# 2.1
# REPORT OF THE MANAGEMENT COMMITTEE

Tórshavn, Faroe Islands, 2 March 2004

## 1. - 3. OPENING PROCEDURES

The Chair of the Management Committee, Kaj P. Mortensen, welcomed delegations and observers to the meeting. Participants to the meeting are listed in Appendix 1 of the Report of the Council. The agenda, as contained in Appendix 1, was adopted. Documents available to the meeting are listed in Appendix 2. Daniel Pike was appointed as rapporteur for the meeting.

## 4. NATIONAL PROGRESS REPORTS

National Progress Reports for the year 2002 were available from the Faroe Islands, Greenland, Iceland and Norway. In addition a Progress Report was provided by Canada to the NAMMCO Scientific Committee and brought to the Management Committee as an information item. The Management Committee expressed its appreciation to Canada for providing the report, and invited Canada to continue to do so in the future.

## 5. STATUS OF PAST PROPOSALS FOR CONSERVATION AND MANAGEMENT

The Committee considered document NAMMCO/13/MC/3 (Appendix 3) which was a record of past proposals for conservation and management put forward by the Management Committee. The Chair asked the Committee to comment on any regulatory or other measures that had been taken in response to these proposals.

### 5.1 Atlantic walrus

In 1995 the Management Committee recommended that Greenland take appropriate steps to arrest the decline of walrus along its west coast, and encouraged Canada to consider working co-operatively with Greenland to assist in achieving this objective. Greenland informed the Committee that a regulatory initiative that will restrict walrus hunting to those holding valid hunting licences, and allow the introduction quotas and other hunting regulations for this species was now in progress, and that public hearings were being conducted. The regulation will go to the Greenlandic government for approval this year.

### 5.2 Ringed seal

There was no discussion under this item.

### 5.3 Harp seal

#### *5.3.1 Northwest Atlantic*

Greenland reminded the Management Committee of the new multi-year management plan for the Atlantic seal hunt, which was introduced by Canada in 2003. For harp seals total allowable catch is set at 975,000 over a 3-year period. If the full quota were taken and Greenlandic harvests were as forecast, the total take should result in a slight population reduction over the period, while still maintaining the population well

above the conservation reference points adopted. As noted last year, this Management Plan was introduced without consultation with Greenland. However, Greenland informed the Management Committee that bilateral discussions on this issue had taken place over the past year.

#### *5.3.2 White/Barents Sea*

Norway informed the Committee that measures were being considered to improve the efficiency of the seal harvest in this area. Recent catches have been well below quota levels and there is evidence that the stock is increasing in size. The Norwegian hunt involves large vessels and is heavily subsidised. The possibility of introducing smaller vessels into the seal hunt is being pursued. This type of hunting is carried out in Canada and was done historically by Norway and Russia in this area. The long-term goal will be to reduce the need for subsidising the hunt and increase the take of seals from this stock.

#### *5.3.3 Greenland Sea*

Norway informed the Committee that, similar to the situation for the White/Barents Sea stock, efforts are being made to improve the efficiency of harvesting, which is heavily subsidised at present. Recent harvests have been a small fraction of available quotas. Again the long-term goal will be to reduce the need for subsidising the hunt and increase the take of seals from this stock.

### 5.4 Hooded seal

#### *5.4.1 Northwest Atlantic*

There was no discussion under this item.

#### *5.4.2 Greenland Sea*

Norway informed the Committee that quotas in this area have been reduced on the advice of the ICES/NAFO Working Group on Harp and Hooded Seals, mainly because there is no recent abundance estimate for the stock. Consequently it is expected that the quota may be fully utilised this year.

### 5.5 Northern bottlenose whales

There was no discussion under this item.

### 5.6 Long-finned pilot whales

There was no discussion under this item.

### 5.7 Minke whales – Central North Atlantic

There was no discussion under this item.

### 5.8 Beluga - West Greenland

The Management Committee has on previous occasions noted the conclusions of the Scientific Committee that the beluga wintering off West Greenland have been depleted by overexploitation and that substantial reductions in catch are required to arrest this decline. NAMMCO has accepted that it is the Canada/Greenland Joint Commission on the Conservation and Management of Narwhal and Beluga that provides management advice for this stock, which is shared with Canada.

Greenland informed the Committee that a regulatory framework allowing the

government to set quotas and other limitations on hunting has now been passed. The new regulations provide protection for calves and females with calves and limit the size of vessels that are involved in beluga and narwhal hunting as well as hunting methods. The Municipalities will have the power to limit or prohibit the use of nets for narwhal/beluga harvesting. It is expected that quotas will be introduced for beluga and narwhal by July 2004. The municipalities will be involved in the allocation of the quotas.

The Management Committee welcomed this information and commended Greenland for taking action to halt the decline of beluga in this area.

### 5.9 Narwhal - West Greenland

Greenland informed the Committee that the new regulations mentioned under 5.8 for beluga will also apply to narwhal, and that quotas will be introduced in July 2004. The Management Committee welcomed this information and commended Greenland for taking action to halt the decline of narwhal in this area (see 7.5).

### 5.10 Fin whales - East Greenland – Iceland stock area

There was no discussion under this item.

### 5.11 Incorporation of users' knowledge in the deliberations of the Scientific Committee

See under item 11.

## 6. STATUS OF PAST REQUESTS TO THE SCIENTIFIC COMMITTEE

The Chair drew the attention of the Committee to the updated summary of requests by the NAMMCO Council to the Scientific Committee, and responses by the Scientific Committee (Appendix 4).

The Management Committee expressed its appreciation of the usefulness of both this summary of requests, and the record of past proposals by the Committee and the response of member countries to this advice (Appendix 3), and directed the Secretariat to continue to update these documents on a regular basis.

## 7. NEW PROPOSALS FOR CONSERVATION AND MANAGEMENT, REQUESTS FOR ADVICE FROM THE SCIENTIFIC COMMITTEE AND RECOMMENDATIONS FOR SCIENTIFIC RESEARCH.

### 7.1 Economic aspects of marine mammal – fisheries interactions

The Management Committee endorsed the plan of the Scientific Committee to hold a meeting of the Working Group on Marine Mammal – Fisheries Interactions in the autumn of 2004, both to discuss progress in the modelling and to review and discuss the new empirical data on diet and consumption by marine mammals.

### 7.2 Harp and hooded seals

#### *7.2.2 New request for advice*

The Management Committee requests that the Scientific Committee annually discusses the scientific information available on harp and hooded seals and advice on catch quotas for these species given by the ICES/NAFO Working Group on Harp and

Hooded Seals. The advice by the Scientific Committee on catch quotas should not only be given as advice on replacement yields, but also levels of harvest that would be helpful in light of ecosystem management requirements

For the Barents/White Sea and Greenland Sea stocks, in addition to the advice on replacement yields, advice should be provided on the levels of harvest that would result in varying degrees of stock reduction over a 10 year period.

Noting that Canada has instituted a multi-year management plan with a 3- year allowable catch of harp seals totalling 975,000 (not including the catch by Greenland), the Management Committee requested the Scientific Committee to provide advice on the likely impact on stock size, age composition, and catches in West Greenland and Canada under the conditions of this plan.

## 7.3 Harbour porpoise

### *7.3.1 Recommendation for scientific research*

The Management Committee noted that a second SCANS is tentatively planned for 2005 and 2006. The Faroes is planning to participate in this survey, and other surveys (NASS and Norwegian surveys) may also be planned to coincide (see 7.8). Given that there are presently no abundance estimates for this species for NAMMCO member countries, and that bycatch for this species is unknown but may be significant in some areas, the Management Committee recommended that member countries co-operate to the extent possible to maximise the coverage and effectiveness of these surveys.

## 7.4 Beluga - West Greenland

### *7.4.1 New request for advice*

The Committee noted that a new survey would be carried out in the over-wintering area of the West Greenland beluga in March 2004. If the survey is successful, it will provide an abundance estimate with which to update the assessment of this stock. The Management Committee therefore endorsed the plan of the Scientific Committee to update this assessment in 2005, jointly with the Scientific Working Group of the JCNB.

## 7.5 Narwhal – West Greenland

### *7.5.1 Proposals for conservation and management*

The Management Committee noted the conclusions of the Scientific Committee, that the West Greenland narwhal have been depleted, and that a substantial reduction in harvest levels will be required to reverse the declining trend. These are preliminary conclusions, and more research and assessment work will be required. Nevertheless the Management Committee expressed its grave concern over the status of the West Greenland narwhal, and noted that the JCNB, which provides management advice for this stock, would be considering this information in the near future. The Management Committee also noted that it will be important for NAMMCO to monitor the situation closely and update the assessment as soon as more information is available.

### *7.5.2 New requests for advice*

The Management Committee endorsed the plan of the Scientific Committee to update and finalise the assessment of West Greenland narwhal in 2005, in cooperation with the Scientific Working Group of the JCNB.

### *7.5.3 Recommendations for scientific research*

The Management Committee endorsed the recommendations for scientific research by the Scientific Committee (see section 3.2).

## 7.6 Fin whales

### *7.6.1 Proposals for conservation and management*

East Greenland-Iceland Stock

The Management Committee noted the conclusion of the Scientific Committee that projections under constant catch levels suggest that the inshore substock will maintain its present abundance (which is above MSY level) under an annual catch of about 150 whales. It is important to note that this result is based upon the assumption that catches are confined to the "inshore" substock, *i.e.* to the grounds from which fin whales have been taken traditionally. If catches were spread more widely, so that the "offshore" substock was also harvested, the level of overall sustainable annual catch possible would be higher than 150 whales.

Faroe Islands

The Management Committee noted that the conclusion of the Scientific Committee had not changed from the previous assessment, that the uncertainties about stock identity are so great as to preclude carrying out a reliable assessment of the status of fin whales in Faroese waters, and thus the Scientific Committee was not in a position to provide advice on the effects of various catches. It may also be necessary to obtain clearer guidance on the management objectives for harvesting from what is likely to be a recovering stock before specific advice can be given.

