

## **Annex II.I**

### **Specialist Technical Group on Animal Welfare**

#### **Report of Acting Convenor**

#### **BACKGROUND**

At the Borgholm meeting of the RMS Working Group, it was agreed that a Specialist Technical Group (STG) would be established to consider in greater detail the animal welfare requirements that might be included in an RMS. Argentina, Belgium, Germany, Iceland, New Zealand and the United Kingdom agreed to constitute the STG.

The Terms of Reference of the STG were to develop text to:

- a) give effect to the Chair's proposal; and
- b) provide for compulsory collection of data by international observers on all whales killed within the RMS to verify that Schedule conditions are complied with; and
- c) provide for compulsory collection of the data necessary to prescribe killing methods and conditions under which whales can legally be killed under the RMS; and
- d) consider consequences of including no text in the Schedule.

It was also agreed in Borgholm that in order to fulfil its terms of reference, the group may need to:

- i) define criteria and identify data relevant to animal welfare to be collected in order to determine the degree to which current killing methods comply with Schedule requirements and relevant findings and recommendations of IWC Workshops, Working Groups and resolutions;
- ii) In accordance with Article V 2 b, develop a format for collection of data;
- iii) recommend analyses of data collected to provide guidance to the Commission on fulfilling relevant findings and recommendations of IWC Workshops, Working Groups and resolutions;
- iv) develop a framework for cooperative research for review by the Commission, or a designated Working Group, and the dissemination of results that may inform the development of possible Schedule amendments under Article V in respect of: open and closed seasons; size limits for each species; time, methods and intensity of whaling; types and specifications of gear, apparatus and appliances; methods of measurements and other statistical and biological records;
- v) In accordance with Article VI, develop draft dated text for incorporation into the Schedule (as part of the RMS) prescribing minimum conditions for killing methods;
- vi) To develop draft a- d.

#### **ACTIVITIES OF THE STG**

The UK Commissioner agreed to act as Convenor for the group, but due to unforeseen circumstances, he was obliged to relinquish this role, and New Zealand agreed to a request to act as the group's acting Convenor. This change resulted in some slippage in the timeline for the group's activities, but on 21 February, a discussion paper was circulated to STG members (Annex 1, with accompanying Appendices I-III), inviting responses by 4 March.

Responses by members of the STG to the acting Convenor's discussion paper were positive, with no member articulating any substantive reservations. A further document on proposals for data collection (Annex 2) was drafted by the Convenor and circulated to members of the STG for comment.

Following the distribution of Annex 2, one member of the STG responded to the acting Convenor's discussion paper, with comments on the question of IWC competence and animal welfare issues in the context of the RMS, which included the following statement:

*"I propose that the report simply make it very clear that there is no consensus within the Group on how the different options are best addressed. Included in this is disagreement on the consequences of having no text in the Schedule. It should be reflected that some members consider that it would be sufficient for the IWC to provide a forum to*

*develop and improve killing methods, without setting specific rules in the Schedule. Voluntary reporting is all that is necessary.*

*As is pointed out in the chapter titled "A. Background", there are several fundamental issues regarding animal welfare issues and the RMS that there is disagreement on, including IWC competency. I see no reason to enter into discussions on these fundamental issues in this technical group, and hope you all share this view."*

No other substantive disagreements have been raised by members of the STG on the nature or content of the two papers circulated by the acting Convenor.

## **RECOMMENDATION**

The acting Convenor of the Specialist Technical Group on Animal Welfare recommends that members of the RMS Working Group:

- a) Note that there was no substantive disagreement within the STG on the technical issues contained within the documents considered by the group (Annexes 1 and 2);
- b) Note that one member of the STG raised issues of IWC competence to require compulsory collection of animal welfare data, and that there was therefore no consensus within the group about the consequences of having no text in the Schedule on animal welfare issues;
- c) Note that there was no disagreement within the STG concerning the technical issues connected with the data collection proposals attached as Annex 2.

M.F.Donoghue  
Acting Convenor, Specialist Technical Group on Animal Welfare

## ANNEX 1

### **Revised Management Scheme (RMS) Working Group Specialist Technical Group on Animal Welfare – Acting Convenor’s Discussion Document**

#### **A. Background**

##### 1. Chair’s proposal on Animal Welfare Issues

In paper IWC/56/26 the Chair of the Commission believed that the differing opinions among Contracting Governments over the competency of IWC to address animal welfare issues should be recognised and taken into account. He therefore suggested that animal welfare considerations be addressed primarily through an initiative (perhaps by Resolution) to focus discussions within the Commission on improving the techniques to kill whales, based on:

- (a) voluntary reporting of data as discussed at the Workshop in Berlin; and
- (b) the voluntary provision of information from existing research programmes (and/or the development of a co-operative research programme) at regular (e.g. triennial) specialist workshops).

##### 2. Revised Management Scheme (RMS) Working Group discussion of the Chair’s proposal

At the RMS Working Group meeting in Borgholm (November 2004), under agenda item 4.9 “Animal Welfare Considerations” the Secretariat summarised the views previously expressed on this part of the Chair’s proposal either at IWC/56 or in responses to the questionnaire on the Chair’s proposal, i.e.:

- Animal welfare is an important issue. Can support the Chair’s proposal but would prefer some requirements for data collection be included in the Schedule.
- Animal welfare is outside the competence of IWC and therefore have difficulty in accepting the Chair’s proposal, but could support an initiative to focus discussions within the Commission on improving techniques to kill whales.
- Cannot support the Chair’s proposal as voluntary measures would be inadequate. If the IWC resumes commercial whaling, it has a moral obligation to ensure that it is done in ways that minimise suffering. Comprehensive data should be collected routinely and specific provisions should be made as to methods and conditions under which whales may be taken legally.

The Working Group Chair reminded the meeting, that at IWC/56, it was envisaged that a specialist technical group would be needed to develop more detailed proposals and input to the Small Drafting Group (SDG).

In the Working Group, similar comments were made as had been aired previously. While all members considered animal welfare issues to be important, some did not believe it should be part of the RMS ‘package’ and should not block progress in this matter. Others stressed that the public’s concern in this area must be recognised and considered that the Chair’s proposal fails to introduce important elements.

##### 3. Outcome of discussions in Working Group and future work

*The Working Group agreed to take the following four options forward:*

1. The Chair’s proposal (IWC/56/26);
2. The Chair’s proposal augmented by the requirement in the Schedule for data collection (see Sweden’s proposal in its response to the questionnaire in IWC/N04/RMSWG 4 and IWC/54/35);
3. The UK’s earlier proposal (see text in IWC/54/RMS 1 – the EDG report), and including additional items raised in its response to the questionnaire (see IWC/N04/RMSWG 4);
4. No reference to animal welfare.

It was agreed that a specialist technical group should be established.

