration be given to progressing further work where uncertainty may reduce the confidence in the application of the proposed assessment framework including in relation to prey depletion, chemical pollution, anthropogenic sound, marine litter and biotoxins.

The Workshop also **recommends** that a process be established that allows for the continued re-assessment of welfare threats as knowledge and understanding improves.

8.1.3 Precautionary principle

The Workshop **notes** that it is appropriate, in some cases not to wait until the full scientific evidence is available before taking mitigation action and thus notes the value of application of the precautionary principle when assessing animal welfare and providing mitigation advice to avoid potentially poor welfare situations.

The Workshop **recommends** that in cases where the welfare implications of certain activities are only poorly understood, management of a particular activity or threat should be precautionary and adopt a risk-based approach based on best available scientific knowledge.

8.2 Strengthening the consideration of welfare across IWC work programmes

In reflecting on the use of the Five Domains model to consider welfare threats the Workshop **notes** the potential application of the tool in the development of the whale watching handbook (Item 7.2.1); and the potential for its integration into the assessment tool used by the Global Entanglement Network (Item 7.2.3). The Workshop **notes** synergies, as well as potential conflicts between conservation and welfare (Items 4.1 and 5.2), including in the context of ship strikes (Item 7.2.2). The Workshop **concludes** that the application of the Five Domains model had been valuable in order to consider welfare threats addressed by existing IWC work programmes.

The Workshop thus **agrees** that the development and application of the proposed cetacean welfare assessment framework could help to further strengthen the consideration of welfare within existing IWC programmes. The Workshop **emphasises** that this would require a greater understanding of the welfare implications for individual animals over time (including wound healing, wound progression and times to death); and of the welfare implications of disruption of normal behavioural routines and social behaviours. The Workshop **emphasises** the need for improved data collection associated with welfare threats and in particular the importance of the IWC ship strikes database in this regard (Item 6.2.1).

Thus, the Workshop **recommends** that the assessment framework be submitted to the Scientific Committee and other relevant IWC committees and working groups for further scrutiny and comment, and eventual transmission to the IWC Commission for endorsement.

The Workshop further **recommends** that application of the assessment framework be considered by the IWC entanglement expert group for its utility and potential addition to the existing entanglement intervention framework to enhance welfare considerations in the decision-making process.

The Workshop **recommended** that the IWC give further consideration to identifying any conservation strategies that may inadvertently compromise individual cetacean welfare and to seek solutions that optimise both welfare and conservation goals. The Workshop **recommends** the encouragement of monitoring of wound healing, wound progression, and time to death in cetaceans in the wild that have incurred vessel-strike or entanglement injuries, in order to provide greater understanding of the welfare implications for individuals.

The Workshop **recommended** that IWC Contracting Governments ensure national ship strike data, including non-lethal incidents, are submitted to the IWC Ship Strike Database and that the IWC promote the importance of submission of this data directly to the IWC database in order to develop understanding of the welfare risk to cetaceans.

The Workshop **emphasises** that, of the threats considered by the Workshop, entanglement in fishing gear is the most significant threat to wild cetacean welfare. Thus the Workshop **recommends** that IWC Contracting Governments and the IWC Secretariat place a high priority on developing effective entanglement mitigation and prevention measures, and until such time as that is developed, continue support for the palliative care offered by further developing the Global Whale Entanglement Response Network and database.

The Workshop **agrees** that more work is needed on the implications of entanglement and bycatch for small cetaceans and thus the Workshop **recommends** that the IWC conducts a detailed consideration of the welfare implications of entanglement and bycatch for small cetaceans.

8.3 Additional and emerging threats to cetacean welfare

During the Workshop participants were asked to identify any additional to cetacean welfare threats that were relevant to the work of the IWC including existing threats not sufficiently discussed at the Workshop and new and emerging threats.

The Workshop **notes** other issues of concern including biotoxins from harmful algal blooms, which may be human induced; the consequences of the repeated entrapment and release of dolphins in tuna purse seine nets; habitat loss from human activities such as mining and animal welfare implications of swim-with cetacean programmes. The Workshop **agrees** that several of these issues presented opportunities for engagement with other intergovernmental organisations (e.g. in the case of mining, with UN bodies responsible for seabed stewardship).

8.4 Engaging with other organisations and experts

The Workshop **notes** (Item 4.3) that there are a range of other international organisations engaged in efforts related to animal and cetacean welfare including OIE, OECD, FAO, EU, NAMMCO and CITES and **agrees** that it would be useful for the IWC to engage with these organisations.

In addition, the Workshop **acknowledges with gratitude** the contribution of animal welfare experts to the Workshop and **agrees** that the IWC should continue to engage these

experts as this work progresses. It is noted that this is in line with action already agreed under the Welfare Action Plan (Action 4.1 *Establish and maintain appropriate and constructive links with organisations considering animal welfare, including the hunting of terrestrial animals*; Action 4.2 *Request that Contracting Governments provide information on animal welfare science experts for inclusion in the IWC external contacts database*).

The Workshop thus **recommends** that the IWC Secretariat proactively engages with organisations with a welfare remit and experts to share information and facilitate the use of existing welfare principles, standards, and definitions as appropriate, for example with the OIE, NAMMCO, and CITES.

In addition, the Workshop **recommends** that IWC Contracting Governments identify national experts in the assessment of welfare for inclusion on the list of welfare experts to be compiled under the IWC Welfare Action Plan.

8.5 Cost implications

The Workshop **emphasises** that further work to deliver the welfare action plan, and to take forward recommendations from the Workshop would have cost implications and **agrees** that it would be useful to establish these costs in order to inform budgeting processes and potential fundraising.

The Workshop **recommends** that the Secretariat provide clear cost estimates for work necessary to facilitate the delivery the IWC Welfare Action Plan, starting with the completion of the welfare assessment framework

The Workshop further **recommends** that the IWC gives consideration to the establishment of a dedicated funding stream to help progress the assessment and mitigation of non-hunting threats to cetacean welfare.

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Annex A

List of Participants

- Claire Bass
Executive Director, HSI UK,
Humane Society International –
United Kingdom,
5 Underwood Street, London, N1
7LY, UK
Email: cbass@hsi.org
- Lars Bejder
Head, Cetacean Research Unit,
School of Veterinary and Life
Sciences
Murdoch University South Street,
Murdoch WA 6150, AUSTRALIA
Email: l.bejder@murdoch.edu.au
- Simon Brockington
Executive Secretary, International
Whaling Commission
The Red House, 135 Station Road,
Impington, Cambridge, CB24 9NP,
UK
Email: simon.brockington@iwc.int
- Andrew Brownlow
Scottish Marine Animal Stranding
Scheme, SAC Veterinary Services
Drummondhill, Inverness, IV2 4JZ,
UK
Email: andrew.brownlow@sruc.ac.uk
- Andrew Butterworth
Department of Clinical Veterinary
Science, University of Bristol
Veterinary School,
Langford, N Somerset, BS40 5DU,
UK
Email: andy.butterworth@bris.ac.uk
- Rob Deaville
Project Manager, UK Cetacean
Strandings Investigation Programme
The Wellcome Building, Institute
of Zoology, Zoological Society of
London, Regent's Park, London,
NW1 4RY, UK
Email: rob.deaville@ioz.ac.uk
- Antonio Fernández
Head of Research Institute of Animal
Health, University of Las Palmas de
Gran Canaria, Autovia de Banaderos
a Las Palmas no80, Km 6.5
Arucas 35416 Las Palmas, GRAN
CANARIA, SPAIN
Email: antonio.fernandez@ulpgc.es
- Sue Fisher
Animal Welfare Institute
900 Pennsylvania Ave SE,
Washington, DC 20003, USA
Email: sue.fisher@balaena.org
- Astrid Frisch Jordán
Coordinación Nacional Red De
Asistencia a Ballenas Enmalladas
Ecología y Conservacion
de Ballenas, AC., Arce #541. Col.
La Primavera, Puerto Vallarta, Jal.
48325, MEXICO
Email: fibbcatalogo@yahoo.com
- Nigel Gooding
Deputy Director – Fisheries and
Conservation, DEFRA, Area 8A, 9
Millbank c/o Nobel House, 17 Smith
Square, London, SW1P 3JR, UK
Email: nigel.a.gooding@defra.gsi.gov.uk
- Lonneke IJsseldijk
Project Coordinator Cetaceans,
Faculty of Veterinary Medicine,
Utrecht University, Department of
Pathobiology, Yalelaan 1, PO Box
80158, 3508 TD Utrecht, THE
NETHERLANDS
Email: L.L.IJsseldijk@uu.nl
- Miguel Iñíguez
Fundación Cethus, Potosi 2087
(B1636BUA), Olivos - Prov. Buenos
Aires, ARGENTINA
Email: miguel.iniguez@cethus.org
- Paul Jepson
European Veterinary Specialist in
Wildlife Population Health Reader,
Institute of Zoology, Zoological
Society of London, Regent's Park,
London, NW1 4RY, UK
Email: Paul.Jepson@ioz.ac.uk
- Craig Johnson
Professor of Veterinary
Neurophysiology, Institute of
Veterinary, Animal and Biomedical
Sciences, Massey University
Palmerston North, NEW ZEALAND
Email: C.B.Johnson@massey.ac.nz
- Sabine Ketele
Senior Policy Advisor,
Ministry of Economic Affairs,
Bezuidenhoutseweg 73/2594
AC/'s-Gravenhage, Postbus
20401/2500 EK/'s Gravenhage, THE
NETHERLANDS
Email: s.h.ketele@minez.nl

Paul Kiernan
Welfare Officer, Irish Whale and
Dolphin Group
Merchants Quay, Kilrush, Co. Clare,
IRELAND

Email: jayk88@hotmail.com

David Mattila
Technical Adviser, Entanglement
Response and Ship Strike Reduction,
International Whaling Commission
The Red House, 135 Station Road,
Impington, Cambridge, CB24 9NP,
UK

Email: david.mattila@iwc.int

Michael Meyer
Department of Environmental Affairs
Private Bag X2, Roggebaai 8012,
SOUTH AFRICA

Email: MMeyer@environment.gov.za

Katie Moore, Director, Animal
Rescue, IFAW - International Fund
for Animal Welfare
290 Summer Street - Yarmouth Port,
MA 02675, USA

Email: kmoore@ifaw.org

Christine Nicol
Professor of Animal Welfare, School
of Veterinary Science, University of
Bristol, Langford House, Langford,
BS40 5DU, UK

Email: c.j.nicol@bris.ac.uk

Michael Ogle
Takaka Office, Department of
Conservation - *Te Papa Atawhai*
PO BOX 166, Takaka 7142, NEW
ZEALAND

Email: mogle@doc.govt.nz

Herman Oosthuizen
Dept. of Environmental Affairs and
Tourism Branch, Marine and Coastal
Management
Private Bag X2, Rogge Bay 8012,
SOUTH AFRICA

Email: oosthuiz@environment.gov.za

Angela Recalde Salas
Centre for Marine Science and
Technology, Curtin University -
Perth, Western Australia, Research
Associate, Fundación Yubarta
Calle 13A # 100-46 (D301). Barrio
Ciudad Jardín. Cali, COLOMBIA

*Email: angela.recaldesalas@
uqconnect.edu.au*

Jamie Rendell
Policy Advisor, International
Fisheries and Marine Species
Protection Team, Fisheries and
Conservation, Department for
Environment Food and Rural Affairs
9 Millbank, c/o Nobel House, 17
Smith Square, London SW1P 3JR,
UK

Email: Jamie.Rendell@defra.gsi.gov.uk

Mdu Seakamela
Department of Environmental Affairs
Office A2-60 Foretrust Building,
Martin Hammerschlag Way,
Foreshore, Cape Town, 8000,
SOUTH AFRICA

*Email: smseakamela@environment.
gov.za*

Brian Sharp
Program Manager, Marine Mammal
Rescue and Research, IFAW -
International Fund for Animal
Welfare, 290 Summer Street -
Yarmouth Port, MA 02675, USA

Email: bsharp@ifaw.org

Mark Simmonds
Visiting Fellow, School of Veterinary
Sciences, University of Bristol
Langford, Bristol BS40 5DU, UK

Email: mark.simmonds@sciencegyre.co.uk

Sarah Smith
Project Development Officer, IWC,
The Red House, 135 Station Road,
Impington, Cambridge, CB24 9NP,
UK

Email: sarah.smith@iwc.int

Meredith Thornton
Research Manager, Dyer Island
Conservation Trust, Research
Associate
Mammal Research Institute,
University of Pretoria, PO BOX 78,
Gansbaai, Western Cape, SOUTH
AFRICA, 7220

Email: meredith@sharkwatchsa.com

Joanna Toole
Wildlife Campaign Manager, World
Animal Protection
5th Floor, 222 Grays Inn Road,
London, WC1X 8HB, UK

*Email: joannatoole@
worldanimalprotection.org*

Julie van der Hoop
Massachusetts Institute of
Technology, Woods Hole
Oceanographic Institution
266 Woods Hole Rd, MS# 50, Woods
Hole, MA 02543, USA

Email: jvanderhoop@whoi.edu

Gisli Víkingsson
Marine Research Institute Iceland,
Skulagata 4, Reykjavik 101,
ICELAND

Email: gisli@hafro.is

Ms Sarah Wilkin
Marine Mammal Health and
Stranding Response Program,
NOAA Fisheries, Office of Protected
Resources

1315 East-West Highway, Silver
Spring, MD 20910, USA

Email: sarah.wilkin@noaa.gov

Annex B

Agenda

1. Welcome and introductions
 - 1.1 Opening remarks
 - 1.2 Appointment of rapporteur(s)
 - 1.3 Available documents
2. Workshop aims (objectives, and focus)
 - 2.1 Overview
 - 2.2 Relationship with the IWC Welfare Action Plan
 - 2.3 Expected workshop outcomes and production of report
3. The regional and international context
 - 3.1 Understanding what we mean by ‘animal welfare’
 - 3.2 National perspectives
 - 3.3 International organisations perspectives on animal welfare
4. Assessing welfare threats to wild cetaceans at the individual and population level.
 - 4.1 Assessing welfare status – physical, physiological, and behavioural impacts indices.
 - 4.2 Separating human-induced poor welfare from natural welfare challenges
5. Summary of non-hunting threats to cetacean welfare
 - 5.1 Entanglement in active gear and ALDFG (abandoned, lost and discarded fishing gear)
 - 5.2 Ship strikes
 - 5.3 Whalewatching
 - 5.4 Marine litter excluding ALDFG
 - 5.5 Matters related to habitat degradation
 - 5.1.1 Chronic and acute noise
 - 5.2.2 Chemical pollution (other than marine litter)
 - 5.2.3 Prey depletion i.e. from overfishing
 - 5.2.4 Climate change
6. Comparative assessment of welfare threats: discussion and group exercise
7. Reflections on day 1 – what have we missed? Internet access!
8. Conclusions and recommendations
 - 8.1 Identification of priority advice and evidence gaps
 - 8.2 Recommendations (including, timescales, funding, responsible actors and collaboration)
 - 8.2.1 With respect to evidence/advice gaps
 - 8.2.2 With respect to mitigation actions
 - 8.3.3 With respect to updating the IWC Welfare Action Plan and communication strategy
9. Next steps and close of Workshop

Annex C

List of Documents

IWC/M16/CW/GEN

1. Information for Participants
2. Participant List
3. Draft Annotated Agenda
4. Final Agenda

IWC/M16/CW

1. Rendell, J. Non-hunting threats to cetacean welfare: identifying key issues and addressing knowledge gaps.

IWC/M16/CW/ForInfo

1. International Whaling Commission. 2016. Report of the IWC Workshop on Euthanasia Protocols to Optimise Welfare Concerns for Stranded Cetaceans, 11-13 September 2013, London, UK. *Chair's Report of the 65th Meeting of the International Whaling Commission* 2014.
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6. Rolland *et al.* 2012. Evidence that ship noise increases stress in right whales. *Proc. R. Soc. B* 279, 2,363-2,368.
7. Van Der Hoop *et al.* Assessment of Management to Mitigate Anthropogenic Effects on Large Whales. *Cons. Biol.* 27(1): 121-133.
8. D.J. Mellor and N.J. Beausoleil. 2015. Extending the Five Domains model for animal welfare assessment to incorporate positive welfare states. *Anim. Welfare* 24: 241-253.
9. D.J. Mellor and N.J. Beausoleil. 2016. Updating Animal Welfare Thinking: Moving beyond the Five Freedoms; towards A Life Worth Living. *Animals* 6: 20pp.
10. Mellor, D.J. The 5 Domains Model.
11. Simmonds *et al.* Marine Noise Pollution: Increasing Recognition but Need for More Practical Action.
12. Jepson *et al.* PCB pollution continues to impact populations of Orcas and other dolphins in European waters.
13. Ayres *et al.* Distinguishing the Impacts of Inadequate Prey and Vessel Traffic on an Endangered Killer Whale (*Orcinus orca*) Population.
14. Ayres *et al.* Forecasting the consequences of climate-driven shifts in human behaviour on cetaceans.

Annex D

The 5 domains model

Extracted from Mellor and Beausoleil Extending the five domains model for animal welfare assessment to incorporate positive welfare states. Animal Welfare 2015, 24: 241-253

Physical/Functional Domains

Survival-Related Factors		Situation-Related Factors	
1: Nutrition <i>Restrictions on:</i> Water intake Food intake Food quality Food variety Voluntary overeating Force-feeding	2: Environment <i>Unavoidable/imposed conditions</i> Thermal extremes Unsuitable substrate Close confinement Atmospheric pollutants: CO ₂ , ammonia, dust, smoke Unpleasant/strong odours Light: inappropriate intensity Loud/otherwise unpleasant noise Environmental monotony: ambient, physical, lighting Unpredictable events	3: Health <i>Presence of:</i> Disease: acute, chronic Injury: acute, chronic; husbandry mutilations Functional impairment: due to limb amputation, or lung, heart, vascular, kidney, neural or other problems Poisons Obesity/leanness Poor physical fitness: muscle de-conditioning	4: Behaviour <i>Exercise of 'agency' impeded by:</i> Invariant, barren environment (ambient, physical, biotic) Inescapable sensory impositions Choices markedly restricted Constraints on environment-focused activity Constraints on animal-to-animal interactive activity Limits on threat avoidance, escape or defensive activity Limitations on sleep/rest
<i>Opportunities to:</i> Drink enough water Eat enough food Eat a balanced diet Eat a variety of foods Eating correct quantities Force-feeding	<i>Available conditions:</i> Thermally tolerable Suitable substrate Space for freer movement Fresh air Pleasant/tolerable odours Light intensity tolerable Noise exposure acceptable Normal environmental variability Predictability	<i>Little or no:</i> Disease Injury Functional impairment Poisoning Body condition appropriate Good fitness level	<i>'Agency' exercised via:</i> Varied, novel, engaging environmental challenges Congenial sensory inputs Available engaging choices Free movement Exploration Foraging/hunting Bonding/reaffirming bonds Rearing young Playing Sexual activity Using refuges, retreat, or defensive attack Sleep/rest sufficient

Affective Experience Domain

5: Mental State				
Negative Thirst Hunger (general) Hunger (salt) Malnutrition malaise Bloating, over full Gastrointestinal pain	Positive Wanting/quenching pleasures of drinking Pleasures of different tastes/smells Pleasure of salt taste Masticatory pleasures Postprandial satiety Gastrointestinal comfort	Negative Forms of discomfort: Thermal: chilling, overheating Physical: joint pain, skin irritation Physical: stiffness, muscle tension Respiratory: e.g. breathlessness Olfactory Auditory: impairment, pain Visual: glare/darkness eye strain Malaise from unnatural constancy	Positive Forms of comfort: Thermal Physical Respiratory Olfactory Auditory Visual Variety-related comfort	Negative Breathlessness Pain: many types Debility, weakness Sickness, malaise Nausea Dizziness Physical exhaustion
	Positive Comfort of good health and high functional capacity Vitality of fitness	Negative Anger, frustration Boredom, helplessness Loneliness, isolation Depression Sexual frustration Anxiety, fearfulness, panic, anger Neophobia Exhaustion	Positive Calmness Engaged, in control Affectionate sociability Maternally rewarded Excitation/playfulness Sexual gratification Secure/protected/confident Likes novelty Energised/refreshed	

Welfare Status

Annex E

Draft IWC Cetacean Welfare Assessment Framework

The Draft Cetacean Welfare Assessment Framework was proposed by the IWC Workshop to Support the Consideration of Non-Hunting Aspects of Cetacean Welfare, 3-4 May 2016. The Workshop agreed in principle that the Mellor and Beausoleil (2015) 'Five Domains Model' originally proposed by Mellor and Reid (1994) represented a useful framework through which it was possible to consider and describe the welfare of wild cetaceans in a standardised format. It was also successfully tested by the workshop as an assessment tool, through which it is possible to conduct basic appraisal and scoring of human-threat induced negative welfare states in wild cetaceans.

Within the framework Domains 1-4 list factors affecting cetacean welfare which could, potentially, be observable and/or measurable. Domain 5 takes aspects from each of these domains and infers the mental states that the animal may experience as a result of external stresses and challenges. These words are, necessarily, a surmised interpretation of cetaceans' mental states based on our own human emotional experiences. All negative domain states (listed under the red text headings) should be interpreted to mean negative states beyond animals' normal coping capacity.

It is expected that a number of the factors listed are likely to be of considerably greater significance to some cetacean species, for example the complexity of, and reliance on, social groupings in certain species, and the role of social experience in early life development and learning.

Glossary of terms

Agency exercised/impeded: the ability of an animal to initiate, execute, and control its own volitional actions.

Resilient behaviour: the resilience of a behaviour refers to its susceptibility to disruption under challenging conditions. High resilience behaviours (e.g. feeding) will continue to be shown for as long as possible but low resilience behaviours (e.g. play) may be forfeited when other challenges arise. The loss of low resilience behaviours is thus a useful early marker of other challenges (e.g. Littin *et al.*, 2008).

Energetic requirements: the amount of energy that is needed by an animal for cell metabolism, muscular activity, and growth.

Conspecifics: member of the same species.

Neophilic: pleasurable interest in novel conditions or objects.

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Figures and Appendices on following pages

An adapted version of the 5 domains model (Mellor and Reid, 1994) to guide the assessment of wild cetacean welfare as affected by human activities

Survival-related factors (potentially observable)			Situation-related factors (potentially observable)
<p>1. Nutrition Restrictions on:</p> <ul style="list-style-type: none"> • Prey intake/availability/ability to forage, leading to energetic deficit • Prey variety • Prey quality (e.g. prey containing contaminants) <p>Opportunities to:</p> <ul style="list-style-type: none"> • Eat enough prey to meet energetic requirements • Eat good quality prey 	<p>2. Environment Exposure to:</p> <ul style="list-style-type: none"> • Water-borne irritants and/or toxins damaging to health • Loud/otherwise unpleasant noise • Other disturbance preventing optimal habitat use • Constriction and/or confinement (e.g. entangling materials) • Thermal stress <p>Available conditions:</p> <ul style="list-style-type: none"> • Noise exposure non-harming • Contaminant exposure levels non-harming • Availability of suitable habitats for feeding, breeding, migrating • Full and free mobility within environment 	<p>3. Health Presence of:</p> <ul style="list-style-type: none"> • Disease • Injury • Functional impairment • Poor body condition (e.g. emaciation) • Harmful toxin levels • Dehydration • Energetic burden • Compromised respiration <p>Little or no:</p> <ul style="list-style-type: none"> • Disease • Injury • Physical impairment • Body condition compromise • Harmful toxin levels • Dehydration • Energetic deficit • Respiration compromise 	<p>4. Behaviour Exercise of agency impeded by:</p> <ul style="list-style-type: none"> • Limitations on communications and/or interactions with conspecifics • Loss of/separation from key members of social group • Physical or sensory impositions interfering with ability to perceive and/or navigate environment • Limitations on sleep/rest • Limits on avoidance of potential threats (including predators) • Aversive response to novel conditions • Other alterations/limitations in behaviour that could reduce the animal's health and survival chances • Altered activity budget, loss of low resilience behaviours <p>Agency exercised through:</p> <ul style="list-style-type: none"> • Congenial sensory inputs • Free movement and habitat choice • Sufficient opportunity for sleep/rest • Ability to communicate and engage in social interactions (e.g. play, reproduction, mother-calf bonding, cultural transmission) • Ability to avoid potential threats (including predators) • Neophilic response to novel conditions
<p>Affective experience (non-observable, interpreted via domains 1-4)</p>			<p>5. Mental state Negative</p> <ul style="list-style-type: none"> • Pain from external body damage • Pain resulting from internal disease, injury or presence of foreign matter • Hunger • Malaise due to disease, malnutrition and/or debilitating injury • Anxiety/fear/panic (e.g. in response to constriction, confinement, sensory deprivation, physical disturbance) • Isolation, loneliness, grief • Physical exhaustion <p>Positive</p> <ul style="list-style-type: none"> • Comfort of good health and high functional capacity • Postprandial satiety • Maternally rewarded • Calmness • Control in behavioural choice • Social and sexual gratification • Excitation/playfulness • Energised

Original 5 domains model (for reference/comparison)

Physical/Functional Domains

Survival-Related Factors		Situation-Related Factors	
<p>1: Nutrition</p> <p><i>Restrictions on:</i></p> <ul style="list-style-type: none"> Water intake Food intake Food quality Food variety <p><i>Opportunities to:</i></p> <ul style="list-style-type: none"> Drink enough water Eat enough food Eat a balanced diet Eat a variety of foods <p>Voluntary overeating</p> <p>Force-feeding</p>	<p>2: Environment</p> <p><i>Unavailable/imposed conditions:</i></p> <ul style="list-style-type: none"> Thermal extremes Unsuitable substrate Close confinement Atmospheric pollutants: CO₂, ammonia, dust, smoke Unpleasant/strong odours Light: inappropriate intensity Loud/otherwise unpleasant noise Environmental monotony: ambient, physical, lighting Unpredictable events <p><i>Available conditions:</i></p> <ul style="list-style-type: none"> Thermally tolerable Suitable substrate Space for freer movement Fresh air Pleasant/tolerable odours Light intensity tolerable Noise exposure acceptable Normal environmental variability Predictability 	<p>3: Health</p> <p><i>Presence of:</i></p> <ul style="list-style-type: none"> Disease: acute, chronic Injury: acute, chronic; husbandry mutilations Functional impairment: due to limb amputation, or lung, heart, vascular, kidney, neural or other problems Poisons Obesity/leanness Poor physical fitness: muscle de-conditioning <p><i>Little or no:</i></p> <ul style="list-style-type: none"> Disease Injury Functional impairment Poisoning Body condition appropriate Good fitness level 	<p>4: Behaviour</p> <p><i>Exercise of 'agency' impeded by:</i></p> <ul style="list-style-type: none"> Invariant, barren environment (ambient, physical, biotic) Inescapable sensory impositions Choices markedly restricted Constraints on environment-focused activity Constraints on animal-to-animal interactive activity Limits on threat avoidance, escape or defensive activity Limitations on sleep/rest <p><i>'Agency' exercised via:</i></p> <ul style="list-style-type: none"> Varied, novel, engaging environmental challenges Congenial sensory inputs Available engaging choices Free movement Exploration Foraging/hunting Bonding/reaffirming bonds Rearing young Playing Sexual activity Using refuges, retreat, or defensive attack Sleep/rest sufficient

Affective Experience Domain

5: Mental State	
<p>Negative</p> <ul style="list-style-type: none"> Thirst Hunger (general) Hunger (salt) Malnutrition malaise Bloated, over full Gastrointestinal pain 	<p>Positive</p> <ul style="list-style-type: none"> Wetting/quenching pleasures of drinking Pleasures of different tastes/smells Pleasure of salt taste Masticatory pleasures Postprandial satiety Gastrointestinal comfort <p>Negative</p> <p><i>Forms of discomfort:</i></p> <ul style="list-style-type: none"> Thermal: chilling, overheating Physical: joint pain, skin irritation Physical: stiffness, muscle tension Respiratory: e.g. breathlessness Olfactory Auditory: impairment, pain Visual: glare/darkness eye strain <p>Malaise from unnatural constancy</p> <p>Positive</p> <ul style="list-style-type: none"> Forms of comfort: Thermal Physical Respiratory Olfactory Auditory Visual Variety-related comfort <p>Negative</p> <ul style="list-style-type: none"> Breathlessness Pain: many types Debility, weakness Sickness, malaise Nausea Dizziness Physical exhaustion <p>Positive</p> <ul style="list-style-type: none"> Comfort of good health and high functional capacity Vitality of fitness <p>Negative</p> <ul style="list-style-type: none"> Anger, frustration Boredom, helplessness Loneliness, isolation Depression Sexual frustration Anxiety, fearfulness, panic, anger Neophobia Exhaustion <p>Positive</p> <ul style="list-style-type: none"> Calmness Engaged, in control Affectionate sociability Maternally rewarded Excitation/playfulness Sexual gratification Secure/protected/confident Likes novelty Energised/refreshed

Welfare Status

Appendix 1
Day 1 delegate exercise form

	Entanglement - Acute	Entanglement - Chronic	Ship Strikes - Acute	Ship Strikes - Chronic	Whale Watching - Acute	Whale Watching - Chronic	Marine Litter - Acute	Marine Litter - Chronic	Noise - Acute	Noise - Chronic	Chemical Pollution - Acute	Chemical Pollution - Chronic	Prey Depletion - Acute	Prey Depletion - Chronic
Nutritional domain														
	Food limited in quantity or quality. Severity of welfare impact: 0 = none, 1 = minor, 2 = moderate, 3 = severe													
Health domain														
	Disease, injury or impairment. Severity of welfare impact: 0 = none, 1 = minor, 2 = moderate, 3 = severe													
Behavioural domain														
	Behavioural expression restricted Severity of welfare impact: 0 = none, 1 = minor, 2 = moderate, 3 = severe													
Psychological domain														
	Negative states including: pain, hearing discomfort, panic, fear, exhaustion, hunger. Severity of welfare impact: 0 = none, 1 = minor, 2 = moderate, 3 = severe													
	Number of animals affected: 0 = none, 1 = few, 2 = many, 3 = most													
	Overall Confidence: 1 = Low, 2 = Medium, 3 = High													

Physical/Functional Domains			
Survival-Related Factors		Situation-Related Factors	
1: Nutrition	2: Environment	3: Health	4: Behaviour
<i>Negative</i> Restricted water & food; poor food quality	<i>Negative</i> Uncomfortable or unpleasant physical features of environment	<i>Negative</i> Disease, injury and/or functional impairment	<i>Negative</i> Behavioural expression restricted
<i>Positive</i> Enough water & food; balanced and varied diet	<i>Positive</i> Physical environment comfortable or pleasant	<i>Positive</i> Healthy, fit and/or uninjured	<i>Positive</i> Able to express rewarding behaviours
Affective Experience Domains			
5: Mental State			
<i>Negative Experiences</i>			
Thirst	Breathlessness	Drinking pleasures	Vigour of good health & fitness
Hunger	Pain	Taste pleasures	Reward
Malnutrition malaise	Debility, weakness	Chewing pleasures	Goal-directed engagement
Chilling/overheating	Nausea, sickness	Satiety	Physical comforts
Hearing discomfort	Dizziness	Physical comforts	Excited playfulness
Welfare Status			
<i>Positive Experiences</i>			
Caltness, in control			
Affectionate sociability			
Maternally rewarded			
Sexually gratified			

Figure 1. An abbreviated version of the Five Domains Model. It summarises survival-related and situation-related factors and their associated physical/functional domains, and provides examples of negative or positive affects assigned to the mental domain. The overall affective experience in the mental domain equates to the welfare status of the animals. For full details see [37].

Appendix 3

APPLICATION OF THE FIVE DOMAINS ASSESSMENT TO SHIP STRIKES SCENARIOS - REPORT FROM WORKSHOP BREAKOUT GROUP

The group assessed four vessel-strike cases with different temporal scales, trauma types, cetacean and likely vessel sizes. Evaluation is based on the total amount of information at the time of assessment: based on the final observed state rather than the initial observed state. A follow-up analysis of two cases at multiple time points is also included. See Figure 1 for a schematic representation of these four cases in a coordinate system for comparison.

1. North Atlantic right whale NY-2680-2001 Eg

- Scenario: large whale, likely large vessel, sharp trauma. Diagnosed cause of death from necropsy: vessel strike with 12 propeller gashes along the left side of the animal, likely involving something like brain trauma + exsanguination. Assumed time to death: minutes to less than one hour.
- Nutritional domain: 0
- Health domain: 3 – significant, severe injury, albeit with sensation for only minutes to tens of minutes.
- Behavioural domain: Not Applicable – likely no expression of any natural behaviour and no time to really exhibit any natural behaviour, simply progression to death.
- Psychological domain: 3 – debilitation, pain, panic, fear, exhaustion. Slow process of bleeding out, likely a traumatic death.

2. Bottlenose dolphin FB780

- Scenario: small cetacean, likely small vessel, sharp trauma. Animal survived 23+ years beyond initial wound observation.
- Nutritional domain: 1 – not an extrinsic factor of limited food quantity or quality, but a temporary loss of appetite likely at initial event. Assessed later in time, 0.
- Health domain: 1.5 – dorsal fin trauma is in the same direction as the vasculature vs. against the direction, limiting the potential of bleeding; dorsal fin is a cartilaginous tissue; likely some impact on thermoregulatory ability.

- Behavioural domain: 1 – may impact swimming ability and potential competitive ability, behavioural adjustment due to hydrodynamics.
- Psychological domain: 1 – initial acute phase likely traumatic, may have consistent pain associated with wounds, but unknown.
- Prevalence: this is of high prevalence in small coastal species, but likely low in oceanic species.

3. North Atlantic right whale Eg 2425

- Scenario: large whale, likely smaller vessel, sharp trauma. Decline observed 5 months after initial incident was documented.
- Nutritional domain: 2 – Photographs show decline in body condition
- Health: 3 – Decline in body condition and change in colour. Evidence of proliferation of orange cyamids indicative of poor health. Loss of part of caudal fin.
- Behavioural: 2 – Loss of fluke likely impacts natural locomotion.
- Psychological: 3 – Declining condition, pain, discomfort, anxiety likely result in poor psychological state.

4. Fin whale VAQS-2005-1017

- Scenario: large whale, large vessel, blunt trauma. Animal brought in to port on ship’s bow with broken vertebral column.
- Nutritional: 0
- Health: 3 – severe injury with broken vertebral column and massive internal hematoma
- Behaviour: 3 – no option for free movement as entirely restrained on the bow of a vessel
- Psychological: 3 – Pain, discomfort, panic, restraint in moments that animal was alive.

Based on available information, we were able to use this tool on two cases at multiple time points. Note that for FB78, the welfare of the animal improved through time from the acute event and over time through healing (welfare area decreased; Fig. 2), while the welfare of Eg 2425 decreased (i.e. the welfare area increased; Fig. 3).

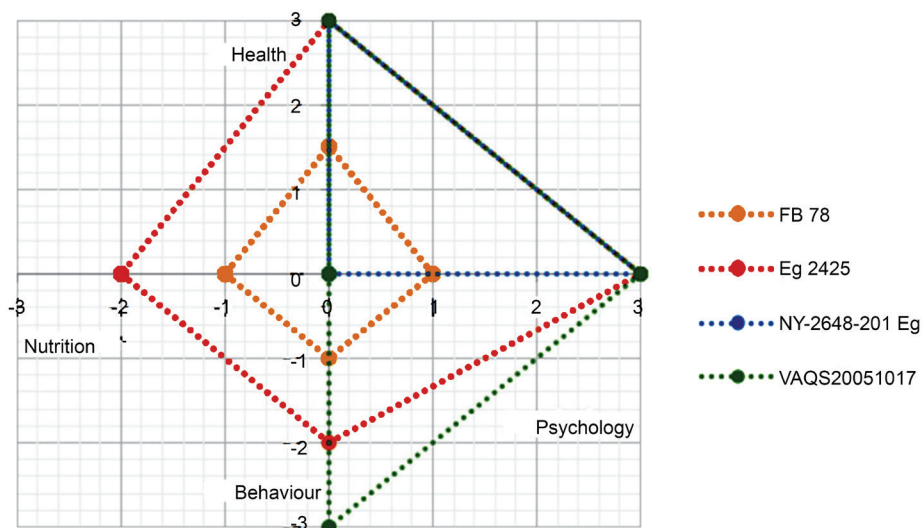


Fig. 1. Evaluation of four vessel-strike cases in the coordinate system of four specified welfare domains.

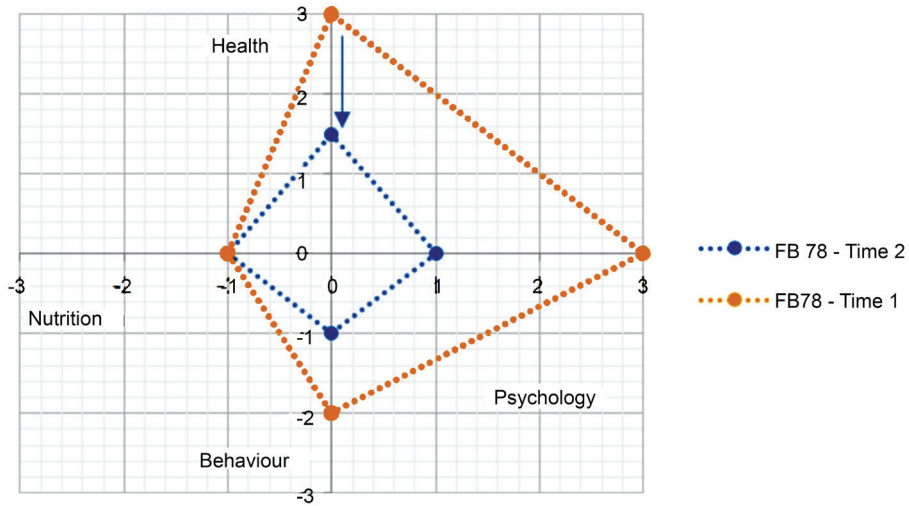


Fig. 2. Evaluation of vessel struck bottlenose dolphin FB78 at two time points. Time 1 is the initial observation of the wound on 2 July 1983; time 2 is an observation 22 years later on 8 February 2006.

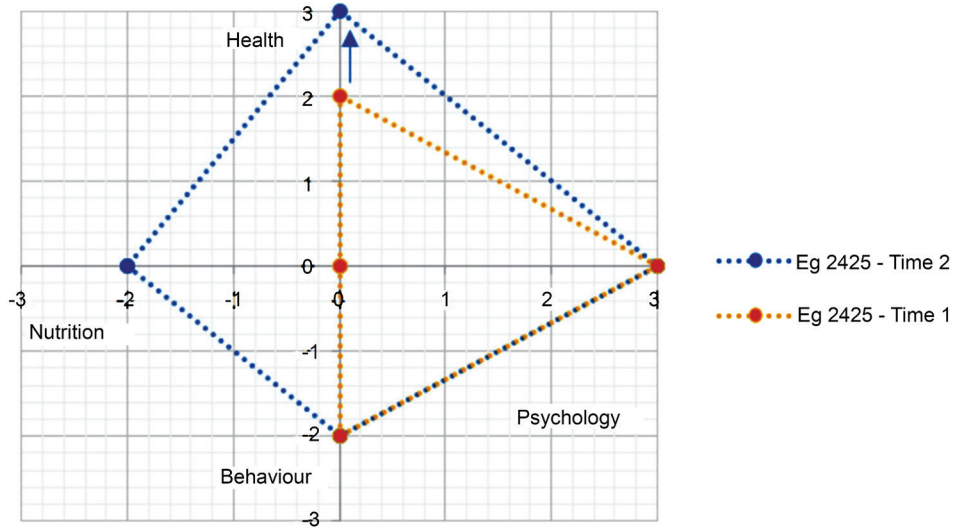


Fig. 3. Evaluation of vessel struck North Atlantic right whale Eg 2425 at two time points. Time 1 is the initial observation of the wound on 10 March 2005; time 2 is an observation 5 months later on 4 September 2005.

**Report of the IWC Workshop
Developing Practical Guidance
for the Handling of Cetacean
Stranding Events**

Report of the IWC Workshop Developing Practical Guidance for the Handling of Cetacean Stranding Events¹

CHAIR'S SUMMARY AND RECOMMENDATIONS

The Workshop was held in Kruger National Park, South Africa from 5-6 May 2016. There were 34 participants from 13 different countries. Participants included individuals from a wide range of stakeholders including national authorities from IWC member countries; veterinarians and veterinary pathologists; strandings biologists; animal welfare specialists; biologists and academics working on aspects of cetacean welfare; and experts from animal welfare organisations. This included participants who are actively involved in strandings response and animal rescue efforts. This Workshop was held back to back with the Workshop to Support the Consideration of Non-Hunting Threats to Cetacean Welfare (IWC/66/WKM&WI Rep01) which took place from 3-4 May 2016.

