

## The possible structure and content of a revised Schedule based on discussions to date

This document compiles the outcome of recent discussions that have taken place within the RMS Working Group and the RMS Expert Draft Group (EDG) regarding revisions to the Schedule. It has been prepared by the Secretariat to provide a clearer picture of the possible content and structure of a revised Schedule. **It has not been prepared as a proposed Schedule amendment.**

It has been compiled using the following documents:

- IWC/53/9: Report of the Revised Management Scheme Working Group: Appendix 4 Revised Schedule text from Document IWC/53/RMS4 annotated with comments received during the meeting;
- IWC/53/RMS4: Proposed revisions to and re-organisation of the Schedule to the International Convention for the Regulation of Whaling;
- IWC/54/RMS1: Report of the Revised Management Scheme Expert Drafting Group.

The revised draft Schedule contained in the following pages has the following structure:

Chapter	Source document
I. INTRODUCTION	IWC/53/9
II. AREAS	IWC/53/9
III. CATCH LIMITS	IWC/53/9
IV. OPERATIONAL MATTERS	IWC/53/9
V. SUPERVISION AND CONTROL	IWC/54/RMS1
VI. INFORMATION REQUIRED	IWC/54/RMS1
<b>Appendix</b>	
1. Definitions	IWC/53/RMS4
2. The Revised Management Procedure (RMP) for Baleen Whales	IWC/53/RMS4
3. The International Observer Scheme	IWC/54/RMS1
4. Logbook format	IWC/53/RMS4

The various Secretariat notes and comments from Contracting Governments appearing in the source documents have been incorporated as footnotes in this version. This has been done purely for presentational purposes to provide a clearer view of what a future Schedule might look like and to make it easier to read. The notes and comments appear as they did in their original form, except where it has been necessary to change references to particular paragraph numbers to make them consistent with this latest draft.

With regard to Chapter VI, Information Required, the EDG requested the Secretariat to review the paragraph under 'operational matters' (paragraph 37 in this document) concerning the information that should be reported. On doing this review, the Secretariat recommends that this paragraph be deleted since it duplicates information already requested elsewhere in the Schedule. The Secretariat also proposes a minor amendment to paragraph 38 of this document.

***Action required: The document is principally provided for information, although views on the Secretariat's proposals for amendments to Chapter VI, Operational matters would be welcome.***

## Revised Draft Schedule Based on Discussions to Date

### I. INTRODUCTION

For Chapters I to IV, italicised text represents areas where this is no agreement. This includes text brought in from IWC/53/RMS3<sup>1</sup> for which by definition there was no agreement. Proposed new text on which there was no agreement is shown in *italics within square brackets []*.

1. The Schedule forms an integral part of the Convention as specified under Article I. It has been and can be amended in accordance with the provisions of Article V *of the Convention*.
2. The Schedule uses the common names for whale species agreed by the Scientific Committee and given in Appendix 1a. Other terms used are defined in Appendix 1b or Appendix 2.

### II. AREAS<sup>2</sup>

#### Management Areas for Commercial Whaling

3. Commercial whaling catch limits shall be set by Small Area (or combinations thereof) as defined in the Revised Management Procedure (RMP) specified in Appendix 2. *[However, such catches may only be taken within Exclusive Economic Zones or other waters within 200 miles of the coast.]*<sup>3,4</sup>

#### Sanctuary areas<sup>5</sup>

4. No catch limits other than zero may be listed in Table 1 for the following areas designated as sanctuaries (and see Fig. 2):<sup>6,7</sup>
  - (a) The **Indian Ocean Sanctuary** comprising 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 shall be reviewed by the Commission at its Annual Meeting in 2002.
  - (b) The **Southern Ocean Sanctuary** comprising the waters of the Southern Hemisphere south of the following line: starting from 40°S, 50°W; thence due east to 20°E; thence due south to 55°S; thence due east to 130°E; thence due north to 40°S; thence due east to 130°W; thence due south to 60°S; thence due east to 50°W; thence due north to the point of beginning. This prohibition, adopted on 6 December 1994 shall be reviewed at succeeding ten year intervals, and can 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.\*

### III. CATCH LIMITS

#### Commercial Catch Limits for Baleen Whales

5. (a) Commercial whaling shall only be permitted for populations, areas and seasons for which catch limits are in force and shown in Table 1. These catch limits shall have been calculated by the Scientific Committee on the instruction of the Commission in accordance with the RMP specified in Appendix 2. They shall be adjusted downwards to account for [human-induced mortalities as specified in paragraph 5 (b).] [mortalities (whether human-induced or otherwise) as specified in paragraph 5 (b) and 5 (c)]. Commercial catch limits for all populations in all areas and seasons not listed in Table 1 are zero.<sup>C, 8, 9</sup>

<sup>1</sup> **Secretariat:** IWC/53/RMS3 was 'RMS Intersessional Meeting Document 2: Proposed Revisions Needed to Incorporate the RMP and RMS into the Schedule, Annotated with Comments Received'. The RMS Intersessional Meeting Document 2, was prepared by the Secretariat as requested by Resolution 2000-3.

<sup>2</sup> **Re current Schedule Chapter II 'Seasons' Germany:** Current Section II 'Seasons' should be retained (because there could be several reasons to have seasonal differentiations concerning whaling activities). **UK:** re-instate reference to 'Seasons' – removal has serious implications, e.g. for welfare and control, seasonal differences in weather conditions, feeding and breeding, practicalities in using observers.

<sup>3</sup> **Japan:** delete sentence in square brackets.

<sup>4</sup> **Secretariat:** at the RMS WG meeting at IWC/53 it was agreed to delete 2 paragraphs in this section defining Small Areas (i.e. that had been included in IWC/53/RMS 4). It was agreed (but see comment from Japan) that it is not necessary to specify the Small Areas at this time since they will be defined and come into effect when the RMP is implemented. **Japan:** deletion of these two paragraphs requires further consideration from a legal standpoint.

<sup>5</sup> **Japan:** delete heading and all of paragraph 4 – sanctuaries are unnecessary once the RMP is implemented.

<sup>6</sup> **Sweden:** add 'and commercial whaling is prohibited' after Table 1 in the first sentence, alternatively revert to existing Schedule Paras 7a and 7b

<sup>7</sup> **Secretariat:** The IWC/53/RMS 4 text was replaced by Italy's proposed text

<sup>8</sup> The Government of Japan lodged an objection to the Southern Ocean Sanctuary to the extent that it applies to the Antarctic minke whale stocks.

<sup>9</sup> **Secretariat note:** This text reflects the language of Resolution 1994-5 on the Revised Management Scheme (operative paragraph 11) and Resolution 1998-2 on Total Catches Over Time (see Background Document 1 from RMS intersessional meeting in Monaco, 2001).