## **B. Introduction**

The Specialist Technical Group (STG) on Animal Welfare was established by the RMS Working Group with the following mandate:

**‘The Terms of Reference (TOR) of the Specialist Technical Group are to develop text to:**

- a) give effect to the Chair’s proposal; and**
- b) provide for compulsory collection of data by international observers on all whales killed within the RMS to verify that Schedule conditions are complied with; and**
- c) provide for compulsory collection of the data necessary to prescribe killing methods and conditions under which whales can legally be killed under the RMS; and**
- d) consider consequences of including no text in the Schedule.**

**In order to fulfil its terms of reference, the group may need to:**

- i. define criteria and identify data relevant to animal welfare to be collected in order to determine the degree to which current killing methods comply with Schedule requirements and relevant findings and recommendations of IWC Workshops, Working Groups and resolutions;**
- ii. in accordance with Article V 2 b, develop a format for collection of data;**
- iii. recommend analyses of data collected to provide guidance to the Commission on fulfilling relevant findings and recommendations of IWC Workshops, Working Groups and resolutions;**
- iv. develop a framework for cooperative research for review by the Commission, or a designated Working Group, and the dissemination of results that may inform the development of possible Schedule amendments under Article V in respect of: open and closed seasons; size limits for each species; time, methods and intensity of whaling; types and specifications of gear, apparatus and appliances; methods of measurements and other statistical and biological records;**
- v. in accordance with Article VI, develop draft dated text for incorporation into the Schedule (as part of the RMS) prescribing minimum conditions for killing methods;**
- vi. develop draft resolutions as may be necessary to give effect to terms of reference a) – d)**

This paper is intended to stimulate discussion amongst the Group to achieve the mandate established by the RMS Working Group. Talking points are provided on the Terms of Reference for comment by the STG. As required under the TOR, Table 1 provides an analysis of past Recommendations and Resolutions adopted by the Commission relating to the welfare of hunted cetaceans. This information is provided to help identify further data required for a fuller evaluation of the welfare of hunted cetaceans. It is intended that:

- a) analysis provided here (Table 1);
- b) additional information provided by the UK’s earlier proposal on data required (IWC/54/RMS1 – EDG Report); and
- c) additional items raised in response to the Secretariat’s questionnaire (IWC/N04/RMSWG 4)

will provide both the necessary background material and a starting platform for the discussions of this group.

### **C. Fulfilling The Terms of Reference**

In order to fulfil the TOR, it was suggested that the STG may need to carry out a number of tasks prior to developing text. The suggested tasks in order to fulfil the TOR, together with comments and evidence, are set out below.

#### **i) Define criteria and identify data relevant to animal welfare to be collected in order to determine the degree to which current killing methods comply with Schedule requirements and relevant findings and recommendations of IWC Workshops, Working Groups and resolutions;**

#### **Welfare mandate under the ICRW**

While there are differing opinions amongst Contracting Governments about the IWC's competence to address welfare issues, the International Convention for the Regulation of Whaling (ICRW) gives the International Whaling Commission (IWC) competence to "amend from time to time the provisions of the Schedule by adopting regulations with respect to the conservation and utilization of whale resources, fixing... (e) time, methods and intensity of whaling... (f) types and specifications of gear and apparatus and appliances which may be used"<sup>1</sup>. In addition, Article VI of the ICRW states that the Commission may "make recommendations on any matters which relate to whales or whaling".

This competence has further been recognized through the adoption of 16 Resolutions related to the welfare aspects of whaling<sup>2</sup>, including Resolution 2004-3 which specifically notes the Commission's mandate and long-standing commitment to address welfare issues<sup>3</sup>. The Commission has exercised this welfare mandate by agreeing to discontinue the use of certain killing methods such as carbon dioxide and electricity; banning the use of the cold harpoon<sup>4</sup>; and establishing several technical fora to address welfare issues, including:

- A Working Party on "Humane and Expeditious Methods of Killing Whales", which was convened to "examine the advantages and disadvantages of the various methods of killing whales... with a view to recommending a programme of research and development for the improvement of existing methods and the development of new ones" (1959);
- A Technical Committee Working Group on Humane Killing (1978);
- A Scientific Committee Sub Committee on humane killing techniques (1978);
- A Workshop with a remit to "consider methods of improving existing killing techniques or to suggest alternative more humane methods" that has met four times since 1980; and
- A Working Group on Whale Killing Methods and Associated Welfare Issues, which has met fifteen times since 1983.

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<sup>1</sup> ICRW, Article V, 1946

<sup>2</sup> These resolutions are intended to improve the welfare aspects of all whaling operations. They have, inter alia: acknowledged that "the contracting governments of the IWC desire whales to be killed by the most humane method possible (Appendix 4 of Rep. Int. Whal. Comm 29:32 Reporting Data Relative to Humane Killing Resolution of the IWC 30th Annual Meeting); urged contracting governments to "reduce still further any avoidable suffering caused to whales" (IWC1997-1); urged the prompt adoption of more efficient methods of killing whales, that reduce cruelty and inhumanity, in aboriginal subsistence whaling operations (Rep. int. Whal. Comm. 36:26); called upon member governments to develop more satisfactory methods of killing whales which will lead to reduced times to death (Rep. int. Whal. Comm. 45: 40-41); urged Aboriginal Subsistence Whalers to "do everything possible to reduce still further any unavoidable suffering caused to whales in such hunts"; requested "all Contracting Parties to provide appropriate technical assistance to improve the humaneness of aboriginal subsistence whaling" (Resolution 1997-1); encouraged the development of more accurate indicators for determining time to death other than cessation of movement (Resolution 1999-1); and requested the Secretariat update the data for each whale taken can be provided and for the Commission to consider the welfare implications of whales of methods used to kill whales caught in nets (Resolution 2004-3).

<sup>3</sup> Resolution on Whale Killing Issues, Resolution 2004-3

<sup>4</sup> Schedule to the ICRW, Article III, Paragraph 6.

### Provision of Data

The Commission recognised through Resolution 2004-3 (Resolution on Whale Killing Issues) that the voluntary provision of data on issues relating to the welfare of hunted cetaceans may sometimes result in insufficient data being provided to make a satisfactory evaluation. Resolution 2004-3 notes that the Commission:

*EXPRESSES CONCERN, in light of its mandate and long-standing commitment to address welfare issues, that current whaling methods do not guarantee death without pain, stress or distress, that data presently collected and submitted to the Commission are of insufficient quality or completeness for it to make a fully informed assessment of the welfare implications of all whaling operations; and that the criteria currently used to determine the onset of death or irreversible insensibility are inadequate.*

To date, many of the datasets provided to the Whale Killing Methods and Associated Welfare Issues (WKM&AWI) Working Groups and Workshops by Contracting Governments have been incomplete. A range of data are required for the full evaluation of the Time To Death (TTD) and the associated welfare implications for hunted cetaceans. Resolution 2004-3 also:

*REQUESTS THE SECRETARIAT TO update the data collection form for the reporting of data in order that Contracting Governments may report data for each whale taken, the killing method used and samples taken.*

In addition, concerns have been raised that the pursuit of cetaceans<sup>5</sup> may also present significant welfare concerns for cetaceans that are: struck and landed; struck and lost; and for any other whales also targeted. The Chair's summary of discussions on hunt myopathy at the 2003 Workshop noted that 'excessive stress pursuit in some species can be harmful, and muscle damage may be manifested over long periods, and may be possibly fatal long-term. Whilst it is not currently known whether the whales being considered at the Workshop experience this physiological stress, it is plausible that they may. He noted that the issue at hand is whether techniques can be improved to reduce stress'<sup>6</sup>.

Provision of data on all cetaceans targeted, whether struck or not, would help to evaluate the influence of exertional myopathy and other negative stress impacts resulting from pursuit.

### Recommendations from Resolutions, WKM&AWI Working Groups and Workshops

- 'Recommendations Adopted by the International Whaling Commission at its 31<sup>st</sup> Annual Meeting Concerning the Humane Killing of Whales'<sup>7</sup> – the full list of these recommendations is provided in Appendix I
- The prompt adoption of more efficient methods of killing whales, that reduce cruelty and inhumanity, in areas where aboriginal and subsistence whaling is practiced<sup>8</sup>
- All Contracting Governments to provide appropriate technical assistance to reduce time to unconsciousness and death in all whaling operations<sup>9</sup>
- An 11-point Action Plan to address humane killing issues was first adopted by resolution in 1992<sup>10</sup>
- The Action Plan was later revised following the 1999 Workshop<sup>11</sup> and then further revised following the 2003 Workshop<sup>12</sup> (Appendix II).

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<sup>5</sup> IWC/54/WKM&AWI 8 and IWC/55/WK 19

<sup>6</sup> IWC/55/Rep 5

<sup>7</sup> Rep. Int. Whal. Comm. 30, 36-37

<sup>8</sup> Resolution on Humane Killing in Aboriginal Subsistence Whaling, 1985.

