

Chairs' Reports of the RMS Working Group Meetings

**Strand Hotel, Borgholm, Sweden, 29 November to 1 December 2004, and
Eigtveds Pakhus, Copenhagen, Denmark, 30 March to 1 April 2005**

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PREFACE

Resolution 2004-6 on Completion of the Revised Management Scheme (RMS) adopted by consensus at the 56th Annual Meeting of the Commission in Sorrento in July 2004 revived formally the RMS Working Group (it last met at IWC/54 in Shimonoseki in 2002) with the following Terms of Reference:

- (1) To complete work on the RMS package, with the goal of having a finalized RMS text ready for consideration, including for possible adoption, at IWC 57, and/or to identify any outstanding policy and technical issues.
- (2) To take account of delegates' comments at IWC 56, as well as written submissions from delegates.
- (3) To provide guidance to, and to review the work of, the Small Drafting Group [established under the RMS Working Group].

Resolution 2004-6 anticipated two meetings of the RMS Working Group and SDG intersessionally between IWC/56 and IWC/57, with a third meeting of the RMS Working Group scheduled to take place during IWC/57.

The first of the series of meetings, hosted by the Swedish and Dutch governments, was held at the Strand Hotel, Borgholm, Sweden. The RMS Working Group met from Monday 29 November to Wednesday 1 December 2004, and the SDG met immediately afterwards.

The second series of meetings was held at the Eigtveds Pakhus, Copenhagen, hosted by the Danish Government. The RMS Working Group met from 30 March to 1 April 2005 and was again followed by a 2-day meeting of the SDG.

This document includes the reports from both RMS Working Group meetings¹. The report from the Borgholm meeting is included as Part I, and that from the Copenhagen meeting as Part II. The report from the Copenhagen meeting should be read in conjunction with the first SDG report (IWC/D04/SDG 5). For ease of reference, the report from the Copenhagen meeting has the reports from the various technical specialist groups established in Borgholm attached as Annexes.

The consolidated report from the two meetings of the SDG is available as IWC/57/RMS 4.

¹ The report of the first RMS Working Group meeting was previously made available as IWC/N04/RMSWG 16.

Part I

Chair's Report of the RMS Working Group Meeting Strand Hotel, Borgholm, Sweden, 29 November to 1 December 2004

1. INTRODUCTORY ITEMS

1.1 Appointment of Chair

In Henrik Fischer's absence due to ill health, it was agreed that Horst Kleinschmidt, IWC Commissioner for South Africa and Vice-Chair of the Commission, should Chair the meeting.

1.2 Introductory remarks

Horst Kleinschmidt welcomed delegates and observers to the meeting and thanked Sweden and the Netherlands for hosting the event. He noted his intention to Chair the meeting in a fair and open-minded way, to try to find convergence and consensus where possible, to note differences where they occur, and to allow all opinions a fair hearing. He recalled that Henrik Fischer favours a 'package' approach to the RMS. He recognised that it was likely that the Working Group would develop a series of options within an overall package. However, noting that discussions must lead to a coherent, robust and comprehensive RMS, he warned against the development of a shopping list of options that may be contradictory or unworkable. He urged delegates to seek compromises to the extent possible. Finally, noting the limited time available to the Working Group, he informed the meeting that he did not intend to entertain opening statements. He would, however, allow interventions from Japan and the UK who had indicated a wish to speak regarding matters of process.

Japan explained that the purpose of its intervention, made on behalf of those pro-use countries at the meeting, was to review briefly the history of work on the RMS and to put the various items in context so that there could be a more structured discussion on the details. Japan recalled that work on an RMS started from discussions on the Revised Management Procedure (RMP) and that over the 10 years in which discussions have taken place, the elements considered to form part of the RMS have increased, starting from the introduction of the Irish Proposal. It noted that pro-use countries have been striving to reach an outcome that would include the resumption of commercial whaling, and that in doing so they have made a number of concessions. Japan and others viewed the Chair's proposal for an RMS 'package' introduced at IWC/56 to be a noble attempt at reaching consensus. Unfortunately however, through adoption of Resolution 2004-6, the Chair's proposal is now considered as only one of many possible proposals. Furthermore, through comments made in response to the questionnaire on the Chair's proposal (see IWC/N04/RMSWG 4), new and more difficult items had been introduced. Japan indicated that it continued to support the Chair's proposal, even though it involved difficult concessions on its part, since it considered an RMS is necessary for the survival of IWC and that it would be in the best interests of conservation and management of whale stocks. It stressed that for pro-use countries, the linking of adoption of an RMS with the lifting of paragraph 10(e) (the moratorium) is essential. It urged constructive and sensible discussions within the Working Group.

The UK on its own behalf. It indicated that it would work constructively and stressed the need to not limit discussion. The UK recognised the hard work of the Chair of the Commission (and his small group that met twice between IWC/55 and IWC/56), but stressed the need now for more transparency in the work on the RMS. In response to one of Japan's points, it considered that it is not surprising that the perceived needs of an RMS have become clearer and wider over the last 10 years. The UK believed that the aim of the Working Group should be to produce one RMS text with a series of options where appropriate, since in its opinion, any other approach would be a recipe for chaos. It suggested that the objective for the meeting should be to determine the issues and how they might be resolved. It further stressed that the role of the SDG was to produce draft Schedule text as directed by the Working Group and not to discuss policy issues.

1.3 Reporting

In the interest of making the best use of the time available, the Working Group agreed that a Chair's report summarising the main discussions and outcomes of the meeting should be prepared and circulated after the meeting. Noting, however, that one of the Working Group's tasks was to provide guidance to the SDG, it was recognised that a paper documenting this guidance should be prepared and agreed before the end of the meeting.

The meeting agreed that Nicky Grandy and Greg Donovan (Secretariat) should act as rapporteurs.

1.4 List of participants

The list of delegates and observers to the RMS Working Group is provided in Annex I.A.

1.5 Review of documents

The list of documents available to the meeting is given as Annex I.B.

2. ADOPTION OF AGENDA

The draft agenda was adopted with the addition of an item 4.0 on 'Statement of Principle' for an RMS, and 4.10 on 'Sanctuaries' (at the request of New Zealand). The adopted agenda and Terms of Reference for the Working Group are provided in Annex I.C.

3. MECHANISMS FOR ADOPTING AN RMS

Before entering into discussions on the RMS itself, the Working Group Chair believed it would be useful to have some preliminary discussions regarding the mechanisms that could be used for the adoption of an RMS since this will have an impact on the format of the draft text(s) to be developed by the SDG.. He noted that for example, one option could involve development of a single draft Schedule RMS text that includes all different options by using square brackets that would be voted on paragraph by paragraph. Another option would be to develop complete text for one or more scenarios/RMS packages that reflect the different views on what the RMS should contain that the Commission could agree to vote on as a whole.

In the Working Group, most support was given to the development of a single text with options in square brackets as appropriate. However, some drew attention to the fact that such an approach would involve voting paragraph by paragraph and expressed concern that this could lead to an RMS text with internal contradictions.

One member expressed the opinion that a Protocol was needed to amend the Convention in relation to certain aspects it considered relevant to the RMS (i.e. special permit whaling, compliance, dispute settlement, objection procedure). However, the Chair proposed that this matter should be addressed as appropriate under item 4.

4. ELEMENTS OF AN RMS PACKAGE AND INSTRUCTIONS TO THE SMALL DRAFTING GROUP AND SPECIALIST TECHNICAL GROUPS

4.0 Statement of Principle

4.0.1 Background

After the RMS intersessional meeting in Monaco in February 2001, New Zealand and the UK proposed text to be included at the beginning of Chapter V as a 'statement of principle' to describe the scope, mandate and purpose of any RMS. Both proposals were discussed at the RMS Working Group at the 53rd Annual Meeting in 2001. While some countries supported the idea of including a statement of this kind, others saw no need, and the divergence of views expressed was noted.

The RMS Expert Drafting Group (EDG) returned to these proposals during its meetings between IWC/53 and IWC/54 and although there was no consensus on whether it is necessary to include an introductory paragraph in Chapter V, the following draft text (based on both the New Zealand and UK proposals) had been provisionally agreed as a compromise (see IWC/54/RMS 1):

1. (a). The purpose of this [section][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 V is intended to, nor shall it be deemed or interpreted to be, a restriction on any legitimate trade in any whale product.]

These proposals were reviewed by the RMS Working Group at IWC/54 in Shimonoseki (see IWC/54/7). While a number of Working Group members saw no need for the text in paragraph 1(a), the Working Group did agree that it could be included in a revised Chapter V. There was no agreement on the need for paragraph 1(b), and hence it remained in square brackets.

4.0.2 RMS Working Group discussions

In the Working Group, New Zealand, who had been a member of the EDG, recalled that it had reluctantly agreed to the shorter version of paragraph 1(a) in the spirit of compromise, but noted that it had decided to withdraw this agreement in the absence of compromises from others on other matters under discussion. It therefore wished to re-introduce its earlier more detailed text as captured in Document IWC/53/RMS 2rev, Appendix 6. New Zealand also continued to support the inclusion of paragraph 1(b).

Sweden, supported by the Netherlands, indicated that it was in favour of the inclusion of a statement of principle. It preferred the shorter version, but had no problem with both options being put forward to the SDG. Others agreed. Japan recalled that the EDG had decided that it was not practical to include a long list of principles as proposed by New

Zealand as it would be difficult to reach agreement on the list. Japan preferred the shorter version, but noted that in any case, it did not necessarily agree to the inclusion of any statement of principle.

Australia considered the EDG's proposal too brief and lacking context. It was of the view that the international community would look unfavourably on an RMS 'package' that is not based on best practice as its point of departure, and drew attention to a list of general principles included in: (1) the 1995 *Agreement for the Implementation of the Provisions of the UN Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks*; and (2) the FAO International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing. It subsequently agreed to develop a document for consideration by the SDG (i.e. Document IWC/N04/RMSWG 13).

St Kitts and Nevis, urged the Working Group to focus on past agreements, believing that re-opening discussions would not be conducive to progress. It believed that only the shorter option should be put forward to the SDG.

The Chair noted the different views, and indicated that if a particular proposal has sufficient support, it should go forward to the SDG with the request that appropriate text be drafted. It was not the role of the Working Group to decide between different options. On this basis, the Working Group agreed that the EDG proposal, the New Zealand proposal and the suggestions of Australia should go forward to the SDG. As this was the outcome, St. Kitts and Nevis together with the Republic of Guinea, Gabon, Nicaragua, Dominica and Antigua and Barbuda also proposed a list of items that they considered should be included in any statement of principles (Document IWC/N04/RMSWG 14).

4.0.3 *Instructions to the SDG*

The RMS Working Group requested that the SDG develop draft Schedule text for the following options:

- (1) short version of paragraph 1(a) as in Report of the RMS Working Group from IWC/54 in Shimonoseki (IWC/54/7);
- (2) longer version of paragraph 1(a) as proposed by New Zealand and included in document IWC/53/RMS 2 rev and including consideration of proposals submitted by Australia (IWC/N04/RMSWG 13) and St Kitts and Nevis, Republic of Guinea, Gabon, Nicaragua, Dominica and Antigua and Barbuda (IWC/N04/RMSWG 14);
- (3) include and exclude paragraph 1(b) as in Report of the RMS Working Group from IWC/54 in Shimonoseki (IWC/54/7);
- (4) No statement of principle.

4.1 **Revised Management Procedure (RMP)**

4.1.1 *Recap on the Chair's proposal*

The Chair of the Commission had proposed that the RMP as agreed by the Scientific Committee and endorsed by the Commission should be used to set commercial whaling catch limits (see IWC/56/26).

In making this proposal, the Chair noted that in effect all catches will be zero until the Scientific Committee has completed an *Implementation* for a particular species and area. The Committee cannot begin an *Implementation* without instructions from the Commission. Referring to the present atmosphere of mistrust, the Chair also proposed that safeguards are needed to ensure that non-scientific methods are not used to delay/prevent *Implementation* work (in either the Commission or the Committee) as well as to ensure that it is carried out with appropriate scientific rigour. In relation to this he noted that the Scientific Committee is already working on guidelines on the level of information needed to begin and complete an *Implementation* as well as the time such a process should take.

At the RMS Working Group meeting, the Secretariat provided an overview of the RMP to provide background to the discussions and to address some of the comments made by governments in their responses to the questionnaire on the Chair's proposal. This overview included the objectives of the RMP, a history of the development process, its various components, and the processes involved in implementation (pre-pre-implementation assessment, pre-implementation assessment, implementation, and implementation reviews). No major changes to the RMP itself are envisaged unless directed by the Commission and under specified circumstances. However, the supporting annotations, requirements and guidelines are expected to be updated more regularly by the Committee. The Working Group was reminded that for a new region/species, there would be a minimum of 4 years (i.e. 4 Annual Meetings) from a first proposal by a government or governments for consideration to completion of an *Implementation* and a Scientific Committee recommendation for consideration by the Commission. The inherently conservative nature of the RMP was stressed (e.g. at the start of the process, for a population estimated at 10,000, the catch limit would be about 50).

The Secretariat noted that no changes to the RMP text are needed for its inclusion into the Schedule, but that very limited work by the Scientific Committee is needed: (1) to ensure that the annotations and guidelines/requirements are adequately referenced in the RMP text; and (2) minor updates to the *Implementation* process and spatio-temporal aspects of the annotations are required. The Secretariat clarified that the intention was that the annotations and guidelines would not be part of the Schedule itself but rather separate dated documents to which the RMP text in the

Schedule referred. Thus if the Commission were to adopt any modifications to the annotations/guidelines, then it is only the date in the Schedule that would need to be modified. If the changes are non-controversial, amendment of the Schedule would be straightforward. 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 were to object to a change in the date, it will still be bound by the earlier version. The Secretariat also stressed that the tuning level and protection level would be included in the RMP text within the Schedule.

4.1.2 Discussion of the Chair's proposal

The Working Group supported the current RMP, although some members stressed the need to retain the current tuning level of 0.72 and protection level of 0.54, while others believed the tuning level to be too conservative. One member believed that the Commission should move away from a generic RMP to specific management procedures for specific stocks with tuning levels set within a given range. The question of the relationship between the RMP and an ecosystem approach to management was raised briefly. Some support was also given to a new suggestion that there should be a requirement for independent oversight/observation of abundance estimate surveys given the importance of such data in the RMP. In response to this latter proposal, it was noted that the Scientific Committee has discussed this matter extensively in the past. In developing the present guidelines, the Committee has oversight in the planning, methods and data analysis. It also nominates its own representative to be on board, which may be independent of the cruise organisers. Some felt the current situation worked well and noted that the Scientific Committee was not recommending such a change. While indicating that some criticism of the RMP is valid, one member reminded the meeting that this was a single element of a compromise proposal for an RMS 'package' and that while minor amendments to the package could be acceptable, major amendments would disrupt the balance and derail progress towards agreeing an RMS.

4.1.3 Instructions to the SDG

Noting the different views expressed on the Chair's proposal, the Working Group agreed on the following instructions to the SDG, i.e.:

- To develop Schedule text for the following two options:
 1. The RMP as currently adopted by the Commission; and
 2. With square brackets concerning the tuning level.
- To review existing draft Schedule text for incorporating the RMP into the Schedule and to develop draft Schedule text that refers to a dated version of the RMP annotations and requirements and guidelines.

The Working Group agreed to return to discussions regarding oversight of abundance estimate surveys under agenda item 4.3 on inspection and observation.

4.2 Phased-in approach to the resumption of commercial whaling

4.2.1 Recap on the Chair's proposal

The Commission Chair believed that some sort of phased-in approach to commercial whaling could be useful in building public confidence in the IWC's ability to manage whaling and conserve whale stocks. He did not mean this to imply either that the RMP is not safe or that there will be immediate widespread whaling on all species around the world. He suggested that the best approach would be by phasing-in the areas in which commercial whaling would be allowed and proposed that when whaling resumed, it would initially (e.g. for a 5-year period) be within waters under national jurisdiction of member countries. The Chair noted that safeguards would be needed to make sure that this would only be a temporary measure, such as a clear sunset clause in the Schedule text. One option for such text might be:

'Notwithstanding the catch limits by Small Area shown in Table 2, whaling will be restricted to waters under the national jurisdiction of the relevant Contracting Governments until 1 January 200X. After that date, this restriction will no longer be in effect.'

4.2.2 Discussion of the Chair's proposal

Before opening the floor to discussions, the Working Group Chair invited the Secretariat to summarise the views already expressed on this part of the Chair's proposal either at IWC/56 or in responses to the questionnaire on the Chair's proposals, i.e.:

- Support for a phased-in approach – could be useful to help build public confidence
 - any phasing-in should be linked to a phase-out of scientific permit whaling
- Unsure that restricting commercial whaling to coastal waters initially serves any useful purpose, has no scientific basis and may have adverse impacts on whale stocks
- Schedule paragraph 10(e) should remain in place after adoption of an RMS, but could then entertain setting catch limits on a regional basis which could be recorded in subsequent sub-paragraphs of 10(e) thereby having a kind of 'test' of the RMS system.

- A phased-in approach doesn't need to be specifically addressed because the process of producing agreed abundance estimates and RMP implementation would automatically lead to a phase-in of commercial whaling.
- Do not support resumption of commercial whaling and therefore do not support a phased-in approach. Fail to see how it would build public confidence in ability of IWC to manage commercial whaling.

Similar views were expressed by Working Group members regarding the Chair's proposal for a phased-in approach as had been aired previously. With respect to the concern expressed that restricting commercial whaling to coastal waters may have adverse impacts on whale stocks, the Secretariat reminded the Working Group that at its meeting at IWC/54 in Shimonoseki, it had requested the Scientific Committee to comment on the management implications (in terms of yield and risk) of restricting whaling in this way and that the outcome of the Committee's discussions were reported to the private meeting of Commissioners on the RMS at IWC/55 in Berlin (see *J. Cetacean Res Manage.* 6 (Suppl), 2004: 7-8). The Secretariat thus clarified that the Chair's proposal is not a concern from a conservation perspective. However, it may reduce yield beyond that that would be obtained under the already conservative RMP.

There was some debate regarding whether the use of the term 'waters under national jurisdiction' was sufficiently clear and whether use of the term Exclusive Economic Zone would be better. However, it was pointed out that not all countries have declared EEZs and that 'waters under national jurisdiction' is the term used by the UN, with a meaning of up to 200 nautical miles. One member who could not accept the Chair's proposal questioned how IWC can enforce rules within EEZs/waters under national jurisdiction. In response, the Secretariat noted that the 1946 International Convention for the Regulation of Whaling applies to all waters.

4.2.3 *Instructions to the SDG*

Noting that there was no agreement on the Chair's proposal and while recognising a link between a phase-in of commercial whaling and any link between adoption of the RMS and the lifting of paragraph 10(e), the Working Group requested the SDG to incorporate the proposal into the draft Schedule in square brackets.

4.3 National inspection and international observation

4.3.1 *Recap on the Chair's proposal*

The Commission Chair proposed that national inspection and international observers should be as proposed by the EDG in IWC/54/RMS 1 (where observers and inspectors are placed on all boats where practical), and include the proposals made by the Chair's Small Group on VMS (Vessel Monitoring Systems) and observers on catcher vessels, i.e. VMS on very small vessels with <24hr trips and one observer per catcher vessel attached to a factory ship.

The Secretariat summarised the proposals, based on document IWC/N04/RMSWG 8 '*Discussion Document on Inspection, Observation and Use of VMS*'. In doing so, the Working Group was reminded of the framework used by the EDG when developing its proposals for inspection and observation, i.e.

The primary objectives of any inspection and observation scheme are to:

- (1) ensure that the rules and regulations of the Commission are obeyed;
- (2) ensure that the rules and regulations of the Commission are seen to be obeyed;
- (3) report to the Contracting Government any infractions of those rules and regulations;
- (4) report to the Commission any infractions of those rules and regulations.

In developing a scheme to meet these objectives, account must be taken of:

- (1) certain desired features of any credible combined scheme, including that it be to the extent possible robust, independent, transparent and based on best practice;
- (2) the need for the scheme to be as simple, practical and cost-effective as possible, concomitant with meeting its objectives; and
- (3) the nature of likely future operations (whilst noting that any scheme must be sufficiently generic to be able to incorporate new vessels, etc without modification).

According to the Chair's proposal, the Secretariat indicated that deployment of national inspectors and international observers and use of VMS would be as follows²:

	National inspectors	International observers	Position verification
Points of landing	At least an international observer		n/a
<u>Coastal whaling*:</u>			
(a) vessels operating day-trips, no substantial flensing on board, no room for an inspector or observer	No	No	VMS (to observer on shore) ³
(b) vessels <24m, operating within own EEZ and can accommodate only 1 person in addition to crew	Combined role (international observer may also be appointed as national inspector by a Contracting Government), i.e. international observer given preference		By observer with independent GPS ⁴
(c) all other vessels	At least an international observer		By observer with independent GPS
<u>Pelagic operations:</u>			
Factory ships	Yes	Yes (2)	By observer with independent GPS
Catcher boats	?	Yes (1)	By observer with independent GPS

*Note that for coastal whaling, the vessel categories (a), (b) and (c) were based on information provided by Japan and Norway to the EDG regarding likely future whaling operations.

The Chair's proposal for the international observer scheme also includes provision for:

- an observer selection and placement process in which:
 - (1) Contracting Governments are able to veto candidates
 - (2) in principle, an observer would not be placed in territories/on vessels of the same Flag State, unless communication with the crew would be a problem)
 - (3) provisions to remove observers from the list are included
- Observer duties and reporting
- Observer training
- Responsibilities of those receiving observers.

4.3.2 *Discussions on the Chair's proposal*

Before opening the floor for discussions, the Working Group Chair summarised the views already expressed on this part of the Chair's proposal either at IWC/56 or in responses to the questionnaire on the Chair's proposals, i.e.:

- General support for the Chair's proposal.
 - Could support less strict measures regarding the international observer scheme (i.e. not total and overall coverage and/or duplication of the national inspector tasks, but some form of oversight by way of spot checks. This would also help to reduce costs.
 - Need to address certain elements not covered in the Chair's proposal (IWC/56/26) in detail, e.g. nationality of independent observers, observer candidate veto arrangements.

² Note two amendments have been made to this version of the table compared with that appearing in IWC/N04/RMSWG 16, i.e. for points of landing and category (c) coastal vessels it is now indicated that there will be at least an international observer. This more accurately reflects the recommendations from the EDG.

³ VMS data would be transmitted in real-time to an observer at the point of landing.

⁴ The proposal for all but category (a) vessels, is that the international observer on board would be equipped with a portable Global Positioning System (GPS). Such systems will be able to provide the necessary accuracy regarding vessel position and, if linked to a suitable storage device will enable a full record of the ship's position again time to be kept without undue effort by the observer. Such procedures are currently used in many cetacean surveys.

- 100% coverage of whaling vessels by the combination of inspection, observation and VMS proposed by the Chair is unnecessary and not cost-effective. However, depending on the specifics of other elements of the RMS package and overall balance of these elements, there could be agreement on the Chair's proposals.
- Inspection as well as observation should be co-ordinated at the international level by IWC.
- International best practice must be applied.
- International observers should be present on board all boats (there should be no exemptions as proposed by the Chair).
- It is undesirable and not feasible to allow room for the substitution of international observers by national inspectors.
- VMS should be installed on all vessels and provide real-time reporting.
- A centralised real-time VMS for both coastal and pelagic whaling operations is necessary. IWC should look to provisions for finfish fisheries under CCAMLR to identify appropriate benchmarks.
- A registry of approved whaling vessels is an essential part of any inspection and observation scheme.

The Chair also reminded the Working Group that at IWC/56, it was envisaged that a technical specialist group would be needed to work on aspects related to VMS.

To try to help focus discussions on the Chair's proposal for an inspection and observation scheme, the Secretariat identified the following issues arising from the views expressed prior to the meeting:

Inspection/observation:

- Should inspection be a national responsibility (as in accordance with the Convention and as previously assumed in RMS discussions) or should it be run by IWC?
- Should there be a national inspector and/or international observer on all boats, for would exemptions be allowed for small boats involved in coastal whaling:
 - If required on all boats, this would imply that 'small boats' would not be allowed to operate.
- Consideration of the nationality of observers and observer candidate arrangements and whether current proposals are sufficient.

VMS

- Should VMS be required on all boats, rather than on just category (a) vessels?
- If required on all vessels (the rationale should be explained), should VMS be managed by the relevant Flag States or should there be a centralised system managed by the Secretariat?

Vessel registry

- Should an IWC registry of approved whaling vessels be included in the RMS 'package'. (Note that the EDG-proposed text implies that such a registry would be held by the Secretariat. This information is needed for the placement of observers. It is proposed that information on the vessels would remain confidential, made available to Contracting Governments on request, and used only in conjunction with the international observer scheme).

Some Working Group members broadly supported the Chair's proposal, believing it to be a cost-effective approach and recognising that it was part of a compromise 'package' of measures. Different views were expressed however with respect to category (b) vessels, and whether on these vessels it should be the international observer that has precedence over the national inspector (as in the Chair's proposal) or *vice versa*. There did not appear to be significant support for establishing an international inspection regime. Several members stressed the need for a simple, cost-effective approach that would not be prohibitively expensive for any developing country that may wish to engage in commercial whaling at some point in the future. Others however continued to support the requirement to have international observers and VMS on all vessels (with real-time reporting of vessel position and with a centralised VMS system preferred to national systems). Such attributes were considered to be following international 'best practice' and similar to the requirements of CCAMLR and other regional fisheries bodies. The fact that a requirement for 100% coverage of vessels by observers would discriminate against small vessels traditionally used in coastal whaling was noted but not discussed further. Some members questioned the advantages of (1) VMS on all vessels over international observers with independent GPS and (2) centralised versus national VMS, and considered that these alternatives would simply be more costly than the Chair's proposal without providing additional benefits. Others believed these measures to be essential when, in future, authorised vessels may be operating in more than one *Small Area* and in the case of shared quotas (when they believed it may be difficult for observers to provide information in a timely manner) and in combating illegal, unreported and unregulated (IUU) whaling.

The need for a vessel register was mentioned by some members, but not discussed to any great extent, suggesting perhaps that the provisions already proposed by the EDG are sufficient. One member stressed the importance of keeping vessel information confidential. Reference was made to the lists of IUU vessels that other fisheries bodies are beginning to establish, with the suggestion that this could be considered by the Commission.

Several members again supported the view that there should be independent observation of abundance estimate surveys, although this was not discussed further.

4.3.3 Instructions to the SDG

Placement of national inspectors and international observers

At the end of discussions, despite the differing views on the approach to be taken in the case of small vessels used in coastal operations (i.e. vessel categories (a) and (b)), there appeared to be significant agreement with the Chair's proposal for the placement of national inspectors and international observers on other vessels. The Working Group therefore requested the SDG to develop draft Schedule text for the following options:

- (1) the Chair's proposals for national inspection and international observation, as described in document IWC/N04/RMSWG 8;
- (2) the requirement for all whaling vessels to have a national inspector and an international observer on board (i.e. 100% coverage).

Application of VMS

The Working Group agreed that a technical specialist group should be established, as proposed earlier, to consider this matter further and to report back to the RMS Working Group at its next meeting. The Terms of Reference and background on this issue are provided in Annex D. The Terms of Reference are repeated below:

'The RMS Working Group requests the VMS specialist technical group, taking into account the existing international experience, to:

- (1) identify the possible advantages/disadvantages in the context of IWC to add VMS (of various types) to vessels which have an international observer with GPS on board;
- (2) identify the relevant benefits from a compliance point of view of national VMS systems and a centralized system;
- (3) identify an appropriate system or systems and develop text for the technical document that would accompany the Schedule as described in (b) above;
- (4) develop cost estimates for the option(s) developed in (3) above;
- (5) report to the RMS Working Group on the outcome of items 1 to 4.

Participants in the VMS technical group should primarily comprise experts familiar with VMS and their application in the monitoring, control and surveillance regimes of other fisheries and related bodies.'

The Chair noted that the following Contracting Governments had expressed interest in participating in the VMS technical specialist group: Australia, Iceland, Japan, New Zealand, Norway and the USA. It was suggested that Iceland convene this group, and Iceland's Commissioner undertook to investigate this possibility.

4.4 Additional catch verification measures

4.4.1 Recap on the Chair's proposal

The Chair's proposed RMS 'package' included additional catch verification measures, i.e. measures additional to his proposed national inspection and international observation scheme.

In his document, the Chair noted that the objectives of a catch verification scheme are to ensure that:

- IWC commercial catch limits (and other regulations) are not exceeded by member countries; and that
- Total anthropogenic removals (direct catches and bycatch) are not exceeded (both in terms of IWC and non-IWC countries) – this involves obtaining information on their levels.

The aim is not to monitor trade.

The Chair took the view that for whaling vessels registered by Contracting Governments, the inspection and observation scheme he proposed will provide internationally verified information on all aspects of the catch (including quota monitoring) required by the IWC (position, sex, date, etc.). However, he recognised that for vessels from IWC member countries operating illegally or vessels from non-member countries involved in taking whales (i.e. IUU whaling) there clearly will be no inspectors/observers involved and consequently other measures will be needed to detect/deter such operations. Similarly, measures would be needed to detect/deter unreported bycatch. He therefore proposed that the following three measures be included as part of the RMS 'package':

1. National diagnostic DNA registers and market sampling to agreed standards (with outside review) and a procedure to allow checking of samples against the registers;

By having a system whereby all 'legal' whales/whale products on the market are included in a national register, products from whales not taken in accordance with the provisions of the Schedule can be identified.