<sup>8</sup> **Secretariat:** Paragraph 10 from IWC/53/RMS 3 has been re-inserted. Monaco's suggested text from IWC/53/RMS 4 has also been added, i.e. the square-bracketed text reading *[mortalities (whether human-induced or otherwise) as specified ....]*

<sup>9</sup> **Japan:** delete last sentence

- (b) *The adjustment to catch limits to account for human-induced mortalities shall be based on an estimate provided by the Scientific Committee of the size of adjustment required to ensure that total removals over time from each population and area do not exceed the limits set by the RMP. Total removals include commercial catches and other human-induced mortalities caused by aboriginal subsistence whaling, scientific whaling, whaling outside the IWC, bycatches and ship strikes, to the extent that these are known or can be reasonably estimated<sup>D,10</sup>*
- (c) *In the event of a massive die-off (biological and/or human-induced) larger than 1% of a stock or 500 animals – whichever is smaller – the Commission shall order a temporary cessation of catch limits on that stock. A catch limit integrating this event shall immediately be recalculated by the Scientific Committee: it shall remain in effect for the remainder of the catch limit period. Given the magnitude of a die-off, the Commission may determine, by simple majority vote, that catches are prohibited until further notice.]<sup>11</sup>*
- (d) *Notwithstanding the other provisions of paragraph 5 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.<sup>12</sup>*
- (e) *Notwithstanding the other provisions of paragraph 5, 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.<sup>E,13</sup>*

#### Aboriginal Subsistence Whaling Catch Limits<sup>14</sup>

6. Notwithstanding the provisions for commercial whaling, catch limits for aboriginal subsistence whaling to satisfy aboriginal subsistence need shall be established in accordance with the following principles:
- (a) For stocks at or above MSY (Maximum Sustainable Yield) level, aboriginal subsistence catches shall be permitted so long as total removals do not exceed 90 per cent of MSY.
- (b) 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.
- (c) *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.<sup>15</sup>*
7. Catch limits for aboriginal subsistence whaling are as given in Paragraphs 8-11 below. Such catches are

<sup>D</sup> **Secretariat note:** This text reflects the recommendation of the Scientific Committee (IWC/52/4) prepared in response to the Commission's request in Resolution 1998-2 (see Background Document 1), and amended by the RMS Working Group (IWC/52/14). See Background Document 2 – from RMS intersessional meeting.

<sup>10</sup> **Austria and Germany:** human-induced mortalities should be completed by the words 'and other non-natural removals', as proposed by the UK in IWC/53/RMS 3. Reasons: (1) **Austria:** because singling out bycatch and ship strikes is based on quantifiability. The Scientific Committee agreed 'that to the extent that these additional human-induced mortalities could be reasonably estimated they should be flagged for future consideration by the Committee'. Removing this phrase would unnecessarily prejudice such considerations, especially since certain sources of non-natural mortality, e.g. kills due to oil spills or acoustic trauma, may well be equally estimatable as bycatch and ship strikes. (2) **Germany:** because we think that the estimates of the Scientific Committee should include all human-induced mortalities.)

**Sweden:** add 'for example' after 'caused' in second sentence.

**UK:** re-instate wording used in Resolution 1998-2 which had considerable support in the RMS Working Group, i.e. 'in setting catch limits the Commission should, as far as possible, use the CLA [Catch Limit Algorithm] to determine the allowable removal and then take account of all know human-induced mortalities including aboriginal subsistence whaling, scientific whaling, whaling outside the IWC, bycatches, ship strikes and other non-natural removals.'

<sup>11</sup> **Secretariat:** This paragraph was proposed by Monaco. Some concern was noted regarding the last sentence of para (c) referring to simple majority voting.

Additional background information on this proposal (and its relationship to the RMP) can be found on page 11 of IWC/53/RMS 4. **Japan:** delete paragraph.

<sup>12</sup> **Japan:** delete paragraph. **Secretariat:** This paragraph may be best placed as a paragraph between paras 15 & 16 in Chapter IV, Operational Matters.

<sup>2</sup> **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.**

<sup>13</sup> **Japan:** delete para. Agree with Secretary's explanation for deletion of this para as in Doc IWC/53/RMS 4 page 11

<sup>14</sup> **Secretariat:** note that this whole section will need to be revised with the adoption of any future AWMP. It will also need to be revised to take account of any new catch limits agreed by the Commission at IWC/54.

\* The 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 regimes.

<sup>15</sup> **Secretariat:** para 13 (a) (3) from the current Schedule has been re-inserted

permitted only when the meat and products of such whales are to be used exclusively for local consumption by the aborigines. Where catch limits are set for more than one year, these shall be reviewed annually by the Commission in light of the advice of the Scientific Committee.

8. The taking of bowhead whales from the Bering-Chukchi-Beaufort Seas stock by aborigines is permitted, provided that for the years 1998, 1999, 2000, 2001 and 2002, the total number of bowhead whales landed shall not exceed 280. 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 1995-97 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. *It is forbidden to strike, take or kill calves or any bowhead whale accompanied by a calf.*<sup>16</sup>
9. The taking of gray whales from the Eastern stock in the North Pacific is permitted, but only by aborigines whose traditional aboriginal subsistence and cultural needs have been recognised or by a Contracting Government on behalf of such aborigines. For the years 1998, 1999, 2000, 2001 and 2002, the total number of gray whales taken shall not exceed 620 and the number taken in any one year shall not exceed 140. *It is forbidden to strike, take or kill calves or any gray whale accompanied by a calf.*<sup>17</sup>
10. The taking of minke whales and fin whales off Greenland is permitted, provided that:
  - (a) The number of fin whales taken west of 42°W shall not exceed 19 in each of the years 1998, 1999, 2000, 2001 and 2002.
  - (b) The number of minke whales taken east of 42°W shall not exceed 12 in each of the years 1998, 1999, 2000, 2001 and 2002, 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.
  - (c) The number of minke whales taken west of 42°W shall not exceed 175 in each of the years 1998, 1999, 2000, 2001 and 2002, except that any unused portion of the strike quota for each year shall be carried forward from that year and added to the strike quota of any subsequent years, provided that no more than 15 strikes shall be added to the strike quota for any one year.

*It is forbidden to take or kill suckling calves or female whales accompanied by calves.*<sup>18</sup>

11. For the seasons 2000 to 2002 the taking of 2<sup>Ⓢ</sup> humpback whales each season is permitted by Bequians of St Vincent and The Grenadines, but only when the meat and products of such whales are to be used exclusively for local consumption in St Vincent and The Grenadines. *It is forbidden to strike, take or kill calves or any humpback whale accompanied by a calf.*<sup>19</sup>

### Sperm Whale Catch Limits

12. Catch limits for sperm whales are zero.

## IV. OPERATIONAL MATTERS

13. The hunting of whales shall be undertaken so that the hunted whale does not experience unnecessary suffering and so that people and property are not exposed to danger.
14. *It is forbidden to strike, take or kill suckling calves or female whales accompanied by calves in any commercial whaling operation.*<sup>20</sup>

<sup>16</sup> **Secretariat:** The text of current Schedule para 13.(b).(1)(ii) regarding the killing of calves and whales accompanied calves has been inserted at the end of this para. **Grenada:** current consideration of SLAs for aboriginal subsistence whaling considered only number and not sex, length or reproductive status thus there is no need to consider provisions regarding the take of calves.

<sup>17</sup> **Secretariat:** The text of current para 13.(b).(2)(ii) regarding the killing of calves and whales accompanied by calves has been inserted at the end of this para

<sup>18</sup> **Secretariat:** current para 14 has been inserted. **Germany:** the last sentence about the prohibition of killing calves should be the same as in paras 8, 9 & 11 because there should be consistency between all paragraphs of the aboriginal subsistence whaling provisions. **UK:** should this [i.e. last sentence re calves] be consistent with paras 8, 9 & 11.

<sup>19</sup> **Each year this figure will be reviewed and if necessary amended on the basis of the advice of the Scientific Committee.**

<sup>19</sup> **Secretariat:** Current Schedule para 13.(b).(4) regarding the killing of calves and whales accompanied by calves has been re-inserted. **Mexico:** para 11 & 14 need consistency with wording in paragraphs paras 8, 9 & 11 regarding 'strike, take or kill calves or any whale accompanied by a calf' instead of 'strike, take or kill calves or any humpback whale accompanied by a calf'. **Japan:** delete last sentence. No scientific basis for this prohibition given such a small take from a large stock (ref IWC Scientific Committee Report 2000)

<sup>20</sup> **Secretariat:** This paragraph is essentially current Schedule para 14 but with a reference to commercial whaling added. **Austria:** should read: 'It is forbidden to strike, take or kill calves or any whale accompanied by a calf'. **Germany:** para 14 should be consistent with the phrases in paras 8-11 – 'It is forbidden to strike, take or kill calves or any whale accompanied by a calf in any commercial whaling operation. **UK:** inconsistent with paras 8, 9 & 11. Delete 'in any commercial whaling'.