The primary objective of the Workshop was to assist the IWC in its efforts to build global capacity for effective cetacean stranding response and promote the IWC as a leading body for the provision of advice through the development of practical guidance for responders. It aimed to assist the IWC in taking forward relevant actions in the IWC Welfare Action plan, particularly Objective 2.4. *To work through existing strandings networks to produce specific recommendations to the Commission in relation to the welfare implications of responding to cetacean stranding events* and Action 2.4.1 *To organise a mass strandings Workshop to progress the development of shared best practice and guidance in responding to such events.*

The Workshop was informed by existing efforts to build strandings response capacity including the outputs of a Workshop To Develop An International Marine Mammal Stranding and Entanglement Response Toolkit, held in June 2014, organised by the Woods Hole Oceanographic Institution (WHOI), International Fund for Animal Welfare (IFAW), and National Oceanic and Atmospheric Administration's (NOAA's) National Marine Fisheries Service (NMFS); and by the joint IWC/Society for Marine Mammalogy Workshop on Investigations of Large Mortality Events, Mass Strandings, and International Stranding Response, 11-12 December, 2015 (SC/66b/Rep09). In addition, the Workshop received a series of case studies and presentations illustrating examples of national strandings response, identifying existing strandings guidance and protocols and exploring the challenges faced by countries in developing an effective strandings response. These included submissions relating to Argentina, Spain, the Republic of Ireland, Netherlands, New Zealand, South Africa, UK and USA.

The Workshop considered in some detail aspects of the strandings response relating to: (i) prevention of strandings (for example, through herding and acoustic measures); (ii) live strandings response (veterinary assessment, refloat/rescue, relocation/release, rehabilitation and euthanasia); (iii) post-release monitoring; (iv) mass stranding considerations; (v) health and safety; (vi) handling of public and the media and cultural considerations; (vii) post-mortem investigation and tissue sampling; and (viii) carcass disposal. The Workshop used a case study (stranding of a fin whale in Baltimore Harbour, Cork, Republic of Ireland) to explore the welfare

aspects of a particularly difficult situation in relation to key decisions facing responders and to help explore how public expectations and the media might be dealt with.

Finally, the Workshop discussed the potential role of the IWC in further developing guidelines and protocols for strandings and in acting as a repository for the identification and dissemination of best practice.

Conclusions and recommendations

The Workshop noted the challenges faced by some countries in responding to cetacean strandings in the absence of resources (human capacity, suitable equipment and financial support) and clear national protocols, guidelines and responsibilities. It agreed that there was a clear role for the IWC in assisting with these national efforts. The IWC should not interfere with national sovereignty but should help set a framework and provide best practice guidelines for countries to use in adaption to their national circumstances.

The Workshop **recommended** that the IWC establish a framework to provide advice to contracting governments on critical elements to include in the establishment of a national strandings response network. It also **recommended** that the IWC promote capacity building by acting as a repository for the dissemination of best practice on strandings response, including national strandings response strategies, appropriate training materials, and euthanasia.

The Workshop **recommended** that case study examples from around the world be pulled together, with information on successes and failures, to help illustrate best practice in responding to stranding events, and that these be hosted on the IWC webpage.

The Workshop welcomed the progress made towards development of the Global Marine Animal Stranding Training tool kit (GMAST) and recognised that this is a well progressed initiative, for which the first phase will be concluded in the coming months. It thus agreed that the work of the IWC should seek to build on and utilise rather than duplicate this existing effort. As a result, the Workshop **recommended** that the IWC Scientific Committee actively engage in the phase 2 development of the GMAST by facilitating a meeting of relevant experts and providing advice to the Commission on its use within the IWC.

The Workshop **recommended** that IWC Contracting Governments should be invited to provide updates on how the recommendations of the IWC Workshop on Euthanasia Protocols to Optimise Welfare Concerns for Stranded Cetaceans have been implemented at a national level.

The Workshop emphasised the importance of data collection and information gathering from strandings as vital to the understanding of the health and welfare of marine mammal populations and their environment. It can also (especially if associated with post-release monitoring) feed back directly to inform and improve strandings response. The workshop agreed that even the most basic observation and data can be useful, and that a level of data collection can be conducted by volunteers and in the absence of sophisticated facilities and technology. Similarly, necropsies can be undertaken with fairly low cost equipment.

The Workshop noted the importance of data sharing between strandings networks and countries and the potential for the IWC to assist in this regard, including through the

¹Presented to the Commission as IWC/66/WKM&WIRep02.

Table 1
Table of recommendations.

The Workshop recommended that:	Action by:
The IWC establish a framework to provide advice to contracting governments on critical elements to include in the establishment of a national strandings response network.	IWC Scientific Committee
The IWC promote capacity building by acting as a repository for the dissemination of best practice on strandings response, including national strandings response strategies, appropriate training materials, and euthanasia.	IWC Secretariat; IWC Scientific Committee
Case study examples from around the world be pulled together, with information on successes and failures, to help illustrate best practice in responding to stranding events, and that these be hosted on the IWC webpage.	IWC Secretariat; IWC Scientific Committee
The IWC Scientific Committee actively engage in the phase 2 development of the GMAST by facilitating a meeting of relevant experts and providing advice to the Commission on its use within the IWC.	IWC Scientific Committee
IWC Contracting Governments should be invited to provide updates on how the recommendations of the IWC Workshop on Euthanasia Protocols to Optimise Welfare Concerns for Stranded Cetaceans have been implemented at a national level	WG WKM&WI*; IWC Secretariat; IWC Contracting Governments
The IWC Scientific Committee consider the need to develop a global strandings data portal	WG WKM&WI; IWC Scientific Committee
Coordination between the IWC and other organisations including ASCOBANS/ACCOBAMS, the European Cetacean Society and other relevant regional processes be continued, in order to promote consistent data collection on the causes of strandings and potential welfare issues.	IWC Contracting Governments; IWC Secretariat
IWC Contracting Governments establish clear and effective strategies for media handling and promote proactive engagement with the media and public during high profile stranding events.	IWC Contracting Governments
Rescue attempts should ideally be undertaken by appropriately trained individuals. In addition, those involved in rescues are encouraged to give careful consideration to appropriate insurance coverage.	IWC Contracting Governments
The Secretariat create a document, drawing on existing material, to be hosted on the IWC website that provides basic advice to the general public on health, safety, and animal welfare during live stranding events and during the handling of dead cetaceans.	IWC Secretariat; IWC Scientific Committee
The IWC give consideration to the establishment of a dedicated funding stream to help improve cetacean stranding response globally.	IWC Contracting Governments

*IWC Working Group on Whale Killing Methods and Welfare Issues.

development of a global strandings data portal. It noted the efforts of other organisations in developing protocols and guidelines for information gathering and necropsy.

As a result of these discussions the Workshop **recommended** that the IWC Scientific Committee consider the need to develop a global strandings data portal. The Workshop noted the continued good progress in developing standardised necropsy protocols/guidelines and **recommended** continued coordination between the IWC and other organisations including ASCOBANS/ACCOBAMS, the European Cetacean Society and other relevant regional processes, in order to promote consistent data collection on the causes of strandings and potential welfare issues.

The Workshop noted the high levels of public interest in strandings events reported by countries and social media and the importance of actively engaging the public and media including to safeguard public safety and to minimise stress and suffering of the animal. It emphasised the value of clearly briefing the media on decisions that are made and that this can help engender public acceptance in difficult circumstances (for example where euthanasia would be ideal but is not feasible). The Workshop **recommended** that IWC Contracting Governments establish clear and effective strategies for media handling and promote proactive engagement with the media and public during high profile stranding events.

The Workshop stressed that there were potentially significant health and safety issues involved in responding to stranded cetaceans. These included risk of wounding (for example from unexpected movements of large animals) and the transfer of zoonotic disease. Where appropriate, those involved in strandings response should abide by their national health and safety legislation. The Workshop **recommended** that rescue attempts should ideally be undertaken by appropriately trained individuals and encouraged those involved in rescues to give careful consideration to appropriate insurance coverage.

The Workshop further highlighted potential threats to public safety during stranding events (e.g. from inappropriate public behaviour and from handling of dead carcasses). It discussed the need for a balanced approach to ensuring public safety, whilst recognising public interest and limitations in resources available (e.g. for policing of sites). The Workshop **recommended** that, drawing on existing material, the Secretariat create a document to be hosted on the IWC website that provides basic advice to the general public on health, safety, and animal welfare during live stranding events and during the handling of dead cetaceans.

The Workshop emphasised that additional resources would be required to fulfil the role of the IWC as the lead body facilitating the dissemination of strandings advice and for capacity building. The Workshop **recommended** that the IWC give consideration to the establishment of a dedicated funding stream to help improve cetacean stranding response globally. The Workshop further **recommended** that the Secretariat provide cost estimates for taking forward the relevant actions in the IWC Welfare Action Plan and the recommendations of this Workshop.

1. INTRODUCTION

The Workshop was held from 4-5 May 2016 at Skukuza Rest Camp, Kruger National Park, South Africa. Nigel Gooding, Chair of the intersessional correspondence group on welfare, was appointed Chair. The list of participants is given as Annex A and the agenda as Annex B. This Workshop was held back-to-back with the Workshop to Support the Consideration of Non-Hunting Threats to Cetacean Welfare, which took place from 3-4 May (IWC/66/WKM&WI Rep01).

Participants included individuals from a wide range of stakeholders including national authorities from IWC member countries; veterinarians and veterinary pathologists; strandings biologists; animal welfare specialists; biologists and academics working on aspects of cetacean welfare; and

experts from animal welfare organisations. This included participants who are actively involved in strandings response and animal rescue efforts. There were 34 participants from 13 different countries.

2. MEETING OPENING

2.1 Opening remarks

Gooding welcomed participants. He noted that this Workshop followed on from previous work undertaken by the IWC and others including the joint IWC/Society for Marine Mammalogy Workshop on Investigations of Large Mortality Events, Mass Strandings, and International Stranding Response, which took place from 11-12 December 2015 (SC/66b/Rep09) and the Workshop To Develop An International Marine Mammal Stranding and Entanglement Response Toolkit, organised by the Woods Hole Oceanographic Institution (WHOI), the International Fund for Animal Welfare (IFAW), and National Oceanic and Atmospheric Administration's (NOAA's) National Marine Fisheries Service (NMFS), held in June 2014. He expressed the hope that this Workshop would lead to more coordination of existing initiatives and to the IWC leading a global strandings response.

2.2 Appointment of rapporteurs

Smith, Brockington and Deaville were appointed as rapporteurs.

2.3 Available documents

Gooding drew attention to a number of key documents including the Report of the WHOI, IFAW and NOAA Workshop To Develop An International Marine Mammal Stranding and Entanglement Response Toolkit (IWC/M16/CW/ForInfo02); the Proceedings of the first ECS Workshop on cetacean pathology: dissection techniques and tissue sampling (IWC/M16/CW/ForInfo09); and the Report of the IWC Workshop on Euthanasia Protocols to Optimise Welfare Concerns for Stranded Cetaceans, 11-13 September 2013 (IWC, 2016). A set of additional information documents was also available. The list of documents is given at Annex C.

3. WORKSHOP AIMS, AND OBJECTIVES

3.1 Overview

Gooding outlined the primary objective of the Workshop: to assist the IWC in its efforts to build global capacity for effective cetacean stranding response and promote the IWC as a leading body for the provision of advice through the development of practical guidance for responders.

Key principles were established by the Workshop: (1) the term 'cetaceans' was taken to refer to both large and small cetaceans; (2) the Workshop would be concerned only with wild cetaceans; (3) the Workshop would focus on the potential range of options in relation to stranded cetacean response; (4) 'strandings' were defined as 'when an animal swims, is left by a receding tide or is otherwise deposited onto land (e.g. beach, mudflats, rocks, sandbanks) dead or alive'²; (5) the Workshop would consider welfare in relation to decision-making around stranding response, but would also consider the strandings response process as a whole, including elements that may not be related to welfare, such as response through investigations of dead strandings at

necropsy; and (6) the Workshop would consider and discuss current options for strandings response, with examples and case studies from national stranding networks.

3.2 Relationship to Welfare Action Plan

The Workshop aimed to assist the IWC in taking forward relevant actions in the IWC Welfare Action Plan, particularly Objective 2.4. *To work through existing strandings networks to produce specific recommendations to the Commission in relation to the welfare implications of responding to cetacean stranding events* and Action 2.4.1 *To organise a mass strandings Workshop to progress the development of shared best practice and guidance in responding to such events.*

4. NATIONAL PERSPECTIVES ON STRANDINGS

4.1 Strandings response in the United Kingdom (UK)

Rob Deaville gave an introductory scene setting presentation, with information on the background to and history of UK strandings response. Live stranding response in the UK is entirely voluntary, with coordination through the Marine Animal Rescue Coalition (MARC), an umbrella grouping of UK based organisations involved in live stranding response. The primary organisation that responds to live strandings is British Divers Marine Life Rescue (BDMLR), a charitable body with a network of over 3,500 marine mammal medics around the UK. There are two outcomes to live stranding events in the UK- either an attempt to refloat the animal takes place if the attendant veterinarian deems this to be appropriate, or it may be euthanised (or die at the stranding location) if it is judged to be compromised or an inappropriate candidate for rescue. Between five to ten percent of the 600 strandings recorded around the UK each year are live stranded animals. The Cetacean Strandings Investigation Programme, a network of institutions co-funded by Defra and the Devolved Governments of Scotland and Wales, coordinates investigation of dead strandings in the UK. It is contracted to carry out 100 necropsies per year, to determine causes of death and gain a greater understanding of threats faced in UK waters. Deaville also presented the case history of a northern bottlenose whale that entered the river Thames in January 2006, leading to a large-scale rescue attempt.

4.1.1 Discussion on UK strandings response

In response to a question on how policy change is achieved within the Marine Animal Rescue Coalition (MARC), given that this is such a large network, Deaville confirmed that adoption of common procedures was voluntary but usually works well. There are some issues on which policy differs, including euthanasia of large whales. When asked about the role of the UK government in strandings response he confirmed that the UK government fund the Cetacean Strandings Investigation Programme but do not play an active role in live strandings response. There had, however, been recent coordination between MARC and the government in order to ensure that strandings response is aligned with UK law. In response to a question on captive rehabilitation, Deaville confirmed that the UK does not have any cetacean rehabilitation facilities. MARC had reviewed how many animals (from documented strandings cases) would potentially have been able to be brought in to some kind of facility and numbers were fairly low. So this was not being pursued at the moment.

4.2 Building a strandings response in Ireland

Paul Kiernan reported on the status of strandings response in the Republic of Ireland. He noted that cetaceans are important mammalian species native to Ireland. To date,

²This definition was drawn from the UK strandings programme, e.g. Deaville and Jepson (2011). The Workshop recognised that other definitions exist.

24 of the 86 cetacean species described worldwide (28%) have been recorded in the waters around Ireland. There is growing awareness among Ireland's scientific and public communities of the importance of cetacean welfare. This is particularly evident during high profile events such as cetacean strandings. There is currently no formal cetacean strandings response network in Ireland. Failures in the response to recent single and mass-strandings events have been identified by the Irish Whale and Dolphin Group (IWDG). These failures highlight the need for a properly structured and resourced cetacean strandings response network in Ireland. To this end, the IWDG have developed a cetacean strandings response protocol based on international best practice in cetacean welfare. The IWDG are actively exploring opportunities for support at national and international level to use this strandings protocol to train and build a cetacean strandings response network in Ireland. Kiernan suggested that the IWC could have a very helpful role in assisting its member countries in the development of national cetacean welfare policies and action plans such as cetacean strandings response protocols.

Finally, Kiernan stressed the importance of: (i) IWC member countries identifying a competent national authority with responsibility for cetacean welfare; and (ii) that these competent authorities should assist in the development and endorsement of cetacean welfare policies and action plans that are specific to national needs. The IWC might play a very useful role in assisting the competent authorities through guiding policy development and enabling specialised training and emergency response assistance where required. Kiernan further identified the potential benefits to member countries of regular, systematic reporting to the IWC on the progress of cetacean welfare action plans, including strandings response, in order to improve efficacy and animal welfare standards for cetaceans nationally and internationally.

4.2.1 Discussion on building a strandings response in the Republic of Ireland

The Workshop expressed its gratitude to Kiernan for such a powerful presentation that illustrated the challenges faced by a country or organisation trying to establish a national strandings response. It was noted that these challenges would also be very relevant to developing countries. This led to a discussion on how the IWC could assist countries developing their strandings response. The Workshop **agreed** that the IWC should not interfere with national sovereignty but should help set a framework and provide best practice guidelines for countries to use in adaptation to their national circumstances. There was some discussion on the appropriateness of certification. Mattila noted that, for its entanglement training programme, the IWC had avoided being a certification body (instead providing facilitation and communication and allowing governments to determine what level of certification is required) but did provide certificates to individuals on completion of training.

The Workshop discussed the lack (reported in some cases) of government commitment to a strandings response. It noted that development of IWC policy and best practice could help those working in individual countries to communicate the need for and increase government engagement. It was acknowledged that it is often the public and media attention surrounding stranding events that prompts governments to act. In the case of Ireland, Kiernan pointed out that it is not clear which government department has responsibility for cetacean welfare including strandings response: The Department of the Environment, Community and Local Government through the National Parks and

Wildlife Service has responsibility for the conservation of wildlife; The Department of Agriculture, Food and the Marine is responsible for welfare in agriculture and fishing but not wildlife. There is a clear need for member countries to identify a competent national authority with responsibility for cetacean welfare.

There was some discussion on the use of volunteers. It was suggested that this would ideally be managed by a national coordinator, who could ensure training of members and regular engagement of volunteer groups to help sustain their commitment. Participants agreed on the need to keep volunteers engaged between live strandings, noting that engaging them with the 'dead animal response'- either in an observation-based investigation or in necropsy can help. The Workshop further agreed that information from necropsies can feed back vital information in to the assessment and decision making process for live strandings.

This, and subsequent discussions led to the Workshop making recommendations on the role of the IWC in capacity development for strandings response, which can be found in Item 16.1.

4.3 Netherlands national stranding presentation

Sabine Ketele and Lonneke IJsseldijk gave a joint presentation on the national strandings response in the Netherlands. They reported that the first stranding record in the Netherlands dates from 1,255, but since the 20th century reliable stranding records have been documented³. Now, more than 9,000 reports are available mostly relating to harbour porpoises. In the Netherlands, these species are protected under several international agreements (e.g. ASCOBANS) and legislation and therefore dedicated postmortem investigations have been conducted since 2008 to investigate causes of death, and in particular human induced mortalities. At this moment, no funding is available for research on species other than harbor porpoises, as other species are rarely found stranded in the Netherlands. However, some large stranding events have occurred in the past few years. In December 2012 a live humpback whale stranded on a sandbar close to the island Texel and died after five days. The events that followed made it apparent that there was a need for clarity on the responsibilities and the distribution of tasks in case of a stranding. Guidelines were established after Workshops with relevant experts on how to handle live stranded large cetaceans and who has what responsibilities. The framework will be implemented during strandings and after each use the guidelines will be evaluated and adapted if necessary. This was done recently following the live stranding of five sperm whales in January 2016 which all died within 12 hours of stranding. The protocol was used and found to be effective. However, it needs to be updated in order to include guidelines on postmortem research and carcass disposal. This work is currently ongoing.

4.3.1 Discussion on the Netherlands national strandings presentation

Discussion reflected on the case of a stranded killer whale in the Netherlands in which the animal was taken into captivity and subsequently (due to outgrowing the facility in which it was housed) transported to Tenerife. When asked to comment on the likelihood of animals being taken into captivity during subsequent strandings events, the presenters suggested that this was likely to depend to some extent on the public and political reaction. The Workshop noted that

³<http://www.walvisstrandingen.nl>.

different countries approached the issue of captive animals quite differently and that captive animal welfare was beyond the scope of this Workshop.

4.4 USA Marine Mammal Stranding Network

Sarah Wilkin gave an overview of the structure and recent accomplishments of the United States Marine Mammal Stranding Network. Organised under Title IV of the Marine Mammal Protection Act, the Marine Mammal Health and Stranding Response Program (MMHSRP), operating with NOAA Fisheries, has the statutory mandates to collect and disseminate health and health trends data on wild marine mammal populations and to coordinate effective responses to strandings and unusual mortality events. To accomplish these dictates, the MMHSRP authorises and coordinates over 100 organisations around the US for stranding response. Basic data is collected on standardised forms and held in a National Database, while additional information (e.g. necropsy results, diagnostic analysis results, life history information) is collected and held by each individual network member. From 1990-2015, the US stranding network responded to 36,788 cetaceans, with an annual average of 1,415. Through the John H. Prescott Marine Mammal Rescue and Assistance Grant Program, the US Government has provided \$1-4M USD per year (2001-present) in competitive grants to stranding responders and affiliated scientists, for a 15-year total of \$48,500,000. However, Wilkin noted that this represents a small percentage of the cost of stranding response (including rehabilitation) in the US, and that the remainder of the funding is raised by individual network organisations. The US has implemented several standardised protocols for stranding response, including: Stranding Agreements and evaluation criteria for stranding response organisations; rehabilitation facility guidelines; and release standards for rehabilitated animals. Additionally, other protocols have been developed by NMFS or via Prescott grants to improve response. Finally, the US Stranding Network is actively engaged in improving the science of stranded animals.

4.4.1 Discussion on USA Marine Mammal Stranding Network

In response to a question on funding, Wilkin confirmed that the John H. Prescott grant programme only provided a proportion of what was needed, with a significant amount of additional funding raised through other means.

4.5 Strandings response in Argentina

Miguel Iñiguez presented the results of strandings and rescue events conducted by Fundacion Cetus (Argentina) in conjunction with Whale and Dolphin Conservation (WDC) between 1992 and 2015. In total 107 stranded animals were reported (three alive/released and 104 dead) representing three species of mysticetes and 12 odontocetes. Cases discussed included the rescue of franciscana calves. An event involving a humpback whale which spent two days at the Buenos Aires harbour in August 2015 was also discussed. The animal was in poor health and had evidence of entanglement on the left side of the head.

4.5.1 Discussion of strandings response in Argentina

There was some discussion on the release of the franciscana calves and the likelihood that they would have survived. Iñiguez noted that since in the province of Rio Negro it is not permitted to practice euthanasia, then it was decided to release them on welfare grounds, rather than let them die on the beach.

Simmonds noted that the stranding of the humpback whale in Buenos Aires harbour was one of what seemed to be a growing number of this type of event around the world, recalling a similar case in Monaco in which a juvenile fin whale was stranded in the harbour amongst the yachts. Iñiguez noted the concerns relating to damage to property in this case, which took place in the most expensive area of the yacht club in Buenos Aires. Dealing with the situation had required liaison with a number of focal points, coordinated by the coast guard.

4.6 Overview of strandings response in New Zealand

Mike Ogle provided an overview of strandings in New Zealand. The New Zealand Whale and Dolphin Stranding database (as of 6 April 2016) has 3,557 records of stranding events; from these stranding events the total number of cetaceans is 17,968. The earliest record is from 1840. Single strandings (including mother and calf pairs) are roughly evenly dispersed around the coastline. While mass strandings are also well dispersed around the coastline, there are four locations with a disproportionately high occurrence of mass strandings: Chatham Island, Stewart Island, Golden Bay and the north west of the North Island. Single stranding events occur relatively evenly throughout the year, while mass strandings peak in summer months. Forty-one species have been recorded, with pilot whales accounting for the most number of cetaceans. Legislative Acts authorise the Department of Conservation (DOC) as the government organisation responsible for marine mammals. The Department of Conservation works in a partnership with Maori in strandings as whales are recognised as a *toanga*/treasure; with obligations on DOC to do so under both the Treaty of Waitangi Act and Conservation Act. Under a Service Level Agreement with DOC, Project Jonah (an NGO) provides assistance to DOC during strandings and provides volunteer training and mobilisation.

4.6.1 Discussion of New Zealand strandings overview

In response to a question on how volunteers were organised, Ogle confirmed that these were dealt with under the provisions of the Health and Safety Act. Volunteers are given a safety briefing before setting out. Different situations are subject to varying levels of control. DOC staff would be on the beach providing advice and guidance to volunteers as necessary.

Ogle was also asked to elaborate on how communications with the public and media were dealt with, and whether the (comparative) regularity of these events in New Zealand had made it easier to communicate realistic outcomes to the public. Ogle confirmed that this depended on which staff were present at a site. Decisions on euthanasia involved Iwi (Maori) and Project Jonah staff and media representatives would always be informed. An incident management structure was in place which included media liaison. He noted that in accessible areas there were usually cameras present, so the teams give regular updates on what they are trying to achieve. Further discussion on liaison with the media can be found in Item 11.

5. EXISTING STRANDINGS CAPACITY DEVELOPMENT INITIATIVES

5.1 The Global Marine Animal Stranding Training (GMAST) Toolkit

Katie Moore presented on the status of an ongoing collaborative project initiated by the National Oceanic and Atmospheric Administration's National Marine Fisheries

Service (NMFS) to develop an international stranding response training system called the Global Marine Animal Stranding Training (GMAST) toolkit. With NMFS, the Woods Hole Oceanographic Institution (WHOI), the International Fund for Animal Welfare (IFAW) and the Marine Mammal Center coordinating the development of an international stranding response toolkit. Upon request, NMFS has historically provided, or facilitated the training of stranding responders internationally, but these efforts have lacked cohesive vision and strategy. Although some success has been achieved, the lasting impact of these trainings has been limited due to lack of continued follow through and ongoing development over the long term. Further, the protocols presented have not been consistent across trainings.

To address these challenges, the GMAST team is in the final development stages of a comprehensive, international marine mammal stranding and entanglement response training program to promote consistent messaging and sustainable impact. In essence, the finished product will be a complete guide to establishing and sustaining a marine mammal stranding network. All training materials will be designed with a ‘train the trainer’ approach in mind. This program will include:

- consistent protocols and messaging;
- training plan to ensure long-term investment; and
- monitoring and evaluation plans to measure impact.

The development of phase one of the GMAST toolkit has included a scoping meeting and Workshop with invited participants from stranding related disciplines around the world. Phase one included the development of training materials for basic stranding response trainings for cetaceans and pinnipeds and creation of a website as the main repository for the resources. The result incorporates proven protocols from around the world and the advice and review of current experts in stranding response and related fields. Phase two and beyond will involve additional international collaboration to establish minimum standards and best practices for intermediate and advanced stranding response training materials.

5.1.1 Discussion on GMAST

The Workshop **welcomed** this very useful and well progressed initiative. It **agreed** that there should not be duplication of effort and, as such, there would be value (rather than developing something separately) for the IWC to recognise, review and potentially endorse GMAST as a resource. With this in mind, Moore confirmed that GMAST stakeholders were open to further development and to drawing in additional expertise and resources from other parties (including material and lessons from other strandings and necropsy protocols). Following discussion on the best way to bring this initiative to the attention of the IWC, a small group of participants (Moore, Wilken, Simmonds and Mattila) were asked to discuss this further and propose a way forward. The subsequent recommendations of the Workshop can be found in Item 16.2.

5.2 IWC Workshop on Investigations of Large Mortality Events, Mass Strandings, and International Stranding Response

Wilken presented the report of the IWC Workshop on Investigations of Large Mortality Events, Mass Strandings, and International Stranding Response, December 2015, San Francisco (SC/66b/Rep09). The Workshop had many goals to facilitate collaboration and coordination in response to and investigation of cetacean strandings, including identifying

potential roles of the IWC. The Workshop progressed with overview presentations of many case studies, grouped into categories of: developing baselines, pathologic investigations, and recurring events. Each presenter was given the opportunity to share opinions on which tools were integral to the success of their programs, as well as challenges that the programs faced, and these opinions were compiled. A preliminary template of fundamental data to collect to describe cetacean events was compiled. The discussion by participants also identified anthropogenic factors that may contribute to mass stranding events and recommended sections for inclusion in a best practices document (that was not fully developed during the Workshop). Potential roles of the IWC and general draft Workshop recommendations were also highlighted (SC/66b/Rep09 Section 8).

6. STRANDINGS ASSESSMENT (SINGLE STRANDING EVENTS)

6.1 Assessment of strandings events through data recording and information gathering

Andrew Brownlow presented on the assessment of strandings events through data recording and information gathering using the example from the Scottish Marine Animal Stranding Scheme (SMASS). As part of ongoing review of surveillance methods, SMASS had been asked to address specific questions about improving the data collected from animals not suitable for collection and necropsy. It was considered likely that a useful increase in strandings surveillance and data recovery could be achieved by improving public awareness of, and engagement with marine strandings surveillance schemes. An initiative was therefore developed to recruit and train a network of strandings volunteers in the safe and accurate measurement and sampling of dead stranded marine animals. Potential volunteer candidates were identified via existing social media channels and invited to attend a one-day training and assessment course. This course included a cetacean necropsy, where volunteers were taught what samples to take and shown how SMASS pathologists conduct a full necropsy examination. There was no expectation for the volunteers to attempt examinations at this level of detail as a veterinary pathologist, but aimed to show how even basic sampling and data collection could be of great benefit. Health and safety documentation was supplied to the attendees via email beforehand; they were expected to have read this material prior to attending the course and were asked to sign a document confirming this prior to entering the post-mortem room. During the necropsy demonstration, each potential volunteer was given the opportunity to take samples and measurements from the carcass, as they would be asked to do attend a stranding on a beach. Each potential volunteer was assessed on their abilities and only issued a kit if deemed competent. Involving members of the public in the tissue sampling of wild animals presents a number of potential risks, and hence the health and safety considerations to sampling are strongly emphasised in both the lecture, demonstration and support documentation. To date no health and safety issues have been encountered with trained volunteers, however an unsolicited sample sent by an untrained member of the public leaked in the post. This did highlight the need to make sure samples are correctly packaged. All the volunteers have bio bottles to enable the safe transportation of samples. In concluding, Brownlow reported that by the end of May 2016 SMASS had a total of 120 trained stranding volunteers.

6.1.1 Discussion on the assessment of strandings events

During discussion, the Workshop noted the importance of information gathering and data collection from strandings as vital to the understanding of the health and welfare of marine mammal populations and their environment. However, participants also reported difficulties in obtaining funding for data recording and information gathering related to strandings. Johnson elaborated on his experience of fundraising and the benefit of presenting activities as a costed project, or as a costed 'service' to be provided to a potential beneficiary. This approach can help engage a range of donors including both governments and philanthropists.

Recommendations on data gathering can be found in Item 16.4.

7. LIVE STRANDING RESPONSE AND OPTIONS

7.1 Measures to prevent strandings and mass strandings (deterrents and herding)

Brian Sharp gave a presentation on prevention measures, with a focus on deterrents and herding. He stated that cetacean mass stranding prevention should be considered in situations where strandings appear imminent or likely, as in shallow water habitat close to shore, and are reported in a timely manner. Factoring into the consideration should be knowledge of that particular cetacean species, historical frequency of strandings in that area, current environmental factors such as tides and weather, and the bathymetry characteristics of the area. Mass stranding prevention can be accomplished through two main methods: deterrents and herding. These methods can be used independently or jointly in an event. Deterrents seek to exclude animals from areas by discouraging them from entering into an area through either acoustic or physical means. Acoustic means vary from the most basic, such as slapping the water with hands or paddles, to the use of targeted acoustical deterrents, such as commercially available pingers used in fisheries. Physical deterrents can also be useful in some situations. These methods include, but are not limited to, nets and bubble nets. Mass stranding prevention can also be attempted through herding from small boats. In many cases this method is most effective if the animals are in relatively shallow water. As the water depth increases the difficulty in herding will likely increase. For social small cetacean species the herding philosophy typically follows the same guidelines as those used for terrestrial livestock, i.e. keep the group together then move the group. Deterrent and herding strategies, techniques and equipment should also be considered as tools that can be useful in situations where cetaceans have been refloated or relocated and released in order to guide animals out of dangerous areas. In any situation where deterrents or herding techniques are utilised the situation needs to be constantly monitored and regularly assessed to determine if the actions are producing the desired effects and to monitor the impact on the animals from a health and welfare perspective. Throughout the event data should be collected on perceived animal behaviour, location, and judged efficacy in order to better influence future efforts and decision making.

7.1.1 Discussion on measures to prevent strandings and mass strandings

During discussion it was noted that much of this presentation had focused on small cetacean species and it was asked whether herding would be possible for large whales. There was some anecdotal evidence from several participants who

had managed to turn large whales around but they did not experience much influence over their direction thereafter, or an ability to steer them. It was noted that herding success can be very variable. Ogle reported that, in New Zealand, herding from a boat had worked with some pods but others have gone around or under the boat.

In response to a question on the usefulness of pingers, Sharp reported that this had been variable - there had been some reported success but at other times they were ineffectual. He further noted that it has appeared to their team that both herding and pingers were increasingly effectual the larger the group size. Sharp also reported that the use of drones to measure the efficacy of herding operations is being considered and will be put into practice as soon as possible. They had also put acoustic measures in the mouth of some strandings hot spots to see if it was possible to improve early detection of the problem.

7.2 Live stranding response in Cape Cod Massachusetts, with a focus on rescue and release

Moore presented on live cetacean stranding response on Cape Cod Massachusetts, with a focus on rescue and release. She highlighted that response to live stranded cetaceans has many important components. One of the most important aspects is the key relationship between scientific investigation and the welfare of the animals involved. Both single and mass strandings of cetaceans present an excellent opportunity to gather data on wild populations. In some cases, such as in Cape Cod, Massachusetts USA, mass strandings often involve individual cetaceans assessed as generally healthy that are suffering only from the effects of the live stranding events. As such, these animals provide the best glimpse at detailed health data for those populations. Mass stranding events in areas of historically high frequency of strandings, like Cape Cod, may in turn serve as a baseline or 'control' for those events which we think may be anthropogenically induced. There is an obligation for stranding responders to provide for the welfare of the animals that are stranded, as well as responder safety. These are integral parts of all response protocols. However, these cases also present an outstanding opportunity for systematic data collection. These data can in turn improve future stranding response efforts and welfare considerations, as well as be used in sound management strategies and conservation efforts. Data collection is included as an integral part in all phases of live stranding response. These include initial response to the scene, provision of supportive care, health assessment, disposition decision making, transport, release and post-release monitoring. Similarly, there is a welfare element in each of those phases as well. Finally, Moore emphasised that whether the response is done using state of the art equipment and techniques, or using the most basic of means, quality data collection is possible and vital to the understanding of the health and welfare of marine mammal populations and their environment.

7.2.1 Discussion on the live stranding response in Cape Cod, Massachusetts

With reference to the comments on data collection in the presentation, the Workshop agreed that the collection of even the most basic observation and data (e.g. length and girth measures) can be useful, and that a level of data collection can be conducted by volunteers and in the absence of sophisticated facilities and technology. Subsequent conclusions and recommendations on information gathering can be found in Item 16.4.

Moore was asked whether, from a welfare perspective, erecting a screen around live stranded animals during handling would be beneficial, as well as other measures such as keeping dolphins together. Moore noted that for animals exhibiting stress (vocalisations) the stress response seemed to decrease when animals were placed in a circle. Their policy was to try to minimise human activity around the animals. Meyer reported (from experience responding to strandings in South Africa) that placing wet towels over the eyes of animals had seemed to calm them and noted that they had not observed any irritation from this.

In response to her comment that rehabilitation was not an option in Cape Cod due to facilities being too far away, Moore was asked if consideration had been given to what distance would be appropriate to transport animals. She answered that this was highly case dependent and not relevant in this case, since the nearest place was in New York and that would be simply too far. Sharp reported that there have been discussions about the potential benefits of short term rehabilitation using some sort of temporary ('pop up') facility and concluded that this could be beneficial in some cases. More consideration of this concept is needed.

8. EUTHANASIA

8.1 IWC Workshop on Euthanasia Protocols to Optimise Welfare Concerns for Stranded Cetaceans

Paul Jepson gave a brief summary of the IWC Workshop on Euthanasia Protocols to Optimise Welfare Concerns for Stranded Cetaceans (IWC, 2016) held at the Institute of Zoology (Zoological Society of London) in September 2013. A number of different chemical and physical methods for cetacean euthanasia were reviewed in the Workshop. Individual case studies were also discussed in detail – both 'successes' and 'failures'. Of the available methods, none were perfect – all methods had significant 'pros' and 'cons'. All new methods developed had been trialled on dead animals initially before being used on live stranded animals. The Workshop report tabulated the methodological details of the physical and chemical methods, providing a very useful resource for stranding responders globally. This included drug doses, effects, costs, reference species and potential hazards (to humans, environment and relay toxicity) for chemical methods. Physical methods included high calibre ballistics, hydrostatic bullets, the sperm whale euthanasia device (SWED) and peri-cranial implosion (using shaped charges). Media management was another potentially critical area when considering euthanasia, whatever the methods used.

8.2 A new approach to euthanasia in the Netherlands

Lonneke IJsseldijk and Sabine Ketele gave a presentation on a new approach to euthanasia of large whales under development in the Netherlands. According to the Dutch guidelines a stranded large cetacean should be euthanised 12 hours after the stranding. During the past year, a special method has been developed by expert marine mammal veterinarians, the Ministry of Defense, the Ministry of Economic Affairs and the faculty of Veterinary Medicine (Utrecht University). This involves a 160cm hollow needle with a handle and a width of 16mm with a screw-tip. 30 grams of plastic explosive can be placed in the tip and an electric detonator. The plastic explosive used is based on RDX. The tip of the needle should be injected in the heart of the cetacean. An explosion with a high detonation speed of about 8,400 M/S occurs, euthanising the animal. As this method would lead to destruction of part of the apparatus, it

is viewed as single use and is only intended for use in large live stranded whales. This method now needs to be tested on fresh large cetacean carcasses in order to investigate the internal damage of the explosive. The method needs to be validated by this testing before it can be used to euthanise a live stranded animal. This work is currently ongoing, but awaits the stranding of a suitable test case.

8.3 Discussion on euthanasia

During the discussion it was asked what the next steps for IWC were following this Workshop, and it was noted that it would be useful to explore whether and how its recommendations had been implemented by parties and the need for follow up work. A recommendation on this can be found in Item 16.3.

The Workshop noted that the variance in the availability and feasibility of different euthanasia approaches across different countries. For example, it was noted that acepromazine maleate (ACP) was not currently available in the UK in the right concentration and, in any case, was likely to be so expensive that it would not be feasible. At the opposite end of the spectrum potassium chloride (KCl) was readily available in the USA and was sold as salt for swimming pools so could be bought cheaply, kept on the shelf and made into a solution when required. The Workshop also noted that there were limitations in the use of single-use devices for euthanasia delivery (e.g. the needle used in the Netherlands method) for use in mass strandings.

9. POST-RELEASE MONITORING

9.1 Presentation on post release monitoring

Sharp gave a presentation on post-release monitoring. He noted that response and disposition decisions for live stranded cetaceans are complex issues that are best guided by evidence based stranding science. Before considering the release of any live stranded cetacean, a health assessment, which is as thorough as possible given the conditions and responder experience levels, should be completed to best guide the decision making process. If the decision is made to attempt to release a live stranded cetacean, then post-release monitoring should be considered. Post-release monitoring of individuals is only possible if the individuals are capable of being uniquely identified. The complexity of post-release monitoring can range from basic and low cost to advanced methods that require prior preparation and investment. The most basic method is by clear photographic documentation of stranded animals, taking care to thoroughly document all aspects possible along with any potential identifying features for that species. This thorough documentation will aid in positive identification of individual stranded animals should additional strandings occur in the response area. Another basic and inexpensive identification method that should be considered is the temporary marking of animals with livestock markers. More advanced methods include the use of temporary satellite tags. Satellite tag technology has advanced significantly in recent years with hydrodynamic lightweight models now able to be quickly applied by responders to the trailing edge of the dorsal fin in the field. Data from post-release monitoring methods such as these continue to effectively be used to inform future health and welfare decisions during stranding responses.