Believing that preventing the import of whale products from non-IWC countries or from illegal operations of boats registered in IWC countries is an essential element of the catch verification approach the Chair also proposed:

2. A Resolution urging countries to institute national legislation prohibiting the import of whale products from non-IWC countries as well as from IWC countries that are non-whaling;
3. A system of national catch documentation up to the point of entry/landing. The Chair recognised that some form of documentation will be required by national governments at the point of entry to show that the products came from whales caught legally by an IWC country. Whale products not accompanied by such document would not be allowed to be imported. The Chair took the view that while it is the responsibility of national governments to decide what documentation they would require when products are being imported, it would be valuable to develop an IWC *pro forma* that takes into account harmonisation activities of FAO, existing CITES requirements and documentation, and sensitivities regarding IWC's competency to address trade issues. The Secretariat had been requested to develop a draft *pro forma*. The Chair did not believe that documentation/product labelling once a product has entered an IWC country is necessary given other measures in place.

4.4.2 DNA registers/market sampling

Range of views expressed on the Chair's proposal at IWC/56 or in responses to the questionnaire

These were:

Regarding inclusion of DNA registers/market sampling in the RMS 'package':

- Support inclusion of such measures as part of the RMS 'package'.
 - Any such scheme must be practical, cost effective and based on good practice.
- The inclusion of such measures as part of the RMS 'package' is unnecessary – the inspection and observation scheme will ensure that regulations are obeyed and seen to be obeyed. DNA registers/market sampling could be considered at a later date if the inspection and observation scheme has been found insufficient.

Regarding the level of, and responsibility for outside oversight and procedures for checking samples against a register:

- Reliable international monitoring is a prerequisite for credibility.
- There should be an international register maintained by IWC or another suitable body, accessible to all members of the IWC or approved users.
- International supervision should be guaranteed – for example, give an international supervisory body direct access to national registers. An IWC sub-committee could carry out supervisory tasks to agreed procedures.
- Contracting Governments should provide genetic profiles of each whale in their register in confidence to an outside body. Observers should be required to collect tissue samples for archiving in an approved independent laboratory.
- IWC should have responsibility for overseeing domestic registers, although verification need not necessarily be carried out by IWC itself. Copies of DNA registers should be maintained at an international body to allow independent checking of samples.
- Need transparent DNA registry of whale products in market place. Validity verified through random sampling by a qualified independent third party.
- Existing DNA registers have been developed for domestic purposes and are not required as part of the RMS package. Genetic profiles will not be provided to an outside body for purpose of checking samples. May be prepared to consider some voluntary measures.

Some thoughts on the DNA register/market sampling approach and the RMS

Prior to Working Group discussions on the Chair's proposal, Mike Tillman (USA) introduced document IWC/N04/RMSWG 9 developed jointly with the Secretariat.

This document provided some thoughts on the DNA register/market sampling approach and the RMS. It began by noting that it is commendable that both Norway and Japan have established DNA registers (of genetic profiles) of individual whales. Such registers, in conjunction with some type of market sampling scheme (MSS) can *inter alia* help Governments to fulfil their obligations under the Convention to ensure that the provisions of the Convention are applied (and in particular that catch limits are not exceeded). The Scientific Committee has commented that the technical specifications of the Norwegian system are of the highest quality and that its specifications provide a useful model for such registers. The Japanese system is modelled on that of Norway.

The document noted that the Scientific Committee has recognised the need for 'diagnostic' registers. A diagnostic register is one such that all animals registered are considered 'permitted' and any others are defined as 'not permitted'. In order to achieve this, a system needs to be established whereby bycaught, ship-struck and stranded animals are also included registers.

In the light of the general agreement that the objectives of the Supervision and Control scheme are to ensure that the Commission's Rules and Regulations *are* obeyed and *seen to be* obeyed, the document suggested that it would be sensible to consider this issue in the light of the considerable progress already achieved by Norway and Japan – and in the context of an overall package. It was suggested that the following factors must be borne in mind in any such consideration:

- (1) the contribution such registers make to the overall RMS;
- (2) the balance between avoidance of duplication of effort and 'transparency' (outside oversight);
- (3) standards required of any future additional whaling nations;
- (4) standards required with respect to submission of samples/profiles for 'testing';
- (5) resolution of possible disputes between two or more nations over the legitimacy of a given sample.

The document suggested that in practice, the key to each of these points lies in the balance between national control and outside oversight. Perhaps the two extremes under such circumstances would be:

- (1) national governments are wholly responsible for establishing and maintaining any DNA registers, carrying out any comparisons that they deem necessary and reporting any results that they feel are appropriate to the IWC;
- (2) the IWC establishes a single DNA register that it maintains and carries out any comparisons – national governments must supply a suitable tissue sample to the IWC of each whale caught, bycaught, ship struck or stranded.

The document noted that there are potential disadvantages with both of these approaches. Whilst the first approach may ensure that illegal catches are detected, it does not fulfil the criterion that the Commission's rules and regulations *are seen* to be obeyed. The second approach, whilst clearly fully transparent, ignores the fact that at least two national governments have already established their own national registers as part of their fulfilment of obligations under Article IX.1 of the Convention – thereby resulting in considerable duplication of effort and greatly increased costs of any overall RMS.

In suggesting a possible way forward, Document 9 indicated that the first issue is to consider is whether the DNA/MSS approach does provide the RMS with additional benefits (in terms of ensuring that the provisions of the Convention are upheld) to the Inspection and Observation Scheme i.e. rules *are* obeyed. It has been generally agreed that it does in the context of IUU whaling and/or unreported bycatches. Given this, the next issue is to try to reach consensus on what level of 'oversight', if any, is necessary to ensure that the rules are *seen to be* obeyed. Assuming that some degree of oversight is acceptable as part of the overall RMS package, the document explored issues surrounding the possible balance between national control and outside oversight as shown in the table below. The table includes those elements that should be included in the consideration of a generalised genetic identification system in which *an outside body* (note this might be the IWC itself or some other body – perhaps an independent contractor or a related international organisation such as CITES) maintains oversight.

Issues to consider	Comment
‘National’ registers	
(1) Should Schedule provisions (presumably in the Chapter on Supervision and Control) contain a requirement that a contracting party wishing to engage in commercial whaling, shall establish a system for catch verification based upon the use of genetic data?	<p>Norway and Japan are now doing this voluntarily. If it is agreed that such measures do add to the RMS in the light of its agreed objectives, then consideration must be given to whether it is appropriate to make this compulsory. An additional rationale for this is that it would be unfair if any new nations that might wish to go whaling do not have to include the same safeguards as existing countries. However, if such a nation lacks the technical capability to establish its own system, then it should be permissible that an appropriately qualified party can be authorized to provide such services (subject to the same provisions that the national systems meet).</p> <p>Additionally, particularly with respect to possible fraudulent allegations of illegal whaling, consideration must be given to the idea that <i>all</i> Governments (at least in ocean areas where whaling is carried out) in whose waters/coastline large whales are either caught, bycaught, ship-struck or stranded, should hold national registers.</p>
(2) Should national or other systems be diagnostic and established in accordance with the requirements and guidelines developed by the IWC, based upon the advice of a small group of technical experts (that will include representatives of those coordinating existing national registers)?	<p>The Scientific Committee has already recommended that registers should be diagnostic and existing registers are intended to be so. If it is agreed that provision for such registers should be compulsory, it makes sense (and is fair to those that have already developed such registers) that minimum standards are specified and that the IWC, via technical experts, is involved. This will ensure, consistency, comparability and equity. The Scientific Committee has already contributed in this regard. The EDG conditions of practicality and cost-effectiveness should be met.</p>
(3) Should the IWC, in conjunction with the relevant national authorities, develop requirements and guidelines for requests for comparison of samples/profiles obtained by appropriate third parties (e.g. national governments or relevant intergovernmental bodies)?	<p>It is extremely important to ensure that fraudulent requests for comparisons are not made and to provide a possible method for the resolution of disputes should these occur. It might be helpful for the IWC to have a facilitating role in this, irrespective of the outside oversight question. Note that database software and software for searching such databases are available from human forensic laboratories</p>
Market sampling (4) Market sampling in conjunction with registers can act both to detect whether illegal products have entered the market and as a deterrent to potential illegal activities. Should they be designed in conjunction with the IWC or other appropriate international body and who should carry them out?	<p>Whether carried by a national government or outside body, it is not simple to design appropriate market sampling strategies and to determine the level of sampling necessary to provide either a deterrent to potential illegal activities. The expertise currently existing in e.g. Japan plus the discussions in the Scientific Committee could be built upon. Other organisations such as CITES may have suitable experience. It would need discussion by an appropriate technical group. The likely outcome would probably have to be determined in terms of general principles and guidelines given the case-specific nature of markets.</p>
Outside oversight for the DNA/MSS approach	
(4) Should Contracting Governments provide the genetic profiles of each individual in their national registers to the outside body (e.g. the IWC Secretariat) in a pre-specified electronic format? If so, they could be held confidentially. Could they (under guidelines established by the Commission) be used for comparison in the context of possible infractions?	<p>This might be considered as an appropriate level of oversight, in that it allows the comparisons with ‘suspect’ samples to be compared independently from the national database. It could provide a simple yes/no answer to whether a sample is from an animal in a diagnostic register. This, in itself, will encourage the updating of registers (a negative result may have more serious consequences than a positive one for whaling nations).</p>

<p>(5) Should the IWC and/or some other outside body, based upon the advice of the same small group of experts (see (2) above), develop a system of oversight of such national systems to ensure that they meet the agreed guidelines and requirements? Such a system might include:</p> <ul style="list-style-type: none"> • periodic reviews of national procedures and an audit of their performance; • specification of an appropriately qualified third party to carry out such reviews/audits; • a review of the results reviews/audits by appropriate IWC body/ies (e.g. the Scientific Committee/Compliance Review Committee). 	<p>This would represent an additional level of oversight to that above. It would be considerably more expensive and time-consuming. The need for this should be examined in the light of the EDG objectives and the conditions of practicality and cost-effectiveness. Such an examination could be done by a small group of technical experts such as that referred to in (2) above.</p>
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Document 9 suggested that if an approach similar to that described above is considered worth pursuing, once the general principles are established (e.g. those outlined in the Chair's proposal), the Commission should establish a *small* group of technical experts to finalise the details of this for use in an RMS.

Discussion of the Chair's proposal

In the Working Group, some members continued to express a preference for a central DNA register managed by IWC or some other appropriate body, and reference was made to Schedule text proposed earlier in this regard (e.g. IWC/54/RMS 1 – The Report of the RMS Expert Drafting Group, IWC/54/35 – Proposed Schedule amendment for adoption of the RMS). However, there was a willingness to consider a system of national registers as proposed by the Chair providing adequate international oversight could be ensured.

One member expressed concern regarding the technical and cost difficulties that developing countries may face if required to establish national DNA registers/market sampling, and suggested that there should be some form of derogation from any such requirement for a period of, for example 5-10 years. In the meantime it was suggested that a catch document system could be used, and if there was export of whale products to countries with DNA registers, then samples could be taken for DNA analysis at export. Another member expressed concern regarding the current stockpiles of whale meat and other products and how these might be accounted for. Their preference was that such stockpiles are disposed of by a certain date, although it could accept that such stockpiles are entered into a DNA registry. On this particular aspect, Japan reported that for its stockpiles of whale meat taken prior to the moratorium, all Japanese wholesalers are encouraged to submit information as well as samples for it national DNA register.

Next steps

The Working Group recognised that further technical work is needed before the SDG would be in a position to develop draft text. It therefore agreed to establish a specialist group on the DNA register/market sampling scheme approach (SGNDA). The Terms of Reference and background on this issue are provided in Annex E. The Terms of Reference are repeated below:

‘.....taking into account the work already undertaken by Japan, Norway and the Scientific Committee, as well as the various Commission groups, it is agreed that the SGNDA should report on the following technical issues, and, where appropriate develop text for technical specifications, concerning the following:

- (1) specifications for the establishment/maintenance of diagnostic DNA registers (including tissue analysis and specification of markers, minimum laboratory requirements, format of individual records, database structure and search facility);
- (2) technical aspects of possible system(s) for submission to avoid fraudulent claims;
- (3) general approaches for designing MSS including consideration of likely detection rates given assumptions of particular levels of occurrence of infractions and coverage, recognising the case-specific nature of MSS;
- (4) technical aspects of potential mechanisms for transparency/audit/oversight with respect to (1) and (3) above;
- (5) technical advantages and disadvantages of holding a centralised tissue archive and centralised copies of the electronic profiles for national registers versus only having the electronic profiles.’

The USA agreed to convene this group (with assistance from the Secretariat), together with experts from Belgium, Iceland, Japan, Netherlands, New Zealand, Sweden and the USA.

4.4.3 *Resolution to deter IUU whaling*

Discussion of the Chair's proposal

The Commission Chair had requested the Secretariat to develop a draft Resolution urging countries to institute national legislation prohibiting the import of whale products from non-IWC countries as well as from IWC countries that are non-whaling, taking into account earlier similar Resolutions adopted by the Commission. The Secretariat's draft Resolution (IWC/N04/RMSWG 10) therefore formed the basis for discussions of the Working Group.

The views expressed by Working Group members were similar to those expressed either at IWC/56 or in responses to the questionnaire on the Chair's proposal. Some supported the proposed Resolution, while others believed that a non-binding Resolution is inadequate and that the requirement for appropriate national legislation to deter IUU whaling should form part of the RMS text itself within the Schedule.

Instructions to the SDG

The Working Group agreed to:

- (1) Keep the draft Resolution as proposed in IWC/N04/RMSWG 10 in hand.
- (2) Request the SDG to develop draft text to incorporate the operative paragraphs of the Resolution into the Schedule.

With respect to the draft Resolution, the Working Group should note that during the process of developing draft text to incorporate the operative paragraphs of the draft Resolution into the Schedule, the SDG recognised that the text in the second operative paragraph needed to be revised. This paragraph initially read as follows: 'Contracting Governments shall take all appropriate measures, including such amendments to their national laws and regulations as may be required, to prohibit the import of whales and whale products from non-Contracting Governments as well as from Contracting Governments that are not engaged in whaling'. Revision is necessary since: (1) it is not Contracting or Non-Contracting Governments that engage in whaling, but rather operations under their jurisdiction and (2) it needed to be made explicit that this provision did not apply to aboriginal subsistence whaling operations.

The SDG therefore brings the revised draft Resolution given in Annex F to the attention of the RMS Working Group.

4.4.4 *Catch documentation*

Background to RMS Working Group discussions

The range of views expressed on the Chair's proposal at IWC/56 or in responses to the questionnaire were:

- Agree that a formal system of catch documentation to the point of entry/landing should be implemented (i.e. the Chair's proposal).
- The catch documentation system should extend to the point of final consumption not just to the point of entry/landing. [This would not only help deter IUU whaling but will also recognise consumer needs and may also help to rebuild public confidence.][This is good practice for other products, is generally required in respect of food products entering retail trade and should also be the norm for whale products.]
- In matters concerning trade, it would be necessary to ensure that systems are co-ordinated with CITES.
- The possibility of instant checking of products on the basis of both accompanying documents and the fact that a product is marked (DNA being the best method for marking) is essential for the control of catches and trade (especially international trade). CITES documents will usually have to accompany products for international trade and introductions from the sea. In these cases, the addition of DNA data of catches on the CITES documents would establish a strong link between the visible, immediately verifiable document, and the less tangible but reliable DNA data.
- A system of catch documentation would simplify verification on site and could be a simple harmonization of a numbering system of existing international and national documentation requirements.
- A catch documentation system to deter IUU whaling is not necessary since there is no evidence that IUU whaling is currently a problem or that it would become so with the resumption of commercial whaling. The working group on catch verification 'reached broad agreement' that the proposed inspection and observation scheme would ensure that regulations are obeyed and are seen to be obeyed for registered IWC operations. The introduction of additional catch verification measures are therefore unnecessary and duplicative but could be considered at some future time if conditions arose to warrant such measures. In any case a system of catch documentation to the point of entry/landing is virtually in place because of CITES requirements

Given the differing views on whether or not catch documentation should be included in the RMS 'package' and on the nature and extent of any such system, rather than developing a *pro forma* for national documentation at this stage, the Secretariat believed that it would be more useful to develop a discussion document (see also IWC/N04/RMSWG 11) that considered in some detail: (1) the approaches to catch documentation of other Regional Fisheries Management Bodies and FAO; and (2) CITES requirements. Having reviewed the operation of existing schemes, the Secretariat

noted that while the development of a list of items that should be included on any catch document might not be too difficult, the development of the underlying processes and procedures would not be a trivial matter and suggested that the Working Group take the following approach in its discussions:

1. Consider the differing types of (catch) documentation approaches available (e.g. CITES permits/certificates, implementation of a trade/statistical document approach as being used by the Tuna FMBs, implementation of a CCAMLR-style catch documentation, etc.);
2. Consider whether, if a catch documentation scheme is desirable, it should extend only to the point of entry/landing or whether it should extend further down the supply chain;
3. Make recommendations for the approach or approaches, if any, that would be most suitable for IWC purposes, taking into consideration
 - the fact that while whale species remain CITES-listed, CITES permits will be required (implying that attention should be given to avoiding unnecessary duplication of systems)
 - the harmonization activities taking place within the RFMBs and FAO;
4. Given the potential complexity of this issue, consider whether it would be appropriate to establish an expert group to develop any approaches recommended under 2. above. Such a group should include individuals with detailed knowledge of how the existing systems work in practice and individuals with a knowledge of the whaling industry.
5. Provide policy guidance to the Small Drafting Group as appropriate.

Discussion of the Chair's proposal

Not surprisingly, the views expressed within the Working Group were similar to those expressed earlier. While some members continued to support the Chair's proposal for national documentation, others considered that an IWC document system along the lines of that of CCAMLR should be developed. Some members did not believe additional documentation is necessary given CITES requirements and existing national requirements for catch certification. Among those supporting some form of documentation, there appeared to be agreement that it should begin from the point of harvest. However, there was disagreement regarding how far down the supply chain any documentation should go. Some believed that it should stop at the point of entry/landing, others that it should stop at the wholesaler level, and others that it should extend to the retail level.

Instructions to the SDG

The Working Group did not consider it necessary to establish an expert group to further develop approaches to catch documentation, but requested the SDG to develop draft Schedule text for the following options:

- (1) Chair's proposal for national schemes to point of entry;
- (2) Modified Chair's proposal extending consideration to wholesaler level and retail level;
- (3) Proposal for an IWC-operated scheme – building on, for example CITES requirements and CCAMLR's Catch Document Scheme for toothfish and with options for (a) point of entry/landing, (b) wholesaler level; and (c) retail level. *[Note that the SDG (see Document IWC/D04/RMS SDG 5), that a specific detailed proposal for an IWC-operated scheme needed to be developed and available for review by the RMS Working Group at its next meeting. Sweden and New Zealand undertook to develop such a proposal in consultation with the Secretariat.]*

4.5 Compliance

4.5.1 Recap on the Chair's proposal

The Commission Chair proposed to establish a Compliance Review Committee the duties as developed by the EDG and agreed by the Commission (see IWC/54/7 and IWC/55/COMMS 2). He noted that under the Convention, it is clear that it is the responsibility of relevant Contracting Governments and not the IWC to impose penalties and proposed that the recommendations from the Compliance Working Group from IWC/55 be followed, i.e. that the following text be included in the Schedule: *The Compliance Review Committee reports on infringements and the seriousness of these infringements to the Commission and advises the Commission what actions, if any, to be taken*⁵

The Schedule text proposed by the Chair would be as follows:

Oversight

- (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.⁵

⁵ **Secretariat:** At the October 2002 RMS intersessional meeting, Japan indicated to the Chair that it is now in the position, in principle to lift its general reservation to the establishment of a Compliance Review Committee, although it had also indicated that it may wish to propose some word changes to some sentences in the draft Schedule text at a later date. On this understanding, the

(b) The Compliance Review Committee shall:

- (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;
- (viii) submit a report to the Commission on its deliberations and recommendations.

(c) The Compliance Review Committee reports on infringements and the seriousness of these infringements to the Commission and advises the Commission what actions, if any, to be taken.⁶

4.5.2 Discussion on the Chair's proposal

Before opening the floor to discussions, the Working Group Chair invited the Secretariat to summarise the range of views already expressed on this part of the Chair's proposal either at IWC/56 or in responses to the questionnaire on the Chair's proposals, i.e.:

- Broadly support Chair's proposal. Compliance Review Committee should develop a list of serious infractions.
- Agree that IWC will not have competence to impose penalties on individuals (that is prerogative of Contracting Governments), but IWC should have competence to impose sanctions on Contracting Governments that are in non-compliance with the Convention and Schedule.
- There is a need to develop binding dispute and penalties procedures which would include, for example, that in the case of serious infractions, there should be a provision which would result in catch limits being set temporarily to zero.
- Chair's proposal offers no significant improvement over the current Infractions Sub-committee. Effective compliance requires an independent, impartial and transparent adjudicative body. There is a need to amend the Convention/develop a Protocol in this respect.

In the Working Group, some members continued to give broad support for the Chair's proposal. In view of the proposal to include DNA registers/market sampling as part of the RMS package, one country suggested that the review of the operation of such systems be added to the duties of the Compliance Review Committee.

However, some members were very critical of the Chair's proposal, judging it to be insufficient to ensure compliance with what would be a brand new management scheme. They considered it imperative to have a system that would be defensible to the wider public, that the Commission should have some leverage in the way catch quotas are managed, that the Commission should have power to impose sanctions (on Contracting and possibly non-Contracting

square brackets have been lifted from sub-paragraphs (a) and (b). At that same meeting, the USA withdrew a sub-paragraph regarding involvement of NGO representatives in the spirit of compromise and in recognition that NGOs would continue to have observer status. During discussions of the Compliance Working Group at IWC/55, the Group agreed to withdraw a sub-paragraph indicating that the Compliance Review Committee shall act in accordance with the principles of fairness, transparency and due process etc, on the understanding that the Group acknowledged the importance of such principles. At the time, the Working Group was not able to decide how these principles might be embedded in the work of the CRC (e.g. formulating rules of procedure or other) and it recommended that the Commission consider drawing up rules of procedure. As a member of the Working Group, Germany, while endorsing the consensus text considered that from a legal perspective, work has to be done to address two important legal issues before deciding definitely, i.e. (1) if and how the rules of procedure should be drawn up; and (2) setting a legal framework for the definition of infringements and the seriousness of them as well as the legal consequences, addressing also the question whether this framework should be in the text of the RMS or elsewhere.

⁶ **Secretariat:** the Compliance Working Group proposed that earlier wording (i.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*') be replaced by that shown. However, during discussions at the following Private Commissioners' Meeting at IWC/55, one member of the Working Group – the UK – indicated that they would enter a reservation to the effect that any RMS text not providing for the automatic operation of penalties fails to meet the objectives that IWC has set, i.e. that the rules are obeyed and seen to be obeyed. Australia agreed.

Governments) and that a legally-binding dispute settlement mechanism should be established through the development of a Protocol to the Convention (this being considered the only way to establish such a mechanism). While recognising that Contracting Governments could discuss whether or not it is necessary or appropriate to amend the Convention, some members considered it an unrealistic proposal that would effectively block any agreement on an RMS. One member suggested that the discussion was confusing compliance and dispute settlement. This member considered that within the Chair's proposal there is an effective system for compliance and that a dispute settlement mechanism should be looked at separately, perhaps through the development of a Protocol.

4.5.3 Outcome of discussion and instructions to the SDG

Given there was no consensus on this matter, the Working Group agreed to take the following two options forward:

- (1) Put Chair's proposal (see 4.5.1) forward to the SDG. Recognizing the proposal for DNA registers/market sampling as additional catch verification measures, include in the duties of the Compliance Review Committee, the need to review the operation of such systems (refer to text in IWC/54/35). Also take account of the proposal that one of the activities that the Compliance Review Committee should do once established is to develop a list of serious infractions (and see section 4.10.2 on sanctuaries) and subsequent measures which could, in the case of an infraction, be taken by the Commission.
- (2) Development of a Protocol (or Protocols) to the Convention to:
 - a) Establish a dispute settlement mechanism
 - b) Give power to the Commission as a body to set penalties

While the first option gave instructions to the SDG, it was noted that the second option regarding development of a Protocol (or Protocols) is not an issue for either the RMS Working Group or the SDG. New Zealand noted its intention to work on this with a view to providing some discussion text, possibly before the RMS Working Group meets in March 2005. It stressed that such text would not form part of the mandate of the Working Group, but rather provide background to discussions in the margins of the meeting regarding development of (a) Protocol(s). In addition to addressing a dispute settlement mechanism and compliance (i.e. a and b above), New Zealand's intention is to also include Article VIII and whaling under special permit and opting out of provisions within the scope of a Protocol or Protocols (see section 4.8.3).

4.6 Mechanism to apportion costs among Contracting Governments

4.6.1 Recap on the Chair's proposal

The Commission Chair noted that more discussion is needed on the details of how RMS costs should be apportioned, but recommended that it is based on the general principle that costs for national activities be borne by relevant national governments, while international costs for securing transparency could be allocated in the context of the overall financial contributions scheme – as indicated below.

Cost element	Who pays
National inspectors	Appropriate member countries
International observers	The Commission, in accordance with a Financial Contributions Scheme
VMS	Appropriate member countries
DNA registers and market sampling:	
Set-up and running of systems	Member countries with DNA registers
Oversight/review of national systems	The Commission, in accordance with a Financial Contributions Scheme
Checking	The country requesting the checking

4.6.2 Discussion of the Chair's proposal

The Working Group Chair summarised the range of views already expressed on this part of the Chair's proposal either at IWC/56 or in responses to the questionnaire on the Chair's proposals, i.e.:

- Support for the Chair's proposal;
- Could support the Chair's approach in general, providing costs for 'duplicative' or unnecessary measures do not involve a greater share for whaling countries. It is unreasonable for those insisting on such measures to insist that they are paid for by others;
- In the current financial contribution scheme, a catch component is already in place to take account of the 'resource-utilisation' factor. There should not be an additional cost component for the whaling nations as a consequence of adopting an RMS that will benefit all members;

- Whaling countries should be responsible for all costs or a greater share, which would be:
 - Consistent with the user-pays principle
 - Consistent with approaches used elsewhere.

In the Working Group, concern was expressed by some members regarding the apparent extent of duplication in the proposed inspection and observation scheme, leading to higher costs that might be prohibitive to any developing country that may wish to engage in commercial whaling at some point in the future. It was noted that attention should be paid to the total cost of any scheme as well as how costs might be apportioned. However, discussions focused on how costs of international observers would be covered. Some members continued to support the Chair's proposal that such costs would be paid by the Commission in accordance with a Financial Contributions Scheme. Others proposed that such costs should be borne by the whaling countries alone (Contracting Governments could determine the extent of any cost recovery), in line with the practice in other fisheries organisations. Pointing out that IWC differs from other fisheries organisations in that not all IWC members would wish to take whales, some members considered this proposal inappropriate and again drew attention to the catch component already factored into the contributions scheme. In response, it was noted that CCAMLR has a wider role in the conservation of Antarctic marine living resources than simply fisheries management, is an organisation in which not all member countries engage in fishing in the Convention area but in which costs of observers are borne by those that do. Some members therefore believed that similarities did exist between CCAMLR and IWC, which also has a wider role than simply managing whaling.

Reference was made to an alternative proposal introduced at IWC/53 in London in 2001 (see IWC/53/9) in which core administrative expenditure associated with the international observation scheme would be borne by the Commission as a whole, while operating expenditure would be paid by the Commission but recovered exclusively from countries engaged in commercial whaling. Those supporting this approach noted that costs for developing countries might be greater under the Chair's proposal.

4.6.3 Instructions to the SDG

Noting the different views, the Working Group agreed that the SDG should be requested to develop draft Schedule text for the following two options:

- (1) The Chair's proposal as outlined in IWC/56/26;
- (2) Proposals introduced at the RMS Working Group meeting in London as reported in IWC/53/9. Draft text is available in IWC/54/RMS 2. In this option, the SDG was requested to take into account any recommendations from the Working Group on Costs that met in Antigua in May 2003 (see IWC/55/COMMS 4).

4.7 Measures for the lifting of paragraph 10(e)

4.7.1 Recap on the Chair's proposal

In his 'proposals for a way forward on the RMS' (IWC/56/26), the Commission Chair made the following statement and proposal:

'I do not believe that trying to finalise an RMS in isolation of discussions on paragraph 10(e) is appropriate, and consider that a way of linking agreement on an RMS with the lifting of paragraph 10(e) needs to be found. My preferred approach is to modify paragraph 10(e) such that it becomes invalid on a specific day whilst ensuring that any whaling operations are undertaken under the full RMS package as adopted by the Commission.'

He recognised that developing appropriate text to achieve this is not a simple task, and asked the Secretariat to develop some possible scenarios and text for consideration. The aim of any mechanism developed under the Chair's proposal will be to enable a lifting of paragraph 10(e) whilst ensuring that (1) whaling only occurs under a full RMS, and (2) that the objection of a non-whaling country could not prevent the possibility of whaling under an RMS. While some Contracting Governments believed strongly that there should be no link between adoption of an RMS and the lifting of paragraph 10(e), this request was supported by the Commission at IWC/56. The Secretariat therefore developed document IWC/N04/RMSWG 12 'Discussion document: The RMS and lifting of Schedule Paragraph 10(e) for consideration by the RMS Working Group'.