<sup>9</sup> Resolution 2001-2

<sup>10</sup> Resolution on Humane Killing, 1992.

<sup>11</sup> IWC/51/12

<sup>12</sup> IWC/55/Rep 5 Appendix 4

### Requests for data/information from Resolutions, WKM&AWI Working Groups and Workshops

In addition to the requirements for data collection contained within the Schedule, the Commission has adopted a number of resolutions seeking further welfare-related information from Contracting Governments. These include requests for:

- Time to death from the time struck and information relating to the reliability of the killing device<sup>13</sup>;
- Contracting Governments to “implement measures to ensure compliance by whaling operations under their jurisdiction with section VI of the Schedule to the present convention”; and
- Contracting Governments to “take measures to prohibit the use of any factory ship, whale catcher or land station under their jurisdiction, for any whaling operations in each year following the year in which any such factory ship, whale catcher or land station, fails to provide substantially all the information required pursuant to Section VI to the present Convention”<sup>14</sup>;
- Maximum scientific information to be obtained from any whales taken under special permit for scientific research<sup>15</sup>;
- Information to be exchanged about release of live cetaceans in nets<sup>16</sup>;
- Information on the methods used to kill pilot whales<sup>17</sup>;
- Information on the use of the electric lance<sup>18</sup>;
- The submission of information such as number of whales killed by each method; number and proportion of whales killed instantaneously; time to death for each animal not killed instantaneously; number of whales targeted and missed; number of whales struck and lost; calibre of rifle where used and number of bullets used; methods used to determine unconsciousness/time of death<sup>19</sup> and the submission of variance data on times to death<sup>20</sup>;
- Contracting Governments to make reasonable attempts to release alive, with the minimum harm possible, whales that have been incidentally captured<sup>21</sup>;
- The USA, the Russian Federation and Denmark to continue to inform the Commission on a regular basis ... to provide other information concerning the taking of whales under ASW quotas<sup>22</sup>; and
- Report data for each whale taken, the killing method used and samples taken<sup>23</sup>.

#### **ii) In accordance with Article V 2 b develop a format for collection of data.**

The draft data collection form to be developed as part of the ongoing work of the STG could be informed by the UK’s earlier proposals of data required (see Appendix 3 – extract from IWC/54/RMS1 – EDG Report), additional items raised in its response to the Secretariat’s questionnaire (IWC/N04/RMSWG 4) and the data identified in Table 1 of this document.

#### **iii) Recommend analyses of data collected to provide guidance to the Commission**

Complete data sets are required for full statistical analysis. In accordance with Resolution 2004-3, and actions under the Revised Action Plan on Whale Killing Methods<sup>24</sup>, data should be provided on each whale taken. The provision of complete data sets would allow median, mean, mode, minimum and maximum values and the standard deviation of the data to be calculated, thus providing a perspective on the spread of the data<sup>25</sup>. Data should be collected and provided in a standard format so that comparisons between seasons, regions and hunts can be made.

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<sup>13</sup> Reporting Data Relative to Humane Killing, Resolution on The International Whaling Commission 30<sup>th</sup> Annual Meeting, 1978

<sup>14</sup> Resolution to encourage the Provision of all Required Data by Whaling Operations, 1980.

<sup>15</sup> Resolution on Special Permits for Scientific Research, 1986

<sup>16</sup> Resolution on bycatch reporting and bycatch reduction, 1997

<sup>17</sup> Resolutions on the killing of pilot whales, 1992 and 1993

<sup>18</sup> Resolution on the electric lance as a secondary method of killing whales, 1994-1

<sup>19</sup> Resolution arising from the Workshop on whale killing methods, 1999-1

<sup>20</sup> Resolution 2001-2

<sup>21</sup> Resolution on the incidental capture of cetaceans, 2001-4

<sup>22</sup> Resolution on the Humaneness of Aboriginal Subsistence Whaling, 1997-1

<sup>23</sup> Resolution 2004-3

<sup>24</sup> Action Point 7 encourages that ‘data be provided to the maximum extent possible with statistical analysis that allows independent appraisal and analysis’ IWC/55/Rep 5

<sup>25</sup> Resolution 2001-2 encourages the submission of variance data.

**iv) Develop a framework for cooperative research for review by the Commission, or a designated Working Group, and the dissemination of results that may inform the development of possible Schedule amendments under Article V in respect of: open and closed seasons; size limits for each species; time, methods and intensity of whaling; types and specifications of gear, apparatus and appliances; methods of measurements and other statistical and biological records;**

#### Framework for co-operative research

It is suggested that the WKM&AWI Working Group is the appropriate forum for technical discussions concerning the development of a cooperative research programme and the dissemination of results. The WKM&AWI Working Group could convene a workshop (or workshops) for this purpose. Scientific Committee could also provide technical advice, particularly on standards and specifications for data collection.

Recommendations and requests from various WKM&AWI Working Groups and Workshops that provide guidance are summarised on pages 4 and 5. These have been used to identify the data requirements listed in the fifth column of Table 1.

#### Amending the Schedule

Appendix A of the Schedule currently requires the provision of certain information related to whaling operations. A better evaluation of the welfare issues associated with hunting cetaceans could be achieved if Contracting Governments and/or IWC observers were to provide all the data required by the Commission for each cetacean targeted, including data on the duration of the pursuit. Amendments could be made to the Schedule to specify the data to be provided annually, including any information highlighted through the work of the WKM&AWI Working Groups and Workshops (see Table 1). Schedule language should prescribe readily quantifiable goals.

**v) In accordance with Article VI, develop draft dated text for incorporation into the Schedule (as part of the RMS) prescribing minimum conditions for killing methods**

**vi) To develop draft resolutions as may be necessary to give effect to terms of reference a- d**

It is proposed that these two pieces of work should await further elaboration by the STG, following an initial exchange of views.

#### **D. Terms of Reference**

Whilst no text has been developed here, the following comments applying to the specific TOR are intended to generate discussion and debate by members of the STG:

**b) Provide for compulsory collection of data by international observers on all whales killed within the RMS to verify that Schedule conditions are complied with;**

Besides collecting data required by the Commission through the provisions of the Schedule, international observers appointed by the IWC could also provide an independent assessment of the welfare of hunted cetaceans. Data and analyses should be open for review by the Commission, including through peer review, especially by specialist veterinarians participating in the WKM&AWI Working Group and Workshops.



Data required to meet the current provisions under the Schedule are shown in Table 1. The third column of this table provides an explanation of why these data are relevant to animal welfare considerations. Additional proposed data required in order for the Commission to prescribe specific killing methods for different species, and establish weather conditions and seasons under which strict regulation is required, are provided in the fourth column of Table 1. It is suggested that the current provisions under the Schedule for data collection are inadequate to allow a full assessment of the welfare issues associated with hunting cetaceans. An important priority for the Commission is to review scientifically approved criteria for determining death in cetaceans<sup>26</sup>.

**c) Provide for compulsory collection of the data necessary to prescribe killing methods and conditions under which whales can legally be killed under the RMS;**

To achieve the recommendations of the Revised Action Plan on Whale Killing Methods<sup>27</sup>, it is suggested that the following data would be required:

- comparable data on primary and secondary killing methods (including statistical analysis and location and extent of wounding);
- collection and presentation of data on all cases of struck and lost individuals, injuries incurred and times to death;
- data on the distance between the gunner/vessel and the whale at time of shooting and the orientation of the vessel in relation to the time to death and wounds caused;
- detailed data on the criteria used to determine death, including physiological and behavioural observations;
- data on time to death in relation to wounds caused through the use of rifles (and number of bullets used) to allow, *inter alia*, assessment of requirements for the use of rifles to kill unsecured whales in aboriginal subsistence hunting; and
- data from whales *in extremis* with the aim of determining reliable indices of stress for animals killed in whaling operations.