### *7.6.2 New requests for advice*

The Management Committee noted that it had previously asked that the Scientific Committee continue with its assessments of fin whale stocks in the areas of interest to NAMMCO countries with existing and new information on abundance and stock delineation as it becomes available, and endorsed the plan of the Scientific Committee to complete an assessment for the Northeast Atlantic stocks and update assessments for other areas, probably in 2005.

### *7.6.3 Recommendations for scientific research*

The Management Committee endorsed the recommendations for scientific research by the Scientific Committee for all stocks (see Scientific Committee Report Item 9.6).

With regard to the fin whales around the Faroe Islands, the Management Committee emphasised that the question of stock identity and relationships to other stocks is of highest priority, and encouraged member countries to undertake research in this area.

## 7.7 White-beaked, white-sided and bottlenose dolphins

### *7.7.1 New requests for advice*

The Management Committee has asked the Scientific Committee to carry out assessments of these species, but to date insufficient information has been available on stock delineation, distribution, abundance and biological parameters to initiate the work. The Committee was pleased to note that considerable progress has been made in the Faroes in describing the ecology and life history of white sided dolphins and that information on white beaked dolphins should be available from Iceland and Norway in about 2 years time. Abundance estimates are lacking in all areas except

Icelandic coastal waters, and no information on stock delineation or pod structure is yet available. The SCANS survey planned for 2005/6 and coastal surveys planned for Norway (see 9.3) should provide information on distribution and abundance in some areas. The Committee endorsed the plan of the Scientific Committee to proceed with the assessments once the above-mentioned studies have been completed, probably by 2007.

### *7.7.2 Recommendations for scientific research*

The Management Committee recommended that the research noted under 7.7.2 be completed within the indicated timelines.

## 7.8 North Atlantic Sightings Surveys

### *7.8.1 New requests for advice*

The Management Committee welcomed the new abundance estimates for particularly minke and humpback whales in the Central North Atlantic.

The NASS have been highly successful in providing important information on the distribution and abundance of cetaceans over a broad area of the North Atlantic. This information becomes more valuable every time a survey is completed, as it provides an indication of trends in abundance over meaningful time periods.

The Management Committee therefore requested that the Scientific Committee co-ordinate the efforts of member countries in planning and conducting a large-scale sightings survey in 2006. In order to ensure as broad a coverage as possible, this should include co-ordination with planned surveys by non-member countries, and inviting other jurisdictions, particularly in the Western Atlantic, to participate in the surveys.

## 7.9 Others

### *7.9.1 Minke whales*

7.9.1.1 Proposal for conservation and management

The Management Committee took note of the conclusions of the Scientific Committee with regard to the Central Atlantic Stock, that, under all scenarios considered, a catch of 200 minke whales per year would maintain the mature component of the population above 80% of its pre-exploitation level over that period. Similarly, a catch of 400 per year would maintain the population above 70% of this level. This constitutes precautionary advice, as these results hold even for the most pessimistic combination of the lowest MSYR and current abundance, and the highest extent of past catches considered plausible. The advice applies to either the CIC Small Area (coastal Iceland), or to the Central Stock as a whole.

7.9.1.2 Recommendations for scientific research

The Management Committee endorsed the recommendations for research by the Scientific Committee (see Scientific Committee Report Item 9.7).

### 7.9.2 *Grey Seals*

7.9.2.1 Proposals for conservation and management

The Management Committee noted the concern expressed by the Scientific Committee with regard to the observed decline in the grey seal stock around Iceland, where harvesting has been above sustainable levels for more than 10 years, with the

apparent objective of reducing the size of the stock. The Management Committee agreed to recommend that Iceland should define clear management objectives for this stock.

The Management Committee noted the conclusion of the Scientific Committee that the new quota levels implemented for Norwegian grey seals would, if filled, almost certainly lead to a rapid reduction in population in the area. The Management Committee agreed to recommend that Norway should define clear management objectives for this stock.

For the Faroe Islands, the Management Committee supported the recommendation of the Scientific Committee to obtain better information on the level of catch.

7.9.2.2 Recommendations for scientific research

The Management Committee endorsed the recommendations for further research identified by the Scientific Committee.

### 7.9.3 *Humpback whales*

7.9.3.1 New request for advice

The Management Committee noted the conclusion of the Scientific Committee that there is evidence from the NASS of a rapidly increasing abundance of humpback whales in the Central North Atlantic. The Scientific Committee was requested to assess the sustainable yield levels for humpback whales, particularly those feeding in West Greenlandic waters. The management objective in this case would be to maintain the stock at a stable level.

### 7.9.4 *Killer whales*

7.9.4.1 New request for advice

The Management Committee requested the Scientific Committee to review the knowledge on the abundance, stock structure, migration and feeding ecology of killer whales in the North Atlantic, and to provide advice on research needs to improve this knowledge. Priority should be given to killer whales in the West Greenland – Eastern Canada area.

### 7.9.5 *Walrus*

7.9.5.1 New request for advice

The Management Committee noted that the Scientific Committee had last provided an assessment of walrus in 1994. Noting that considerable new information has become available since then, the Management committee therefore requested the Scientific Committee to provide an updated assessment of walrus, to include stock delineation, abundance, harvest, stock status and priorities for research.

## 8. REPORT OF THE WORKING GROUP ON BY-CATCH

The Working Group held a teleconference on 19 February 2004, and the Report from the meeting is included in Section 2.2.

The Working Group was informed of new regulatory measures to take effect in the EU designed to reduce the bycatch of dolphins and porpoises in selected EU fisheries. The proposed Council regulation contains three specific technical measures, designed

to address bycatch in EU waters and by EU vessels: 1) rrestrictions on Baltic Sea drift-net fisheries, with an eventual phase-out of the use of drift nets; 2) mandatory use of acoustic deterrent devices (pingers) in some fisheries; and 3) use of on board observers in 'high risk' fisheries.

The Working Group reviewed the progress of member countries in establishing systems to effectively monitor bycatch. No new initiatives have been taken in the Faroe Islands or Greenland. In Norway the reporting of marine mammal bycatch in fishery logbooks has been mandatory for 1 year on larger fishing vessels. In addition reporting of bycatch has been integrated into those fisheries covered by observers. There is presently no program in place to obtain data from small vessel (*Sjark*) fisheries. In Iceland an effort to improve reporting of bycatch through fishery logbooks was initiated in 2002 for gillnet fisheries, and in 2003 the reporting system was be expanded to include all Icelandic fisheries. However the proportion of vessels reporting remains low. The Working Group noted that, with the exception of Iceland, there had been little progress in developing and implementing procedures for monitoring bycatch in NAMMCO member countries.

The Working Group noted the continued lack of adequate reporting of bycatch through the National Progress Reports by some member countries and reiterated its recommendation from 2002 and 2003 for member countries to report their bycatch to NAMMCO through the new National Progress Report format.
The Management Committee endorsed the following recommendations by the Working Group:

i. Reporting of bycatch to NAMMCO was still not adequate. The Committee therefore reiterated its recommendation from 2002 and 2003, that NAMMCO member countries report their bycatch to NAMMCO through the new National Progress Report format.
ii. Noting the lack of progress in implementing monitoring programs for marine mammal bycatch in NAMMCO member countries, the Management Committee recommended that member countries increase their efforts in this area.
iii. Member countries should prepare working documents outlining the existing knowledge about marine mammal bycatch in their jurisdiction, for the consideration of the Working Group at the next meeting.
iv. The Scientific Committee is requested to carry out an evaluation of the data collection and estimation procedures used in the Icelandic monitoring program.

## 9. REPORT OF THE SUB-COMMITTEE ON INSPECTION AND OBSERVATION

The Chair of the Sub-committee on Inspection and Observation, Egil Ole Øen, presented the report from the meeting held 14 January 2004 (Section 2.3).

The Sub-committee in reviewing the experiences from the 2003 observation season noted that unpredictable events such as weather play a role in the success and efficiency of observations. The programme has proven to be time-consuming for the Secretariat, but the focus on one hunting activity (Norwegian whaling) this year was considered successful. The Committee recommended that the Secretariat review and

evaluate the implementation of the Scheme after the 2004 season, to assess what has been learned so far and develop recommendations for improvement of the Scheme. The evaluation should only look at the implementation process and not the actual Provisions and Guidelines.

The Management Committee endorsed the recommendations from the Sub-Committee that the Secretariat reviews and recommends improvements to the implementation of the Scheme (see Section 2.3).

## 10. IMPLEMENTATION OF THE JOINT NAMMCO CONTROL SCHEME

### 10.1 NAMMCO International Observation Scheme 2003

The Chair referred to the Report of the NAMMCO International Observation Scheme under the Joint Control Scheme for the Hunting of Marine Mammals, prepared by the Secretariat. Charlotte Winsnes, the Administrative Co-ordinator presented the report to the Management Committee.

In 2003 observations were focused on activities on board Norwegian whaling vessels. Four observers were contracted over a 6 week period, of which 29 days were conducted on-board four different vessels. Prior to the observation period, the observers had participated in the course for the Norwegian national inspectors. The hunting areas included the North Sea, Spitsbergen, Vestfjorden and off the coast of Finnmark. No observations of the landing of catches were done. All the observers found that they could carry out their observations in accordance with the provisions of the Scheme. No violations were reported, and reports have been submitted to the Secretariat.

The whaling fleet in Norway consists largely of small vessels, and it is not always possible to find accommodations for the NAMMCO observer. Furthermore new security measures were introduced in 2003 and some vessels had not yet made the necessary adjustments. As a consequence the total number of persons allowed onboard had been reduced.

The Management Committee considered that the implementation of observations on board whaling ships was an important development for the observation scheme, and expressed its appreciation to the Secretariat for co-ordinating this work.

### 10.2 NAMMCO International Observation Scheme 2004

The Management Committee agreed that observations in 2004 would focus on whaling and sealing activities in Greenland.

### 10.3 Other matters

Norway described the development and testing of an automated system for recording observations on whaling vessels. Due to the small size of many of the whaling vessels, it is often problematic to accommodate an inspector on board. The automated system records key events during whale hunting, such as the location, heading and speed of the vessel, the times when the harpoon is fired, and when the carcass is hauled, flensed and disposed of. The data are stored on board and are not accessible to the crew. Whalers would still be required to keep logbooks, and the data from the

system would be used to verify the contents of the logbooks. To date the system has undergone two years of development and one year of testing. It will be implemented on 14 vessels in 2004 and on all vessels in 2005 at which point the presence of inspectors on whaling vessels will be optional.