4.7.2 Discussion of the Chair's proposal

Background to Working Group discussions

The range of views expressed on the Chair's proposal at IWC/56 and in responses to the questionnaire could be broadly summarised as follows:

- There should be no link between reaching agreement on the RMS and lifting paragraph 10(e). Decisions on lifting or otherwise modifying the zero catch limits should be kept separate from considerations of the elements that in principle comprise a best-practice management scheme for whaling. Agreement on an RMS must be reached prior to any discussions on lifting the moratorium. (Any eventual process that might result in the lifting of the moratorium should not only be time-sensitive but also geographically sensitive to take account of the rights of coastal States that have opted for the non-lethal management of whale stocks.) (Another reason for objecting to an automatic lifting of the moratorium once the RMS is lifted is that were whaling to be resumed, disputes are bound to arise that the Convention is not equipped to deal with as it contains no mechanism for settling disputes.)
- There should be no link between reaching agreement on the RMS and lifting paragraph 10(e). The RMS should be rigorously tested first to make sure that it works and it would be prudent to formally retain paragraph 10(e) through that testing/trial period (with any catch limits set for particular stocks being regarded as exceptions to the general rule).
- There is no need to remove paragraph 10(e) in a single step – rather a phased-out approach would be more appropriate, i.e. exemptions from the moratorium would gradually be introduced for certain stocks under certain conditions.
- A link between the RMS and lifting of 10(e) could only be considered if a proposal is presented that ensures that 10(e) remains in force until the adopted RMS has entered into force without objections.
- Finalising the RMS must be linked to the lifting of 10(e). At least one Contracting Government takes the position that 10(e) is no longer in force due to its wording, i.e. '....and by 1990 at the latest.....'.

The following specific concerns were also raised by one or more Contracting Governments:

- Concern that the Chair's proposal would not prevent a Contracting Government from leaving the Commission after the 90-day objection period and rejoining with a reservation to the RMS, or a new government joining with a reservation to the RMS.
- The sunset clause proposed by the Chair provides that if a Contracting Government objects to the RMS as it is entered into the Schedule, 10(e) will remain in place. However, in this situation, the RMS will remain in the Schedule with objections lodged against it. It will not be binding on the countries that lodged objections should the moratorium ever be lifted in the future. Such an outcome is entirely unsatisfactory. To avoid this situation arising, any sunset clause added to 10(e) must have additional language stating that if any objections are made to the RMS then not only will 10(e) remain in place, but the RMS in the Schedule will also be rendered invalid. In other words, if there are any objections lodged against the RMS, 10(e) remains intact and the RMS added to the Schedule is deemed invalid.
- The Chair's approach is essentially analogous to Contracting Governments giving up their right under Article V of the Convention to file an objection. Clearly the Convention was drafted specifically to allow Parties to object to regulations so the insistence that any commercial whaling operations are undertaken under the full RMS package sets a possible problematic precedent of diminishing the rights of Parties.

Document IWC/N04/RMSWG 12 addressed the Chair's request to develop some possible scenarios for how adoption of an RMS and lifting of paragraph 10(e) might be linked and took account of comments on the Chair's proposal made at IWC/56 or in the questionnaire. Before laying out some possible options of how adoption of an RMS and the lifting of paragraph 10(e) might be linked, the document also considered what the practical consequences of lifting the moratorium would be assuming that a robust RMS, in which the RMP is used to set catch limits, is in place. Given this assumption, the document indicated that should paragraph 10(e) be removed, the practical consequences are that commercial whaling catch limits would remain at zero until the Commission decides otherwise. The 'moratorium' would therefore effectively remain in place, and a three-quarter majority would still be needed for catch limits to be set at anything other than zero. Moreover, if paragraph 10(e) is removed, catch limits will be zero until the Scientific Committee has completed an *RMP Implementation* for a particular species and area, and the Committee cannot begin an *Implementation* without instructions from the Commission. If implemented today, the RMP would only allow catches from some stocks of minke whales and there would be a natural phase-in of commercial whaling. Bryde's whales in the North Pacific and fin whales in the North Atlantic are at the *pre-Implementation Assessment* stage. In addition, the lifting of paragraph 10(e) would not affect paragraph 10(d), which would remain in place unless the Commission decides otherwise. Paragraph 10(d) forbids the taking, killing or treating of sperm whales, killer whales and baleen whales (except minke whales) by factory ships or whale catchers attached to factory ships.

The document considered the following two options in relation to the Chair's preferred approach to linking RMS adoption and lifting of paragraph 10(e), although it was noted that both have disadvantages:

- (1) Modifying paragraph 10(e) such that it is lifted on a certain date provided no objections to the RMS package have been lodged. This approach would certainly ensure that future commercial whaling was undertaken under the full RMS package. The primary disadvantage is that an otherwise broad agreement would collapse if a single country (of whatever view on whaling) lodged an objection to the RMS.
- (2) Modifying paragraph 10(e) such that it is lifted only if there are no objections to the RMS package from 'key players' – in a similar way to when a Convention only goes into force once certain named countries have ratified it (as was the case with the ICRW). The drawback to this approach is that it may be very difficult to reach agreement on who the 'key players' should be (ideally they should at least include all countries with an interest now or in the future in commercial whaling). In addition, this approach would allow a country not included as a 'key player' at the time the RMS is adopted to lodge an objection and then whale outside the RMS at some point in the future.

Other approaches the document suggested for possible consideration included:

- (3) Lift paragraph 10(e) simultaneously with adoption of the RMS, but include a clause/provision in the Schedule such that the Commission will not instruct/authorise the Scientific Committee to determine catch limits for a particular stock if the request for such a determination comes from a Contracting Government that has an objection or reservation to any part of the RMS. This has three possible disadvantages: (a) it may be considered to conflict with that part of Article V.2(c) that notes that 'amendments shall not involve restrictions on the.....nationality of factory ships or land stations.....'; (b) a country with no objection to the RMS may request the Commission to determine a catch limit for a particular stock on behalf of a country that has an objection/reservation; (c) it penalises a country with no objections who may wish to catch whales from the same stock as one that does have an objection.
- (4) Lift Paragraph 10(e) simultaneously with the adoption of the RMS and include a note to the Table of catches that states that catches may be taken only by operations under the jurisdiction of Contracting Governments that do not have objections or reservations to the RMS. This does not preclude Governments lodging objections but the implications if they do are clear. Although, it too may be regarded by some as conflicting with Article V.2 I it is perhaps one of the more promising approaches, given good will to find a solution.

The document noted that the above options do not fully address the concern that Contracting Governments are essentially being required to give up their right under Article V.3 of the Convention to object to Schedule amendments, although option (4) is perhaps the closest to this.

Options (3) and (4) address the concern expressed over the possibility of Contracting Governments leaving the Commission and rejoining with a reservation to the RMS or a new government joining with a reservation to the RMS. They also avoid the situation that could occur in Options 1 or 2 whereby if there are objections to the RMS, 10(e) remains in place and the RMS remains in the Schedule with objections lodged against it – in such a situation, the RMS would not be binding on the countries that lodged objections should the moratorium ever be lifted in the future.

Finally, the document noted that several governments suggested that there is no need to remove paragraph 10(e) in a single step and that a phased-out approach would be more appropriate, helping to build public confidence. In this approach, exemptions from the moratorium would be gradually introduced for certain stocks under certain conditions, for example by adding a sub-paragraph 10(f) specifically stating '*notwithstanding the provision in 10(e), catch limits are allowed for.....*'. The symbolism of 10(e) would be retained, although commercial whaling would be phased in (as mentioned above, there would be a natural phasing-in of commercial whaling even if 10(e) were to be lifted). This approach might address the view expressed by some governments that the RMS should be thoroughly tested before paragraph 10(e) is lifted, since presumably some commercial whaling will need to be allowed to enable such testing to be done. However, removal of paragraph 10(e) is equally symbolic to those countries supporting a resumption of sustainable commercial whaling and such an approach does not meet their wish for a direct link between adoption of the RMS and the lifting of the moratorium.

Working Group discussions

In the Working Group, there was continued strong support from some members for the Chair's proposal to link adoption of an RMS and the lifting of paragraph 10(e). Some took the view that the moratorium should be lifted simultaneously with adoption of an RMS to avoid the situation where Contracting Governments would essentially be required to give up their right under the Convention to object to Schedule amendments (as is the situation with the Chair's preferred approach). These members recognised the difficulties of developing a suitable mechanism, but felt that the options in Document 12 provided a starting point. Some members, while not supporting simultaneous lifting of paragraph 10(e), indicated that they were attracted by a phased approach to lifting the moratorium on a stock-by-stock basis and suggested that this approach be explored. These members believed that a phased approach to lifting paragraph 10(e) would help build confidence within the Commission and the general public in IWC's ability to manage

whaling. Others could not support any link between RMS adoption and lifting of paragraph 10(e) and believed that the Chair of the Commission had not given sufficient justification for such an approach. Several members stressed the need for any RMS 'package' to guarantee the right of coastal States to appropriate whale resources through non-lethal means. In response, other members suggested that whaling nations would not be operating in the EEZs of other States. Several members believed it important to have an ecosystem approach to resource management.

Statements supporting a phased-approach to lifting paragraph 10(e) were welcomed by some supporting simultaneous lifting as an indication that common ground might be found among some Contracting Governments. However, it was nevertheless noted that with simultaneous lifting of the moratorium, there would still be a phase-in of commercial whaling by species/area/stock (for reasons as described above), and that while confidence-building is important, sufficient confidence should already be in place because of the already conservative nature of the RMP.

With respect to the practical consequences should paragraph 10(e) be lifted assuming a robust RMS is in place, there was confirmation that catch limits for all stocks are zero, unless otherwise agreed by the Commission and included specifically in the Schedule for a particular stock or stocks.

4.7.3 Instructions to the SDG

Noting the different views expressed on the Chair's proposal, the RMS Working Group requested that the SDG develops draft Schedule text for the following three options:

- (1) The Chair's proposal for linking adoption of the RMS with lifting 10(e), taking into account options discussed in IWC/N04/RMSWG 12;
- (2) The suggestion that 10(e) should not be removed in a single step and that a phased-out approach would be more appropriate. In this approach exemptions from the moratorium would be gradually introduced for certain stocks for certain conditions, for example by adding a sub-paragraph 10(f) specifically stating '*notwithstanding the provision in 10(e), catch limits are allowed for.....*'.
- (3) No link between completion of the RMS and paragraph 10(e).

4.8 Whaling under special permit

4.8.1 Recap on the Chair's proposal

Recognising (1) the right of governments under the Convention to issue special permits, (2) concern expressed by some Contracting Governments regarding scientific whaling, and (3) the need to obtain as broad a consensus as possible on an RMS 'package', the Chair of the Commission believed that an appropriate approach would be to develop a voluntary 'code of conduct' for whaling under special permit as part of the RMS 'package'. Such a code might include certain features that research programmes should have, e.g. with respect to appropriate abundance estimates, improved participation of scientists from other countries in the design, review and conduct of research programmes, e.g. through international intersessional workshops. Noting that there was already a small group within the Scientific Committee working to consolidate existing guidelines, the Chair also proposed that this group develop recommendations for a code of conduct.

4.8.2 Discussion of the Chair's proposal

Before opening the floor for discussions, the Working Group Chair invited the Secretariat to summarise the views already 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.:

- Support for the Chair's proposal;
- A voluntary code is insufficient.
 - There is no longer any scientific justification for lethal research programmes.
 - There is a need for binding provision, and possibly the amendment of the Convention through the development of a Protocol, to restrict/phase-out/abolish whaling under special permit. Adoption of an RMS package would need to be preceded by such binding action.

In the Working Group, some members continued to support the Chair's proposal for a voluntary code of conduct. For others, the inclusion in the RMS 'package' of a mechanism to restrict/phase out whaling under special permit was important not only for those who could not support any resumption of commercial whaling, but also for those countries that might be able to support a resumption at some point in the future given an appropriate RMS 'package'. Some believed that the possibility to address this issue through the development of a Protocol to amend the Convention, or through some other instrument should be pursued. One member noted that they would be prepared to adopt an RMS pending formal adoption of a Protocol.

Other members could not accept any proposal to restrict or remove their rights under Article VIII to conduct whaling for research purposes, and believed that the Commission should work within the framework of the existing Convention to reach agreement on an RMS 'package'. They considered development of a Protocol removing such rights to be futile since it would be unlikely that consensus could be achieved and that it would be binding only on those members agreeing to it.

4.8.3 Outcome of discussions and future work

Given the views expressed, the Working Group agreed to take the following two options forward:

- (1) The Chair's proposal for a Voluntary Code of Conduct for whaling under special permit. An initial draft Code of Conduct will be developed by the small group within the Scientific Committee identified in the Chair's proposal (i.e. Chair and Vice Chair of Scientific Committee and the Secretariat's Head of Science). This initial draft will be available for review by the RMS Working Group at its next meeting, but it should be recognized that the Code of Conduct will also need to be reviewed by the Scientific Committee at IWC/57.
- (2) Phasing-out of whaling under Special Permit. One of the mechanisms proposed is the development of a Protocol to the Convention.

It was recognised that neither of these options require work from the SDG at this stage. As with discussions on compliance, New Zealand noted its intention to develop some discussion text on a possible Protocol, possibly before the RMS Working Group meets in March 2005. Such text would not form part of the formal Working Group discussions but rather provide background to discussions in the margins of the meeting.

4.9 Animal welfare considerations

4.9.1 Recap on the Chair's proposal

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 (1) voluntary reporting of data as discussed at the Workshop in Berlin; and (2) 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).

In addition, the Chair proposed that the importance of taking animal welfare considerations into account should be explicitly recognised in the Schedule through the inclusion of text along the following lines: *'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.'*

4.9.2 Discussion of the Chair's proposal

Before opening the floor for discussions, the Secretariat was invited to summarise 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 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.

4.9.3 Outcome of discussions 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 technical specialist group should be established with the following Terms of Reference:

'The Terms of Reference 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) To develop draft resolutions as may be necessary to give effect to terms of reference a- d.'

Richard Cowan (Commissioner for the UK) agreed to convene this group. Other members are Argentina, Belgium, Germany, Iceland, New Zealand and Germany. It was agreed that this group should aim to conduct its business by email correspondence.

The Working Group noted that at this stage it is not necessary for the SDG to address this matter until the technical group has reported back to the RMS Working Group.

4.10 Sanctuaries

4.10.1 Recap on the Chair's proposal

The Chair of the Commission noted that whale sanctuaries are provided for under the Convention and believed that they should be reviewed on their individual conservation and management merits. For this reason, he considered that it would be difficult to build sanctuaries into any RMS 'package'.

4.10.2 Discussion of the Chair's proposal

Some Working Group members indicated that they could not support an RMS in the absence of a commitment from all Contracting Governments to respect sanctuaries so that they can function effectively. There was some support for the suggestion that a breach of sanctuary provisions should be classed as a serious infraction and that this should be taken up by the Compliance Review Committee if established (see section 4.5). Others spoke in support of the Chair's decision. They saw no link between sanctuaries and the RMS and noted that: (1) unless the Commission decides otherwise, existing sanctuaries will remain even if paragraph 10(e) is lifted; (2) new sanctuaries will still require a three-quarter majority to be adopted; and (3) individual countries have the right to establish sanctuaries in their own EEZs.

4.10.3 Outcome of discussions

The Working Group Chair noted that there was support for and against including sanctuaries in the RMS 'package'. It was agreed that no action needed to be taken by the SDG at its first meeting.

5. NEXT MEETING OF THE RMS WORKING GROUP

The Chair informed the Working Group that plans were in place for the next meeting of the RMS Working Group to take place in Copenhagen from Wednesday 31 March to Friday 1 April 2005, hosted by the Government of Denmark. It was noted that the Working Group meeting would again be followed by a meeting of the SDG.

Annex I.A

List of Delegates and Observers

Antigua & Barbuda

Anthony Liverpool

Argentina

Eduardo Iglesias

Miguel Iniguez

Australia

Jonathon Barrington

Pam Eiser

Belgium

Alexandre de Lichtervelde

Brazil

Jose Truda Palazzo Jr.

Denmark

Kate Sanderson

Dominica

Lloyd Pascal

Finland

Esko Jaakkola

Gabon

Guy Anicet Rerambyath

Germany

Peter Bradhering

Guinea, Republic of

Amadou Telivel Diallo

Sidiki Diane (I)

Iceland

Stefan Asmundsson

Asta Einarsdottir

Christian Loftsson

Japan

Joji Morishita

Dan Goodman

Yasuo Iino

Netherlands

Giuseppe Raaphorst

Henk Eggink

Cindy Heijdra

New Zealand

Geoffrey Palmer

Jim McLay

Alan Cook

Mike Donoghue

Rosemary Paterson

Al Gillespie

Nicaragua

Miguel Marengo

Norway

Halvard P. Johansen

Turid Rodrigues Eusébio

South Africa

Horst Kleinschmidt

Herman Oosthuizen

Chris Badenhorst

Spain

Carmen Asencio

St. Kitts & Nevis

Daven Joseph

Sweden

Bo Fernholm

Stellan Hamrin

Thomas Lyrholm

UK

Richard Cowan

Geoff Jasinski

Sue Fisher

USA

Rolland Schmitt

Michael Tillman

Jean Pierre-Ple

Roger Eckert

Cheri McCarty

Kitty Block

Intergovernmental

Organisation Observers

IUCN

Justin Cooke

Non-Governmental

Organisation Observers

Animal Care International

Niki Entrup

Animl Welfare Institute

Susan Tomiak

BANEA

Ayako Okubo

Campaign Whale

Andy Ottaway

EIA

Jenny Lonsdale

Greenpeace International

John Frizell

High North Alliance

Olavur Sjurdarberg

IFAW

Vassili Papastavrou

Nordic Council for Animal Welfare

Sven Stenson

Werkgroep Zeehond

Geert Drieman

WSPA

Philip Lymbery

Secretariat

Nicky Grandy

Greg Donovan

Julie Creek

(I) Interpreter

Annex I.B

List of Documents

IWC/N04/RMSWG	1	Draft Agenda
	2	Draft list of documents
	3	List of Participants
	4	Responses to the questionnaire relating to ‘call for comments/positions on key issues in relation to the Chair’s Proposals for a Way Forward on the RMS’
	5	Verbatim Record of Discussions on the RMS at the 56 th Annual Meeting of the International Whaling Commission (Draft)
	6	Some thoughts on the RMP and the questionnaire responses (<i>prepared by the Secretariat</i>)
	7	Overview of the monitoring, control and surveillance regimes of other international fisheries management bodies (<i>prepared by the Secretariat</i>)
	8	Discussion document on Inspection, Observation and use of VMS (<i>prepared by the Secretariat</i>)
	9	Some thoughts on the DNA/MSS approach and the RMS (<i>prepared by Michael F. Tillman and the IWC Secretariat</i>)
	10	Draft Resolution on measures to deter illegal, unreported and unregulated whaling (<i>prepared by the Secretariat</i>)
	11	Discussion document on catch documentation (<i>prepared by the Secretariat</i>)
	12	Discussion document: The RMS and lifting of Schedule paragraph 10(e) (<i>prepared by the Secretariat</i>)
	13	Elements of an RMS “Package” (<i>submitted by Australia</i>)
	14	Statement of Principles should include (<i>submitted by St. Kitts and Nevis, Republic of Guinea, Gabon, Nicaragua, Dominica, Antigua and Barbuda</i>)
15rev		Summary of outcome of discussions on elements for an RMS package, including instructions from the RMS Working Group to the SDG

Documents from previous meetings

IWC/56/	26	Chair’s Proposals for a Way Forward on the RMS
	27	Summary of status of discussions on RMS elements and related issues as of 55 th Annual Meeting in Berlin
	28	Statement from Henrik Fischer, Chair of the Commission, to the Private Meeting of Commissioners/Alternate Commissioners on the 16 th July 2004
	36	Discussion document: Further Work Required on the RMS based on IWC/56/26
Resolution 2004-6		On completion of the Revised Management Scheme (RMS)
IWC/55/COMMS	3	Report of the RMS Working Group on Catch Verification
	4	Report of the RMS Working Group on Costs
IWC/54/RMS	1	Report of the Revised Management Scheme Expert Drafting Group

Annex I.C

Agenda and Terms of Reference

1. INTRODUCTORY ITEMS
 - 1.1 Appointment of Chair
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 - 4.10.3 Development of options

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5. INSTRUCTIONS TO THE SDG

6. SPECIALIST TECHNICAL GROUPS AND INSTRUCTIONS

7. NEXT MEETING OF THE RMS WORKING GROUP

Terms of Reference

Resolution 2004-6 indicated that the RMS Working Group will have the following responsibilities:

- (4) To complete work on the RMS package, with the goal of having a finalized RMS text ready for consideration, including for possible adoption, at IWC 57, and/or to identify any outstanding policy and technical issues.
- (5) To take account of delegates' comments at IWC 56, as well as written submissions from delegates.
- (6) To provide guidance to, and to review the work of, the Small Drafting Group.

RMS WG to be open to observers.

Annex I.D

Terms of Reference for Specialist Technical Group on VMS

BACKGROUND

In the context of IWC regulations and an inspection and observation scheme, knowledge of a vessel's position is primarily important to verify that whales caught are taken in the correct Small Area(s) designated by the RMP (see Table 1).

Chair's proposal

For those vessels that large enough to accommodate an international observer, the observer would be responsible for monitoring vessel position by means of an independent, portable Global Positioning System (GPS). Such systems are currently used in cetacean sighting surveys. Data can be transmitted as often as desired to shore.

For very small boats that operate day trips (<24 hours) only, carry out no substantial flensing on board, and can accommodate neither a national inspector or an international observer (i.e. the legal limit of persons on board does not exceed the number of the crew), the Chair proposed that these boats should be fitted with VMS that would transmit position data in near real-time to an observer at the point of landing.

Other comments

It has also been proposed by some delegations that VMS should be required on all vessels, irrespective of whether an observer is on board, and that this should comprise a centralised system run by or on behalf of the Secretariat.

Incorporation into the Schedule

Clearly, whatever system is used for vessel position monitoring/verification, practical/technical details will need to be developed. At IWC/54 in Shimonoseki, the RMS Working Group agreed to the proposal of the RMS Expert Drafting Group that the overburdening of the Schedule with such details should be avoided and that the following approach should be followed:

- (a) the Commission keeps all of the practical details in a single document, not the Schedule itself;
- (b) The Schedule refers to a dated version of this document. 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-quarter 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.

SPECIALIST TECHNICAL GROUP

Within the RMS Working Group, some members supported the Chair's proposal regarding the use of VMS and GPS, while others considered that VMS should be installed on all vessels. Given the differing views, the Working Group agreed to establish a specialist technical group on VMS with the following Terms of Reference:

The RMS Working Group requests the VMS specialist technical group, taking into account the existing international experience, to:

- (1) identify the possible advantages/disadvantages in the context of IWC to add VMS (of various types) to vessels which have an international observer with GPS on board;
- (2) identify the relevant benefits from a compliance point of view of national VMS systems and a centralized system;
- (3) identify an appropriate system or systems and develop text for the technical document that would accompany the Schedule as described in (b) above;
- (4) develop cost estimates for the option(s) developed in (3) above;
- (5) report to the RMS Working Group on the outcome of items 1 to 4.

Participants in the VMS technical group should primarily comprise experts familiar with VMS and their application in the monitoring, control and surveillance regimes of other fisheries and related bodies.

Table 1: Chair's proposal regarding placement of national inspectors and international observers

	Coastal whaling vessel category ⁷			Pelagic operations
	(a)	(b)	(c)	
Personnel				
On vessel	No inspector or observer, but VMS	Combined international observer/ national inspector	At least an international observer	Factory ship: nat. inspector & int. observers Catcher boats: at least int. observer
At port of landing	At least an international observer	At least an international observer	At least an international observer	National inspector & int. observer
Rule/information				
A. Number (incl. lost), species, sex., length if length limits (but note length is needed by the Scientific Committee)	Reported by whaling personnel at time of capture (i.e. in real time). Collected at point of landing. Observer has real-time VMS info to track vessel at sea to (1) ensure that vessel only visits authorised point of landing and (2) corroborate log book data.	Collected by international observer/national inspector at sea or at point of landing.	Collected by international observer/national inspector at sea or at point of landing.	Collected by international observer/national inspector at sea or at point of landing.
B. Position to nearest minute of lat. and long.	Reported by whaling personnel by radio and corroborated by observer from real time VMS info.	Collected by international observer/national inspector at sea (using independent GPS)	Collected by international observer at sea (using independent GPS).	Collected by international observer at sea (using independent GPS).
C. Catch Limits	(1) Preference: each vessel allocated individual catch limit – whatever vessel type (this applies to both situations where only one nation has operations in a <i>Small Area</i> , or more than one country – in the latter case inter-governmental agreement would need to be reached) This must be a decision of a Contracting Government (s) but if taken, it may be possible (either by agreement or by words in the Schedule) for CG(s) to agree to forward the details of the individual vessel catch limits (by <i>Small Area</i>) to the Commission. Under such circumstances the monitoring of the catch is carried out following the manner specified under A above.			
	(2) If not (1) above, then catches must be reported at regular intervals to a central body such as the Secretariat. Following rules established by the Commission, the Secretariat would then determine when the season should close and inform CGs. (see for example the USA suggestion that reporting might be weekly until 80% of the total limit has been reached and then daily thereafter).			
	Reporting would be by:			
	International observer at point of landing.	Combined international observer/national inspector	International observer	International observer
D. Additional information and samples required by Scientific Committee	Collection the responsibility of the CG. Observed by international observer/national inspector.	Collection the responsibility of the CG. Observed by international observer/national inspector.	Collection the responsibility of the CG. Observed by international observer/national inspector.	Collection the responsibility of the CG. Observed by international observer/national inspector.

⁷ Category (a) vessels: operate day trips (<24 hours) only, carry out no substantial flensing on board and can accommodate neither a national inspector or international observer on board in addition to crew. Category (b) vessels: Vessels<24 m, operate only within waters under jurisdiction of the Flag State that can only accommodate one person in addition to the crew. Category (c): all other vessels.

The EDG Framework

The EDG agreed that the primary objectives of any inspection and observation scheme are to:

- (5) ensure that the rules and regulations of the Commission are obeyed;
- (6) ensure that the rules and regulations of the Commission are seen to be obeyed;
- (7) report to the Contracting Government any infractions of those rules and regulations;
- (8) report to the Commission any infractions of those rules and regulations.

In developing a scheme to meet these objectives, account must be taken of:

- (4) certain desired features of any credible combined scheme, including that it be to the extent possible robust, independent, transparent and based on best practice;
- (5) the need for the scheme to be as simple, practical and cost-effective as possible, concomitant with meeting its objectives; and
- (6) the nature of likely future operations (whilst noting that any scheme must be sufficiently generic to be able to incorporate new vessels, etc without modification).

The following progression was then used to structure discussions:

- (1) identify the nature of the regulation or information required;
- (2) determine appropriate method(s) to monitor the regulation;
- (3) assess efficiency and practicality of method(s);
- (4) select most appropriate – recognising that this would require an overall review to determine the most efficient way to ensure the objectives of any scheme were met and to avoid any unnecessary ‘over-monitoring’ of any particular regulation;
- (5) determine whose responsibility to ensure method is used and who uses it;
- (6) determine reporting hierarchy;
- (7) determine who pays.

Annex I. E

Terms of Reference for a Specialist Group on the DNA register/Market Sampling Scheme Approach (SGDNA)

BACKGROUND

The use of a DNA/MSS (DNA register/Market Sampling Scheme) approach to obtain information that will help to ensure that catch limits set under the RMP are not exceeded has been discussed for several years. Such schemes are already in practice in Norway and Japan and discussion of some technical aspects has occurred within the IWC Scientific Committee. Such an approach can be particularly valuable in terms of detecting/deterring IUU operations or unreported bycatch (e.g. IWC/55/COMMS 3). Any wider issues of trade that may be of benefit to individual nations themselves are not of relevance to the IWC.

Chair's proposal

The Chair's proposal stated that DNA registers/market sampling systems should form the major part of the catch verification system. They should have the following attributes:

- National diagnostic DNA register for each whaling country or group of countries (to agreed specifications) to avoid redundancy and additional costs;
- Designed market sampling system (to agreed specifications);
- Some degree of outside audit.

The Chair had noted that further work is needed to adequately specify certain technical details and to consider the level of appropriate transparency that will fulfil the goal that regulations are not only obeyed but seen to be obeyed. He had also noted that an agreed specified system for submitting samples to the register(s) for 'checking' must be developed to prevent fraudulent claims of illegal products being found. Under this system it is proposed that: (1) samples must be submitted via national governments or appropriate intergovernmental organisations with proof of origin of the samples; and (2) analysis must follow agreed techniques in approved laboratories.

There is general (although not exclusive) agreement on this approach in the RMS working group; the primary area from a policy perspective is the level and nature of outside oversight.

ESTABLISHMENT OF A TECHNICAL SPECIALIST GROUP (SGDNA)

In accordance with the Chair's proposal, it has been agreed to establish an SGDNA to provide advice on the technical details related to the DNA/MSS approach. Without making specific recommendations on appropriate levels or who should carry out the outside audit, it would also be useful for the group to provide technical details of potential audit mechanisms for DNA registers and market sampling schemes. This information could then be considered at the next meeting of the RMS Working Group for consideration at both the policy and drafting levels.

Membership

This must be a specialist group and members should be familiar with DNA analysis (particularly with respect to individual identification, ideally in the context of DNA registers), market sampling approaches or both. The USA has agreed to act as Convenor of the group with assistance from the Secretariat. In order to facilitate work, Governments are requested to notify the name and email address of their expert to the Secretariat by 10 December 2004.

Modus operandi

The group should endeavour to complete its business by correspondence. However, it is recognised that with such a complex agenda this may be difficult and the possibility of the need to hold a short meeting (probably immediately prior to the March RMS Working Group meeting) cannot be ruled out. The Commission should consider whether it may be appropriate to provide some funds for participants in this regard. In either circumstance the report of the group must be available to the next meeting of the RMS Working Group.