9.2 Discussion on post release monitoring

IJsseldijk reported that there is a rehabilitation centre in the Netherlands for porpoises, that rehabilitation can take months and the outcome when released is unknown; and

asked about costs of post-release monitoring. Sharp reported that (in the US) it cost approximately USD\$1,800 for a tag and its transmission onto the Argos satellite tracking system would equate to approximately USD\$400 dollars of data charges over two to three months. Other tags with time/depth are more expensive and require set-up. The tags that IFAW use are set on a duty cycle at the manufacturer and can be set on a variety of duty cycles to either save battery life or maximise transmission length depending on the questions trying to be answered. He added that the tags had been fairly easy to fundraise for. Van der Hoop reported that, in Denmark, shared interests between the research community (e.g. at universities) and the strandings networks has led to collaboration and cost-sharing.

Sharp was asked about the reaction of the animal to tag insertion. He reported that a topical anaesthetic was used and that personnel responsible for inserting tags practice first on dead animal fins. The tags take 8-15 minutes to insert including cleaning, anaesthetic and insertion. He had not observed an adverse reaction to the satellite tags. There was more of a reaction to the livestock markers (sheep ear tags), possibly because of the sudden noise that is produced when these particular tags are attached. This led to some further discussion on the welfare impacts of tagging, with different experiences and rules being reported from different countries. The Workshop acknowledged that the consideration of whether and how to tag an animal should take into account the likely welfare impacts and balance these against the potential welfare value of obtaining the data (e.g. to help inform actions during future live stranding events).

In response to a question on why the satellite tags are placed on the dorsal fin, Sharp confirmed that they must clear the water in order to be able to transmit. He also noted that the dorsal fin had the least amount of vascularisation.

10. MASS STRANDING CONSIDERATIONS

10.1 Mass strandings in Scotland

Andrew Brownlow gave a presentation on mass strandings in Scotland. He reported that cetacean mass stranding events (MSEs) elicit much interest from both the public and scientific community but the underlying reasons for such events can be difficult to elucidate. Live stranding events and more specifically mass live stranding events are extreme situations in which public safety, animal welfare and conservation science issues have to be managed with an extremely clear perception of priorities and under the constant pressure of emergency. Thorough investigation of these events usually requires the consideration of a number of natural and anthropogenic factors. The Scottish Marine Animal Stranding Scheme investigated three recent mass stranding events in Scotland involving long-finned pilot whales (*Globicephala melas*): (1) on 22 July 2011, a pod of approximately 70 long-finned pilot whales stranded at the Kyle of Durness, with nineteen animals known to have died during the MSE from a combination of factors including hyperthermia, myositis and water aspiration; (2) on 2 September 2012 a pod of approximately 35 animals were found stranded or attempting to strand on rocky coastline between Pittenweem and Anstruther, Fife, with 21 animals known to have died during the mass stranding; and (3) on 1 June 2015 a pod of 21 long finned pilot whales were found stranded at Brogaig beach, Staffin, Skye, a number of these were refloated but subsequently restranded on a nearby island. Seven animals died or were euthanised.

In all cases the investigation included detailed pathological examination to quantify overall disease burden and specific diagnostics. This included microbiology, histopathology, morbillivirus (RT-PCR), and quantitative analyses for algal toxins (domoic acid and saxitoxin), organochlorine pesticides and 25 individual chlorobiphenyl congeners in blubber and metals concentrations in liver. External triggers, such as unusual climatic conditions and influences of underwater noise were also investigated. Requests were made to the UK Ministry of Defence to establish the temporal-spatial distribution of military sources of underwater noise preceding the MSE. In the 2012 and 2015 mass strandings, efforts were made to extract the ears from cases recovered for necropsy to assess indications of antemortem hearing damage. The likely causes and factors in each stranding event were summarised in published reports to Defra and Marine Scotland.

In his conclusions, Brownlow suggested that factors to consider in managing mass stranding events should consider the following.

- There is usually a large variation in characteristics of each MSE.
- Time is critical for certain pathological investigations, particularly for identifying hearing damage.
- People and media management are essential.
- Good data capture is essential and easily overlooked, especially if there is a focus on attempts to refloat live cases.
- The importance of morphometrics and photographs of refloated cases should be emphasised to rescue teams.
- Information should also be obtained from locals/eyewitnesses where possible.
- A record should be kept of environmental parameters, e.g. weather, tide, and observable vessel activity.
- Any animals euthanised chemically should be indelibly marked and secured for safe disposal.
- Communication lines to the media should be established.
- A policy of 'Collect everything you can. Decide what to test later'.

10.1.1 Discussion on mass strandings in Scotland

In response to a question on whether muscle relaxant was used during euthanasia of the pilot whales in 2011, Brownlow confirmed this was not used due to difficulties in accessing this in sufficient quantities, but that the animals do not appear to have experienced trauma during the administration of opiod euthanasia. For discussion focused on handling of the media and on dealing with the public see Item 11.

10.2 Mass stranding response in New Zealand

Ogle gave a presentation on the response to live cetacean strandings in New Zealand, with a focus on mass strandings. Management of stranded cetaceans starts with keeping the cetacean wet and cool until the tide returns. Once the cetacean is floating it is assisted while it regains its balance and ability to move unassisted. If it is a mass stranding, then individuals are then brought into close proximity to one another before release. This is followed by visual monitoring to determine that the cetaceans do not restrand. The example of 198 pilot whales stranding on Farewell Spit on 13/02/2015 was used to illustrate a large mass stranding response. In this stranding 78 (out of a total of 198) were successfully refloated. An example from the far north of the North Island was detailed. 24 pilot whales were transported 50km, with 22 refloated and two dying *en route*. A gantry,

capable of lifting a 1 ton whale, has been designed and built by A-Ward Attachments (Auckland, New Zealand). The gantry (the 'whale lifter') is progressing towards live field trials when strandings permit. Health and safety issues were briefly discussed including hypothermia, physical injuries from whale-human interactions, aggressive whales and volunteers being caught by rising tide.

10.2.1 Discussion on the live stranding response in New Zealand

In response to a question on the use of euthanasia, Ogle confirmed that before this can happen the case is discussed with the Iwi (Maori) community and that in most cases an agreement could be reached. Jepson asked Ogle for his view on whether the mass stranding of 198 pilot whales represented one or more social groups and what is likely to be the uppermost size of a cetacean mass stranding. Ogle thought from the arrangement of the stranded pod (i.e. not obviously separated groupings) that it may have been a single social group. Seventy-five tissue samples have been archived for future DNA analysis, which could add some information regarding this aspect. He noted that the highest record for a mass stranding in New Zealand is 1,000 but he was not confident on the accuracy of this. There is another record in excess of 400.

11. DEALING WITH THE MEDIA AND THE PUBLIC

Discussion under Item 10.1, in relation to mass strandings in Scotland led to extensive discussion on dealing with the media and the public. This is therefore reported separately in this section.

11.1 Media handling

Following his presentation on mass strandings in Scotland (see Item 10.1), Brownlow was asked to elaborate on the approach to dealing with the media, and any difficulties encountered. He noted that, in Scotland, locations have tended to be remote which makes the media and public easier to contain and to deal with.

Other participants reported more extensive media involvement. Deaville elaborated on the case of the 'Thames whale', which was first seen on a Thursday during a quiet time in the news, resulting in the entire London metropolitan media grasping the story. The media require constant updates and when they were not getting them, started to turn some criticism towards the strandings responders. This case was learnt from when it came to the mass stranding of 6 sperm whales on the east coast of the UK in January 2016. This took place over a two-week window in highly populated areas including Skegness and received huge media attention. The Institute of Zoology (IOZ) press department captured press coverage in terms of 'reaching' over 120 million people and generating comparative revenue for advertising space equivalent to £1.5 million, but this level of attention also brought challenges. One central question posed by the media was why the animals were not being refloated. In the UK there is not the capacity to do this for such large animals and it may not be appropriate to refloat animals that have strayed so far out of their natural environment. Questions were also asked about why the animals were not being euthanised. The UK responders did not have the capacity for this and had to explain this to the media. There was an ongoing battle to keep the public away from the whales. Learning from earlier experience, it was ensured that regular updates were given so as to maintain the trust of the media,

and to prevent any risk to the reputation of the Cetacean Strandings Investigation Programme and the wider UK live stranding response network. Deaville noted that it had been very useful to have a single contact point whose sole role it is to talk to the media. In addition, the IOZ and government press offices worked closely together to ensure they gave consistent messages. There was also coordination with the IWC press office.

Participants noted the importance of coordination with elected officials. There had been several cases where elected officials had made statements (and promises) to the media that were not consistent with the facts on the ground.

The Workshop discussed the huge increase in social media reporting on strandings, and emergence of social media 'trolls' (i.e. commentators on social media who were determined to provide a negative spin to strandings/rescue events). Some participants had experienced or seen inaccurate, acrimonious and damaging commentary on strandings on social media, and there was work to be done to overcome this. Mattila noted that social media attacks after certain entanglement events was one of the drivers for establishing the entanglement network.

The Workshop **noted** the importance of engaging with the media and of providing regular updates on the status of animals and feasible and likely courses of action, as well as those that are unfeasible and unlikely (which can be just as important to convey). It was hoped that this could increase public acceptance of difficult circumstances, including those where rescue or euthanasia were not an option. Recommendations on media handling can be found in Item 16.5.

11.2 Discussion on public conduct

IJsseldijk noted a number of difficulties with public behaviour during the sperm whale strandings in the Netherlands, including the public taking teeth. Deaville reported that the removal of teeth and jaws is also a problem in the UK, and during the recent sperm whale strandings there had been some graffiti of the carcasses. The UK strandings investigation team have no authority to stop people doing this and it would require police action. Both on-site investigation (opening up of carcasses) and removal of carcasses can be problematic and take time (e.g. whilst negotiating with landowners) and in the meantime it is difficult to police sites, particularly overnight. In this context, Oozthuisen noted the importance of documenting a case before leaving it overnight, in case of interference or alteration by the public.

It was suggested that an operating protocol or guidance document on handling of the public and on health and safety on the beach could be useful.

The Workshop **noted** that engagement with the public was important in order to minimise stress and suffering for the animal as far as possible, and to safeguard public safety. Recommendations on engagement with the public can be found in Item 16.5. Further discussion on health and safety issues associated with strandings can be found in Item 12.

12. HEALTH AND SAFETY

12.1 National experience

During the discussion on public conduct (see Item 11) IJsseldijk noted the potential health and safety risks associated with strandings and asked fellow participants to comment on their national experiences, including on likely levels of public contact with stranded animals.

Simmonds noted that, in the UK, health and safety standards are applied during strandings response. For example, BDMLR's Marine Mammal Medics (all of which

are volunteers) complete a course, which includes health and safety considerations. Health and safety are also addressed in the BDLMR handbook – which is the best iteration of UK live strandings response. BDLMR and other organisations concerned with live stranding response carry insurance to make sure that they are appropriately covered. In response to a further question on whether the general public would come into contact with animals, Simmonds noted that a driver for setting up MARC was to stop the general public from attempting rescue.

Sharp noted that although IFAW can advise the general public, they do not have enforcement powers and only have responsibility for their own staff and volunteers.

Ogle reported that, in New Zealand, the Health and Safety Act puts the onus on the DOC to make sure that strandings responders and the public are advised of potential hazards. New Zealand government insurance, through the Accident Compensation Corporation, would cover a strandings responder if they had an accident, but potentially not someone becoming ill as a result of contact with an animal. Strandings responders are fairly happy for the public to come onto the site if they act responsibly - this can provide them with a rare opportunity to get up close to whales - but he noted that there appeared to be a variation in this across the world.

Deville noted that, in the case of the stranded UK sperm whales, the public were discouraged (through the media) from approaching the whales, but were not told that it was not safe. He noted a ‘fine line’ between trying to avoid large crowds accumulating and ‘scaring people away’, which could have consequences if people started to view marine mammals as ‘dangerous’.

Wilkin noted that, in the USA, there is a problem with dogs so occasionally the public are warned that they or their pets could get hurt at stranding events.

Brownlow reported that, in Scotland, there was a desire to stop the public interfering but that it would not be desirable to communicate that there is anything intrinsically hazardous about the marine mammals, and he would be concerned that this perception could impact on volunteer numbers. He noted that during the UK seal distemper virus outbreak there was a warning to the public about risks to their dogs.

Oozthuisen noted that there are places where stranded marine mammals become a source of meat or of traditional medicine and there should perhaps be some guidelines on potential dangers of this.

12.1.2 Discussion on national experiences

The Workshop **noted** the variation across countries in relation to their guidelines and approach to health and safety and agreed that further exchange of experience, and the production of best practice guidance on this might be useful.

12.2 Presentation on health and safety risks

In order to further inform discussions on health and safety, IJsseldijk gave a presentation on the risks to health and safety associated with strandings response. Rescues of live stranded cetaceans and investigations of carcasses pose several risks for the volunteers and researchers handling the animals. Behaviour of animals, inhalation or infection with potential zoonosis and environmental difficulties (e.g. tides, wind, darkness) during rescues should be assessed especially when getting volunteers or public involved. During necropsies, sharp knives and large machines could be risks for people involved, but also environmental conditions resulting in dehydration or hypothermia should be assessed. During recent stranding events in the Netherlands questions were raised by

the local authorities on risks for public during necropsy, as strandings attract large crowds. Zoonoses are rarely reported and only four documented cases exist on infection by human with *Brucella ceti*, of which three persons did not have contact with cetaceans and the fourth worked in a lab culturing this bacterium. However, externally zoonosis cannot be observed and when present, this will only be known when dedicated additional research is conducted afterwards (e.g. PCR and culturing). Informative folders and/or documents could help inform public and authorities about these risks. In conclusion, she expressed the view that rescues and necropsies should only be conducted by experienced people.

12.2.1 Discussion on health and safety risks

In response to the discussions under Item 12.1 and the presentation under Item 12.2 the Workshop noted that there were very significant health and safety issues involved in responding to stranded cetaceans. These included risk of wounding (for example from unexpected movements of large animals) and the transfer of zoonotic disease.

One potentially serious and relatively common zoonotic infection is ‘seal finger’ which can be treated only by a specific antibiotic (Dierauf and Gulland (2001)).

The Workshop agreed that rescue attempts should ideally be undertaken by appropriate trained individuals, and that calling for expert intervention (where possible) would probably be the best immediate response when encountering stranded cetaceans. It further agreed that where appropriate, those involved in strandings response should abide by their national health and safety legislation, and those involved should ensure that they have appropriate insurance. A recommendation on this can be found in Item 16.6.

13. POST MORTEM INVESTIGATIONS AND TISSUE SAMPLING

13.1 Necropsy as a research tool in the UK Strandings Investigation Programme

Jepson gave a brief summary of pathological and other research activity using the necropsy as a research tool on the UK Cetacean Strandings Investigation Programme (CSIP). The necropsy is a very powerful tool for determining causes of disease and mortality and also for determining drivers of conservation concern and factors that might influence animal welfare. In the UK, cetacean necropsies have provided the first scientific evidence of cetacean bycatch, fatal bottlenose attacks on harbour porpoises, cetacean infanticide, acoustically-induced cetacean mass stranding events and links between high chemical pollution (PCB) exposure and marked population declines in UK/European killer whales. Necropsies can also be conducted with relatively low cost equipment. The current necropsy protocol used by the CSIP in the UK is based on the report of the First Pathology Workshop of the European Cetacean Society (ECS) in 1991 and is now long overdue to be updated.

13.1.1 Discussion on necropsy in the UK strandings investigation programme

During the discussion, the Workshop agreed that it was possible to obtain much useful information from basic necropsies in the absence of a high tech approach. This was useful to note in relation to capacity development.

13.2 Development of a European Cetacean Society (ECS) Necropsy Protocol

IJsseldijk provided an update on the development of a necropsy protocol by the European Cetacean Society (ECS). In 1991 during the European Cetacean Society (ECS)

conference, a necropsy protocol was established by Kuiken and García Hartmann. This is nowadays widely used, but out dated due to increasing current knowledge e.g. on inter-species interactions. During the ECS in 2016 (March, Madeira), a workshop was organised involving European experts in cetacean necropsy and the basic protocol was updated. This focusses on standardisation of measurements and tissue sampling, in order to improve collaborations between different countries and institutes. Currently, the next steps are being undertaken (led by IJsseldijk (Netherlands) and Brownlow). Experts on specific topics (e.g. bycatch, entanglement, gas bubbles etc.) will be invited to write a one-page summary including current knowledge, important publications and contact persons, to add to the appendix of the protocol. With this information, new stranding networks can find current knowledge and useful contacts for specific aspects of research. A future aim is to set up an online 'wiki-like' page including the protocol and summaries of specific topics, which can be updated over time in this ever-changing environment. Collaboration is recommended with work currently undertaken in other parts of the world, e.g. the toolkit as established by NOAA. IJsseldijk suggested that adoption of the protocol by bodies as ASCOBANS, ACCOBAMS and IWC is desirable. This work is all funding dependent, and currently funding is lacking.

13.2.1 Discussion of ECS necropsy protocol

IJsseldijk was asked to elaborate further on the timeline for development of the ECS protocol. She noted that the first step had been to draft a new basic protocol (a baseline of information that it is recommended all countries collect) and the draft of this was currently being finalised, with the intention of submission to ECS soon for approval. It was hoped that the IWC might also endorse this. The next step would be the development of a more detailed protocol.

The Workshop noted that it would be useful for the IWC to coordinate more closely with ECS, ASCOBANS, ACCOBAMS and others with regards to this work on necropsy protocol, as well as the development of strandings guidance and best practice. A recommendation on this is found in Item 16.4.

13.3 Cetacean pathology as a tool for conservation and welfare

Antonio Fernandez gave a presentation on cetacean pathology as a tool for conservation and welfare based on experience in Gran Canaria. Veterinary Pathology is a strong diagnostic tool that contributes to information regarding lesions and causes of death/ stranding. Specialisation is needed to recognise lesions and undertake analysis using different tools (histopathology, microbiology, virology, toxicology, etc.). Forensic pathology is a useful tool for investigation when human activities could have caused strandings and cetacean deaths. The Department of Veterinary Pathology at the Institute of Animal Health (University of Las Palmas) offers specialised facilities for Cetacean Pathology. For some years they have been working on 'fingerprints' in tissues caused by severe stress related to human activities. After localising anatomically 'stress nuclei' and other nuclei in the Central Nervous System and ear, the following objectives have been followed: (1) characterise the catecholamine cardiomyopathy, as injuries resulting from extreme stress responses in actively stranded cetaceans and subjected to capture and interaction with humans (capture myopathy), ship strikes and fishing interaction (bycatch) and mid-frequency active sonar (MFAS); and (2) analyse the degree of activation of the Central Stress System (activation of

the HPA axis, Amygdaloidal Complex, and Locus coeruleus) in cetaceans under acute stress, and their relationship with those injuries resulting from extreme responses to acute stress, which often cause death among the animals and taking special attention to the catecholamine-induced cardiomyopathy (1). It was recently decided to include euthanised cases in these investigations. IUSA-ULPGC offers its Veterinary Task group to be involved as international level upon request and is available to work together in join networks and projects that require specialised Veterinary pathologists.

13.3.1 Discussion on necropsy in Gran Canaria

The Workshop noted, in response to some of the detail in this presentation, that marine biotoxins are another potential threat to cetacean welfare and that efforts need to be made to monitor them.

In response to a question on whether Gran Canaria was particularly exposed to naval sonar, Fernandez noted the importance of a good relationship with the navy in investigating possible causes of cetacean strandings. With good information exchange, he had had been able to prove that the navy had not been the problem in some cases. He expressed interest in looking in more detail at the post mortem markers of stress to further investigate this issue. Nicol noted that this is a common research technique with the farm animal community.

The Workshop noted the importance of cooperation between local and international universities and veterinary schools, in regards to necropsies and post mortem analysis and the potential for this to contribute to improved analysis of the causes of strandings and their relationships with anthropogenic activities.

14. CARCASS DISPOSAL

14.1 Carcass disposal in New Zealand

Mike Ogle gave a presentation on carcass disposal in New Zealand. Various methods are used for transporting carcasses depending on the size of the cetacean, e.g. manual lifting, lifting using heavy machinery, and towing by ship to an offshore site. The results of a trial of carcass disposal by tethering in a tidal flat was described through a series of photos of sperm whale and pilot whale carcasses. Both species degraded to bones over several months, although the sperm whale carcasses appeared to degrade more quickly. Legal requirements for marine mammals in New Zealand are guided by the Marine Mammal Protection Act, Conservation Act and Treaty of Waitangi Act. Disposal onto land or sea is controlled through the permits issued by local councils under the Resource Management Act. Involvement of Iwi (Maori) is given effect through the Conservation Act and Treaty of Waitangi. Iwi (Maori) will often undertake a karakia (prayer) for dead cetaceans.

14.1.1 Discussion on carcass disposal

In response to a question raised by one participants as to whether polychlorinated biphenyl (PCB) levels would ever be too high to bury an animal, Jepson noted that this is possible but that sealed landfill would be an option. Incineration is a possibility but would require large industrial incineration plants (e.g. burning PCBs at 1,200 degrees Celcius for a significant period in forced oxygen) to destroy PCBs. Lower temperature incinerators are far more widely available but these will not destroy PCBs and also risk the transformation of some PCBs into even more toxic dioxins. Another participant noted that carcass digesters might be useful for dealing with PCBs – as are currently and successfully used in the US.

Other participants volunteered information on carcass disposal in their country. This included a variety of means such as leaving in situ or burial on site; towing out to sea and sinking or letting go; composting; incineration; carcass digesters; or burying in landfill, depending on the situation and the legislation in place in country. Where there were predators (sharks) present, leaving them was not usually an option and in some cases it was illegal to leave carcasses on beaches. Responsibility for carcass disposal also varied across countries e.g. in Iceland it is the responsibility of legal authorities responsibility (in consultation with landowners) to dispose of carcasses; in Scotland, animals below 25ft are the responsibility of the local council, whereas those over this threshold are termed 'royal fish' and the responsibility of Marine Scotland (the Scottish Government Marine Directorate). Brownlow revealed one case of a sperm whale incineration which had cost in the region of £54,000. The high cost was due to the rebuild costs of the incinerator as a result of the large amounts of energy released by the sperm whale.

15. WELFARE CONSIDERATIONS IN A STRANDINGS REPOSE - CASE STUDY

15.1 Presentation of case study - fin whale stranding in Baltimore

Paul Kiernan presented a case study of a stranded fin whale in Baltimore in order to facilitate some further reflections on the consideration of welfare in the handling of stranding events. This animal became stranded in the mouth of the harbour and remained alive close to the harbour wall for three days. Initially, there was little evidence of external injury and the animal appeared outwardly healthy, though obviously emaciated. The event quickly became a high profile media story attracting a large number of public at the site in a very short space of time. Throughout the three-day period the animal appeared to suffer stress and significant discomfort demonstrated through periods of violent thrashing, resulting in significant physical injury and bleeding in the water. The lack of a protocol for dealing with these events in the country meant that there were no clear lines of authority for handling the event or procedures for dealing with the media and the public. Though the public responded well to efforts that were made to engage them, there was a feeling of negativity due to the obvious distress and injury being caused to the animal against an apparent lack of response or effort to help it. It was established that the only course of action was to euthanise the animal, but the fact it was mobile and in the water made this complex and there were no procedures for making decisions and enacting euthanasia. Eventually the military was involved and a solution agreed for euthanasia. Due to the nature of the artillery involved this required clearing of a significant radius around the stranding area. Just as the process of clearing people was due to begin, the animal died. No necropsy was undertaken on the animal.

15.2 Discussion of welfare considerations in a strandings response

In response to this case study, the Workshop reflected on whether there were any points, from a welfare perspective, at which different decisions might have been made. In particular, the Workshop reflected on whether it would have been appropriate to attempt herding the animal back into the ocean. It was concluded that this might have been something to consider as a response to public expectations, but from an animal welfare perspective (with an emaciated and injured

animal that was unlikely to survive) this would likely lead to more suffering and was considered unacceptable. The Workshop also discussed the potential for towing the animal to a nearby beach in order to euthanise it. Again, this may have seemed advantageous for managing the public response, but was likely to increase the suffering of the animal. Deaville speculated that the behaviour of the animal suggested it was compromised and that it demonstrated similar behaviour to fin whales examined in Italy, that were subsequently shown to be dolphin morbillivirus positive. Without a necropsy, this would have been impossible to determine either way and demonstrated the value of the necropsy in informing future welfare led decision making and helping to inform the public and media about the potential drivers of stranding events.

With regards to management of the public, and in particular whether it would have been appropriate to keep the public away, there were some differing perspectives amongst Workshop participants. In some countries (e.g. South Africa) it was more standard practice to clear the beach during strandings events. In other countries (including USA) strict closure was not considered to always be necessary but the public were asked to keep their distance. It was noted that some animals appearing to be embayed in a semi-enclosed area of water (e.g. a harbour) had been known to find their own way out to safety and in these cases a safety perimeter around the animal (for example keeping kayakers away) was useful and might contribute to a positive outcome. The Workshop agreed that there needed to be flexibility in approach but that further guidance for countries and sharing of best practice could be useful.

The Workshop noted the importance of managing the public and the media and of providing clear briefing on decisions that are made, particularly where this involves euthanasia or (where this is not feasible), the administration of palliative care whilst the animal dies. Some participants reported an improved public acceptance of euthanasia where it was well explained. A recommendation on this can be found in Item 16.5.

The Workshop noted a standard press release developed by MARC and shared across the UK strandings networks, which outlines why, for bigger whales it is not always possible to attempt euthanasia and the potential for standard documents such as this to increase the coherence of press briefing from the different parties involved in a strandings response.

The Workshop agreed that there was a potential role for the IWC in providing further advice on the handling of the public and media during strandings events. It was noted that the horse racing world has had extensive experience of euthanasia and some developed protocols that might be useful for the IWC to review.

The Workshop agreed that a national strandings protocol would have been of significant benefit for handling the case presented in this case study. It confirmed its view (see Item 4.2.1) that the IWC has a role in facilitating the further development of best practice guidance and as a repository for case studies and best practice documents. A recommendation on this is in Item 16.1.

16. CONCLUSIONS AND RECOMMENDATIONS

16.1 IWC role in strandings capacity building efforts

The Workshop **notes** the challenges faced by some countries in responding to cetacean strandings in the absence of resources (human capacity, suitable equipment and financial support) and clear national protocols, guidelines

and responsibilities (see Items 4.2 and 15.2). It **agrees** that there was a clear role for the IWC in assisting with these national efforts. The IWC should not interfere with national sovereignty but should help set a framework and provide best practice guidelines for countries to use in adaptation to their national circumstances (see Item 4.2.1).

The Workshop **recommends** that the IWC establish a framework to provide advice to contracting governments on critical elements to include in the establishment of a national strandings response network. It also **recommends** that the IWC promote capacity building by acting as a repository for the dissemination of best practice on strandings response, including national strandings response strategies, appropriate training materials, and euthanasia.

The Workshop **recommends** that case study examples from around the world be pulled together, with information on successes and failures, to help illustrate best practice in responding to stranding events, and that these be hosted on the IWC webpage.

16.2 The Global Marine Animal Stranding Training tool kit (GMAST)

The Workshop **welcomes** the progress made towards development of the Global Marine Animal Stranding Training tool kit (GMAST) and recognised that this is a well progressed initiative, for which the first phase will be concluded in the coming months. It thus **agrees** that the work of the IWC should seek to build on and utilise rather than duplicate this existing effort (see Item 5.1.1).

The Workshop **recommends** that the IWC Scientific Committee actively engage in the phase 2 development of the GMAST by facilitating a meeting of relevant experts and providing advice to the Commission on its use within the IWC.

16.3 Euthanasia

The Workshop **notes** that it would be useful to explore whether and how IWC recommendations on euthanasia have been implemented and the need for follow up work (see Item 8.3).

The Workshop **recommends** that IWC Contracting Governments should be invited to provide updates on how the recommendations of the IWC Workshop on Euthanasia Protocols to Optimise Welfare Concerns for Stranded Cetaceans have been implemented at a national level.

16.4 Information gathering and necropsy

The Workshop **emphasises** the importance of data collection and information gathering from strandings as vital to the understanding of the health and welfare of marine mammal populations and their environment (see Items 6.1.1, 7.2, 7.2.1, 9.2). This can also (especially if associated with post-release monitoring) feed back directly to inform and improve strandings response (see Items 4.2.1, 9.1 and 9.2). It further **agrees** that even the most basic observation and data can be useful, and that a level of both data collection can be conducted by volunteers and in the absence of sophisticated facilities and technology (see Items 6.1, 7.2). Similarly, necropsy can be undertaken with fairly low cost equipment (see Item 8.1).

The Workshop **notes** the importance of data sharing between strandings networks and countries and the potential for the IWC to assist in this regard, including through the development of a global strandings data portal. It **welcomes** the efforts of other organisations, including the European Cetacean Society (ECS) in developing protocols and guidelines for information gathering and necropsy (see Item 8.2). As a result of these discussions the Workshop **recommends** that the IWC Scientific Committee consider the need to develop a global strandings data portal.

The Workshop **welcomes** the continued good progress in developing standardised necropsy protocols/guidelines and **recommends** continued coordination between the IWC and other organisations including ASCOBANS/ACCOBAMS, the European Cetacean Society and other relevant regional processes, in order to promote consistent data collection on the causes of strandings and potential welfare issues.

16.5 Media handling

The Workshop **notes** the high levels of public interest in stranding events reported by countries and social media and the importance of actively engaging the public and media including to safeguard public safety and to minimise stress and suffering of the animal (see Items 11.1, 11.2). It **emphasises** the value of clearly briefing the media on decisions that are made and that this can help engender public acceptance in difficult circumstances (for example where euthanasia would be ideal but is not feasible) (see Items 11.1, 15.2).

The Workshop **recommends** that IWC Contracting Governments establish clear and effective strategies for media handling and promote proactive engagement with the media and public during high profile stranding events.

16.6 Health and safety

The Workshop **stresses** that there were potentially significant health and safety issues involved in responding to stranded cetaceans. These included risk of wounding (for example from unexpected movements of large animals) and the possible transfer of zoonotic disease. Where appropriate, those involved in strandings response should abide by their national health and safety legislation (see Item 12.2).

The Workshop **recommends** that rescue attempts should ideally be undertaken by appropriately trained individuals and **encourages** those involved in rescues to give careful consideration to appropriate insurance coverage.

The Workshop further **highlights** potential threats to public safety during stranding events (e.g. from inappropriate public behaviour and from handling of dead carcasses). It **emphasises** the need for a balanced approach to ensuring public safety, whilst recognising public interest and limitations in resources available (e.g. for policing of sites) (see Item 11.1, 11.2, 12.2, 15.2).

The Workshop **recommends** that, drawing on existing material, the Secretariat create a document to be hosted on the IWC website that provides basic advice to the general public on health, safety, and animal welfare during live stranding events and during the handling of dead cetaceans.

16.7 Cost implications

The Workshop **emphasises** that additional resources would be required to fulfil the role of the IWC as the lead body facilitating the dissemination of strandings advice and for capacity building. The Workshop **recommends** that the IWC give consideration to the establishment of a dedicated funding stream to help improve cetacean stranding response globally. The Workshop further **recommends** that the Secretariat provide cost estimates for taking forward the relevant actions in the IWC Welfare Action Plan and the recommendations of this Workshop.

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Annex A

List of Participants

Claire Bass
Executive Director, Humane Society
International UK, 5 Underwood
Street, London, N1 7LY, UK
Email: cbass@hsi.org

Lars Bejder
Head, Cetacean Research Unit,
School of Veterinary and Life
Sciences, Murdoch University
South Street, Murdoch WA 6150,
AUSTRALIA
Email: l.bejder@murdoch.edu.au

Simon Brockington
Executive Secretary, International
Whaling Commission,
The Red House, 135 Station Road,
Impington, Cambridge, CB24 9NP,
UK
Email: simon.brockington@iwc.int

Andrew Brownlow
Scottish Marine Animal Stranding
Scheme, SAC Veterinary Services,
Drummondhill, Inverness, IV2 4JZ,
UK
Email: andrew.brownlow@sruc.ac.uk

Dr Andrew Butterworth
Department of Clinical Veterinary
Science, University of Bristol
Veterinary School, Langford, N
Somerset, BS40 5DU, UK
Email: andy.butterworth@bris.ac.uk

Rob Deaville
Project Manager, UK Cetacean
Strandings Investigation Programme
The Wellcome Building, Institute
of Zoology, Zoological Society of
London, Regent's Park, London,
NW1 4RY, UK
Email: rob.deaville@ioz.ac.uk

Antonio Fernández
Head of Research Institute of Animal
Health, University of Las Palmas de
Gran Canaria,
Autovia de Banaderos a Las Palmas
no80, Km 6.5 Arucas 35416 Las
Palmas, GRAN CANARIA, SPAIN
Email: antonio.fernandez@ulpgc.es

Sue Fisher
Animal Welfare Institute
900 Pennsylvania Ave SE,
Washington, DC 20003, USA
Email: sue.fisher@balaena.org

Astrid Frisch Jordán
Coordinación Nacional Red De
Asistencia a Ballenas Enmalladas,
Ecología y Conservación de
Ballenas, Ac., Arce #541. Col. La
Primavera, Puerto Vallarta, Jal.
48325, MEXICO
Email: fibbcatalogo@yahoo.com

Pierre Gallego
Ministry of Sustainable Development
and Infra-structures, 37 Rue Du
Nord, L-4260 Esch Sur Alzette,
LUXEMBURG
Email: pierre.gallego@gmail.com

Nigel Gooding
Deputy Director – Fisheries and
Conservation, Department for
Environment Food and Rural Affairs,
Area 8A, 9 Millbank c/o Nobel
House, 17 Smith Square, London,
SW1P 3JR, UK
Email: nigel.a.gooding@defra.gsi.gov.uk

Lonneke IJsseldijk
Project Coordinator Cetaceans,
Faculty of Veterinary Medicine,
Utrecht University, Department of
Pathobiology, Yalelaan 1, PO Box
80158, 3508 TD Utrecht, THE
NETHERLANDS
Email: L.L.IJsseldijk@uu.nl

Miguel Iníiguez
Fundación Cethus, Potosi 2087
(B1636BUA), Olivos - Prov. Buenos
Aires, ARGENTINA
Email: miguel.iniguez@cethus.org

Paul Jepson
European Veterinary Specialist in
Wildlife Population Health Reader,
Institute of Zoology, Zoological
Society of London, Regent's Park,
London, NW1 4RY, UK
Email: Paul.Jepson@ioz.ac.uk

Craig Johnson
Professor of Veterinary
Neurophysiology, Institute of
Veterinary, Animal and Biomedical
Sciences, Massey University
Palmerston North, NEW ZEALAND
Email: C.B.Johnson@massey.ac.nz

Sabine Ketele
Senior Policy Advisor, Ministry of
Economic Affairs
Bezuidenhoutseweg 73/2594
AC/'s-Gravenhage, Postbus
20401/2500 EK/'s Gravenhage, THE
NETHERLANDS
Email: s.h.ketele@minez.nl

Paul Kiernan
Welfare Officer, Irish Whale and
Dolphin Group, Merchants Quay,
Kilrush, Co. Clare, IRELAND
Email: jayk88@hotmail.com

David Mattila
Technical Adviser, Entanglement
Response and Ship Strike Reduction,
International Whaling Commission
The Red House, 135 Station Road,
Impington, Cambridge, CB24 9NP,
UK
Email: david.mattila@iwc.int

Michael Meyer
Department of Environmental
Affairs, Private Bag X2, Roggebaai
8012, SOUTH AFRICA
Email: MMeyer@environment.gov.za

Katie Moore
Director, Animal Rescue, IFAW, 290
Summer Street, Yarmouth Port, MA
02675, USA
Email: kmoore@ifaw.org

Christine Nicol
Professor of Animal Welfare, School
of Veterinary Science, University of
Bristol, Langford House, Langford,
BS40 5DU, UK
Email: c.j.nicol@bris.ac.uk

Michael Ogle
Takaka Office, Department of
Conservation - Te Papa Atawhai,
PO BOX 166, Takaka 7142, NEW
ZEALAND
Email: mogle@doc.govt.nz

Herman Oosthuizen
Dept. of Environmental Affairs and
Tourism Branch, Marine and Coastal
Management, Private Bag X2, Rogge
Bay 8012, SOUTH AFRICA
Email: oosthuiz@environment.gov.za

Angela Recalde Salas
Centre for Marine Science and
Technology, Curtin University -
Perth, Western Australia
Research Associate, Fundación
Yubarta, Calle 13A # 100-46
(D301). Barrio Ciudad Jardín. Cali ,
COLOMBIA
*Email: angela.recaldesalas@
uqconnect.edu.au*

Jamie Rendell
Policy Advisor, International
Fisheries and Marine Species
Protection Team, Fisheries and
Conservation, Department for
Environment Food and Rural Affairs
9 Millbank, c/o Nobel House, 17
Smith Square, London SW1P 3JR,
UK
Email: Jamie.Rendell@defra.gsi.gov.uk

Mdu Seakamela
Department of Environmental Affairs
Office A2-60 Foretrust Building,
Martin Hammerschlag Way,
Foreshore, Cape Town, 8000,
SOUTH AFRICA
*Email: smseakamela@environment.
gov.za*

Brian Sharp
Program Manager, Marine Mammal
Rescue and Research, IFAW
290 Summer Street, Yarmouth Port,
MA 02675, USA
Email: bsharp@ifaw.org

Mark Simmonds
Visiting Fellow, School of Veterinary
Sciences
University of Bristol, Langford,
Bristol BS40 5DU, UK
Email: mark.simmonds@sciencegyre.co.uk

Sarah Smith
Project Development Officer,
International Whaling Commission
The Red House, 135 Station Road,
Impington, Cambridge, CB24 9NP,
UK
Email: sarah.smith@iwc.int

Meredith Thornton
Research Manager, Dyer Island
Conservation Trust, Research
Associate, Mammal Research
Institute
University of Pretoria, PO BOX 78,
Gansbaai, Western Cape, SOUTH
AFRICA, 7220
Email: meredith@sharkwatchsa.com

Joanna Toole
Wildlife Campaign Manager, World
Animal Protection
5th Floor, 222 Grays Inn Road,
London, WC1X 8HB, UK
*Email: joannatoole@
worldanimalprotection.org*

Julie Van der Hoop
Massachusetts Institute of
Technology, Woods Hole
Oceanographic Institution
266 Woods Hole Rd., MS# 50,
Woods Hole, MA 02543, USA
Email: jvanderhoop@whoi.edu

Gisli Víkingsson
Marine Research Institute Iceland,
Skulagata 4, Reykjavik 101,
ICELAND
Email: gisli@hafro.is

Sarah Wilkin
Marine Mammal Health and
Stranding Response Program,
NOAA Fisheries, Office of Protected
Resources
1315 East-West Highway, Silver
Spring, MD 20910, USA
Email: sarah.wilkin@noaa.gov

Annex B

Agenda

1. Welcome and introductions
 2. National strandings and background presentations
 - 2.1 Brief summaries of national experiences with strandings response
 - 2.2 Summaries of previous workshops
 3. Assessment (single stranding events)
 - 3.1 Initial stranding report and data recording
 - 3.2 Data recording and information gathering (live/dead strandings, species and length etc.)
 - 3.3 Photography and social media
 4. Live stranding response and options
 - 4.1 Preventative measures (to prevent strandings/mass strandings)
 - 4.2 Refloat/rescue/translocate small cetaceans
 - 4.3 Large cetaceans
 - 4.4 Herding/hazing/capture
 5. Euthanasia
 6. Post release monitoring
 - 6.1 Visual monitoring
 - 6.2 Tagging options
 - 6.3 Tag follow up
 7. Mass stranding considerations
 - 7.1 How do mass stranding considerations differ from single strandings?
 - 7.2 Reporting, assessment, intervention, triage and dealing with mixtures of live/dead animals
 8. Post-mortem investigations and tissue sampling
 - 8.1 What can the post-mortem investigation reveal about the cause of death and the reasons for stranding. How can the samples and data collected help inform research and policy decisions.
 - 8.2 How can the post-mortem investigation inform welfare led decision making in the future?
 9. Carcass disposal
 - 9.1 Logistics
 - 9.2 Requirements (legal)
 - 9.3 Cultural
 10. Human health and safety considerations
 - 10.1 Live stranding response
 - 10.2 Dead stranding investigation
 11. Legislation and cultural considerations
 - 11.1 National/international legislation
 - 11.2 Cultural considerations
 12. Media liaison and public engagement
 13. Summarise work to be progressed and establishing the potential role of the IWC
 14. Close
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Annex C

List of Documents

IWC/M16/CW/GEN/

1. Information for Participants
2. Participant List
3. Detailed Agenda

IWC/M16/CW/ForInfo/

1. International Whaling Commission. 2016. Report of the IWC Workshop on Euthanasia Protocols to Optimise Welfare Concerns for Stranded Cetaceans 11-13 September 2013, London, UK. *Chair's Report of the 65th Meeting*.
 2. M. Srinivasan, K. Moore, M. Moore, B. Sharp, C. Simeone, S. Wilkin, P. Thomas, K. Groch, J.D. Delgado, T. Goldstein, F. Gulland, P. Jepson, E. Hines, D. Mattila, M. Uhart, P. Calle, and M.U. Encina. 2014. Workshop to develop an international marine mammal stranding and entanglement response toolkit, June 3-5 2014, Woods Hole Oceanographic Institution, Massachusetts, USA.
 3. Internationaal Whaling Commission. Addressing welfare within the IWC - Intersessional Working Group on Welfare Summary Recommendations. Paper IWC/65/WKM&AWI05rev2 presented to the 65th meeting of the International Whaling Commission, Portoroz, Slovenia, September 2014 (unpublished). [Paper available from the Office of this Journal].
 4. Kuiken, T. and Hartmann, M.G. 1991. Proceedings of the first ECS workshop on cetacean pathology: dissection techniques and tissue sampling, Leiden, The Netherlands, 13-14 September 1991.
 5. Putu Liza Kusuma Mustika, Februanty S. Purnomo Sekar Mira, Dwi Suprpti, Jaya Ratha, Danielle Kreb, Adityo Setiawan, Sheyka Nugrahani. Whale stranding responses in Indonesia: 2013-2016.
 6. Sharp, S.M., Knoll, J.S., Moore, M.J., Moore, K.M., Harry, C.T., Hoppe, J.M., Niemyer, M.E., Robinson, I., Rose, K.S., Rotstein, D. 2013. Hematological, biochemical, and morphological parameters as prognostic indicators for stranded common dolphins (*Delphinus delphis*) from Cape Cod, Massachusetts, USA. *Marine Mammal Science*.
 7. Jepson *et al.* PCB pollution continues to impact populations of Orcas and other dolphins in European waters.
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**Financial Statements for the 16
Months to 31 December 2015**

Financial Statements for 16 Months to 31 December 2015

Statement of the Secretary's Responsibilities

The financial responsibilities of the Secretary to the Commission are set out in its Rules of Procedure and Financial Regulations. Fulfilment of those responsibilities requires the Secretary to prepare financial statements for each financial year which set out the state of affairs of the Commission as at the end of the financial year and the surplus or deficit of the Commission for that period. In preparing those financial statements, the Secretary should:

- select suitable accounting policies and then apply them consistently;
- make judgements and estimates that are reasonable and prudent;

- prepare the financial statements on the going concern basis unless it is inappropriate to presume that the Commission will continue in operation.