**d) Consequences of including no text in Schedule**

The consequences of including no text in the Schedule could include a failure by the Commission to accurately assess the animal welfare aspects of whale hunting, for a number of reasons, such as:

- Failure of Contracting Governments to supply any data;
- Failure to collect or inadequacy of data which might better inform the development of hunting and killing techniques to reduce the suffering and stress inflicted on hunted whales (and associated populations) and thus enable improvement of conditions in the future;
- Failure to collect or inadequacy of data to improve criteria for judging at what stage whales become insensible or are dead;
- Failure, contrary to best practice fisheries agreements, to make specific provisions as to the methods and conditions under which whales may legally be taken;
- Data falsification;
- Collection of inappropriate or unnecessary data.

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<sup>26</sup> Resolution 2004-3 recognises that 'the IWC criteria used to determine death or irreversible insensibility are inadequate'. Action Point 5 of the Revised Action Plan on Whale Killing Methods (IWC/55/Rep 5) requires the development of better criteria for determining the onset of permanent insensibility in whales, using physiological and behavioural observations.

<sup>27</sup> IWC/55/Rep 5, Appendix 4

**TABLE 1** Data required to meet the current provisions under the Schedule to the ICRW and additional data required to evaluate killing methods

Current Welfare Data Requirement	Schedule Reference	Why these data are required in relation to the welfare of hunted cetaceans <sup>28</sup>	Additional data required for the Commission 'to prescribe killing methods and conditions under which whales can legally be killed under the RMS', <sup>29</sup>	'Schedule requirements and relevant findings and recommendations of IWC Workshops, Working Groups and Resolutions', <sup>30</sup>
Time when each whale is taken	Section VI 24a)1	'Take' means to flag, buoy or make fast to a whale catcher <sup>31</sup> . Provides end point to allow calculation of total time to 'take' (when time pursuit commenced and time first harpoon is fired are also provided).	For each whale, time when recorded as dead and criteria used to determine death.	Commission adopted recommendations at IWC31 to collect data on 'time of presumed death by whalers according to their stated criteria', <sup>32</sup>
Species	Section VI 24a)2 and Section VI 28b) Appendix A	Physical characteristics of different whale species, sex and the size of individuals and stage of the life cycle may influence the efficacy of killing methods <sup>33</sup> .	Exact location of each strike <sup>34</sup> (including bullets) and estimate of extent of wounding, recorded in relation to data on time to death, or escape, for each whale struck.	Commission adopted recommendations at IWC 31 to collect data on 'position of harpoons in the carcass and evaluation of the nature of the injuries they cause, if possible', <sup>35</sup> . Resolution 2004 notes that the efficiency of killing methods is

<sup>28</sup> With reference to the Terms of Reference of the Specialist Technical Group on Animal Welfare, paragraph b)

<sup>29</sup> Terms of Reference of the Specialist Technical Group on Animal Welfare, paragraph c)

<sup>30</sup> Terms of Reference of the Specialist Technical Group on Animal Welfare, paragraph d)i

<sup>31</sup> Section I 1C of the Schedule to the ICRW

<sup>32</sup> Recommendations Adopted by the International Whaling Commission at its 31<sup>st</sup> Annual Meeting Concerning the Humane Killing of Whales

Rep. Int. Whal. Comm. 30, 36-37

<sup>33</sup> IWC/55/WK20

<sup>34</sup> 'Strike' is defined in the Schedule to the ICRW as meaning to 'penetrate with a weapon used for whaling'

<sup>35</sup> In addition, it was agreed that 'every attempt should be made to investigate ways and means to shorten time-to-death by improving existing methods or developing alternative methods of killing small whales such as minke whales'.

				influenced by many factors including the size and species of whale targeted.
Time of hauling up for treatment	Section VI 24b) <sup>36</sup>	May have relevance where criteria used for determining death are inadequate.	Before flensing, the exact location of harpoon detonation sites, bullet entry (and possible exit) sites and extent of wounding should be systematically recorded.	
Methods used to kill each whale, other than a harpoon, and in particular compressed air	Section VI 25a)1 (& 25b)	Relevant where a weapon is used for securing a whale before a killing method is employed and where rifles are used as a primary or secondary killing method.	All details of methods and weapons used, including the number of bullets used. Data on: total time from first wounding until death; nature of the wounds caused by different methods; and data on behavioural indicators should be collected (see suggested UK text in IWC/54/RMS1 Appendix 6)	In 1985 the Commission adopted a Resolution calling for the prompt adoption of more efficient methods of killing whales that reduce cruelty and inhumanity in aboriginal whaling <sup>37</sup> . Resolution 1999-1 <sup>38</sup> encourages the annual reporting of data on whales killed, including specifically: number killed by each method, proportion killed instantaneously, time to death for each animal not killed instantaneously, calibre of rifle and number of bullets used.  The Revised Action Plan on Whale Killing Methods <sup>39</sup> - Points 1 to 4 and point 6.

<sup>36</sup> 24c and 24d note that records similar to that described in 24b shall be maintained by land stations and 'small-type whaling' operations conducted from shore or by pelagic fleets.

<sup>37</sup> Resolution on Humane Killing in Aboriginal Subsistence Whaling, 1985.

<sup>38</sup> Resolution arising from the Workshop on Whale Killing Methods

<sup>39</sup> IWC/55/Rep 5

Number of whales struck but lost	Section VI 25a)2 (& 25b) and 27a)	There are significant welfare issues associated with whales that are struck and then lost – as discussed in a paper presented by the UK 2003 Workshop <sup>40</sup> .	Data on the extent of wounding caused to whales that are struck and lost is essential to estimating the prognosis for each whale struck and lost	The Commission adopted a recommendation at IWC31 regarding aboriginal subsistence hunts, that in view of the high number of animals that escape wounded ‘the killing power of the darting gun or first-fixing device should be increased’. Resolution 2004-3 notes ‘with concern that the number of whales struck and lost in some hunts can have significant welfare implications’.  The Revised Action Plan on Whale Killing Methods <sup>41</sup> - points 8 and 9.
Date and approximate latitude and longitude of taking	Section VI 27c)	These data can be used to derive weather data and thus conditions under which cetaceans are hunted and killed.	These data should be provided in conjunction with weather records. Location should be recorded from time when whale is first sighted and then at five minute intervals.	Resolution 2001-2 recognises that ‘seasonal and weather variations can adversely impact times to death. (see also Resolution 2004-3)
If female, whether lactating	Section VI 24b)4	Lactating females usually have dependent calves and therefore the pursuit, injury or killing of these females may have significant welfare implications for their dependents.		Commission adopted recommendations at IWC31 which included the reporting of lactating females since ‘such taking will result in a protracted death for the dependent calf’ Paragraphs 13.4 and 14 of the Schedule to the ICRW forbid taking or killing of suckling calves or

<sup>40</sup> IWC/55/WK/12

<sup>41</sup> IWC/55/Rep 5

				females accompanied by calves.
A full explanation of each infraction	Section VI 24b)6	Infractions such as the take of lactating females, the incidental or directed take of whales using nets <sup>42</sup> , the take of whales by unauthorised persons using under powered weapons, or the taking of whales of prohibited species, in prohibited areas, or in prohibited seasons, may have significant welfare implications. All such infractions must be reported.	To assess the implications of all infractions, data and information should be provided on: all weapons used to kill whales; wounding caused; time to death; criteria used to determine death; and whether any training in using such weapons was undertaken. In addition information should be provided on whether a veterinarian or other appropriate expert was consulted to determine the viability of the animal before it was killed.	Resolution 2001-4 recommends Contracting Parties make reasonable attempts to release alive, with the minimum harm possible, whales that have been incidentally captured <sup>43</sup> . Resolution 2004-3 further notes that the Commission has not yet considered the welfare implications of whales incidentally captured or the killing methods that might be employed if the whale cannot be released.
Copies of official laws and regulations relating to whales and whaling, and changes in such laws and regulations	Section VI 31	This information assists the Commission in monitoring domestic legislation pertinent to the welfare of hunted whales.	Copies of all national legislation or regulations relating to animal welfare	Contracting Governments which had not yet implemented measures to ensure compliance under section VI of the Schedule were urged to do so by resolution and were further urged to consider taking measures to prohibit the use of any factory ship, whale catcher or land station under their jurisdiction which fails to provide substantially all of the information required pursuant to section VI <sup>44</sup>

<sup>42</sup> See IWC/55/WK20

<sup>43</sup> Resolution on the incidental capture of cetaceans, 2001-4.