## 11. REPORT OF THE WORKING GROUP ON USER KNOWLEDGE IN MANAGEMENT DECISIONS

The Working Group on User Knowledge in Management Decisions held its first meeting by telephone on 12 February 2004. The Working Group emerged directly from the NAMMCO Conference on User Knowledge and Scientific Knowledge in Management Decision-Making held in January 2003. The NAMMCO Council at its Twelfth meeting agreed to establish the Working Group under the Management Committee to continue to move the work forward. The Working Group agreed on the following draft Terms of Reference, with the understanding that these may be further developed at future meetings:

i. Develop procedures on how to make the management decision-making process transparent;
ii. Develop recommendations on how to build capacity among users for involvement in the process;
iii. Develop recommendations based on the Secretariat review, in the upcoming Conference Proceedings, of existing resource management systems on how to incorporate user knowledge in the management decision-making process at national levels;
iv. Consider the Scientific Committee's proposal for procedures on how to incorporate user knowledge into the Scientific Committee's deliberations, in light of the results from the 2003 Conference.

The Management Committee agreed to keep the Terms of Reference open in order for the Working Group to develop these further and present a new version at the next Management Committee meeting.

The Working Group agreed that the first step would be to collect the methods/ procedures used by the managers in each member country to involve users in the decision-making process. The report from the 2003 Conference contains relevant information on this topic. Working Group members were also asked to collect material on this topic from their respective countries.

The Management Committee endorsed the work plan of the Working Group and expected further information and advice to be available at the next meeting.

### 11.1 Status of the 2003 User Knowledge Conference Proceedings

The General Secretary; Grete Hovelsrud-Broda; informed the Committee that the publication of the proceedings of the 2003 Conference on User Knowledge and Scientific Knowledge in Management Decision-Making was in progress. The Proceedings volume will contain about 18 papers together with a review of existing management systems that have involved user – or traditional knowledge Norway the management decision-making process. It is expected that the book will be published early in 2005.

## 12. REPORT OF THE *AD HOC* WORKING GROUP ON ENHANCING ECOSYSTEM BASED MANAGEMENT

The Chair of the *ad hoc* Working Group on Enhancing Ecosystem Based Management, Mr Halvard P. Johansen (Norway) presented the report from the first Working Group meeting held in Copenhagen 3-4 December 2003 (see section 2.4).

The Working Group had reviewed ecosystem-based management issues, triggering discussions on a range of topics, including whether it is possible to manage an ecosystem and how to determine a useful focus in an ecosystem approach to management.

The following draft Terms of Reference (ToR) for the Working Group were prepared by the Secretariat based on the conclusions by the Management Committee at NAMMCO/12 in March 2003 (*NAMMCO Annual Report 2002*, pages 124 and 32).

1. Identify the challenges faced in adapting marine management systems to ecosystem-based approaches,
2. Investigate the progress that has been done in other fora in implementing ecosystem-based management
3. Recommend what kind of principles and measures can be applied to the situation faced by NAMMCO members and neighbouring countries.

In considering ToR 1. the Working Group identified a number of challenges including lack of knowledge about complex interactions within an ecosystem, lack of co-ordination among regional management organisations on relevant topics, and lack of funds for the development of multispecies models. In reference to ToR 2. it was noted that Canada has been concerned with how to operationlise ecosystem based management in terms of science and socio-economic aspects. With regard to ToR 3. the Working Group agreed that in order to come up with such recommendations it was first necessary to define what an ecosystem based approach to management means in the context of NAMMCO. The Management Committee, with the understanding that the Working Group would develop the definition further, endorsed the draft definition:

**An Ecosystem Approach to Management Draft Definition**

The utilisation of living marine resources is essential for the development and social and economic well being of countries and coastal communities in the North Atlantic. Effective management is necessary to ensure sustainability of the use and thereby the long term benefits from these resources. NAMMCO is concerned with the study, conservation and management of marine mammals, and recognises that these resources are part of complex ecosystems[1]. To ensure effective management it is therefore necessary to consider the role of marine mammals both in terms of how they affect and are affected by it. This includes inter alia species interactions, and natural and human induced factors such as climate and pollution.

The Management Committee noted that the concept of ecosystem approach to management often appears vague in international fora and agreed that it was useful for NAMMCO to develop such a definition. The Committee agreed that this work

[1] From the preamble to the NAMMCO Agreement (1992)

would not entail a paradigm shift, but that it would improve what is already in place by taking a holistic view of management. NAMMCO would have a dual role in such work by adding new information to other organisations work and by breaking new ground. The Management Committee further noted that an ecosystem approach is not limited to the national jurisdictions of NAMMCO member countries and stressed the importance of co-operating with Canada and the Russian Federation in developing an ecosystem approach to management. In this regard, the Management Committee thanked Canada for their participation and interest in the *ad hoc* Working Group, and reiterated its open invitation to the Russian Federation to participate in the work.

The Management Committee endorsed the recommendations of the Working Group: 1) that NAMMCO continues to actively exchange observers with relevant organisations and that the NAMMCO Secretariat prepares statements (fact sheets) informing other organisations about the ongoing work in NAMMCO on issues relevant to an ecosystem approach to management, and 2) that NAMMCO identify concrete projects or case studies that take an ecosystem approach to management with the task of solving a specific problem or issue (see also Item 12.1). Such case studies would consider a number of relevant aspects such as ecological (i.e. pollution), economic (i.e. trade) and social (i.e. question of stakeholders).

The Management Committee endorsed the future work plan of the Working Group to develop a case study on harp seals focussing on *inter alia* management, biological and socio-economic aspects, and noted that the Secretariat had been tasked with the initial development of such a study (see Item 12.1).

The Management Committee endorsed the Working Group recommendation that it remains *ad hoc* and is called upon by the Management Committee when 1) the Committee requests the Working Group to come up with new ideas and 2) the Management Committee requests the Working Group to operationalise the decided-upon case studies.

### 12.1 Preliminary case study

The General Secretary, Grete Hovelsrud-Broda, presented the preliminary case study to the Management Committee. The initial focus of the case study was the harp seal in four countries, Canada, Greenland, Norway and the Russian Federation. The harp seal is utilised in all four countries under various management systems, trade, market and economic systems, under various climatic and ice conditions and levels of utilisation. The three harp seal stocks are shared in various ways between the four countries. Dr Hovelsrud-Broda outlined the type of data and knowledge needed in an ecosystem approach to management. It was emphasised that it would be necessary to collect data and knowledge from managers, users and scientists on factors ranging from environmental questions to hunting methods, markets, regulations and the identification of stakeholders.

The Management Committee recognised the complexity involved in undertaking such a case study and tasked the *ad hoc* Working Group with developing the study further. The Management Committee agreed to amend the study to encompass the North Atlantic in order to include member countries that are not directly involved in the harvest of harp seals but that are involved in the fisheries interacting with this species. The Management Committee agreed that the working title of the case study would be

*A case study on harp seals in the North Atlantic from an ecosystem perspective*. The Committee left it to the Working Group and the Secretariat to develop the title further in conjunction with developing the case study. The Management Committee agreed to consider the developed case study intersessionally if necessary. The Management Committee also agreed that users and scientists from the participant countries would be invited to the next Working Group meeting. The Secretariat would contact the Working Group members with a deadline for suggesting additional participants.

### 12.2 Other business

The observer from the EBCD (European Bureau of Conservation and Development) Ms Despina Symons informed the Management Committee on recent developments within the European Union under the Working Group on Ecosystem Approach to management of Human Activities (EAM). The Working Group is set up in the context of the European Marine Strategy, and will develop a common approach – a guideline – for an ecosystem approach to human activities, and proposals for implementation of the ecosystem approach to human activities affecting the marine environment. The Working Group is led by the European Commission Directorate General for the Environment. The inaugural meeting of the Working Group was held in December 2003.

## 13. ELECTION OF OFFICERS

### 13.1 Election of Chair

Halvard P. Johansen (Norway) was elected as Chair of the Management Committee. Kaj P. Mortensen was thanked for his able chairmanship since 1998.

### 13.2 Election of Vice-Chair

Stefán Ásmundsson (Iceland) was elected Vice-Chair of the Management Committee.

## 14. ANY OTHER BUSINESS

There was no other business.

## 15. ADOPTION OF REPORT

The Management Committee adopted a preliminary report on 4 March 2004. The full report was adopted by correspondence on 30 March 2004.