15. The use of the cold grenade harpoon is forbidden in commercial whaling operations.<sup>2</sup>

*Secretariat: It might be better to insert old para 10 (d) here rather than as 5 (d)<sup>21</sup>.*

16. Contracting Governments shall ensure that all whales *[taken in any commercial whaling and aboriginal subsistence whaling]* are fully utilised to the extent possible. *[The meat and products of whales are to be used exclusively for local consumption.] [Meat and whale products derived from scientific permit whaling should not be sold or offered for sale.]<sup>22</sup>*

## V. SUPERVISION AND CONTROL

Text in Chapters V and VI are proposals from the EDG - see IWC/54/RMS 1  
(text on which agreement not yet reached within the EDG is given in italics within square brackets)

### Statement of principle

17. (a). The purpose of this Chapter is to set out the basic requirements for a robust supervision and control scheme to ensure compliance with the provisions of the Convention.
- [(b). No provision of this Chapter is intended to, nor shall it be deemed or interpreted to be, a restriction on any legitimate trade in any whale product.]*

### Practical details for implementing the supervision and control scheme

18. The practical details required to implement the supervision and control scheme are given in the document 'Details of the Supervision and Control Scheme of the Revised Management Scheme' dated day/month/year.<sup>23</sup>

### General requirements

19. Whales may only be taken by vessels authorised by Contracting Governments. Primary processing may only be undertaken on vessels or at points of landing authorised by Contracting Governments.  
*[Secondary processing may only take place at processing plants authorised by Contracting Governments.]*
20. At least 3 months before the start of the season, Contracting Governments shall inform the Secretariat of the following information necessary for implementation of the International Observation Scheme (Annex A to this Schedule):
- (a) the location of each point of landing/primary processing site<sup>24</sup> and the authorised dates of operation;
  - (b) the name or identifying code of each vessel, and its vessel category (as recognised in the International Observer Scheme), home port and authorised dates of operation;
  - (c) *[the names of authorised secondary processing plants]*

Such information shall: remain confidential; is to be made available to Contracting Governments on request; and is to be used only in conjunction with the international observer scheme.<sup>25</sup>

21. All whaling vessels engaged in whaling operations shall be equipped with an autonomous system which records data that assist in ensuring compliance with the Schedule, as detailed in the International Observer Scheme (Appendix 3)<sup>26</sup>. Contracting Governments shall supply copies of the data at the end

<sup>2</sup> Japan and the Russian Federation have lodged objections to this paragraph with respect to minke whales.

<sup>21</sup> Japan: has expressed strong opposition to retention of paragraph 10(d) – see IWC/53/RMS 1, page 4.

<sup>22</sup> Secretariat: Suggestions for new text have been added. Japan: is opposed to both suggested additions. The second suggested addition is contrary to Article VIII.2 of the Convention

<sup>23</sup> Secretariat note: The EDG recognised that there needs to be a way to address the provision for certain practical/technical details in the RMS that does not overburden the Schedule with detail. The EDG agreed to use the following approach: (1) that the practical details are kept in a single document, not the Schedule itself; (2) that the Schedule refers to a **dated** version of these. If the Commission adopts any modifications then it is only the date in the Schedule that needs to be modified. If the changes are non-controversial then it should take only a few minutes or less to agree to change the date in the Schedule. If the changes are controversial, then unless there is a three-quarters majority, the Schedule will still refer to the earlier version. Similarly if a Contracting government objects to a change in the date, it will still be bound by the earlier version.

<sup>24</sup> Secretariat note: Is it necessary to stipulate 'primary processing site' given the text in paragraph 2 of the EDG proposal?

<sup>25</sup> The EDG agreed that there may be a need to consider other issues in this paragraph, including flags of convenience.

<sup>26</sup> The EDG agreed that there should be discussion at IWC/54 on whether all vessels should be required to have VMS, rather than just those without international observers on board.

of each season in a format specified by the Secretariat. Should the Commission deem necessary, it may request that the data be supplied to the Secretariat more frequently.

In addition, data from certain vessels shall be transmitted in real time to the appropriate international observer, as detailed in Appendix 3.<sup>27</sup>

22. [(a) *Contracting Governments shall maintain a tissue sample from each whale killed or otherwise obtained within its jurisdiction and that are destined for the market. The Contracting Government shall arrange for genetic analysis of each such sample according to the specifications drawn up by the Scientific Committee so that individual and species identity can be determined with a high degree of probability, and a copy of the resulting DNA profile shall be forwarded to the Commission within six months of the date of sampling for inclusion in a central diagnostic register of DNA profiles. The register shall be available to the Scientific Committee and accredited scientists according to the Committee's Rules of Procedure.*] [Contracting Governments which may not assume the costs of genetic analysis may/shall use the central archive of DNA analysis placed by the RMS to comply.]
- [(b) *The Commission shall arrange for the establishment of a central archive of tissue samples maintained according to specifications drawn up by the Scientific Committee. A sub-sample from each tissue sample maintained according to sub-paragraph (a) shall be submitted to the central archive within six months of the date of sampling, or the date of notification of establishment of the archive, whichever is the later. The means of transportation of samples shall be such that they ensure proper preservation. The Commission shall arrange for further genetic analysis of the archived samples based on advice from the Scientific Committee, including where appropriate the generation of additional DNA profiles for inclusion in the Commission's register.*]
- [(c) *After January 1st, 2004, any commercially available perishable whale products that have not been derived from whales whose DNA profile has been registered with the Commission by this date or within six months of capture, whichever is the later, shall be deemed to have been derived from whales not obtained in accordance with this Schedule.*]

#### National Inspection Schemes

23. Each Contracting Government under whose jurisdiction whaling operations for commercial purposes are carried out, shall have in place appropriate enforcement legislation and effective administrative frameworks to ensure that the requirements of the Revised Management Scheme are fully met. Copies of the relevant laws and regulations shall be transmitted to the Commission.
24. National inspection schemes shall at least include:
- (a) provisions ensuring appropriate inspection during the season on each whaling vessel and at each point of landing/primary processing site<sup>28</sup>;
  - (b) provisions authorising national inspectors to check and ensure compliance with the provisions of the Convention and national regulatory measures.
25. National inspectors shall be appointed and paid by the Contracting Government having jurisdiction over the commercial whaling operations to be inspected and shall receive their instructions from their national authorities.

#### International Observer Scheme

26. For the purpose of monitoring compliance with the provisions of the Convention pertaining to commercial whaling operations, the Commission shall appoint observers to whaling operations in accordance with the International Observer Scheme (Appendix 3).
27. 10. If, through no fault of the Contracting Government or relevant whaling operation, an observer is not available, the Secretariat [shall/may], on behalf of the Commission, waive the requirement for an observer to be present.

*[Notwithstanding the above, vessel departure, hunting or landing of whales shall neither be delayed nor prevented if, through no fault of the Contracting Government or relevant whaling operation, an*

<sup>27</sup> Secretariat: was Annex A in IWC/54/RMS 1

<sup>28</sup> Secretariat note: Is it necessary to stipulate 'primary processing site' given the text in paragraph 2 of the EDG proposal?