The Secretary is responsible for keeping adequate accounting records which disclose with reasonable accuracy at any time the financial position of the Commission. The Secretary is also responsible for safeguarding the assets of the Commission and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

Independent Auditors' Report to the Commission

We have audited the financial statements of the International Whaling Commission for the period ended 31 December 2015 which comprise the accounting policies, the income and expenditure account, the analysis of expenditure, the balance sheet and the related notes on pages 4 to 15. These financial statements have been prepared under the accounting policies set out therein. This report is made solely to the Commission. Our audit work has been undertaken so that we might state to the Commission those matters we are required to state to them in an auditors' report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the Commission for our audit work, for this report, or for the opinions we have formed.

Respective Responsibilities of the Secretary and Auditors

As described in the statement of the Secretary's responsibilities, the Secretary is responsible for the preparation of financial statements.

Neither statute nor the Commission has prescribed that the financial statements should give a true and fair view of the Commission's state of affairs at the end of each year within the specialised meaning of that expression in relation to financial statements. This recognised terminology signifies in accounting terms that statements are generally accepted as true and fair only if they comply in all material aspects with accepted accounting principles. These are embodied in accounting standards issued by the Accounting Standards Board. The Commission has adopted certain accounting policies which represent departures from accounting standards:

- fixed assets are not capitalised within the Commission's accounts. Instead fixed assets are charged to the income and expenditure account in the year of acquisition. Hence, the residual values of the furniture, fixtures and fittings and equipment are not reflected in the accounts;
- publications stocks are charged to the income and expenditure account in the year of acquisition and their year end valuation is not reflected in the accounts.
- provision is made for the severance pay which would be payable should the Commission cease to function.

This is permissible as the financial statements are not required to give a true and fair view.

It is our responsibility to form an independent opinion, based on our audit, on those statements and to report our opinion to you. We also report if the Commission has not kept proper accounting records or if we have not received all the information and explanations we require for our audit.

Anthony Wright (Senior Statutory Auditor)

For and on behalf of Thomas Quinn Chartered Accountants,
15 Station Road, St Ives, Cambridgeshire, PE27 5BH

Accounting Policies - Period Ended 31 December 2015

The accounting policies adopted by the Commission in the preparation of these financial statements are as set out below. The departures from generally accepted accounting practice are considered not to be significant for the reasons stated.

Convention

These accounts are prepared under the historical cost convention (i.e. assets and liabilities are stated at cost and not re-valued).

Fixed Assets

The full cost of furniture and equipment is written off in the income and expenditure account in the year in which it is incurred. The total cost of equipment owned by the Commission amounts to £163,023 and its realisable value is not considered to be significant. Proposed expenditure on new items is included in budgets and raised by contributions for the year.

Publications

The full cost of printing publications is written off in the year. No account is taken of stocks which remain unsold at the balance sheet date.

Most sales occur shortly after publication and so stock levels held are mainly made up of old unsold stock-which is unlikely to result in many sales, consequently their net realisable value is not significant.

Severance Pay Provision

The Commission provides for an indemnity to members of staff in the event of their appointment being terminated on the abolition of their posts. The

Basis of Opinion

We conducted our audit in accordance with International Auditing Standards issued by the Auditing Practices Board. An audit includes examination, on a test basis, of evidence relevant to the amounts and disclosures in the financial statements. It also includes an assessment of the significant estimates and judgements made by the Secretary in the preparation of the financial statements, and of whether the accounting policies are appropriate to the Commission's circumstances, consistently applied and adequately disclosed.

We planned and performed our audit so as to obtain all the information and explanations which we considered necessary in order to provide us with sufficient evidence to give reasonable assurance that the financial statements are free from material misstatement whether caused by fraud or other irregularity or error. In forming our opinion, we also evaluated the overall adequacy of the presentation of information in the financial statements.

Added Emphasis

In forming our opinion we have taken account of the absence of a requirement for the financial statements to give a true and fair view as described above.

Opinion

In our opinion the financial statements have been properly prepared in accordance with the accounting policies and present a proper record of the transactions of the Commission for the period ended 31 December 2015.

indemnity varies according to length of service and therefore an annual provision is made to bring the total provision up to the maximum liability. This liability is calculated after adjusting for staff assessments since they would not form part of the Commission's liability.

Interest on Overdue Contributions

Interest is included in the income and expenditure account on the accruals basis and provision is made where its recoverability is in doubt.

Leases

The costs of operating leases are charged to the income and expenditure account as they fall due for payment.

Foreign Exchange

Transactions dominated in foreign currencies are translated into sterling at the rate ruling at the date of the transaction. Monetary assets and liabilities denominated in foreign currencies at the balance sheet date are translated at the rate ruling at that date. These translation differences are dealt with in the income and expenditure account.

Retirement Benefits Scheme

The Commission operates a defined contribution retirement benefits scheme. The costs represent the amount of the Commission's contributions payable to the scheme in respect of the accounting period.

INCOME AND EXPENDITURE ACCOUNT - PERIOD ENDED 31 DECEMBER 2015

	[Note App]	Actual 4 months Dec. 14 £	Actual 12 months Dec. 15 £	Actual 16 months Dec. 15 £	Actual 12 months Aug. 14 £
INCOME: continuing operations					
Contributions from member governments		363,976	1,582,562	1,946,538	1,583,141
Interest on overdue financial contributions		-	9,820	9,820	9,709
Voluntary contributions for all Funds	1	102,780	408,824	511,604	292,580
Sales of publications		(15)	927	912	1,610
Sales of sponsored publications		-	-	-	(120)
Observers' registration fees		786	-	786	42,235
UK taxes recoverable		2,323	(6,732)	(4,409)	8,563
Staff assessments		60,125	185,137	245,262	173,508
Interest receivable		1,080	20,681	21,761	11,503
Sundry income		-	-	-	-
		<u>531,055</u>	<u>2,201,219</u>	<u>2,732,274</u>	<u>2,122,729</u>
EXPENDITURE					
Secretariat	1	378,372	1,156,421	1,534,793	1,094,989
Publications	2	840	4,240	5,080	5,786
Annual meetings		-	-	-	2,160
Scientific meetings		1,691	246,705	248,395	142,840
Biennial meetings		(311)	(359)	(670)	199,947
Bureau meetings		-	9,000	9,000	3,775
Research expenditure	3	(1,204)	320,639	319,434	330,147
Small cetaceans	4	-	23,772	23,772	91,266
Aboriginal Whaling Subsistence Fund	5	-	57,013	57,013	-
Southern Ocean Research Partnership (voluntary fund)	6	-	2,016	2,016	14,094
Conservation Management Plan fund	7	6,044	-	6,044	29,527
IWC - other work fund	8	102,885	74,779	177,664	204,063
Gray Whale Tagging (voluntary fund)	9	-	-	-	23,987
		<u>488,317</u>	<u>1,894,225</u>	<u>2,382,542</u>	<u>2,142,579</u>
PROVISIONS MADE FOR:					
Unpaid contributions		(19)	27,338	27,319	(26,370)
Unpaid interest on overdue contributions		-	9,820	9,820	9,709
Dilapidations		668	16,836	17,504	2,004
Severance pay	15	-	39,300	39,300	30,500
Other doubtful debts		-	-	-	5
		<u>488,966</u>	<u>1,987,519</u>	<u>2,476,485</u>	<u>2,158,427</u>
SURPLUS/(DEFICIT) THE YEAR BEFORE TRANSFERS		<u>42,089</u>	<u>213,700</u>	<u>255,789</u>	<u>(35,698)</u>
NET TRANSFERS TO/(FROM) INCOME AND EXPENDITURE ACCOUNT					
Research fund	3	(1,322)	108,658	107,336	(4,036)
Small cetaceans fund	4	(9,695)	(52,465)	(62,159)	39,181
Aboriginal Subsistence Whaling Fund	5	-	10,380	10,380	-
Southern Ocean Research Partnership fund	6	-	(15,730)	(15,730)	13,989
Conservation Management Plan fund	7	5,989	(2,629)	3,360	28,190
IWC - other work fund	8	9,783	(61,875)	(52,091)	(21,728)
Gray Whale Tagging fund	9	-	-	-	23,987
Sponsored Publications fund	10	-	(533)	(533)	(127)
Meeting fund	11	1,380	(67,859)	(66,479)	39,947
Conservation fund	12	-	(65,002)	(65,002)	-
Operations fund	13	-	-	-	-
		<u>6,136</u>	<u>(147,053)</u>	<u>(140,917)</u>	<u>119,403</u>
SURPLUS FOR THE YEAR AFTER TRANSFERS		<u>48,225</u>	<u>66,647</u>	<u>114,872</u>	<u>83,704</u>

There are no recognised gains or losses for the current financial period and the preceding financial year other than as stated in the income and expenditure account.

BALANCE SHEET AS AT 31 DECEMBER 2015

	Note	Actual Dec. 14 £	Actual Dec. 15 £	Actual Aug. 14 £
Cash on short term deposit		2,387,362	2,703,168	2,366,142
Cash at bank on current account		1,367	986	1,017
		2,388,729	2,704,153	2,367,158
Outstanding contributions from members including interest		796,107	624,760	648,520
Less provision for doubtful debts		(509,508)	(543,805)	(509,527)
		286,598	80,955	138,994
Other debtors and prepayments		63,527	54,465	34,568
Less provision for other doubtful debts		-	-	-
		63,527	54,465	34,568
		2,738,855	2,839,573	2,540,720
CREDITORS: amounts falling due within one year	16	(350,912)	(181,794)	(195,533)
NET CURRENT ASSETS		2,387,943	2,657,779	2,345,187
PROVISION FOR SEVERANCE PAY	15	(422,200)	(461,500)	(422,200)
PROVISION FOR DILAPIDATIONS		(32,672)	(49,508)	(32,004)
		1,933,071	2,146,771	1,890,983
FINANCED BY				
Research fund	3	311,760	203,102	310,438
Small cetaceans fund	4	52,927	105,392	43,233
Aboriginal Subsistence Whaling Fund	5	-	(10,380)	-
Southern Ocean Research Partnership fund	6	3,529	19,259	3,529
Conservation Management Plan fund	7	189,824	192,453	195,813
IWC - other work fund	8	63,276	125,151	73,060
Gray Whale Tagging fund	9	7,213	7,213	7,213
Sponsored Publications fund	10	41,428	41,960	41,428
Meeting fund	11	80,095	147,953	81,474
Conservation fund	12	-	65,002	-
Operations fund	13	23,288	23,288	23,288
General fund	14	1,159,731	1,226,378	1,111,506
	17	1,933,071	2,146,771	1,890,983

Approved on behalf of the Commission
Simon Brockington (Secretary)

ANALYSIS OF EXPENDITURE, PERIOD ENDED 31 DECEMBER 2015

	Actual 4 months Dec. 14 £	Actual 12 months Dec. 15 £	Actual 16 months Dec. 15 £	Actual 12 months Aug. 14 £	
1 SECRETARIAT					
Salaries, national insurance and allowances	255,364	807,239	1,062,603	719,224	3,651,668
Retirement and other benefit schemes	53,815	163,918	217,733	158,473	757,855
Travelling expenses	10,506	6,591	17,097	27,727	68,511
Office rent, heating and maintenance	25,326	84,331	109,656	92,551	396,194
Insurance	2,173	5,035	7,209	5,524	24,977
Postage and telecommunications	4,994	16,495	21,488	15,789	75,260
Communications	1,283	-	1,283	-	2,565
Office equipment and consumables	15,498	36,847	52,345	35,786	177,324
Professional fees	5,848	26,336	32,183	25,391	116,094
Training and recruitment	1,366	8,485	9,851	1,722	29,909
Photocopying and archive uploading to website	-	664	664	11,979	13,971
Other including exchange differences	2,200	481	2,681	824	6,668
	<u>378,372</u>	<u>1,156,421</u>	<u>1,534,793</u>	<u>1,094,989</u>	<u>5,320,996</u>
2 PUBLICATIONS					
<i>Annual Report</i>	320	-	320	-	640
<i>Journal Cetacean Research and Management</i>	520	4,240	4,760	5,786	19,547
	<u>840</u>	<u>4,240</u>	<u>5,080</u>	<u>5,786</u>	<u>20,187</u>
3 RESEARCH					
Invited Participants	-	70,654	70,654	50,225	262,187
IA IDRC/SOWER biopsy and photo-ID database	-	-	-	517	517
IA Abundance est. Antarctic minke using SOWER data	-	-	-	722	722
IA Statistical catch-at-age est for Antarctic minke whales	-	-	-	12,500	12,500
SH Antarctic Humpback Whale Catalogue	-	25,005	25,005	14,333	89,348
SH Blue whales photo ID catalogue	-	15,005	15,005	5,000	50,015
SH6 Priority tasks Arabian Sea humpbacks	-	11,555	11,555	-	34,665
SH7 IWC-SORP coordination	-	13,000	13,000	-	39,000
IWC global ship strike database	-	-	-	91	91
SOCER State of the Cetacean Environment Report	-	3,000	3,000	4,000	13,000
Pollution 2020	-	7,000	7,000	13,000	34,000
E Website/Listsserve/Communication Tool Cetacean Disease	-	3,100	3,100	1,000	10,300
E Marine debris pre-meeting	(0)	485	485	24,655	26,110
E IWC/IQOE Workshop on Soundfields - global soundscape modelling	-	-	-	19,702	19,702
E6 Climate change workshop	-	-	-	3,231	3,231
Investigations of large mortality events/mass strandings	-	2,614	2,614	-	7,842
AWMP developers fund	-	1,200	1,200	14,708	18,308
BC Ship Strike Database Coordinator	-	8,881	8,881	11,000	37,644
EM1 Baleen whale tag data	-	15,200	15,200	-	45,600
Workshop on Greenland hunts	-	15,350	15,350	8,359	54,410
SP JARPN II review workshop	-	-	-	21,456	21,456
SP Icelandic SP review workshop	-	-	-	390	390
SP2 Workshop on review of new Special Permit Proposals	-	15,002	15,002	-	45,006
SP1 Workshop on periodic review of JARPN II	-	5,707	5,707	-	17,121
SH Humpback whales: assessment model development	-	2,000	2,000	3,500	9,500
SH Antarctic blue whales photo-matching	-	-	-	5,000	5,000
POWER cruise	(1,242)	36,334	35,092	52,133	158,651
Synthesis of results of CA of SH humpbacks	-	750	750	-	2,250
RMP3 Workshops to progress <i>Imp Rev</i> for NA minke/fin	-	5,492	5,492	-	16,475
RMP4 Eval. density dependence in RMP testing	-	6,000	6,000	-	18,000
RMP Workshop on N Atlantic fin whales	-	-	-	4,000	4,000
RMP N Atlantic minke whale pre-meeting + workshop	-	-	-	9,830	9,830
Review and guidelines for line transect abundance estimates	-	-	-	5,000	5,000
RMP Simulations genetic clustering	-	-	-	15,000	15,000
RMP computing support	-	12,331	12,331	10,447	47,440
BRG1 Population model NP gray whales	-	15,000	15,000	-	45,000
BRG2 Southern right whale mortalities	-	11,701	11,701	-	35,103
BRG Gray whale rangewide workshop	-	8,457	8,457	10,834	36,205
Southern right whale kelp gull workshop	-	-	-	7,298	7,298
SD Intersessional workshop genetic	-	982	982	-	2,946
Emerging whalewatching industry in Oman	-	7,850	7,850	-	23,550
Other including exchange differences	38	984	1,021	2,215	5,241
	<u>(1,204)</u>	<u>320,639</u>	<u>319,434</u>	<u>330,147</u>	<u>1,289,655</u>
3 RESEARCH FUND					
Allocation for research	-	318,123	318,123	315,800	1,270,169
Voluntary contributions received	-	-	-	16,554	16,554
Interest receivable	117	3,605	3,722	1,829	12,878
Reallocation	-	(104,000)	(104,000)	-	(312,000)
Allocation for other work	-	(5,747)	(5,747)	-	-
Expenditure	1,204	(320,639)	(319,434)	(330,147)	(1,289,655)
Net transfers (to)/from income and expenditure account	1,322	(108,658)	(107,336)	4,036	(319,295)
Opening balance as at 01 September 2014			310,438	306,402	616,840
Closing balance as at 31 December 2015			<u>203,102</u>	<u>310,438</u>	<u>513,539</u>

	Actual 4 months Dec. 14 £	Actual 12 months Dec. 15 £	Actual 16 months Dec. 15 £	Actual 12 months Aug. 14 £	
4 SMALL CETACEANS					
SMA Invited Participants	-	15,421	15,421	13,649	59,913
Indo-pacific humpback and bottlenose dolphins	-	-	-	11,526	11,526
Photo-ID E Taiwan Strait population of Indo-Pacific humpback dolphins	-	-	-	6,500	6,500
Assess genetics and demography - dolphins taken in traditional drive-hunt in the Solomon Islands	-	-	-	2,825	2,825
2013/14 SMA species affected by catches in N Pacific	-	-	-	1,517	1,517
Cetacean abundance surveys SE Asia	-	-	-	15,039	15,039
SMA 2013/14 Ganges river dolphin	-	5,000	5,000	15,000	30,000
2013/14 Ganges river dolphin	-	2,750	2,750	8,250	16,500
2013/14 SMA cetacean abundance SE Asia	-	500	500	11,500	13,000
SMA Small cetaceans aerial survey sea turtles in Adriatic Sea	-	-	-	5,237	5,237
Other including exchange differences	-	101	101	222	524
	-	23,772	23,772	91,266	162,581
4 SMALL CETACEANS FUND					
Voluntary contributions received	9,679	75,088	84,767	51,593	296,214
Interest receivable	16	1,148	1,164	492	3,969
Expenditure	-	(23,772)	(23,772)	(91,266)	(162,581)
Net transfers (to)/from income and expenditure account	9,695	52,465	62,159	(39,181)	137,602
Opening balance as at 01 September 2014			43,233	82,414	125,647
Closing balance as at 31 December 2015			105,392	43,233	148,625
5 ABORIGINAL SUBSISTENCE WHALING FUND					
Aboriginal subsistence whaling workshop Greenland 09/15	-	56,953	56,953	-	170,859
Other including exchange differences	-	60	60	-	180
	-	57,013	57,013	-	171,039
5 ABORIGINAL SUBSISTENCE WHALING FUND					
Voluntary contributions received	-	46,633	46,633	-	139,898
Expenditure	-	(57,013)	(57,013)	-	(171,039)
Net transfers (to)/from income and expenditure account	-	(10,380)	(10,380)	-	(31,141)
Closing balance as at 31 December 2015			(10,380)	-	(10,380)
6 SOUTHERN OCEAN RESEARCH PARTNERSHIP					
Blue and fin whale acoustics	-	-	-	8,011	8,011
2013/14 SH humpback whales Antarctica Constantine £8k	-	2,000	2,000	6,000	12,000
Other including exchange differences	-	16	16	82	130
	-	2,016	2,016	14,094	20,142
6 SOUTHERN OCEAN RESEARCH PARTNERSHIP FUND					
Voluntary contributions received	-	17,629	17,629	-	52,887
Interest receivable	-	117	117	105	456
Expenditure	-	(2,016)	(2,016)	(14,094)	(20,142)
Net transfers (to)/from income and expenditure account	-	15,730	15,730	(13,989)	33,201
Opening balance as at 01 September 2014			3,529	17,518	21,047
Closing balance as at 31 December 2015			19,259	3,529	22,788
7 CONSERVATION MANAGEMENT PLAN					
Steering Committee travel	6,000	-	6,000	-	12,000
SW Atlantic southern right whale CMP coordinator Iníguez	-	-	-	22,000	22,000
Western North Pacific gray whale CMP coordinator	-	-	-	7,309	7,309
Other including exchange differences	44	-	44	218	307
	6,044	-	6,044	29,527	41,616
7 CONSERVATION MANAGEMENT PLAN FUND					
Interest receivable	55	2,629	2,684	1,337	9,335
Expenditure	(6,044)	-	(6,044)	(29,527)	(41,616)
Net transfers (to)/from income and expenditure account	(5,989)	2,629	(3,360)	(28,190)	(32,281)
Opening balance as at 01 September 2014			195,813	224,003	419,816
Closing balance as at 31 December 2015			192,453	195,813	388,266
8 IWC - OTHER WORK FUND					
Red'n conflict cetaceans/ships etc. Entanglement workshop 2	-	-	-	5,521	5,521
Euthanasia workshop London Sept. 13	-	-	-	16,360	16,360
Aerial surveys in central and S Tyrrhenian Sea	91,796	46,934	138,731	91,718	416,113
Disentanglement workshops and training	1,160	13,220	14,380	17,595	59,574
Workshop anthropogenic impacts on cetaceans in Arctic	-	-	-	34,808	34,808
2014 guest editor seismic survey gray whales	-	2,163	2,163	6,570	13,060
IWC/UNEP/SPAW ship strikes/disentanglement workshop	-	-	-	31,490	31,490
Caribbean Panama	-	-	-	-	-
ASWWG native hunters meeting Slovenia Sept. 14	9,929	-	9,929	-	19,858
VC Norway RMP <i>CLA</i> work	-	12,462	12,462	-	37,386
	102,885	74,779	177,664	204,063	634,171

	Actual 4 months Dec. 14 £	Actual 12 months Dec. 15 £	Actual 16 months Dec. 15 £	Actual 12 months Aug. 14 £	
8 IWC - OTHER WORK					
Voluntary contributions received	93,102	129,772	222,874	224,434	799,955
Interest receivable	-	1,134	1,134	1,357	4,760
Expenditure	(102,885)	(74,779)	(177,664)	(204,063)	(634,171)
Allocation from research fund	-	5,747	5,747	-	17,241
Net transfers (to)/from income and expenditure account	<u>(9,783)</u>	<u>61,875</u>	<u>52,091</u>	<u>21,728</u>	<u>187,785</u>
Opening balance as at 01 September 2014			<u>73,060</u>	<u>51,332</u>	<u>124,392</u>
Closing balance as at 31 December 2015			<u><u>125,151</u></u>	<u><u>73,060</u></u>	<u><u>198,211</u></u>
9 GRAY WHALE TAGGING					
GWT expenditure (VC funded)	-	-	-	23,987	23,987
	<u>-</u>	<u>-</u>	<u>-</u>	<u>23,987</u>	<u>23,987</u>
9 GRAY WHALE TAGGING FUND					
Expenditure	-	-	-	(23,987)	(23,987)
Net transfers (to)/from income and expenditure account	<u>-</u>	<u>-</u>	<u>-</u>	<u>(23,987)</u>	<u>(23,987)</u>
Opening balance as at 01 September 2014			<u>7,213</u>	<u>31,200</u>	<u>38,413</u>
Closing balance as at 31 December 2015			<u><u>7,213</u></u>	<u><u>7,213</u></u>	<u><u>14,427</u></u>

NOTES TO THE ACCOUNTS – PERIOD ENDED 31 DECEMBER 2015

	Actual 4 months Dec. 14 £	Actual 12 months Dec. 15 £	Actual 16 months Dec. 15 £	Actual 12 months Aug. 14 £
10 Sponsored Publications fund				
Interest Receivable	-	533	533	247
Receipts from sales of sponsored publications	-	-	-	(120)
Expenditure	-	-	-	-
Net transfers (to)/from income and expenditure account	-	533	533	127
Opening balance as at 01 September 2014			41,428	41,301
Closing balance as at 31 December 2015			<u>41,960</u>	<u>41,428</u>
11 Meeting fund				
Allocation for meetings	-	250,750	250,750	305,000
Voluntary contributions received	-	63,454	63,454	-
Interest receivable	-	-	-	-
Expenditure	(1,380)	(246,345)	(247,725)	(344,947)
Net transfers (to)/from income and expenditure account	(1,380)	67,859	66,479	(39,947)
Opening balance as at 01 September 2014			81,474	121,421
Closing balance as at 31 December 2015			<u>147,953</u>	<u>81,474</u>
12 Conservation fund				
Voluntary contributions received	-	65,002	65,002	-
Interest receivable	-	-	-	-
Allocation for other work	-	-	-	-
Net transfers (to)/from income and expenditure account	-	65,002	65,002	-
Opening balance as at 01 September 2014			-	-
Closing balance as at 31 December 2015			<u>65,002</u>	<u>-</u>
13 Operations fund				
Opening balance as at 01 September 2014			23,288	23,288
Closing balance as at 31 December 2015			<u>23,288</u>	<u>23,288</u>
14 General fund				
Opening balance as at 01 September 2014	1,111,506	1,159,731	1,111,506	1,027,802
Net transfers (to)/from income and expenditure account	48,225	66,647	114,872	83,704
Closing balance as at 31 December 2015	<u>1,159,731</u>	<u>1,226,378</u>	<u>1,226,378</u>	<u>1,111,506</u>
15 Provision for severance pay				
Opening balance as at 01 September 2014	422,200	422,200	422,200	363,900
Net transfers (to)/from income and expenditure account	-	39,300	39,300	58,300
Closing balance as at 31 December 2015	<u>422,200</u>	<u>461,500</u>	<u>461,500</u>	<u>422,200</u>
16 Creditors: amounts falling due within one year				
Deferred contributions income	331,423	166,186	166,186	28,229
Other creditors and accruals	19,489	15,608	15,608	167,304
Closing balance as at 31 December 2015	<u>350,912</u>	<u>181,794</u>	<u>181,794</u>	<u>195,533</u>
17 Reconciliation of movement in funds				
Surplus / (deficit) of income over expenditure	42,089	213,700	255,789	(35,698)
Opening funds	1,890,983	1,933,071	1,890,983	1,926,681
Transfers	-	-	-	-
Closing funds	<u>1,933,071</u>	<u>2,146,771</u>	<u>2,146,771</u>	<u>1,890,983</u>
18 Financial commitments				

The Commission had annual commitments at 31 December 2015 under non-cancellable operating leases as set out below and which expire:

	2015 Land and buildings £	2015 Office equipment £	2015 Land and buildings £	2015 Office equipment £
Within 2 to 5 years	<u>60,000</u>	<u>7,142</u>	<u>60,000</u>	<u>7,142</u>

The lease on the IWC Secretariat Offices was renewed from 18 March 2009 for 10 years, with an option to break after 5 years.

19 Post balance sheet events

In February 2016 the Commission purchased 'The Red House', its Head Office for £1,000,000. A loan of £800,000 payable over 25 years was received to assist with the purchase.

Appendix 1

ANALYSIS OF VOLUNTARY CONTRIBUTIONS RECEIVED IN THE 16 MONTHS
TO 31 DECEMBER 2015

Donor	Amount	Purpose
Aboriginal Subsistence Whaling Fund		
Government of Denmark	9,488	Expert Workshop on Aboriginal Subsistence Whaling (ASW) in Greenland Sept 2015
Government of Switzerland	2,000	Expert Workshop on Aboriginal Subsistence Whaling (ASW) in Greenland
Government of USA	18,919	Expert Workshop on Aboriginal Subsistence Whaling (ASW) in Greenland
Government of USA	16,225	Expert Workshop on Aboriginal Subsistence Whaling (ASW) in Greenland
	46,632	
Other Work Fund		
Humane Society International	309	Disentanglement and Workshop on Mass Strandings
Oceancare	1,000	Disentanglement
Government of Italy	91,793	Aerial Surveys in the Central and Southern Tyrrhenian Sea
Government of USA	9,834	Whale Watching Working Group Meeting May 2015
IFAW	1,676	Disentanglement
World Animal Protection (WSPA)	5,000	Disentanglement
World Animal Protection (WSPA)	2,000	Welfare Initiative
Government of Norway	12,462	Calculations in support of a possible revision to the <i>CLA</i> of the RMP
AWI	634	Disentanglement
Government of Italy	46,930	New Aerial Surveys in the Strait of Sicily Central Mediterranean Sea
Government of UK	20,000	Welfare Initiative
World Animal Protection	3,114	Apprenticeship training to further the capacity of the IWC's Global Whale Entanglement Response Network
Government of USA	6,490	Disentanglement training Workshop Chile
Government of Italy	20,405	Satellite telemetry project: fin whales in the Mediterranean Sea
	221,647	
Small Cetacean Fund		
IFAW	3,964	Small Cetaceans Fund
Oceancare	1,000	Small Cetaceans Fund
Whaleman Foundation	906	Small Cetaceans Fund
Cetacean Society International	604	Small Cetaceans Fund
Animal Welfare Institute	603	Small Cetaceans Fund
Whale and Dolphin Conservation Society	500	Small Cetaceans Fund
Campaign Whale	500	Small Cetaceans Fund
Nancy Azzam	480	Small Cetaceans Fund
Windstar Foundation	480	Small Cetaceans Fund
Blue Voice	293	Small Cetaceans Fund
Australian Marine Conservation Society	288	Small Cetaceans Fund
Pacific Orca Society	59	Small Cetaceans Fund
Government of Netherlands	42,310	Small cetacean invited participants and marine bushmeat workshop
Government of Italy	10,575	Small Cetaceans Fund
Government of UK	10,000	Small Cetaceans Fund
World Animal Protection (WSPA)	3,000	Small Cetaceans Fund
Pro Wildlife	755	Small Cetaceans Fund
Whale and Dolphin Conservation Society	500	Small Cetaceans Fund
WWF International	1,949	Small Cetaceans Fund
Government of Switzerland	6,000	Small Cetaceans Fund
	84,767	
Southern Ocean Research Partnership Fund		
Government of Netherlands	17,629	SORP
	17,629	
Conservation Fund		
Government of Australia	65,002	IORA Whale and Dolphin Watching Network - Building Sustainable Whale and Dolphin Watching Tourism in Indian Ocean Rim Countries
	65,002	
General Fund		
IUCN	3,246	Contribution to airfare to attend GWAP related meetings Sept/Oct 2014
IUCN	846	Airfare for IUCN Working Meeting
Government of USA	63,454	Scientific Committee Meeting costs SC/66a San Diego
Government of Switzerland	8,000	Travel costs to attend IWC Bureau meeting Switzerland
	75,546	
	511,222	

Appendix 2

FINANCIAL CONTRIBUTIONS FOR THE PERIOD ENDING 31 DECEMBER 2015

Line No.	Country	Financial Contribution	Bridge	Line No.	Country	Financial Contribution	Bridge
1	Antigua and Barbuda	6,701	1,541	45	Kiribati	6,701	1,541
2	Argentina	12,061	2,774	46	Korea, Rep of	29,070	6,686
3	Australia	35,026	8,056	47	Lao PDR	6,701	1,541
4	Austria	23,114	5,316	48	Lithuania	8,040	1,849
5	Belgium	23,114	5,316	49	Luxembourg	23,114	5,316
6	Belize	4,467	1,027	50	Mali	4,467	1,027
7	Benin	6,701	1,541	51	Marshall Islands	4,467	1,027
8	Brazil	12,061	2,774	52	Mauritania	6,701	1,541
9	Bulgaria	8,041	1,849	53	Mexico	12,061	2,774
10	Cambodia	12,061	2,774	54	Monaco	12,061	2,774
11	Cameroon	6,701	1,541	55	Mongolia	6,701	1,541
12	Chile	23,114	5,316	56	Morocco	12,061	2,774
13	China, P.R of	8,041	1,849	57	Nauru	4,467	1,027
14	Colombia	12,061	2,774	58	Netherlands	23,114	5,316
15	Congo, Rep	4,467	1,027	59	New Zealand	29,070	6,686
16	Costa Rica	12,061	2,774	60	Nicaragua	4,467	1,027
17	Cote d'Ivoire	12,061	2,774	61	Norway	53,932	12,404
18	Croatia	12,061	2,774	62	Oman	23,114	5,316
19	Cyprus	17,158	3,946	63	Palau	4,467	1,027
20	Czech Republic	23,114	5,316	64	Panama	12,061	2,774
21	Denmark	53,932	12,404	65	Peru	12,061	2,774
22	Dominica	4,467	1,027	66	Poland	12,061	2,774
23	Dominican Republic	12,061	2,774	67	Portugal	17,158	3,946
24	Ecuador	12,061	2,774	68	Romania	8,041	1,849
25	Eritrea	4,467	1,027	69	Russian Federation	27,096	6,232
26	Estonia	23,114	5,316	70	San Marino	8,041	1,849
27	Finland	23,114	5,316	71	Senegal	8,041	1,849
28	France	59,830	13,761	72	Slovak Republic	23,114	5,316
29	Gabon	12,061	2,774	73	Slovenia	23,114	5,316
30	Gambia, The	4,467	1,027	74	Solomon Islands	4,467	1,027
31	Germany	59,830	13,761	75	South Africa	12,061	2,774
32	Ghana	12,061	2,774	76	Spain	23,114	5,316
33	Grenada	6,701	1,541	77	St Kitts and Nevis	6,701	1,541
34	Guatemala	8,041	1,849	78	St Vincent and The Grenadines	6,701	1,541
35	Guinea	6,701	1,541	79	St Lucia	6,701	1,541
36	Guinea-Bissau	4,467	1,027	80	Suriname	4,467	1,027
37	Hungary	12,061	2,774	81	Sweden	23,114	5,316
38	Iceland	53,932	12,404	82	Switzerland	23,114	5,316
39	India	8,040	1,849	83	Tanzania	12,061	2,774
40	Ireland	23,114	5,316	84	Togo	6,701	1,541
41	Israel	23,114	5,316	85	Tuvalu	6,701	1,541
42	Italy	59,829	13,761	86	United Kingdom	71,745	16,488
43	Japan	132,341	30,438	87	Uruguay	12,061	2,774
44	Kenya	8,041	1,849	88	USA	90,648	20,849

Total originally requested from Contracting Governments: 1,637,954 376,716

Less Financial Contributions for 2014/15 cancelled as per Financial Regulation F5(a):

Belize	4,467	1,027
Congo, Rep	4,467	1,027
Dominica	4,467	1,027
Gambia, The	4,467	1,027
Guatemala	8,041	1,849
Guinea-Bissau	4,467	1,027
Kenya	8,041	1,849
Nicaragua	4,467	1,027
Romania	8,041	1,849
Suriname	4,467	1,027

Total net Financial Contributions receivable for the Financial Year 2014/15: 1,582,562 363,976

**Financial Statements for the 12
Months to 31 December 2016**

Financial Statements for the 12 Months to 31 December 2016

1. STATEMENT OF THE SECRETARY'S RESPONSIBILITIES

The financial responsibilities of the Secretary to the Commission are set out in the Rules of Procedure and Financial Regulations. Fulfilment of those responsibilities requires the Secretary to prepare financial statements for each financial year which set out the state of affairs of the Commission as at the end of the financial year and the surplus or deficit of the Commission for that period. In preparing these financial statements, the Secretary should:

- Select suitable accounting policies and apply them consistently;
- Make judgments and estimates that are reasonable and prudent;

- Prepare the financial statements on a going concern basis unless it is inappropriate to presume that the Commission will continue in operation.

The Secretary is responsible for keeping adequate accounting records which disclose, at any time and with reasonable accuracy, the financial position of the Commission. The Secretary is also responsible for taking steps for the prevention and detection of fraud and irregularities.

2. INDEPENDENT AUDITOR'S REPORT TO THE COMMISSION

We have audited the financial statements of the International Whaling Commission for the period ended 31 December 2016 which comprise the accounting policies, the income and expenditure account, the balance sheet, the movement in funds statement and the related notes in Items 6-7. These financial statements have been prepared under the accounting policies set out therein. This report is made solely to the Commission. Our audit work has been undertaken so that we might state to the Commission those matters we are required to state to them in an auditors' report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the Commission for our audit work, for this report, or for the opinions we have formed.

Respective Responsibilities of the Secretary and Auditors

As described in the statement of the Secretary's responsibilities, the Secretary is responsible for the preparation of financial statements and for being satisfied that they give a true and fair view.

Our responsibility is to audit and express an opinion on the financial statements in accordance with applicable law and International Standards on Auditing (UK and Ireland). Those standards require us to comply with the Auditing Practices Board's (APB's) Ethical Standards for Auditors to the financial statements.

Scope of the audit of the financial statements

An audit involves obtaining evidence about the amounts and disclosures in the financial statements sufficient to give reasonable assurance that the financial statements are free from material misstatement, whether caused by fraud or error. This includes an assessment of: whether the accounting policies are appropriate to the Commission's circumstances and have been consistently applied and adequately disclosed; the reasonableness

Thomas Quinn

Anthony Wright (Senior Statutory Auditor), for and on behalf of **Thomas Quinn Chartered Accountants**, 15 Station Road, St Ives, Cambridgeshire, PE27 5BH

of significant accounting estimates made by the Secretary; and the overall presentation of the financial statements. In addition, we read all the financial and non-financial information in the Annual Report to identify material inconsistencies with the audited financial statements and to identify any information that is apparently materially incorrect based on, or materially inconsistent with, the knowledge acquired by us in the course of performing the audit. If we become aware of any apparent material misstatements or inconsistencies, we consider the implications for our report.

Opinion on the financial statements

In our opinion the financial statements

- give a true and fair view of the state of the Commission's affairs as at 31 December 2016 and of its surplus for the year;
- have been properly prepared in accordance with International Accounting Standards; and
- have been properly prepared in accordance with the Commissions procedures manual.

3. ACCOUNTING POLICIES

The accounting policies adopted by the Commission in the preparation of these financial statements are as set out below.

The Commission is not compelled to follow International Accounting Standards (IAS) or generally accepted accounting practice and in previous years departures from these standards were noted in the Auditor's report.

In order to demonstrate best practice and to allow the Commission's accounts to show a true and fair view of its financial position, accounting policies have been updated to comply with IAS. This also ensures that the Commission's accounts are prepared on the same basis as other comparable organisations.

To allow a true comparison of the 2016 financial statements with those of the previous year, the 2015 accounts have been restated to reflect the position as at 31st December 2015 had IAS policies been applied.

Further details are given under the heading 'Changes to Accounting Policies'.

Convention

These accounts are prepared under the historic cost convention.