Appendix 1

# AGENDA

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7.6 Fin Whales
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7.7 White-Beaked, White-Sided and Bottlenose Dolphins
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7.8 North Atlantic Sightings Surveys
- 7.8.1 Proposals for conservation and management
- 7.8.2 New requests for advice
- 7.8.3 Recommendations for scientific research

7.9 Others

8. Report of the Working Group on By-Catch
9. Report of the Committee on Inspection and Observation
10. Implementation of the Joint NAMMCO Control Scheme
    - 10.1 NAMMCO International Observation Scheme 2003
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14. Any other business
13. Adoption of report

Appendix 2

## LIST OF DOCUMENTS

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|---|---|
| NAMMCO/13/MC/1 | List of documents |
| NAMMCO/13/MC/2 | Agenda |
| NAMMCO/13/MC/3 | Status of proposals for conservation and management (up to and including NAMMCO/12) |
| NAMMCO/13/MC/4 | Summary of requests by NAMMCO Council to the Scientific Committee, and responses by the Scientific Committee |
| NAMMCO/13/MC/5 | Report of the Management Working Group on By-catch |
| NAMMCO/13/MC/6 | Report of the Committee on Inspection and Observation |
| NAMMCO/13/MC/7 | Report of the NAMMCO International Observation Scheme 2003 |
| NAMMCO/13/MC/8 | Report of the Working Group on User Knowledge in Management |
| NAMMCO/13/MC/9 | Report of the *ad hoc* Working Group on Enhancing Ecosystem Approach to Management |
| NAMMCO/13/MC/9 Annex 1 | Draft Preliminary Case Study |

National Progress Reports

| | |
|---|---|
| NAMMCO/13/MC/NPR-F | Faroe Islands - Progress Report on Marine Mammals in 2002 |
| NAMMCO/13/MC/NPR-G | Greenland - Progress Report on Marine Mammals in 2002 |
| NAMMCO/13/MC/NPR-I | Iceland - Progress Report on Marine Mammals in 2002 |
| NAMMCO/13/MC/NPR-N | Norway - Progress Report on Marine Mammals in 2002 |
| NAMMCO/13/MC/NPR-C | Canada – Progress Report on Marine Mammals in 2002 |

Council Documents

| | |
|---|---|
| NAMMCO/13/5 | Report of the Scientific Committee, 25 - 27 November 2003 |
| NAMMCO/13/12 | Report of the Joint Meeting of the Canada/Greenland Joint Commission on Conservation and Management of Narwhal and Beluga Scientific Working Group and the NAMMCO Scientific Committee Working Group on the Population Status of Narwhal and Beluga in the North Atlantic |

Appendix 3

# LIST OF PAST PROPOSALS FOR CONSERVATION AND MANAGEMENT

(Up to and including NAMMCO/13 - 2004)

## PINNIPEDS

### 1. Atlantic walruses

*Proposal for conservation and management:*

The Management Committee examined the advice of the Scientific Committee on Atlantic Walrus and noted the apparent decline which the Scientific Committee identified in respect to "functional" stocks of walrus of Central West Greenland and Baffin Bay.

While recognising the over all priority of further work to clarify and confirm the delineation and abundance of walrus stocks in the North Atlantic area, the Management Committee recommends that Greenland take appropriate steps to arrest the decline of walrus along its west coast.

Taking into account the views of the Scientific Committee that the Baffin Bay walrus stock is jointly shared with Canada and that the West Greenland stock might be shared, the Management Committee encourages Canada to consider working co-operatively with Greenland to assist in the achievement of these objectives (*NAMMCO Annual Report 1995*: 49).

*Management measures/response by member countries:*

Greenland provided the Management Committee with information on further measures recently implemented through legislation by the Greenland authorities for the conservation of the West Greenland stock. These regulations include: the restriction of walrus hunting to people with valid professional hunting licences only; a year-round ban on walrus hunting south of 66° N; limitations on the means of transport used in connection with walrus hunting to dog sleds and vessels of 19.99 GRT/31.99 GT or less; and the sale of walrus products limited to direct sales at open markets or for personal use only. Municipal authorities now also have the possibility of implementing further restrictions if circumstances require. (*NAMMCO/8*)

Greenland noted that in addition to the regulatory measures that were taken in 1999, it had been decided to introduce quotas on walrus. A new regulatory proposal has been drafted and public hearings will be held in the near future. The final regulatory proposal will take these hearings into account. (*NAMMCO/11*)

Greenland informed the Committee that the regulatory initiative to introduce quotas and other hunting regulations for this species had been delayed, and comprehensive public hearings have been conducted. The draft regulations have now been submitted to the Council of Hunters. It is expected that a final decision on the initiative will be taken later in 2003 (*NAMMCO/12*).

## 2. Ringed seals

***2.1*** *Proposal for conservation and management*

The Management Committee noted the conclusions of the Scientific Committee on the assessment of ringed seals in the North Atlantic, which had been carried out through the Scientific Committee Working Group on Ringed Seals. In particular, the Management Committee noted that three geographical areas had been identified for assessing the status of ringed seals, and that abundance estimates were only available for Area 1 (defined by Baffin Bay, Davis Strait, eastern Hudson Strait, Labrador Sea, Lancaster, Jones and Smith sounds (*NAMMCO/6*).

*Management measures/response by member countries:*

None.

**2.2** *Proposal for conservation and management*

While recognising the necessity for further monitoring of ringed seal removals in Area 1, the Management Committee endorsed the Scientific Committee's conclusions that present removals of ringed seals in Area 1 can be considered sustainable (*NAMMCO/6).*

*Management measures/response by member countries:*

The Greenland government is presently undertaking a regulatory initiative which will deal with hunting of all seals in Greenland, rather than just harbour seals as at present (*NAMMCO/11*).

## 3. Harp seals in the Northwest Atlantic

***3.1 Northwest Atlantic***

***3.1.1*** *Proposal for conservation and management*

The Management Committee noted that a new abundance estimate for Northwest Atlantic harps seals of 4.8 million was available, based on a pup production estimate for 1994 of 702,900. The Management Committee also noted the conclusion that the Northwest Atlantic population of harp seals has been growing at a rate of 5% per year since 1990, and that the 1996 population was estimated to be 5.1 million, with a Calculated replacement yield of 287,000.

The Management Committee concluded that catch levels of harp seals in Greenland and Canada from 1990 to 1995 were well below the calculated replacement yields in this period (*NAMMCO /6*).

*Management measures/response by member countries:*

None.

***3.1.2*** *Proposal for conservation and management*

The Management Committee noted that combined estimated catches of harp seals in Canada and Greenland are in the order of 300,000 and that these catches are near or at, the established replacement yields (*NAMMCO/8*).

*Management measures/response by member countries:*

Canada brought to the attention of the Committee the recently completed Report of the Eminent Panel on Seal Management, which contains a full review of research and

management of seals in Canada, with a primary focus on Northwest Atlantic harp and hooded seals. The Report is available at the following web site: http://www.dfo-mpo.gc.ca/seal-phoque/reports/index.htm. Canada also noted that an abundance survey of the Northwest Atlantic harp seals had been completed in 1999, and that published results were now available. (*NAMMCO/11*)

Greenland commented that sustainable catches may be obtained at other catch levels than those that provide replacement yields. (*NAMMCO/11*)

The Observer for Canada presented information on a multi-year management plan for the Atlantic seal hunt, which was announced in February 2003. For harp seals total allowable catch is set at 975,000 over a 3-year period. If the full quota were taken and Greenlandic harvests were as forecast, the total take should result in a slight population reduction over the period, while still maintaining the population well above the conservation reference points adopted. (*NAMMCO/12*)

### 3.2 White/Barents Sea

*Proposal for conservation and management*

The Management Committee noted the stock status and catch options presented by the Scientific Committee, and concluded that the catch level in 1998 was well below the calculated replacement yield. Catches at the same level in the future may result in population increase. From a resource management point of view, future quota levels approaching the replacement yield are advised. (*NAMMCO/9*)

*Management measures/response by member countries:*

None.

### 3.3 Greenland Sea

*Proposal for conservation and management*

The Management Committee noted the stock status and catch options presented by the Scientific Committee, and concluded that the catch level in 1998 was well below the calculated replacement yield. Catches at the same level in the future may result in population increase. From a resource management point of view, future quota levels approaching the replacement yield are advised. (*NAMMCO/6*)

*Management measures/response by member countries:*

None.

## 4. Hooded seals

### 4.1 *Northwest Atlantic*

#### 4.1.1 *Proposal for conservation and management*

Noting the Scientific Committee's review of available analyses of hooded seal pup production, which recognised that calculations are dependent on the particular rate of pup mortality used, as well as the harvest regimes, the Management Committee concluded that present catches of hooded seals in the Northwest Atlantic (1990-1995) were below the estimated replacement yields of 22,900 calculated for a harvest of pups only, and 11,800 calculated for a harvest of 1-year and older animals only. (*NAMMCO/6*)

*Management measures/response by member countries:*

None.

**4.1.2** *Proposal for conservation and management*

The Management Committee noted that the total catch of hooded seals in the Northwest Atlantic in 1996 slightly exceeded the replacement yield while in 1997 the total number of seals taken was much lower. (*NAMMCO/8*)

*Management measures/response by member countries:*

Greenland noted that this stock was shared with Canada and that the two countries hold regular bilateral discussions on management of this stock, including an exchange of information on harvest statistics, utilisation and stock assessment. (*NAMMCO/11*)

### 4.2 Greenland Sea

*Proposal for conservation and management*

The Management Committee noted the stock status and catch options presented by the Scientific Committee, and concluded that the catch level in 1998 was well below the calculated replacement yield. Catches at the same level in the future may result in population increase. From a resource management point of view, future quota levels approaching the replacement yield are advised. (*NAMMCO/9*)

*Management measures/response by member countries:*

While supporting the past conclusion of the Management Committee that catch levels for this stock are below replacement yield, Norway noted that the abundance estimate for this stock is dated and that it hoped that new information should soon be available from surveys planned for 2002. (*NAMMCO/11*)

## CETACEANS

### 5 Northern bottlenose whales

*Proposal for conservation and management*

The Management Committee discussed the advice of the Scientific Committee on the status of the northern bottlenose whale and noted that this was the first conclusive analysis on which management of the northern bottlenose whale could be based.

The Management Committee accepted that the population trajectories indicated that the traditional coastal drive hunt in the Faroe Islands did not have any noticeable effect on the stock and that removals of fewer than 300 whales a year were not likely to lead to a decline in the stock. (*NAMMCO/5*)

*Management measures/response by member countries:*

None.

### 6. Long-finned pilot whales

*Proposal for conservation and management*

The Management Committee noted the findings and conclusions of the Scientific Committee, through its review of the ICES Study Group Report and the analysis of data from NASS-95 with respect to the status of long-finned pilot whales in the North Atlantic (Section 3.1, item 3.1), which also confirmed that the best available

abundance estimate of pilot whales in the Central and Northeast Atlantic is 778,000. With respect to stock identity it was noted that there is more than one stock throughout the entire North Atlantic, while the two extreme hypotheses of i) a single stock across the entire North Atlantic stock, and ii) a discrete, localised stock restricted to Faroese waters, had been ruled out.

The Management Committee further noted the conclusions of the Scientific Committee that the effects of the drive hunt of pilot whales in the Faroe Islands have had a negligible effect on the population, and that an annual catch of 2,000 individuals in the eastern Atlantic corresponds to an exploitation rate of 0.26%.