*observer is not available.]*

28. The Secretariat shall write an annual report for review by the Commission about the functioning of the international observation scheme. The Secretariat shall also provide a list of all alleged infractions. They shall be considered by the Compliance Review Committee.

29. Observers' salaries and expenses shall be paid by the Commission.

*[These costs shall be recovered exclusively from the Contracting Government under whose jurisdiction whaling operations are carried out.]*

or

*[The Commission shall recover [these and][all] other costs resulting from the supervision and control scheme through a factor in the membership contributions assessed from Contracting Governments [under whose jurisdiction whaling operations are carried out].*

or

*[These and other costs and expenditure resulting from this supervision and control scheme shall be recovered in the following manner –*

- (a) core administrative expenditure (including, but not limited to, core Secretariat salaries and expenses) associated with this supervision and control scheme shall be paid by the Commission;*
- (b) operating expenditure for this supervision and control scheme (including, but not limited to, recruitment costs, observers' salaries and expenses, other travel and accommodation expenses, third party contract costs and an appropriate annual share of capital expenditure as set out in subparagraph (c) of this paragraph) shall be recovered exclusively from the Contracting Governments under whose jurisdiction whaling operations are carried out; and*
- (c) capital expenditure (including but not limited to computer equipment and software costs and vessel monitoring systems) shall be amortised in the manner required by the current UK GAAP and recovered over time, on an annual basis, as part of operating expenditure, as set out in subparagraph (b) of this paragraph.]*

***[Verification of catch data***

30. (a) *The Commission shall operate a standardised system for the collection of catch data. This shall certify that all products derived from whales taken or collected under the authority of a Contracting Government are derived solely from whales taken in accordance with the provisions of the Schedule or from authorised utilisation of bycatch or stranding. This scheme shall include a unique identifier for each product derived from each animal and shall provide information on:*

- (i) date and location of catch, bycatch or stranding;*
- (ii) species;*
- (iii) national issuing authority of authorisations for catch or utilisation;*
- (iv) licence number for that authorisation;*

*and, in the case of catches:*

- (v) place and date of landing/transshipment*
- (vi) vessel identification.*

- (b) Each year by 31st March, any Contracting Government under whose jurisdiction there are significant markets for perishable whale products shall provide to the Secretariat information about the nature, quantity and distribution of the whale products offered in those markets under its jurisdiction. This information shall be provided in a format determined by the Commission such that it will be able to determine the necessary scope, frequency and mode of analysis of the surveys referred to in sub-paragraph (c) of this Paragraph. If a Contracting Government fails to provide such information, the Commission will determine the scope, frequency and mode of analysis based on the best available information. The results of these surveys shall be reported to the Secretariat and reviewed by the appropriate body or bodies of the Commission.*

- (c) The Commission shall establish procedures to monitor the origins of perishable whale products sold and/or offered for sale in wholesale and retail markets under the jurisdiction of Contracting Governments. These procedures shall confirm whether the whale products are derived only from individual animals caught in accordance with the provisions of the Schedule, from individual*

*animals that die as a result of by-catch, from strandings or from stockpiles of frozen meat. The overall purpose of these procedures shall be to help to confirm that whaling only takes place in accordance with the provisions of the Schedule, and that total human-caused mortalities are accounted for in the calculation of catch limits under the Revised Management Procedure, as specified in Chapter III, paragraph 5.*

- (d) *Pursuant to the requirements of this Paragraph, the Commission shall arrange for genetic surveys of perishable whale products sold and/or offered for sale in wholesale and retail markets under the jurisdiction of Contracting Governments to be conducted. These analyses shall involve comparisons of the DNA profiles of the market samples with those in the diagnostic DNA register as described in Chapter V, Paragraph 22 in order to determine which of the sampled products arise from individual animals caught in accordance with the provisions of the Schedule. For those samples that can not be identified as having been derived from animals caught in accordance with the Schedule, the probable species and stock origins shall be determined so far as is possible.]*

### **[Oversight]**

31. [(a) *The Commission shall [establish a Compliance Review Committee to review and report on the compliance of all whaling operations with the provisions of the Schedule and penalties for infractions thereof].*

*[(b) The Compliance Review Committee shall<sup>29</sup>:*

- (i) review: (a) infraction reports from Contracting Governments; and (b) the annual report of the functioning of the international observer scheme, including any alleged infractions, for the most recent completed whaling season;*
- (ii) review other reports submitted by Contracting Governments on matters relevant to the Committee, including alleged infractions;*
- (iii) compare the information in (i) and (ii) above and identify any disagreement in the details of an alleged infraction;*
- (iv) report its view as to whether an alleged infraction is a violation(s) of the provisions of the Schedule;*
- (v) review action(s) taken by a Contracting Government in response to violation(s) of the provisions of the Schedule identified above;*
- (vi) review the actions taken, including progress made, by Contracting Governments in response to previous violations considered by the Commission;*
- (vii) recommend to the Commission actions to be taken to improve compliance with the provisions of the Schedule;*
- (vii) submit a report to the Commission on its deliberations and recommendations.]*

*[(c) The Compliance Review Committee shall act in accordance with the principles of fairness, transparency and due process in making any final deliberations and recommendations in relation to any alleged infraction, breach of the Schedule or other relevant requirements of the Commission.]*

*[(d) Representatives from at least two, but not more than [x], non-governmental organisations (representing environmental groups and the whaling industry) shall be entitled to attend the Committee as non-voting members, following a selection process agreed by the Commission.]*

*[(e) In the event of an infraction the relevant catch limit will automatically revert to zero unless and until otherwise determined by the Commission on the advice of the Compliance Review Committee.]]*

## **VI. INFORMATION REQUIRED**

### **Scientific information**

32. The following information required for the RMP shall be provided by Contracting Governments for all whaling operations and for all human-induced mortalities as specified in paragraph 5:

- (a) date of capture, striking or discovery;
- (b) species;

<sup>29</sup> **Secretariat:** There was broad agreement among the EDG on the duties of the Compliance Review Committee as described in para 31(b), but Japan reserved its right to submit comments at a later date.



- (c) sex;
- (d) position of capture or striking to the nearest minute of latitude and longitude
- (e) number of whales struck but lost.

The above information shall be verified as outlined in Chapter V and a set of verified records shall be submitted to the Secretariat at the end of each season.

33. The following samples and/or information shall be provided:

- (a) The length of all animals caught shall be obtained, measured in a straight line parallel to the whale from the tip of the upper jaw to the notch of the flukes. These data shall be reported to the Secretariat at the end of each season and included in the IWC database.
- (b) *[Where possible, at least one earplug (or bulla) shall be collected from each whale caught. The resultant age estimations and the identity of the reader shall be reported to the Secretariat sufficiently in advance (normally one year) of the next Implementation Review and included in the IWC database.]*<sup>30</sup>
- (c) Where possible, both ovaries shall be collected from each female caught. Corpora counts shall be reported to the Secretariat within one year of the close of the season and included in the IWC database.<sup>31</sup>
- (d) If sufficiently trained personnel are present, the presence, length and sex of foetuses shall be recorded. If it is not possible for such personnel to be present, these data should still be recorded where possible, and the lack of trained personnel noted. These data shall be forwarded to the Secretariat at the end of the season and included in the IWC database.
- (e) Lactation shall be recorded and reported to the Secretariat at the close of the season and included in the IWC database.
- (f) At least 5cm<sup>2</sup> of skin shall be collected from each whale caught and, where possible, a sample of tissue from the foetus should be collected. Long term archiving of all samples with appropriate identifying information is the responsibility of the harvesting nation. A list of archived samples shall be forwarded to the Secretariat at the end of each season.