<sup>44</sup> Resolution to encourage the Provision of all Required Data by Whaling Operations, 1980.

Horsepower, length and other characteristics of each vessel (including type of engine and maximum speed)	Section VI 28a)2)iii And Section VI 28b) Appendix A	This information is relevant to the speed and duration of pursuit of hunted whales <sup>45</sup>	Data should be provided on the speed and duration of pursuit for each whale (thus facilitating calculation of the maximum and mean speed of pursuit for each species).	
Season and Weather conditions (time, sea state, force and direction, visibility)	Section VI 28b) Appendix A	Season and weather conditions influence the conditions under which whales are hunted and may influence the accuracy of the gunner and the efficiency of the kill <sup>46</sup> .	<p>To evaluate the impact of weather conditions on efficiency of kills the follow data would be required:</p> <ul style="list-style-type: none"> <li>- Sea state</li> <li>- Visibility</li> <li>- Cloud cover</li> <li>- Precipitation (drizzle/rain/hail/snow)</li> <li>- Fog</li> <li>- Wind speed and direction</li> <li>- Air pressure</li> <li>- Relative humidity</li> <li>- Sea state</li> <li>- Wave height</li> <li>- Dominant wave period</li> <li>- wave direction (relative to the vessel)</li> <li>- Ice conditions</li> <li>- Motions of the vessel (including sway, heave and surge)</li> </ul> <p>All data should be recorded at commencement of pursuit and some of these variables should be monitored at 15 minute intervals until whale is landed. In addition air temperature and orientation of the target whale to the vessel when killing methods are applied should also be provided</p>	<p>Resolution 2001-2 recognises that seasonal and weather variations can adversely impact times to death.</p> <p>Resolution 2004-3 notes that the efficiency of killing methods is influenced by many factors including the 'prevailing weather conditions and sea state, including sea ice.</p> <p>The Revised Action Plan on Whale Killing Methods<sup>47</sup> Action Point 3.</p>

<sup>45</sup> IWC/54/WKM&AWI 8 and IWC/55/WK 19

<sup>46</sup> See IWC/55/WK3

<sup>47</sup> IWC/55/Rep 5

Make and size of cannon	Section VI 28b) Appendix A	Provides information on the likely trajectory of the harpoon and the distance at which whales can be struck. These data would allow an estimate of the expected impact force at a given distance.	Weight of entire harpoon and propulsive force. The distance between the whale and the gunner for each strike should also be recorded and the relative orientation of the vessel/ gunner and the whale.	Resolution 2004 notes that the efficiency of killing methods is influenced by many factors including the calibre of the weapons and the nature of the ammunition used.  The Revised Action Plan on Whale Killing Methods <sup>48</sup> Action Point 3.
Type of first harpoon used (explosive/electric/non explosive)	Section VI 28b) Appendix A	Necessary to evaluate the likely extent of wounding per harpoon and evaluate efficiency of killing methods	Specifications of the explosive charge of each harpoon – which may differ according to species. (Specification of any cold harpoons used during aboriginal whaling for securing whales, including details of the number of floats attached.) Data on wounds caused by each harpoon and behavioural data.	Resolution 2004 notes that the efficiency of killing methods is influenced by many factors including the calibre of the weapons and the nature of the ammunition used. (See also Resolution 1999-1).  The Revised Action Plan on Whale Killing Methods <sup>49</sup> Action Points 1 to 4, 6, 7, and 8.
Type of killer harpoon used	Section VI 28b) Appendix A	Full details of methods applied are necessary to evaluate the efficiency of killing methods <sup>50</sup> .	Details of all primary and secondary killing methods used should be provided, including weapon specification and the number of harpoons or bullets used. In addition data on the wounds caused by different methods should be recorded in conjunction with behavioural indicators. Information should be provided on the criteria used to determine when a secondary killing method is applied and	Resolution 1999-1 encourages the annual reporting of data on whales killed, including specifically: number killed by each method, proportion killed instantaneously, time to death for each animal not killed instantaneously, calibre of rifle and number of bullets used.

<sup>48</sup> IWC/55/Rep 5

<sup>49</sup> IWC/55/Rep 5

<sup>50</sup> See IWC/55/WK 22

			the data on whales killed using secondary killing methods should be provided separately.	Resolution 2004 notes that the efficiency of killing methods is influenced by many factors including the calibre of the weapons and the nature of the ammunition used. This Resolution also requests that data on each whale taken be collected.  The Revised Action Plan on Whale Killing Methods <sup>51</sup> Action Points 1 to 4, 6, 7 and 8.
Length and type of forerunner and whaleline	Section VI 28b) Appendix A	Necessary for evaluating the efficacy of harpoons as a killing method and relevant to calculating risk factors relating to struck and lost whales and the incidence of the line breaking, resulting in either the whale escaping or needing to be re-shot	Data should be supplied on all gear specification for all hunted whales so that evaluation of factors leading to increased struck and lost rates or harpoon lines breaking can be evaluated	Resolution 2004-3 notes 'with concern that the number of whales struck and lost in some hunts can have significant welfare implications'.  The Revised Action Plan on Whale Killing Methods <sup>52</sup> - points 8 and 9.
Height of barrel above sea level	Section VI 28b) Appendix A	Necessary for evaluating the efficiency of killing methods and the accuracy of gunners in relation to weather conditions	Height above sea level should be provided and any alterations due to vessel loading should be noted	Resolution 2001-2 and Resolution 2004-4 and Revised Action Plan on Whale Killing Methods Action Point 3.
Details of Captain's and crew's experience	Section VI 28b) Appendix A	Experience of the crew may relate to the both the accuracy of the gunner and the speed with whales are pursued and dispatched	Information on initial and ongoing crew training and examination of marksmanship should be provided.	Resolution 2004-3 notes that the efficiency of killing methods is influenced by many factors including gunner accuracy. Revised Action

<sup>51</sup> IWC/55/Rep 5

<sup>52</sup> IWC/55/Rep 5



				Plan on Whale Killing Methods Action Point 2.
Time started (or resumed) searching	Section VI 28b) Appendix A	Data may have relevance to the disturbance of whales.		
Time whales seen or reported to catcher	Section VI 28b) Appendix A	This is the time when the catcher starts to move towards the whale/s and then pursuit commences. This data has relevance to disturbance and the duration of pursuit. Disturbance and pursuit may have relevance both to whales that are struck, and to those that are targeted but not struck <sup>53</sup> .	Data should provide a clear distinction between the point at which whales are sighted, when the vessel is moving toward whales and when the pursuit begins.	Chair's summary on excessive stress pursuit at the 2003 Workshop was that this: may be harmful in some species; muscle damage may manifest over long periods; and may be possibly be fatal in the long-term <sup>54</sup> .
Number seen and number in group	Section VI 28b) Appendix A	Relevant to the pursuit of whales, since a group may be pursued before an individual is specifically targeted. This may also have implications for females with calves.	Behaviour of the group and the behaviour or individuals before a whale is targeted to provide comparative data. These data should be recorded at regular intervals throughout the duration of the pursuit.	
Position found	Section VI 28b) Appendix A	Relevant to: determining the weather conditions at a particular location; if whaling is conducted in a permitted area; and to determining the distance a whale is pursued before being killed.	These data should be provided in conjunction with weather records. Location should be recorded when whale is first sighted and then at five minute intervals.	Resolution 2001-2 recognises that 'seasonal and weather variations can adversely impact times to death (see also Resolution 2004-3)
Time started chasing (or confirmed whales)	Section VI 28b) Appendix A	These data in conjunction with data on the time at which the whale was shot or chasing		