Based on the comprehensive advice which had now been provided by the Scientific Committee to requests forwarded from the Council, the Management Committee concluded that the drive hunt of pilot whales in the Faroe Islands is sustainable. (*NAMMCO/7*)

*Management measures/response by member countries:*

In 1997 the Management Committee concluded that the Faroese drive hunt of pilot whales is sustainable. There have been no changes in annual take, new abundance estimates or other information that warrant any change in this conclusion. (*NAMMCO/11*)

## 7. Minke Whales - Central North Atlantic

*Proposal for conservation and management*

The Management Committee accepted that for the Central Stock Area the minke whales are close to their carrying capacity and that removals and catches of 292 animals per year (corresponding to a mean of the catches between 1980-1984) are sustainable. The Management Committee noted the conservative nature of the advice from the Scientific Committee. (*NAMMCO/8)*

*Management measures/response by member countries:*

None.

## 8. Beluga - West Greenland

***8.1** Proposal for conservation and management*

***Maniitsoq – Disko***

The Management Committee noted that a series of surveys conducted since 1981 indicate a decline of more than 60% in abundance in the area Maniitsoq to Disko. It further noted that with the present harvest levels (estimated at 400/yr) the aggregation of belugas in this area is likely declining due to overexploitation.

***Avanersuaq – Upernavik***

The present harvest in the area Avanersuaq - Upernavik is estimated to be more than 100/yr. The Management Committee noted that since this beluga occurrence must be considered part of those wintering in the area from Maniitsoq to Disko, it is considered to be declining due to overexploitation.

Finally the Management Committee noted the conclusion by the Scientific Committee that with the observed decline a reduction in harvesting in both areas seems necessary

to halt or reverse the trend. *(NAMMCO/9)*

*Management measures/response by member countries:*

Greenland stated that this issue again will be thoroughly discussed with the hunters, and that the Greenland Government does share the concerns expressed. (*NAMMCO/10*)

Greenland informed the Committee that in November 2000 the government made a decision to introduce harvest quotas for beluga and narwhal. Public hearings on a draft regulatory proposal were held in spring 2001. The results of these hearings are being taken into account in the drafting of a revised regulatory proposal, and a final set of regulations is expected to be introduced sometime in 2002. (*NAMMCO/11*)

Greenland informed the Committee that the regulatory initiative to introduce quotas and other hunting regulations for this species had been delayed, and comprehensive public hearings have been conducted. The draft regulations have now been submitted to the Council of Hunters. It is expected that a final decision on the initiative will be taken later in 2003. (*NAMMCO/12*)

***8.2** Proposal for conservation and management*

It was accepted that the Canada/Greenland Joint Commission on Conservation and Management of Narwhal and Beluga (JCNB) would provide management advice for this stock, which is shared by Canada and Greenland. The Management Committee therefore recommended that closer links be developed between NAMMCO and the JCNB on this and other issues of mutual concern. Greenland stated that this issue again will be thoroughly discussed with the hunters, and that the Greenland Government does share the concerns expressed. *(NAMMCO/10)*

*Management measures/response by member countries:*

None

***8.3** Proposal for conservation and management*

In 2000 the Management Committee accepted that the Canada/Greenland Joint Commission on Conservation and Management of Narwhal and Beluga (JCNB) would provide management advice for this stock, which is shared by Canada and Greenland. The Management Committee noted with pleasure that a joint meeting of the NAMMCO Scientific Working Group on the Population Status of North Atlantic Narwhal and Beluga and the JCNB Scientific Working Group had been held in May 2001, and recommended that this co-operation at the scientific level should continue. The Management Committee also reiterated its recommendation that closer links be developed between NAMMCO and the JCNB on this and other issues of mutual concern. *(NAMMCO/10)*

*Management measures/response by member countries:*

None

## 9. Narwhal - West Greenland

***9.1** Proposal for conservation and management*

***Avanersuaq***

The Management Committee noted that the present exploitation level in Avanersuaq of 150/yr seems to be sustainable, assuming that the same whales are not harvested in other areas

***Melville Bay – Upernavik***
The Management Committee noted that the Scientific Committee could give no status for the Melville Bay – Upernavik summering stock.

***Uummannaq***
The Management Committee noted that the substantial catches (several hundreds) in some years do cause concern for the status of this aggregation. The Management Committee further noted that the abundance of narwhal in this area should be estimated.

***Disko Bay***
The Management Committee noted that present catches in this area are probably sustainable.

***Catch Statistics***
The Management Committee noted that for both narwhal and beluga it is mandatory for future management that more reliable catch statistics (including loss rates) are collected from Canada and Greenland. (*NAMMCO/9*)

*Management measures/response by member countries:*

As for beluga, harvest quotas will be introduced for West Greenland narwhal in the near future. (*NAMMCO/11*)

Greenland informed the Committee that the regulatory initiative to introduce quotas and other hunting regulations for this species had been delayed, and comprehensive public hearings have been conducted. The draft regulations have now been submitted to the Council of Hunters. It is expected that a final decision on the initiative will be taken later in 2003. *(NAMMCO/12*)

***9.2** Proposal for conservation and management*

The Management Committee accepted that the JCNB would provide management advice for this stock, which is shared by Canada and Greenland. The Management Committee therefore recommended that closer links be developed with the JCNB on this and other issues of mutual concern. *(NAMMCO/10)*

The Management Committee noted the conclusions of the Scientific Committee, that the West Greenland Narwhal have been depleted, and that a substantial reduction in harvest levels will be required to reverse the declining trend. These are preliminary conclusions, and more research and assessment work will be required. Nevertheless the Management Committee expressed its grave concern over the status of the West Greenland Narwhal, and noted that the JCNB, which provides management advice for this stock, would be considering this information in the near future. The Management Committee also noted that it will be important for NAMMCO to monitor the situation closely and update the assessment as soon as more information is available. *(NAMMCO 13)*

*Management measures/response by member countries:*

None

**10. North Atlantic fin whales**

*Proposal for conservation and management*

The Management Committee accepted that for fin whales in the East Greenland – Iceland (EGI) stock area, removals of 200 animals per year would be unlikely to bring the population down below 70% of its pre-exploitation level in the next 10 years, even under the least optimistic scenarios. However, catches at this level should be spread throughout the EGI stock area, roughly in proportion to the abundance of fin whales observed in the NASS surveys. Furthermore, the Management Committee stressed that the utilisation of this stock should be followed by regular monitoring of the trend in the stock size.

The Management Committee also noted the conservative nature of the advice from the Scientific Committee on which the conclusion of the Management Committee was *based. (NAMMCO/9)*

East Greenland-Iceland Stock

The Management Committee noted the conclusion of the Scientific Committee that projections under constant catch levels suggest that the inshore substock will maintain its present abundance (which is above MSY level) under an annual catch of about 150 whales. It is important to note that this result is based upon the assumption that catches are confined to the "inshore" substock, ***i.e.*** to the grounds from which fin whales have been taken traditionally. If catches were spread more widely, so that the "offshore" substock was also harvested, the level of overall sustainable annual catch possible would be higher than 150 whales. *(NAMMCO 13)*

Faroe Islands

The Management Committee noted that the conclusion of the Scientific Committee had not changed from the previous assessment, that the uncertainties about stock identity are so great as to preclude carrying out a reliable assessment of the status of fin whales in Faroese waters, and thus the Scientific Committee was not in a position to provide advice on the effects of various catches. It may also be necessary to obtain clearer guidance on the management objectives for harvesting from what is likely to be a recovering stock before specific advice can be given. *(NAMMCO/13)*

*Management measures/response by member countries:*

None

**11. Central Atlantic minke whales**

***11.1** Proposal for conservation and management*

The Management Committee took note of the conclusions of the Scientific Committee with regard to the Central Atlantic Stock, that, under all scenarios considered, a catch of 200 minke whales per year would maintain the mature component of the population above 80% of its pre-exploitation level over that period. Similarly, a catch of 400 per year would maintain the population above 70% of this level. This constitutes precautionary advice, as these results hold even for the most pessimistic combination

of the lowest MSYR and current abundance, and the highest extent of past catches considered plausible. The advice applies to either the CIC Small Area (coastal Iceland), or to the Central Stock as a whole. *(NAMMCO/13)*

*Management measures/response by member countries:*

None.

**1. Grey seals**

***12.1** Proposal for conservation and management*

The Management Committee noted the concern expressed by the Scientific Committee with regard to the observed decline in the grey seal stock around Iceland, where harvesting has been above sustainable levels for more than 10 years, with the apparent objective of reducing the size of the stock. The Management Committee agreed to recommend that Iceland should define clear management objectives for this stock.

The Management Committee noted the conclusion of the Scientific Committee that the new quota levels implemented Norwegian grey seals would, if filled, almost certainly lead to a rapid reduction in population in the area. The Management Committee agreed to recommend that Norway should define clear management objectives for this stock.

For the Faroe Islands, the Management Committee supported the recommendation of the Scientific Committee to obtain better information on the level of catch. *(NAMMCO/13)*

*Management measures/response by member countries:*

None.

**13. Incorporation of the users' knowledge in the deliberations of the Scientific Committee**

***13.1** Proposal for conservation and management*

The Management Committee endorsed the proposals and viewpoints contained in section 6 in the Scientific Committee report, and suggested that the "Draft Minke Whale Stock Status Report" (*NAMMCO/9/7*) could usefully serve as a pilot project for co-operation with the hunters. (*NAMMCO/9*)

*Management measures/response by member countries:*

Status Reports under development.

***13.2** Proposal for conservation and management*

The Management Committee had previously asked the Secretariat to proceed with a proposal by the Scientific Committee to use stock status reports as a starting point for discussions with resource users to incorporate their knowledge in advice to Council, and to use the stock status report on minke whales as a pilot project. However, in 2000 the Management Committee recommended that a proposal for a conference on incorporating user knowledge and scientific knowledge into management advice should proceed, and asked the Conference Advisory Group to plan this conference to evaluate whether and how the previous proposal for incorporating user knowledge into the Scientific Committee's deliberations could be incorporated into the Conference.