Existing documentation

There has been considerable discussion of relevant matters both within the Commission's RMS groups and its Scientific Committee. The Secretariat will compile an electronic reference set of such documents for circulation to the SGDNA

Terms of reference

Given the above, and taking into account the work already undertaken by Japan, Norway and the Scientific Committee, as well as the various Commission groups, it is agreed that the SGDNA should report on the following technical issues, and, where appropriate develop text for technical specifications, concerning the following:

- (1) specifications for the establishment/maintenance of diagnostic DNA registers (including tissue analysis and specification of markers, minimum laboratory requirements, format of individual records, database structure and search facility)
- (2) technical aspects of possible system(s) for submission to avoid fraudulent claims;
- (3) general approaches for designing MSS including consideration of likely detection rates given assumptions of particular levels of occurrence of infractions and coverage, recognising the case-specific nature of MSS;
- (4) technical aspects of potential mechanisms for transparency/audit/oversight with respect to (1) and (3) above;
- (5) technical advantages and disadvantages of holding a centralised tissue archive and centralised copies of the electronic profiles for national registers versus only having the electronic profiles.

Annex I.F
Revised draft Resolution on
measures to deter illegal, unreported and unregulated whaling

WHEREAS it is the purpose of the International Whaling Commission to provide for the effective world-wide conservation and management of whale stocks;

WHEREAS the International Whaling Commission has adopted a Revised Management Scheme to carry out that purpose;

WHEREAS, the verification of catches to deal with the issues of illegal, unregulated and unreported whaling and unreported bycatches is an essential element of the Revised Management Scheme;

WHEREAS, the importing of whales or products thereof from any State not a party to the International Convention for the Regulation of Whaling together with illegal activities of Parties will seriously detract from the effectiveness of the management scheme adopted by the International Whaling Commission;

RECALLING previous Resolutions passed at its 28th, 29th and 31st Annual Meetings [RIWC 21: 33, RIWC 28: 31, RIWC 30:38] and at its Special Meeting in December 1978 [RIWC 30:8] prohibiting the import of whales and whale products from non-member nations and/or proscribing the transfer of whaling vessels and equipment and the dissemination of assistance to non-member nations;

NOW THEREFORE THE COMMISSION:

REAFFIRMS the commitments undertaken by the adoption of Resolutions at its 28th, 29th and 31st Annual Meetings and at its Special Meeting in December 1978;

DECIDES that, if they have not already done so, Contracting Governments shall take all necessary measures to prohibit the import of whales and whale products obtained illegally, from operations not under the jurisdiction of Contracting Governments or for which local consumption is specified under paragraph 13.(b) of the Schedule dated October 2004, including such amendments to their national laws and regulations as may be required;

RESOLVES that all Contracting Governments shall report to each Annual Meeting of the Commission on their efforts to implement this Resolution.

Part II

Chair's Report of the RMS Working Group Meeting

Eigtveds Pakhus, Copenhagen, Denmark, 30 March to 1 April 2005

1. INTRODUCTORY ITEMS

1.1 Appointment of Chair

The meeting was chaired by Henrik Fischer, Chair of the Commission.

1.2 Introductory remarks

The Chair welcomed delegates and observers to the meeting. He apologised for his unavoidable absence at the Sorrento and Borgholm meetings where his Chair's Proposal had been discussed.

The Chair provided a brief overview of the history of discussions on the RMS that had started just over 10 years ago. Despite the many years over which discussions have taken place, he believed that insufficient progress had been made. He feared that if discussions continued at the same pace, the future of the IWC as a management body would be in doubt and that this could have serious consequences for whale conservation. He therefore hoped that proposed draft RMS Schedule text could be available for review by the Commission at IWC/57 in Ulsan. In his view, all Contracting Governments have an obligation to co-operate on issues related to both conservation and management and he stressed the need to achieve compromises. Given the present situation with respect to whaling, he therefore believed that the most pertinent question now facing the IWC is not whether commercial whaling should take place or not, but whether it will take place under or outside IWC control.

Following these remarks, some stressed the need to be mindful of the goals established by Resolution 2004-6 which had two aspects, i.e. to complete work on the RMS package, with the goal of having a finalised RMS text ready for consideration, including for possible adoption, at IWC 57, and/or to identify any outstanding policy and technical issues. In response, the Chair explained that he had no intention of violating the Working Group's terms of reference. However, he reminded the meeting that when he had been invited by the Commission in 2001 to chair the RMS Working Group, he had been asked to try to make progress – he is still trying to do so. Nevertheless, he recognised absolutely that it is the right of each Contracting Government to decide whether or not it supports the idea of an RMS and the responsibility of the Commission to determine whether there will be an RMS and, if so, what form it should take.

1.3 Reporting

In the interest of making the best use of the time available, the Working Group agreed that, as with the Borgholm meeting, a Chair's report summarising the main discussions and outcomes of the meeting should be prepared and circulated after the meeting. Noting, however, that one of the Working Group's tasks was to provide guidance to the SDG, it was recognised that a paper documenting this guidance should be prepared and agreed before the end of the meeting.

Nicky Grandy and Greg Donovan (Secretariat) were again appointed as rapporteurs.

1.4 List of participants

The list of delegates and observers to the RMS Working Group is provided in Annex II.A.

1.5 Review of documents

The list of documents available to the meeting is given as Annex II.B.

2. ADOPTION OF AGENDA

The draft agenda was adopted without changes. The adopted agenda and Terms of Reference for the Working Group are provided in Annex II.C.

3. ELEMENTS OF AN RMS PACKAGE AND INSTRUCTIONS TO THE SMALL DRAFTING GROUP AND SPECIALIST TECHNICAL GROUPS

Following the SDG meeting in Borgholm, comments on its report (IWC/D04/SDG 5) were invited and were made available to the RMS Working Group in Copenhagen as IWC/M05/RMSWG 4. Only Japan, New Zealand, Australia and Norway provided comments. Working Group members were also invited to comment on the Borgholm SDG report

at the present meeting. Substantive comments are captured in the sections below, while those of an editorial nature have not been mentioned but were considered by the SDG at its subsequent meeting.

3.1 Statement of Principle

3.1.1 *Recap on outcome of Working Group discussions in Borgholm (see Part I, Section 4.0)*

The Secretariat summarised the background to this item, recalling that proposals to insert a statement of principle at the beginning of Chapter V Supervision and Control to describe the scope, mandate and purpose of any RMS were first introduced by New Zealand and the UK after the RMS Intersessional meeting in Monaco in February 2001. These proposals were then discussed at IWC/53; some countries supported the idea, while others saw it as unnecessary. This issue was then discussed within the RMD Expert Drafting Group (EDG) between IWC/53 and IWC/54. The EDG did not reach consensus on whether introductory text was necessary, but a compromise – a slimmed down version of the original proposals – was agreed. New Zealand and the UK subsequently withdrew from this compromise stating that this was due to the absence of compromises from others on other matters under discussion. At the meeting in Borgholm, New Zealand re-introduced its earlier proposal, leading to the introduction of two further proposals – one from Australia, and another from St Kitts and Nevis and others.

The outcome of the Borgholm discussions was that the Working Group instructed the SDG to develop draft text for all options – including the option of having no statement of principle, i.e.:

- (1) a short version of paragraph 1(a) as in Report of the RMS Working Group from IWC/54 in Shimonoseki (IWC/54/7);
- (2) a longer version of paragraph 1(a) as proposed by New Zealand and included in document IWC/53/RMS 2 rev and including consideration of proposals submitted by Australia (IWC/N04/RMSWG 13) and St Kitts and Nevis, Republic of Guinea, Gabon, Nicaragua, Dominica and Antigua and Barbuda (IWC/N04/RMSWG 14);
- (3) to include and exclude paragraph 1(b) as in Report of the RMS Working Group from IWC/54 in Shimonoseki (IWC/54/7);
- (4) no statement of principle.

3.1.2 *Discussion and instructions to the second meeting of the SDG*

When initiating discussions, the Chair recognised the differing opinions within the Working Group as to whether or not a statement of principle is needed and if so, what form it should take. However, drawing attention to the many options for this (and other possible RMS elements), he asked whether progress could be made by returning to the recommendation from the EDG captured in options (1) and (3) above. While some members supported this approach, others still preferred a longer version. Some members also commented that for the present, discussions should continue to focus on the substance at hand and not on trying to reduce the number of options. They believed that trying too hard to reduce options at this stage may be counterproductive and may lead to many proposed amendments at IWC/57. St Kitts and Nevis and others who proposed a longer statement of principle in Borgholm, indicated their willingness to withdraw this if Australia and New Zealand would do likewise. Australia and New Zealand declined, but did agree to merge their proposals. Norway, who preferred no statement of principle, indicated that they could accept the shorter version provided the square brackets placed around the words ‘aboriginal subsistence whaling’ were removed.

As a result of the above discussions, the Working Group noted that the following options regarding a statement of principle now exist:

- (1) Option 1 – see IWC/D04/RMS SDG 5, Annex D;
- (2) Option 1 above but with Norway’s proposal to remove the exemption for aboriginal subsistence whaling;
- (3) Option 2 - Proposal (B) – see IWC/D04/RMS SDG 5, Annex D;
- (4) Option 2 – replacement of old Proposals (A) and (C) by that proposed jointly by Australia and New Zealand - see IWC/D04/RMS SDG 5, Annex D;
- (5) Option 3 as drafted by the SDG – see IWC/D04/RMS SDG 5, Annex D;
- (6) Option 4 – no statement at all.

It was agreed that the SDG should consolidate the text in IWC/D04/RMS SDG5 Annex D to reflect these six options.

3.2 Revised Management Procedure (RMP)

3.2.1 *Recap on outcome of Working Group discussions in Borgholm (see Part I, Section 4.1)*

In Borgholm, the Working Group had supported the current RMP. However, while some members stressed the need to retain the current tuning level of 0.72 and protection level of 0.54, others believed the tuning level to be too conservative. There was a suggestion by one member that the Commission should move away from a generic RMP to

specific management procedures for specific stocks. Such a change would need to follow an appropriate process – and would clearly take some time.

The Working Group agreed to instruct the SDG to develop draft text for two options:

- (1) the RMP as currently adopted by the Commission;
- (2) with square brackets concerning the tuning level.

The SDG was also requested to review existing draft Schedule text for incorporating the RMP and its annotations, requirements and guidelines into the Schedule (see IWC/D04/RMS SDG 5, Annex E).

The Secretariat reported that minor work to finalise the ‘Requirements and Guidelines for *Implementation*’ of the RMP would be done by the Scientific Committee at IWC/57 and will be reported to the RMS Working Group in Ulsan.

3.2.2 Discussion and instructions to the second meeting of the SDG

Australia noted that it believed that at IWC/56 many Commission members did not have a strong understanding of the RMP; Australia itself had some difficulties in relation to RMP implementation. It recalled that at IWC/56 it had requested a presentation on the RMP to be made in Ulsan and that it would reserve its position on the RMP until after this presentation. The UK took a similar view.

Argentina expressed concern regarding the second option above, i.e. to put the tuning level (technically this is the lower percentile of the marginal posterior distribution of L_t that gives effect to the tuning level) in square brackets. It questioned why option (2) is allowable since the RMP had been adopted by the Commission in 1994 by consensus. Argentina did not believe that the Working Group could change the position of the Commission. This view was supported by Brazil and Italy. In response, Norway, who had requested option (2) in Borgholm, reminded the meeting that it had reserved its position on the tuning level of 0.72 at the time. It uses a level of 0.62 to set catch limits for its commercial hunt under objection. It further remarked that it has plans to revise the RMP and proposed an additional third option to the effect that the best available science should be used in a new RMP. Japan recalled that at the Annual Meeting in 1991 when the tuning level of 0.72 was adopted by Resolution, the Scientific Committee had actually recommended three tuning options (0.6, 0.66 and 0.72) all of which were considered ‘safe’ – the choice of 0.72 had thus been a political rather than a scientific matter. The USA favoured removal of the square brackets (i.e. deletion of option 2). It believed that the Commission is already using the best available science but questioned whether perhaps what Norway is seeking is the possibility for periodic review of the RMP. Monaco thought this approach interesting given that science does evolve.

Norway declined to withdraw its proposal although thanked the USA for its comment and agreed to develop proposed draft Schedule text for a third option. Consequently the Working Group noted that the following options exist:

- (1) the RMP as currently adopted by the Commission - see IWC/D04/RMS SDG 5, Annex E;
- (2) as (1) but with square brackets around the lower percentile of the marginal posterior distribution of L_t - IWC/D04/RMS SDG 5, Annex E;
- (3) the new proposal from Norway using text it provided.

It was agreed that the SDG should consolidate the text in IWC/D04/RMS SDG5 Annex D to reflect these options.

3.3 Phased-in approach to commercial whaling

3.3.1 Recap on outcome of Working Group discussions in Borgholm (see Part I, Section 4.2)

In Borgholm there had been some, but not universal support for the Chair’s proposal for a phase-in of commercial whaling by initially restricting it to waters under national jurisdiction. The RMS Working Group had simply requested the SDG to incorporate the proposal into the draft Schedule in square brackets. The Chair believed that a phased-in approach to commercial whaling could be useful in building public confidence in IWC’s ability to manage whaling and conserve whale stocks.

3.3.2 Discussion and instructions to the second meeting of the SDG

New Zealand suggested that the background to the Chair’s proposal was the so-called Irish Proposal put forward in 1997. At the core of the Irish Proposal was a compromise involving the permanent restriction of commercial whaling to within EEZs, together with strict controls. New Zealand indicated its willingness to discuss this proposal, which it believed remained on the table. It felt that the ideas behind the Irish Proposal are what is driving work on the RMS and expressed disappointment that the Chair’s proposal was to restrict commercial whaling to national waters for a limited period only. Brazil and Monaco associated themselves with New Zealand, although Monaco stressed the need to seek compromises. The Secretariat reminded the Working Group that at the Commissioners’ meeting on the RMS in Cambridge, October 2002, Ireland indicated that it did not believe that restriction of commercial whaling to within waters under national jurisdiction needed to be permanent – rather it should be considered a time-limited measure and that the precise mechanism and time-scale would need to be determined (IWC/55/COMMS 2).

Nicaragua disagreed with the position of New Zealand. St Kitts and Nevis believed that the RMS should take a scientific, not a political approach, and that whales should be managed on a stock-by-stock basis. It questioned New Zealand's claim that the Irish Proposal remains the driving force for discussions since many governments opposed it at the time and that considerable work has been undertaken since. As has previously been stated many times, a number of States would be at a significant disadvantage if commercial whaling were to be restricted to EEZs. St Kitts and Nevis added that in such situations, it is normal to put compensation measures in place (e.g. a compensation fund), and that it could only agree to restrictions of commercial whaling if there was also agreement on a compensation mechanism. Iceland also noted the past disagreements over the Irish Proposal and explained that this is why the Chair's proposal is one of compromise.

Argentina indicated that it could not support a text which does not state that whaling will be restricted to waters under the national jurisdiction of the Contracting Governments that undertake whaling or in the waters under national jurisdiction of another Contracting Government subject to agreement with this Contracting Government. It further noted that any Contracting Government legislation that prohibits whaling should not be affected by the adoption of an RMS. Argentina was of the opinion that a better phase-in approach could be based on the gradual implementation of the RMS to some particular areas, under national jurisdiction, agreed by the Commission following recommendations of the Scientific Committee. This method would exclude the implementation of the RMS on waters under the jurisdiction of States whose national legislation forbids whaling and could better serve the purpose of protection of some endangered stocks. Japan stated that in its view it is already not possible for vessels from one Contracting Government to conduct whaling in the waters of another Contracting Government without the permission of that Government.

Following the discussions, the Working Group noted that the following options now exist:

- (1) No phase-in of commercial whaling;
- (2) No whaling on the high seas (i.e. re-introduction of earlier proposal - IWC/D04/RMS SDG 4, paragraph 3);
- (3) Phasing-in as proposed by the Chair - see IWC/D04/RMS SDG 5, Annex E, paragraph 3;
- (4) Option for compensation proposed by St Kitts and Nevis using text provided by St Kitts and Nevis as a basis.

It was agreed that the SDG should consolidate the text in IWC/D04/RMS SDG5 Annex E to reflect these options.

3.4 National Inspection and International Observation Scheme

3.4.1 Recap on outcome of Working Group discussions in Borgholm (see Part 1, Section 4.3) and subsequent intersessional work

In Borgholm, some Working Group members broadly supported the Chair's proposal (which reflected previous broad agreement within the Commission on this issue), believing it to be cost-effective and recognising that it was part of a compromise 'package' of measures (see Part 1, Section 4.3.1).

There were two major areas of discussion:

Placement of national inspectors and international observers – The Working Group requested the SDG to develop draft Schedule text for:

- the Chair's proposal;
- the requirement for all whaling vessels to have a national inspector and an international observer on board (implies small vessels cannot be used);

Application of VMS

- The issue here was whether VMS (Vessel Monitoring System) is needed only for small boats with no inspector or observer on board, as in Chair's proposal, or whether VMS should be required on ALL boats.

The Working Group established a VMS technical specialist group to further develop this area (see Terms of Reference in Part 1, section 4.3.3). It comprised Iceland as convenor, Australia, Japan, New Zealand, Norway and the USA. Its report was made available as document IWC/M05/RMSWG 6 and is included here as Annex II.D. The document was introduced by Mr Gylfi Geirsson, convenor of the group.

3.4.2 Discussion and instructions to the second meeting of the SDG

PLACEMENT OF NATIONAL INSPECTORS AND INTERNATIONAL OBSERVERS

Japan drew attention to the Chair's proposals for coastal whaling vessels that can only accommodate one additional person in addition to the crew (i.e. category (b) vessels - see Part I section 4.3.1), i.e. to appoint an international observer who may also be appointed as a national inspector. It informed the meeting that such a situation would cause serious problems for Japan since under its national law, national inspectors have enforcement powers which could not be given to foreign nationals. It suggested that this problem could be avoided if it was the national inspector that could

be designated as an international observer. Japan noted that while the Chair's proposal would not currently cause a problem for Japan as it does not have coastal whaling falling into this category, it believed it may be a problem for others. Norway noted that it does not have the same legal problems as Japan, but added that it is unlikely to accept the Chair's proposal for other reasons, such as language problems⁸. Norway further reported that it does not now have a national inspector on board all vessels as it has developed an electronic system (the 'blue box') in combination with VMS to replace them. Norway undertook to provide detailed information on its 'blue box' system to the RMS Working Group in Ulsan.

New Zealand recalled that the Chair's proposal for category (b) vessels was one of the few areas on which there was agreement within the EDG and urged that discussions on this part of the proposal not be re-opened. In response, Norway drew attention to the fact that the EDG did not reach agreement on whether one observer appointed by the Commission shall be present on all vessels undertaking whaling operations or may be present. It therefore did not believe that any agreement would be broken.

Sweden asked for clarification from Japan and Norway regarding who has enforcement powers. Japan noted that their national inspectors have some legal capacity, but that it would be the responsibility for each Contracting Government to define the role of their own national inspectors. It considered that international observers would have no enforcement powers. Norway explained that it is their coastguards rather than national inspectors who have enforcement powers. It indicated that it trusted its whalers and considered it sufficient to take action on any infractions after the end of each season, as necessary.

Sweden indicated that it could support the Chair's proposal for the placement of national inspectors and international observers, particularly in view of the discussions regarding VMS requirements (see next section) and the possibility for new technology as being developed by Norway. Others however, including Australia, New Zealand, Brazil and the UK, preferred to have international observers on all boats and stated that all options should be kept open at this stage. Iceland expressed concern over the direction in which discussions were going. It believed that keeping all options open is not a way forward. Its own view was that the Chair's proposals for inspection and observation are excessive, but it was prepared to accept them in the spirit of compromise as part of an overall package.

The Chair noted that there appeared to be agreement on his proposals regarding pelagic whaling vessels and that the difficulties were only with respect to coastal whaling.

After the above discussions, the Working Group noted that the following options exist:

- (1) Chair's proposal - see IWC/D04/RMS SDG 5, Annex F;
- (2) National inspectors and international observers are required on all boats - see IWC/D04/RMS SDG 5, Annex F;
- (3) The nature of national inspection not being specified (i.e. being left to the Contracting Governments to specify) as proposed by Norway.

It was agreed that the SDG should consolidate the text in IWC/D04/RMS SDG5 Annex F to reflect these options.

APPLICATION OF VMS

The meeting thanked the convenor and members of the VMS group for their work and report.

The starting position of some members was that VMS should be required on all boats with real-time reporting to a Fisheries Monitoring Centre and/or the Secretariat as this is now the standard practice in most other fisheries management bodies. Others first sought clarification of what the added value of this would be compared with international observers monitoring position using portable GPS as in the Chair's proposal⁹.

In trying to provide some clarification, Iceland acknowledged that a requirement for wide-ranging VMS had not been included in the Chair's proposal and accepted that VMS is not necessarily needed since an inspector and international observer will be on board most vessels. However, it was prepared to consider such a requirement because VMS is: (1) so widely used already; (2) relatively cheap; and (3) very helpful for crew safety purposes (and in this respect real-time reporting is necessary).

Antigua and Barbuda thanked Iceland for this clarification but expressed concern that discussions were not leading to a cost-effective approach with respect to the regulation of whaling. Australia also welcomed Iceland's comments. It agreed that VMS costs are low and noted that developing countries in the Forum Fisheries Agency (FFA) have already accepted the use of VMS. It noted that VMS is needed to help ensure compliance. It believed that if commercial

⁸ The Secretariat recalled that in this respect, the proposed observer scheme notes that '*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*'.

⁹ The Secretariat noted that the RMP needs the position that the catch is taken in. It further noted that portable GPS can be set up to record position continuously and that these data could be sent by email to the Secretariat, for example, at the end of every day if desired.

whaling resumed, a whole range of Flag States would become engaged in this activity and that IUU issues would have to be dealt with. It further believed that no requirement for comprehensive VMS would give the impression of a second-best approach to management of whaling. It believed that IWC should follow the example of NEAFC, NAFO and CCAMLR and require a combined national system and centralised system (see section 2.4 of the technical group's report). New Zealand believed that the technical group's report demonstrated that VMS on all boats would be the best approach. It did not believe on board inspection to be sufficient in terms of verification and reliability and noted that observers do not work 24 hours per day and may become ill and unable to work. The UK associated themselves with the remarks of Australia and New Zealand. It also considered that VMS would be useful in cases where there are very limited catch limits (i.e. VMS would help to ensure catch limits were not exceeded). Monaco questioned why IWC should deprive itself of a cost-effective system. It noted that a VMS system is neutral and believed that a VMS system combined with an international observer would be optimal. Germany, Italy, Spain and Brazil also supported that VMS be required for all vessels.

Denmark urged the Working Group to analyse requirements in the context of IWC (not other fisheries organisations) and to return to the Chair's proposal. Responding to a remark from Australia, Japan suggested that the FFA has a centralised VMS system as it is not cost-effective in that organisation to have observers. It remained to be convinced why such an approach is necessary for IWC. It had heard different reasons given for why real-time reporting is necessary (i.e., for safety purposes, to verify position of vessels and position where whales are taken, and for enforcement), but sought clarification about which were really important in the context of IWC (e.g. it could understand why real-time reporting is needed for safety purposes, but believed that this aspect is mainly a national issue).

The Chair noted that although there was not consensus on this matter, a large number of members supported the requirement for VMS on all boats, not just for management purposes but also for safety. Given this, he questioned whether, in order to make progress, the meeting could agree that national VMS systems should be required. However, those supporting a VMS requirement preferred that a combined national system and centralised system should be established, believing it important that position data be reported to the Secretariat in real-time. In response to a question from the Secretariat regarding what it would be expected to do with the data that arrived in real time, Australia noted that in CCAMLR, the Secretariat simply stores the data but has rules on access.

The outcome of the discussions was that the Working Group noted that the following options now exist:

- (1) Chair's proposal - see IWC/D04/RMS SDG 5, Annex F;
- (2) Establishment of a combined national/centralised VMS system, with VMS being required on all boats.

It was agreed that the SDG should consolidate the text in IWC/D04/RMS SDG5 Annex F to reflect these options. The starting point for option 2 should be Paragraph 21 of Annex F. It was also agreed that the SDG should begin the development of technical specifications in the light of the report from the VMS technical group.

3.5 Additional catch verification

In his proposed package of elements for the RMS, the Chair had proposed that the following three measures related to additional catch verification be included:

- national diagnostic registers and market sampling to agreed standards and a procedure to allow checking of samples against the registers;
- a Resolution urging countries to institute national legislation prohibiting the import of whale products from non-IWC countries as well as from IWC countries that are non-whaling;
- a system of national catch documentation up to the point of entry/landing.

3.5.1 DNA registers/market sampling

RECAP ON OUTCOME OF WORKING GROUP DISCUSSIONS IN BORGHOLM (SEE PART 1, SECTION 4.4.2) AND SUBSEQUENT INTERSESSIONAL WORK

In Borgholm, while some members continued to express a preference for a central DNA register managed by IWC or some other appropriate body, there was a willingness to consider a system of national registers as proposed by the Chair providing adequate international oversight could be ensured.

The Working Group agreed to establish a technical specialist group to explore the matter further (see Part I, Annex I.E for terms of reference). This group comprised the USA (convenor), Belgium, Iceland, Japan, Netherlands, New Zealand, Sweden and the Secretariat. Its report was made available as document IWC/M05/RMSWG 5 and is included here as Annex II.E. A presentation on the SGDNA's report was given by the Secretariat.

The Specialist Group on the DNA register/market sampling scheme (SGDNA) developed recommendations for the specifications for the establishment and maintenance of diagnostic DNA registers. It considered three general scenarios for DNA register systems and a further three alternatives for the design of market sampling schemes (MSS), i.e.:

DNA registers:

Scenario 1DNA - national systems, including a national tissue archive and a national DNA register controlled and maintained by a member nation or under contract to a member nation, with requirement for reporting of infractions to IWC;

Scenario 2DNA - national systems with some level of international oversight, e.g.
(a) national systems with conditions for technical audit by IWC (e.g., submission by IWC of samples for double-blind comparisons; see Item 8.1)
(b) national systems with technical audit by IWC and electronic copies of DNA profiles held by IWC
(c) national systems with technical audit by IWC, electronic copies of DNA profiles held by IWC and duplicate samples of tissue held by the IWC;

Scenario 3DNA – a centralised, international system (IWC based) with central tissue archive and central register of DNA profiles derived centrally.

Market sampling schemes:

Scenario 1MSS - national MSS only, with no international oversight;

Scenario 2MSS - national MSS with international oversight;

Scenario 3MSS - IWC-operated MSS.

The SGDNA also considered a variety of mechanisms for providing transparency/audit/oversight with respect to DNA registers and market sampling systems and technical advantages and disadvantages of alternatives for tissue archive(s) (see sections 8 and 9 of SGDNA report).

DISCUSSION AND INSTRUCTIONS TO THE SECOND MEETING OF THE SDG

New Zealand commended the SGDNA report but stated that it did not believe that it is possible to choose between the various options because of a number of difficulties. It had received comments/questions in the following areas from its member of the SGDNA:

- calibration of microsatellites – New Zealand wished to hear more about calibration experiments and error rates between laboratories and the implications of these;
- if national DNA registers are used, New Zealand believed that the key issue will be if they can communicate with each other;
- given the range of options for combined registers and market sampling schemes, New Zealand asked which would be the most appropriate approach. It noted that the SGDNA had not discussed this.
- New Zealand believed that it would be logical for the Sub-committee on DNA to address the design of market sampling schemes, but questioned whether sub-committee members involved in the development of existing registers are providing adequate information;
- Catch documentation – New Zealand supported strongly a link between DNA profiling and catch documentation.

New Zealand believed that the SGDNA report identified a number of difficulties in establishing a robust and reliable DNA register/market sampling scheme and suggested that it is premature to try to do so. It believed the Scientific Committee should be asked to do more work on the above issues. Some other members supported this view, adding a third option to the two identified in Borgholm (i.e. that it was premature to choose one or the other).

The Secretariat agreed that New Zealand had identified a number of the issues that had been raised in the report. However, it cautioned against too much pessimism. It pointed out that the SGDNA had made considerable progress in a number of areas and in particular had developed quite precise recommendations for specifications for DNA registers and principles for the development of market sampling approaches. While it agreed that calibration is an extremely important issue, as had been identified by the SGDNA, the group had also outlined options for which this would be a lesser problem as well as noting that calibration can be achieved (there is a paper that is *in press* in a major journal on just this issue). It also noted the extensive co-operation given to the SGDNA by the scientists from Japan and Iceland (the Icelandic representative undertakes the genetic analysis for the Norwegian register) as well as e-mail information from a Norwegian scientist. Finally, it stressed that in the IWC-context, if a whale is not in a DNA register, it would be an illegal whale and an infraction by default. This will make any system intrinsically conservative. The SGDNA had also outlined how further progress can be made.

As a result of the discussions, the Working Group noted that the following options now exist:

- (1) centralised system;
- (2) national systems with international oversight;
- (3) premature to decide on which option would be most appropriate.

It was agreed that the SDG should use IWC/M05/RMS WG 5 as a basis for developing text for options (1) and (2), noting that the Working Group was not in a position to recommend any single option at this time. It was further agreed that the SDG should also begin to develop technical specifications based on the specialist group report, given that many of these are not dependent on the specific options chosen.

3.5.2 Discouraging IUU whaling

RECAP ON OUTCOME OF WORKING GROUP DISCUSSIONS IN BORGHOLM (SEE PART I, SECTION 4.4.3)

In Borgholm, some Working Group members supported the proposed Resolution approach, while others thought that the requirement for national legislation to deter IUU whaling should form part of the RMS text itself within the Schedule. The SDG was therefore requested to develop appropriate Schedule text. In doing so, the SDG recognised that some re-wording of the initial proposed Resolution text was necessary. Draft Schedule text and an amended draft Resolution are provided in Annexes G and H of the SDG report.

DISCUSSION AND INSTRUCTIONS TO THE SECOND MEETING OF THE SDG

Commenting on the revised draft Resolution, Japan noted that its position is that there is no evidence that IUU whaling is currently a problem or would become so if commercial whaling resumed. It would, however, consider accepting a new Resolution agreeing that Contracting Governments will institute national legislation restricting importation of whale products to those derived from legally-caught whales by IWC member countries (which Japan already has) depending on the balance of the overall RMS 'package'. Japan noted that it has some objections to the wording of the 1st, 3rd and 4th preambular paragraphs in the revised draft Resolution.