<sup>53</sup> IWC/54/WKM&AWI 8 and IWC/55/WK 19

<sup>54</sup> IWC/55/Rep 5

		discontinued (below) provides total pursuit time		
Time whale shot or chasing discontinued	Section VI 28b) Appendix A	Provides time at which primary killing method is applied, or securing method is applied which is used for calculating the time to death.	Data should include: the time at which any subsequent killing methods are applied; details of the methods (including number of bullets); behavioural observations; details of wounding; the time at which the whale is recorded as dead and criteria used to determine death.	The Commission adopted recommendations at IWC31 to collect data on the time to death from the time struck and information relating to the reliability of the killing device <sup>55</sup>  Revised Action Plan on Whale Killing Methods Action Points 1,2,4, 6 and 7.
Total chasing time	Section VI 28b) Appendix A	Provides information on pursuit which may have implications for the welfare of hunted whales <sup>56</sup>	In combination with data on the location of the start of pursuit and the kill this could provide information on the speed and distance of the pursuit.	Chair's summary on excessive stress pursuit at the 2003 Workshop was that: this may be harmful in some species; muscle damage may manifest over long periods; and may be possibly be fatal in the long-term <sup>57</sup> .
Time flagged or alongside for towing and time picked up or started towing	Section VI 28b) Appendix A	Data may be relevant where criteria for determining death are inadequate <sup>58</sup> .	Comprehensive data should be collected on a range of physiological and behavioural observations during the pursuit and killing of all whales, to facilitate the development of better criteria for determining the onset of death and insensibility.	The Commission recognised in Resolution 2004-3 that the IWC criteria used to determine death or irreversible insensibility are inadequate.  Revised Action Plan on Whale Killing Methods Action Points 5 and 6 – recommend the development of better criteria for

<sup>55</sup> Reporting Data Relative to Humane Killing, Resolution on The International Whaling Commission 30<sup>th</sup> Annual Meeting, 1978

<sup>56</sup> IWC/54/WKM&AWI 8 and IWC/55/WK 19

<sup>57</sup> IWC/55/Rep 5

<sup>58</sup> IWC/51/WK3, IWC/51/WK15, IWC/55/WK4 and IWC/55/WK18

				determining the onset of permanent insensibility using physiological and behavioural indicators and the development of standardised guidelines for recording major indicators of death.
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## **APPENDIX I**

### **Recommendations Adopted by the International Whaling Commission at its 31<sup>st</sup> Annual Meeting Concerning the Humane Killing of Whales (Rep. Int. Whal. Com 30, 36-37)**

#### **Recommendation 1**

More data are required on the killing technique. In particular the following information should be recorded and collected for an adequate and representative sample of whales killed.

- a) The times that the first and subsequent harpoons are fired.
- b) The time of presumed death by whalers according to their stated criteria.
- c) The position of harpoons in the carcass and evaluation of the nature of the injuries they cause, if possible (e.g. skull damage, heart damage, haemorrhage in abdomen).

Items a) and b) must be collected on the catcher boats, by crew members, national inspectors or international observers and Item c) on the flensing platform by national inspectors or international observers. All three items should be collected from the same whale if possible, so that times-to-death can be compared with the nature of the injuries caused. In the case of small-type whaling operations, such observations can only be made when a biologist, inspector or international observer travels on the catcher factory ship.

*Action:* The Commission agreed that these data be supplied by all whaling operations.

#### **Recommendation 2**

Similar observations to those made by Professor Roswell should be carried out at least at one of each small-type-whaling operation where cold grenades are used (as distinguished by the calibre of weaponry used, i.e. 75-90 mm and 50 mm).

*Action:* Japan indicated that it is exploring the possibility of developing a programme between its pelagic fleet and the University of Tokyo to conduct similar observations.

#### **Recommendation 3**

Professor Roswell's report should be submitted to a panel of marine mammal pathologists and physiologists for comments. (The names of Dr Geraci, University of Guelph, Dr Ridgway, NOSC, San Diego, and Professor Bullock, Scripps Institute of Oceanography were mentioned). Particular attention should be directed at the physiological and anatomical information required on sensory nerve pathways and functions of the central nervous system, and on an assessment of cardio-pulmonary function in the whale following injury, haemorrhage and loss of blood volume.

*Action:* The Secretary to implement.

#### **Recommendation 4**

The IWC should seek to sponsor (with the assistance of member nations) a small workshop meeting of invited experts (in such subjects as engineering, electronics, ballistics, munitions, explosives, pharmacology, etc.) in order to consider methods of improving existing killing techniques or to suggest alternative, more humane methods. The panel mentioned in 3 above (or its nominees) should also attend as well as representatives of the Technical Committee. In advance of any such workshop meeting the Secretary should undertake to circulate certain background information on the subject, and identify major items to all invited participants: this includes the literature review undertaken by Mitchell and Stawski (SC/30/Doc 38) and a list of relevant archival material held by the Secretariat.

*Action:* The Secretary to initiate.

**Recommendation 5**

The use of cold grenades for killing all whale species larger than minke whales should be prohibited. If this recommendation is accepted, it will be necessary to make a Schedule change following the recognised procedure according to the Convention.

*Action:* An amendment to the Schedule will be put forward next year, but in the meantime whaling nations are encouraged to act in the spirit of the proposal.

**Recommendation 6**

Every attempt should be made to investigate ways and means to shorten time-to-death by improving existing methods or developing alternative methods of killing small whales such as minke whales.

*Action:* Strongly endorsed by the Commission

**Recommendation 7**

In view of the protracted times between striking and death in some primitive whale fisheries, using hand-held equipment, and in particular in view of the number of animals that are wounded but escape, it is recommended that:

- a) the killing power of the darting gun or first-fixing device should be increased,
- b) the use of the shoulder gun should be investigated, especially whether it should be used as a killing device after the animal has been fastened, or be banned altogether and an alternative (e.g. hand lances) be used.

*Action:* Endorsed by the Commission

**Recommendation 8**

Although the responsibility of the IWC for small cetaceans may be questioned, this matter should be of interest to the Commissioners, and is worthy of further investigation. It was noted that small cetaceans are taken in many areas by methods which may pose problems of humanness. For example, shooting may involve protracted times between striking and death and a high proportion of wounded animals escaping. Responsible authorities should take steps to improve the weaponry to otherwise ensure that animals are killed rapidly and that few animals escape wounded.

*Action:* Endorsed by the Commission

**Recommendation 9**

Attention is drawn to the taking of lactating female whales at Tonga and Bequia and reported catches of such females by the *Sierra* and in some small whale fisheries. Such taking will result in a protracted death for the dependent calf.

*Action:* The Commission recommends that appropriate action be taken

## **APPENDIX II**

### **REVISED ACTION PLAN ON WHALE KILLING METHODS (IWC/55/ Rep 5)**

#### **A. Equipment and methods**

- (1) Encourage continued co-operation among Contracting Governments to refine the design of penthrite grenades as far as possible.
- (2) Continue improving accuracy of delivery of penthrite grenade harpoons, including assessment of refined sighting equipment suitable for rapid action under conditions encountered at sea. Support and encourage the development and implementation of programmes to provide training in the safe handling and effective use of killing devices including the penthrite grenade and in other aspects of the hunt.
- (3) Continue to review constraints on shooting distance and relative orientation of vessel and whale and encourage reducing times to death.
- (4) Continue to review effectiveness of secondary killing methods with a view to reducing times to death in whales and encourage the application of the most effective methods.