(*NAMMCO/11*)

*Management measures/response by member countries:*

Greenland informed the Committee that a person had been hired at the Greenland Institute of Natural Resources to deal with these issues, and that this employee is also on the Advisory Board of the Conference. (*NAMMCO/11*)

**List of References**

**NAMMCO/1**
NAMMCO 1992. (MS) Report of the inaugural meeting of the Council of the North Atlantic Marine Mammal Commission. NAMMCO, University of Tromsø, Tromsø, 35 pp.

**NAMMCO/2**
NAMMCO. 1993. (MS) Report of the second meeting of the Council. NAMMCO, University of Tromsø, Tromsø, 65 pp.

**NAMMCO/3**
NAMMCO. 1993. (MS) Report of the third meeting of the Council. NAMMCO, University of Tromsø, Tromsø, 51 pp.

**NAMMCO/4**
NAMMCO. 1994. (MS) Fourth meeting of the Council. NAMMCO, University of Tromsø, Tromsø, 142 pp.

**NAMMCO/5**
NAMMCO. 1995. Fifth meeting of the Council. In: NAMMCO, *Annual Report 1995.* NAMMCO, Tromsø, 11-44.

**NAMMCO/6**
NAMMCO. 1997. Report of the sixth meeting of the Council. In: NAMMCO, *Annual Report 1996.* NAMMCO, Tromsø, 11-58.

**NAMMCO/7**
NAMMCO. 1998. Report of the seventh meeting of the Council. In: NAMMCO, *Annual Report 1997.* NAMMCO, Tromsø, 9-60.

**NAMMCO/8**
NAMMCO. 1999. Report of the eighth meeting of the Council. In: NAMMCO, *Annual Report 1998.* NAMMCO, Tromsø, 9-55.

**NAMMCO/9**
NAMMCO. 2000. Report of the ninth meeting of the Council. In: NAMMCO, *Annual Report 1999.* NAMMCO, Tromsø, 11-49.

**NAMMCO/10**
NAMMCO. 2001. Report of the tenth meeting of the Council. In: NAMMCO, *Annual Report 2000*. NAMMCO, Tromsø, , 11-69.

**NAMMCO/11**
NAMMCO. 2002. Report of the eleventh meeting of the Council. In: NAMMCO, *Annual Report 2001*. NAMMCO, Tromsø, 11-93.

**NAMMCO/12**
NAMMCO. 2003. Report of the twelfth meeting of the Council. In: NAMMCO, *Annual Report 2002*. NAMMCO, Tromsø, 11-112.

**NAMMCO/13**
NAMMCO. 2004. Report of the thirteenth meeting of the Council. In: NAMMCO, *Annual Report 2003*. NAMMCO, (this volume).

Appendix 4

# SUMMARY OF REQUESTS BY NAMMCO COUNCIL TO THE SCIENTIFIC COMMITTEE, AND RESPONSES BY THE SCIENTIFIC COMMITTEE

The following provides a summary of all requests by NAMMCO Council to the Scientific Committee **(**including the 13th meeting), and notes the response of the Scientific Committee (SC) to these requests. Requests forwarded from NAC (North Atlantic Committee for Co-operation on Research on Marine Mammals) to ICES (International Council for the Exploration of the Sea) prior to NAMMCO's establishment, and which were carried over to NAMMCO in 1992, are included. This document will be continually updated to serve as a resource for both the Council and the Scientific Committee.

## 1. ROLE OF MARINE MAMMALS IN THE ECOSYSTEM

**Marine mammal - fish interaction:**

*Code/Meeting:* 1.1/ NAMMCO/1
*Request:*

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| To provide an overview of the current state of knowledge of the dependence of marine mammals on the fish and shrimp stocks and the interrelations between these compartments |

*Response of the Scientific Committee:*

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|---|
| See 1.2, 1.4, 1.7, 1.9, 1.10. |

*Code/Meeting:* 1.2/NAMMCO/1
*Request:*

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|---|
| In the multi-species context ... to address specific questions related to the Davis Strait ecosystem such as:<br>- the apparent increase in harp seal stocks;<br>- its influence on the economically important shrimp and cod stocks;<br>- the impact of the fisheries on marine mammals, particularly harp seals;<br>- the southward shift of minke whale distribution in recent years, and<br>- observed changes in oceanographical conditions after the 1970s;<br>- and to the East Greenland-Iceland-Jan Mayen area interactions between capelin stocks, fishery and marine mammals |

*Response of the Scientific Committee:*

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|---|
| - Questions related to harp and hooded seals were forwarded to the ICES/NAFO Joint Working Group on Harp and Hooded Seals (SC/2)<br>- Specific questions related to the Davis Strait ecosystem were not addressed.<br>- See also 1.4, 1.7, 1.9, and 1.10. |

*Code/Meeting:* 1.3/NAMMCO/2
*Request:*

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|---|
| To assess the impact of marine mammals on the marine ecosystem, with special emphasis on the availability of economically important fish species |

*Response of the Scientific Committee:*

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|---|
| See 1.2, 1.4, 1.7, 1.9, 1.10 |

*Code/Meeting:* 1.4/ NAMMCO/6
*Request:*

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|---|
| The Scientific Committee was requested to focus its attention on the food consumption of three predators in the North Atlantic: the minke whale, the harp seal and the hooded seal, with a particular emphasis on the study of the potential implications for commercially important fish stocks. |

*Response of the Scientific Committee:*

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|---|
| The Scientific Committee established a Working Group on the Role of Minke Whales, Harp Seals and Hooded Seals in the North Atlantic. The Scientific Committee used the report of this Working Group to provide advice to Council, and to recommend further research. (SC/5) Many of the papers presented will be published in Volume 2 of NAMMCO Scientific Publications. (SC/7) |

*Code/Meeting:* 1.5/NAMMCO/7
*Request:*

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| The Council encourages scientific work that leads to a better understanding of interactions between marine mammals and commercially exploited marine resources, and requested the Scientific Committee to periodically review and update available knowledge in this field. |

*Response of the Scientific Committee:*

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| See 1.9, 1.10 |

**Multi-species approaches to management:**

*Code/Meeting:* 1.6/NAMMCO/1
*Request:*

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| To consider whether multi-species models for management purposes can be established for the North Atlantic ecosystems and whether such models could include the marine mammals compartment. If such models and the required data are not available then identify the knowledge lacking for such an enterprise to be beneficial to proper scientific management and suggest scientific projects which would be required for obtaining this knowledge. |

*Response of the Scientific Committee:*

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|---|
| See 1.4, 1.7, 1.9, 1.10 |

*Code/Meeting:* 1.7/NAMMCO/5
*Request:*

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| In relation to the importance of the further development of multi-species approaches to the management of marine resources, the Scientific Committee was requested to monitor stock levels and trends in stocks of all marine mammals in the North Atlantic. |

*Response of the Scientific Committee:*

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|---|
| It was clarified that the purpose of this request was to ensure that data on marine mammals was available for input into multi-species models for management. The Committee agreed that updated information on abundance and indications of trends in abundance of stocks of marine mammals in the North Atlantic should be clearly described in a new document for the internal reference of the Council, to replace the |

List of Priority Species. This document would be entitled Status of Marine Mammals in the North Atlantic and should include those cetacean and pinniped species already contained in the List of Priority Species, as well as other common cetacean species in the NAMMCO area for which distribution and abundance data is also available (fin, sei, humpback, blue, and sperm whales). (SC/5)

**Sealworm infestation:**

*Code/Meeting:* 1.8/NAMMCO/6
*Request:*

Aware that the population dynamics of the sealworm (*Pseudoterranova decipiens*) may be influenced by sea temperature, bathymetry, invertebrate and fish fauna, the Scientific Committee was requested to review the current state of knowledge with respect to sealworm infestation and to consider the need for comparative studies in the western, central and eastern North Atlantic coastal areas, taking into account the priority topics recommended by the Scientific Committee and its *ad hoc* Working Group on grey seals.

*Response of the Scientific Committee:*

The Scientific Committee established a Working Group on Sealworm Infection to address this question. The Scientific Committee used their report as the basis for providing advice to Council, and developing recommendations for further research. (SC/5) Many of the papers considered by the Working Group will are published in *NAMMCO Scientific Publications* Vol. 3 *Sealworms in the North Atlantic: Ecology and population dynamics* (SC/7*)*

**Economic aspects of marine mammal-fisheries interactions:**

*Code/Meeting:* 1.9/NAMMCO/7
*Request:*

The Council requested that special attention be paid to studies related to competition and the economic aspects of marine mammal-fisheries interactions

*Response of the Scientific Committee:*

The Scientific Committee established a Working Group on Economic Aspects of Marine Mammal-Fisheries Interactions. The Scientific Committee concluded that inclusion of economic considerations is a valuable addition to mullet-species models of interactions between marine mammals and fisheries. The work presented at the Working Group was considered the first step towards more complete analyses of these interactions and it was recommended, in light of the economic impacts, that more complete models should be developed and presented. The Scientific Committee showed a continued interest in the development of the models and it was decided to maintain the Working Group and seek further guidance from the Council on matters of particular interest. (SC/6)

*Code/Meeting:* 1.10/NAMMCO/8
*Request:*

The Scientific Committee is requested to investigate the following economic aspects of marine mammal – fisheries interactions:

– to identify the most important sources of uncertainty and gaps in knowledge with respect to the economic evaluation of harvesting marine mammals in the different

areas;
- to advise on research required to fill such gaps both in terms of refinement of ecological and economical models and collection of basic biological and economical data required as input parameters for the models;
- to discuss specific cases where the state of knowledge may allow quantification of the economic aspects of marine mammal – fisheries interactions:
  a) what could be the economic consequences of a total stop in harp seal exploitation versus different levels of continued sustainable harvest?
  b) what could be the economic consequences of different levels of sustainable harvest vs. no exploitation of minke whales?