Changes in Accounting Estimates

In 2016, the Commission made a material change to its estimated provision for bad debts. This is due to a significant reduction in amounts outstanding to the Commission during the year and also an increased expectation that outstanding debts will be recovered. Therefore, the provision for bad debts has been reduced from £543,805 in 2015 to £191,962 in 2016, with the difference being reflected in the income and expenditure statement.

This change represents a reclassification of funds rather than additional income to the Commission and it should be noted that the requirement for bad debt provision is reviewed annually. Additional provision may be required in future if there is an adverse change in the amount of debts that the Commission can expect to recover.

Changes to Accounting Policies

In previous financial years, the Auditor's report noted three departures from standard international accounting practices, namely:

- Inventory is charged to the income and expenditure account rather than being held on the balance sheet.
- Fixed assets are not reflected on the Commission's balance sheet.
- Provision is made for severance pay should the Commission cease to function and all posts be made redundant.

The Commission's policies have been updated as follows to ensure that the Commission is compliant with IAS:

Inventory – the Commission currently follows International Accounting Standards relating to inventory. No changes to accounting policies were required to achieve compliance.

Fixed Assets – in preceding years, fixed assets were written off to the income and expenditure account in the year that the expenditure was incurred. Following the Commission's purchase of a material fixed asset,

the Red House, in February 2016, this policy was reviewed and aligned with IAS. This allows the Commission to capitalise this asset on its balance sheet, as standard accounting practice permits and enables the Commission to show a true and fair representation of the assets it holds on its balance sheet. Further details can be found in under the depreciation policy section.

Severance Pay Provision – formerly, the Commission provided an indemnity to members of staff in the event of their appointment being terminated on the abolition of their posts. This provision was reviewed and found to not to meet the definition of a present obligation. Therefore this provision has been reversed and the balance sheet adjusted.

Depreciation of Fixed Assets

Fixed assets are recognised on the balance sheet at cost when they meet the minimum threshold for recognition. Depreciation is then provided for using the straight line method on all assets held on the Commission's balance sheet as follows:

Asset Class	Minimum Threshold for Recognition	Depreciation Period
Land	£3,000	Not depreciated
Buildings	£3,000	50 years
IT & Other Equipment	£1,000	3 years

Land is not depreciated in accordance with generally accepted accounting practice.

Going Concern

These accounts have been prepared on the basis that the Commission is a going concern.

Interest on Overdue Contributions

Interest charged on overdue contributions in accordance with the Rules of Procedure is recognised as income in the income and expenditure account.

Leases

The costs of operating leases are charged to the income and expenditure account as they fall due for payment.

Foreign Exchange

Transactions denominated in foreign currency are translated into sterling as at the balance sheet date. Any translation differences are dealt with in the income and expenditure account.

Post-Balance Sheet Events

Since the balance sheet date, the Commission has used surplus cash balances to repay its bank loan. The loan was taken out in 2016 to fund the purchase of the Red House and repayment was made in full on 27th February 2017.

Retirement Benefits Scheme

The Commission operates a defined contribution retirement scheme. The costs in the income and expenditure account represent the Commission's contributions payable to the scheme in respect of that accounting period.

4. INCOME & EXPENDITURE ACCOUNT

	Note	Period Ending 31 Dec 2016 £	Period Ending 31 Dec 2015 (Restated) £	Period Ending 31 Dec 2015 £
INCOME				
Income From Continuing Operations				
Contributions from Member Governments	Appx 1	1,590,716	1,582,562	1,582,562
Interest on Overdue Financial Contributions		9,395	9,820	9,820
Voluntary Contributions	Appx 2	1,160,809	408,824	408,824
Sales of Publications		0	927	927
Observer Registration Fees		37,503	0	0
UK Taxes Recovered		3,309	(6,732)	(6,732)
Staff Assessments		199,233	185,137	185,137
Interest Receivable		13,907	20,681	20,681
TOTAL INCOME		3,014,873	2,201,219	2,201,219
EXPENDITURE				
Core Expenditure				
Secretariat	1	(1,159,643)	(1,152,484)	(1,156,421)
Publications		(2,736)	(4,240)	(4,240)
Scientific Committee Meeting		(131,966)	(246,705)	(246,705)
Commission Meeting		(253,783)	359	359
Bureau Meeting		0	(9,000)	(9,000)
Core Expenditure Subtotal		(1,548,128)	(1,412,070)	(1,416,007)
Fund Expenditure				
Aboriginal Subsistence Whaling Fund	Appx 4	(3,822)	(57,013)	(57,013)
Conservation Management Plan Fund	Appx 4	(6,721)	0	0
Conservation Fund	Appx 4	(65,024)	0	0
Other Work Fund	Appx 4	(98,956)	(74,779)	(74,779)
Research Expenditure	Appx 3	(252,452)	(320,639)	(320,639)
Small Cetaceans Fund	Appx 4	(20,476)	(23,772)	(23,772)
Southern Ocean Research Partnership Fund	Appx 4	(15,825)	(2,016)	(2,016)
Sponsored Publications Fund	Appx 4	11	0	0
Fund Expenditure Subtotal		(463,264)	(478,219)	(478,219)
Other Expenditure				
Depreciation	2	(16,146)	(1,312)	0
Loan Interest	3	(21,680)	0	0
Provision for Dilapidations	4	0	(16,836)	(16,836)
Provision for Severance Pay	4	0	0	(39,300)
Bad Debt Provision	4	351,843	(37,158)	(37,158)
Total Other Expenditure		314,017	(55,306)	(93,294)
TOTAL EXPENDITURE		(1,697,376)	(1,945,594)	(1,987,519)
SURPLUS/(DEFICIT) FOR THE YEAR BEFORE FUND MOVEMENTS				
		1,317,497	255,625	213,700
Net Transfers (To)/From Funds				
Aboriginal Subsistence Whaling Fund		(10,380)	10,380	10,380
Conservation Management Plan Fund		6,721	(2,629)	(2,629)
Conservation Fund		1,918	(65,002)	(65,002)
Meeting Fund		(11,001)	(67,859)	(67,859)
Other Work Fund		(111,078)	(61,875)	(61,875)
Red House Redevelopment Fund		(66,340)	0	0
Research Fund		(82,105)	108,658	108,658
Small Cetaceans Fund		(56,433)	(52,465)	(52,465)
Southern Ocean Research Partnership Fund		(766,008)	(15,730)	(15,730)
Sponsored Publications Fund		(11)	(533)	(533)
NET SURPLUS/(DEFICIT) FOR THE YEAR		222,782	108,570	66,647

Refer to Movement in Funds Statement

There are no recognised gains or losses for the current financial period and preceding period other than as stated in the income and expenditure account.

5. BALANCE SHEET AS AT 31 DECEMBER 2016

	Note	2016 £	2015 (Restated) £	2015 £
LONG-TERM ASSETS				
Land and Buildings	2	995,579	0	0
IT and Equipment Assets	2	5,037	2,625	0
		<u>1,000,616</u>	<u>2,625</u>	<u>0</u>
SHORT-TERM ASSETS				
Cash at Bank and In-Hand		980	986	986
Cash on Short-Term Deposit		3,747,102	2,703,168	2,703,168
		<u>3,748,082</u>	<u>2,704,154</u>	<u>2,704,154</u>
Outstanding Contributions from Member Governments		421,722	624,760	624,760
<i>Less Provision for Doubtful Debts</i>		<u>(191,962)</u>	<u>(543,805)</u>	<u>(543,805)</u>
		229,760	80,955	80,955
Other Debtors & Prepayments		41,889	54,465	54,465
<i>Less Provision for Doubtful Debts</i>		<u>0</u>	<u>0</u>	<u>0</u>
		<u>41,889</u>	<u>54,465</u>	<u>54,465</u>
SHORT-TERM CREDITORS				
Contracting Government Receipts in Advance and Other Creditors		(251,654)	(181,794)	(181,794)
Short-Term Loan Liabilities	3	<u>(23,101)</u>	<u>0</u>	<u>0</u>
		(274,755)	(181,794)	(181,794)
PROVISIONS				
Provision for Severance Pay	4	0	0	(461,500)
Provision for Dilapidations	4	0	(49,508)	(49,508)
		<u>0</u>	<u>(49,508)</u>	<u>(511,008)</u>
NET ASSETS				
		<u>4,745,593</u>	<u>2,610,897</u>	<u>2,146,771</u>
LONG-TERM LIABILITIES				
Long-Term Loans	3	<u>(767,690)</u>	<u>0</u>	<u>0</u>
FINANCING				
Non-Earmarked Funds				
General Fund		<u>(1,962,792)</u>	<u>(1,690,503)</u>	<u>(1,226,378)</u>
Earmarked Funds				
Aboriginal Subsistence Whaling Fund		0	10,380	10,380
Conservation Fund		(63,084)	(65,002)	(65,002)
Conservation Management Plan Fund		(185,733)	(192,453)	(192,453)
Fund to Assist Governments of Limited Means*		(23,288)	(23,288)	(23,288)
Grey Whale Tagging Fund		(7,213)	(7,213)	(7,213)
Meeting Fund		(158,954)	(147,953)	(147,953)
Other Work Fund		(236,229)	(125,151)	(125,151)
Red House Redevelopment Fund		(66,340)	0	0
Research Fund		(285,207)	(203,102)	(203,102)
Small Cetaceans Fund		(161,825)	(105,392)	(105,392)
Southern Ocean Research Partnership Fund		(785,267)	(19,259)	(19,259)
Sponsored Publications Fund		<u>(41,971)</u>	<u>(41,960)</u>	<u>(41,960)</u>
Total Earmarked Funds		<u>(2,015,111)</u>	<u>(920,393)</u>	<u>(920,393)</u>
NET FINANCING				
		<u>(4,745,593)</u>	<u>(2,610,897)</u>	<u>(2,146,771)</u>

Refer to Movement in Funds Statement

*Formerly known as the Operations Fund.

Approved on behalf of the Commission:

Simon Brockington, Executive Secretary to the Commission

6. MOVEMENT IN FUNDS STATEMENT

	Aboriginal Subsistence Whaling Fund	Conservation Fund	Conservation Management Plan Fund	Fund to Assist Governments of Limited Means*	Grey Whale Tagging Fund	Meeting Fund	Other Work Fund	Red House Redevelopment Fund †	Research Fund	Small Cetaceans Fund	Southern Ocean Research Partnership Fund	Sponsored Publications Fund	General Fund	Total
Opening Balance at 1 Jan 2016	(10,380)	65,002	192,453	23,288	7,213	147,953	125,151	0	203,102	105,392	19,259	41,960	1,226,378	2,146,771
Voluntary Contributions Received	11,355	63,106	0	0	0	0	212,882	0	14,725	76,908	781,833	0	0	1,160,809
Net surplus / (deficit) against core budget spend	0	0	0	0	0	11,001	0	66,340	65,364	0	0	0	222,782	365,487
Expenditure on projects funded through voluntary contributions	(3,822)	(65,024)	(6,774)	0	0	0	(98,979)	0	0	(20,477)	(15,825)	0	0	(210,900)
Currency, interest & bank adjustments	0	0	53	0	0	0	23	0	2,016	1	0	11	0	2,104
Other Adjustments ‡	0	0	0	0	0	0	0	0	0	0	0	0	513,633	513,633
Transfers between funds	2,847	0	0	0	0	0	(2,847)	0	0	0	0	0	0	0
Closing Balance at 31 Dec 2016	0	63,084	185,733	23,288	7,213	158,954	236,229	66,340	285,207	161,825	785,267	41,971	1,962,792	3,977,903

* Formerly the Operations Fund

† The Red House Redevelopment Fund was created in 2016 from monies set aside for the Red House Redevelopment in the 2016 Budget. As expenditure is expected to be incurred across several financial years, this budget allocation has been set aside to be accessed as needed when the project progresses.

‡ 'Other Adjustments' relates to the net adjustments required through the general fund as a result of changes in accounting policy relating to severance pay provision and capitalisation of fixed assets.

7. NOTES TO THE ACCOUNTS

7.1 Secretariat Expenditure

	Period Ending 2016	Period Ending 2015
Bank Charges and Exchange Losses/(Income)	(10,859)	481
Consultancy Support and Audit Charges	28,073	26,336
General Insurance	4,826	5,035
Media and Communications	2,317	0
Office Equipment and Consumables	31,940	36,847
Office Mortgage, Heat and Light, Maintenance	36,225	84,331
Other Miscellaneous Expenditure	810	0
Pension and Employee Benefit Schemes	170,479	163,918
Photocopying and Uploading	0	664
Postage and Telecommunications	16,483	16,495
Salaries and National Insurance	852,378	807,239
Training and Recruitment	13,576	8,485
Travel and Subsistence	13,395	6,591
	1,159,643	1,156,421

7.2 Assets and Depreciation

The schedule below details the opening and closing balances of the fixed assets held by the Commission according to its fixed asset policy, including any additions, disposals and impairments within the year.

	Land £	Buildings £	IT and Other Equipment £	All Asset Classes £
Opening Balance as at 01/01/2016	0	0	2,625	2,625
Additions	360,000	648,550	5,587	1,014,137
Disposals	0	0	0	-
Depreciation	0	(12,971)	(3,175)	(16,146)
Impairments	0	0	0	-
Profit / (Loss) On Disposals	0	0	0	-
Closing Balance as at 31/12/2016	360,000	635,579	5,037	1,000,616

In 2016, the Commission elected to purchase its headquarters, the Red House, at a total cost of £1,008,550. This purchase is reflected in the long-term assets of the Commission, split between its land and buildings value according to accounting practice. All fixed assets were assessed for impairment at the end of the year and no charges were made in respect of this.

7.3 Loan Liabilities

At the balance sheet date the Commission held commercial mortgage liabilities of £790,791 in relation to the purchase of the Red House. This liability has been classified as follows:

	£
Loan liabilities due within 1 year	23,101
Loan liabilities due after 1 year	767,690
Total	790,791

7.4 Provisions

In prior years, the Commission provided an indemnity to members of staff in the event of their appointment being terminated on the abolition of their posts. This provision was reviewed and found to no longer meet the definition of a provision and therefore has been reversed and the balance sheet adjusted.

Provisions for dilapidations have also been reversed as the Commission no longer has a present obligation to a landlord following the purchase of the Red House.

Provisions reversed in 2016 are as follows:

	£
Provision for dilapidations	49,508
Provision for severance pay	461,500
Total adjustment	511,008

In accordance with International Accounting Standards, these amounts were adjusted for on the balance sheet.

Appendix 1
Financial Contributions 2016

Table showing Financial Contributions due for the period ending 31st December 2016.

Line No.	Country	Financial Contribution £	Line No.	Country	Financial Contribution £
1	Antigua and Barbuda	6,750	45	Kiribati	6,750
2	Argentina	22,634	46	Korea, Rep of	28,634
3	Australia	64,430	47	Lao PDR	6,750
4	Austria	22,634	48	Lithuania	16,635
5	Belgium	22,634	49	Luxembourg	22,634
6	Belize	4,500	50	Mali	4,500
7	Benin	6,750	51	Marshall Islands	4,500
8	Brazil	12,150	52	Mauritania	6,750
9	Bulgaria	8,100	53	Mexico	12,150
10	Cambodia	12,150	54	Monaco	12,150
11	Cameroon	12,150	55	Mongolia	6,750
12	Chile	22,634	56	Morocco	12,150
13	China, P.R of	8,100	57	Nauru	4,500
14	Colombia	12,150	58	Netherlands	22,634
15	Congo, Rep	4,500	59	New Zealand	28,634
16	Costa Rica	12,150	60	Nicaragua	4,500
17	Cote d'Ivoire	12,150	61	Norway	53,328
18	Croatia	12,150	62	Oman	22,634
19	Cyprus	16,635	63	Palau	4,500
20	Czech Republic	22,634	64	Panama	12,150
21	Denmark	53,328	65	Peru	12,150
22	Dominica	4,500	66	Poland	12,150
23	Dominican Republic	12,150	67	Portugal	16,635
24	Ecuador	12,150	68	Romania	8,100
25	Eritrea	4,500	69	Russian Federation	26,944
26	Estonia	22,634	70	San Marino	8,100
27	Finland	22,634	71	Senegal	8,100
28	France	52,430	72	Slovak Republic	22,634
29	Gabon	12,150	73	Slovenia	22,634
30	Gambia, The	4,500	74	Solomon Islands	4,500
31	Germany	52,430	75	South Africa	12,150
32	Ghana	12,150	76	Spain	22,634
33	Grenada	6,750	77	St Kitts and Nevis	6,750
34	Guatemala	8,100	78	St. Lucia	6,750
35	Guinea	6,750	79	St Vincent & The Gren	6,750
36	Guinea-Bissau	4,500	80	Suriname	4,500
37	Hungary	12,150	81	Sweden	22,634
38	Iceland	53,328	82	Switzerland	22,634
39	India	8,100	83	Tanzania	12,150
40	Ireland	22,634	84	Togo	6,750
41	Israel	22,634	85	Tuvalu	6,750
42	Italy	52,430	86	United Kingdom	64,430
43	Japan	113,123	87	Uruguay	22,634
44	Kenya	8,100	88	USA	83,124

Total originally requested from Contracting Governments:

1,637,954

Less financial contributions for 2016 cancelled as per Financial Regulation F5(a):

Belize	(4,500)
Congo, Rep	(4,500)
Cyprus	(16,635)
Dominica	(4,500)
Gambia	(4,500)
Guinea-Bissau	(4,500)
Romania	(8,100)

Total net financial contributions receivable for the 2016 financial year

1,590,720

Appendix 2

Voluntary Contributions 2016

The table below provides information on voluntary contributions made to the Commission in the 2016 financial year. Details on the donation currency (where appropriate), UK equivalent amount and purpose of the contribution are also provided. They are listed alphabetically by donor. It should be noted that amounts received by the Commission depend on the prevailing exchange rate at the time funds were received.

Contributions from Contracting Governments

Contracting Government	Purpose of Contribution	Voluntary Contribution (GBP)	Allocated Fund
Australia	IWC Governance Review (AUD 200,000)	£103,409	Other Work Fund
	Southern Ocean Research Partnership (AUD 1,491,000)	£758,325	Southern Ocean Research Partnership Fund
	Australia Total	£861,734	
France	Small Cetaceans Fund (EUR 82,500, split as indicated)	£3,700	Small Cetaceans
	Entanglement	£10,000	Other Work Fund
	Strandings	£25,000	Other Work Fund
	Bycatch	£31,812	Conservation
	France Total	£70,512	
Italy	Small Cetaceans Fund (EUR 4,000)	£4,735	Small Cetaceans
	Small Cetaceans Task Team (EUR 15,000)	£13,022	Small Cetaceans
	Italy Total	£17,757	
Netherlands	Small Cetaceans Fund (EUR 20,000)	£18,400	Small Cetaceans
New Zealand	Developing Country Attendance at Welfare Workshop (NZD 5,000)	£2,400	Other Work Fund
South Africa	Contribution to Welfare Workshop (ZAR 22,000)	£1,276	Other Work Fund
Switzerland	Small Cetaceans Fund	£19,000	Small Cetaceans
UK	Projects approved by the Conservation Committee	£10,000	Conservation
	Whale Watching and Bycatch	£15,000	Conservation
	Small Cetaceans Fund	£10,000	Small Cetaceans
	Welfare	£15,000	Other Work Fund
	United Kingdom Total	£50,000	
United States	Satellite Tagging Best Practice	£14,725	Research
	Whale Watching Handbook (USD 10,000)	£7,379	Other Work Fund
	Entanglement Reduction Workshops (USD 40,000)	£29,516	Other Work Fund
	Contribution to ASW Meeting (USD 15,000)	£11,355	Aboriginal Subsistence Whaling Fund
	IWC Governance Review (USD 20,000)	£15,140	Other Work Fund
	United States Total	£78,115	

Total Contributions from Contracting Governments

£1,119,193

Contributions from other organisations

Organisation	Purpose of Contribution	Voluntary Contribution (GBP)	Allocated Fund
Animal Welfare Institute	Small Cetaceans Fund (USD 500)	£394	Small Cetaceans
Cetacean Society International	Small Cetaceans Fund (USD 500)	£420	Small Cetaceans
Dolphin Connection	Bycatch (USD 500)	£394	Conservation
Environmental Investigation Agency	Small Cetaceans Fund (USD 500)	£394	Small Cetaceans
	Bycatch (USD 2,000)	£1,575	Conservation
Environmental Investigation Agency Total		£1,969	
Humane Society International	Small Cetaceans Fund (USD 3,000)	£2,362	Small Cetaceans
	Welfare	£820	Other Work Fund
	Bycatch (USD 1,000)	£864	Conservation
Humane Society International Total		£4,046	
International Fund for Animal Welfare	Small Cetaceans Fund (USD 500)	£418	Small Cetaceans
	Bycatch (USD 500)	£418	Conservation
	Acoustic Trends... Project (USD 10,000)	£7,519	Southern Ocean Research Partnership
	Welfare (USD 500)	£418	Other Work Fund
International Fund for Animal Welfare Total		£8,773	
Legaseas	Small Cetaceans Fund (USD 300)	£236	Small Cetaceans
N Azzam	Small Cetaceans Fund (USD 500)	£430	Small Cetaceans
National Resources Defence Council	Bycatch	£420	Conservation
North Carolina State University	To support the cost of interns working on natural resource management	£1,343	Other Work Fund
OceanCare	Small Cetaceans Fund (EUR 1,000)	£917	Small Cetaceans
	Welfare (USD 500)	£394	Other Work Fund
OceanCare Total		£1,311	
ProWildlife	Small Cetaceans Fund (USD 2,000)	£1,693	Small Cetaceans
Whaleman Foundation	Small Cetaceans Fund (USD 1,000)	£787	Small Cetaceans
	Bycatch (USD 500)	£395	Conservation
Whaleman Foundation Total		£1,182	
World Animal Protection	Welfare (USD 1,000)	£787	Other Work Fund
	Bycatch (USD 500)	£394	Conservation
World Animal Protection Total		£1,181	
WWF Australia	Predator-Prey Interactions with Krill Project (AUD 25,000)	£15,989	Southern Ocean Research Partnership
WWF Europe	Bycatch (EUR 2,000)	£1,835	Conservation

Total Contributions from Other Organisations **£41,617**

Total Voluntary Contributions 2016 **£1,160,809**

Summary of Contributions by Fund

Voluntary Contribution Allocation by Fund	£
Aboriginal Subsistence Whaling fund	£11,355
Conservation	£63,106
Other Work Fund	£212,882
Research Fund	£14,725
Small Cetaceans	£76,908
Southern Ocean Research Partnership	£781,833
	£1,160,809

As voluntary contributions are often translated to sterling from another currency, the amount received by the Commission will vary according to the prevailing exchange rates on the day of the transaction.

Appendix 3

Detailed Analysis of Research Fund Expenditure

2016 Scientific Committee Projects	Explanation of Project	2016 Expenditure £	2015 Expenditure £
AWMP Workshop to Develop <i>SLAs</i> for the Greenland Hunts	AWMP Workshop enabling Committee to recommend <i>Strike Limit Algorithms (SLAs)</i> to the Commission by 2017 SC meeting.	10,287	15,350
AWMP Developers Fund	Standing fund to ensure AWMP Standing Working Group can complete all essential tasks. Recently used to support <i>Strike Limit Algorithm (SLA)</i> development.	3,000	1,200
Development of a sex- and age-structured population dynamics model for North Pacific grey whales	BRG/AWMP/E work to provide a modelling framework based on discussions at a related workshop.	-	15,000
Workshop to forward the modelling process to understand the status of grey whales across the North Pacific	BRG/AWMP/E Workshop to review progress in modelling of North Pacific grey whales.	4,003	-
Technical drafting group for CMP	BRG/HIM/E travel for convenor of CMP working group.	-	-
State of the Cetacean Environment Report (SOCER)	E. Funds to produce annual State of the Cetacean Environment Report (SOCER).	3,000	3,000
POLLUTION 2020	Phase III of longstanding E project. Current focus on contaminants.	-	7,000
Contaminant status, trends and risk assessments in cetaceans	Related to POLLUTION 2020. Collation of data.	4,085	-
Masking and ship noise	E Workshop with emphasis on how anthropogenic noise could mask biologically important signals used by cetaceans.	7,232	-
Large mortality events and strandings Workshop	E Workshop to facilitate collaboration between national and regional responses to unusual events or large mass strandings.	2,902	2,614
Using baleen whale tag data to inform ecosystem models	EM project using satellite tags to develop models of cetacean foraging.	1,400	15,200
CCAMLR-IWC Workshop on the development and application of multi-species models to the Antarctic marine ecosystem	EM joint Workshop on development and application of multi-species models in the Antarctic.	-	-
Ship strikes database coordinator	Ongoing HIM project to develop IWC ship strike database.	10,000	8,881
Preventing the entanglement of whales in fishing gear	HIM Workshop to identify methods and encourage further research into ways to prevent entanglement of large whales.	-	-
POWER cruise 2016	IA/BRG/RMP. Contribution towards annual Pacific Ocean Whale Ecosystem Research (POWER) cruise and planning meeting.	13,923	36,334
Assessment modelling for in-depth assessments of Antarctic minke and North Pacific sei whales	IA development of population dynamics models.	2,500	-
Testing proposed new guidelines for evaluating spatial model-based and design-based abundance estimates	Pre-meeting on updated guidelines for evaluating design and spatial model based abundance estimates.	-	-
Evaluating abundance estimates: diagnostics and testing	Development of guidelines for assessing new abundance estimates.	9,440	-
Workshops to further progress on the <i>Implementation Reviews</i> for the North Atlantic minke and fin whales	RMP/AWMP back-to-back workshops to continue Implementation reviews for minke and fin whales.	10,266	5,492
Evaluation of density dependence parameters for inclusion in RMP testing based on energetics modelling	RMP/EM work to explore relationships arising out of energetics based model results.	-	6,000
Essential computing support to the Secretariat for RMP	RMP/EM. Provides essential assistance to the Secretariat for computing tasks.	8,033	12,331
Synthesis of the results of the comprehensive assessment of Southern Hemisphere humpback whales	SH work to summarise results arising from comprehensive assessment of Southern Hemisphere humpback whales.	-	750
Modelling support for Southern Hemisphere humpback whales	SH modelling studies to assist the development of future syntheses of assessments of Southern Hemisphere humpback whales.	-	2,000
Research Contract 16: Antarctic Humpback Whale Catalogue	SH. Contribution towards photo-ID catalogue maintenance.	-	25,005
Southern Hemisphere Blue Whale Catalogue	SH. Contribution towards photo-ID catalogue maintenance.	18,305	15,005
Priority tasks to support regional conservation effort of Arabian Sea humpback whales	Priority tasks to support regional conservation of Arabian humpback whales.	5,005	11,555
Workshop for periodic review of JARPN II SP [23,000]	SP periodic review of results from Special Permit research.	16,586	5,707

2016 Scientific Committee Projects	Explanation of Project	2016 Expenditure £	2015 Expenditure £
Emerging whale-watching industry in Oman	WW project to improve, educate and stimulate the emerging whale-watching industry in Oman.	2,623	7,850
Pre-meeting to review SAWS	SAN Workshop to review the South American Whale Sanctuary (SAWS) proposal.	4,920	-
SC participation in joint SC/CC Workshop on Sanctuaries	Joint Workshop to review proposals and report relevant Scientific Committee activities to the Commission.	-	-
Invited Participants	Travel and subsistence costs for Invited Participants (IPs) to annual Scientific Committee meetings.	82,376	70,654
SORP coordination		-	13,000
E website/listserve/communication tool cetacean disease		-	3,100
E Marine debris pre-meeting		-	485
SP2 Workshop on review of new Special Permit proposals		-	15,002
Grey whale rangewide Workshop		-	8,457
Genetics intersessional Workshop		-	982
Other Related Research Fund Expenditure			
	JCRM SOWER Publication Fund	1,503	
	SOLOMAC Chile	5,505	
	BRG Southern Right Whale Assessment Workshop	10,510	
	BRG2 Southern right whale mortalities Peninsula Valdes £13K	1,026	11,701
	BRG Passive acoustic monitoring – Southern right whale	12,005	
Total Research Expenditure 2016		250,436	319,655

Summary of Research Fund

	2016	2015
Budget Allocated from Core Funds	315,800	318,123
Expenditure	(250,436)	(319,655)
Currency/bank/interest adjustments	2,016	2,621
Voluntary Contributions received	14,725	0
Transfers between funds	0	(109,747)
Amount carried forward in the Research Fund	82,105	(108,658)

**International Convention
for the
Regulation of Whaling**

signed at Washington, 2 December 1946

and its

Protocol

signed at Washington, 19 November 1956

The Schedule which is attached to the Convention and under Article I forms an integral part thereof is amended regularly by the Commission. The most recent version begins on p.271 of this volume.



INTERNATIONAL
WHALING COMMISSION

International Convention

for the

Regulation of Whaling

Washington, 2nd December, 1946

The Governments whose duly authorised representatives have subscribed hereto,

Recognizing the interest of the nations of the world in safeguarding for future generations the great natural resources represented by the whale stocks;

Considering that the history of whaling has seen over-fishing of one area after another and of one species of whale after another to such a degree that it is essential to protect all species of whales from further over-fishing;

Recognizing that the whale stocks are susceptible of natural increases if whaling is properly regulated, and that increases in the size of whale stocks will permit increases in the number of whales which may be captured without endangering these natural resources;

Recognizing that it is in the common interest to achieve the optimum level of whale stocks as rapidly as possible without causing widespread economic and nutritional distress;

Recognizing that in the course of achieving these objectives, whaling operations should be confined to those species best able to sustain exploitation in order to give an interval for recovery to certain species of whales now depleted in numbers;

Desiring to establish a system of international regulation for the whale fisheries to ensure proper and effective conservation and development of whale stocks on the basis of the principles embodied in the provisions of the International Agreement for the Regulation of Whaling, signed in London on 8th June, 1937, and the protocols to that Agreement signed in London on 24th June, 1938, and 26th November, 1945; and

Having decided to conclude a convention to provide for the proper conservation of whale stocks and thus make possible the orderly development of the whaling industry;

Have agreed as follows:-

Article I

1. This Convention includes the Schedule attached thereto which forms an integral part thereof. All references to "Convention" shall be understood as including the said Schedule either in its present terms or as amended in accordance with the provisions of Article V.
2. This Convention applies to factory ships, land stations, and whale catchers under the jurisdiction of the Contracting Governments and to all waters in which whaling is prosecuted by such factory ships, land stations, and whale catchers.

Article II

As used in this Convention:-

1. "Factory ship" means a ship in which or on which whales are treated either wholly or in part;

2. "Land station" means a factory on the land at which whales are treated either wholly or in part;
3. "Whale catcher" means a ship used for the purpose of hunting, taking, towing, holding on to, or scouting for whales;
4. "Contracting Government" means any Government which has deposited an instrument of ratification or has given notice of adherence to this Convention.

Article III

1. The Contracting Governments agree to establish an International Whaling Commission, hereinafter referred to as the Commission, to be composed of one member from each Contracting Government. Each member shall have one vote and may be accompanied by one or more experts and advisers.
2. The Commission shall elect from its own members a Chairman and Vice-Chairman and shall determine its own Rules of Procedure. Decisions of the Commission shall be taken by a simple majority of those members voting except that a three-fourths majority of those members voting shall be required for action in pursuance of Article V. The Rules of Procedure may provide for decisions otherwise than at meetings of the Commission.
3. The Commission may appoint its own Secretary and staff.
4. The Commission may set up, from among its own members and experts or advisers, such committees as it considers desirable to perform such functions as it may authorize.
5. The expenses of each member of the Commission and of his experts and advisers shall be determined and paid by his own Government.
6. Recognizing that specialized agencies related to the United Nations will be concerned with the conservation and development of whale fisheries and the products arising therefrom and desiring to avoid duplication of functions, the Contracting Governments will consult among themselves within two years after the coming into force of this Convention to decide whether the Commission shall be brought within the framework of a specialized agency related to the United Nations.
7. In the meantime the Government of the United Kingdom of Great Britain and Northern Ireland shall arrange, in consultation with the other Contracting Governments, to convene the first meeting of the Commission, and shall initiate the consultation referred to in paragraph 6 above.
8. Subsequent meetings of the Commission shall be convened as the Commission may determine.

Article IV

1. The Commission may either in collaboration with or through independent agencies of the Contracting Governments or other public or private agencies, establishments, or organizations, or independently
 - (a) encourage, recommend, or if necessary, organize studies and investigations relating to whales and whaling;
 - (b) collect and analyze statistical information concerning the current condition and trend of the whale stocks and the effects of whaling activities thereon;
 - (c) study, appraise, and disseminate information concerning methods of maintaining and increasing the populations of whale stocks.
2. The Commission shall arrange for the publication of reports of its activities, and it may publish independently or in collaboration with the International Bureau for Whaling Statistics at Sandefjord in Norway and other organizations and agencies such reports as it deems appropriate, as well as statistical, scientific, and other pertinent information relating to whales and whaling.

Article V

1. The Commission may amend from time to time the provisions of the Schedule by adopting regulations with respect to the conservation and utilization of whale resources, fixing
 - (a) protected and unprotected species;
 - (b) open and closed seasons;
 - (c) open and closed waters, including the designation of sanctuary areas;
 - (d) size limits for each species;
 - (e) time, methods, and intensity of whaling (including the maximum catch of whales to be taken in any one season);
 - (f) types and specifications of gear and apparatus and appliances which may be used;
 - (g) methods of measurement; and
 - (h) catch returns and other statistical and biological records.
2. These amendments of the Schedule
 - (a) shall be such as are necessary to carry out the objectives and purposes of this Convention and to provide for the conservation, development, and optimum utilization of the whale resources;
 - (b) shall be based on scientific findings;
 - (c) shall not involve restrictions on the number or nationality of factory ships or land stations, nor allocate specific quotas to any factory ship or land station or to any group of factory ships or land stations; and
 - (d) shall take into consideration the interests of the consumers of whale products and the whaling industry.
3. Each of such amendments shall become effective with respect to the Contracting Governments ninety days following notification of the amendment by the Commission to each of the Contracting Governments, except that
 - (a) if any Government presents to the Commission objection to any amendment prior to the expiration of this ninety-day period, the amendment shall not become effective with respect to any of the Governments for an additional ninety days;

(b) thereupon, any other Contracting Government may present objection to the amendment at any time prior to the expiration of the additional ninety-day period, or before the expiration of thirty days from the date of receipt of the last objection received during such additional ninety-day period, whichever date shall be the later; and

(c) thereafter, the amendment shall become effective with respect to all Contracting Governments which have not presented objection but shall not become effective with respect to any Government which has so objected until such date as the objection is withdrawn. The Commission shall notify each Contracting Government immediately upon receipt of each objection and withdrawal and each Contracting Government shall acknowledge receipt of all notifications of amendments, objections, and withdrawals.

4. No amendments shall become effective before 1st July, 1949.

Article VI

The Commission may from time to time make recommendations to any or all Contracting Governments on any matters which relate to whales or whaling and to the objectives and purposes of this Convention.

Article VII

The Contracting Government shall ensure prompt transmission to the International Bureau for Whaling Statistics at Sandefjord in Norway, or to such other body as the Commission may designate, of notifications and statistical and other information required by this Convention in such form and manner as may be prescribed by the Commission.

Article VIII

1. Notwithstanding anything contained in this Convention any Contracting Government may grant to any of its nationals a special permit authorizing that national to kill, take and treat whales for purposes of scientific research subject to such restrictions as to number and subject to such other conditions as the Contracting Government thinks fit, and the killing, taking, and treating of whales in accordance with the provisions of this Article shall be exempt from the operation of this Convention. Each Contracting Government shall report at once to the Commission all such authorizations which it has granted. Each Contracting Government may at any time revoke any such special permit which it has granted.
2. Any whales taken under these special permits shall so far as practicable be processed and the proceeds shall be dealt with in accordance with directions issued by the Government by which the permit was granted.
3. Each Contracting Government shall transmit to such body as may be designated by the Commission, in so far as practicable, and at intervals of not more than one year, scientific information available to that Government with respect to whales and whaling, including the results of research conducted pursuant to paragraph 1 of this Article and to Article IV.
4. Recognizing that continuous collection and analysis of biological data in connection with the operations of factory ships and land stations are indispensable to sound and constructive management of the whale fisheries, the Contracting Governments will take all practicable measures to obtain such data.

Article IX

1. Each Contracting Government shall take appropriate measures to ensure the application of the provisions of this Convention and the punishment of infractions against the said provisions in operations carried out by persons or by vessels under its jurisdiction.
2. No bonus or other remuneration calculated with relation to the results of their work shall be paid to the gunners and crews of whale catchers in respect of any whales the taking of which is forbidden by this Convention.
3. Prosecution for infractions against or contraventions of this Convention shall be instituted by the Government having jurisdiction over the offence.
4. Each Contracting Government shall transmit to the Commission full details of each infraction of the provisions of this Convention by persons or vessels under the jurisdiction of that Government as reported by its inspectors. This information shall include a statement of measures taken for dealing with the infraction and of penalties imposed.

Article X

1. This Convention shall be ratified and the instruments of ratifications shall be deposited with the Government of the United States of America.
2. Any Government which has not signed this Convention may adhere thereto after it enters into force by a notification in writing to the Government of the United States of America.
3. The Government of the United States of America shall inform all other signatory Governments and all adhering Governments of all ratifications deposited and adherences received.
4. This Convention shall, when instruments of ratification have been deposited by at least six signatory Governments, which shall include the Governments of

the Netherlands, Norway, the Union of Soviet Socialist Republics, the United Kingdom of Great Britain and Northern Ireland, and the United States of America, enter into force with respect to those Governments and shall enter into force with respect to each Government which subsequently ratifies or adheres on the date of the deposit of its instrument of ratification or the receipt of its notification of adherence.

5. The provisions of the Schedule shall not apply prior to 1st July, 1948. Amendments to the Schedule adopted pursuant to Article V shall not apply prior to 1st July, 1949.

Article XI

Any Contracting Government may withdraw from this Convention on 30th June, of any year by giving notice on or before 1st January, of the same year to the depository Government, which upon receipt of such a notice shall at once communicate it to the other Contracting Governments. Any other Contracting Government may, in like manner, within one month of the receipt of a copy of such a notice from the depository Government give notice of withdrawal, so that the Convention shall cease to be in force on 30th June, of the same year with respect to the Government giving such notice of withdrawal.

The Convention shall bear the date on which it is opened for signature and shall remain open for signature for a period of fourteen days thereafter.

In witness whereof the undersigned, being duly authorized, have signed this Convention.

Done in Washington this second day of December, 1946, in the English language, the original of which shall be deposited in the archives of the Government of the United States of America. The Government of the United States of America shall transmit certified copies thereof to all the other signatory and adhering Governments.

Protocol

to the International Convention for the Regulation of Whaling, Signed at Washington Under Date of December 2, 1946

The Contracting Governments to the International Convention for the Regulation of Whaling signed at Washington under date of 2nd December, 1946 which Convention is hereinafter referred to as the 1946 Whaling Convention, desiring to extend the application of that Convention to helicopters and other aircraft and to include provisions on methods of inspection among those Schedule provisions which may be amended by the Commission, agree as follows:

Article I

Subparagraph 3 of the Article II of the 1946 Whaling Convention shall be amended to read as follows:

“3. ‘whale catcher’ means a helicopter, or other aircraft, or a ship, used for the purpose of hunting, taking, killing, towing, holding on to, or scouting for whales.”

Article II

Paragraph 1 of Article V of the 1946 Whaling Convention shall be amended by deleting the word “and” preceding clause (h), substituting a semicolon for the period at the end of the paragraph, and adding the following language: “and (i) methods of inspection”.

Article III

1. This Protocol shall be open for signature and ratification or for adherence on behalf of any Contracting Government to the 1946 Whaling Convention.

2. This Protocol shall enter into force on the date upon which instruments of ratification have been deposited with, or written notifications of adherence have been received by, the Government of the United States of America on behalf of all the Contracting Governments to the 1946 Whaling Convention.
3. The Government of the United States of America shall inform all Governments signatory or adhering to the 1946 Whaling Convention of all ratifications deposited and adherences received.
4. This Protocol shall bear the date on which it is opened for signature and shall remain open for signature for a period of fourteen days thereafter, following which period it shall be open for adherence.

IN WITNESS WHEREOF the undersigned, being duly authorized, have signed this Protocol.

DONE in Washington this nineteenth day of November, 1956, in the English Language, the original of which shall be deposited in the archives of the Government of the United States of America. The Government of the United States of America shall transmit certified copies thereof to all Governments signatory or adhering to the 1946 Whaling Convention.