#### **B. Indication of insensibility and death**

- (5) Develop better criteria for determining the onset of permanent insensibility in whales, using physiological and behavioural observations.

#### **C. Assessment of cause of death in relation to observed time to death**

- (6) Where possible, examine the effects of trauma, and its consequences, caused by harpoons and other devices used to capture whales, and its relationship to the reactions of the captured whale. Develop standardized guidelines for recording major indications of death.

#### **D. Collection and provision of information on time of death**

- (7) Encourage collaboration between technical and scientific experts with a view to suggesting evidence based guidelines for the collection and dissemination of information in relation to both primary and secondary killing methods in forms that allow the effectiveness of different methods to be compared. The data should be presented to the maximum extent possible with statistical analysis that allows independent appraisal and analysis.
- (8) Encourage collection and presentation of struck and lost rates and standardised estimated time to death records in all aboriginal subsistence catches of whales and undertake assessment of requirements for controls on the use of rifles to kill unsecured whales.
- (9) Encourage the incorporation of data collection and reduction of struck and lost rates in initiatives in Greenland relating to the beluga and narwhal hunts.

#### **E. Assessment of physiological status of hunted animals**

- (10) Develop suggested guidelines for, and where possible implement collection of representative biological samples from, whales *in extremis* with an aim to determine reliable indices of stress for animals killed in whaling operations.

#### **F. Next steps**

The Workshop participants encourage the IWC to hold a further scientific and technical Workshop in 3-5 years and to call for further improvements in data collection, analysis and reporting in order to evaluate progress made in improving whale killing methods. In the meantime, information should continue to be provided to the appropriate technical Working Group.

## APPENDIX III

### Extract from the Report of the Revised Management Scheme Expert Drafting Group

held in Cambridge, UK from 29 October to 1 November 2001, and in Auckland, New Zealand from 26 February to 1 March 2002

#### 3.2 Collection of animal welfare data

There had been insufficient time at the RMS Working Group meeting at IWC 53 to discuss the UK's proposal to include data on whale killing methods and associated welfare issues. The EDG returned to this issue as required by its terms of reference (see Item 1).

During discussions at the first meeting of the EDG, there was no consensus that the UK proposal should be inserted into the Schedule. However, in addition to the original proposal, two alternative proposals were made for further consideration at the second meeting (IWC/F02/EDG 6), i.e.:

- (a) Include the proposed UK wording in the Schedule but with an associated expiry date (e.g. 2 years). After completion of this trial period, the Commission may wish to renew the reporting requirements.
- (b) Consider, as a minimum, including those items recommended by Resolution 1999-1 arising from the workshop on whale killing methods.

In Auckland, the UK reported that they had considered both alternative proposals but were not prepared to accept either considering it imperative to keep animal suffering to a minimum and that to ensure this it is important to collect the data proposed.

#### Convenor's comment

*The UK proposal was as follows::*

REVISION REFLECTING EDG DISCUSSIONS	
<b>[Animal Welfare Information]</b>	
<i>C. For each whale hunted in whaling operations, the international observer [and/or national inspector] shall record, as a minimum, the following information on whale killing methods and associated welfare issues. This information shall be included in the observer's [inspector's] report to be provided to the IWC Secretariat at the end of each hunt or voyage or season as determined by the Commission.* The data will be publicly available.</i>	
<i>Preliminary</i>	<ul style="list-style-type: none"><li>• <i>Time of sighting of the target whale/group containing target whale</i></li><li>• <i>Distance from vessel</i></li><li>• <i>Estimate of group size – presence/absence of calves in group</i></li><li>• <i>Behaviour of the whale pre-chase (i.e. slow travel, fast travel, resting, feeding, milling, social/sexual)</i></li><li>• <i>Time of start of chase.</i></li></ul>

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\* All data shall be recorded on standardised data sheets to be provided by and returned to the IWC Secretariat.

#### *Primary Killing Method*

- *Time of first harpoon*
- *Type of harpoon (e.g. penthrite grenade head)*
- *Distance of vessel to whale when first harpoon fired*
- *Position of whale relative to vessel i.e. ahead, abeam or other*
- *Behaviour of whale upon being struck, e.g. a) whale “runs at surface”; b) dives and disappears; c) blowing pattern; d) evidence of severe internal bleeding e.g. blood in exhalation; e) other behaviour e.g. thrashing or lolling. All behaviours to be timed.*
- *Location of harpoon on detonation*
- *Details on performance of harpoon (notes on unusual harpoon performance, if any)*
- *Physical area of entry wound of harpoon, and exit wound (if appropriate).*

#### *Secondary Killing Method*

- *Method used*
- *Time of second/subsequent harpoon(s) if needed; is penthrite grenade used?*
- *Distance of vessel to whale when additional harpoon fired*
- *Position of whale relative to vessel i.e. ahead, abeam or other*
- *Behaviour of whale upon being struck, e.g. a) whale “runs at surface”; b) dives and disappears; c) blowing pattern; d) evidence of severe internal bleeding e.g. blood in exhalation; e) other behaviour e.g. thrashing or lolling. All behaviours to be timed*
- *Details on performance of harpoon (notes on unusual harpoon performance, if any)*
- *Location of harpoon on detonation (indicated on diagram at Annex B)*
- *Physical area of entry wound of harpoon, and exit wound (if appropriate)*
- *Details of performance of gun used - calibre, number of shots, target area of whale, number of guns used.*

#### *Information on Target Whale*

- *Time when whale assessed as dead*
- *Criteria used to assess that whale is dead (according to accepted veterinary criteria, i.e. mouth droops open, body goes limp, etc - see item 5 of Humane Killing Action Plan)*
- *Total time to death i.e. from time of first harpoon to assessment as dead*
- *Time when whale hauled alongside vessel*
- *Time whale secured or taken on board*
- *Whale escapes: Time when whale escapes; reasons for this (e.g. failure of equipment); approximate state of health of whale (e.g. severely wounded, whale has harpoon in it; whale dived but lost).*

#### *Post Mortem*

*Where the opportunity arises, and the specialist skills and knowledge are available, the following information should be recorded.*

- *Exact position of entry and exit point of harpoon*
- *Photograph of entry and exit point*
- *Assessment of effectiveness of grenade, based on examination of internal injuries. Organs and tissues to be examined should, depending on location of harpoon, include lungs, heart (thoracic cavity), skull, brain, blood supply and spinal cord. Photographs should be taken where appropriate.*
- *Assessment of effectiveness of any secondary killing method used, based on examination of internal injuries, as above.*

#### *Data Collection*

*All data shall be recorded on standardised data sheets to be provided by and returned to the IWC Secretariat}*



## ANNEX 2

### ANIMAL WELFARE DATA COLLECTION REQUIREMENTS UNDER THE RMS PROPOSAL BY ACTING CONVENOR OF THE SPECIALIST TECHNICAL GROUP

#### BACKGROUND

The RMS Working Group has charged the Specialist Technical Group on animal welfare with the task of developing an agreed format for data collection on animal welfare issues associated with whaling. The following proposal is based largely on text suggested by the UK in appendix 6, IWC/54/RMS1, with additional material drawn from the Convenor's initial discussion document, as circulated to members of the STG.

#### PROPOSAL ON ANIMAL WELFARE INFORMATION

For each whale hunted in whaling operations, the international observer shall record, as a minimum, the following information on whale killing methods and associated welfare issues. This information shall be included in the observer's report to be provided to the IWC Secretariat at regular intervals (e.g. weekly), or at the end of each hunt or voyage or season as determined by the Commission.\* The data will be available for review.