Commenting on draft Schedule text paragraph 30, the USA expressed concern that this would be in conflict with WTO rules. It therefore provided alternative wording for consideration by the Working Group.

As there was no agreement regarding whether the matter of discouraging IUU whaling should be addressed through a Resolution or via the Schedule, the Working Group noted that the following options exist:

- (1) Draft Resolution - see IWC/D04/RMS SDG 5, Annex H
- (2) Schedule text – as proposed by the USA;
- (3) As (2) but replacing the word *Schedule* with the word *Convention*.

It was agreed that the SDG should consolidate the text in IWC/D04/RMS SDG5 Annexes F and G to reflect these options.

3.5.3 Catch documentation system

RECAP ON OUTCOME OF WORKING GROUP DISCUSSIONS IN BORGHOLM (SEE PART I, SECTION 4.4.3) AND SUBSEQUENT INTERSESSIONAL WORK

In Borgholm, while some Working Group members supported the Chair's proposal for national documentation, others considered that there should be an IWC scheme along the lines of that in place in CCAMLR. Some did not believe additional documentation is necessary given CITES requirements and existing national requirements for catch certification. Of those believing some form of documentation would be useful, there appeared to be agreement that it should begin from the point of harvest. However, there was disagreement on how far down the supply chain any documentation should go e.g. to the point of entry/landing, to the wholesaler, or to the retailer.

The Working Group requested the SDG to develop draft Schedule text for:

- (1) National documentation schemes – with the 3 options of endpoint;
- (2) IWC-operated scheme – with the 3 options of endpoint, building on CITES requirements and CCAMLR's scheme.

The SDG did develop draft text (see Annex G of SDG report) but they also recognised that a specific proposal for an IWC-operated scheme needed to be developed. New Zealand and Sweden, in consultation with the Secretariat, agreed to develop a proposal for review by the Working Group at its second meeting. An outline for such a scheme was developed (see document IWC/M05/RMSWG 9) that combined a catch documentation scheme with barcoding/labelling. The authors stressed that more detail is needed. With respect to national documentation schemes, the Secretariat developed some *pro-forma* for review by the group. These were made available as document IWC/M05/RMSWG 7. These two documents are attached to this report as Annexes II.F and G respectively.

DISCUSSION AND INSTRUCTIONS TO THE SECOND MEETING OF THE SDG

There was little discussion of this issue, the main focus being the difference between national schemes and an IWC-operated scheme. The former would be entirely nationally run with no reporting to IWC. The latter would use

documentation/barcoding agreed by IWC but issued by Contracting Governments and with an obligation to report to the Commission via the Secretariat. There was no resolution of how far down the supply chain any documentation or barcode system should go.

The Working Group noted that the following options exist:

- (1) national system as proposed by the Chair - see IWC/D04/RMS SDG 5, Annex G Para 30A;
- (2) an IWC-operated system - see IWC/D04/RMS SDG 5, Annex G Para 30B.

It was agreed that the SDG should consolidate the text in IWC/D04/RMS SDG5 Annex G to reflect these options, taking into account the proposal from New Zealand and Sweden. New Zealand had suggested that a technical group be established but this was not pursued further within the Working Group.

3.6 Compliance

3.6.1 Recap on outcome of Working Group discussions in Borgholm (see Part 1, Section 4.5)

In Borgholm, some members continued to give broad support for the Chair's proposal, but it was recognised that some further duties may need to be added (e.g. review of DNA registers/market sampling if they are included in the RMS 'package'). They noted that the Chair's proposal itself had been based on very broad agreement within the Commission. Other members however were very critical of the Chair's proposal, judging it to be insufficient to ensure compliance. These members considered it imperative (1) to have a system that would be in their opinion defensible to the wider public, (2) that the Commission should have some leverage in the way quotas are managed, (3) that the Commission should have power to impose sanctions and (4) that a legally-binding dispute settlement mechanism should be established through development of a Protocol to the Convention. One member thought that the discussion was confusing compliance and dispute settlement and that within the Chair's proposal there is an effective system for compliance and that a dispute settlement mechanism should be looked at separately.

In view of the discussions, the Working Group identified the following two options:

- (1) the Chair's proposal – recognising that this may need some modification if the duties of the Compliance Review Committee change. The SDG was requested to develop appropriate text – see Annex I of SDG report.
- (2) development of a Protocol to (a) establish a dispute settlement mechanism and (b) to give power to the Commission as a body to set penalties – the Working Group noted that this was not an issue for either itself or for the SDG.

3.6.2 Discussion and instructions to the second meeting of the SDG

With respect to the draft Schedule text, Japan believed that there is an inconsistency in the use of the words 'infractions' and 'infringements'. It also considered that there is some redundancy in sub-paragraphs 31(b)(xii) and 31(c) (see IWC/D04/RMS SDG 5, Annex I) and suggested that they could be combined.

Australia considered that the role of the Compliance Review Committee (CRC) as drafted in Annex I of the SDG report did not provide the strength of compliance mechanism it was seeking. It identified a number of shortcomings, including requirements for reporting and follow-up of infractions and in particular the fact that Contracting Governments are not bound by any recommendations that the CRC may make. Australia did not consider the CRC to be an improvement over the existing Infractions Sub-committee and believed that the Commission should have the power to impose penalties for non-compliance. The UK made similar comments. Monaco commented that the Commission needed to receive details of any infractions and the nature of penalties imposed if it was to be considered credible. Others stated that it should not be possible for whalers to receive financial benefits from infractions.

The Chair noted that some of the issues being raised were already covered by the Convention itself and so did not need to be duplicated in the Schedule. He drew attention to Article IX of the Convention in relation to the reporting and handling of infractions:

Article IX

1. Each Contracting Government shall take appropriate measures to ensure the application of the provisions of this Convention and the punishment of infractions against the said provisions in operations carried out by persons or by vessels under its jurisdiction.
2. No bonus or other remuneration calculated with relation to the results of their work shall be paid to the gunners and crews of whale catchers in respect of any whales the taking of which is forbidden by this Convention.
3. Prosecution for infractions against or contraventions of this Convention shall be instituted by the Government having jurisdiction over the offence.
4. Each Contracting Government shall transmit to the Commission full details of each infraction of the provisions of this Convention by persons or vessels under the jurisdiction of that Government as reported by its inspectors. This information shall include a statement of measures taken for dealing with the infraction and of penalties imposed.

He noted that the imposition of penalties is the responsibility of individual Contracting Governments. Spain accepted that this is the current situation, but noted that it is standard practice in other fisheries organisations to establish a list of serious infractions. New Zealand supported Australia's remarks and informed the Working Group that it had drafted and circulated to Commissioners a discussion document regarding a Protocol to amend the Convention to *inter alia* (a) establish a dispute settlement mechanism and (b) give power to the Commission as a body to set penalties.

Iceland indicated that it was not aware of any international resource management organisation that dictates to its members how they should deal with infractions and that generally penalties are decided by sovereign governments. Sweden and the Netherlands agreed. The Netherlands suggested that given it is the responsibility of national governments to impose penalties, the Working Group should focus its discussions on the role Commission should have and drew attention to the discussions at IWC/55 in Berlin and the broad agreement reached there. St Kitts and Nevis made similar comments.

In response to Iceland, the UK noted that ICCAT may impose trade sanctions and that it, and other fisheries bodies prohibit the landing/transshipment/import of fish caught illegally. It suggested that it would be worthwhile to explore what measures the Commission may be able to take legitimately within the context of the current Convention. Australia, Argentina and New Zealand agreed to work with the UK on this matter and to develop a paper for review by the Working Group in Ulsan. Japan did not believe that the Commission would be in a position to impose penalties unless the Convention is changed.

Following the above discussions, the Working Group noted that the following options now exist:

- (1) the Chair's Proposal as modified at the Borgholm meeting - see IWC/D04/RMS SDG5, Annex I;
- (2) a 'stricter' version that allows the Commission to impose sanctions on non-compliant parties (the UK, Australia, Argentina and New Zealand will provide a paper in Ulsan);
- (3) a Protocol amendment (outside the scope of the RMS Working Group but New Zealand noted that it will present something directly to the appropriate body on this issue).

Given that the text for (1) has been developed and that any text for (2) cannot be developed until the Ulsan meeting, it was agreed that the SDG need undertake no further work on this issue.

3.7 Costs

3.7.1 *Recap on outcome of Working Group discussions in Borgholm (see Part 1, Section 4.6)*

In Borgholm, discussion focused on how costs of international observers should be covered. Some members continued to support the Chair's proposal that such costs should be paid by the Commission in accordance with a Financial Contributions Scheme. Others however proposed that such costs should be borne by whaling countries alone (it would be up to individual governments to determine if they wished to pursue cost recovery from the industry). Reference was also made to earlier proposals submitted to IWC/53 in London via the RMS Working Group.

The SDG was therefore requested to develop draft text for two options:

- (1) the Chair's proposal;
- (2) proposals introduced at IWC/53.

Draft Schedule text for the different options is provided in Annex J of the SDG report.

During the SDG discussions, it was suggested that the Secretariat ask its auditors to review the text in the last option referring to '*UK Generally Accepted Accountancy Practice*' and to comment on whether it is appropriate in this context. This was done, the result being that reference to GAAP is probably not relevant in this context as IWC's accounts specifically state that they do not necessarily comply with GAAP in all areas and particularly in relation to depreciation of capital equipment. However the SDG did wish to draw the Working Group's attention to the need for further policy guidance regarding placement of text referring to apportioning RMS costs, i.e. should this be in the Schedule or in the Financial Regulations? The Chair's proposal had not been clear on this matter.

3.7.2 *Discussion and instructions to the second meeting of the SDG*

The Chair noted that the apportioning of costs is difficult to address at this stage in the process since there was clearly no consensus on what a package of RMS measures might contain.

The Working Group agreed that detailed discussion of this item should be postponed until more details of the final RMS elements are available. It therefore noted that the following options exist:

- (1) the Chair's proposal - see IWC/D04/RMS SDG 5, Annex J;
- (2) all costs borne by whaling countries and considered as part of membership contribution - see IWC/D04/RMS SDG 5, Annex J;

- (3) all costs borne by whaling countries through factor in contributions formula - see IWC/D04/RMS SDG 5, Annex J;
- (4) costs divided (administrative – Commission; operating – whaling countries; capital – GAAP) - see IWC/D04/RMS SDG 5, Annex J.

It was agreed that minor modifications should be made to option (4) with respect to GAAP.

3.8 Measures for lifting Para 10(e)

3.8.1 *Recap on outcome of Working Group discussions in Borgholm (see Part 1, Section 4.7)*

In Borgholm, there was continued strong support from some members for the Chair's proposal to link adoption of an RMS and the lifting of paragraph 10(e). Some took the view that the moratorium should be lifted simultaneously with adoption of an RMS to avoid the situation where Contracting Governments would essentially be required to give up their right under the Convention to object to Schedule amendments (as is the situation with the Chair's preferred approach). These members recognised the difficulties of developing a suitable mechanism, but felt that the options in document IWC/N04/RMSWG 12 provided a starting point. Some members, while not supporting simultaneous lifting of paragraph 10(e), indicated that they were attracted by a phased approach to lifting the moratorium on a stock-by-stock basis and suggested that this approach be explored. These members believed that a phased approach to lifting paragraph 10(e) would help build confidence within the Commission and the general public in IWC's ability to manage whaling. Others could not support any link between RMS adoption and lifting of paragraph 10(e) and believed that the Chair of the Commission had not given sufficient justification for such an approach.

Given these different views expressed, the Working Group requested the SDG to develop draft Schedule text for the following three options:

- (1) The Chair's proposal for linking adoption of the RMS with lifting 10(e), taking into account options discussed in IWC/N04/RMSWG 12;
- (2) The suggestion that 10(e) should not be removed in a single step and that a phased-out approach would be more appropriate. In this approach exemptions from the moratorium would be gradually introduced for certain stocks for certain conditions, for example by adding a sub-paragraph 10(f) specifically stating '*notwithstanding the provision in 10(e), catch limits are allowed for.....*'.
- (3) No link between completion of the RMS and paragraph 10(e).

Annex K of the SDG report provided some approaches on how to address (1) and (2) above.

3.8.2 *Discussion and instructions to the second meeting of the SDG*

Japan expressed the view that if there was to be no link between adoption of an RMS and lifting of paragraph 10(e) – a scenario that it clearly did not support – the text of 10(e) should remain unchanged. There being no other comments, the Working Group noted that the following options now exist:

- (1) a footnote to Table of catches – see IWC/D04/RMS SDG 5, Annex K;
- (2) a two-stage approach – see IWC/D04/RMS SDG 5, Annex K;
- (3) retain 10(e) but with gradual exemptions based on Scientific Committee advice – see IWC/D04/RMS SDG 5, Annex K;
- (4) no link.

It was agreed that the SDG should develop draft text based on these options.

3.9 Scientific Permits

3.9.1 *Recap on outcome of Working Group discussions in Borgholm (see Part 1, Section 4.8) and subsequent intersessional work*

In Borgholm, some members continued to support the Chair's proposal for a voluntary code of conduct for whaling under scientific permit. For others, the inclusion in the RMS 'package' of a mechanism to restrict/phase out whaling under special permit was important not only for those who could not support any resumption of commercial whaling, but also for those countries that might be able to support a resumption at some point in the future given an appropriate RMS 'package'. Some believed that the possibility to address this issue through the development of a Protocol to amend the Convention, or through some other instrument should be pursued. Other members could not accept any proposal to restrict or remove their rights under Article VIII to conduct whaling for research purposes, and believed that the Commission should work within the framework of the existing Convention to reach agreement on an RMS 'package'.

Given the views expressed, the Working Group agreed to take the following two options forward:

- (1) The Chair's proposal for a Voluntary Code of Conduct for whaling under special permit. An initial draft Code of Conduct was to be developed by the small group within the Scientific Committee identified in the Chair's proposal (i.e. Chair and Vice Chair of Scientific Committee and the Secretariat's Head of Science) for review by the RMS Working Group in Copenhagen.
- (2) Phasing-out of whaling under Special Permit. One of the mechanisms proposed is the development of a Protocol to the Convention.

It was recognised that neither of these options required work from the SDG and that further discussion of a Protocol within the Working Group would not be appropriate.

The Secretariat introduced document IWC/M05/RMSWG 10. This document was provided by the small group within the Scientific Committee referred to above. It represented their preliminary considerations for a Code of Conduct for scientific permit whaling and it is included as Annex II.H to this report. The authors noted that whilst, given Article VIII of the Convention, whatever code that may finally be developed would formally be voluntary, they had developed their draft guidelines on the assumption that all Contracting Governments would agree to follow it. They noted that in addition to a Resolution, this could perhaps be best achieved by Governments also making a formal declaration.

3.9.2 Discussion and instructions to the second meeting of the SDG

Several members thanked the authors for their document which contained a number of interesting and positive ideas. However, a number of Governments stated that a voluntary code of conduct does not provide a sufficient level of assurance.

The USA noted that in its view, resolution of this matter is fundamental to reaching agreement on an RMS 'package'. It believed that in order to gain public acceptance of the resumption of commercial whaling, whaling under special permit must be halted or phased-out and it sought a binding solution.

Brazil, Argentina, the UK, Monaco, New Zealand, Spain, South Africa, Netherlands and Australia also called for a halt or, in some cases, a phase-out of scientific permit whaling via a legally-binding mechanism. New Zealand again referred to its earlier proposal to address this matter through a Protocol to the Convention, but recognised that it was not appropriate for the Working Group to discuss this further. Argentina believed that it would be appropriate for the Working Group to discuss development of a Protocol, but in the end this was not pursued.

Japan stressed its wish to finalise an RMS, which is why it supported the Chair's original package proposal. It was therefore prepared to look at the preliminary document as a starting point, although it would need to consult with its scientists. Denmark also continued to support the Chair's proposal and did not understand why a binding agreement is necessary. St. Kitts and Nevis believed the mandate of the Working Group is to negotiate an RMS within the framework of the existing Convention. It considered that if special permit whaling is allowed in the Convention, then the most the group can do is to explore how the Commission might have some control over the form such whaling takes. The Republic of Korea cautioned against prohibiting all takes for research purposes since there may be a need to collect data that cannot be gained using non-lethal techniques.

Given the above discussions, the Working Group noted that the following options now exist:

- (1) the Chair's proposal for a voluntary code of conduct agreed by all parties;
- (2) a binding code of conduct;
- (3) a phase out of scientific permit whaling via a protocol (outside the scope of the RMS Working Group but New Zealand noted that it will present something directly to the appropriate body on this issue).

It was agreed that there was no need for the SDG to try to develop text at this time.

3.10 Animal welfare considerations

3.10.1 Recap on outcome of Working Group discussions in Borgholm (see Part 1, Section 4.9) and subsequent intersessional work

In Borgholm, 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 (see Part I, section 4.9.1) fails to introduce important elements.

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 to further explore the above options (see Part I, section 4.9.3 for terms of reference) before asking the SDG to develop draft Schedule text. The technical group comprised Argentina, Belgium, Germany, Iceland, Germany, New Zealand and the UK. Although the UK had initially offered to convene the group, this proved not to be possible and this role was taken over by New Zealand.

Mike Donoghue (New Zealand) introduced the report from the technical group (i.e. document IWC/M05/RMSWG 8, but included here as Annex II.I), that contained a proposal for the collection of animal welfare data, and a draft Resolution to give effect to the Chair's proposal (Annex II.J).

3.10.2 Discussion and instructions to the second meeting of the SDG

The meeting thanked the technical group for its report. Iceland informed the meeting that it had rather different views than the other members of the group regarding the inclusion of Schedule language on animal welfare issues as part of the RMS. Rather than insisting that its views were captured in the technical group's report, it simply wished to point out that there was no consensus within the group on how the different options are best addressed.

The UK, New Zealand and Australia continued to take the view that the collection of animal welfare data should be obligatory rather than voluntary. As it has on previous occasions, the UK stressed that if the Commission as a body is to sanction the killing of whales, then it has an ethical duty and moral responsibility to have input into the way in which whales are killed.

The Secretariat questioned whether the draft Resolution proposed by the technical group to represent the Chair's proposal actually did so and it suggested that the SDG be requested to review the draft carefully.

Given the above discussions, the RMS Working Group noted that there are now four options as given below.

- (1) The Chair's proposal to include the following text into the Schedule: 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. In addition it also includes an initiative (perhaps by Resolution) to focus discussions on improving techniques by (a) voluntary reporting of data discussed at Berlin Workshop; (b) 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) The Chair's proposal augmented by Swedish proposals for Schedule provision for data collection (IWC/N04/RMSWG4 and IWC/54/35).
- (3) The UK proposal (IWC/54/RMS 1) with additional items (see IWC/N04/RMSWG4).
- (4) No reference to animal welfare data.

It was agreed that the SDG should draft text for each of these options and that the report from the technical group (IWC/M05/RMSWG8) could be used as a starting point with respect to a Draft Resolution to implement the Chair's Proposal and the proposed text for Schedule amendments.

3.11 Sanctuaries

3.11.1 Recap on outcome of Working Group discussions in Borgholm (see Part I, Section 4.10)

In Borgholm, there was support for and against including sanctuaries in the RMS 'package'. It was agreed that no action needed to be taken by the SDG at its first meeting.

3.11.2 Discussion and instructions to the second meeting of the SDG

In Copenhagen, opinion was fairly evenly divided between those supporting the inclusion of sanctuaries in the RMS package and those against.

Brazil strongly supported the inclusion of sanctuaries, believing them to be a very important management tool. New Zealand, also a strong supporter, proposed the following draft text for inclusion into the Schedule:

"Nothing in this Schedule shall authorise the taking of whales in any sanctuary designated in accordance with this Convention or under the authority of any other competent international body; nor shall it authorise the taking of whales in a sanctuary declared by any State in respect of any area under its national jurisdiction; nor shall it authorise any whaling activity that is contrary to any marine mammal conservation measure adopted in accordance with international law."

It believed that there should be an interface between the ICRW and domestic and other international law.

Japan opposed the inclusion of sanctuaries as part of an RMS package for many reasons. In particular, it stressed that no sanctuary language could restrict the rights of Contracting Governments under Article VIII. In commenting on New Zealand's proposed text, it remarked that the regulations of other international bodies cannot be imposed on IWC Contracting Governments via a Schedule amendment. St Kitts and Nevis and the Republic of Guinea believed that sanctuaries would be irrelevant if an RMS was in place. Nicaragua associated itself with these remarks.

Brazil, Monaco and Australia did not agree that sanctuaries would be irrelevant if an RMS was in place and stressed that sanctuaries must be respected.

In light of the above discussions, the Working Group noted that the following options exist:

- (1) existing provisions for Sanctuaries are clear, do not need to be included as part of RMS 'package' and thus do not require any text to be drafted;
- (2) inclusion of text as proposed by New Zealand.

It was agreed that the SDG should draft text to incorporate these options.

4. MECHANISMS FOR ADOPTING AN RMS

This issue was addressed briefly when the Working Group met in Borgholm (see Part I, Section 3). Two options were considered, i.e.: (1) development of a single draft Schedule RMS that includes all different options by using square brackets that would be voted on paragraph by paragraph; and (2) development of complete text for one or more scenarios/RMS packages that reflect the difference views on what the RMS should contain that the Commission could agree to vote on as a whole. In Borgholm, most support was given to the development of a single text with options in square brackets as appropriate. However, some members drew attention to the fact that such an approach would involve voting paragraph by paragraph and expressed concern that this could lead to an RMS text with internal contradictions.

The Chair had hoped that the Working Group would be able to give this matter further consideration at the Copenhagen meeting, but unfortunately there was insufficient time for further substantive discussion.

The Secretariat drew the Group's attention to the view of the SDG, when it met in Borgholm, that while recognising the limitations placed on it by its Terms of Reference regarding those parts of the Schedule for which it is authorised to develop Schedule text, it considered that it would be sensible when developing such text, to at the same time, rearrange the current Schedule to remove the redundancies that have crept in over the years. The SDG considered that document IWC/D04/RMS SDG 4 may be a useful basis. The SDG also agreed that consideration should be given to the merits of a single individual or a very small group reviewing any re-organised and revised Schedule text once such a text is available, to check for inconsistencies and any potential legal issues.

The Chair suggested that Contracting Governments give the matter some thought prior to IWC/57 in Ulsan regarding mechanisms for adopting an RMS and also for rearranging the current Schedule. Australia noted the importance for the RMS Working Group to address the Commission's requests as given in Resolution 2004-6.

5. SPECIALIST TECHNICAL GROUPS AND INSTRUCTIONS

The Working Group did not give further instructions to the specialist technical groups established in Borgholm. However, the SDG did recommend that further work was needed in a number of areas (see IWC/57/RMS 4).

6. NEXT MEETING OF THE RMS WORKING GROUP AT IWC/57

The Chair noted that two days have been scheduled at IWC/57 for discussions of the RMS Working Group (i.e. Wednesday and Thursday 15 and 16 June 2005). There was no discussion.

Annex II.A

Meeting of the RMS Working Group, Copenhagen, Denmark 30 March – 1 April 2005

LIST OF DELEGATES

Antigua and Barbuda

Anthony Liverpool

Argentina

Eduardo Iglesias

Miguel Iniguez

Australia

Conall O'Connell

Gillian Slocum

Pam Eiser

Belgium

Alexandre de Lichtervelde

Brazil

Maria Teresa Mesquita Pessoa

Jose Truda Palazzo Jr.

Chile

Mariano Fernandez

Denmark

Henrik Fischer (Chair)

Kate Sanderson

Dominica

Lloyd Pascal

France

Jean-Georges Mandon

Germany

Marlies Reimann

Gabon

Guy Anicet Rerambyath

Guinea, Republic of

Amadou Telivel Diallo

Sidiki Diane (I)

Iceland

Stefán Asmundsson

Asta Einarsdottir

Kristjan Loftsson

Gylfi Geirsson

Italy

Riccardo Rigillo

Caterina Fortuna

Michele Alessi

Japan

Joji Morishita

Dan Goodman

Yasuo Iino

Korea, Republic of

Sung Kwon Soh

Chiguk Ahn

Monaco

Frederic Briand

Netherlands

Giuseppe Raaphorst

Henk Eggink

Anne-Marie Van Der Heijden

New Zealand

Geoffrey Palmer

Jim McLay

Mike Donoghue

Rosemary Paterson

Al Gillespie

Philippa Brakes

Nicaragua

Miguel Marengo

Norway

Halvard Johansen

Turid Éusebio

Anniken Krutnes

St. Kitts & Nevis

Daven Joseph

South Africa

Herman Oosthuizen

Chris Badenhorst

Spain

Carmen Asencio

Sweden

Bo Fernholm

Thomas Lyrholm

UK

Trevor Perfect

Rob Bowman

Jim Gray

Sue Fisher

Chanaka Wickremasinghe

USA

Rolland Schmitt

Roger Eckert

Cheri McCarty

Maggie Hayes

Kitty Block

**INTERGOVERNMENTAL
ORGANISATION OBSERVERS
IUCN**

Justin Cooke

**NON-GOVERNMENTAL
ORGANISATION OBSERVERS****Animal Care International**

Niki Entrup

Animal Welfare Institute

Susan Tomiak

Campaign Whale

Andy Ottaway

**Environmental Investigation
Agency**

Jennifer Lonsdale

Eurogroup for Animal Welfare

Virag Kaufer

Greenpeace International

John Frizell

GSM e.V.

Birgith Sloth

**Natural Resources Defense
Council**

Joel Reynolds

Werkgroep Zeehond

Geert Drieman

**Whale and Dolphin Conservation
Society**

Alice Stroud

WSPA

Leah Garces

WWF

Karen Steuer

(I) Interpreter

Annex II.B

Meeting of the Revised Management Scheme Working Group Copenhagen, 30 March to 1 April 2005

LIST OF DOCUMENTS

IWC/M05/RMSWG	1	Draft Agenda
	2	Draft list of documents
	3	List of Participants
	4	Written comments received on the Chair's Report of the RMS Small Drafting Group, Borgholm, Sweden, 1-3 December 2004
	5	Report of the Specialist Group on the DNA register/market sampling scheme approach
	6	Report from the VMS Specialist Group Specialist Technical Group
	7	Possible pro-forma for catch documentation as proposed by the Chair in IWC/56/26 (prepared by the Secretariat)
	8	Report from the Animal Welfare Specialist Technical Group
	9	Proposals from New Zealand and Sweden regarding an IWC-operated catch documentation scheme - Outline of the CDS and Barcoding / Labeling Scheme
	10	Some preliminary considerations for a Code of Conduct for Scientific Permit Whaling with respect to the Chair's proposal
	11	Summary of the outcome of discussions on elements for an RMS package, including instructions from the RMS Working Group to the SDG

Documents from previous meetings:

IWC/N04/RMSWG	16	Chair's report of the RMS Working Group Meeting, Strand Hotel, Borgholm, Sweden, 29 November to 1 December
IWC/D04/RMS SDG	4	Status on revision of the Schedule based on discussions to date (Note: this document was prepared by the Secretariat for the December 2004 meeting of the RMS Small Drafting Group).
IWC/D04/RMS SDG	5	Chair's report of the meeting of the RMS Small Drafting Group, Borgholm, Sweden, 1-3 December 2004
IWC/56/	26	Chair's Proposals for a Way Forward on the RMS
	27	Summary of status of discussions on RMS elements and related issues as of 55 th Annual Meeting in Berlin
	28	Statement from Henrik Fischer, Chair of the Commission, to the Private Meeting of Commissioners/Alternate Commissioners on the 16 th July 2004
	36	Discussion document: Further Work Required on the RMS based on IWC/56/26
Resolution 2004-6		On completion of the Revised Management Scheme (RMS)
IWC/55/COMMS	3	Report of the RMS Working Group on Catch Verification
	4	Report of the RMS Working Group on Costs
IWC/54/RMS	1	Report of the Revised Management Scheme Expert Drafting Group

Annex II.C

Meeting of the Revised Management Scheme Working Group Eigtveds Pakhus, Copenhagen, Denmark, 30 March to 1 April 2005

AGENDA

1. INTRODUCTORY ITEMS
 - 1.1 Appointment of Chair
 - 1.2 Introductory remarks and objectives of the meeting
 - 1.3 Reporting
 - 1.4 Review of documents
2. ADOPTION OF THE AGENDA
3. ELEMENTS OF AN RMS PACKAGE
 - 3.1 Statement of principle
 - 3.1.1 Recap on outcome of Working Group discussions in Borgholm and instructions to the SDG
 - 3.1.2 Comments on the SDG report
 - 3.1.3 Reconsideration of options
 - 3.2 Revised Management Procedure (RMP)
 - 3.2.1 Recap on outcome of Working Group discussions in Borgholm and instructions to the SDG
 - 3.2.2 Report on intersessional work (Scientific Committee guidelines/requirements)
 - 3.2.2 Comments on the SDG report and intersessional work
 - 3.2.3 Reconsideration of options
 - 3.3 Phased-in approach to the resumption of commercial whaling
 - 3.3.1 Recap on outcome of Working Group discussions in Borgholm and instructions to the SDG
 - 3.3.2 Comments on the SDG report
 - 3.4 National inspection and observation scheme
 - 3.4.1 Recap on outcome of Working Group discussions in Borgholm and instructions to the SDG
 - 3.4.2 Report on intersessional work (VMS)
 - 3.4.3 Comments on the SDG report and intersessional work
 - 3.4.4 Reconsideration of options
 - 3.5 Additional catch verification
 - 3.5.1 Recap on outcome of Working Group discussions in Borgholm and instructions to the SDG
 - 3.5.2 Report on intersessional work (DNA registers/market sampling, catch documentation)
 - 3.5.3 Comments on the SDG report and intersessional work
 - 3.5.4 Reconsideration of options
 - 3.6 Compliance
 - 3.6.1 Recap on outcome of Working Group discussions in Borgholm and instructions to the SDG
 - 3.6.2 Comments on the SDG report
 - 3.6.3 Reconsideration of options
 - 3.7 Mechanism to apportion costs among Contracting Governments
 - 3.7.1 Recap on outcome of Working Group discussions in Borgholm and instructions to the SDG
 - 3.7.2 Comments on the SDG report
 - 3.7.3 Reconsideration of options

- 3.8 Measures for the lifting of paragraph 10(e)
 - 3.8.1 Recap on outcome of Working Group discussions in Borgholm and instructions to the SDG
 - 3.8.2 Comments on the SDG report
 - 3.8.3 Reconsideration of options
- 3.9 Whaling under special permit
 - 3.9.1 Recap on outcome of Working Group discussions in Borgholm
 - 3.9.2 Report on intersessional work (code of conduct)
 - 3.9.3 Comments on intersessional work
 - 3.9.4 Reconsideration of options
- 3.10 Animal welfare considerations
 - 3.10.1 Recap on outcome of Working Group discussions in Borgholm
 - 3.10.2 Report on intersessional work
 - 3.10.3 Comments on intersessional work
 - 3.10.4 Reconsideration of options
- 3.11 Sanctuaries
 - 3.10.1 Recap on outcome of Working Group discussions in Borgholm
 - 3.10.2 Consideration of possible options

4. MECHANISMS FOR ADOPTING AN RMS

5. INSTRUCTIONS TO THE SDG

6. SPECIALIST TECHNICAL GROUPS AND INSTRUCTIONS

7. NEXT MEETING OF THE RMS WORKING GROUP AT IWC/57

Annex II.D

Report of the VMS Technical Specialist Group

Following are the conclusions of the VMS Technical Specialist Group. The Report is structured according to the four tasks of the group and split into numbered paragraphs accordingly. The Group has not met, there have only been exchange of E-mails and the report has been adjusted to reflect comments from the members of the group.