*Response of the Scientific Committee:*

The Working Group On The Economic Aspects Of Marine Mammal - Fisheries Interactions was reactivated to meet this request. It was agreed to separate the request into two sections. At the first Working Group meeting the first two items in the request were addressed. The Working Group used available information to derive estimates of consumption of cod, herring, capelin and shrimp by harp seals, minke whales and *Lagenorhynchus* spp. and bottlenose dolphins in some areas. Multi-species models presently in use or under development in Norway and Iceland offer a means of assessing the impact of marine mammal predation on fish stocks The Scientific Committee therefore recommended that the next logical step in addressing the request should be for NAMMCO to lead or assist in the development of a multi-species-economic model for a candidate area. However, the Scientific Committee reiterated that the estimation and model uncertainties are such that definitive quantification of the economic aspects of marine mammal-fisheries interactions in candidate areas cannot be expected in the near term. (SC/8)

*Code/Meeting:* 1.11/NAMMCO/10

*Request:*

Noting the requests for advice from the Council at its Eighth meeting in Oslo 1998 (see Annual Report 1998 page 23), the Management Committee recommended that the Scientific Committee continue the assessment of the economic aspects of fishery - marine mammal interactions in the two areas (Barents Sea and Iceland) and with the two species (minke whales and harp seals) that have been identified as feasible for this assessment.

*Response of the Scientific Committee:*

The Scientific Committee convened a workshop under the theme "Marine Mammals: From feeding behaviour or stomach contents to annual aonsumption - what are the main uncertainties ", to further investigate the methodological and analytical problems in estimating consumption by marine mammals. (SC/9)

*Code/Meeting:* 1.12/NAMMCO/11

*Request:*

The Management Committee noted the conclusion of the Scientific Committee that the estimation and model uncertainties are such that the economic aspects of marine mammal-fishery interactions in candidate areas cannot be quantified without further work. The Management Committee therefore recommended that the Scientific Committee should hold a workshop on ecosystem models aiming for a better understanding of the ecological role of minke whales and harp and hooded seals in the North Atlantic, as proposed in the Scientific Committee report.

*Response of the Scientific Committee:*

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| The Scientific Committee convened a workshop, under the theme "Modelling Marine Mammal – Fisheries Interactions in the North Atlantic", to investigate how presently available ecosystem models can be adapted for quantifying marine mammal - fishery interactions. (SC/10) |

*Code/Meeting:* 1.13/NAMMCO/12
*Request:*

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| The Management Committee agreed that the Scientific Committee should monitor progress made in multispecies modelling and in the collection of input data and decide when enough progress has been made to warrant further efforts in this area. Future meetings should focus on assessing modelling results from the Scenario Barents Sea model and possibly the GADGET-based template models for other areas, if they are developed. The Scientific Committee should also consider the feasibility of connecting the multi-species models with simple economic models at that time. |

*Response of the Scientific Committee:*

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| In progress. |

## 2. ENVIRONMENTAL ISSUES

*Code/Meeting:* 2.1/NAMMCO/1
*Request:*

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| To describe the possible pathways of radioactive material from blowouts and leakage in existing nuclear power plants, leakage from dumped material and possible accidents in planned recycling plants in the northern part of Scotland into the food web of the North Atlantic and hence into the top predators like marine mammals. |

*Response of the Scientific Committee:*

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| No response. |

*Code/Meeting:* 2.2/NAMMCO/1
*Request:*

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| To review the contaminant burdens (especially organochlorines) in marine mammals in the North Atlantic and evaluate the possible sources of these contaminants. |

*Response of the Scientific Committee:*

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| No response from the Scientific Committee. In 1995, NAMMCO hosted the International Conference on Marine Mammals and the Marine Environment. The Conference covered the following themes: Marine mammals and the marine environment-impacts and management approaches; Contaminants in marine mammals – sources, levels and effects; Coastal communities and marine pollution – social, economic and health considerations; Addressing the questions – problems and future needs. The proceedings were published as a special issue of *The Science of the Total Environment* (186, 1,2). |

## 3. MANAGEMENT PROCEDURES

*Code/Meeting:* 3.1/NAMMCO
*Request:*

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| To review the basis for, and develop assessments necessary to provide the scientific foundation for conservation and management of the stocks relevant for management |

under NAMMCO.

*Response of the Scientific Committee:*

A Working Group on Management Procedures was established to consider this matter. (SC/2). The Scientific Committee noted that there were many different management needs requiring different management procedures. It was agreed that there was need for more guidance on management objectives before any concrete work can be started on developing appropriate management procedures, and in turn this was likely to be case- (species and/or area) specific. Related to this it was also noted that NAMMCO may prefer to assume an advisory and evaluative role in developing its management. (SC/2)

*Code/Meeting:* 3.2/NAMMCO/4

*Request:*

Further development of RMP-like procedures.

*Response of the Scientific Committee:*

The Scientific Committee decided to develop management procedures on a case-by-case basis: "a more pragmatic approach on an area and species/case-specific basis would be desirable for the development of specific management procedures. It was therefore decided to suggest that requests for advice from the Council be accompanied by specific objectives defined for the case in question". (SC/3)

## 4. STOCKS/SPECIES

**Monitoring marine mammal stock levels and trends in stocks /North Atlantic Sightings Surveys (NASS):**

*Code/Meeting:* 4.1/NAMMCO/3

*Request:*

To plan joint cetacean sighting surveys in the North Atlantic by co-ordinating national research programmes.

*Response of the Scientific Committee:*

The Scientific Committee agreed to establish a Working Group to plan the sighting survey for the summer of 1995. (SC/2)

The Scientific Committee was pleased to note the good progress that had been made in planning this important joint research, in which the Faroes (1 vessel), Iceland (3 vessels and 1 aircraft) and Norway (11 vessels) had decided to participate. It was noted that Greenland had decided not to conduct surveys as part of these joint efforts. (SC/3)

The Scientific Committee agreed to recommend that a special fund of NOK 800,000 be established from the NAMMCO budget for use in financing various aspects of NASS-95, where required. (SC/3)

*Code/Meeting:* 4.2/NAMMCO/5

*Request:*

The 1995 North Atlantic Sightings Survey (NASS-95) would provide updated abundance estimates for a number of whale species in the North Atlantic, and the Scientific Committee was requested to review results in the light of recent assessments of North Atlantic whale stocks.

*Response of the Scientific Committee:*

The Scientific Committee agreed to establish a Working Group on Abundance Estimates. The task of the Working Group on Abundance Estimates would be to review analyses and where relevant also analyse data from NASS-95 to ensure its compatibility, both between NASS-95 survey areas, as well as with data from other sightings surveys, in order to provide a basis for calculating abundance estimates for the relevant cetacean stocks in the North Atlantic. (SC/4)

*Code/Meeting:* 4.3/NAMMCO/6

*Request:*

The Management Committee noted the successful completion of the North Atlantic Sightings Survey in 1995, and commended the process initiated by the Scientific Committee to conclude the analysis of NASS-95 data. It was expected that the results on abundance will be dealt with by the newly established Scientific Committee Working Group on Abundance Estimates and will be presented at the next annual meeting. It was noted that the Working Group would at least to some extent address last year's request from the Council regarding monitoring of stock levels and trends in stocks. However, it was also noted that one outstanding matter from last year is the request to the Scientific Committee to review results of NASS-95 in the light of recent assessments of North Atlantic whale stocks.

The Council agreed to the suggestion from the Management Committee that this be drawn to the attention of the Scientific Committee to secure a follow-up to last year's request.

*Response of the Scientific Committee:*

To address this request, a Working Group on Abundance Estimates had been established with the task of reviewing the analyses, and where relevant, also to analyse data from NASS-95 to provide a basis for calculating abundance estimates for the relevant cetacean stocks in the North Atlantic. The Working Group had focused on describing synoptic distributions of the cetacean species encountered during NASS-95, and abundance estimates for minke, fin, sei and pilot whales, which were the target species of the survey. The Scientific Committee concluded that the updated abundance estimates for the target species as reviewed by the Working Group on Abundance Estimates represented the best available estimates for the stocks concerned, and used them as a basis to provide advice to Council. The Scientific Committee also recommended that the results of NASS-95 be compiled to a future volume of *NAMMCO Scientific Publications*. (SC/5)

*Code/Meeting:* 4.4/NAMMCO/7

*Request:*

The Scientific Committee was requested to continue its work to monitor stock levels and trends in all stocks of marine mammals in the North Atlantic in accordance with previous recommendations (see *NAMMCO Annual Report 1996*:131-132). In this context the Scientific Committee was encouraged to prioritise calculation of the abundance of species covered by NASS-95, in particular those species presently harvested and species considered to be important with respect to interactions with fisheries.

*Response of the Scientific Committee:*

See 4.3.

*Code/Meeting:* 4.5/NAMMCO/9
*Request:*

*NASS-95:* The Management Committee noted particularly that abundance estimates from NASS-95 have not been completed for some species. The Management Committee therefore recommended that the Scientific Committee complete abundance estimates for all species, as part of its efforts to monitor the abundance of all species in the North Atlantic.

*Response of the Scientific Committee:*

The Scientific Committee noted that abundance estimates for the main target species of NASS-95 (minke whale, fin whale, sei whale, pilot whale) had been completed and accepted by them, however most had not yet been published in the primary scientific literature. The Scientific Committee agreed that further analyses of the abundance of non-target species from the NASS-95 survey should be conducted if they are warranted. However, as the survey was not optimised for these species, it was recognised that the design and conduct of the survey would make this possible to a varying degree, depending on both the species and area in question. In some cases, a general description of the spatial distribution of sightings may be the only analysis warranted. The Scientific Committee agreed to pursue these analyses in the coming year. (SC/8)

The Scientific Committee considered new information on the NASS-95 Icelandic aerial and shipboard surveys for minke whales, and a new abundance estimate for humpback whales from the NASS-95 Icelandic shipboard survey. (SC/9)

*Code/Meeting:* 4.6/NAMMCO/9
*Request:*

The Management Committee recommended that the Scientific Committee continue its efforts to co-ordinate future sighting surveys and analyses of the results from such surveys in the North Atlantic. Priority species should be minke whales and fin whales, and the Management Committee recommended that that the survey design be optimised for these species. The survey should also be optimised to cover those areas where abundance estimates are most urgently required.