**International Convention
for the
Regulation of Whaling, 1946**

Schedule

**As amended by the Commission at the 66th Meeting
Portorož, Slovenia, September 2016**



**INTERNATIONAL
WHALING COMMISSION**

International Convention

for the

Regulation of Whaling, 1946

Schedule

EXPLANATORY NOTES

The Schedule printed on the following pages contains the amendments made by the Commission at its 65th Annual Meeting in September 2014. The amendments, which are shown in *italic bold* type, came into effect on 4 January 2015.

In Tables 1, 2 and 3 unclassified stocks are indicated by a dash. Other positions in the Tables have been filled with a dot to aid legibility.

Numbered footnotes are integral parts of the Schedule formally adopted by the Commission. Other footnotes are editorial.

The Commission was informed in June 1992 by the ambassador in London that the membership of the Union of Soviet Socialist Republics in the International Convention for the Regulation of Whaling from 1948 is continued by the Russian Federation.

The Commission recorded at its 39th (1987) meeting the fact that references to names of native inhabitants in Schedule paragraph 13(b)(4) would be for geographical purposes alone, so as not to be in contravention of Article V.2(c) of the Convention (*Rep. int. Whal. Commn* 38:21).

I. INTERPRETATION

1. The following expressions have the meanings respectively assigned to them, that is to say:

A. Baleen whales

“baleen whale” means any whale which has baleen or whale bone in the mouth, i.e. any whale other than a toothed whale.

“blue whale” (*Balaenoptera musculus*) means any whale known as blue whale, Sibbald’s rorqual, or sulphur bottom, and including pygmy blue whale.

“bowhead whale” (*Balaena mysticetus*) means any whale known as bowhead, Arctic right whale, great polar whale, Greenland right whale, Greenland whale.

“Bryde’s whale” (*Balaenoptera edeni*, *B. brydei*) means any whale known as Bryde’s whale.

“fin whale” (*Balaenoptera physalus*) means any whale known as common finback, common rorqual, fin whale, herring whale, or true fin whale.

“gray whale” (*Eschrichtius robustus*) means any whale known as gray whale, California gray, devil fish, hard head, mussel digger, gray back, or rip sack.

“humpback whale” (*Megaptera novaeangliae*) means any whale known as bunch, humpback, humpback whale, humpbacked whale, hump whale or hunchbacked whale.

“minke whale” (*Balaenoptera acutorostrata*, *B. bonaerensis*) means any whale known as lesser rorqual, little piked whale, minke whale, pike-headed whale or sharp headed finner.

“pygmy right whale” (*Caperea marginata*) means any whale known as southern pygmy right whale or pygmy right whale.

“right whale” (*Eubalaena glacialis*, *E. australis*) means any whale known as Atlantic right whale, Arctic right whale, Biscayan right whale, Nordkaper, North Atlantic right whale, North Cape whale, Pacific right whale, or southern right whale.

“sei whale” (*Balaenoptera borealis*) means any whale known as sei whale, Rudolphi’s rorqual, pollack whale, or coalfish whale.

B. Toothed whales

“toothed whale” means any whale which has teeth in the jaws.

“beaked whale” means any whale belonging to the genus *Mesoplodon*, or any whale known as Cuvier’s beaked whale (*Ziphius cavirostris*), or Shepherd’s beaked whale (*Tasmacetus shepherdi*).

“bottlenose whale” means any whale known as Baird’s beaked whale (*Berardius bairdii*), Arnoux’s whale (*Berardius arnuxii*), southern bottlenose whale (*Hyperoodon planifrons*), or northern bottlenose whale (*Hyperoodon ampullatus*).

“killer whale” (*Orcinus orca*) means any whale known as killer whale or orca.

“pilot whale” means any whale known as long-finned pilot whale (*Globicephala melaena*) or short-finned pilot whale (*G. macrorhynchus*).

“sperm whale” (*Physeter macrocephalus*) means any whale known as sperm whale, spermacet whale, cachalot or pot whale.

C. General

“strike” means to penetrate with a weapon used for whaling.

“land” means to retrieve to a factory ship, land station, or other place where a whale can be treated.

“take” means to flag, buoy or make fast to a whale catcher.

“lose” means to either strike or take but not to land.

“dauhval” means any unclaimed dead whale found floating.

“lactating whale” means (a) with respect to baleen whales - a female which has any milk present in a mammary gland, (b) with respect to sperm whales - a female which has milk present in a mammary gland the maximum thickness (depth) of which is 10cm or more. This measurement shall be at the mid ventral point of the mammary gland perpendicular to the body axis, and shall be logged to the nearest centimetre; that is to say, any gland between 9.5cm and 10.5cm shall be logged as 10cm. The measurement of any gland which falls on an exact 0.5 centimetre shall be logged at the next 0.5 centimetre, e.g. 10.5cm shall be logged as 11.0cm.

However, notwithstanding these criteria, a whale shall not be considered a lactating whale if scientific (histological or other biological) evidence is presented to the appropriate national authority establishing that the whale could not at that point in its physical cycle have had a calf dependent on it for milk.

“small-type whaling” means catching operations using powered vessels with mounted harpoon guns hunting exclusively for minke, bottlenose, beaked, pilot or killer whales.

II. SEASONS

Factory Ship Operations

2. (a) It is forbidden to use a factory ship or whale catcher attached thereto for the purpose of taking or treating baleen whales except minke whales, in any waters south of 40° South Latitude except during the period from 12th December to 7th April following, both days inclusive.
- (b) It is forbidden to use a factory ship or whale catcher attached thereto for the purpose of taking or treating sperm or minke whales, except as permitted by the Contracting Governments in accordance with sub-paragraphs (c) and (d) of this paragraph, and paragraph 5.
- (c) Each Contracting Government shall declare for all factory ships and whale catchers attached thereto under its jurisdiction, an open season or seasons not to exceed eight months out of any period of twelve months during which the taking or killing of sperm whales by whale catchers may be permitted; provided that a separate open season may be declared for each factory ship and the whale catchers attached thereto.
- (d) Each Contracting Government shall declare for all factory ships and whale catchers attached thereto under its jurisdiction one continuous open season not to exceed six months out of any period of twelve months during which the taking or killing of minke whales by the whale catchers may be permitted provided that:
 - (1) a separate open season may be declared for each factory ship and the whale catchers attached thereto;
 - (2) the open season need not necessarily include the whole or any part of the period declared for other baleen whales pursuant to sub-paragraph (a) of this paragraph.
3. It is forbidden to use a factory ship which has been used during a season in any waters south of 40° South Latitude for the purpose of treating baleen whales, except minke whales, in any other area except the North Pacific Ocean and its dependent waters north of the Equator for the same purpose within a period of one year from the termination of that season; provided that catch limits in the North Pacific Ocean and dependent waters are established as provided in paragraphs 12 and 16 of this Schedule and provided that this paragraph shall not apply to a ship which has been used during the season solely for freezing or salting the meat and entrails of whales intended for human food or feeding animals.

Land Station Operations

4. (a) It is forbidden to use a whale catcher attached to a land station for the purpose of killing or attempting to kill baleen and sperm whales except as permitted by the Contracting Government in accordance with sub-paragraphs (b), (c) and (d) of this paragraph.
- (b) Each Contracting Government shall declare for all land stations under its jurisdiction, and whale catchers attached to such land stations, one open season during which the taking or killing of baleen whales, except minke whales, by the whale catchers shall be permitted. Such open season shall be for a period of not more than six consecutive months in any period of twelve months and shall apply to all land stations under the jurisdiction of the Contracting Government; provided that a separate open season may be declared for any land station used for the taking or treating of baleen whales, except minke whales, which is more than 1,000 miles from the nearest land station used for the taking or treating of baleen whales, except minke whales, under the jurisdiction of the same Contracting Government.
- (c) Each Contracting Government shall declare for all land stations under its jurisdiction and for whale catchers attached to such land stations, one open season not to exceed eight continuous months in any one period of twelve months, during which the taking or killing of sperm whales by the whale catchers shall be permitted; provided that a separate open season may be declared for any land station used for the taking or treating of sperm whales which is more than 1,000 miles from the nearest land station used for the taking or treating of sperm whales under the jurisdiction of the same Contracting Government.
- (d) Each Contracting Government shall declare for all land stations under its jurisdiction and for whale catchers attached to such land stations one open season not to exceed six continuous months in any period of twelve months during which the taking or killing of minke whales by the whale catchers shall be permitted (such period not being necessarily concurrent with the period declared for other baleen whales, as provided for in sub-paragraph (b) of this paragraph); provided that a separate open season may be declared for any land station used for the taking or treating of minke whales which is more than 1,000 miles from the nearest land station used for the taking or treating of minke whales under the jurisdiction of the same Contracting Government.

Except that a separate open season may be declared for any land station used for the taking or treating of minke whales which is located in an area having oceanographic conditions clearly distinguishable from those of the area in which are located the other land stations used for the taking or treating of minke whales under the jurisdiction of the same Contracting Government; but the declaration of a separate open season by virtue of the provisions of this sub-paragraph shall not cause thereby the period of time covering the open seasons declared by the same Contracting Government to exceed nine continuous months of any twelve months.

- (e) The prohibitions contained in this paragraph shall apply to all land stations as defined in Article II of the Whaling Convention of 1946.

Other Operations

5. Each Contracting Government shall declare for all whale catchers under its jurisdiction not operating in conjunction with a factory ship or land station one continuous open season not to exceed six months out of any period of twelve months during which the taking or killing of minke whales by such whale catchers may be permitted. Notwithstanding this paragraph one continuous open season not to exceed nine months may be implemented so far as Greenland is concerned.

III. CAPTURE

6. The killing for commercial purposes of whales, except minke whales using the cold grenade harpoon shall be forbidden from the beginning of the 1980/81 pelagic and 1981 coastal seasons. The killing for commercial purposes of minke whales using the cold grenade harpoon shall be forbidden from the beginning of the 1982/83 pelagic and the 1983 coastal seasons.*
7. (a) In accordance with Article V(1)(c) of the Convention, commercial whaling, whether by pelagic operations or from land stations, is prohibited in a region designated as the Indian Ocean Sanctuary. This comprises the waters of the Northern Hemisphere from the coast of Africa to 100°E, including the Red and Arabian Seas and the Gulf of Oman; and the waters of the Southern Hemisphere in the sector from 20°E to 130°E, with the Southern boundary set at 55°S. This prohibition applies irrespective of such catch limits for baleen or toothed whales as may from time to time be determined by the Commission. This prohibition shall be reviewed by the Commission at its Annual Meeting in 2002.✱
- (b) In accordance with Article V(1)(c) of the Convention, commercial whaling, whether by pelagic operations or from land stations, is prohibited in a region designated as the Southern Ocean Sanctuary. This Sanctuary comprises the waters of the Southern Hemisphere southwards of the following line: starting from 40 degrees S, 50 degrees W; thence due east to 20 degrees E; thence due south to 55 degrees S; thence due east to 130 degrees E; thence due north to 40 degrees S; thence due east to 130 degrees W; thence due south to 60 degrees S; thence due east to 50 degrees W; thence due north to the point of beginning. This prohibition applies irrespective of the conservation status of baleen and toothed whale stocks in this Sanctuary, as may from time to time be determined by the Commission.

However, this prohibition shall be reviewed ten years after its initial adoption and at succeeding ten year intervals, and could be revised at such times by the Commission. Nothing in this sub-paragraph is intended to prejudice the special legal and political status of Antarctica.**+

Area Limits for Factory Ships

8. It is forbidden to use a factory ship or whale catcher attached thereto, for the purpose of taking or treating baleen whales, except minke whales, in any of the following areas:
- in the waters north of 66°N, except that from 150°E eastwards as far as 140°W, the taking or killing of baleen whales by a factory ship or whale catcher shall be permitted between 66°N and 72°N;
 - in the Atlantic Ocean and its dependent waters north of 40°S;
 - in the Pacific Ocean and its dependent waters east of 150°W between 40°S and 35°N;
 - in the Pacific Ocean and its dependent waters west of 150°W between 40°S and 20°N;
 - in the Indian Ocean and its dependent waters north of 40°S.

Classification of Areas and Divisions

9. (a) *Classification of Areas*
Areas relating to Southern Hemisphere baleen whales except Bryde's whales are those waters between the ice-edge and the Equator and between the meridians of longitude listed in Table 1.
- (b) *Classification of Divisions*
Divisions relating to Southern Hemisphere sperm whales are those waters between the ice-edge and the Equator and between the meridians of longitude listed in Table 3.
- (c) *Geographical boundaries in the North Atlantic*
The geographical boundaries for the fin, minke and sei whale stocks in the North Atlantic are:

FIN WHALE STOCKS

NOVA SCOTIA

South and West of a line through:
47°N 54°W, 46°N 54°30'W,
46°N 42°W, 20°N 42°W.

NEWFOUNDLAND-LABRADOR

West of a line through:
75°N 73°30'W, 69°N 59°W, 61°N 59°W,
52°20'N 42°W, 46°N 42°W and
North of a line through:
46°N 42°W, 46°N 54°30'W, 47°N 54°W.

WEST GREENLAND

East of a line through:
75°N 73°30'W, 69°N 59°W,
61°N 59°W, 52°20'N 42°W,
and West of a line through
52°20'N 42°W, 59°N 42°W,
59°N 44°W, Kap Farvel.

*The Governments of Brazil, Iceland, Japan, Norway and the Union of Soviet Socialist Republics lodged objections to the second sentence of paragraph 6 within the prescribed period. For all other Contracting Governments this sentence came into force on 8 March 1982. Norway withdrew its objection on 9 July 1985 and Brazil on 8 January 1992. Iceland withdrew from the Convention with effect from 30 June 1992. The objections of Japan and the Russian Federation not having been withdrawn, this sentence is not binding upon these governments.

✱At its 54th Annual Meeting in 2002, the Commission agreed to continue this prohibition but did not discuss whether or not it should set a time when it should be reviewed again.

**The Government of Japan lodged an objection within the prescribed period to paragraph 7(b) to the extent that it applies to the Antarctic minke whale stocks. The Government of the Russian Federation also lodged an objection to paragraph 7(b) within the prescribed period but withdrew it on 26 October 1994. For all Contracting Governments except Japan paragraph 7(b) came into force on 6 December 1994.

+Paragraph 7(b) contains a provision for review of the Southern Ocean Sanctuary "ten years after its initial adoption". Paragraph 7(b) was adopted at the 46th (1994) Annual Meeting. Therefore, the first review is due in 2004.

EAST GREENLAND-ICELAND

East of a line through:
Kap Farvel (South Greenland),
59°N 44°W, 59°N 42°W, 20°N 42°W,
and West of a line through:
20°N 18°W, 60°N 18°W, 68°N 3°E,
74°N 3°E, and South of 74°N.

NORTH NORWAY

North and East of a line through:
74°N 22°W, 74°N 3°E, 68°N 3°E,
67°N 0°, 67°N 14°E.

WEST NORWAY-FAROE ISLANDS

South of a line through:
67°N 14°E, 67°N 0°, 60°N 18°W,
and North of a line through:
61°N 16°W, 61°N 0°, Thyborøn
(Western entrance to Limfjorden, Denmark).

SPAIN-PORTUGAL-BRITISH ISLES

South of a line through:
Thyborøn (Denmark), 61°N 0°, 61°N 16°W,
and East of a line through:
63°N 11°W, 60°N 18°W, 22°N 18°W.

MINKE WHALE STOCKS**CANADIAN EAST COAST**

West of a line through:
75°N 73°30'W, 69°N 59°W, 61°N 59°W,
52°20'N 42°W, 20°N 42°W.

CENTRAL

East of a line through:
Kap Farvel (South Greenland),
59°N 44°W, 59°N 42°W, 20°N 42°W,
and West of a line through:
20°N 18°W, 60°N 18°W, 68°N 3°E,
74°N 3°E, and South of 74°N.

WEST GREENLAND

East of a line through:
75°N 73°30'W, 69°N 59°W, 61°N 59°W,
52°20'N 42°W, and
West of a line through:
52°20'N 42°W, 59°N 42°W,
59°N 44°W, Kap Farvel.

NORTHEASTERN

East of a line through:
20°N 18°W, 60°N 18°W, 68°N 3°E, 74°N 3°E,
and North of a line through:
74°N 3°E, 74°N 22°W.

SEI WHALE STOCKS**NOVA SCOTIA**

South and West of a line through:
47°N 54°W, 46°N 54°30'W, 46°N 42°W,
20°N 42°W.

ICELAND-DENMARK STRAIT

East of a line through:
Kap Farvel (South Greenland),
59°N 44°W, 59°N 42°W, 20°N 42°W,
and West of a line through:
20°N 18°W, 60°N 18°W, 68°N 3°E,
74°N 3°E, and South of 74°N.

EASTERN

East of a line through:
20°N 18°W, 60°N 18°W, 68°N 3°E, 74°N 3°E,
and North of a line through:
74°N 3°E, 74°N 22°W.

(d) Geographical boundaries in the North Pacific

The geographical boundaries for the sperm, Bryde's and minke whale stocks in the North Pacific are:

SPERM WHALE STOCKS**WESTERN DIVISION**

West of a line from the ice-edge south along the 180° meridian of longitude to 180°, 50°N, then east along the 50°N parallel of latitude to 160°W, 50°N, then south along the 160°W meridian of longitude to 160°W, 40°N, then east along the 40°N parallel of latitude to 150°W, 40°N, then south along the 150°W meridian of longitude to the Equator.

EASTERN DIVISION

East of the line described above.

BRYDE'S WHALE STOCKS**EAST CHINA SEA**

West of the Ryukyu Island chain.

EASTERN

East of 160°W (excluding the Peruvian stock area).

WESTERN

West of 160°W (excluding the East China Sea stock area).

MINKE WHALE STOCKS**SEA OF JAPAN-YELLOW SEA-EAST CHINA SEA**

West of a line through the Philippine Islands, Taiwan, Ryukyu Islands, Kyushu, Honshu, Hokkaido and Sakhalin Island, north of the Equator.

OKHOTSK SEA-WEST PACIFIC

East of the Sea of Japan-Yellow Sea- East China Sea stock and west of 180°, north of the Equator.

REMAINDER

East of the Okhotsk Sea-West Pacific stock, north of the Equator.

(e) Geographical boundaries for Bryde's whale stocks in the Southern Hemisphere**SOUTHERN INDIAN OCEAN**

20°E to 130°E,
South of the Equator.

SOLOMON ISLANDS

150°E to 170°E,
20°S to the Equator.

PERUVIAN

110°W to the South American coast,
10°S to 10°N.

EASTERN SOUTH PACIFIC

150°W to 70°W,
South of the Equator (excluding the Peruvian stock area).

WESTERN SOUTH PACIFIC

130°E to 150°W,
South of the Equator (excluding the Solomon Islands stock area).

SOUTH ATLANTIC

70°W to 20°E,
South of the Equator (excluding the South African inshore stock area).

SOUTH AFRICAN INSHORE

South African coast west of 27°E and out to the 200 metre isobath.

Classification of Stocks

10. All stocks of whales shall be classified in one of three categories according to the advice of the Scientific Committee as follows:

- (a) A Sustained Management Stock (SMS) is a stock which is not more than 10 per cent of Maximum Sustainable Yield (hereinafter referred to as MSY) stock level below MSY stock level, and not more than 20 per cent above that level; MSY being determined on the basis of the number of whales.

When a stock has remained at a stable level for a considerable period under a regime of approximately constant catches, it shall be classified as a Sustained Management Stock in the absence of any positive evidence that it should be otherwise classified.

Commercial whaling shall be permitted on Sustained Management Stocks according to the advice of the Scientific Committee. These stocks are listed in Tables 1, 2 and 3 of this Schedule.

For stocks at or above the MSY stock level, the permitted catch shall not exceed 90 per cent of the MSY. For stocks between the MSY stock level and 10 per cent below that level, the permitted catch shall not exceed the number of whales obtained by taking 90 per cent of the MSY and reducing that number by 10 per cent for every 1 per cent by which the stock falls short of the MSY stock level.

- (b) An Initial Management Stock (IMS) is a stock more than 20 per cent of MSY stock level above MSY stock level. Commercial whaling shall be permitted on Initial Management Stocks according to the advice of the Scientific Committee as to measures necessary to bring the stocks to the MSY stock level and then optimum level in an efficient manner and without risk of reducing them below

this level. The permitted catch for such stocks will not be more than 90 per cent of MSY as far as this is known, or, where it will be more appropriate, catching effort shall be limited to that which will take 90 per cent of MSY in a stock at MSY stock level.

In the absence of any positive evidence that a continuing higher percentage will not reduce the stock below the MSY stock level no more than 5 per cent of the estimated initial exploitable stock shall be taken in any one year. Exploitation should not commence until an estimate of stock size has been obtained which is satisfactory in the view of the Scientific Committee. Stocks classified as Initial Management Stock are listed in Tables 1, 2 and 3 of this Schedule.

- (c) A Protection Stock (PS) is a stock which is below 10 per cent of MSY stock level below MSY stock level.

There shall be no commercial whaling on Protection Stocks. Stocks so classified are listed in Tables 1, 2 and 3 of this Schedule.

- (d) Notwithstanding the other provisions of paragraph 10 there shall be a moratorium on the taking, killing or treating of whales, except minke whales, by factory ships or whale catchers attached to factory ships. This moratorium applies to sperm whales, killer whales and baleen whales, except minke whales.

- (e) Notwithstanding the other provisions of paragraph 10, catch limits for the killing for commercial purposes of whales from all stocks for the 1986 coastal and the 1985/86 pelagic seasons and thereafter shall be zero. This provision will be kept under review, based upon the best scientific advice, and by 1990 at the latest the Commission will undertake a comprehensive assessment of the effects of this decision on whale stocks and consider modification of this provision and the establishment of other catch limits.*•#

*The Governments of Japan, Norway, Peru and the Union of Soviet Socialist Republics lodged objection to paragraph 10(e) within the prescribed period. For all other Contracting Governments this paragraph came into force on 3 February 1983. Peru withdrew its objection on 22 July 1983. The Government of Japan withdrew its objections with effect from 1 May 1987 with respect to commercial pelagic whaling; from 1 October 1987 with respect to commercial coastal whaling for minke and Bryde's whales; and from 1 April 1988 with respect to commercial coastal sperm whaling. The objections of Norway and the Russian Federation not having been withdrawn, the paragraph is not binding upon these Governments.

•Iceland's instrument of adherence to the International Convention for the Regulation of Whaling and the Protocol to the Convention deposited on 10 October 2002 states that Iceland 'adheres to the aforesaid Convention and Protocol with a reservation with respect to paragraph 10(e) of the Schedule attached to the Convention'. The instrument further states the following:

'Notwithstanding this, the Government of Iceland will not authorise whaling for commercial purposes by Icelandic vessels before 2006 and, thereafter, will not authorise such whaling while progress is being made in negotiations within the IWC on the RMS. This does not apply, however, in case of the so-called moratorium on whaling for commercial purposes, contained in paragraph 10(e) of the Schedule not being lifted within a reasonable time after the completion of the RMS. Under no circumstances will whaling for commercial purposes be authorised without a sound scientific basis and an effective management and enforcement scheme.'

#The Governments of Argentina, Australia, Brazil, Chile, Finland, France, Germany, Italy, Mexico, Monaco, the Netherlands, New Zealand, Peru, San Marino, Spain, Sweden, UK and the USA have lodged objections to Iceland's reservation to paragraph 10(e).

Table 1
 BALEEN WHALE STOCK CLASSIFICATIONS AND CATCH LIMITS¹ (excluding Bryde's whales).

Area	SEI		MINKE		FIN		BLUE		RIGHT, BOWHEAD, HUMPBACK		PYGMY RIGHT		GRAY	
	Classi- fication	Catch limit	Classi- fication	Catch limit	Classi- fication	Catch limit	Classi- fication	Catch limit	Classi- fication	Catch limit	Classi- fication	Catch limit	Classi- fication	Catch limit
SOUTHERN HEMISPHERE-2016/2017 pelagic season and 2017 coastal season [▲]														
I	PS	0	-	0	PS	0	PS	0	PS	0	PS	0	.	.
II	PS	0	-	0	PS	0	PS	0	PS	0	PS	0	.	.
III	PS	0	-	0	PS	0	PS	0	PS	0	PS	0	.	.
IV	PS	0	-	0	PS	0	PS	0	PS	0	PS	0	.	.
V	PS	0	-	0	PS	0	PS	0	PS	0	PS	0	.	.
VI	PS	0	-	0	PS	0	PS	0	PS	0	PS	0	.	.
Total catch not to exceed:														
NORTHERN HEMISPHERE-2017 season [▲]														
ARCTIC	.	.	.	.	.	.	.	.	.	.	.	.	.	.
NORTH PACIFIC														
Whole region	PS	0	.	0	PS	0	PS	0	PS	0	PS	0	.	.
Okhotsk Sea-West Pacific Stock	.	.	-	0	.	.	.	.	.	.	.	.	.	.
Sea of Japan-Yellow Sea-East	.	.	.	0	.	.	.	.	.	.	.	.	.	.
China Sea Stock	.	.	PS	0	.	.	.	.	.	.	.	.	.	.
Remainder	.	.	IMS	0	.	.	.	.	.	.	.	.	SMS	1
Eastern Stock	.	.	.	.	.	.	.	.	.	.	.	.	PS	0
Western Stock	.	.	.	.	.	.	.	.	.	.	.	.	.	.
NORTH ATLANTIC														
Whole region	.	.	.	.	.	.	PS	0	PS	0	PS	0	.	.
West Greenland Stock	.	.	PS	0	.	19 ²	.	.	.	.	.	.	.	.
Newfoundland-Labrador Stock	.	.	.	0	.	.	.	.	.	.	.	.	.	.
Canadian East Coast Stock	.	.	.	0	.	.	.	.	.	.	.	.	.	.
Nova Scotia Stock	PS	0	.	.	PS	0	.	.	.	.	.	.	.	.
Central Stock	.	.	.	.	.	.	.	.	.	.	.	.	.	.
East Greenland-Iceland Stock	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Iceland-Denmark Strait Stock	.	.	.	.	SMS	0	.	.	.	.	.	.	.	.
Spain-Portugal-British Isles	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Stock	.	.	.	0	.	.	.	.	.	.	.	.	.	.
Northeastern Stock	.	.	PS*	0	.	.	.	.	.	.	.	.	.	.
West Norway-Faroe Islands Stock	.	.	.	.	PS	0	.	.	.	.	.	.	.	.
North Norway Stock	.	.	.	0	.	.	.	.	.	.	.	.	.	.
Eastern Stock	.	.	.	.	.	.	.	.	.	.	.	.	.	.
NORTHERN INDIAN OCEAN	.	.	IMS	0	.	.	PS	0	PS	0	PS	0	.	.

¹Available to be taken by aborigines or a Contracting Government on behalf of aborigines pursuant to paragraph 13(b)2.

²Available to be struck by aborigines pursuant to paragraph 13(b)3. Catch limit for each of the years 2015, 2016, 2017 and 2018.

[▲]The catch limits of zero introduced into Table 1 as editorial amendments as a result of the coming into effect of paragraph 10(e) are not binding upon the governments of the countries which lodged and have not withdrawn objections to the said paragraph.

*The Government of Norway presented objection to the classification of the Northeastern Atlantic stock of minke whales as a Protection Stock within the prescribed period. This classification came into force on 30 January 1986 but is not binding on the Government of Norway.

[▲]The Government of the Czech Republic lodged an objection within the prescribed period to the amendments to the Schedule arising from the 64th and 65th Meeting of the Commission.

Table 2
Bryde's whale stock classifications and catch limits.⁺

	Classification	Catch limit
SOUTHERN HEMISPHERE-2016/2017 pelagic season and 2017 coastal season [▲]		
South Atlantic Stock	-	0
Southern Indian Ocean Stock	IMS	0
South African Inshore Stock	-	0
Solomon Islands Stock	IMS	0
Western South Pacific Stock	IMS	0
Eastern South Pacific Stock	IMS	0
Peruvian Stock	-	0
NORTH PACIFIC-2017 season [▲]		
Eastern Stock	IMS	0
Western Stock	IMS	0
East China Sea Stock	PS	0
NORTH ATLANTIC-2017 season [▲]		
	IMS	0
NORTHERN INDIAN OCEAN-2017 season [▲]		
	-	0

⁺The catch limits of zero introduced in Table 2 as editorial amendments as a result of the coming into effect of paragraph 10(e) are not binding upon the governments of the countries which lodged and have not withdrawn objections to the said paragraph.

[▲]See footnote to Table 1.

Table 3
Toothed whale stock classifications and catch limits.⁺

SOUTHERN HEMISPHERE-2016/2017 pelagic season and 2017 coastal season [▲]				
Division	Longitudes	Classification	SPERM	Catch limit
1	60°W-30°W	-		0
2	30°W-20°E	-		0
3	20°E-60°E	-		0
4	60°E-90°E	-		0
5	90°-130°E	-		0
6	130°E-160°E	-		0
7	160°E-170°W	-		0
8	170°W-100°W	-		0
9	100°W-60°W	-		0
NORTHERN HEMISPHERE-2017 season [▲]				
NORTH PACIFIC				
Western Division		PS		0 ¹
Eastern Division		-		0
NORTH ATLANTIC				
		-		0
NORTHERN INDIAN OCEAN				
		-		0
NORTH ATLANTIC				
		PS	BOTTLENOSE	0

¹No whales may be taken from this stock until catch limits including any limitations on size and sex are established by the Commission.

⁺The catch limits of zero introduced in Table 3 as editorial amendments as a result of the coming into effect of paragraph 10(e) are not binding upon the governments of the countries which lodged and have not withdrawn objections to the said paragraph.

[▲]See footnote to Table 1.

Baleen Whale Catch Limits

11. The number of baleen whales taken in the Southern Hemisphere in the **2016/2017** pelagic season and the **2017** coastal season shall not exceed the limits shown in Tables 1 and 2.[▲]
12. The number of baleen whales taken in the North Pacific Ocean and dependent waters in **2017** and in the North Atlantic Ocean in **2017** shall not exceed the limits shown in Tables 1 and 2.[▲]
13. (a) Notwithstanding the provisions of paragraph 10, catch limits for aboriginal subsistence whaling to satisfy aboriginal subsistence need for the 1984 whaling season and each whaling season thereafter shall be established in accordance with the following principles:
 - (1) For stocks at or above MSY level, aboriginal subsistence catches shall be permitted so long as total removals do not exceed 90 per cent of MSY.
 - (2) For stocks below the MSY level but above a certain minimum level, aboriginal subsistence catches shall be permitted so long as they are set at levels which will allow whale stocks to move to the MSY level.¹
 - (3) The above provisions will be kept under review, based upon the best scientific advice, and by 1990 at the latest the Commission will undertake a comprehensive assessment of the effects of these provisions on whale stocks and consider modification.
 - (4) For aboriginal whaling conducted under subparagraphs (b)(1), (b)(2), and (b)(3) of this paragraph, it is forbidden to strike, take or kill calves or any whale accompanied by a calf. For aboriginal whaling conducted under subparagraphs (b)(4) of this paragraph, it is forbidden to strike, take or kill suckling calves or female whales accompanied by calves.
 - (5) All aboriginal whaling shall be conducted under national legislation that accords with this paragraph.
- (b) Catch limits for aboriginal subsistence whaling are as follows:
 - (1) The taking of bowhead whales from the Bering-Chukchi-Beaufort Seas stock by aborigines is permitted, but only when the meat and products of such whales are to be used exclusively for local consumption by the aborigines and further provided that:
 - (i) For the years 2013, 2014, 2015, 2016 2017 and 2018, the number of bowhead whales landed shall not exceed 336. For each of these years the number of bowhead whales struck shall not exceed 67, except that any unused portion of a strike quota from any year (including 15 unused strikes from the 2008-2012 quota) shall be carried forward and added to the strike quotas of any subsequent years, provided that no more than 15 strikes shall be added to the strike quota for any one year.[▲]
 - (ii) This provision shall be reviewed annually by the Commission in light of the advice of the Scientific Committee.
 - (2) The taking of gray whales from the Eastern stock in the North Pacific is permitted, but only by aborigines or a Contracting Government on behalf of aborigines, and then only when the meat and products of such whales are to be used exclusively for local consumption by the aborigines.
 - (i) For the years 2013, 2014, 2015, 2016, 2017 and 2018, the number of gray whales taken in accordance with this sub-paragraph shall not exceed 744, provided that the number of gray whales taken in any one of the years 2013, 2014, 2015, 2016, 2017 and 2018 shall not exceed 140.[▲]
 - (ii) This provision shall be reviewed annually by the Commission in light of the advice of the Scientific Committee.
 - (3) The taking by aborigines of minke whales from the West Greenland and Central stocks and fin whales from the West Greenland stock and bowhead whales from the West Greenland feeding aggregation and humpback whales from the West Greenland feeding aggregation is permitted and then only when the meat and products are to be used exclusively for local consumption.
 - (i) The number of fin whales struck from the West Greenland stock in accordance with this sub-paragraph shall not exceed 16 in each of the years 2015, 2016, 2017 and 2018.
 - (ii) The number of minke whales struck from the Central stock in accordance with this sub-paragraph shall not exceed 12 in each of the years 2015, 2016, 2017 and 2018, except that any unused portion of the quota for each year shall be carried forward from that year and added to the quota of any subsequent years, provided that no more than 3 shall be added to the quota for any one year.[§]
 - (iii) The number of minke whales struck from the West Greenland stock shall not exceed 164 in each of the years 2015, 2016, 2017 and 2018, except that any unused portion of the quota for each year shall be carried forward from that year and added to the strike quota of any of the subsequent years, provided

[▲]See footnote to Table 1.

¹The Commission, on advice of the Scientific Committee, shall establish as far as possible (a) a minimum stock level for each stock below which whales shall not be taken, and (b) a rate of increase towards the MSY level for each stock. The Scientific Committee shall advise on a minimum stock level and on a range of rates of increase towards the MSY level under different catch regimes.

that no more than 15 strikes shall be added to the strike quota for any one year. This provision will be reviewed if new scientific data become available within the 4 year period and if necessary amended on basis of the advice of the Scientific Committee.

- (iv) The number of bowhead whales struck off West Greenland in accordance with this sub-paragraph shall not exceed 2 in each of the years 2015, 2016, 2017 and 2018, except that any unused portion of the quota for each year shall be carried forward from that year and added to the quota of any subsequent years, provided that no more than 2 shall be added to the quota for any one year. This provision will be reviewed if new scientific data become available within the 4 year period and if necessary amended on basis of the advice of the Scientific Committee.

- (v) The number of humpback whales struck off West Greenland in accordance with this sub-paragraph shall not exceed 10 in each of the years 2015, 2016, 2017 and 2018, except that any unused portion of the quota for each year shall be carried forward from that year and added to the strike quota of any of the subsequent years, provided that no more than 2 strikes shall be added to the strike quota for any one year. This provision will be reviewed if new scientific data become available within the remaining quota period and if necessary amended on the basis of the advice of the Scientific Committee.

- (4) For the seasons 2013-2018 the number of humpback whales to be taken by the Bequians of St. Vincent and The Grenadines shall not exceed 24. The meat and products of such whales are to be used exclusively for local consumption in St. Vincent and The Grenadines.[▲]

14. It is forbidden to take or kill suckling calves or female whales accompanied by calves.

Baleen Whale Size Limits

15. (a) It is forbidden to take or kill any sei or Bryde's whales below 40 feet (12.2 metres) in length except that sei and Bryde's whales of not less than 35 feet (10.7 metres) may be taken for delivery to land stations, provided that the meat of such whales is to be used for local consumption as human or animal food.
- (b) It is forbidden to take or kill any fin whales below 57 feet (17.4 metres) in length in the Southern Hemisphere, and it is forbidden to take or kill fin whales below 55 feet (16.8 metres) in the Northern Hemisphere; except that fin whales of not less than 55 feet (16.8 metres) may be taken in the Southern Hemisphere for delivery to land stations and fin whales of not less than 50 feet (15.2

metres) may be taken in the Northern Hemisphere for delivery to land stations, provided that, in each case the meat of such whales is to be used for local consumption as human or animal food.

Sperm Whale Catch Limits

16. Catch limits for sperm whales of both sexes shall be set at zero in the Southern Hemisphere for the 1981/82 pelagic season and 1982 coastal seasons and following seasons, and at zero in the Northern Hemisphere for the 1982 and following coastal seasons; except that the catch limits for the 1982 coastal season and following seasons in the Western Division of the North Pacific shall remain undetermined and subject to decision by the Commission following special or annual meetings of the Scientific Committee. These limits shall remain in force until such time as the Commission, on the basis of the scientific information which will be reviewed annually, decides otherwise in accordance with the procedures followed at that time by the Commission.
17. It is forbidden to take or kill suckling calves or female whales accompanied by calves.

Sperm Whale Size Limits

18. (a) It is forbidden to take or kill any sperm whales below 30 feet (9.2 metres) in length except in the North Atlantic Ocean where it is forbidden to take or kill any sperm whales below 35 feet (10.7 metres).
- (b) It is forbidden to take or kill any sperm whale over 45 feet (13.7 metres) in length in the Southern Hemisphere north of 40° South Latitude during the months of October to January inclusive.
- (c) It is forbidden to take or kill any sperm whale over 45 feet (13.7 metres) in length in the North Pacific Ocean and dependent waters south of 40° North Latitude during the months of March to June inclusive.

IV. TREATMENT

19. (a) It is forbidden to use a factory ship or a land station for the purpose of treating any whales which are classified as Protection Stocks in paragraph 10 or are taken in contravention of paragraphs 2, 3, 4, 5, 6, 7, 8, 11, 12, 14, 16 and 17 of this Schedule, whether or not taken by whale catchers under the jurisdiction of a Contracting Government.
- (b) All other whales taken, except minke whales, shall be delivered to the factory ship or land station and all parts of such whales shall be processed by boiling or otherwise, except the internal organs, whale bone and flippers of all whales, the meat of sperm whales and parts of whales intended for human food or feeding animals. A Contracting Government may in less developed regions exceptionally permit treating of whales without use of land stations, provided that such whales are fully utilised in accordance with this paragraph.
- (c) Complete treatment of the carcasses of "dauhval" and of whales used as fenders will not be required in cases where the meat or bone of such whales is in bad condition.

[▲]See footnote to Table 1.

20. (a) The taking of whales for treatment by a factory ship shall be so regulated or restricted by the master or person in charge of the factory ship that no whale carcass (except of a whale used as a fender, which shall be processed as soon as is reasonably practicable) shall remain in the sea for a longer period than thirty-three hours from the time of killing to the time when it is hauled up for treatment.
- (b) Whales taken by all whale catchers, whether for factory ships or land stations, shall be clearly marked so as to identify the catcher and to indicate the order of catching.

V. SUPERVISION AND CONTROL

21. (a) There shall be maintained on each factory ship at least two inspectors of whaling for the purpose of maintaining twenty-four hour inspection provided that at least one such inspector shall be maintained on each catcher functioning as a factory ship. These inspectors shall be appointed and paid by the Government having jurisdiction over the factory ship; provided that inspectors need not be appointed to ships which, apart from the storage of products, are used during the season solely for freezing or salting the meat and entrails of whales intended for human food or feeding animals.
- (b) Adequate inspection shall be maintained at each land station. The inspectors serving at each land station shall be appointed and paid by the Government having jurisdiction over the land station.
- (c) There shall be received such observers as the member countries may arrange to place on factory ships and land stations or groups of land stations of other member countries. The observers shall be appointed by the Commission acting through its Secretary and paid by the Government nominating them.
22. Gunners and crews of factory ships, land stations, and whale catchers, shall be engaged on such terms that their remuneration shall depend to a considerable extent upon such factors as the species, size and yield of whales and not merely upon the number of the whales taken. No bonus or other remuneration shall be paid to the gunners or crews of whale catchers in respect of the taking of lactating whales.
23. Whales must be measured when at rest on deck or platform after the hauling out wire and grasping device have been released, by means of a tape-measure made of a non-stretching material. The zero end of the tape-measure shall be attached to a spike or stable device to be positioned on the deck or platform abreast of one end of the whale. Alternatively the spike may be stuck into the tail fluke abreast of the apex of the notch. The tape-measure shall be held taut in a straight line parallel to the deck and the whale's body, and other than in exceptional circumstances along the whale's back, and read abreast of the other end of the whale. The ends of the whale for measurement purposes shall be the tip of the upper jaw, or in sperm whales the most forward part of the head, and the apex of the notch between the tail flukes.