1. Identification of the possible advantages/disadvantages in the context of IWC to add VMS to vessels which have an international observer with GPS onboard

The possible advantages of a VMS in addition to an international observer equipped with a GPS could be the following:

- 1.1. An advantage of VMS in fisheries management is that it has the ability to give automatic near real time information regarding a vessel's position.
 - 1.1.1. An observer, with a hand-held GPS cannot supply near real time information and can only read and record the vessels position when above deck - unless connected to a fixed antenna onboard the vessel. Thus, unless they are above deck 24 hours a day and have access to communication equipment to transmit the information at regular intervals, it is not possible for an observer to provide the same service as a VMS.
- 1.2. The automatic position reporting, which is the main function of a VMS, can be routed to one or more recipients. This means that national monitoring centres, a centralised monitoring centre and any other addressee as necessary can be forwarded the reports simultaneously.
- 1.3. The automatic position reports can be forwarded to inspection and surveillance platforms as appropriate. For the purposes of inspection and surveillance it is essential to have accurate information regarding the location of vessels, in as close to real time as possible so that the location of the vessel can be verified. This can only be provided by automatic position reports generated by a VMS.
 - 1.3.1. Further verification can be done using satellite radar images. Whilst many inspection/surveillance agencies currently utilise these they are rather expensive.
- 1.4. A VMS also has the ability to provide the speed and heading of a vessel. In some fisheries, speed can give an indication of the activity of a vessel where the speed is not an important factor, but is more difficult in other types such as whaling.
- 1.5. VMS can be event driven, in that it is possible for the system to automatically send a predefined report and/or the position as a specific event occurs. For example: if a vessel crosses a sanctuary boundary or if another specific event occurs. This is achieved by connected sensors to the VMS unit on board the vessel.
- 1.6. Some VMS can provide a polling function, where an authorized operator, can instantly extract the vessels position as required. This can be very important where a vessel may be suspected of breaching the RMS. (Most VMS established for surveillance would have this capability.)
- 1.7. A VMS will allow for the independent verification and validation of vessel positions and movements against a common standard of monitoring.
- 1.8. Regular position reports are closely related to the vessels security.

- 1.8.1. Some VMS are mandatory equipment for the vessels safety and security. The regularity of the position reports, which for the smallest vessels can be as frequent as every few minutes, is monitored. If a vessel is not reporting according to the schedule and the system itself is not able to extract the vessels position, a warning is issued to the operator. This may lead to a full scale Search and Rescue operation. Where the safety and security aspect is regarded as one of the most important factors, the VMS, the FMC and the MRCC are all in the same operation centre

The possible disadvantages of a VMS in addition to an international observer equipped with a GPS could be the following:

- 1.9. The Vessel Monitoring System has its limitations. A regular VMS is not event driven. It means that the position is not automatically transmitted if a specific event occurs, only by time. For example not if the vessel has caught something. Some systems transmit with pre-set intervals, i.e. once every hour. Systems based on orbiting satellites only, receive the reports when the vessel's VMS transponder is within the satellite's footprint. The interval between satellite passes by polar orbiting satellites is shorter on high latitudes. Some systems using orbiting satellites do store tracking information until within the satellite's footprint. These systems do therefore not necessarily give an indication on the vessel's position at the time of an event or its activity at the time of transmission even though the speed and heading is included in the report unless a more complicated onboard system is used in addition. However, depending on circumstances a conclusion on the vessels activity may be drawn from the regular position reports. It should be noted, that these limitations of VMS are not seen as disadvantage by all.
- 1.10. Some nations may need to invest in VMS for those vessels which do not currently operate such a system, although most large vessels would have some form of Global Maritime Distress System which runs off Inmarsat units.
- 1.11. The automatic reports are charged and are either paid for by the vessel or by the recipient, but these are at a relatively low cost.

2. Identify the relevant benefits from a compliance point of view of national VMS systems and centralized system

2.1. What is VMS?

Vessel Monitoring Systems are used to track vessels by receiving automatic position data, via different satellite systems, via land-based VHF/UHF systems or any other communication network suitable for reliable communication. Most systems can be used to display vessel positions in a graphical environment, i.e. nautical charts. Some systems can also receive, store and forward messages concerning fishing vessels activity and catch. They can monitor the regularity of positional data from the vessels and warn the operator or any addressee if a vessel is not transmitting as scheduled. VMS can monitor fishing areas and issue a warning if a vessel activity does not conform to pre-set conditions for each area. Some VMS can poll (i.e. Inmarsat C) to start transmission, stop transmission or alter the frequency of transmission. VMS can be used to distribute data to other recipients via computer network. The system can be used to write reports for selected vessel or vessels, concerning their positions or other information which might be stored in the system.

2.2. Benefits of a national system only.

- 2.2.1. Vessels report direct to the national VMS monitoring centre. The national VMS monitoring centre can then distribute data to inspection platforms. This can be in near real time or close to near real time.
- 2.2.2. A number of nations have already established their national VMS and are involved in organisations where national VMS/FMC is a requirement.

- 2.2.3. Some of those are also involved in bilateral tracking agreements where the national VMS is mandatory.
- 2.2.4. In some cases, the national VMS is mandatory for the vessels safety and security and must therefore receive the data direct from the Land Earth Stations and/or its dedicated tracking system.
- 2.2.5. A national system can be used to distribute vessels positions to the IWC office or anyone else as a plain text with selectable frequency or upon request. By doing so IWC members can be assured that each member is fulfilling their VMS requirements.
- 2.2.6. The national VMS takes on the obligations to install vessels into the VMS and deal with the Land Earth Stations.
- 2.2.7. There would be no cost for the IWC office to establish and operate a centralized system and no need for additional staff with computer/VMS skill.

2.3. Benefits of a centralized system only.

- 2.3.1. A centralised system can have many of the same functions as a national system once vessels are installed into the central system.
- 2.3.2. IWC members can be assured that each member engaged in whaling activities is fulfilling their VMS requirements. Parties with an interest in management of whaling activities, including conservation groups, can be assured that the VMS requirements are being met.
- 2.3.3. The Commission can be assured that all whaling members' vessels are subject to the same monitoring standards, and at the same time confidentiality is maintained by providing for VMS access on a secure and "need to know" basis.
- 2.3.4. States which do not have an established VMS would not be required to establish a VMS in their country. Setting up one VMS monitoring centre would be more cost effective than setting up several.
- 2.3.5. Members States engaged in whaling activities would not need to monitor their vessels, rather one central monitoring centre (based at the Secretariat) would have this role. This would though only be applicable for those who do not have VMS or are not planning to do so.
- 2.3.6. A centralised VMS would enable States to verify the information on catch verification documents with greater confidence in the independence of the system.

2.4. Benefits of a combined national system and centralized system.

- 2.4.1. All the main benefits of both systems can be achieved by the combined solution, except that nations who do not already run their own national VMS would have to invest in such a system and the IWC office would need to install and operate a centralized system.
- 2.4.2. The centralized system would not need to take onboard the obligations of installing the vessels into the VMS.
- 2.4.3. The combined solution would simplify the administrative arrangements of the centralized system as all such work would be undertaken by the national system.
- 2.4.4. In the combined solution the national VMS would be primary recipient for VMS data and then this data is forwarded to Centralized system in a standardized format. This is the same procedure as already used in the NEAFC and NAFO systems.
- 2.4.5. The combined solution would solve any language problems of a centralized system.

2.4.6. The centralized system would still be able to record and verify all received data to secure compliance with the reporting standards.

2.4.7. The centralized system would not need to adjust to different tracking systems. The received data would always be in a standardized format, i.e. the North Atlantic Format (NAF).

2.5. Nations without VMS

2.5.1. It is possible for a state that does not have an established VMS to establish a contract with another state which has a VMS up and running to receive reports from its vessels and forward them as needed. The forwarding can be either in the form of computer data in case of forwarding to a centralized system or as a plain text either to the client and/or the IWC office. Such agreements may also be possible with private companies. Such companies may be able to run VMS for several different customers.

2.5.2. It can also be an option in a combined system, that some nations have their vessels report direct to the centralized system. That would though place an extra burden on the staff of the centralized system. An example of such a facility can be found in the NEAFC Scheme. There is though **no** Contracting Party to that organisation doing so.

2.6. Compliance:

2.6.1. VMS is usually regarded as a system which increases the level of compliance, especially when the location of the vessel is an important factor. This is achieved by its deterrent effect. By adding external systems to the VMS to make it event driven, the increased level of compliance is not only concerning the position, but also the vessel's activity. Furthermore, a requirement for catch and activity reports to be transmitted via the VMS may be added.

2.6.2. The received information can be distributed to the relevant inspection/surveillance agencies for verification. That will further increase the level of compliance.

2.6.3. The same level of compliance should be achieved in all 3 options, given that the same standards are used and the received data can be verified.

3. Identify an appropriate system or systems and develop text for the technical document that would accompany the Schedule as described in (b)

3.1. Tracking systems:

3.1.1. There are several different tracking systems available on the market today. Some use orbiting satellites and other use geo-stationary satellites. Some systems can determine the vessels position on its own by calculation between two or more different satellites or by a Doppler effect but others use positioning from dedicated navigational systems such as GPS. Some systems using geo-stationary satellites have continuous global cover, except from the Polar Regions, while other systems have more limited coverage. Systems based on orbiting satellites can have global coverage, but not necessarily continuous coverage. As whaling are expected on high latitudes that may limit the choice of systems for those vessels.

3.2. Inmarsat C

3.2.1. Inmarsat is based on geo-stationary satellites, two over the Atlantic, one over the Pacific and one over the Indian Ocean. As the satellites are placed over the equator the Polar Regions are not visible north of 75° N or south of 75° S. In addition to the automatic position reporting feature, Inmarsat C is a two way messaging system. Inmarsat C is found onboard many vessels as a part of the GMDSS communication package and/or as a dedicated tracking device. Many VMS rely heavily on Inmarsat C.

3.3. Argos

3.3.1. The Argos system is based on polar orbiting satellites. This system currently only provides one way messaging. Argos is widely used in all kinds of tracking. Positioning can be either from inbuilt GPS or by calculation based on the Doppler shift technology. The coverage is not continuous as the vessel's transmitter must be within the satellites footprint and the satellite must also be visible from the ground receiving station. If the ground receiving station is not visible at the same time as the vessel's transponder is within the satellite's footprint the received data is stored until a ground station comes into the satellite's footprint.

3.4. BoaTrack – Euteltrack

3.4.1. These systems are based on geo-stationary satellites and have two way communication capabilities. The position can either be from an inbuilt GPS or can be determined by calculation from the satellites.

3.5 Other systems

3.5.1 There are a few other tracking systems available, some which may have better coverage in one part of the world but limited or none in other parts. It should be noted that VMS is not limited to one communication service provider or a single vessel system. In fact a sophisticated VMS should be able to communicate with and use position reports from any source which can fulfil the requirements of the relevant end user.

3.5.2 Some nations use dedicated VHF/UHF tracking systems for small vessels. These systems can be useful for coastal operations, where the vessels are not operating outside the VHF/UHF range. The range which is by theory line of sight increases by the height of the coastal installations.

3.6 General description of a VMS system.

3.6.1 A VMS system, in the context of the IWC, can be used to monitor the position of vessels in near real time or close to real time depending on the communication system used. The vessel's part of the system can, with external sensors installed, automatically transmit messages when an event occurs. Many VMS are also made to receive and process catch and activity reports and some send automatic reports to other systems/recipients as predefined circumstances are met. In some bilateral tracking agreements, as well as in the NEAFC and NAFO systems, this feature is used to send automatic Entry report upon detection by the national VMS of a vessel's position to be within a specific area and an Exit report upon exiting the area respectively.

3.6.1.1 Some systems are configured to automatically receive catch and activity reports direct from the vessels, process them and automatically distribute to the relevant recipients. Some using that feature have made specialised reporting software to be used onboard the vessels.

3.6.2 General requirements

- 3.6.2.1 The VMS shall be able to receive and transmit reports via common communication protocols, preferably using the Internet based secure communication protocol HTTPS. It shall be able to communicate with different tracking systems.
- 3.6.2.2 The system shall be able to receive and transmit reports in the North Atlantic Format (NAF) for exchange of information with other systems. (The data communicated can be position reports and activity messages.)
- 3.6.2.3 The system must have user interface for input of data regarding the vessels being tracked as well as access to communication parameters.
- 3.6.2.4 There shall be a Graphical User Interface where vessels positions are displayed in a map. There should be a selection of different maps and nautical charts.
- 3.6.2.5 There shall be a Database where all information can be stored in a constructive manner, making it easy to extract information based on various criteria.
- 3.6.2.6 The system shall be able to automatically distribute data according to predefined parameters.
- 3.6.2.7 The system shall be able to automatically generate and transmit relevant reports if a vessel enters a predefined area.
- 3.6.2.8 There shall be automatic warnings if a vessel is not reporting according to schedule and if a vessel's activity does not conform to pre-set conditions.
- 3.6.2.9 There shall be a polling function for the communication systems where that is applicable.
- 3.6.2.10 There shall be a selection of printing selected data, display it on screen or store it in a file.
- 3.6.2.11 Security is of high importance. There should be strict rules, based on already recognised standards for data security. Such rules shall apply to handling of the data, its exchange between systems as well as physical access to the VMS. A model of rules for security and confidentiality can be found in the NEAFC Scheme for Control and Enforcement and in the NAFO Control and Enforcement Measures.
- 3.6.2.12 It is possible to let the system register and transmit information concerning tampering. This can be information regarding blocking the antenna, cutting off the power etc. This is available in some systems.
- 3.6.2.13 There should be standards for the approved vessel equipment. Number of nations has already established such standards.

4. Develop cost estimates for the option(s) developed in (3) above

4.1 Hardware cost:

4.1.1 Monitoring centre:

4.1.1.1 Centralized system will require a PC or Unix computer, depending on the type of system. Number of computers depends on the complexity of the system and how many workstations are required. In some cases a regular PC will be sufficient but in other systems a number of computers connected in a network may be needed. The basic VMS will also require a modem and/or an Internet connection with firewall. In addition a printer is needed. This can be in the range of 6.000 USD and upwards.

4.1.1.2 National system will require more or less the same hardware as a centralized system and the cost estimate is therefore the same given the assumption that a rather small system is to be installed.

4.1.2 Vessel:

4.1.2.1 Cost of a tracking device for a vessel depends on the type of system to be used. It should though not exceed 5.000 USD but can be considerably cheaper.

4.2 Software cost:

4.2.1 Software cost for a VMS system can vary considerably. Starting price can be around 30.000 USD for the system itself. An additional cost for installation and training should be expected as well as for licences.

4.3 Communication cost:

4.3.1 Vessel:

4.3.1.1 Cost per report from vessels depends on the different tracking systems. In Inmarsat C cost of a single position report can be around 0,07 USD for the position and including the speed and heading the cost can be around 0,15 USD

4.3.1.2 The total communication cost for the vessel depends on the frequency of reports. Given that there is a requirement for an hourly report the cost pr. day can be from 1,70 USD up to 3,60 USD if speed and heading is included. It should be noted that NEAFC and NAFO require 12 reports pr. day but many nations require once every hour.

4.3.2 Monitoring centre:

4.3.2.1 The communication cost for the basic connection in monitoring centres can vary between systems as well as between individual service providers and nations. These connections have nevertheless become cheaper, especially if based on the Internet technology. A VMS must though have a fixed high speed connection such as ADSL. An average cost pr. month for an ADSL connection can be around 40 USD.

4.3.2.1.1 To inspection platforms:

4.3.2.1.1.1 Distribution of information to inspection platforms depend on the volume and frequency as well on different systems. In the case of E-mail via the Inmarsat C system the cost could be something like 1,20 USD for 1 kbit of data, which is equivalent to about 127 characters. One position report including speed and heading can be

around 45 characters for the data itself but additional cost for overhead in the messages should be expected. That is though only a small part of the message and becomes proportionally smaller with larger messages. However, it should be noted that information to inspection platforms may be included in transmission of other information of data from the relevant authorities and therefore not necessarily of additional cost for a centralized system.

4.3.2.1.2 To organisations:

- 4.3.2.1.2.1 Distribution of information on HTTPS over the Internet is usually not of a significant cost. In fact very cheap. Can be compared with normal E-mail cost.

4.4 Staffing of monitoring centres:

- 4.4.1 National monitoring centres are in many instances already up and running and taking onboard additional vessels is not necessarily reflected in increased staff. It should however be recognised that additional vessels means an additional work load which needs to be dealt with. New systems will, however require staff, unless they can be operated by other centres like Coast Guard and/or Maritime Traffic Centres.
- 4.4.2 For a centralized system the staffing depends on the current manpower at the relevant organisation together with the volume of traffic and the complexity of the system. Given that automatic procedures are utilised as far as possible a simple system could more or less work on its own. However, additional staff with some computer/VMS skill will be needed if not already present.
- 4.4.3 Some national systems are open 24 hours a day, 7 days a week. These are sometimes included in larger operation centres. For centralized systems the need for extended opening hours is not foreseen. This is based on the fact that a centralized system like NEAFC in London does not require extended opening hours, as the system works automatically.

4.5 Operating cost of VMS system:

- 4.5.1 Yearly maintenance of the system will always be a factor. This can be in the range of 15 – 20 % of the total cost of the system.
- 4.5.2 Hardware should be expected to be renewed every 3 years if regular PC is used.
- 4.5.3 Consumables and other costs should not be of any significance. This can be expected to be power consumption, paper, etc.

29th March 2005

Gylfi Geirsson

Attachment I, Comparison of different systems
Attachment II, Cost estimates
Attachment III, The NEAFC system

Attachment I, Comparison of different systems

System	Main characteristics	Area of coverage	Two way	General remarks
Inmarsat C	Based on geo-stationary satellites over the equator. Two satellites over the Atlantic, one over the Pacific and one over the Indian Ocean	Global except from polar regions above 75°	Yes	Inmarsat C is often found onboard vessels as part of the GMDSS communication package and/or as a tracking device. Positioning is usually done by an internal GPS. Inmarsat C is heavily used in VMS today. Some whaling operations could be conducted in and close to the polar regions. This might affect the use of Inmarsat C.
Argos	Based on polar orbiting satellites	Global.	No	Argos transponders must be within the satellite's footprint. Therefore the connection is not continuous, but the interval between satellite passes is shorter on high latitudes. Widely used in all kinds of tracking. Also used to track animals. Positioning can either be from an internal GPS or by calculation from the satellite using the Doppler effect.
BoaTrack - Euteltrack	Based on geo-stationary satellites.	Beamed system	Yes	Widely used in many types of tracking, i.e. monitoring boats and trucks. Positioning can be either from an internal GPS or by calculation from the satellites.
Coastal VHF/UHF system	Based on coastal repeater system	Line of sight from the coastal repeater	Yes / No	There are some such systems being used today. This however requires considerable infrastructure cost if being installed for a large coastal area.

Attachment II, Cost estimates

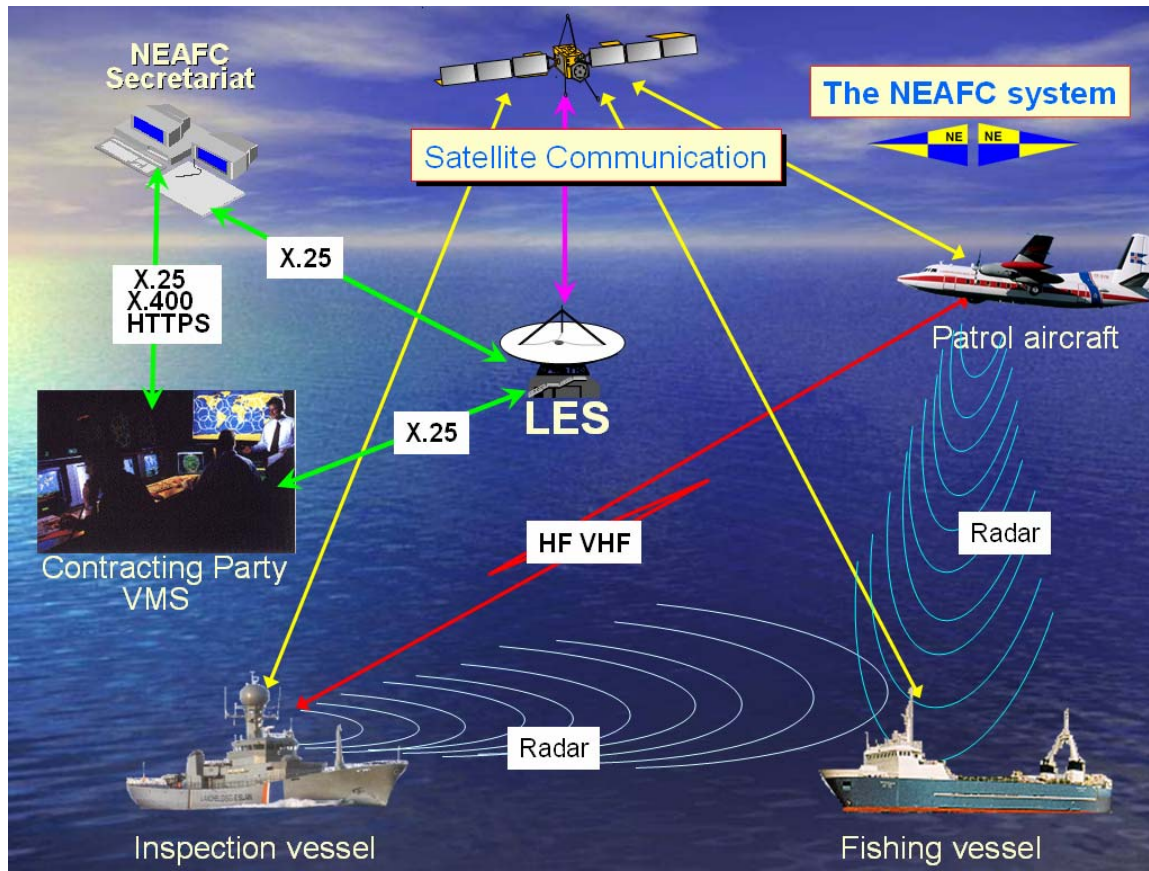
tem	Basic cost in USD	Yearly operating cost in USD	Remarks
Base Station:			
PC Computer and accessories	6,000	2,000	Complete renewal of hardware should be expected up to every 36 months.
ADSL connection	100	500	
VMS Software	30,000	4,500	Maintenance cost should be expected every year.
Licences	5,000	16,000	Monthly fee for licences should be expected, i.e. database, operating system, security measures, etc.
Consumables		1,000	
Communication cost		3,000	This can vary a lot depending on volume of data. This figure should be regarded as a pure estimate.
Staff		60,000	Some set-ups may need additional staff and some not. The figure depends also on the normal wages in different countries. This is an estimate for one person.
Totals	41,100	87,000	

Vessels:			
Possible cost for one vessel:			
VMS equipment	4,000	400	Inmarsat C solution. Mini C is though as low as 2.000 USD
Communication		720	Based on hourly reports in Inmarsat C, including speed and heading for 200 days a year. The cost will however depend on agreements between the different service providers and the customers.
Totals	4,000	1,120	

The basic security is included in the estimate, such as firewalls etc. It should be noted that the above figures are only estimates which can cange to both sides when making a contract with a vendor.

Attachment III

The NEAFC system which is very similar to the NAFO system. These systems are based on the combined solution and are in fact not only tracking system. They do also handle catch and activity reports and distribute information to Contracting Parties with an active inspection Presence in their Regulatory Areas.



Annex II.E

Report of the Specialist Group on the DNA Register/Market Sampling Scheme Approach (SGDNA)

The meeting was held from 7-9 March 2005 at the Southwest Fisheries Science Center (SWFSC), La Jolla, California, USA. The list of participants is given as Annex A.

1. CONVENOR'S OPENING COMMENTS

Perrin (Convenor and Chair) welcomed the participants to the Workshop. The group had been established by the meeting of the RMS (Revised Management Scheme) Working Group at its meeting in Sweden in December 2004. The background to this decision and the Terms of Reference of the SGDNA are given as Annex B. Annex B had recognised that while it was hoped that much work could be undertaken by correspondence, it might be necessary to hold a meeting to develop a comprehensive report. The SGDNA had agreed that holding a meeting was the most efficient way for it to complete its business. For practical reasons (the report has to be available in advance of the next RMS Working Group meeting in Copenhagen in March), it had not been possible to arrange dates at which all nominated members of the SGDNA could attend. Members not attending were Nicky Grandy (Secretariat), Michael Tillman (USA), Koen van Waerebeek (Belgium), and Thomas Lyrholm (Sweden).

It was noted that the task of the SGDNA was to provide technical advice and information to allow the RMS Working Group to progress in its work in drafting text for an RMS. Given that the RMS Working Group had not reached agreement on the final form of any references to DNA registers and market sampling, it was agreed that the SGDNA should provide technical advice to allow text to be developed for options based on three main scenarios: (1) systems under complete national control; (2) systems based on a combination of national control with some degree of international audit/oversight; (3) systems under complete IWC control.

On behalf of the IWC, Donovan thanked the SWFSC for hosting the meeting and the participants for donating their time to this important work.

2. ADOPTION OF AGENDA

The adopted agenda, based on the terms of reference, is given as Annex C.

3. APPOINTMENT OF RAPORTEURS

It was agreed that Perrin, Morin and Donovan would act as rapporteurs with assistance from others as appropriate. Final editing of the report was carried out by Donovan and Perrin.

4. REVIEW OF DOCUMENTS

A list of new documents is given in Annex D. IWC/N04/RMSWG9 also provided valuable information and suggestions. The Secretariat had circulated relevant background papers to members of the SGDNA in advance of the meeting.

5. SPECIFICATIONS FOR THE ESTABLISHMENT/MAINTENANCE OF DIAGNOSTIC DNA REGISTERS

The SGDNA took as its starting point the existing registers of Norway and Japan. The former has been discussed and approved by the IWC Scientific Committee in the past (e.g. IWC, 1998) and Japan has stated that its register is based on technical specifications similar to those of the Norwegian register. Updated information was provided in IWC/M05/RMSWG/SGDNA2 and 4 with additional information provided by email by Hans Skaug (Norway). The SGDNA was grateful for the cooperation given by Iceland, Japan and Norway with respect to existing and proposed registers and protocols. Unless noted in the report, the guidance here follows the existing protocols. The Scientific Committee has agreed that registers should be diagnostic, i.e. that they should contain DNA profiles of any animals from which products *might* legally appear in the market (e.g. from legal catches, bycatches, ship strikes) on the understanding that products from animals not included in the register(s) would be considered infractions. Information in IWC/M05/RMSWG/SGDNA2 indicates that both the Norwegian and Japanese registers are close to this goal. The

most appropriate way to incorporate such specifications into the RMS should be via an operating clause in the *Schedule* with a reference to a dated version of the specifications as discussed earlier by the RMS Working Group.

5.1 Collection of samples

The SGDNA agreed that where possible, samples should be collected by trained personnel. For commercial whaling operations, this should be a nominated individual or individuals – for example, the national inspectors. For whaling undertaken under scientific permits it should be by nominated biologists. The SGDNA recognised that for stranded/bycaught/ship-struck animals it may not always be possible for the samples to be collected by trained personnel. However, written instructions on how to do this should be made widely available; this is already the case for Japan (IWC/M05/RMSWG/SGDNA2); a copy of the Japanese field form was available for inspection. It was noted that in Japan, all bycaught animals must be DNA-registered before products can be sold (IWC/M05/RMSWG/SGDNA2). Information on the regulations and procedures can be found at www.icrwhale.org/pdf/higekujira.pdf.

It was agreed that two samples of skin and muscle of at least 5x5x5mm must be collected from each animal (four if it is decided to establish an IWC tissue archive – see options below). If tissue is collected to be frozen, four muscle samples of 20x20x20mm should be taken and frozen as quickly as possible.