Further details are provided in the most recent version of the Scientific Committee's 'Guidelines for Data Collection and Analysis under the Revised Management Scheme (RMS) Other than those Required as Direct Input for the Catch Limit Algorithm (CLA)'.<sup>32</sup>

**Secretariat:** *Note that the EDG agreed that practical details for the implementation of the scheme should be included in a single document, not in the Schedule itself. The Schedule would then refer to a dated version of these (see footnote to paragraph 18). This would mean that the 'Guidelines' referred to above would be included in this single document and this paragraph revised accordingly.*

#### **[Animal Welfare Information]**

34. *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.*

##### *Preliminary*

- *Time of sighting of the target whale/group containing target whale*
- *Distance from vessel*
- *Estimate of group size – presence/absence of calves in group*
- *Behaviour of the whale pre-chase (i.e. slow travel, fast travel, resting, feeding, milling, social/sexual)*
- *Time of start of chase.*

##### *Primary Killing Method*

- *Time of first harpoon*

<sup>30</sup> **Secretariat:** It was suggested that the usefulness of collecting earplugs or bullae be referred back to the Scientific Committee.

<sup>31</sup> **Secretariat:** This sub- paragraph was omitted in error from EDG report and has been re-inserted.

<sup>32</sup> At the EDG meetings, Japan indicated that with the above changes, it could remove its reservation to the earlier version of this paragraph.

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

- *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}*

### **Scientific Permits**

35. A Contracting Government shall provide the Secretary 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:

- 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
- 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. These results must include at least the information required under Paragraphs 32 and 33 above.

#### **Operational matters**

36. For all whaling operations, Contracting Governments shall report to the Commission the methods used to kill each whale, other than a harpoon.
37. All Contracting Governments shall report to the Commission the following information for all commercial whaling operations:
  - (a) The name and gross tonnage of each factory ship.
  - (b) A list of the land stations which were in operation during the period concerned,
  - (c) 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.

Note: The EDG agreed that the Secretariat should review this paragraph in relation to paragraph 3 of the revised Chapter V and the information that will be obtained from the log books (see next paragraph).

**On reviewing the paragraph, the Secretariat proposes that this whole paragraph be deleted since the information is already requested in either paragraphs 20(b) and (c) or in the log book.**

38. The information required under paragraph 36 should also be recorded together with the operational information specific in the log book format shown in Appendix 4, and forwarded to the Commission at the end of each season.

**Note: the Secretariat suggests that this paragraph be amended to read as follows:** The information required under paragraph 36 should also be recorded together with the operational information specific in the log book format shown in Appendix 4. Contracting Governments shall supply copies of the data at the end of the season in a format specified by the Secretariat.

#### **Submission of Laws**

39. 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.

**Appendix 1 – Definitions**  
**(a) Names of Whales, (b) General Terms**

*to be developed*

## Appendix 2

# The Revised Management Procedure (RMP) for Baleen Whales<sup>N</sup>

## 1. DEFINITIONS

*Regions* are non-overlapping major ocean areas. For species found in or migrating to higher latitudes, these will normally be the Arctic and adjacent waters, the North Atlantic and adjacent waters, the North Pacific and adjacent waters, and the Southern Hemisphere. For species confined to lower latitudes, the *Regions* will normally be the Atlantic, Pacific and Indian Oceans. *Regions* can be combined for species where the interchange is not negligible.

*Small Areas* are disjoint areas small enough to contain whales from only one biological stock, or be such that if whales from different biological stocks are present in the *Small Area*, catching operations would not be able to harvest them in proportions substantially different to their proportions in the *Small Area*.

*Medium Areas* correspond to known or suspected ranges of distinct biological stocks.

*Large Areas* coincide with *Regions*, unless evidence exists to support the selection of one or more areas smaller than a *Region* which fully covers the range of some biological stocks of a species and definitely excludes whales from all other biological stocks of that species in the *Region*.

*Residual Areas* are all geographical areas in a *Region* which are outside any *Small Areas*. *Medium Areas* comprise unions of *Small* and, where identified, *Residual Areas*. *Large Areas* comprise unions of *Medium* and, where identified, *Residual Areas*.

*Combination Areas* are disjoint unions of *Small Areas* to which the *Catch Limit Algorithm* is applied when *Catch-cascading* is used.

*Management Area* is a generic term denoting a *Small*, *Medium*, *Large*, *Residual* or *Combination Area*.

*Catch Limit Algorithm* is the process (described in Section 4) that is used to calculate a catch limit for a *Management Area*.

*Years* are consecutive periods of 12 months used for the compilation of time series of catches and abundance data for application of the *Catch Limit Algorithm*. Neither this definition, nor any statement following, should be construed as precluding the possibility of a regulation that a catch limit calculated in such an application may be taken only during a certain part of the *Year*.

*Catch-cascading* is the process by which a catch limit calculated for a *Combination Area* is distributed among the *Small Areas* that make up the *Combination Area* in proportion to the calculated relative abundances in those *Small Areas*. When *Catch-cascading* occurs, the relative abundances for *Small Areas* within the *Combination Area* shall normally be calculated from the same estimates of absolute abundance as were used for the application of the *Catch Limit Algorithm* to the *Combination Area*. The calculated relative abundance in a *Small Area* shall be an appropriate form of weighted average of the available abundance indices for that *Small Area*, with the statistically appropriate weighting, except that each estimate shall also be further weighted by the factor  $0.9^n$ , where  $n$  is the number of years that have elapsed between the *Year* to which the estimate refers and the *Year* of the *Catch Limit Calculation*.

*Catch-capping* is the process by which *Catch Limits* calculated for *Small Areas* are adjusted by reference to those calculated for either *Medium* or *Large Areas* containing those *Small Areas*. It consists of the following rules. If the sum of the catch limits calculated for those *Small Areas* that make up a *Medium* (or *Large*) *Area* exceeds the catch limit calculated for the *Medium* (or *Large*) *Area*, then both the *Small* and *Medium* (or *Large*) *Area* catch limits shall apply in such a way that the maximum catch allowed in each *Small Area* is the appropriate *Small Area* catch limit and the maximum catch allowed in the *Medium* (or *Large*) *Area* is the *Medium* (or *Large*) *Area* catch limit. This definition does not preclude the possibility of applying *Catch-capping* to overlapping *Medium Areas*.

An *Implementation* involves the designation of the *Management Areas* and their boundaries and the selection of *Catch-cascading* and/or *Catch-capping* options for a particular species and *Region*. These designations and/or selections may be changed in a subsequent *Implementation Review*.

<sup>N</sup> **Secretariat note:** The RMP given in Appendix 2 is that published in JCRW 1 (Suppl): 251-258, but does not include the annotations which are actually notes to the Scientific Committee on the practical implementation of the RMP.

A *Catch Limit Calculation* is the process by which catch limits for a species in a *Region* are calculated for all *Small* (and where appropriate *Medium* or *Large*) *Areas* within that *Region*, as specified in Sections 3.3, 3.4 and 3.5, by application of the *Catch Limit Algorithm* as described in Section 4. This algorithm uses historic catch data and estimates of absolute abundance for each *Management Area* that meet the requirements of Section 3.2.

## 2. IMPLEMENTATIONS AND IMPLEMENTATION REVIEWS

*Implementations* and *Implementation Reviews* are conducted by the Scientific Committee on a *Regional* basis. They involve the delineation of *Small Areas* and, where appropriate, *Medium* and *Large Areas*. A selection between possible options for *Catch-cascading* and/or *Catch-capping* is made during an *Implementation (Review)*, which includes the designation of *Combination Areas* as may be appropriate. This process is described as an *Implementation* on the first occasion it takes place for a species in a *Region*; subsequent revisions are termed *Implementation Reviews*. An *Implementation (Review)* shall take account of the available biological and operational data, including in particular those data pertaining to stock-identity. An *Implementation (Review)* is conducted by species or other suitable taxonomic unit below the species level. Such taxonomic units should be treated separately for the purpose of *Catch Limit Calculations* (see Section 3) where the extent of geographical separation is sufficient to make this feasible. In the following text, 'species' should be taken to refer to taxonomic units below the species level where appropriate.