Measurements shall be logged to the nearest foot or 0.1 metre. That is to say, any whale between 75 feet 6 inches and 76 feet 6 inches shall be logged as 76 feet, and any whale between 76 feet 6 inches and 77 feet 6 inches shall be logged as 77 feet. Similarly, any whale between 10.15 metres and 10.25 metres shall be logged as 10.2 metres, and any whale between 10.25 metres and 10.35 metres shall be logged as 10.3 metres. The measurement of any whale which falls on an exact half foot or 0.05 metre shall be logged at the next half foot or 0.05 metre, e.g. 76 feet 6 inches precisely shall be logged as 77 feet and 10.25 metres precisely shall be logged as 10.3 metres.

VI. INFORMATION REQUIRED

24. (a) All whale catchers operating in conjunction with a factory ship shall report by radio to the factory ship:
- (1) the time when each whale is taken
 - (2) its species, and
 - (3) its marking effected pursuant to paragraph 20(b).
- (b) The information specified in sub-paragraph (a) of this paragraph shall be entered immediately by a factory ship in a permanent record which shall be available at all times for examination by the whaling inspectors; and in addition there shall be entered in such permanent record the following information as soon as it becomes available:
- (1) time of hauling up for treatment
 - (2) length, measured pursuant to paragraph 23
 - (3) sex
 - (4) if female, whether lactating
 - (5) length and sex of foetus, if present, and
 - (6) a full explanation of each infraction.
- (c) A record similar to that described in sub-paragraph (b) of this paragraph shall be maintained by land stations, and all of the information mentioned in the said sub-paragraph shall be entered therein as soon as available.
- (d) A record similar to that described in sub-paragraph (b) of this paragraph shall be maintained by "small-type whaling" operations conducted from shore or by pelagic fleets, and all of this information mentioned in the said sub-paragraph shall be entered therein as soon as available.
25. (a) All Contracting Governments shall report to the Commission for all whale catchers operating in conjunction with factory ships and land stations the following information:
- (1) methods used to kill each whale, other than a harpoon, and in particular compressed air;
 - (2) number of whales struck but lost.
- (b) A record similar to that described in sub-paragraph (a) of this paragraph shall be maintained by vessels engaged in "small-type whaling" operations and by native peoples taking species listed in paragraph 1, and all the information mentioned in the said sub-paragraph shall be entered therein as soon as available, and forwarded by Contracting Governments to the Commission.
26. (a) Notification shall be given in accordance with the provisions of Article VII of the Convention, within two days after the end of each calendar week, of data on the number of baleen whales

by species taken in any waters south of 40° South Latitude by all factory ships or whale catchers attached thereto under the jurisdiction of each Contracting Government, provided that when the number of each of these species taken is deemed by the Secretary to the International Whaling Commission to have reached 85 per cent of whatever total catch limit is imposed by the Commission notification shall be given as aforesaid at the end of each day of data on the number of each of these species taken.

- (b) If it appears that the maximum catches of whales permitted by paragraph 11 may be reached before 7 April of any year, the Secretary to the International Whaling Commission shall determine, on the basis of the data provided, the date on which the maximum catch of each of these species shall be deemed to have been reached and shall notify the master of each factory ship and each Contracting Government of that date not less than four days in advance thereof. The taking or attempting to take baleen whales, so notified, by factory ships or whale catchers attached thereto shall be illegal in any waters south of 40° South Latitude after midnight of the date so determined.
- (c) Notification shall be given in accordance with the provisions of Article VII of the Convention of each factory ship intending to engage in whaling operations in any waters south of 40° South Latitude.
27. Notification shall be given in accordance with the provisions of Article VII of the Convention with regard to all factory ships and catcher ships of the following statistical information:
- (a) concerning the number of whales of each species taken, the number thereof lost, and the number treated at each factory ship or land station, and
- (b) as to the aggregate amounts of oil of each grade and quantities of meal, fertiliser (guano), and other products derived from them, together with
- (c) particulars with respect to each whale treated in the factory ship, land station or "small-type whaling" operations as to the date and approximate latitude and longitude of taking, the species and sex of the whale, its length and, if it contains a foetus, the length and sex, if ascertainable, of the foetus.
- The data referred to in (a) and (c) above shall be verified at the time of the tally and there shall also be notification to the Commission of any information which may be collected or obtained concerning the calving grounds and migration of whales.

28. (a) Notification shall be given in accordance with the provisions of Article VII of the Convention with regard to all factory ships and catcher ships of the following statistical information:
- (1) the name and gross tonnage of each factory ship,
- (2) for each catcher ship attached to a factory ship or land station:
- (i) the dates on which each is commissioned and ceases whaling for the season,
- (ii) the number of days on which each is at sea on the whaling grounds each season,

- (iii) the gross tonnage, horsepower, length and other characteristics of each; vessels used only as tow boats should be specified.
- (3) A list of the land stations which were in operation during the period concerned, and the number of miles searched per day by aircraft, if any.
- (b) The information required under paragraph (a)(2)(iii) should also be recorded together with the following information, in the log book format shown in Appendix A, and forwarded to the Commission:
- (1) where possible the time spent each day on different components of the catching operation,
- (2) any modifications of the measures in paragraphs (a)(2)(i)-(iii) or (b)(1) or data from other suitable indicators of fishing effort for "small-type whaling" operations.
29. (a) Where possible all factory ships and land stations shall collect from each whale taken and report on:
- (1) both ovaries or the combined weight of both testes,
- (2) at least one ear plug, or one tooth (preferably first mandibular).
- (b) Where possible similar collections to those described in sub-paragraph (a) of this paragraph shall be undertaken and reported by "small-type whaling" operations conducted from shore or by pelagic fleets.
- (c) All specimens collected under sub-paragraphs (a) and (b) shall be properly labelled with platform or other identification number of the whale and be appropriately preserved.
- (d) Contracting Governments shall arrange for the analysis as soon as possible of the tissue samples and specimens collected under sub-paragraphs (a) and (b) and report to the Commission on the results of such analyses.
30. A Contracting Government shall provide the Secretary to the International Whaling Commission with proposed scientific permits before they are issued and in sufficient time to allow the Scientific Committee to review and comment on them. The proposed permits should specify:
- (a) objectives of the research;
- (b) number, sex, size and stock of the animals to be taken;
- (c) opportunities for participation in the research by scientists of other nations; and
- (d) possible effect on conservation of stock.
- Proposed permits shall be reviewed and commented on by the Scientific Committee at Annual Meetings when possible. When permits would be granted prior to the next Annual Meeting, the Secretary shall send the proposed permits to members of the Scientific Committee by mail for their comment and review. Preliminary results of any research resulting from the permits should be made available at the next Annual Meeting of the Scientific Committee.
31. A Contracting Government shall transmit to the Commission copies of all its official laws and regulations relating to whales and whaling and changes in such laws and regulations.

INTERNATIONAL CONVENTION FOR THE REGULATION OF WHALING, 1946
SCHEDULE APPENDIX A

TITLE PAGE
(one logbook per catcher per season)

Catcher name..... Year built.....

Attached to expedition/land station

Season.....

Overall length..... Wooden/steel hull.....

Gross tonnage.....

Type of engine..... H.P.

Maximum speed..... Average searching speed.....

Asdic set, make and model no.....

Date of installation.....

Make and size of cannon.....

Type of first harpoon used..... Explosive/electric/non-explosive

Type of killer harpoon used.....

Length and type of forerunner.....

Type of whaleline.....

Height of barrel above sea level.....

Speedboat used, Yes/No

Name of Captain.....

Number of years experience.....

Name of gunner.....

Number of years experience.....

Number of crew.....

INTERNATIONAL CONVENTION FOR THE REGULATION OF WHALING, 1946

DAILY RECORD SHEET

TABLE 1

Date Catcher name Sheet No.

Searching: Time started (or resumed)
 *Time whales seen or reported to catcher
 Whale species
 Number seen and no. of groups
 Position found
 Name of catcher that found whales
 Chasing: Time started chasing (or confirmed whales)
 Time whale shot or chasing discontinued
 Handling: Asdic used (Yes/No)
 Time whale flagged or alongside for towing
 Serial No. of catch
 Towing: Time started picking up
 Time finished picking up or started towing
 Resting: Date and time delivered to factory
 Time stopped (for drifting or resting)
 Time finished drifting/resting
 Time ceased operations
 WEATHER CONDITIONS

Total searching time	Wind force and direction	Time	Sea state	Visibility
Total chasing time				
A) with asdic				
B) without asdic				
Total handling time				
Total towing time				
Total resting time				
Other time (e.g. bunkering, in port)				

Whales Seen (No. and No. of schools)

Blue	Bryde's
Fin	Minke
Humpback	Sperm
Right	Others (specify)
Set	
Signed	

*Time whales reported to catcher means the time when the catcher is told of the position of a school and starts to move towards it to chase it.

SCHEDULE APPENDIX A

SCHOOLING REPORT

TABLE 2

To be completed by pelagic expedition or coastal station for each sperm whale school chased. A separate form to be used each day.

Name of expedition or coastal station

Date Noon position of factory ship

Time School Found

Total Number of Whales in School

Number of Takeable Whales in School

Number of Whales Caught from School by each Catcher

Name of Catcher

Name of Catcher

Name of Catcher

Name of Catcher

Total Number Caught from School

Remarks:

Explanatory Notes

A. Fill in one column for each school chased with number of whales caught by each catcher taking part in the chase; if catchers chase the school but do not catch from it, enter 0; for catchers in fleet which do not chase that school enter X.

B. A school on this form means a group of whales which are sufficiently close together that a catcher having completed handling one whale can start chasing another whale almost immediately without spending time searching. A solitary whale should be entered as a school of 1 whale.

C. A takeable whale is a whale of a size or kind which the catchers would take if possible. It does not necessarily include all whales above legal size, e.g. if catchers are concentrating on large whales only these would be counted as takeable.

D. Information about catchers from other expeditions or companies operating on the same school should be recorded under Remarks.

Rules of Procedure and Financial Regulations

As amended by the Commission at the 66th Meeting, September 2016

(amendments are shown in *bold italics*)

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Rules of Procedure

A. Representation

1. A Government party to the International Convention for the Regulation of Whaling, 1946 (hereafter referred to as the Convention) shall have the right to appoint one Commissioner and shall furnish the Secretary of the Commission with the name of its Commissioner and his/her designation and notify the Secretary promptly of any changes in the appointment. The Secretary shall inform other Commissioners of such appointment.
2. In addition to the Commissioner, each Contracting Government is invited to establish an additional means of communication between the Chair and Secretary of the Commission and that Government by designating an Alternate Commissioner or by creating a focal or contact point (which could be an e-mail address). The details shall be communicated to the Secretary through recognised diplomatic channels. Contact details of the Commissioner, Alternate Commissioner or the focal or contact point shall also be posted on the Commission's public web site.
3. All Contracting Governments shall furnish the Secretary of the Commission with the contact details of the national office responsible for making payment of financial contributions.

B. Meetings

1. The Commission shall hold a regular Biennial Meeting in such place as the Commission may determine. Any Contracting Government desiring to extend an invitation to the Commission to meet in that country shall give formal notice two years in advance. A formal offer should include:
 - (a) which meetings it covers, i.e. Scientific Committee, Commission sub-groups, Biennial Commission meeting;
 - (b) a proposed time window within which the meeting will take place; and
 - (c) a timetable for finalising details of the exact timing and location of the meeting.

Attendance by a majority of the members of the Commission shall constitute a quorum. Special Meetings of the Commission may be called at the direction of the Chair after consultation with the Contracting Governments and Commissioners.

2. Before the end of each Biennial Meeting, the Commission shall decide on: (1) the length of the next Biennial Commission Meeting and associated meetings; and (2) which of the Commission's sub-groups need to meet.
3. The Scientific Committee shall meet annually. Other committees and sub-committees shall meet biennially, prior to the meeting of the Commission. However, this does not preclude intersessional work by these committees and sub-groups from continuing.
4. The Bureau shall meet in those years in which the Commission does not meet, and shall otherwise meet as required to fulfil its functions in accordance with Rule M.9. The Chair may invite Contracting Governments who are not members of the Bureau, as appropriate, to attend in-person Bureau meetings.

C. Observers

1. (a) Any Government not a party to the Convention or any intergovernmental organisation may be represented at meetings of the Commission by an observer or observers, if such non-party government or intergovernmental organisation has previously attended any meeting of the Commission, or if it submits its request in writing to the Commission 60 days prior to the start of the meeting, or if the Commission issues an invitation to attend.
- (b) Any non-governmental organisation which expresses an interest in matters covered by the Convention, may be accredited as an observer. Requests for accreditation must be submitted in writing to the Commission 60 days prior to the start of the meeting and the Commission may issue an invitation with respect to such request. Such submissions shall include the standard application form for non-governmental organisations which will be provided by the Secretariat. These applications shall remain available for review by Contracting Governments.

Once a non-governmental organisation has been accredited through the application process above, it will remain accredited until the Commission decides otherwise.

Observers from each non-governmental organisation will be allowed seating in the meeting. However, seating limitations may require that the number of observers from each non-governmental organisation be limited. The Secretariat will notify accredited non-governmental organisations of any seating limitations in advance of the meeting.

- (c) The Commission shall levy a registration fee and determine rules of conduct, and may define other conditions for the attendance of observers accredited in accordance with Rule C.1.(a) and (b). The registration fee will cover attendance at the Biennial Commission Meeting to which it relates and any other meeting of the Commission or its subsidiary groups as provided in Rule C.2 in the interval before the next Biennial Commission Meeting.
2. Observers accredited in accordance with Rule C.1.(a) and (b) are admitted to all meetings of the Commission and the Technical Committee, and to any meetings of Committees and all subsidiary groups of the Commission and the Technical Committee, except the Commissioners-only meetings, meetings of the Bureau and closed meetings of the Finance and Administration Committee.
3. Observers accredited in accordance with rule C.1.(a) and (b) will have speaking rights during Plenary sessions and sessions of Commission subsidiary groups and Committees to which they are admitted to under C.2, in accordance with the Rules of Debate of the Commission. Observers might also submit documents for information to the delegations and observers participating in such sessions, provided these are submitted through the Secretariat at least 48 hours before the session in which they are intended to be made available, and are duly authored or endorsed by the accredited organisation making the submission, which is to be held responsible for its contents.

D. Credentials

1. (a) The names of all representatives of member and non-member governments and observer organisations to any meeting of the Commission or committees, as specified in the Rules of Procedure of the Commission, Technical and Scientific Committees, shall be notified to the Secretary in writing before their participation and/or attendance at each meeting. For member governments, the notification shall indicate the Commissioner, his/her alternate(s) and advisers, and the head of the national delegation to the Scientific Committee and any alternate(s) as appropriate.

The written notification shall be made by governments or the heads of organisations as the case may be. In this context, 'governments' means the Head of State, the Head of Government, the Minister of Foreign Affairs (including: on behalf of the Minister of Foreign Affairs), the Minister responsible for whaling or whale conservation (including: on behalf of this Minister), the Head of the Diplomatic Mission accredited to the seat of the Commission or to the host country of the meeting in question, or the Commissioner appointed under Rule A.1.

- (b) Credentials for a Commissioner appointed for the duration of a meeting must be issued as in D.1(a). Thereafter, until the end of the meeting in question, that Commissioner assumes all the powers of a Commissioner appointed under A.1., including that of issuing credentials for his/her delegation.
- (c) In the case of members of delegations who will attend the Biennial Commission Meeting and its associated meetings, the notification may be made *en bloc* by submitting a list of the members who will attend any of these meetings.
- (d) The Secretary, or his/her representative, shall report on the received notifications at the beginning of a meeting.
- (e) In case of any doubt as to the authenticity of notification or in case of apparent delay in their delivery, the Chair of the meeting shall convene an *ad hoc* group of no more than one representative from any Contracting Government present to decide upon the question of participation in the meeting.

E. Decision-making

A decision of the Commission taken at a meeting, whether by consensus or by vote, is not deemed adopted until the text has either been provided to all Members of the Commission, or presented to them by electronic means, and then approved by the Commission. The text will also be made simultaneously available to all other accredited participants. The text shall normally be distributed or presented in English and conveyed in the other working languages by oral interpretation. This rule applies both to decisions of the kinds specified in Rule J, and to other decisions of the Commission, except those relating only to the conduct of the current meeting. If the text of a proposed decision is amended, the revised text shall be distributed or presented in accordance with this rule. The authentic text of any such decision shall be the English version.

The Commission shall make every effort to reach its decisions by consensus. If all efforts to reach consensus have been exhausted and no agreement reached, the following Rules of Procedure shall apply:

1. Each Commissioner shall have the right to vote at Plenary Meetings of the Commission and in his/her absence his/her deputy or alternate shall have such right. Experts and advisers may address Plenary Meetings of the Commission but shall not be entitled to vote. They may vote at the meetings of any committee to which they have been appointed, provided that when such vote is taken, representatives of any Contracting Government shall only exercise one vote.
2. (a) The right to vote of representatives of any Contracting Government shall be suspended automatically when the annual payment of a Contracting Government including any interest due has not been received by the Commission by the earliest of these dates:
 - 3 months following the due date prescribed in Regulation E.2 of the Financial Regulations; or
 - the day before the first day of the next Biennial or Special Meeting of the Commission if such a meeting is held within 3 months following the due date; or
 - in the case of a vote by postal or other means, the date upon which votes must be received if this falls within 3 months following the due date.

This suspension of voting rights applies until payment is received by the Commission.
- (b) The Commissioner of a new Contracting Government shall not exercise the right to vote either at meetings or by postal or other means: (i) until 30 days after the date of adherence, although they may participate fully in discussions of the Commission; and (ii) unless the Commission has received the Government's financial contribution or part contribution for the year prescribed in Financial Regulation E.3., the day before the first day of the Biennial or Special Meeting concerned.
3. (a) Where a vote is taken on any matter before the Commission, a simple majority of those casting an affirmative or negative vote shall be decisive, except that a three-fourths majority of those casting an affirmative or negative vote shall be required for action in pursuance of Article V of the Convention.
- (b) Action in pursuance of Article V shall contain the text of the regulations proposed to amend the Schedule. A proposal that does not contain such regulatory text does not constitute an amendment to the Schedule and therefore requires only a simple majority vote. A proposal that does not contain such regulatory text to revise the Schedule but would commit the Commission to amend the Schedule in the future can neither be put to a vote nor adopted.
- (c) At meetings of committees appointed by the Commission, a simple majority of those casting an affirmative or negative vote shall also be decisive. The committee shall report to the Commission if the decision has been arrived at as a result of the vote.
- (d) Votes shall be taken by show of hands, or by roll call, as in the opinion of the Chair, appears to be most suitable. The election of the Chair, Vice-Chair, the appointment of the Secretary of the Commission, and the selection of IWC Biennial Meeting venues shall, upon request by a Commissioner, all proceed by secret ballot.

4. Between meetings of the Commission or in the case of emergency, a vote of the Commissioners may be taken by post, or other means of communication in which case the necessary simple *majority shall be of those Contracting Governments whose right has not been suspended under paragraph 2 casting an affirmative or negative vote*, or where required, *the necessary* three-fourths majority, shall be of *those Contracting Governments whose right to vote has not been suspended under paragraph 2 casting an affirmative or negative vote* ~~the total number of Contracting Governments whose right to vote has not been suspended under paragraph 2~~. *In each case, a simple majority of the members of the Commission must have cast a vote.*

F. Chair

1. The Chair of the Commission shall be elected from time to time from among the Commissioners and shall take office at the conclusion of the Biennial Meeting at which he/she is elected. The Chair shall serve for a period of two years and shall not be eligible for re-election as Chair until a further period of two years has elapsed. The Chair shall, however, remain in office until a successor is elected, if he/she agrees to do so.

The Chair is to serve the Commission, and as such, shall serve in an individual capacity and not represent the views of their Contracting Government, when acting as Chair.

2. The duties of the Chair shall be:
- (a) to preside at all meetings of the Commission and Bureau;
 - (b) to decide all questions of order raised at meetings of the Commission, subject to the right of any Commissioner to appeal against any ruling of the Chair.
 - (c) to call for votes and to announce the result of the vote to the Commission;
 - (d) to develop, with appropriate consultation, draft agenda for meetings of the Commission and Bureau.
 - (i) for Biennial Meetings:
 - in consultation with the Bureau, to develop a draft agenda based on decisions and recommendations made at the previous Biennial Meeting for circulation to all Contracting Governments and Commissioners for review and comment not less than 100 days in advance of the meeting;
 - on the basis of comments and proposals received from Contracting Governments and Commissioners under d(i) above, to develop with the Secretary, an annotated provisional agenda for circulation to all Contracting Governments not less than 60 days in advance of the meeting;
 - (ii) for Special Meetings, the two-stage procedure described in (i) above will be followed whenever practicable, recognising that Rule of Procedure J.1 still applies with respect to any item of business involving amendment of the Schedule or recommendations under Article VI of the Convention.
 - (e) to sign, on behalf of the Commission, a report of the proceedings of each biennial or other meeting of the Commission and Bureau, for transmission to Contracting Governments and others concerned as an authoritative record of what transpired;

- (f) generally, to make such decisions and give such directions to the Secretary as will ensure, especially in the interval between the meetings of the Commission, that the business of the Commission is carried out efficiently and in accordance with its decision.

- (g) *the Chair may form ad hoc groups of interested Commissioners at any time to facilitate the reaching of consensus consistent with Rule E.*

G. Vice-Chair

1. The Vice-Chair of the Commission shall be elected from time to time from among the Commissioners and shall preside at meetings of the Commission and Bureau, or between them, in the absence or in the event of the Chair being unable to act. He/she shall on those occasions exercise the powers and duties prescribed for the Chair. The Vice-Chair shall be elected for a period of two years and shall not be eligible for re-election as Vice-Chair until a further period of two years has elapsed. He/she shall, however, remain in office until a successor is elected, if he/she agrees to do so.

The Vice-Chair is to serve the Commission, and as such, shall serve in an individual capacity and not represent the views of their Contracting Government, when acting as Vice-Chair.

H. Secretary

1. The Commission shall appoint a Secretary and shall designate staff positions to be filled through appointments made by the Secretary. The Commission shall fix the terms of employment, rate of remuneration including tax assessment and superannuation and travelling expenses for the members of the Secretariat.
2. The Secretary is the executive officer of the Commission and shall:
- (a) be responsible to the Commission for the control and supervision of the staff and management of its office and for the receipt and disbursement of all monies received by the Commission;
 - (b) make arrangements for all meetings of the Commission, its committees and the Bureau and provide necessary secretarial assistance;
 - (c) prepare and submit to the Chair a draft of the Commission's budget for each two year period and shall subsequently submit the budget to all Contracting Governments and Commissioners as early as possible before the Biennial Meeting;
 - (d) despatch by the most expeditious means available:
 - (i) a draft agenda for the Biennial Commission Meeting to all Contracting Governments and Commissioners 100 days in advance of the meeting for comment and any additions with annotations they wish to propose;
 - (ii) an annotated provisional agenda to all Contracting Governments and Commissioners not less than 60 days in advance of the Biennial Commission Meeting. Included in the annotations should be a brief description of each item, and in so far as possible, documentation relevant to agenda items should be referred to in the annotation and sent to member nations at the earliest possible date;
 - (e) receive, tabulate and publish notifications and other information required by the Convention in such form and manner as may be prescribed by the Commission;

- (f) perform such other functions as may be assigned to him/her by the Commission or its Chair;
- (g) where appropriate, provide copies or availability to a copy of reports of the Commission including reports of Observers under the International Observer Scheme, upon request after such reports have been considered by the Commission.
- (h) maintain the Commission's public web site, which shall be continuously accessible to the extent possible subject to maintenance requirements and technical constraints.

I. Chair of Scientific Committee

1. The Chair of the Scientific Committee may attend meetings of the Commission and Technical Committee in an *ex officio* capacity without vote, at the invitation of the Chair of the Commission or Technical Committee respectively in order to represent the views of the Scientific Committee.

J. Schedule amendments, recommendations under Article VI and Resolutions

1. No item of business which involves amendment of the Schedule to the Convention, recommendations under Article VI of the Convention, or Resolutions of the Commission, shall be the subject of decisive action by the Commission unless the full draft text has been circulated to the Commissioners at least 60 days in advance of the meeting at which the matter is to be discussed.
2. Notwithstanding the advance notice requirements for draft Resolutions in Rule J.1, at the recommendation of the Chair in consultation with the Bureau, the Commission may decide to consider urgent draft Resolutions which arise after the 60 day deadline where there have been important developments that warrant action in the Commission. The full draft text of any such Resolution must be circulated to all Commissioners prior to the opening of the meeting at which the draft Resolution is to be considered.
3. Notwithstanding Rules J.1 and J.2, the Commission may adopt Resolutions on any matter that may arise during a meeting only when consensus is achieved.
4. ***If a proposal to amend Schedule paragraph 13 is circulated to the Commissioners 90 days or more in advance of the Commission meeting at which that proposal is to be discussed, then Contracting Governments should endeavour to submit comments on the proposal for circulation to the Commissioners at least 30 days in advance of the meeting to facilitate consideration by the Commission. Any responses made to comments received should also be circulated to all Commissioners as soon as possible.***

K. Financial

1. The financial year of the Commission shall be from 1st January to 31st December (Rules of Procedure, Rule K.1).
2. Any request to Contracting Governments for financial contributions shall be accompanied by a statement of the Commission's expenditure for the appropriate year, actual or estimated.
3. Annual payments and other financial contributions by Contracting Governments shall be made payable to the Commission and shall be in pounds sterling.

L. Offices

1. The seat of the Commission shall be located in the United Kingdom.

M. Committees

1. The Commission shall establish a Scientific Committee, a Technical Committee and a Finance and Administration Committee. Commissioners shall notify their desire to be represented on the Scientific, Technical and Finance and Administration Committees 28 days prior to the meetings, and shall designate the approximate size of their delegations.
2. The Chair may constitute such *ad hoc* committees as may be necessary from time to time, with similar arrangements for notification of the numbers of participants as in paragraph 1 above where appropriate. Each committee shall elect its Chair. The Secretary shall furnish appropriate secretarial services to each committee.
3. Sub-committees and working groups may be designated by the Commission to consider technical issues as appropriate, and each will report to the Technical Committee or the plenary session of the Commission as the Commission may decide.
4. (a) The Scientific Committee shall review the current scientific and statistical information with respect to whales and whaling, shall review current scientific research programmes of Governments, other international organisations or of private organisations, shall review the scientific permits and scientific programmes for which Contracting Governments plan to issue scientific permits, shall review current and potential threats and methods to mitigate them in order to maintain cetacean populations at viable levels, shall provide conservation and management advice where appropriate, shall consider such additional matters as may be referred to it by the Commission or by the Chair of the Commission, and shall submit reports and recommendations to the Commission.
(b) Any *ad hoc* committee, sub-committee or working group established to provide scientific advice shall report to the Scientific Committee, which shall review the report of such committee, sub-committee or working group, and, as appropriate, make its own recommendations on the subject matter.
5. The report of the Scientific Committee should be completed and made available to all Commissioners and posted on the Commission's public web site by the opening date of the Biennial Commission Meeting or within 14 days of the conclusion of the Scientific Committee meeting, whichever is the sooner.
6. The Secretary shall be an *ex officio* member of the Scientific Committee without vote.
7. The Technical Committee shall, as directed by the Commission or the Chair of the Commission, prepare reports and make recommendations on:
 - (a) Management principles, categories, criteria and definitions, taking into account the recommendations of the Scientific Committee, as a means of helping the Commission to deal with management issues as they arise;
 - (b) technical and practical options for implementation of conservation measures based on Scientific Committee advice;

- (c) the implementation of decisions taken by the Commission through resolutions and through Schedule provisions;
 - (d) Commission agenda items assigned to it;
 - (e) any other matters.
8. The Finance and Administration Committee shall advise the Commission on expenditure, budgets, scale of contributions, financial regulations, staff questions, and such other matters as the Commission may refer to it from time to time. The Chair of the Finance and Administration Committee may close to observers at his or her discretion, portions of meetings of the Committee during which sensitive matters such as personnel questions will be discussed.
9. The Commission shall establish a Bureau. It shall be comprised of the Chair of the Commission, the Vice-Chair of the Commission, the Chair of the Finance and Administration Committee, and four Commissioners representing a range of views and interests. Commissioners shall be appointed to the Bureau for a period of two years at Biennial Commission Meetings. In addition, the Commissioner of the host Government for the next meeting of the Commission will serve in an *ex officio* capacity for a period of two years. The Secretary will support Meetings of the Bureau. The Chair of the Commission will serve as the Chair of the Bureau and may call upon Chairs of the Commission's sub-groups and committees to participate in Bureau discussions, as appropriate. The Bureau will support the work of the Commission by providing advice to the Chair of the Commission and the Secretariat on work on-going under the Convention, especially at times when the Commission is not in session. To this end, the Bureau will:
- provide advice to the Chair and Secretariat on implementing Commission decisions;
 - advise the Secretariat on administrative and financial matters between meetings of the Commission;
 - assist in the preparation for meetings of the Commission and its sub-groups and committees;
 - review progress of work of the committees and sub-groups;
 - provide support to the Chair during meetings of the Commission, as may be requested by the Chair.
- The Bureau's mandate is to assist with process management. It is not a decision-making forum, and shall not deal with substantive or policy matters under the Convention. The Bureau may consider issues related to financial or administrative tasks within the scope of the Finance and Administration Committee, but only in the context of making recommendations to that Committee.

N. Languages of the Commission

1. English shall be the official language of the Commission. English, French and Spanish shall be the working languages of the Commission. Commissioners may speak in any other language, if desired, it being understood that Commissioners doing so will provide their own interpreters. All official publications and communications of the Commission shall be in English. Agreed publications shall be available in English, French and Spanish¹.

O. Records of Meetings

1. The proceedings of the meetings of the Commission, its committees and the Bureau shall be recorded in summary form.
2. The text of each Commission decision adopted at a meeting in accordance with Rule E, or by post, shall be placed on the Commission's public web site in all working languages within 14 days of the conclusion of the meeting or adoption of the decision by post.

P. Reports and communications

1. Commissioners should arrange for reports on the subject of whaling published in their own countries to be sent to the Commission for record purposes.
2. The Chair's Report of the most recent Biennial Commission Meeting or Meeting of the Bureau shall be posted on the Commission's public web site in English within two months of the end of the meeting and in the other working languages as soon as possible thereafter. It shall be published in the Annual Report of the year just completed.
3. All individual and circular communications from the Chair or Secretary to Contracting Governments shall be sent to both the Commissioner appointed under Rule A.1. and to his/her Alternate designated or to the focal or contact point created under Rule A.2. They should also be sent to all accredited observers. All circular communications from the Chair or Secretary to Contracting Governments shall be posted on the Commission's public web site on despatch, unless the Chair, after consulting with the Bureau, deems that a confidential communication is warranted (applicable only for staff issues, infraction cases and information provided by Contracting Governments with a request that it remain confidential), in which case the communication should be sent to the Contracting Governments alone. Every year a list of dates and subject titles of such confidential communications shall be sent to all Commissioners and Contracting Governments and presented to the next Biennial Meeting or to the Bureau in years when the Commission does not meet.

Q. Commission Documents

1. Reports of meetings of all committees, sub-committees and working groups of the Commission are confidential (i.e. reporting of discussions, conclusions and recommendations made during a meeting is prohibited) until the opening plenary session of the Commission meeting to which they are submitted, or in the case of intersessional meetings, until after they have been dispatched by the Secretary to Contracting Governments and Commissioners. This applies equally to member governments and observers. Such reports, with the exception of the report of the Finance and Administration Committee, shall be distributed to Commissioners, Contracting Governments and accredited observers at the same time. Procedures applying to the Scientific Committee are contained in its Rules of Procedure E.5.(a) and E.5.(b).
2. Any document submitted to the Commission for distribution to Commissioners, Contracting Governments or members of the Scientific Committee is considered to be in the public domain unless it is designated by the author or government submitting it

¹As agreed at IWC/59 in Anchorage in 2007: i.e. simultaneous interpretation in French and Spanish in IWC Plenary and private meetings of Commissioners, and translation into French and Spanish of: (1) Resolutions and Schedule amendments; (2) the Chair's reports of biennial meetings and meetings of the Bureau; (3) Annotated Provisional Agendas; and (4) summaries of the Scientific Committee and working group reports. *Ann. Rep. Int. Whaling Comm. 2007: 56-57.*

to be restricted². Such restriction is automatically lifted when the report of the meeting to which it is submitted becomes publicly available under 1. above.

3. Observers admitted under Rule of Procedure C.1.(a) and (b) may submit Opening Statements which will be included in the official documentation of the Biennial or other Meeting concerned. They shall be presented in the format and the quantities determined by the Secretariat for meeting documentation. The content of the Opening Statements shall be relevant to matters under consideration by the Commission, and shall be in the form of views and comments made to the Commission in general rather than directed to any individual or group of Contracting Governments.³

4. All meeting documents shall be included in the Commission's archives in the form in which they were considered at the meeting. All such documents dating from 2011 onwards, and also earlier years where feasible, shall be archived on the Commission's public web site in an accessible fashion by year and category of document.

R. Amendment of Rules

1. These Rules of Procedure and the Rules of Debate may be amended from time to time by a simple majority of the Commissioners voting, but the full draft text of any proposed amendment shall be circulated to the Commissioners at least 60 days in advance of the meeting at which the matter is to be discussed.

²This does not prevent Contracting Governments from consulting as they see fit on such documents providing confidentiality is maintained as described in Rule of Procedure Q.1.

³[There is no intention that the Secretariat should conduct advance or *ex-ante* reviews of such statements.]

Financial Regulations

A. Applicability

1. These regulations shall govern the financial administration of the International Whaling Commission.
2. They shall become effective as from the date decided by the Commission and shall be read with and in addition to the Rules of Procedure. They may be amended in the same way as provided under Rule R.1 of the Rules of Procedure in respect of those Rules.
3. In case of doubt as to the interpretation and application of any of these regulations, the Chair is authorised to give a ruling.

B. Financial Year

1. The financial year of the Commission shall be from 1st January to 31st December (Rules of Procedure, Rule K.1).

C. General Financial Arrangements

1. There shall be established a Research Fund, a General Fund, a Voluntary Fund for Small Cetaceans, a Voluntary Fund for Aboriginal Subsistence Whaling and a Voluntary Conservation Fund, *and a Voluntary Assistance Fund to facilitate Contracting Governments in Capacity to Pay Groups 1 and 2 that are not EU Member States or members of the Organisation for Economic Cooperation and Development, (hereinafter eligible Groups 1 and 2 Governments), to Participate fully in the Work of the Commission (the Voluntary Assistance Fund).*
 - (a) The Research Fund shall be credited with voluntary contributions and any such monies as the Commission may allocate for research and scientific investigation and charged with specific expenditure of this nature. The Research Fund shall have a balanced distribution among activities, defined according to conservation priorities and the work of the Commission, including small cetaceans.
 - (b) The General Fund shall, subject to the establishment of any other funds that the Commission may determine, be credited or charged with all other income and expenditure.
 - (c) The details of the Voluntary Fund for Small Cetaceans are given in Appendix 1.
The General Fund shall be credited or debited with the balance on the Commission's Income and Expenditure Account at the end of each financial year.
 - (d) The details of the Voluntary Fund for Aboriginal Subsistence Whaling are given in Appendix 2.
 - (e) The details of the Voluntary Conservation Fund are given in Appendix 3.
 - (f) *The details of the administration of funding from the Voluntary Assistance Fund to facilitate eligible Groups 1 and 2 Governments to Participate fully in the Work of the Commission are given in Appendix 4.*
The General Fund shall be credited or debited with the balance on the Commission's Income and Expenditure Account at the end of each financial year.
2. Subject to the restrictions and limitations of the following paragraphs, the Commission may accept funds from outside the regular contributions of Contracting Governments.

- (a) The Commission may accept such funds to carry out programmes or activities decided upon by the Commission and/or to advance programmes and activities which are consistent with the objectives and provisions of the Convention.
- (b) The Commission shall not accept external funds from any of the following:
 - (i) Sources that are known, through evidence available to the Commission, to have been involved in illegal activities, or activities contrary to the provisions of the Convention;
 - (ii) Individual companies directly involved in legal commercial whaling under the Convention;
 - (iii) Organisations which have deliberately brought the Commission into public disrepute.
3. Monies in any of the Funds that are not expected to be required for disbursement within a reasonable period may be invested in appropriate Government or similar loans by the Secretary in consultation with the Chair.
4. The Secretary shall:
 - (a) establish detailed financial procedures and accounting records as are necessary to ensure effective financial administration and control and the exercise of economy;
 - (b) deposit and maintain the funds of the Commission in an account in the name of the Commission in a bank to be approved by the Chair;
 - (c) cause all payments to be made on the basis of supporting vouchers and other documents which ensure that the services or goods have been received, and that payment has not previously been made;
 - (d) designate the officers of the Secretariat who may receive monies, incur obligations and make payments on behalf of the Commission;
 - (e) authorise the writing off of losses of cash, stores and other assets and submit a statement of such amounts written off to the Commission and the auditors with the annual accounts.
5. The accounts of the Commission shall be audited annually by a firm of qualified accountants selected by the Commission. The auditors shall certify that the financial statements are in accord with the books and records of the Commission, that the financial transactions reflected in them have been in accordance with the rules and regulations and that the monies on deposit and in hand have been verified. The most recent audited financial statements and the audit report shall be submitted to the Biennial Meeting or to the Bureau in years when the Commission does not meet and posted on the Commission's public website by the opening of the Biennial Meeting or Meeting of the Bureau.

D. Yearly Statements

1. At each Biennial Meeting, there shall be laid before the Commission two financial statements:
 - (a) a provisional statement dealing with the actual and estimated expenditure and income in respect of the current financial year;
 - (b) the budget estimate of expenditure and income for the ensuing two year period including the estimated amount of the individual annual payment to be requested of each Contracting Government for each of the ensuing two years.

- (c) in years when no Biennial Commission Meeting is held the provisional statement for the current financial year identified in regulation D.1.(a) shall be laid before the Meeting of the Bureau.
- (d) in years when no biennial Commission Meeting is held the Bureau shall review the second half of the two year budget.

Expenditure and income shall be shown under appropriate sub-heads accompanied by such explanations as the Commission may determine.

2. The two financial statements identified in Regulation D.1 shall be despatched by the most expeditious means available to each Contracting Government and each Commissioner not less than 60 days in advance of the Biennial Commission Meeting. They shall require the Commission's approval after having been referred to the Finance and Administration Committee for consideration and recommendations. A copy of the final accounts shall be sent to all Contracting Governments after they have been audited.
In years when the Commission does not meet, the provisional financial statement for the current year shall be made available to each Contracting Government and each Commissioner not less than 60 days in advance of the Meeting of the Bureau.
3. Supplementary estimates may be submitted to the Commission, as and when may be deemed necessary, in a form consistent with the Annual Estimates. Any supplementary estimate shall require the approval of the Commission after being referred to the Finance and Administration Committee for consideration and recommendation.

E. Contributions

1. As soon as the Commission has approved the budget for any year, the Secretary shall send a copy thereof to each Contracting Government (in compliance with Rules of Procedure, Rule K.2), and shall request it to remit its annual payment.
2. Payment shall be in pounds sterling, drafts being made payable to the International Whaling Commission and shall be payable within 90 days of the said request from the Secretary or by the following 30 June, the 'due date' whichever is the later. It shall be open to any Contracting Government to postpone the payment of any increased portion of the amount which shall be payable in full by the following 31 December, which then becomes the 'due date'. Payment shall be by bank transfer from an account belonging to the Contracting Government or to a state institution of that Government.
3. New Contracting Governments whose adherence to the Convention becomes effective during the first six months of any financial year shall be liable to pay the full amount of the annual payment for that year, but only half that amount if their adherence falls within the second half of the financial year. The due date for the first payment by new Contracting Governments shall be defined as 6 months from the date of adherence to the Convention or before the first day of any Meeting of the Commission or Bureau in which it participates, whichever is the earlier.
Subsequent annual payments shall be paid in accordance with Financial Regulation E.2.
4. The Secretary shall report at each Biennial Meeting and Meeting of the Bureau the position as regards the collection of annual payments. The report shall also be sent to all Commissioners including those who are not members of the Bureau before the beginning of the Meeting of the

- Bureau in the years when the Commission does not meet.
5. For the purpose of application of Rule of Procedure E.2, payments of membership dues shall only count as having been received by the Commission when the funds have been credited to the Commission's account unless the payment has been made and the Commission is satisfied that the delay in receipt is due to circumstances beyond the control of the Contracting Government.