Samples should initially be preserved in 95% ethanol (in at least five times the volume of the sample, due to potential problems of dilution and evaporation) and if practical refrigerated or frozen immediately. If not able to be frozen immediately, the samples should be shipped as soon as possible (preferably within 7 days) to the analysing laboratory. This temporary storage and shipping should be in temperatures <25°C to minimise the possibility of degradation of the sample. Long-term storage of tissue samples should be in 95% ethanol at at least -20°C. In addition to skin and muscle samples in EtOH, if possible four samples of muscle should be collected and frozen in liquid nitrogen; transport should be with dry ice. Long-term storage of frozen tissue samples should be at at least -80°C.

Reliable labelling of the sample is essential. The container should be labelled on both the inside and the outside with a unique identifying code that can be related directly to the biological and other information collected for the individual. The label on the inside must be indelible and insoluble in alcohol to ensure that the number remains legible after storage in ethanol. Similarly the label on the outside must be robust and remain legible if exposed to ethanol or water.

Information collected at the time of sampling must include at least the following: date; sample code; locality; species; body length; sex; name¹ of sampling person.

5.2 Tissue analysis

5.2.1 Extraction of DNA

The SGDNA agreed that extraction of DNA should be carried out using standard methods which have been reviewed and approved by the IWC Scientific Committee. Extracted DNA aliquots should be stored in freezers at at least -80°C. The existing registers use appropriate methods.

5.2.2 Laboratory inventory management

It is important that a suitable inventory management system is developed in order to be able to trace the whereabouts and use of each sample/aliquot over time during storage and analysis.

5.3 Specification of markers and methods of analysis

It was agreed that analysis of the samples should be undertaken without knowledge of the biological and other information available for the whale from which the sample was taken. Samples should be analysed for (at least) mitochondrial DNA, microsatellites and Y chromosomes (sex identification), as is done for the existing registers.

5.3.1 mtDNA

This is primarily used for species identification and population genetic studies in the context of DNA registers. It also increases the statistical power of individual identification by serving as an additional marker. The initial step is for simple discrimination between the species for which there is agreement that the IWC has management responsibility, i.e. the great whales (sperm + baleen), and the other cetacean species (for which there is no general

¹ plus address if non-nominated person, e.g. in the case of bycatches

agreement that the IWC has management responsibility). The second step is to identify the sample to species. Details of the present systems for Japan and Norway are given in IWC/M05/RMSWG/SGDNA2 and 4.

The SGDNA agreed that species identification should be accomplished with an approximately 500bp fragment of the 5'-end of the control region. It also agreed that sequencing should occur in both directions. As noted below, it is important that the DNA sequence quality scores and the electropherograms are retained for future reference (see Item 5.4).

5.3.2 *Microsatellites*

At present, microsatellites (or Short Tandem Repeats, STRs) are considered the marker of choice for individual identification (although see Item 10). Typically, microsatellite loci are amplified with fluorescently labelled primers that can be visualized by laser using an automated system. The genotype of an individual at a given microsatellite locus is scored by measuring the size in base pairs (bp) of the two alleles in relationship to an absolute size standard or a relative size standard, such as an allelic ladder (see (7) under Item 5.4) or both. Allele size can be reported as a 'raw' output (in decimals of a bp) or 'binned' into the assumed true sizes, in units of two, three or four bp. Genotypes scored at several microsatellite loci can be combined to establish a 'DNA profile' that has some degree of individual 'distinctiveness', depending on the frequency of the alleles at each locus. The average probability of two individuals having a matching profile by chance (a match by chance) is often expressed as the probability of identity, and is calculated from the number and variability of the microsatellites used to generate the profile. Identity can be further confirmed or excluded using other variable markers, such as sex or the mitochondrial DNA (mtDNA) control region.

Details of the markers currently used for the Norwegian and Japanese registers can be found in IWC/M05/RMSWG/SGDNA2 and 4. The SGDNA noted a number of important features about this approach that must be included and addressed when specifying requirements for registers. It is important to recall that the primary purpose of the registers is to determine whether IWC regulations on catch limits are being obeyed and that total removal levels are not being exceeded. This is partially achieved and confirmed by ascertaining whether products in the market can be matched to individual legal whales found in DNA registers. Matching errors can occur in two ways:

- erroneously failing to match products to an animal in the register when it is actually there – i.e. falsely implying an infraction;
- erroneously matching products to an individual in the register when it is not actually there – i.e. missing an infraction when one has occurred.

It is therefore extremely important that errors in matching are minimised.

The SGDNA agreed that it is important that the number and degree of variability of loci used in DNA registers should be sufficient to allow for an acceptable level of average probability of correctly identifying an individual. This number will vary by species. The existing microsatellite loci used by the Japanese and Norwegian registers should be used as the default loci in any new registers for the species/populations in the Japanese and Norwegian registers; new loci may be required for other species and populations. New loci should be incorporated into all registers as they are validated and added.

Similarly, the SGDNA agreed that laboratory error rates should be sufficiently low to ensure acceptably low level of probability of mismatch due to such errors. It should be recognised that some degree of laboratory 'error' is inevitable, although error levels (which should be estimated) should be minimised by good practice at all stages of the process from tissue collection onwards. Practical guidelines for this are given under Item 5.3, and results from such exercises should be reported to the IWC Scientific Committee for periodic review (see below).

In this regard, the SGDNA recognised the statistical and technical complexity of determining what comprises 'acceptably low' and it noted the interaction between laboratory error rates and the numbers and variability of loci are contributing factors in determining the robustness of matching success (and see Item 10).

Given the importance of this issue, the SGDNA noted that it is important that error rates be estimated in an agreed manner and reported for each locus on a regular basis.

Where more than one laboratory is used to generate a single register or a network of registers, it is critical that calibration of microsatellite genotype scoring (e.g., absolute size or binning) across laboratories is undertaken (and see Item 5.8.2). Considerable experimental variation is encountered in sizing microsatellite alleles, even under standard conditions (Gnosh *et al.*, 1997; Hoffman and Amos, 2005). This calibration should be carried out using a

double blind experiment with known individuals. Cloned alleles should be used to construct an allelic ladder for calibration purposes. Methods and results of calibration exercises should be reported for periodic review (see below). The SGDNA agreed that it would be extremely helpful if nations presently holding registers facilitated the initiation of such calibration studies in the near future. It was noted that progress towards this has been made by both Norway and Japan.

The SGDNA stressed that as occurs at present, current fluorescent techniques that allow electronic records to be kept should be used.

5.3.3 Sex identification

Both the Norwegian and Japanese registers incorporate information on sex. The former uses the method of Palsbøll *et al.* (1992) while the latter use that of Abe *et al.* (2001). The SGDNA agreed that sex identification should be continued, noting that sex is an additional genotype that may prove useful to identify market samples and that it may also serve as a check on field data. Once again, error rates (obtained by comparison with reliable field identification of sex) should be estimated and reported.

5.4 Minimum laboratory requirements

The SGDNA agreed the following guidelines for minimum laboratory requirements, based on those developed by Norway when choosing an appropriate laboratory for its register (IWC, 2001).

(1) The laboratory should adhere to high quality standards (such as those defined by forensic organisations). It may under certain circumstances be appropriate for laboratories to be formally accredited for DNA work or for them to work towards such accreditation. Experience with marine mammal genetic work may be advantageous but should not be considered a requirement.

Quality control and quality assurance features should assure that:

- (a) analysts have acceptable education, training and experience for the task;
- (b) reagents and equipment are properly maintained and monitored;
- (c) procedures used are generally accepted in the field; and
- (d) appropriate controls are used (as specified in procedures).

The laboratory should be available for external evaluation (e.g. by some combination of site visit, inspection, peer review and external audit).

(2) The laboratory should participate regularly in proficiency tests such as double-blind comparisons.

(3) Portions of the tissue samples and DNA extracts should be retained (and stored in an appropriate manner, e.g. in 95% ethanol at at least -20°C - see Item 5.1).

(4) Thorough laboratory records (protocols, notes, worksheets, etc.) should be maintained and archived by the laboratory for possible inspection. It is important that a suitable inventory management system is developed in order to be able to trace the whereabouts and use of each sample/aliquot over time during storage and analysis (see Item 5.2.2).

(5) Changes in equipment and methods should be noted and reported annually to allow ongoing standardisation among registers.

(6) The probability of errors occurring should be estimated and minimised, using standard procedures. DNA data quality/acceptability should be decided in accordance with generally accepted rules and reported annually where possible (e.g. PHRED scores for sequences, SDs of fragment length measurements for microsatellites alleles, means and SDs of peak heights for microsatellites, some evaluation of stutter for each microsatellite locus).

(7) A reference set of samples should be designated for allelic standards and an equimolar allelic ladder should be constructed by cloning and sequencing a range of alleles for each microsatellite locus.

5.5 Format of individual records

At present, DNA profiles in the existing registers are presented as follows:

- (a) as two Excel files - one for the microsatellites and sex profiles, the other for the mtDNA sequence;
- (b) in each file, whales are given unique identifiers that can be cross-referenced back to the biological and associated data for that animal. In the microsatellites/sex file, each whale profile is given one row, with one column for each allele (two columns for each microsatellite marker and the sex locus). In the mtDNA profile file, each profile has one row, and one column for each site where the sequence deviates from the reference sequence.
- (c) Hard copies are also made available.

The SGDNA group endorsed this basic approach but agreed that additional information should be archived, particularly in the context of calibration among laboratories when e.g. microsatellite markers are used. In this regard it agreed that in addition to the above, the following should also be stored:

General information for each sample

- genotyping system
- software system

'Raw' data

- electropherograms
- quality scores
- raw allele sizes
- peak heights
- gel image (depending on platform used)
- number of times the genotype replicated

Summary data on each locus

- error rate and how determined
- allele frequencies in a given population
- deviations from Hardy-Weinberg equilibrium
- evidence of null-alleles, short-allele dominance (or short-allele bias due to preferential amplification) or other artefacts

Although such data can be stored in Excel files, it was agreed that given the different types of information stored, a relational database system (such as Microsoft Access) would be both more flexible and more efficient.

5.6 Database structure

For scenarios *1DNA* and *3DNA* discussed below under Item 5.8, the specifics of the database structure are not especially important, although there are advantages in compatibility. For scenario *2DNA*, the minimum criterion is that the national databases are compatible for the purposes of matching and searching. An example of one possible system for scenario *2DNA* is given in Annex E.

5.7 Matching facility

As noted above, the reliability of matching is the key to the success of the DNA register approach. Different software packages of varying degrees of complexity are and can be used (e.g. see Walløe and Grønvik, 1998). It is important that whatever method is used, its performance is assessed using control samples. Performance needs to be assessed both in terms of erroneous matches and erroneous failures to match.

5.8 Issues relevant to the various potential options

As noted earlier, three general scenarios for register systems have been considered by the RMS Working Group:

Scenario 1DNA - national systems, including a national tissue archive and a national DNA register controlled and maintained by a member nation or under contract to a member nation, with requirement for reporting of infractions to IWC;

Scenario 2DNA - national systems with some level of international oversight

- (a) national systems with conditions for technical audit by IWC (e.g., submission by IWC of samples for double-blind comparisons; see Item 8.1)
- (b) national systems with technical audit by IWC and electronic copies of DNA profiles held by IWC
- (c) national systems with technical audit by IWC, electronic copies of DNA profiles held by IWC and duplicate samples of tissue held by the IWC;

Scenario 3DNA – a centralised, international system (IWC based) with central tissue archive and central register of DNA profiles derived centrally.

The SGDNA made the following observations with respect to some of the implications of adopting the different scenarios.

5.8.1 Sample shipment

Scenario 3DNA would necessitate the shipment of all samples (from whaling operations, bycatch etc.) to a central laboratory. This has attendant logistical problems with respect to CITES permits and potential loss and/or degradation of samples. Such problems may not be so severe for scenarios 1DNA and 2DNA. At present, all Japanese samples are processed within Japan. However, the analysis and storage of the Norwegian samples was carried out in Canada up to 2002 and from 2003 is being carried out in Iceland. Icelandic samples are being analysed in Iceland (at the same laboratory as the Norwegian samples). International audit under scenario 2DNA could require shipment and CITES permits.

5.8.2 Calibration

Calibration is necessary if microsatellite profiles of samples obtained from more than one laboratory are to be compared. Thus in the case of scenario 3DNA, calibration of laboratories is unnecessary unless the central laboratory is changed.

The levels of calibration necessary for scenarios 1DNA and 2DNA would depend on circumstances, approaches chosen and the degree of co-operation among national governments/registers. A number of situations can be envisaged, including:

- (a) all laboratories involved in DNA registers are fully and successfully calibrated (and also a third party laboratory for analysing suspect' samples, if one is deemed appropriate under Item 8);
- (b) all samples from 'suspect' animals are analysed by all laboratories for comparison with their own registers – this would require no calibration but entail a degree of duplication;
- (c) profiles from exported whales are given to the importing country – this will require calibration if the profiles are to be used by the importing country in e.g. its market sampling, and, if under 2DNA, it is agreed that a third party laboratory analyses 'suspect' samples;
- (d) information on the individual animal origin of legally exported products (e.g. anonymously but by a unique identifier) is given to the importing country and the importing country then analyses a sample from each animal for incorporation into its own register – no calibration is required unless under scenario 2DNA it is agreed that a third party laboratory analyses 'suspect' samples.

5.8.3 Expertise/duplication

Scenario 3DNA may result in the choice of a new laboratory and possibly the need to reanalyse all of the past samples or calibration of the old laboratories. If national registers were continued this would also imply duplication of effort. It was also noted that this might entail a loss of experience and expertise gained by the existing registers.

6. TECHNICAL ASPECTS OF POSSIBLE SYSTEM(S) FOR SUBMISSION TO REGISTER(S) TO AVOID FRAUDULENT CLAIMS

The RMS Working Group has noted that an agreed specified system for submitting samples to the register(s) for 'checking' must be developed to prevent fraudulent claims of illegal products being found. The generally agreed approach by that group was that (a) tissue samples must be submitted via national governments or appropriate intergovernmental organisations with proof of origin of the samples, and (b) analysis must follow agreed techniques in an IWC-approved laboratory.

The SGDNA agreed with this approach. It noted that submitted samples should be accompanied by an officially-attested documentation of chain of custody from time of collection to submission. This should include location obtained, type of vendor, date, time, label if present and if possible photographs. It would also be necessary for a documented chain of custody to be established for the period between submission to a government or the IWC and provision of analytical results. The analysis would need to be carried out by a calibrated laboratory. For scenario 2DNA the matching would be carried out by the IWC (or other international body) holding the centralised register if the oversight includes holding a central register. Under scenario IDNA the samples (but no associated information) may have to be submitted to all of the national registers (not simply the one for the country where the sample was obtained) in order to facilitate a blind test and to avoid problems arising from any lack or failure of calibration (see Item 5.8.2 above).

7. GENERAL APPROACHES FOR DESIGNING A MARKET SAMPLING SCHEME (MSS)

As for the register system, three alternatives were considered:

Scenario 1MSS - national MSS only, with no international oversight;

Scenario 2MSS - national MSS with international oversight;

Scenario 3MSS - IWC-operated MSS.

The SGDNA did not discuss the implications of the various possible permutations of register and MSS scenarios.

The SGDNA agreed that the necessary data to be collected should include:

- location;
- date;
- time;
- label (or verbal description of nature and origin of product offered by vendor);
- type of source (e.g. wholesale market, shop, dockside etc);
- photograph of product before sub-sampling.
- name and contact information of person collecting (c.f. Item 5.1).

Pastene provided information on the present Japanese scheme and noted that their market surveys are systematic, with an attempt to provide adequate geographical and seasonal coverage (Table 1).

Table 1.

Market sampling surveys carried out or commissioned in Japan by the Government of Japan.

Year	Period	No of market products	Remarks
1995	Mar-May	53	TRAFFIC
1995	Mar-May	175	Japan
1996	Mar-June	353	Japan
1999	Nov 99-Feb00	648	Japan
2000	Nov00-Feb01	978	Japan
2001	Nov-Dec	381	Japan
2002	May-June; Oct-Nov	670	Japan
2003	May-July; Oct-Nov	615	Japan

7.1 Case-specific nature of market sampling

The purpose of market sampling is twofold: to act as a deterrent to illegal activity and to detect whether such activity is occurring. In its initial stage it is not intended to determine the precise number of animals that may be involved. Rather, if illegal products are discovered, a targeted method of detecting the origin of the products and the extent of the illegal operation should be developed. As noted in IWC/N04/RMSWG9, it is not a simple matter to design an appropriate market sampling strategy and to determine the level of sampling necessary to provide either a deterrent or to estimate the power of a scheme to detect various assumed levels of illegal products. Initially, any such schemes, whilst they might conform to general principles or guidelines, would have to be case-specific in design for different national and regional markets. It would also need to take into account the various levels of success in obtaining DNA profiles from the various types of products available (more heavily processed products are more difficult).

The SGDNA noted that the development of an appropriate MSS would be an iterative process and initially at least be exploratory in nature, as markets are usually complex and poorly documented. This is a challenging technical task and requires methodological development. It is clear that the development of appropriate schemes benefits greatly from as much information as possible being provided by Governments and others on the nature and pathways of the market (which will vary even within a country, for example based on the origin of the product, e.g. from scientific permit catches, commercial catches and bycatches, and possibly by species). It was noted that the exercise being undertaken by the IWC Scientific Committee with respect to determining the value of attempting to estimate bycatches from MSS, whilst different in objectives, may produce some helpful information on sampling design.

7.2 Power to detect infractions, potential levels of coverage

The SGDNA reiterated the difficulty of estimating the likely power of detection of illegal activity in the absence of detailed knowledge of the markets. However, in general it is clear that power will be increased with increased scope of the sampling in terms of temporal (throughout the year) and geographical coverage. It was also agreed that the full range of cetacean products, including putative dolphin and porpoise products, should be sampled, without assumptions being made about accuracy of labelling. The SGDNA also noted the need to carry out appropriate experimental work both in determining the various likelihoods of falsely suggesting illegal activity when there has been none and in missing an infraction when there has been one. Such an effort must include appropriate statistical considerations, recognising that the default position for a diagnostic register is to assume illegal activity if no match is made, and appropriate practical issues such as choice of material when carrying out such a survey (e.g., reliable microsatellite profiles will be difficult to obtain from some highly processed products).

The SGDNA also noted that there will be some level of trade-off between choosing the best approach to act as a deterrent (e.g. sampling is carried out openly and with publicity) and the best approach to detect illegal products (sampling is carried out 'under cover').

7.3 Technical aspects of alternative options for MSS

The difficulties and complexity of designing an appropriate market-sampling scheme are the same irrespective of which option is chosen. In terms of shipment and analysis of samples, the same issues (with respect to CITES permits, shipping loss, degradation of samples and calibration of laboratories) raised in the context of registers are relevant.

8. POTENTIAL MECHANISMS FOR TRANSPARENCY/AUDIT/OVERSIGHT WITH RESPECT TO REGISTER AND MARKET SURVEY SYSTEM(S)

The SGDNA agreed the need for audit and recommended that the technical nature of that audit should apply irrespective of which option for registers or market surveys is chosen. Except in regards to the principle of transparency, the differences between the options thus largely stem from who carries out the audits. The SGDNA also noted that there is a powerful incentive for the holders of national registers to be accurate and fully diagnostic since if a profile from a product is found not to match an animal then the default position is that there has been illegal activity.

8.1 DNA registers

Under Scenario *2DNA*, audit/oversight (and by extension transparency) could be accomplished by an international expert group:

- reviewing and approving the initial technical specifications for the national registers (as the IWC Scientific Committee has done for Norway) and any changes to those protocols;
- reviewing annually specific information and statistics formally reported as noted under Item 5;
- undertaking a technical audit including the provision for trials using ‘blind’ control samples;
- undertaking periodic site visits to examine whether agreed protocols are being followed.

Clearly under Scenario *3DNA*, the same audit/review would be necessary.

Scenario *2DNA* could (alternatively or additionally) also achieve transparency and oversight by having an international body (e.g. the IWC) holding a central master register of profiles supplied by the national registers (see Item 5.5). This list need have no associated information, and a check could be undertaken of a ‘suspect’ sample (with the appropriate safeguards described under Item 6) and a simple yes/no answer provided. It should be noted that there is a strong incentive for nations to ensure that their registers are accurate and up-to-date, since if a match is not found when tested against a ‘suspect’ sample, illegal activity is presumed. Given the existing national registers, the level of duplication required is greatest under Scenario *3DNA* and least under *1DNA*. The level of duplication under Scenario *2DNA* depends on the level of oversight required (see Item 5.7).

8.2 Market Sampling Schemes

In all cases a documented chain of custody from collection of the market sample to analysis must be collected and archived.

Under Scenario *2MSS* audit/oversight (and by extension transparency) could be accomplished by an international expert group by:

- either reviewing and approving an MSS submitted by a national government or developing the plan in collaboration with a national government;
- undertaking periodic site visits to ensure that MSS was being correctly implemented.

Under Scenario *3MSS*, the expert group would develop the MSS and publish it for outside scrutiny and it would be important that provision was made for site visits to ensure that the MSS was being correctly implemented. The level of work required is greatest under Scenario *3MSS* and least under *1MSS*. The level of work required under Scenario *2MSS* depends on the level of oversight required (see Item 7.3).

9. TECHNICAL ADVANTAGES AND DISADVANTAGES OF ALTERNATIVES FOR TISSUE ARCHIVE(S)

The Terms of Reference for the SGDNA called for it to: examine the technical advantages and disadvantages of holding a centralised tissue archive and centralised copies of the electronic profiles for national registers versus only having the electronic profiles. The SGDNA welcomed IWC/M05/RMSWG/SGDNA1 that addressed this topic.

A centralised tissue archive would be a repository for pieces of tissue from legally obtained animals that would act as a backup for national tissue archives and could potentially be used to verify genetic analyses reported by the member countries. For convenience, such an archive might also include extracted DNA aliquots provided by the contributing sources.

Establishment of a tissue archive (centralised or otherwise) requires consideration of a number of issues. The SGDNA agreed if it was decided that a centralised archive should be established, it should mirror the conditions for archiving tissue described under Item 5, hold the same associated information and include the same chain of custody records.

The nature of the centralised electronic profiles could range from a simple storage of anonymous profiles to an effective mirror of the national registers (as discussed under Item 5).

The SGDNA made the following observations about four potential alternatives:

- (a) IWC holds centralised profile archive only;
 - (b) IWC holds centralised profile archive and complete tissue archive;
 - (c) IWC holds centralised profile archive with an agreement that it can request and will be granted access to specific tissue samples;
 - (d) IWC holds a centralised profile and a 'sub-set' tissue archive.
- (1) A complete centralised tissue archive would comprise a complete back-up to national archives in the event of major malfunctions leading to loss of samples.
- (2) There would be a considerable replication of effort to establish and maintain a complete centralised tissue archive. Issues associated with permits and the shipping (and some potential for loss and/or degradation) of samples referred to under Item 5.2 will also apply.
- (3) A centralised archive could contribute towards verifiability of international technical audit in that samples can be sent to participating national (or contracted) laboratories for double-blind comparison. This could be achieved with less replication of effort if sub-sets of tissues were archived (as in (d)) or if governments agreed to submit samples on request as in (c) rather than by holding a complete archive (as in (b)).
- (4) Apart from the case of a complete back-up, the reasons for a centralised archive are reduced if laboratories are all calibrated under international technical audit.
- (5) A centralised tissue archive would allow for completely independent analysis and checking of any sample without recourse to the 'host' government.
- (6) Alternative (b) is the most expensive and difficult to implement.

10. OTHER TECHNICAL CONSIDERATIONS

10.1 Efficiency and robustness of testing hypotheses in an MSS

As noted above, the statistical methods for establishing inclusion and exclusion of multiple products subject to multiple laboratory error (such as will be required for market surveys by second or third parties as would occur in scenario *3DNA* and possibly *2DNA*) to a DNA register have not been well developed. These technical and statistical difficulties will be compounded to varying extents if there is expansion of domestic whaling or international trade, requiring matching to multiple DNA registers of different species and populations, depending on options chosen (e.g. see Item 5.8.2).

Statistical development in this area is required to assist in estimating error rates for:

- potentially poor samples as might be the case for some market samples;
- determining the likelihood of missing a match, i.e. falsely implying an infraction;
- determining the likelihood of falsely making a match, i.e. missing an infraction that has occurred.

Such an analysis must take into account the fact that the default position is that if a match is not made with a register then illegal activity has taken place.

It can be argued that the efficiency and robustness of a compliance mechanism involving a DNA profiling would be enhanced, possibly greatly by product labelling with an individual code linked to the DNA register. In discussing this, the SGDNA did not consider in any detail:

- the ease or likelihood of mislabelling occurring (either accidentally or deliberately);
- the difficulties in labelling for various types of products or markets.

In terms of efficiency, the search for a match would certainly be speeded up, as in the first instance the check will be to the animal indicated on the label rather than to the whole register (or at least all those animals in the register of the same species and sex indicated by the analysis of the sample). However, given the problems of accidental

mislabelling, if no match is made, then a test might still need to be made with all animals in the register of the same species and sex.

In terms of robustness, then at least at the initial stages of testing, the technical demands of DNA profiling for identification would be greatly reduced by the much more limited null hypothesis established by the label, i.e., the product is a specific individual of a specific species taken at specific date and location. This would will reduce the problems associated with combinatorial analyses (essentially, multiple tests) provided that a match is made. This is more similar to the inclusion/exclusion framework typically applied in human forensic genetics. However, again given the problems of accidental mislabelling, if no match is made, then a test would still need to be made with all animals in the register of the same species and sex. Statistical evaluation of the benefits of this, both in terms of falsely missing matches and making matches, is important and not trivial. This needs to be examined carefully.

10.2 Alternative genotyping technologies

The present methods of identifying individuals used in both registers involve the use of microsatellite loci. An alternative type of genetic marker, Single Nucleotide Polymorphism (SNP), offers several advantages over microsatellites, including more robust allele scoring based on usually binary character states rather than allele sizes. SNP genotypes are independent of the technology used to generate them, and they can be stored and compared without the need for calibration among labs. SNPs are now the marker of choice for many human genomics studies where large numbers of markers are needed, as they are the most common type of variation in the genome and can be assayed rapidly and efficiently. Because SNPs typically have only 2 alleles, approximately 2-4 times more individual markers are needed to obtain the same level of probability of identity as a set of microsatellites (Chakraborty *et al.*, 1999), but this is likely to be countered by the increase in efficiency of generating the SNP genotype data, for overall increased efficiency and lower costs. One disadvantage of SNPs is that loci are not likely to be useful across species, requiring development of the required number of SNPs for each species in the register. However, the efficiency of this development is like to increase as the discovery of SNPs becomes more routine (Brumfield *et al.*, 2003; Aitken *et al.*, 2004; Morin *et al.*, 2004).

11. ADOPTION OF REPORT

The report was adopted by post.

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Annex A
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Annex B

Draft Terms of Reference for a Specialist Group on the DNA Register/Market Sampling Scheme Approach (SGDNA)

BACKGROUND

The use of a DNA/MSS (DNA register/Market Sampling Scheme) approach to obtain information that will help to ensure that catch limits set under the RMP are not exceeded has been discussed for several years. Such schemes are already in practice in Norway and Japan and discussion of some technical aspects has occurred within the IWC Scientific Committee. Such an approach can be particularly valuable in terms of detecting/deterring IUU operations or unreported bycatch (e.g. IWC/55/COMMS 3). Any wider issues of trade that may be of benefit to individual nations themselves are not of relevance to the IWC.

Chair's proposal

The Chair's proposal stated that DNA registers/market sampling systems should form the major part of the catch verification system. They should have the following attributes:

- National diagnostic DNA register for each whaling country or group of countries (to agreed specifications) to avoid redundancy and additional costs;
- Designed market sampling system (to agreed specifications);
- Some degree of outside audit.

The Chair had noted that further work is needed to adequately specify certain technical details and to consider the level of appropriate transparency that will fulfil the goal that regulations are not only obeyed but seen to be obeyed. He had also noted that an agreed specified system for submitting samples to the register(s) for 'checking' must be developed to prevent fraudulent claims of illegal products being found. Under this system it is proposed that: (1) samples must be submitted via national governments or appropriate intergovernmental organisations with proof of origin of the samples; and (2) analysis must follow agreed techniques in approved laboratories.

There is general (although not exclusive) agreement on this approach in the RMS working group; the primary area from a policy perspective is the level and nature of outside oversight.

ESTABLISHMENT OF A TECHNICAL SPECIALIST GROUP (SGDNA)

In accordance with the Chair's proposal, it has been agreed to establish an SGDNA to provide advice on the technical details related to the DNA/MSS approach. Without making specific recommendations on appropriate levels or who should carry out the outside audit, it would also be useful for the group to provide technical details of potential audit mechanisms for DNA registers and market sampling schemes. This information could then be considered at the next meeting of the RMS Working Group for consideration at both the policy and drafting levels.

Membership

This must be a specialist group and members should be familiar with DNA analysis (particularly with respect to individual identification, ideally in the context of DNA registers), market sampling approaches or both. The USA has agreed to act as Convenor of the group with assistance from the Secretariat. In order to facilitate work, Governments are requested to notify the name and email address of their expert to the Secretariat by 10 December 2004.

Modus operandi

The group should endeavour to complete its business by correspondence. However, it is recognised that with such a complex agenda this may be difficult and the possibility of the need to hold a short meeting (probably immediately prior to the March RMS Working Group meeting) cannot be ruled out. The Commission should consider whether it may be appropriate to provide some funds for participants in this

regard. In either circumstance the report of the group must be available to the next meeting of the RMS Working Group.

Existing documentation

There has been considerable discussion of relevant matters both within the Commission's RMS groups and its Scientific Committee. The Secretariat will compile an electronic reference set of such documents for circulation to the SGDNA.