## 3. CATCH LIMIT CALCULATIONS

### 3.1 Scope and period of validity

*Catch limits* pertain to the first *Year* commencing after their calculation by the Scientific Committee, and for each of the following four *Years*. A catch limit is calculated for each *Small Area* in a *Region* for each of these five *Years*. The five catch limits calculated for each *Management Area* shall be equal, except where adjustments are made under the phaseout rule specified in section 3.4. A *Catch Limit Calculation* involves the (re)calculation of catch limits for all *Small Areas* and, where appropriate, *Medium* or *Large Areas* in the *Region*. At the request of the Commission, the first of these catch limits calculated may alternatively refer to the *Year* in which the calculation takes place, and for each of the following four *Years*.

Where appropriate, a carry-over provision may be attached to the set of five catch limits calculated for a *Small Area*, and shall operate as follows. Where a catch limit for a *Small Area* is not reached in any one *Year*, the shortfall may be added to the catch limit for the same *Small Area* in any of the remaining years of validity of the *Catch Limit Calculation*. Any unused carry-over remaining at the end of the fifth *Year* of validity of the *Catch Limit Calculation*, or at the beginning of the first *Year* of validity of a new *Catch Limit Calculation*, whichever is the sooner, lapses.<sup>11A</sup>

### 3.2 Data requirements

#### 3.2.1 Catch history

Time series of catches by sex shall be compiled for each of the *Management Areas* specified within the region, using the best available information. These catch histories shall cover a period beginning not later than the *Year* of the first recorded or estimated catch and ending with the *Year* preceding the first *Year* for which catch limits are to be calculated.

If there are catches known to have occurred in the *Region*, but the *Small Area* in which they were taken is not known, they shall be assigned to the *Small Area* in which they are considered most likely to have been taken. *Pro rata* allocations are allowed. Where the sex ratio of catches is not accurately known, the best available estimate of the sex ratio shall be used to divide the catches; in the absence of any information, a 50:50 sex ratio shall be assumed. Unspecified catches of whales shall be allocated to species using the best available information on the species composition of the catch. Known or estimated numbers of whales struck and lost shall be added to the catches. If the timing of catches is uncertain, they shall be assigned to *Years* according to the best available information. No catches known to have occurred in the *Region* shall be omitted from the *Catch Limit Calculation* on grounds of uncertainty over their location, timing, sex ratio or other details. All known removals from a *Region* shall be included in the catch series.

#### 3.2.2 Absolute abundance estimates

Absolute abundance data to be used in the calculation of catch limits shall have been obtained by direct methods, such as sightings surveys, and collected and analysed using methods approved by the Scientific Committee. *Management Areas* to which the *Catch Limit Algorithm* is applied should normally be surveyed at intervals not exceeding six years. The methods shall be such as to provide estimates of whale abundance that have acceptable levels of bias and precision. They shall also permit estimation of the variance of each estimate and of their variance-covariance matrix, or alternative variance-related statistics where appropriate.

Data for any sightings survey to be used to calculate abundance estimates for the purposes of conducting a *Catch Limit Calculation* shall be documented and provided to the Secretariat in computer readable data files before a specified time in advance of the Scientific Committee meeting during which the data are to be used. All such data should be archived by the Secretariat in an appropriate database such that abundance estimates can be calculated for any specified *Small Area*. Data should be in a fully disaggregated form so that estimates can be recalculated appropriately if the boundaries of *Management Areas* are altered. Once lodged with the Secretariat, these data shall be available to accredited scientists as defined in the Scientific Committee's Rules of Procedure.

Estimates of absolute abundance are required for each *Management Area* to which the *Catch Limit Algorithm* is to be applied under the procedures described in Section 3.3. For each such *Management Area*, a time series of absolute abundance estimates shall be calculated, along with an estimate of their variance-covariance matrix, or alternative variance-related statistics where appropriate. The approximate distributional properties of the abundance estimates shall also be determined. Care should be taken to avoid substantially underestimating the variance (or alternative variance-related statistic) of each abundance estimate used for input into the *Catch Limit Algorithm*.

The absolute abundance estimate for a given *Year* should ideally be calculated from data collected in that *Year*. Data collected in different *Years* may be used, for example to account for parts of the area that were not covered in that *Year*, to pool results from surveys conducted over consecutive or nearly consecutive *Years* in order to reduce variance, or to provide estimates of calibration factors, provided that appropriate statistical methods are used.

Data from surveys conducted in different *Years* or at different times of year may only contribute to a single abundance estimate if adequate precautions are taken to avoid substantial double counting of whales due to migration or other factors. In the calculation of an absolute abundance estimate for a *Management Area* in a given *Year*, parts of the Area for which there are no absolute abundance estimates available at any time meeting the above specifications shall be treated as having an absolute abundance of zero.

The absolute abundance estimates should pertain to the total number of whales aged one year and above in the *Management Area*, regardless of any size limits that may be in force or the selectivity or otherwise of any past or present exploitation. Animals aged less than one year shall be excluded where possible.

The only estimates of abundance acceptable for use in the *Catch Limit Algorithm* are those obtained in accordance with the most recent version of the '*Requirements and Guidelines for Conducting Surveys and Analysing Data Within the Revised Management Scheme*'.<sup>o</sup>

### 3.3 Options for determination of catch limits

Catch limits shall always be set at the *Small Area* level and they shall be set for each *Small Area* in a *Region*. In addition, where *Catch-capping* is invoked at the *Medium* or *Large Area* level, corresponding catch limits will be set for those *Medium* or *Large Areas*. Catch limits for all *Residual Areas* within a *Region* shall be set at zero.

Catch limits for the total number of whales that may be taken in a season in each *Small Area* will be calculated by:

- (a) application of the *Catch Limit Algorithm* to the *Small Areas* or, where appropriate, to *Combination Areas*, in which case *Catch-cascading* occurs; and
- (b) where appropriate, by adjustment of the *Small Area* catch limits calculated, with or without *Catch-cascading*, under (a) by either
  - (1) application of the *Catch Limit Algorithm* to one or more of the *Medium Areas*, followed by *Catch-capping* of the *Small Area* catch limits; or
  - (2) application of the *Catch Limit Algorithm* to one or more of the *Large Areas*, followed by *Catch-capping* of the *Small Area* catch limits.

Catch limits for the total number of whales that may be taken in a *Year* in *Medium* or *Large Areas*, as required when *Catch-capping* is invoked, will be calculated by application of the *Catch Limit Algorithm* to those *Medium* or *Large Areas*.

The decision for any particular species or *Region* on whether or not *Catch-capping* is to be applied, and if so whether it should be applied at the *Medium* or *Large Area* level, and whether or not *Small Areas* are to be

<sup>o</sup> **Secretariat note:** In Resolution 1996-6 (see Background Document 1 to the RMS Intersessional Meeting), the Commission agreed to accept as a component of the RMS the '*Requirements and Guidelines for Conducting Surveys and Analysing Data within the Revised Management Scheme*' (Annex K, RIWC 47, 227-35). Since then, the Guidelines have been revised slightly by the Scientific Committee and the most recent version is that given in Background Document 4 to the RMS Intersessional Meeting. **But see also Secretariat note associated with paragraph 33.**

combined for the purposes of *Catch-cascading*, will be made on the basis of biological evidence available to the Scientific Committee, and, where necessary, the results of computer simulation trials conducted by the Scientific Committee. Where computer simulation trials are carried out, they shall, as far as possible, encompass the full range of plausible hypotheses (regarding, for example, stock identity) consistent with existing biological data.