F. Arrears of Contributions

1. If a Contracting Government's annual payments have not been received by the Commission within 24 months of the due date referred to under Regulation E.2 compound interest shall be added on the anniversary of that day and each subsequent anniversary thereafter at the rate of 2% above the base rate quoted by the Commission's bankers on the day. The interest, calculated to the nearest pound, shall be payable in respect of complete years and continue to be payable in respect of any outstanding balance until such time as the amount in arrears, including interest, is settled in full.
2. If a Contracting Government's annual payments, including any interest due⁴, have not been received by the Commission by the earliest of these dates:
 - 3 months following the due date; or
 - the day before the first day of the next Biennial or Special Meeting of the Commission or Meeting of the Bureau if such a meeting is held within 3 months following the due date; or,
 - in the case of a vote by postal or other means, the date upon which votes must be received if this falls within 3 months following the due date,
 the right to vote of the Contracting Government concerned shall be suspended as provided under Rule E.2 of the Rules of Procedure.
3. Any interest paid by a Contracting Government to the Commission in respect of late annual payments shall be credited to the General Fund.
4. Any payment to the Commission by a Contracting Government in arrears with annual payments shall be used to pay off debts to the Commission, including interest due, in the order in which they were incurred.
5. If a Contracting Government's annual payments, including any interest due, have not been received by the Commission in respect of a period of 3 financial years;
 - (a) no further annual contribution will be charged;
 - (b) interest will continue to be applied annually in accordance with Financial Regulation F.1.;
 - (c) the provisions of this Regulation apply to the Contracting Government for as long as the provisions of Financial Regulations F.1. and F.2. remain in effect for that Government;
 - (d) the Contracting Government concerned will be entitled to attend meetings on payment of a fee per delegate at the same level as Non-Member Government observers;

⁴A short-term concession of up to 500 pounds sterling will be given to any Contracting Government to take account of remittances sent to cover annual payments, including any interest due, that fall short of the balance owing by up to that amount. This concession is to allow for variations in bank charges and exchange rate that might otherwise reduce the value of the remittance to a lower value than intended in pounds sterling and so leave a Contracting Government with a balance of annual payments, including any interest due outstanding. This short term concession will enable a Contracting Government to maintain its right to vote. Any Contracting Government with a balance outstanding above 500 pounds sterling will not be entitled to the short-term concession and its right to vote shall be suspended. The shortfall of up to 500 pounds sterling allowed by the concession shall then be carried forward to the next financial year as part of the balance of annual payments, including any interest due to the Commission.

- (e) the provisions of this Regulation and of Financial Regulations F.1. and F.2. will cease to have effect for a Contracting Government if it makes a payment of 2 years outstanding contributions and provides an undertaking to pay the balance of arrears and the interest within a further 2 years;
 - (f) interest applied to arrears in accordance with this Regulation will accrue indefinitely except that, if a Government withdraws from the Convention, no further charges shall accrue after the date upon which the withdrawal takes effect.
- 6. Unless the Commission decides otherwise, a Government which adheres to the Convention without having paid to the Commission any financial obligations incurred prior to its adherence shall, with effect from the date of adherence, be subject to all the penalties prescribed by the Rules of Procedure and Financial Regulations relating to arrears of financial contributions and interest thereon. The penalties shall remain in force until the arrears, including any newly-charged interest, have been paid in full.

Appendix 1

VOLUNTARY FUND FOR SMALL CETACEANS

Purpose

The Commission decided at its 46th Annual Meeting in 1994 to establish an IWC voluntary fund to allow for the participation from developing countries in future small cetacean work and requested the Secretary to make arrangements for the creation of such a fund whereby contributions in cash and in kind can be registered and utilised by the Commission.

Contributions

The Commission has called on Contracting Governments and non-contracting Governments, intergovernmental organisations and other entities as appropriate, in particular those most interested in scientific research on small cetaceans, to contribute to the IWC voluntary fund for small cetaceans.

Acceptance of contributions from entities other than Governments will be subject to the Commission's procedures for voluntary contributions. Where funds or support in kind are to be made available through the Voluntary Fund, the donation will be registered and administered by the Secretariat in accordance with Commission procedures.

The Secretariat will notify all members of the Commission on receipt of such voluntary contributions.

Where expenditure is incurred using these voluntary funds the Secretariat will inform the donors of their utilisation.

Distribution of Funds

1. Recognising that there are differences of view on the legal competence of the Commission in relation to small cetaceans, but aware of the need to promote the development of increased participation by developing countries, the following primary forms of disbursement will be supported in accordance with the purpose of the

Voluntary Fund:

- (a) provision of support for attendance of invited participants at meetings of the Scientific Committee;
 - (b) provision of support for research in areas, species or populations or research methodology in small cetacean work identified as of direct interest or priority in the advice provided by the Scientific Committee to the Commission;
 - (c) other small cetacean work in developing countries that may be identified from time to time by the Commission and in consultation with intergovernmental agencies as requiring, or likely to benefit from support through the Fund.
- (2) Where expenditure is proposed in support of invited participants, the following will apply:
 - (a) invited participants will be selected through consultation between the Chair of the Scientific Committee, the Convenor of the appropriate sub-committee and the Secretary;
 - (b) the government of the country where the scientists work will be advised of the invitation and asked if it can provide financial support.
 - (3) Where expenditure involves research activity, the following will apply:
 - (a) the normal procedures for review of proposals and recommendations by the Scientific Committee will be followed;
 - (b) appropriate procedures for reporting of progress and outcomes will be applied and the work reviewed;
 - (c) the Secretariat shall solicit the involvement, as appropriate, of governments in the regions where the research activity is undertaken.

Appendix 2

VOLUNTARY FUND FOR ABORIGINAL SUBSISTENCE WHALING

Purpose

To establish an IWC voluntary fund to allow Contracting Governments, or organisations recognised by a Contracting Government, responsible for aboriginal subsistence whaling pursuant to paragraph 13 of the Schedule to receive financial assistance to assist in achieving compliance with IWC measures identified in Schedule amendments. These include, inter alia, the priority for hunter safety, reporting, and weapons improvement programs adopted by the IWC.

The Secretary is requested to make arrangements for the creation of such a fund whereby contributions in cash can be registered and utilised by the Commission.

Contributions

The Commission calls on Contracting Governments and non-Contracting Governments, intergovernmental organisations and other entities as appropriate, in particular those most interested in aboriginal subsistence whaling, to contribute to the IWC Voluntary Fund for Aboriginal Subsistence Whaling.

Acceptance of contributions from entities other than Governments will be subject to the Commission's procedures for voluntary contributions. Where funds are to be made available through the Voluntary Fund, the donation will be registered and administered by the Secretariat in accordance with Commission procedures.

The Secretariat will notify all members of the Commission on receipt of such voluntary contributions.

Where expenditure is incurred using these voluntary funds the Secretariat will inform the donors of their utilisation.

Distribution of funds

1. The following primary forms of disbursement will be supported in accordance with the purpose of the Voluntary Fund:

- (a) provision of support for research (including surveys) in areas, species or populations that have subsistence hunts or in work identified as of direct interest or priority in the advice provided by the Scientific Committee to the Commission regarding aboriginal subsistence whaling;
- (b) advice or activities aimed at improving the efficiency of whale killing methods and hunter safety, including weapons improvement programs and improvements in hunting techniques aimed at reducing struck and lost rates and times to death;
- (c) technical exchange of information among aboriginal subsistence hunters; and

- (d) other work regarding aboriginal subsistence whaling that may be identified from time to time by the Commission as requiring, or likely to benefit from, support through the Fund.
2. Where expenditure involves research activity, the following will apply:
- (a) the normal procedures for review of proposals and recommendations by the Scientific Committee will be followed;
 - (b) appropriate procedures for reporting of progress and outcomes will be applied and the work reviewed by the Scientific Committee or relevant sub-committee or working group; and
 - (c) the Secretariat shall solicit the involvement, as appropriate, of governments in the regions where the research activity is undertaken.
3. Where expenditure involves support for hunter safety, weapons improvement programs, or technical exchange of information, the following will apply:
- (a) the normal procedures for review of proposals and recommendations by the relevant sub-committee or working group will be followed;
 - (b) appropriate procedures for reporting of progress and outcomes will be applied and the work reviewed by the relevant sub-committee or working group; and
 - (c) the Secretariat shall solicit the involvement, as appropriate, of Governments in the regions where the activity is undertaken or that have relevant expertise.

Appendix 3

VOLUNTARY CONSERVATION FUND

Purpose

The purpose of this voluntary fund is to support the International Whaling Commission's conservation initiatives, consistent with the purpose and provisions of the International Convention for the Regulation of Whaling, particularly in providing for the proper and effective conservation and development of whale populations. This is a dedicated IWC fund, to ensure financial transparency in monitoring and auditing the use of any voluntary contributions made for the purposes above.

Voluntary Contributions

The Commission welcomes contributions to the fund from Contracting Governments, non-Contracting Governments, international organisations, non-governmental organisations and other entities as appropriate.

Acceptance of contributions from entities other than Contracting Governments will be subject to the Commission's procedures for voluntary contributions as described in the Financial Regulations.

Donors, including Contracting Governments, may further specify a particular purpose for their contribution in accordance with the agreed Project Categories that are eligible for utilisation of this fund. The Commission may not accept funds for which the earmarks would undermine the Commission's ability to carry out objectives established by the Commission.

The Secretariat will administer the use of such funds in accordance with Commission procedures, including relevant audit processes. The Secretariat will notify all Contracting Governments on receipt of such voluntary donations, providing information about the donor, donation amount and any earmarked purpose. The Secretariat will inform donors as appropriate when their contribution has been utilised unless other arrangements have been made.

Distribution of Funds

A Conservation Fund Project Steering Group will oversee the selection of projects and distribution of funds in accordance with the guidance in the terms of reference for the Group and:

- the established Project Categories;
- the established Eligibility Criteria⁵

The Steering Group will submit a prioritised list of projects that are recommended for funding to the Finance and Administration Committee for consideration and subsequent agreement by the Commission. The Steering Group will also be responsible for monitoring and reporting on progress.

⁵Project Categories and Eligibility Criteria were agreed by the 64th meeting of the Commission. On the advice of the Conservation Fund Project Steering Group, the Commission may decide to revise these documents as required to ensure they remain relevant.

Appendix 4

GUIDELINES FOR ADMINISTRATION OF FUNDING FROM THE VOLUNTARY ASSISTANCE FUND TO FACILITATE GOVERNMENTS IN CAPACITY TO PAY GROUPS 1 AND 2 THAT ARE NOT EU MEMBER STATES OR MEMBERS OF THE ORGANISATION FOR ECONOMIC COOPERATION AND DEVELOPMENT TO PARTICIPATE FULLY IN THE WORK OF THE COMMISSION

INTRODUCTION

The purpose of the Voluntary Assistance Fund is to facilitate Governments in Capacity to Pay Groups 1 and 2 that are not EU Member States or members of the Organisation for Economic Cooperation and Development to participate fully in the work of the Commission.

1. Definitions

Capacity to Pay Groups 1 and 2 – means the groups identified by the Commission in calculating the financial contributions from each Contracting Government.

Voluntary Assistance Fund to facilitate eligible Governments in Capacity to Pay Groups 1 and 2 to Participate fully in the Work of the Commission (“Voluntary Assistance Fund”) – means the fund of the same name identified in IWC Financial Regulation C(1) (f) and Appendix 4.

2. Eligibility

Eligible countries are Contracting Governments in Capacity to Pay Groups 1 and 2 that are not in arrears and are not European Union Member States or members of the Organisation for Economic Cooperation and Development, (hereinafter eligible Groups 1 and 2 Governments). In any given year, the categorization of Groups 1 to 4 will be taken from the most recent Commission Circular allocating Contracting Governments to capacity to pay groups.

Funds provided to eligible Governments under the Voluntary Assistance Fund must be used for the purposes identified in each respective application.

Contracting Governments may request funds relating to travel and subsistence for full participation in IWC meetings and activities including capacity building exercises, scientific research, and conservation and welfare activities.

For the purpose of these guidelines, full participation entails that a sponsored delegate from the eligible Contracting Government:

- Takes forward the work of the Commission as an officer of the IWC or its subsidiary bodies; as a member of the Bureau; as a member of an IWC Working Group or subsidiary body; by making a presentation; or by reporting back from one of those bodies; or
- Attends an IWC activity for the purposes of training and capacity building for the benefit of the Contracting Government.

Funds from the Voluntary Assistance Fund may not be used to pay salaries of Contracting Government employees or payment of Contracting Governments’ annual subscriptions and other financial contributions.

If funds are requested for travel to IWC meetings, allocations from the Fund will be in accordance with the lesser of the amount provided for in the International Civil Service Commission’s Daily Subsistence Allowance and UN travel rules, or the amount provided for in the domestic rules of the eligible Groups 1 and 2 Governments, so that all sponsored delegates receive fair and consistent treatment from the IWC.

Requests shall be limited to funding necessary for the attendance of one member of the delegation per eligible Groups 1 and 2 Government at each meeting. The participant must be an official member of the Contracting Government delegation.

3. Application process

The Secretariat shall notify Contracting Governments no less than 180 days in advance of the meeting of the dates and venues of Commission meetings.

Applications for funding from the Voluntary Assistance Fund must be received 90 days before the date on which the activities to be funded are expected to occur.

Applications for travel to a meeting or event shall include a budget based on the lesser of the amount provided for in the International Civil Service Commission’s Daily Subsistence Allowance and UN travel rules, or the amount provided for in the domestic rules of the eligible Groups 1 and 2 Governments.

Applications for funding from the Voluntary Assistance Fund must specify:

- the activities to be funded;
- estimated travel costs including air fare and per diem expenses;
- if the application is for travel to a meeting or event, the total number of delegates eligible Groups 1 and 2 Government will be sending to that meeting or event;
- if the application is for capacity building, scientific research, and conservation and welfare activities, how those activities contribute to IWC work plans;
- the applicant’s experience, qualifications, and expected contribution to that meeting or event;
- declaration of interest, i.e. any funding or support received from elsewhere; and
- that the applicant eligible Groups 1 and 2 Government has determined the amount of expenses to be accurate.

Application forms will be made available through the IWC website and applications should be sent to secretariat@iwc.int.

Where funds have been requested for travel to IWC meetings, based on the funding available and the prioritisation procedure set out below, the Secretariat will prepare a list of sponsored delegates. The final list of delegates that may be supported will be dependent upon the funds raised and funding is not guaranteed for all eligible countries. Delegates will be notified at least 30 days before the meeting whether or not they will receive funding from the Voluntary Assistance Fund.

4. Disbursement of funds

Where funds have been requested for travel to IWC meetings, upon approval of an application consistent with Section 3 above, the Secretariat will hold the funds until such time as each respective Government provides instructions to the Secretariat to effect the payment. Upon receipt of instruction from each respective Government, the Secretariat will purchase travel tickets as previously

determined in each respective application. The Daily Subsistence Allowance and terminal expenses will be disbursed, based on actual presence and actual receipts respectively, after closure of the meeting.

Where funds have been requested for purposes other than travel to IWC meetings, the Secretariat will disburse funds in a timely manner to the Government while ensuring adequate oversight of all disbursements.

5. Prioritisation

In the event of a shortfall in funding to support the participation of all eligible Groups 1 and 2 Governments, the prioritisation process below shall be followed:

The following principles shall be applied to the allocation of funding from the Fund:

- i. Eligibility (section 2 above)*
- ii. Priority for eligible Group 1 Governments*
- iii. Balanced representation of a range of views and interests*

- iv. Balanced distribution across the activities of the IWC in line with the priorities identified by the Commission; and*
- v. Consideration shall be given to provision of partial funding in order to maximise the number of funding recipients.*

At any time in applying these criteria, the Secretariat may seek advice from the Chair and Bureau in order to support a funding decision.

6. Reporting

The Secretariat will provide a progress update to each Commission meeting on work to support countries of limited means to participate in the work of the Commission, including administration of the Voluntary Assistance Fund. The Secretariat will also report on the criteria used to allocate the Voluntary Assistance Fund, including any amendments needed in the event of a shortfall of Funds.

Rules of Debate

A. Right to Speak

1. The Chair shall call upon speakers in the order in which they signify their desire to speak, with the exception of accredited Observers, which should be allowed to speak only after all Commissioners desiring to speak do so. As a general rule, *Observers each Observer organisation* will only be allowed to speak once at each Agenda item under discussion, and at the discretion of the Chair.
2. A Commissioner or Observer may speak only if called upon by the Chair, who may call a speaker to order if his/her remarks are not relevant to the subject under discussion.
3. A speaker shall not be interrupted except on a point of order. He/she may, however, with the permission of the Chair, give way during his/her speech to allow any other Commissioner to request elucidation on a particular point in that speech.
4. The Chair of a committee or working group may be accorded precedence for the purpose of explaining the conclusion arrived at by his/her committee or group.

B. Submission of Motions

1. Proposals and amendments shall normally be introduced in writing in the working language of the meeting and shall be submitted to the Secretariat which shall circulate copies to all delegations in the session. As a general rule, no proposal shall be discussed at any plenary session unless copies of it have been circulated to all delegations normally no later than 6pm, or earlier if so determined by the Chair in consultation with the Commissioners, on the day preceding the plenary session. The presiding officer may, however, permit the discussion and consideration of amendments, or motions, as to procedure, even though such amendments, or motions have not been circulated previously.

C. Procedural Motions

1. During the discussion of any matter, a Commissioner may rise to a point of order, and the point of order shall be immediately decided by the Chair in accordance with these Rules of Procedure. A Commissioner may appeal against any ruling of the Chair. The appeal shall be immediately put to the vote and the question voted upon shall be stated as: Shall the decision of the Chair be overturned? The Chair's ruling shall stand unless a majority of the Commissioners present and voting otherwise decide. A Commissioner rising to a point of order may not speak on the substance of the matter under discussion.
2. The following motions shall have precedence in the following order over all other proposals or motions before the Commission:
 - (a) to adjourn the session;
 - (b) to adjourn the debate on the particular subject or question under discussion;
 - (c) to close the debate on the particular subject or question under discussion.
3. Notwithstanding anything in these Rules, the Chair may suspend the meeting for a brief period at any time in order to allow informal discussions aimed at reaching consensus consistent with Rule E of the Rules of Procedure. *The Chair may also extend a session in order to facilitate decision-making.*

D. Arrangements for Debate

1. The Commission may, in a proposal by the Chair or by a Commissioner, limit the time to be allowed to each speaker and the number of times the members of a delegation may speak on any question. When the debate is subject to such limits, and a speaker has spoken for his allotted time, the Chair shall call him/her to order without delay.
2. During the course of a debate the Chair may announce the list of speakers, and with the consent of the Commission, declare the list closed. The Chair may, however, accord the right of reply to any Commissioner if a speech delivered after he/she has declared the list closed makes this desirable.
3. During the discussion of any matter, a Commissioner may move the adjournment of the debate on the particular subject or question under discussion. In addition to the proposer of the motion, a Commissioner may speak in favour of, and two Commissioners may speak against the motion, after which the motion shall immediately be put to the vote. The Chair may limit the time to be allowed to speakers under this rule.
4. A Commissioner may at any time move the closure of the debate on the particular subject or question under discussion, whether or not any other Commissioner has signified the wish to speak. Permission to speak on the motion for the closure of the debate shall be accorded only to two Commissioners wishing to speak against the motion, after which the motion shall immediately be put to the vote. The Chair may limit the time to be allowed to speakers under this rule.

E. Procedure for Voting on Motions and Amendments

1. A Commissioner may move that parts of a proposal or of an amendment shall be voted on separately. If objection is made to the request of such division, the motion for division shall be voted upon. Permission to speak on the motion for division shall be accorded only to two Commissioners wishing to speak in favour of, and two Commissioners wishing to speak against, the motion. If the motion for division is carried, those parts of the proposal or amendments which are subsequently approved shall be put to the vote as a whole. If all operative parts of the proposal or of the amendment have been rejected, the proposal or the amendment shall be considered to have been rejected as a whole.
2. When the amendment is moved to a proposal, the amendment shall be voted on first. When two or more amendments are moved to a proposal, the Commission shall first vote on the last amendment moved and then on the next to last, and so on until all amendments have been put to the vote. When, however, the adoption of one amendment necessarily implies the rejection of another amendment, the latter amendment shall not be put to the vote. If one or more amendments are adopted, the amended proposal shall then be voted upon. A motion is considered an amendment to a proposal if it merely adds to, deletes from or revises part of that proposal.
3. If two or more proposals relate to the same question, the Commission shall, unless it otherwise decides, vote on the proposals in the order in which they have been submitted. The Commission may, after voting on a proposal, decide whether to vote on the next proposal.

Rules of Procedure of the Technical Committee

A. Participation

1. Membership shall consist of those member nations that elect to be represented on the Technical Committee. Delegations shall consist of Commissioners, or their nominees, who may be accompanied by technical experts.
2. The Secretary of the Commission or a deputy shall be an *ex officio* non-voting member of the Committee.
3. Observers may attend Committee meetings in accordance with the Rules of the Commission.

B. Organisation

1. Normally the Vice-Chair of the Commission is the Chair of the Technical Committee. Otherwise the Chair shall be elected from among the members of the Committee.
2. A provisional agenda for the Technical Committee and each sub-committee and working group shall be prepared by the Technical Committee Chair with the assistance of the Secretary. After agreement by the Chair of the Commission they shall be distributed to Commissioners 30 days in advance of the Biennial Meeting.

C. Meetings

1. The Meeting of the Technical Committee shall be held between the Scientific Committee and Commission meetings with reasonable overlap of meetings as appropriate to agenda requirements. Special meetings may be held as agreed by the Commission or the Chair of the Commission.
2. Rules of conduct for observers shall conform with rules established by the Commission for meetings of all committees and plenary sessions.

D. Reports

1. Reports and recommendations shall, as far as possible, be developed on the basis of consensus. However, if a consensus is not achievable, the committee, sub-committee or working group shall report the different views expressed. The Chair or any national delegation may request a vote on any issue. Resulting recommendations shall be based on a simple majority of those nations casting an affirmative or negative vote.
2. Documents on which recommendations are based should be available on demand immediately following each committee, sub-committee or working group meeting.
3. Technical papers produced for the Commission may be reviewed by the Committee for publication by the Commission.

Rules of Procedure of the Scientific Committee

The Scientific Committee, established in accordance with the Commission's Rule of Procedure M.1, has the general terms of reference defined in Rule of Procedure M.4.

In this regard, the **DUTIES** *duties* of the Scientific Committee, can be seen as a progression from are the scientific investigation of whales cetaceans and their environment, leading to assessment of the status of the whale stocks⁶ and the impact of *direct* catches and *any other human-induced mortality or non-direct removal threats* upon them, and then so to provision provide of conservation and management advice on cetacean stocks and the regulation/mitigation of the regulation of *lethal and of non-lethal whaling human activities*. This can be defined in the following terms for the Scientific Committee to:

- Encourage, recommend, or if necessary, organise studies and investigations related to whales and whaling [Convention Article IV.1(a)]
- Collect and analyse statistical information concerning the current condition and trend of whale stocks and the effects of whaling activities on them [Article IV.1 (b)]
- Study, appraise, and disseminate information concerning methods of maintaining and increasing the population of whale stocks [Article IV.1 (c)]
- Provide scientific findings on which amendments to the Schedule shall be based to carry out the objectives of the Convention and to provide for the conservation, development and optimum utilization of the whale resources [Article V.2 (a) and (b)]
- Publish reports of its activities and findings [Article IV.2]

In addition, specific **FUNCTIONS** of the Scientific Committee are to:

- Review current threats and methods to mitigate them in order to maintain cetacean populations at viable levels [e.g. i.e. Rule of Procedure M.4]
- Provide conservation and management advice [e.g. i.e. Rule of Procedure M.4; *Rep. int. Whal. Commn* 31:30-31; *Ann. Rep. Int. Whal. Comm.* 1998:46; 2003:58]
- Receive, review and comment on Special Permits issued for scientific research [Article VIII.3 and Schedule paragraph 30]
- Review research programmes of Contracting Governments and other bodies [Rule of Procedure M.4]

SPECIFIC TOPICS of current concern to the Commission include:

- Comprehensive Assessment of whale stocks [*Rep. int. Whal. Commn* 34:30]
- Implementation of the Revised Management Procedure [*Rep. int. Whal. Commn* 45:43]
- Assessment of stocks subject to aboriginal subsistence whaling [Schedule paragraph 13(b)]
- Development of the Aboriginal Subsistence Whaling Management Procedure [*Rep. int. Whal. Commn* 45:42-3]
- Effects of environmental change on cetaceans [*Rep. int. Whal. Commn* 43:39-40; 44:35; 45:49]
- Scientific aspects of whale sanctuaries [*Rep. int. Whal. Commn* 33:21-2; 45:63]
- Scientific aspects of small cetaceans [*Rep. int. Whal. Commn* 41:48; 42:48; 43:51; 45:41]
- Scientific aspects of whalewatching [*Rep. int. Whal. Commn* 45:49-50]

A. Membership and Observers

1. The Scientific Committee shall be composed of scientists nominated by the Commissioner of each Contracting Government which indicates that it wishes to be represented on that Committee. Commissioners shall identify the head of delegation and any alternate(s) when making nominations to the Scientific Committee. The Secretary of the Commission and relevant members of the Secretariat shall be *ex-officio* non-voting members of the Scientific Committee.
2. The Scientific Committee recognises that representatives of Inter-Governmental Organisations with particular relevance to the work of the Scientific Committee may also participate as non-voting members, subject to the agreement of the Chair of the Committee acting according to such policy as the Commission may decide.
3. Further to paragraph 2 above the World Conservation Union (IUCN) shall have similar status in the Scientific Committee.
4. Non-member governments may be represented by observers at meetings of the Scientific Committee, subject to the arrangements given in Rule C.1(a) of the Commission's Rules of Procedure.
5. Any non-governmental organisation ~~sending an accredited observer to a meeting of the Commission~~ **accredited by the Commission under its Rule of Procedure C.1(b)** may nominate a scientifically qualified observer to be present at meetings of the Scientific Committee. Any such nomination ~~must~~ should reach the Secretary **45 days not less than 60 days** before the start of the meeting in question and ~~must~~ should specify the scientific qualifications and relevant experience of the nominee. The Chair of the Scientific Committee shall decide upon the acceptability of any nomination but may reject it only after consultation with the Chair

and Vice Chair of the Commission. **Observers admitted under this rule may submit working documents in accordance with Rule E of the Scientific Committee, shall not participate in discussions and have access to all meeting documents.** ~~documents of the Scientific Committee shall be made available to them at the same time as to members of the Committee.~~

6. The Chair of the Committee, acting according to such policy as the Commission or the Scientific Committee may decide, may invite qualified scientists not nominated by a Commissioner to participate by invitation or otherwise in committee meetings as non-voting contributors. They may present and discuss documents and papers for consideration by the Scientific Committee, participate on sub-committees, and they shall receive all Committee documents and papers.
 - (a) Convenors will submit suggestions for Invited Participants (including the period of time they would like them to attend) to the Chair (copied to the Secretariat) not less than four months before the meeting in question. The Convenors will base their suggestions on the priorities and initial agenda identified by the Committee and Commission at the previous meeting. The Chair may also consider offers from suitably qualified scientists to contribute to priority items on the Committee's agenda if they submit such an offer to the Secretariat not less than four months before the meeting in question, providing information on the contribution they believe that they can make. Within two weeks of this, the Chair, in consultation with the Convenors and Secretariat, will develop a list of invitees.
 - (b) The Secretary will then promptly issue a letter of invitation to those potential Invited Participants suggested by the Chair and Convenors. That letter will state that there may be financial support available, although invitees will be encouraged to

⁶The Scientific Committee takes the term 'stocks' herein to include inter alia populations and other units of conservation/management interest.

find their own support. Invitees who wish to be considered for travel and subsistence will be asked to submit an estimated airfare (incl. travel to and from the airport) to the Secretariat, within 2 weeks. Under certain circumstances (e.g. the absence of a potential participant from their institute), the Secretariat will determine the likely airfare.

At the same time as (b) a letter will be sent to the government of the country where the scientist is domiciled for the primary purpose of enquiring whether that Government would be prepared to pay for the scientist's participation. If it is, the scientist is no longer an Invited Participant but becomes a national delegate.

- (c) At least three months before the meeting, the Secretariat will supply the Chair with a list of participants and the estimated expenditure for each, based on (1) the estimated airfare, (2) the period of time the Chair has indicated the IP should be present and (3) a daily subsistence rate based on the actual cost of the hotel deemed most suitable by the Secretary and Chair⁷, plus an appropriate daily allowance.

At the same time as (c) a provisional list of the proposed Invited Participants will be circulated to Commissioners, with a final list attached to the Report of the Scientific Committee.

- (d) The Chair will review the estimated total cost for all suggested participants against the money available in the Commission's budget. Should there be insufficient funds, the Chair, in consultation with the Secretariat and Convenors where necessary, will decide on the basis of the identified priorities, which participants should be offered financial support and the period of the meeting for which that support will be provided. Invited Participants without IWC support, and those not supported for the full period, may attend the remainder of the meeting at their own expense.
- (e) At least two months before the meeting, the Secretary will send out formal confirmation of the invitations to all the selected scientists, in accordance with the Commission's Guidelines, indicating where appropriate that financial support will be given and the nature of that support.
- (f) In exceptional circumstances, the Chair, in consultation with the Convenors and Secretariat, may waive the above time restrictions.
- (g) The letter of invitation to Invited Participants will include the following ideas:

Under the Committee's Rules of Procedure, Invited Participants may present and discuss papers, and participate in meetings (including those of subgroups). They are entitled to receive all Committee documents and papers. They may participate fully in discussions pertaining to their area of expertise. However, discussions of Scientific Committee procedures and policies are in principle limited to Committee members nominated by member governments. Such issues will be identified by the Chair of the Committee during discussions. Invited Participants are also urged to use their discretion as regards their involvement in the formulation of potentially controversial recommendations to the Commission; the Chair may at his/her discretion rule them out of order.

- (h) After an Invited Participant has his/her participation confirmed through the procedures set up above, a Contracting Government may grant this person national delegate status, thereby entitling him/her to full participation in Committee proceedings; ~~without prejudice to funding arrangements previously agreed upon to support the attendance of the scientist in question.~~

7. A small number of interested local scientists may be permitted to observe at meetings of the Scientific Committee on application to, and at the discretion of, the Chair. Such scientists should be connected with the local Universities, other scientific institutions or organisations, and should provide the Chair with a note of their scientific qualifications and relevant experience at the time of their application.

B. Agenda

1. The initial agenda for the Committee meeting of the following year shall be developed by the Committee prior to adjournment each year. The agenda should identify, as far as possible, key issues to be discussed at the next meeting and specific papers on issues should be requested by the Committee as appropriate.
2. The provisional agenda for the Committee meeting shall be circulated for comment 60 days prior to the Annual Meeting of the Committee. Comments will normally be considered for incorporation into the draft agenda presented to the opening plenary only if received by the Chair 21 days prior to the beginning of the Annual Meeting.

C. Organisation

1. The Scientific Committee shall include standing sub-committees and working groups by area or species, or other subject, and a standing sub-committee on small cetaceans. The Committee shall decide at each meeting on sub-committees for the coming year.
2. The sub-committees and working groups shall prepare the basic documents, *inter alia*, on the identification, status and trends of stocks, including biological parameters, *threats, mitigation measures* and related matters as necessary, for the early consideration of the full Committee.
3. The sub-committees shall concentrate their efforts on stocks ~~of large cetaceans, particularly those~~ which are currently exploited, or for which exploitation is under consideration, or for which there is concern over their status. ~~but they may examine matters relevant to all cetaceans where appropriate.~~
4. The Chair may appoint other sub-committees as appropriate.
5. The Committee shall elect from among its members a Chair and Vice-Chair who will normally serve for a period of three years. They shall take office at the conclusion of the annual meeting at which they are elected. The Vice-Chair shall act for the Chair in his/her absence.

The election process shall be undertaken by the heads of national delegations who shall consult widely before nominating candidates⁸. The Vice-Chair will become Chair at the end of his/her term (unless he/she declines), and a new Vice-Chair will then be elected.

⁷[Invited participants who choose to stay at a cheaper hotel will receive the actual rate for their hotel plus the same daily allowance.]

⁸The Commission's Rule of Procedure on voting rights (rule E.2) also applies to the Scientific Committee.

If the Vice-Chair declines to become Chair, then a new Chair must also be elected. If the election of the Chair or Vice-Chair is not by consensus, a vote shall be conducted by the Secretary and verified by the current Chair. A simple majority shall be decisive. In cases where a vote is tied, the Chair shall have the casting vote. If requested by a head of delegation, the vote shall proceed by secret ballot. In these circumstances, the results shall only be reported in terms of which nominee received the most votes, and the vote counts shall not be reported or retained.

D. Meetings

1. Meetings of the Scientific Committee as used in these rules include all meetings of subgroups of the Committee, e.g. sub-committees, working groups, workshops, etc.
2. The Scientific Committee shall meet prior to the Biennial Meeting of the Commission or in years when the Commission does not meet, the Scientific Committee shall meet prior to the meeting of the Bureau. Special meetings of the Scientific Committee or its subgroups may be held as agreed by the Commission or the Chair of the Commission.
3. The Scientific Committee will organise its work in accordance with a schedule determined by the Chair with the advice of a group comprising sub-committee/working group chairs and relevant members of the Secretariat.

E. Scientific Papers and Documents

The following documents and papers will be considered by the Scientific Committee for discussion and inclusion in its report to the Commission:

1. Progress Reports. Each nation having information on the biology of cetaceans, cetacean research, the taking of cetaceans, or other matters it deems appropriate should prepare a brief progress report following in the format agreed by the Committee.
2. Special Reports. The Committee may request special reports as necessary on matters to be considered by the Committee for the following year.
3. Sub-committee Reports. Reports of the sub-committees or working groups shall be included as annexes to the Report to the Commission. Recommendations contained therein shall be subject to modification by the full Committee before inclusion in its Report.
4. Scientific and Working Papers.
 - (a) Any scientist may submit a scientific paper for consideration by the Committee. The format and submission procedure shall be in accordance with guidelines established by the Secretariat with the concurrence of the Committee. Papers published elsewhere may be distributed to Committee members for information as relevant to specific topics under consideration.
 - (b) Scientific papers will be considered for discussion and inclusion in the papers of the Committee only if the paper is received by the Secretariat on or by the first day of the annual Committee meeting, intersessional meeting or any sub-group. Exceptions to this rule can be granted by the Chair of the Committee where there are exceptional extenuating circumstances.
 - (c) Working papers will be distributed for discussion only if prior permission is given by the Chair of the committee or relevant sub-group. They will be archived only if they are appended to the meeting report.

- (d) The Scientific Committee may receive and consider unpublished scientific documents from non-members of the Committee (including observers) and may invite them to introduce their documents at a meeting of the Committee provided that they are received under the same conditions (with regard to timing etc.) that apply to members.

(e) ***Papers submitted under the Rule of Procedure 4(a) must be based on science and facts and shall not contain disrespectful statements to any participating person, organisation or government.***

5. Publication of Scientific Papers and Reports.

- (a) Scientific papers and reports considered by the Committee that are not already published shall be included in the Commission's archives in the form in which they were considered by the Committee or its sub-committees. Papers submitted to meetings shall be available on request at the same time as the report of the meeting concerned (see (b) below).
- (b) The report of the Annual Meeting of the Scientific Committee shall be distributed to all Commissioners in accordance with the Commission's Rule of Procedure M.5.

Reports of intersessional Workshops or Special Committee Meetings are confidential until they have been dispatched by the Secretary to the full Committee, Commissioners and Contracting Governments.

Reports of intersessional Steering Groups or Sub-committees are confidential until they have been discussed by the Scientific Committee, normally at an Annual Meeting.

In this context, 'confidential' means that reporting of discussions, conclusions and recommendations is prohibited. This applies equally to Scientific Committee members, invited participants and observers. Reports shall be distributed to Commissioners, Contracting Governments and accredited observers at the same time.

The Scientific Committee should identify the category of any intersessional meetings at the time they are recommended.

- (c) Scientific papers and reports (revised as necessary) may be considered for publication by the Commission. Papers shall be subject to peer review before publication. Papers submitted shall follow the Guidelines for Authors published by the Commission.

F. Review of Scientific Permits

1. When proposed scientific permits are sent to the Secretariat before they are issued by national governments the Scientific Committee shall review the scientific aspects of the proposed research at its annual meeting, or during a special meeting called for that purpose and comment on them to the Commission.
2. The review process shall take into account guidelines issued by the Commission.
3. The proposed permits and supporting documents should include specifics as to the objectives of the research, number, sex, size, and stock of the animals to be taken, opportunities for participation in the research by scientists of other nations, and the possible effect on conservation of the stock resulting from granting the permits.

4. Preliminary results of any research resulting from the permits should be made available for the next meeting of the Scientific Committee as part of the national progress report or as a special report, paper or series of papers.

G. Financial Support for Research Proposals

1. The Scientific Committee shall identify research needs.
2. It shall consider unsolicited research proposals seeking financial support from the Commission to address these needs. A sub-committee shall be established to review and rank research proposals received 4 months in advance of the Annual Meeting and shall make recommendations to the full Committee.
3. The Scientific Committee shall recommend ~~in priority order those~~ research proposals for Commission financial support as it judges best meet ~~its objectives~~. *Commission priorities as communicated in the Scientific Committee's workplan.*

H. Availability of data

The Scientific Committee shall work with the Secretariat to ensure that catch and scientific data that the Commission holds are archived and accessible using modern computer data handling techniques. Access to such data shall be subject to the following rules.

1. Information identified in Section VI of the Schedule that shall be notified or forwarded to the IWC or other body designated under Article VII of the Convention.

This information is available on request through the Secretariat to any interested persons with a legitimate claim relative to the aims and purposes of the Convention⁹.

2. Information and reports provided where possible under Section VI of the Schedule.

When such information is forwarded to the IWC a covering letter should make it clear that the information or report is being made available, and it should identify the pertinent Schedule paragraph under which the information or report is being submitted.

Information made available to the IWC under this provision is accessible to accredited persons as defined under 4. below, and additionally to other interested persons subject to the agreement of the government submitting the information or report.

Such information already held by the Commission is not regarded as having been forwarded until such clarification of its status is received from the government concerned.

3. Information neither required nor requested under the Schedule but which has been or might be made available to the Commission on a voluntary basis.

This information is of a substantially different status from the previous two types. It can be further divided into two categories:

- (a) Information collected under International Schemes.
 - (i) Data from the IWC sponsored projects.
 - (ii) Data from the International Marking Scheme.
 - (iii) Data obtained from international collaborative activities which are offered by the sponsors and accepted as contributions to the Comprehensive Assessment, or proposed by the Scientific Committee itself.

Information collected as the result of IWC sponsored activities and/or on a collaborative basis with other organisations, governments, institutions or individuals is available within those contributing bodies either immediately, or, after mutual agreement between the IWC and the relevant body/person, after a suitable time interval to allow 'first use' rights to the primary contributors.

- (b) Information collected under national programmes, or other than in (a).

Information in this category is likely to be provided by governments under special conditions and would hence be subject to some degree of restriction of access. This information can only be held under the following conditions:

- (i) A minimum level of access should be that such data could be used by accredited persons during the Scientific Committee meetings using validated techniques or methods agreed by the Scientific Committee. After the meeting, at the request of the Scientific Committee, such data could be accessed by the Secretariat for use with previously specified techniques or validated programs. Information thus made available to accredited persons should not be passed on to third parties but governments might be asked to consider making such records more widely available or accessible.
- (ii) The restrictions should be specified at the time the information is provided and these should be the only restrictions.
- (iii) Restrictions on access should not discriminate amongst accredited persons.
- (iv) All information held should be documented (i.e. described) so that accredited persons know what is held, along with stated restrictions on the access to it and the procedures needed to obtain permission for access.

4. Accredited persons

Accredited persons are those scientists defined under sections A.1, 2, 3 and 6 of the Rules of Procedure of the Scientific Committee. Invited participants are also considered as 'accredited' during the intersessional period following the meeting which they attend.

⁹[The Government of Norway notes that for reasons of domestic legislation it is only able to agree that data it provides under this paragraph are made available to accredited persons.]



INTERNATIONAL
WHALING COMMISSION

The Red House, 135 Station Road, Impington, Cambridge CB24 9NP UK
Tel: +44 (0)1223 233971 Fax: +44 (0)1223 232876
Web page: <http://www.iwc.int>