##### Preliminary

- Specifications of catcher vessel (e.g. name, overall length and displacement, engine power, etc)
- Position, date and time of sighting of the target whale/group containing target whale and cue (e.g. shipboard sighting, aircraft assisted, etc)
- Radial distance from vessel when first sighted
- Estimate of group size – presence/absence of calves in group
- Behaviour of the whale and group pre-chase (i.e. slow travel, fast travel, resting, feeding, milling, social/sexual)
- Time of start of chase
- Time chase finished if whale not struck
- Speed and duration of chase for each whale
- Behaviour recorded at five minute intervals during chase, or whenever any abrupt changes occur in behaviour, including any changes in group composition during chase

##### Weather conditions

- Weather conditions and location at time when whales are first sighted and then at fifteen minute intervals until whale is struck, and is either brought aboard, or is declared dead and is fastened alongside for towing to a land station. Data to be collected could include:
  - Sea state
  - Visibility
  - Cloud cover
  - Sea surface temperature
  - Air temperature
  - Precipitation (drizzle/rain/hail/snow)
  - Fog
  - Wind speed and direction
  - Air pressure
  - Sea state
  - Wave height
  - Dominant wave period
  - Wave direction (relative to the vessel)
  - Ice conditions
  - Motions of the vessel (including sway, heave and surge – e.g. heavy, moderate or stable)

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\* All data shall be recorded on standardised data sheets to be provided by and returned to the IWC Secretariat.

#### Primary Killing Method

- Make and size of cannon
- Time first harpoon is fired
- Type of harpoon (e.g. penthrite grenade head), including specifications of forerunner and harpoon diameter
- Harpoon weight and propulsive force
- Specifications of the explosive charge of each harpoon
- Specification of any cold harpoons used for securing whales during Aboriginal Subsistence hunts , including details of the number of floats attached
- Weight of harpoon and propulsive force
- Height of gunner platform above sea level
- Distance of vessel to whale when first harpoon fired
- Position of whale relative to vessel (i.e. ahead, abeam or other)
- Behaviour of whale upon being struck, e.g. a) whale “runs at surface”; b) dives and disappears; c) blowing pattern; d) evidence of severe internal bleeding e.g. blood in exhalation e) other behaviour e.g. thrashing or lolling. All behaviours to be timed.
- Location of harpoon on detonation (indicated on diagram)
- Performance of harpoon (notes on unusual harpoon performance, if any)
- Physical area of entry wound of harpoon, and exit wound (if appropriate).

#### Secondary Killing Method

- Method used
- Criteria used to determine when secondary killing method should be applied

#### Additional harpoon(s):

- Time and type of second/subsequent harpoon(s) if needed; is penthrite grenade used?
- Distance of vessel to whale when additional harpoon fired
- Position of whale relative to vessel i.e. ahead, abeam or other
- Behaviour of whale upon being struck, e.g. a) whale “runs at surface”; b) dives and disappears; c) blowing pattern; d) evidence of severe internal bleeding e.g. blood in exhalation; e) other behaviour e.g. thrashing or lolling. All behaviours to be timed
- Details on performance of harpoon (notes on unusual harpoon performance, if any)
- Location of harpoon on detonation (indicated on diagram at Annex B)
- Physical area of entry wound of harpoon, and exit wound (if appropriate)
- Estimate of the extent of wounding caused by each harpoon

#### Rifle:

- Time of use of rifle
- For each bullet fired:
  - Distance of vessel to whale when rifle fired
  - Position of whale relative to vessel i.e. ahead, abeam or other
  - Behaviour of whale upon being struck by the bullet, e.g. a) whale “runs at surface”; b) dives and disappears; c) blowing pattern; d) evidence of severe internal bleeding e.g. blood in exhalation; e) other behaviour e.g. thrashing or lolling. All behaviours to be timed
  - Location of bullet entry and, if appropriate, exit wound, (indicated on diagram at Annex B)
- Details of performance of gun used - calibre, number of shots, target area of whale, number of guns used.

### Information on Target Whale

- Time when whale assessed as dead
- Criteria used to assess that whale is dead (according to accepted veterinary criteria – list any other criteria used).
- Time to death (from time of first harpoon or first wounding to assessment as dead)
- Time when whale hauled alongside vessel
- Time whale secured or taken on board
- Whale escapes: Time when whale escapes; reasons for this (e.g. failure of equipment, release of line for safety reasons); description of extent of wounding (e.g. severely wounded, whale has harpoon in it; whale dived but lost).
- Efforts to recover struck and lost whale(s)

N.B. Data on struck and lost whales should be collected with a view to counting struck but lost whales against the total catch quota.

### Additional desirable information to be collected by trained observers

The following information should, wherever possible, be recorded by observers with appropriate background or training (e.g. in veterinary pathology):

- Exact position of entry and exit point of harpoon
- Photograph of entry and exit point
- Assessment of effectiveness of grenade, based on examination of internal injuries. Organs and tissues to be examined should, depending on location of harpoon, include lungs, heart (thoracic cavity), skull, brain, blood supply and spinal cord. Photographs should be taken where appropriate.
- Assessment of effectiveness of any secondary killing method used, based on examination of internal injuries, as above.
- Data to assess the impacts of exertional myopathy for harpooned whales (e.g muscle damage).

### Standardisation of data collection

All data shall be recorded on standardised data sheets to be provided by and returned to the IWC Secretariat at the end of each hunt or voyage or season as determined by the Commission.

### Additional information

Information should be provided annually to the Commission on:

- initial and ongoing crew training and examination of marksmanship;
- all weapons used to kill whales and details of the training of all individuals directly involved in the deployment of any weapons used to kill whales.
- any changes in national legislation or regulations relating to cetaceans, whaling or animal welfare.

**Annex II.J**  
**Draft Resolution on Chair's Proposal ON Animal Welfare**  
*(Proposed by the Specialist Technical Group)*

**WHEREAS** Article VI of the ICRW provides for the Commission to make recommendations on any matters which may relate to whales and whaling and to the objectives and purposes of the Convention;

**WHEREAS** members of the IWC recognise the need to minimise the suffering of whales taken under the provisions of the Schedule and the importance of providing comprehensive data on animal welfare;

**WHEREAS** the Commission has adopted a number of Resolutions related to the welfare aspects of whaling;

**NOW THEREFORE** the Commission:

**REQUIRES** observers, appointed by the Commission, to report information and data (as set out in the Schedule) on the welfare of all whales killed within the Revised Management Scheme, in a format and at a frequency approved by the Commission;

**REQUESTS** Contracting Governments engaged in whaling operations to cooperate fully with observers in the collection of such data, including by requiring their nationals to provide all appropriate and necessary assistance to such observers;

**RESOLVES** to continue discussions within the Commission on improving techniques for killing whales, and associated issues, through regular meetings of the WKM and AWI Working Groups, and such workshops as the Group may decide to hold from time to time.

**Minimum conditions for killing methods**

No whale may be killed (with the exception of ASW) unless the following conditions are met:

**GENERIC PRINCIPLES:**

- Method effectively achieves instantaneous insensibility and death
- Method appropriate for species targeted (on advice of WKM and AWI Working Group)

**SPECIFIC CRITERIA OR CONDITIONS**

- Penthrite (or other explosive) grenades (including appropriate explosive charge, size of cannon and forerunner rope)
- No cold harpoons
- Ban on the use of electricity
- Minimum calibres for rifles and maximum number of bullets
- Qualifications and training of gunners
- Presence of international observer
- Suitability of platform to provide accurate shot (including weather conditions)
- Limiting pursuit time
- Closed seasons and areas
- Minimum weather conditions (including sea state and visibility)
- No take of lactating females or calves
- Length limits and restrictions on sex of whales taken
- Strike limit (not landed limit)
- Prescribed body target area

N.B. Nothing in this section shall prevent a Contracting Government from requiring its nations or vessels to apply more stringent condition with respect to the killing of whales.