### 3.4 Phase-out rule

The catch limits for a *Small Area* calculated under Section 3.3 shall be adjusted downwards when the time series of absolute abundance estimates used for the application of the *Catch Limit Algorithm* to the *Small Area* (or, if *Catch-cascading* has been applied, to the *Combination Area* containing it) does not include an absolute abundance estimate pertaining to a *Year* not more than eight years prior to the *Year* to which the catch limit pertains. Under these circumstances, the catch limit for the *Small Area* shall be reduced by 20% of the unadjusted catch limit for that *Small Area* and *Year* for each year in excess of eight years that has or will have elapsed since the *Year* of the most recent such abundance estimate. This rule shall also be invoked in a *Small Area* included in a *Combination Area* for *Catch-cascading* if the data used for the derivation of absolute abundance estimates for input to the *Catch Limit Algorithm* do not contain any survey effort in that *Small Area* within this eight year period.

### 3.5 Adjustments for recent sex ratios in the catch

If the proportion,  $P_f$ , of female whales in the total catch taken from a *Small Area* in the most recent five *Years* prior to the *Catch Limit Calculation* for which the catch data are available exceeds 50%, the catch limits for the *Small Area* calculated according to the procedure described in sections 3.3 and 3.4 shall be adjusted downwards by the ratio  $0.5/P_f$ . However, should the Scientific Committee decide it to be more appropriate, this adjustment ratio shall be determined from the proportion of females in the total catch taken from a union of *Small Areas*, and applied to the catch limit for each *Small Area* in the union. Further, the sex ratio adjustment shall be waived if the Scientific Committee agrees that the catches taken in the most recent five *Years* for which the catch data are available are too few to provide a useful indication of the expected future sex ratio of the catch.

## 4. CATCH LIMIT ALGORITHM

The nominal catch limit for a *Management Area* shall be calculated using the algorithm defined below if at least one estimate of absolute abundance as defined in Section 3.2 is available for the *Area* in question. Otherwise, the nominal catch limit for the *Management Area* shall be zero.

### 4.1 Input data

The input data for application of the *Catch Limit Algorithm* for any *Management Area* shall include the time series of annual catches as detailed in Section 3.2.1 and the time series of absolute abundance estimates, along with their variance-covariance matrix or other appropriate variance-related statistics and a specification of the distributional form of the absolute abundance estimates, as specified in Section 3.2.2.

### 4.2 Population model

The following population dynamics model<sup>27</sup> shall be used:

$$P_0 = P_T / D_T$$

$$P_{t+1} = P_t - C_t + 1.4184\mu P_t(1 - (P_t / P_0)^2)(0 \leq t < T)$$

where:

$P_t$  is the population size in numbers at the beginning of *Year t*;

$C_t$  is the catch in numbers in *Year t*;

$D_T$  is the ratio of the population size at the beginning of *Year T* to the population size at the beginning of *Year zero*, known as the stock depletion;

*Year zero* is the first *Year* of the catch series used in the *Catch Limit Calculation* (as specified in Section 3.2.1);

*Year T* is the first year for which a catch limit is to be calculated in the current *Catch Limit Calculation*;

$\mu$  is the productivity parameter.

Provided there have been at least some catches, the population dynamics model is fully determined when the catch series and the values of  $D_T$  and  $\mu$  are specified. If there have been no catches, a nominal catch of one whale in *Year zero* is assumed.



### 4.3 Fitting of the model

The annual absolute abundance estimate (if there is one) for each *Year t*, is assumed to have expectation  $bP_t$  where  $b$  is the bias parameter. The joint likelihood function of the parameters  $b$ ,  $D_T$  and  $\mu$  is determined using the absolute abundance estimates, the variance-covariance matrix of the absolute abundance estimates (or alternative variance-related statistics where appropriate) and information on their distributional form.

Unless there are specific indications to the contrary, the absolute abundance estimates shall be assumed to be lognormally distributed with a variance-covariance matrix of the log estimates to be estimated from the data using methods judged appropriate by the Scientific Committee. In this case, the formula for the likelihood is:

$$\text{Likelihood } (D_T, \mu, b) \propto \exp[-\frac{1}{2}(\mathbf{a} - \mathbf{p} - \beta\mathbf{1})' H (\mathbf{a} - \mathbf{p} - \beta\mathbf{1})]$$

where:

$\mathbf{a}$  is the vector of logarithms of estimates of absolute abundance by season;

$\mathbf{p}$  is the vector of logarithms of the modelled annual population sizes:  $p_t = \log(P_t)$ ;

$\beta$  is the logarithm of the bias parameter:  $\beta = \log(b)$ ;

$\mathbf{1}$  is a vector of ones;

$H$  is the information matrix of the  $\mathbf{a}$  vector. If  $H$  is non-singular,  $H = V^{-1}$  where  $V$  is the variance-covariance matrix of the components of  $\mathbf{a}$ .

The stock depletion parameter  $D_T$  is assigned a prior probability distribution that is uniform from zero to one, and zero outside this range.

The productivity parameter  $\mu$  is assigned a prior probability distribution that is uniform from zero to 0.05, and zero outside this range.

The bias parameter  $b$  is assigned a prior probability distribution that is uniform from zero to 5/3, and zero outside this range.

The above three prior distributions are treated as independent and combined accordingly to determine the joint prior distribution of the parameters  $D_T$ ,  $\mu$  and  $b$ .

The joint 'posterior' distribution of the parameters  $D_T$ ,  $\mu$  and  $b$  is defined as follows:

$$\text{Posterior } (D_T, \mu, b) \propto \text{Prior } (D_T, \mu, b) \cdot \text{Likelihood } (D_T, \mu, b)^s$$

where  $s$ , the scale parameter, is set equal to 1/16. The presence of the scale parameter represents an intended deviation from a strictly Bayesian approach.

### 4.4 The catch control law

The internal catch limit,  $L_T$ , is the following function of  $D_T$ ,  $\mu$  and  $P_T$ :

$$L_T = \begin{cases} 3\mu(D_T - 0.54)P_T & \text{if } D_T > 0.54 \\ 0 & \text{if } D_T \leq 0.54 \end{cases}$$

The marginal posterior distribution of  $L_T$  is obtained by integration of the joint posterior distribution of  $(D_T, \mu, b)$ . This requires that, for each value of  $L_T$ , the joint posterior distribution of  $(D_T, \mu, b)$  is to be integrated over the subset of parameter space that corresponds to that value of  $L_T$ . The nominal catch limit is equal to the lower 41.02 percentile of the marginal posterior distribution of  $L_T$ .

### 4.5 Computation

All steps in the above algorithm for the calculation of the nominal catch limit shall be performed using a computer program validated by the IWC Secretariat and with sufficient numerical accuracy that the calculated nominal catch limit is numerically accurate to within one whale.