Terms of reference

Given the above, and taking into account the work already undertaken by Japan, Norway and the Scientific Committee, as well as the various Commission groups, it is agreed that the SGDNA should report on the following technical issues, and, where appropriate develop text for technical specifications, concerning the following:

- (1) specifications for the establishment/maintenance of diagnostic DNA registers (including tissue analysis and specification of markers, minimum laboratory requirements, format of individual records, database structure and search facility);
- (2) technical aspects of possible system(s) for submission to avoid fraudulent claims;
- (3) general approaches for designing MSS including consideration of likely detection rates given assumptions of particular levels of occurrence of infractions and coverage, recognising the case-specific nature of MSS;
- (4) technical aspects of potential mechanisms for transparency/audit/oversight with respect to (1) and (3) above;
- (5) technical advantages and disadvantages of holding a centralised tissue archive and centralised copies of the electronic profiles for national registers versus only having the electronic profiles.

Annex C

Agenda

1. Convenor's opening comments
2. Adoption of agenda
3. Appointment of rapporteurs
4. Review of documents
5. Specifications for the establishment/maintenance of diagnostic DNA registers
 - 5.1 Collection of samples
 - 5.2 Tissue analysis
 - 5.2.1 Extraction of DNA
 - 5.2.2 Laboratory inventory management
 - 5.3 Specification of markers and methods of analysis
 - 5.3.1 mtDNA
 - 5.3.2 Microsatellites
 - 5.3.3 Sex identification
 - 5.4 Minimum laboratory requirements
 - 5.5 Format of individual records
 - 5.6 Database structure
 - 5.7 Matching facility
 - 5.8 Issues relevant to the various potential options
 - 5.8.1 Sample shipment
 - 5.8.2 Calibration
 - 5.8.3 Expertise/duplication
6. Technical aspects of possible system(s) for submission to register(s) to avoid fraudulent claims
7. General approaches for designing a market sampling scheme (MSS)
 - 7.1 Case-specific nature of market sampling
 - 7.2 Power to detect infractions, potential levels of coverage
 - 7.3 Technical aspects of alternative options for MSS
8. Potential mechanisms for transparency/audit/oversight with respect to register and market survey system(s)
 - 8.1 DNA registers
 - 8.2 Market Sampling Schemes
9. Technical advantages and disadvantages of alternatives for tissue archive(s)
10. Other technical considerations
 - 10.1 Efficiency and robustness of testing hypotheses in an MSS
 - 10.2 Alternative genotyping technologies
11. Adoption of report

Annex D

List of documents

IWC/NO5/RMSWG/SGDNA

1. PERRIN, W.F. AND MORIN, P.A. Technical advantages and disadvantages of alternative DNA-register approaches.
2. PASTENE, L.Q. AND GOTO, M. Specifications for the establishment/maintenance of diagnostic DNA registers – text for discussion based on information of Norwegian and Japanese registers.
3. BAKER, C.S. AND GILLESPIE, A. An integrated diagnostic DNA register and catch documentation system for compliance under the ICRW.
4. DANIELSDOTTIR, A.K., THORGILSSON, B., STEFANSSON, RAGNARSDOTTIR, A., JÖRUNSDOTTIR, T.D. AND PAMPOULIE, C. The Norwegian/Icelandic DNA register.

Annex E

One option for the structure of a centralised database based on national registers

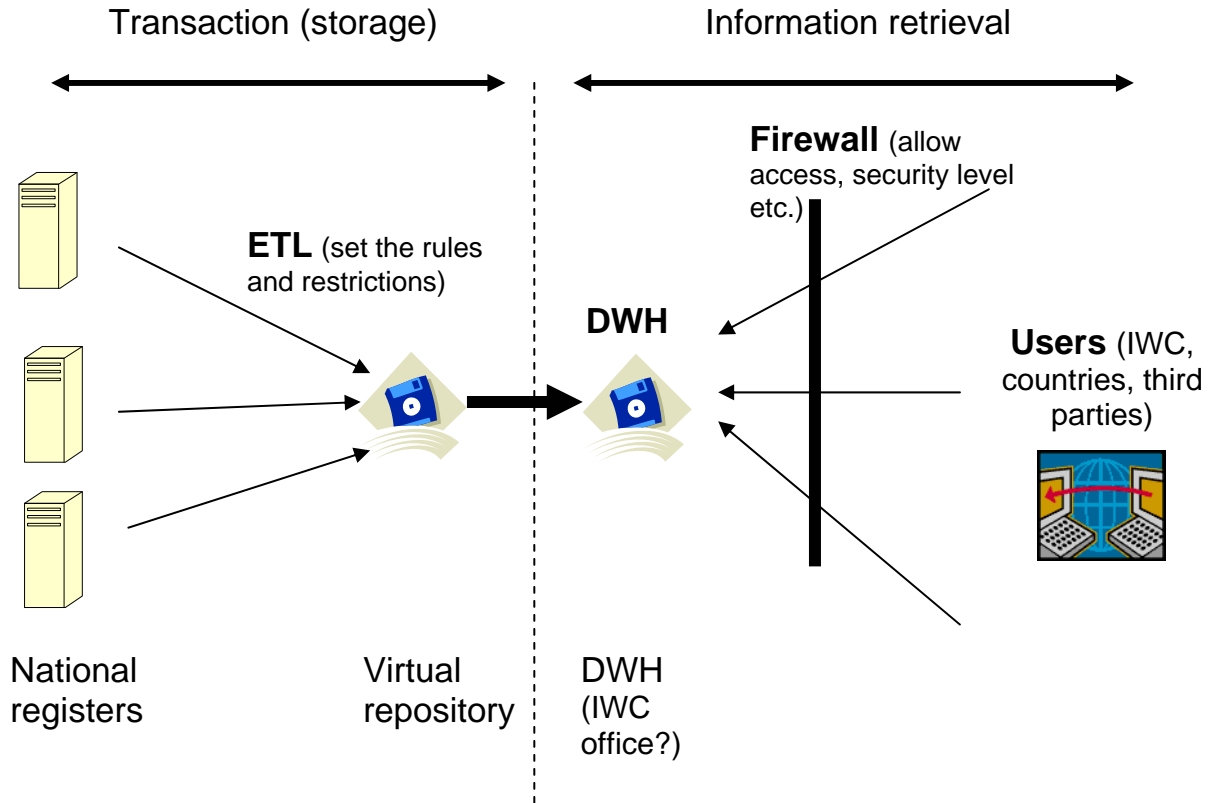
Hans Peter Koelewijn

Option 2 of the different scenarios of the DNA register/MSS implies the existence of local databases from which information is regularly updated to a central register. Which information will be available in the central register is up to the judgment of the different contributors and owners of the local databases. For example, the central register might only contain the data that are of importance for detecting infractions. If an infraction is determined, the local databases where the full information is stored have to be consulted. Such a scheme poses different requirements on the structure of the database. The local databases are designed for storage, and all information has to be included in a secure way (transaction based databases). The central database requires easy access and data retrieval and therefore fulfills another purpose: information retrieval instead of storage. These systems are known under the name of Data Warehouses (DWH). These systems are very flexible and allow security and access rules to be defined at different levels. The storage of the data will always be under control of the participating countries, while access to the central register can be granted on a by request basis.

A key concept is the introduction of an ETL layer (Extract, Transform, and Load). This layer translates the data from different databases, formats or flat files (Excel) to one uniform format. This format consists of many indexing variables (sex, age etc) and a few measured variables (the genotype profiles). An ETL profile can be developed for every specific connected data storage system. In the case of the DNA register every country could develop its own storage system, keep it 'in house', have all the rights and access to its own system, and update its own system when corrections have to be made and subsequently upload it to the central DWH such that the changes take effect immediately.

Features:

- Participating countries are in charge of their own register. They only transport selected data to the central repository (DWH)
- Countries are not forced into a common system of storage (ETL will take care of the differences)
- Security and access rules can be defined at different levels
- Updates only necessary when changes have been made in the local database.
- Advanced tools for querying available
- Calibration of the genotypic profiles among participating countries and laboratories is crucial



Annex II.F

Outline of the CDS and Barcoding / Labeling Scheme

At the Small Drafting Group meeting in Borgholm, Sweden and New Zealand were asked to develop a proposal for an IWC-operated Catch Documentation Scheme to assist the Working Group's deliberations. This note is designed to provide an outline of how the CDS and Barcoding/labeling scheme would operate. There has not been time to develop a more detailed proposal.

The broad scheme contains two elements. These are the Catch Documentation Scheme and a Barcoding / labeling Scheme. The CDS seeks to ensure that all catch brought into or exported from a country, originates from a legitimate source. The barcode/label ensures that the whale product, once within a country, can be verified as legitimate by cross-checking that product with the CDS and DNA database.

The Catch Documentation Scheme.

1. All whaling vessels must be authorized.
2. Unique numbers will be issued by Contracting Governments to all whaling vessels under their jurisdiction.
3. Contracting Governments will issue non-transferable Catch Documents to their authorized whaling vessels for each whaling trip.
4. A Catch Document must be completed for the catch landed or transshipped on each occasion.
5. The Catch Document would be officially verified upon entry into, or exit from, a country.
6. Information included on the Catch Document would include,
 - a. The document number.
 - b. The national issuing authority.
 - c. The unique vessel number (and relevant vessel details eg name, IMO registration number)
 - d. The place where the whale was transshipped, landed, exported, or re-exported.
 - e. The IWC observer present.
 - f. Certification of transshipment, landing, export or re-export by competent authority (and, except in the case of export or re-export, IWC observer).
 - g. The species of the whale.
 - h. The date, time and location of where the whale was caught.
 - i. The unique number for each individual whale captured.

Barcoding/ labeling.

1. Each captured whale shall be given a unique number.
2. The unique number for each whale shall accompany the whale from the point of capture, through to its final point in the chain of distribution before consumption.
3. Other required catch related information about the whales caught, such as skin samples collected for DNA analysis, sex and other biological information, shall be labeled with the unique number for each whale, thus linking the CDS to IWC held data on the catch and other information.
4. Products authorized for market from other sources, such as whales obtained from bycatch or existing stockpiles, etc, shall also have to be given an individual authorization code according to the IWC system for CDS.

Annex II.G

Possible *pro forma* for catch documentation as proposed by the Chair in IWC/56/26

PREPARED BY THE SECRETARIAT

INTRODUCTION

In IWC/56/26, the Chair's proposal noted that, in combination with a DNA/MSS and an agreement by member nations to institute legislation prohibiting the importation of whale products from non-IWC countries as well as from IWC countries that are non-whaling, a system of catch documentation to the point of entry/landing would be valuable (and required by national governments at the point of entry). While he noted that it is the responsibility of national governments to decide what documentation they would require when products are being imported, he believed that it would be valuable to develop an IWC *pro forma*. He requested that the Secretariat investigate this.

Subsequently, at the meeting in Borgholm, this was expanded to also consider the option of documentation up to wholesaler and retail level (IWC/D04/RMS SDG5, Annex G).

This document provides a first draft *pro forma* for consideration and suggestions for improvements.

THE DRAFT FORMS

This document includes three *pro formas*:

- (1) Coastal whaling landing documents;
- (2) Pelagic whaling landing documents;
- (3) Import/export document.

Coastal whaling landing documents

This document is intended for use by vessels that carry out little or no processing on board. One form would need to be completed by each vessel for each trip.

The document would be issued by the national government issuing the whaling license. The responsibility for completing sections 1-3 lies with the issuing authority. The responsibility for completing the whaling operation details (section 4) would be the Captain of the whaling vessel, possibly in conjunction with the IWC observer on board. The person responsible for authorising the completed form (sections 5 and 6) would be the authorising agent nominated by the Contracting Government at the point of landing, again possibly in conjunction with the international observer.

The Captain needs to include the unique individual code assigned to each whale during the capture operations. This then directly links to the required biological information (sex, length etc.) and can later be linked to the national DNA register.

If the whales are not being delivered directly to a land station for processing, the form also requires information to be included as to the place of processing. Although not included on this *pro forma* (or the other two) for reasons of space, if the desire is to follow the products to wholesalers or retailers, additional sections could be added.

Pelagic whaling landing documents

This document is intended for use by vessels that carry out processing on board. One form would need to be completed by each vessel for each trip (probably season).

The general philosophy of this document is the same as for coastal whaling. The primary addition is that under section 5, the nature and quantity of the products is also included.

Import/export document

This document is intended to accompany each shipment to the point of entry into another country.

Sections 1 and 2 would be the responsibility of the national government issuing the export license. Sections 3 and 4 would be the responsibility of the export company. Section 5 would be the responsibility of the issuing authority at the point of export, whilst section 6 would be the responsibility of the national authority at the point of import.

The form (section 4) would include the unique individual codes from the DNA registry for all whales contributing to the products. This code can be linked back to details of the individual whales and other documents.



IWC Catch Documentation

COASTAL WHALING LANDING DOCUMENTS

One form per trip

International Whaling Commission
The Red House,
135 Station Rd,
Impington,
Cambridge CB4 4NP, UK
+44 1223 233971
Secretariat@iwcoffice.org

1	Document number:	IWC/2005/N1234		
2	Issuing authority:	Ministry of Fisheries		
	Address:	145 Fisheries Road		
	Address:	Reykjavik, Iceland		
	Phone/fax/Email:	+354-1234-5678 / +99-1234-6789/ documents@mof.gov		
3	Whaling vessel:	Solrún		
	Flag state	Iceland	Ship Registration no.	13579
	Captain	Johann Sigurjónsson	Whaling permit no.	2005/9876
	Dates of trip	29/03/2005 – 31/03/2005		

4	Whaling operations:			
	Small Area	Species	Total	Individual whale codes
	M6	Common minke	2	Mi 023; Mi 024;
	M7	Common minke	1	Mi 025
	IWC observer present	Y/N	Name:	Christy Moore

5	Landing information		Date of landing	31/03/2005
	Place of landing	Akureyri Land Station		
	Place of processing if not above:	n/a		
	IWC observer present	Y/N	Name	Donal Lunny

6	Certificate of landing: I certify that the above information is complete, true and correct to the best of my knowledge			
	Authorising officer	Gisli Víkingsson	Date	31/03/2005
	Authority/address	Ministry of Fisheries, Akureyri Office		
	Signature		Seal:	



IWC Catch Documentation

EXPORT/IMPORT DOCUMENT

One form per shipment

**International Whaling
Commission**
The Red House,
135 Station Rd,
Impington,
Cambridge CB4 4NP, UK
+44 1223 233971
Secretariat@iwcoffice.org

1	Document number:	IWC/2005/N1234
2	Issuing authority:	Ministry of Fisheries
	Address:	145 Fisheries Road
	Address:	Iceland
	Phone/fax/Email:	+99-1234-5678 / +99-1234-6789/ documents@mof.gov

3	Export company:	Icelandic Marine Exports Hf		
	Nationality	Iceland	Company Registn no.	13579
	Director	Johann Sigurjónsson	Export permit no.	2005/9876
	Dates permit valid	29/03/2005 – 30/04/2005		

4	Whale products:			
	Nature of products	Frozen meat, 600 1.5kg packages within each of 4 crates		
	Origin	Species	Individual whale DNA registry codes	
	Icelandic coastal waters	Common minke	BA0608052; BA0608053; BA1208058; BA1208060	

5	Certificate of EXPORT: I certify that the above information is complete, true and correct to the best of my knowledge, and that all products originate from whales taken under the IWC's regulations			
	Authorising officer	Gisli Víkingsson	Date	20/04/2005
	Authority/address	Ministry of Fisheries, Akureyri Office		
	Signature		Seal:	

6	Certificate of IMPORT: I certify that the above information is complete, true and correct, and authorise the importation of these products into the country			
	Place of importation	Port of Tokyo	Import license no.	43657890
	Destination:	Tokyo Marine Importers, Chuo-ku, Tokyo 104		
	Importation Authority	Japanese Customs, Port of Tokyo		
	Authorising Officer	Seiji Ohsumi	Date	31/03/04
	Signature		Seal	



IWC Catch Documentation

PELAGIC WHALING LANDING DOCUMENTS

One form per trip

International Whaling Commission
The Red House,
135 Station Rd,
Impington,
Cambridge CB4 4NP, UK
+44 1223 233971
Secretariat@iwcoffice.org

1	Document number:	IWC/2005/N1234		
2	Issuing authority:	Ministry of Fisheries		
	Address:	145 Fisheries Road		
	Address:	Tokyo, Japan		
	Phone/fax/Email:	+354-1234-5678 / +99-1234-6789/ documents@mof.gov		
3	Whaling vessel:	Nishin Maru		
	Flag state	Japan	Ship Registration no.	13579
	Captain	Seiji Ohsumi	Whaling permit no.	2005/9876
	Dates of trip	29/11/2005 – 1/03/2006		

4	Whaling operations:			
	Small Area	Species	Total	Individual whale codes
	A46	Antarctic minke	22	Mi 023; Mi 024; etc etc
	A47	Antarctic minke	19	Mi 055; etc etc
	A51	Antarctic minke	13	Mi 077; etc etc
	IWC observer present	Y/N	Names:	Patrick Murphy, James O'Sullivan

5	Landing information		Date of landing	1/03/2006
	Place of landing	Shimonoseki Port		
	Nature of products	6000 1.5kg packages frozen meat in 12 containers etc etc		

6	Certificate of landing: I certify that the above information is complete, true and correct to the best of my knowledge			
	Authorising officer	Hidehiro Kato	Date	31/03/2005
	Authority/address	Ministry of Fisheries, Shimonoseki Office		
	Signature		Seal:	

Annex II.H

Some preliminary considerations for a Code of Conduct for Scientific Permit Whaling with respect to the Chair's proposal

DOUG DEMASTER, ARNE BJØRGE, GREG DONOVAN

INTRODUCTION

The Chair's proposal for an RMS (IWC/56/26) had suggested that a code of conduct be developed for whaling under scientific permit as part of an RMS package. We were asked to produce an initial draft of what elements might comprise such a code of conduct. Below are some first thoughts towards the development of such a code. We have not attempted to consider non-scientific aspects and we have not had chance to share this draft with our colleagues or even to meet to discuss it ourselves. We do not comment on the issue as to whether lethal research is philosophically desirable or not and we recognise the context in which the Chair asked us to develop a code of conduct. Despite its preliminary nature, we hope that this outline may prove of some value for your discussions. In developing such a code, the intention is not to suggest that scientific permit catches should be the norm. Although whatever code may finally be developed will be voluntary, it is assumed that Contracting Governments would agree to follow it, perhaps by making a formal declaration well as via a Resolution.

DEVELOPMENT OF PERMIT PROPOSALS

Objectives

The first stage of any permit proposal should be the development of precise, and to the extent possible, quantified objectives. This is clearly the responsibility of the Contracting Government. Although difficult to define, the concept of 'critically important research needs' should be captured in the context of the objectives. How to achieve this requires further consideration. As a minimum, the Contracting Government should include a statement in the objectives section of the proposal as to whether the proposed research is intended to provide information that will be used (1) to improve the conservation and management of whale stocks, (2) to improve the conservation and management of other living marine resources or (3) to test hypotheses not directly related to the management of living marine resources.

Primary requirement

Before submitting a proposal for a permit, an abundance estimate should be available for the species/regions involved, in order to be able to satisfactorily assess the possible conservation implications of any catches. The quality of that estimate may depend on the scale of the permit proposal (e.g. a one-off take of one animal versus a multi-year proposed take of hundreds of animals). Estimates should normally have been obtained following the guidelines developed for abundance estimates for use in the RMP although in certain circumstances alternative methods (e.g. mark-recapture estimates) may be acceptable. The data upon which the abundance estimates are based should be made available under the Scientific Committee's Data Availability Agreement (with its associated protection for data holders). The estimates should be reviewed and either agreed or revised by the IWC Scientific Committee within a specific time frame after submission of the data/estimate.

Initial proposal

Once the objectives have been decided and sent to the Chair of the Scientific Committee and an abundance estimate is available, the Chair of the Scientific Committee, in consultation with the Convenors, will draw up a group of appropriate specialists to take part in the review process, primarily via a Workshop.

The first stage of the process is for the Contracting Government to develop an initial proposal. This must contain details on:

(1) *Objectives of the study* - quantified

(2) *Methods to address objectives:*

- (a) Field methods, including species, number and sampling protocol for lethal aspects of the proposal and an assessment of why non-lethal methods or methods associated with any ongoing commercial whaling have been considered to be insufficient
- (b) Laboratory methods
- (c) Analytical methods, including estimates of statistical power where appropriate
- (d) Time frame for project must be specified at the outset and intermediary targets set

(3) Assessment of potential effects of catches on the stocks involved:

(a) Where appropriate (e.g. for multiple-year proposals involving many animals), using a simulation approach similar to that in the RMP, including consideration of uncertainty

- For the proposed time-frame of the proposal
- For a situation where the proposal is continued for [double/triple....] the proposed time-frame at the same level.

Review workshop

Once the initial proposal has been developed, the relevant Contracting Government should host a Workshop that will comprise the review group of scientists referred to above. Scientists involved in the development of the original proposal should participate in the Workshop in an advisory role and data used to justify the proposal should be made available to the review group under the Committee's Data Availability Agreement.

The primary objective of the Workshop will be to review the proposal in the light of the stated objectives. However, it may comment on the perceived importance of those objectives from a scientific and management perspective. In particular the Workshop should focus on:

- (1) whether the proposed field and analytical methods are likely to achieve the stated quantified objectives within the proposed time-frame and, where appropriate, commenting on sample size and time-frame considerations;
- (2) the provision of advice and suggestions on components of the programme that might be achieved using non-lethal methods, including, where appropriate power analyses and time-frames;
- (3) the provision of advice on the likely effects on the stock or stocks involved under various scenarios of length of the programme – this may involve a different analysis to that provided in the original proposal and may include assumptions that short permit proposals may be projected further into the future.

Given (1) – (3) above, the Workshop may choose to develop a revised proposal or alternatives to meet the stated objectives of the original proposal. This may or may not include lethal methods and may include changes to the sample size and methods of the original proposal or its time frame. It will also include a specified time-table with review targets. It may also include comments on the feasibility of any approach to achieve the stated objectives.

Status of the Workshop report

Contracting Governments should agree not to issue a permit until at least after the Workshop report has been formally made available. The status of the report of the Workshop needs much further consideration. For example, should it go to the Scientific Committee and the Commission before being formally submitted to the relevant Contracting Government? Should it go directly to the relevant Contracting Government? What are the responsibilities/obligations of the Contracting Governments with respect to the recommendations/suggestions made in the report. These are extremely important issues.

As a start, we would suggest that Contracting Governments should at least agree to only implement research proposals that have been determined by the Workshop [and the Scientific Committee] to (1) have a reasonable likelihood of achieving the stated objectives in the time frame proposed and (2) have an acceptably low risk of causing the targeted species/stock(s) to decline below the abundance level associated with 0.54K.

Periodic independent review and data availability

Once a programme has been undertaken, periodic review of the actual progress against expected progress is important at regular intervals. The period between reviews will depend on the nature of the research and intermediate targets set. Therefore, following the development of the final research proposal, the Contracting Government should develop a specified time-table for subsequent independent reviews. It would seem sensible to us to make the data obtained under scientific permits available to the IWC Scientific Committee for periodic review under the IWC's Data Availability Agreement. One function of such reviews will be to comment on whether the research remains likely to meet its objectives and, if appropriate, to suggest changes (including suspension) to methods, sample sizes etc.

Consideration of subsequent permit proposals

Contracting Governments should agree to implement follow-up research programmes only after the initial research programme has been (1) completed, and (2) the results have been subject to review by the research group of scientists and the Scientific Committee.

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"¹. 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 whaling², including Resolution 2004-3 which specifically notes the Commission's mandate and long-standing commitment to address welfare issues³. 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 harpoon⁴; 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.

¹ ICRW, Article V, 1946

² 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).

³ Resolution on Whale Killing Issues, Resolution 2004-3

⁴ 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 cetaceans⁵ 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'⁶.

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 31st Annual Meeting Concerning the Humane Killing of Whales'⁷ – 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 practiced⁸
- All Contracting Governments to provide appropriate technical assistance to reduce time to unconsciousness and death in all whaling operations⁹
- An 11-point Action Plan to address humane killing issues was first adopted by resolution in 1992¹⁰
- The Action Plan was later revised following the 1999 Workshop¹¹ and then further revised following the 2003 Workshop¹² (Appendix II).

⁵ IWC/54/WKM&AWI 8 and IWC/55/WK 19

⁶ IWC/55/Rep 5

⁷ Rep. Int. Whal. Comm. 30, 36-37

⁸ Resolution on Humane Killing in Aboriginal Subsistence Whaling, 1985.

⁹ Resolution 2001-2

¹⁰ Resolution on Humane Killing, 1992.

¹¹ IWC/51/12

¹² 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 device¹³;
- 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”¹⁴;
- Maximum scientific information to be obtained from any whales taken under special permit for scientific research¹⁵;
- Information to be exchanged about release of live cetaceans in nets¹⁶;
- Information on the methods used to kill pilot whales¹⁷;
- Information on the use of the electric lance¹⁸;
- 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 death¹⁹ and the submission of variance data on times to death²⁰;
- Contracting Governments to make reasonable attempts to release alive, with the minimum harm possible, whales that have been incidentally captured²¹;
- 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 quotas²²; and
- Report data for each whale taken, the killing method used and samples taken²³.

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 Methods²⁴, 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 data²⁵. Data should be collected and provided in a standard format so that comparisons between seasons, regions and hunts can be made.

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

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

¹⁵ Resolution on Special Permits for Scientific Research, 1986

¹⁶ Resolution on bycatch reporting and bycatch reduction, 1997

¹⁷ Resolutions on the killing of pilot whales, 1992 and 1993

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

¹⁹ Resolution arising from the Workshop on whale killing methods, 1999-1

²⁰ Resolution 2001-2

²¹ Resolution on the incidental capture of cetaceans, 2001-4

²² Resolution on the Humaneness of Aboriginal Subsistence Whaling, 1997-1

²³ Resolution 2004-3

²⁴ 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

²⁵ 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 cetaceans²⁶.

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 Methods²⁷, 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.

²⁶ 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.

²⁷ 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 ²⁸	Additional data required for the Commission 'to prescribe killing methods and conditions under which whales can legally be killed under the RMS', ²⁹	'Schedule requirements and relevant findings and recommendations of IWC Workshops, Working Groups and Resolutions', ³⁰
Time when each whale is taken	Section VI 24a)1	'Take' means to flag, buoy or make fast to a whale catcher ³¹ . 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', ³²
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 ³³ .	Exact location of each strike ³⁴ (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', ³⁵ . Resolution 2004 notes that the efficiency of killing methods is

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

²⁹ Terms of Reference of the Specialist Technical Group on Animal Welfare, paragraph c)

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

³¹ Section I 1C of the Schedule to the ICRW

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

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

³³ IWC/55/WK20

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

³⁵ 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) ³⁶	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 ³⁷ . Resolution 1999-1 ³⁸ 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 ³⁹ - Points 1 to 4 and point 6.

³⁶ 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.

³⁷ Resolution on Humane Killing in Aboriginal Subsistence Whaling, 1985.

³⁸ Resolution arising from the Workshop on Whale Killing Methods

³⁹ 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 ⁴⁰ .	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 ⁴¹ - 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

⁴⁰ IWC/55/WK/12

⁴¹ 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 ⁴² , 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 ⁴³ . 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 ⁴⁴

⁴² See IWC/55/WK20

⁴³ Resolution on the incidental capture of cetaceans, 2001-4.

⁴⁴ 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 ⁴⁵	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 ⁴⁶ .	<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"> - Sea state - Visibility - Cloud cover - Precipitation (drizzle/rain/hail/snow) - Fog - Wind speed and direction - Air pressure - Relative humidity - Sea state - Wave height - Dominant wave period - wave direction (relative to the vessel) - Ice conditions - Motions of the vessel (including sway, heave and surge) <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. 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 Methods⁴⁷ Action Point 3.</p>

⁴⁵ IWC/54/WKM&AWI 8 and IWC/55/WK 19

⁴⁶ See IWC/55/WK3

⁴⁷ 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 ⁴⁸ 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 ⁴⁹ 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 ⁵⁰ .	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.

⁴⁸ IWC/55/Rep 5

⁴⁹ IWC/55/Rep 5

⁵⁰ 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 ⁵¹ 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 ⁵² - 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

⁵¹ IWC/55/Rep 5

⁵² 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 ⁵³ .	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 ⁵⁴ .
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		

⁵³ IWC/54/WKM&AWI 8 and IWC/55/WK 19

⁵⁴ 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 ⁵⁵ 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 ⁵⁶	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 ⁵⁷ .
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 ⁵⁸ .	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

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

⁵⁶ IWC/54/WKM&AWI 8 and IWC/55/WK 19

⁵⁷ IWC/55/Rep 5

⁵⁸ 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 31st 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	
<i>[Animal Welfare Information]</i>	
<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">• <i>Time of sighting of the target whale/group containing target whale</i>• <i>Distance from vessel</i>• <i>Estimate of group size – presence/absence of calves in group</i>• <i>Behaviour of the whale pre-chase (i.e. slow travel, fast travel, resting, feeding, milling, social/sexual)</i>• <i>Time of start of chase.</i>

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

<p><i>Primary Killing Method</i></p> <ul style="list-style-type: none"> • 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).
<p><i>Secondary Killing Method</i></p> <ul style="list-style-type: none"> • 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.
<p><i>Information on Target Whale</i></p> <ul style="list-style-type: none"> • 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).
<p><i>Post Mortem</i></p> <p>Where the opportunity arises, and the specialist skills and knowledge are available, the following information should be recorded.</p> <ul style="list-style-type: none"> • 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.
<p><i>Data Collection</i></p> <p>All data shall be recorded on standardised data sheets to be provided by and returned to the IWC Secretariat}</p>

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)

* 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.