## Appendix 3

# The International Observer Scheme

## 1. PLACEMENT OF OBSERVERS [*c.f old paras 7, 8 in IWC/53/RMS 2 rev*]

Alternative 1	Alternative 2
<p><b>[1.1 Coastal whaling operations]</b>  <i>The Commission shall appoint observers to all points of landing.</i></p> <p><i>For coastal whaling vessels, the following applies:</i></p> <ul style="list-style-type: none"> <li>(a) <i>For vessels which only operate trips of less than 24 hours, carry out no flensing onboard* and for which the legal limit of persons onboard does not exceed the number of crew, VMS data shall be transmitted in real time to the observer at the identified point of landing, using IWC approved equipment.</i></li> <li>(b) <i>For which vessels which are &lt;24m, operate only within waters under the jurisdiction of the Flag State and that can only accomodate one additional person in addition to the crew, the Commission shall appoint an Observer who may also be appointed as a National Inspector by a Contracting Government.</i></li> <li>(c) <i>For all other vessels, the Commission [shall/may] appoint an observer.</i></li> </ul> <p><b>1.2 Pelagic whaling operations</b>  <i>For pelagic whaling operations, the Commission shall appoint two observers to each factory ship.</i>  <i>[The Commission shall also appoint an observer on each catcher vessel.]</i></p>	<p><i>[One observer appointed by the Commission [shall/may] be present on all vessels undertaking whaling operations and at each point of landing except that the following applies :</i></p> <ul style="list-style-type: none"> <li>(a) <i>For vessels which only operate trips of less than 24 hours, carry out no flensing onboard* and for which the legal limit of persons onboard does not exceed the number of crew, VMS data shall be transmitted in real time to the observer at the identified point of landing, using IWC approved equipment.</i></li> <li>(b) <i>For which vessels which are &lt;24m, operate only within waters under the jurisdiction of the Flag State and that can only accomodate one additional person in addition to the crew, the Commission shall appoint an observer who may also be appointed as a National Inspector by a Contracting Government.</i></li> <li>(c) <i>the Commission shall appoint two observers to each factory ship.]</i></li> </ul>

## 2. SELECTION OF OBSERVERS

### 2.1 Selection process [*see old para 13*]

Observers shall be selected in accordance with the following procedure. Observers chosen for the combined role with a national inspector (1.1(b) above) must fulfil the qualifications for both positions.

- (1) The Secretariat will put out a call for candidates to apply (including via Contracting Governments, the Scientific Committee and the IWC website). It will develop a standard application form that will include information on the scientific and technical criteria that will be used in the selection process. It will also request information on *inter alia*: language(s) spoken; available dates; previous experience (including time at sea); any known problems with admission to certain countries; references. [*see old 13 a, b*]
- (2) The Secretariat will draw up list of suitable candidates.
- (3) The list will be circulated to all Contracting Governments with summary of information on each candidate (individual applications may be given to any Commissioner on request).
- (4) Any Contracting Government may veto any candidate.
- (5) Following predetermined guidelines, and after consultation with relevant Contracting Governments over practical arrangements, the Secretariat will decide the placement of observers and will inform the

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\* apart from slitting of the belly at sea

appropriate Contracting Governments at least 30 days prior to the start of whaling operations. *[see old para 14b]*

*In particular, (a) an individual shall not be appointed to observe in the territory or on a vessel flying the flag of the State of which he/she is a national or permanent resident; except if this results in a serious problem with (b) the fact that an observer must be able to communicate effectively with the senior personnel of that component of the whaling operation they have been selected to observe. [see old paras 14c and 12b]*

## 2.2 Review of performance

After a review process determined by the Commission, the Secretariat may remove someone from the approved List of Observers if they are found to have failed to perform their duties adequately.

## 3. RESPONSIBILITIES OF OBSERVERS

### 3.1 Duties

Observers shall carry out the duties conferred on them by the Commission. Nothing in the duties confers on the observers' authority to enforce the provisions of the Convention. Observers cannot intervene in whaling operations or activities connected with these operations. *[Old para 9]*

Observers are responsible to the Commission for the conduct of their duties and may neither seek nor receive instructions from any other person, organisation or authority regarding the duties stated below. *[Old para 15a]*

Observers shall carry out their duties subject to domestic legislation and other applicable rules and customs, including the authorised mandate of the captain of the whaling vessel and the manager of the point of landing, of the State under whose jurisdiction the observation activities are carried out. *[Old para 16]*

Observers' duties shall include *[Old Para 9]*:

- (1) monitoring that whaling operations are carried out in accordance with the provisions of the Convention;
- (2) monitoring that information required under the Schedule is collected, sampled, maintained or processed;
- (3) checking licenses, logbooks and other relevant documents;
- (4) checking equipment used to catch and flense whales;
- (5) checking whaling operation areas on vessels, points of landing/primary processing sites<sup>33</sup>, *[and processing plants]*;
- (6) checking relevant equipment (e.g. VMS transmitters).

### 3.2 Reporting *[Old Para 10]*

Observers shall report to the Commission and the Secretariat in English.

Observers on whaling vessels shall report *[daily]* to the Secretariat on any whales *[hunted]* struck and/or killed. Reports on other relevant observations shall be made at the end of each whaling voyage, and on a monthly basis by land-based observers. However, if an observer suspects that an infraction of the provisions of the Convention has taken place, he/she shall immediately inform the captain of the vessel, the national inspector and/or the manager of the point of landing, as well as the competent national authority and the Secretariat.

The Secretariat shall have the observers' reports translated into the language of the Contracting Government having jurisdiction over the commercial whaling operations observed and send copies to that Government. On receipt of the report the Secretariat will transmit promptly a copy of the report to the senior personnel of the component of the whaling operation that had been observed. If a report indicates a possible breach of provisions of the Convention, the Secretariat shall ask the Contracting Government to seek comments from the vessel captain, its national inspector and/or the manager of the point of landing as appropriate. Such comments shall be passed to the Secretariat and be attached as an addendum to the observer's report.

Observers shall ensure confidentiality with respect to the conduct of their duties and their reports.

<sup>33</sup> Secretariat note: Is it necessary to stipulate 'primary processing site' given the text in paragraph 2 of the EDG proposal for Chapter V?

#### **4. TRAINING OF OBSERVERS**

The Commission shall ensure that each observer shall be adequately informed of the provisions of the Convention and have the biological and other relevant knowledge necessary to carry out his/her duties. *[Old para 12a]*. The Secretariat will develop a suitable training programme.

#### **5. RESPONSIBILITIES OF THOSE RECEIVING OBSERVERS**

##### **5.1 Visas and immigration**

The Contracting Government under whose jurisdiction the observer is to carry out his/her activities shall take all necessary measures to assist the observer in obtaining the required visas and immigration documents. *[Old para 15c]*

##### **5.2 Co-operation**

Contracting Governments, national inspectors and all those involved in activities subject to the international observation scheme shall take appropriate measures to ensure the safety, freedom and dignity of the observer at all times and shall cooperate fully with the observer so that he/she can fulfil his/her duties properly and efficiently. *[Old para 15b]*

Contracting Governments shall ensure that observers appointed by the Commission must receive sufficient notification of whaling operations to enable them to carry out their duties. *[Old Para 8]*.

## Appendix 4 – Logbook format

### Daily Record Sheet<sup>P</sup>

Vessel Name		Date		Sheet no.	
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### TARGET SPECIES ONLY

	Sighting 1	Sighting 2	Sighting 3	Sighting 4	Sighting 5
Beginning (resumption) of searching					
Time					
Position latitude					
longitude					
Beaufort					

Noon	
Time	
Position: latitude	
longitude	
Beaufort	

On sighting a whale/whales or stopping searching for other reasons					
Time					
Position: latitude					
longitude					
Beaufort					
Species					
School size					
Serial no. of whale(s) caught					
TOTAL SEARCHING DISTANCE					

### total whales seen of all species

Species	No. schools	No. animals	Species	No. Schools	No. animals
Blue			Sperm		
Fin			Other (please specify)		
Sei					
Minke					
Bryde's					
Right					
Humpback					

<sup>P</sup> Secretariat note: From RIWC 47: 238