*Response of the Scientific Committee:*

The Working Group on Abundance Estimates met in November 2000 to plan for NASS-2001. The survey was conducted in June/July 2001. (SC/9)

*Code/Meeting:* 4.7/NAMMCO/11
*Request:*

The Management Committee recommended that remaining abundance estimates from the NASS-95 and new estimates from the NASS-2001 surveys should be developed as soon as feasible, with the target species of the surveys being of highest priority. The Management Committee emphasised that this work should be published in a timely manner.

*Response of the Scientific Committee:*

The Working Group on Abundance Estimates met in March 2002 and developed preliminary abundance estimates for fin whales, minke whales, humpback whales, sperm whales and dolphins. In addition a full evaluation of the 2001 survey was conducted, and recommendations for future surveys were made. (SC/10).

The Working Group on Abundance Estimates met in February 2003 and considered

abundance estimates for minke, fin, humpback, blue, pilot and northern bottlenose whales (SC/11)

*Code/Meeting:* 4.8/NAMMCO/13
*Request:*

The Management Committee welcomed the new abundance estimates for particularly minke and humpback whales in the Central North Atlantic.
The NASS have been highly successful in providing important information on the distribution and abundance of cetaceans over a broad area of the North Atlantic. This information becomes more valuable every time a survey is completed, as it provides an indication of trends in abundance over meaningful time periods.
The Management Committee therefore requested that the Scientific Committee co-ordinate the efforts of member countries in planning and conducting a large-scale sightings survey in 2006. In order to ensure as broad a coverage as possible, this should include co-ordination with planned surveys by non-member countries, and inviting other jurisdictions, particularly in the Western Atlantic, to participate in the surveys.

*Response of the Scientific Committee:*

Pending.

**Central North Atlantic minke whales**:

*Code/Meeting:* 4.9/NAMMCO /7
*Request:*

In the light of the new survey abundance results the Scientific Committee is requested to undertake an assessment of the status of the Central North Atlantic minke whale stock, including to evaluate the long-term effects of past and present removal levels on the stock.

*Response of the Scientific Committee:*

The Scientific Committee agreed to assign the task of assessing the status of the stock to the Working Group on Management Procedures. The Council had requested the Scientific Committee to provide its advice on this matter prior to the next meeting of the Council, however it was the general view of the Committee that it was unlikely that this work could be completed within this time frame. (SC/5)

The Scientific Committee used the report of the Working Group on Management Procedures as the basis for providing advice and research recommendations to Council. The Committee agreed that catches of 292 per year ( the mean of the catch between 1980-84) are sustainable for the Central stock, and that catches of 185 whales per year are sustainable for the costal (SC/6)

*Code/Meeting:* 4.10/NAMMCO/8
*Request:*

In order to ascertain the stock structure of minke whales in the North Atlantic, the Scientific Committee is requested to investigate the possibility of supplementing present sampling with existing older material from NAMMCO countries and other

countries in joint genetic analyses. If possible, such analyses should be undertaken.

*Response of the Scientific Committee:*

It was noted that such exchanges of samples are ongoing between Norway and Greenland. Samples collected in the past from Iceland and Norway have already been analysed concurrently, and there are no recent samples from Iceland. The Scientific Committee concluded that available samples are being utilised effectively. (SC/7)

*Code/Meeting:* 4.11/NAMMCO/11

*Request:*

The Management Committee recommended that the Scientific Committee should complete an assessment of Central Atlantic minke whales once new abundance estimates from NASS-2001 become available.

*Response of the Scientific Committee:*

The Working Group on Fin and Minke Whales met in November 2003 to complete an assessment of the Central Atlantic Stock of minke whales (SC/11).

**Northern bottlenose whales**:

*Code/Meeting:* 4.12/NAMMCO/2

*Request:*

To undertake an assessment of the status of the northern bottlenose whale (*Hyperoodon ampullatus*) stock in the North Atlantic.

*Response of the Scientific Committee:*

A Working Group on Northern Bottlenose and Killer Whales established, and provided a preliminary assessment which was used as the basis of advice and recommendations for further research given by the Scientific Committee. (SC/2)

*Code/Meeting:* 4.13/NAMMCO/4

*Request:*

To undertake the necessary modelling of the species as suggested under ... items 9.2. and 10.2.2 of ...[the Report of the Third Meeting of the Scientific Committee, 1993]. (SC/3)

*Response of the Scientific Committee:*

A joint session was held of the Working Group on Northern Bottlenose Whales and the Working Group on Management Procedures in order to consider the request from the Council to undertake the necessary modelling of the population using catch series and abundance estimates. Their report was used as the basis for advice and research recommendations conveyed by the Scientific Committee. (SC/3)

**Killer whales**:

*Code/Meeting:* 4.14/NAMMCO/2

*Request:*

To advise on stock identity for management purposes; to assess abundance in each stock area; to assess effects of recent environmental changes, changes in the food supply and interactions with other marine living resources in each stock area.

*Response of the Scientific Committee:*

A Working Group on Northern Bottlenose and Killer Whales established by the Scientific Committee, and provided a preliminary assessment. This provided the basis

for advice and research recommendations given by the Scientific Committee. (SC/2)
The Chair noted that it had not yet been possible to complete a full assessment of the killer whale as requested by the Council. Few new data were available, other than recent sightings data from NASS-95 which had not been analysed. (SC/5)

*Code/Meeting:* 4.15/NAMMCO/13
*Request:*

The Management Committee requested the Scientific Committee to review the knowledge on the abundance, stock structure, migration and feeding ecology of killer whales in the North Atlantic, and to provide advice on research needs to improve this knowledge. Priority should be given to killer whales in the West Greenland – Eastern Canada area.

*Response of the Scientific Committee:*

Pending.

**Long-finned pilot whales**:

*Code/Meeting:* 4.16/NAMMCO/1
*Request:*

To provide an assessment of the state of the pilot whale stock in the north eastern Atlantic, based on the information sampled from the Faroese drive fishery and the NASS sighting surveys.

*Response of the Scientific Committee:*

The Scientific Committee decided to base its advice on the report of the ICES Study Group on Long-Finned Pilot whales. They concluded that an evaluation of status could not be provided without further work.(SC/2)

*Code/Meeting:* 4.17/NAMMCO/2
*Request:*

To analyse the effects of the pilot whale drive hunt in the Faroe Islands on North Atlantic pilot whales (*Globicephala melas*), especially whether the numbers taken are consistent with sustainable utilisation.

*Response of the Scientific Committee:*

This matter was addressed by the Scientific Committee, based on the findings of the ICES Study Group and the review of the results of NASS-95. The Scientific Committee agreed to endorse the list of future research requirements listed by the ICES Study Group in its report, and provided advice on the sustainability of the Faroese catch. (SC/5)

**Narwhal and beluga:**

*Code/Meeting:* 4.18/NAMMCO/7
*Request:*

The Scientific Committee was requested to examine the population status of narwhal and beluga (white whales) throughout the North Atlantic.

*Response of the Scientific Committee:*

The Scientific Committee established a Working Group on the Population Status of Narwhal and Beluga in the North Atlantic, which met in March 1999. The Scientific Committee used the report of the Working Group to evaluate the stock status of the

various narwhal and beluga aggregations, and provided recommendations to Council. (SC/7)

*Code/Meeting:* 4.19/NAMMCO/8
*Request:*

The Management Committee requested advice from the Scientific Committee on the level of sustainable utilisation of West Greenland beluga in different areas and under different management objectives. For narwhal, the Management Committee requested that the Scientific Committee identify the information which is lacking in order to answer the same question proposed with respect to beluga.

*Response of the Scientific Committee:*

The Scientific Committee reactivated the Working Group on the Population Status of Narwhal and Beluga and used its report as the basis of its recommendations to the Council. The Scientific Committee concluded that the stock is substantially depleted and that present harvests are several times the sustainable yield, and, if continued, will likely lead to stock extinction within 20 years. The Committee assessed a range of harvest options with the overall objective of arresting the decline of West Greenland Beluga, and provided prioritised research recommendations. (SC/8)

The Scientific Committee noted that developing recommendations on the sustainable harvest of narwhal in Greenland will require significant additional research and cannot be done at present. To this end, the Scientific Committee provided research recommendations to answer questions about catch statistics, stock identity and abundance. (SC/8).

*Code/Meeting:* 4.20/NAMMCO/10
*Request:*

The Management Committee recommended that the Scientific Committee continue its assessment of West Greenland beluga with reference to the short-term research goals identified. It is anticipated that a joint meeting of the Scientific Working Group of the JCNB and the NAMMCO Scientific Working Group on the Population Status of Narwhal and Beluga in the North Atlantic can be held in spring 2001.

*Response of the Scientific Committee:*

The Scientific Committee Working Group on the Population Status of Narwhal and Beluga in the North Atlantic met jointly with the Scientific Working Group of the Joint Commission on the Conservation and Management of Narwhal and Beluga (JCNB) to deal with these requests. The Scientific Committee used their report to provide catch options for West Greenland Beluga and research recommendations for West Greenland beluga and narwhal. (SC/9)

*Code/Meeting:* 4.21/NAMMCO/10
*Request:*

The Management Committee recommended that the Scientific Committee complete an assessment of narwhal in West Greenland when the necessary data are available. Specifically, the Scientific Committee is requested to evaluate the extent of movements of narwhal between Canada and Greenland.

*Response of the Scientific Committee:*

See 4.16. The Scientific Committee used evidence from genetic and contaminant analysis, satellite tagging and hunter knowledge to evaluate the extent of movement

between Greenland and Canada. (SC/9).

*Code/Meeting:* 4.22/NAMMCO/11
*Request:*

The Management Committee recommended that the Scientific Committee should concentrate its assessment efforts on the West Greenland narwhal in the near term.

*Response of the Scientific Committee:*

Response pending.

*Code/Meeting:* 4.23/NAMMCO/12
*Request:*

The Management Committee noted that a new survey of West Greenland beluga will be conducted in 2004. The Scientific Committee was therefore requested to update the assessment of West Greenland Beluga in light of the new survey results and any other new information. The main management objective is to halt the decline of this stock.

*Response of the Scientific Committee:*

Response pending.

**Harbour porpoises**:

*Code/Meeting:* 4.24/NAMMCO/7
*Request:*

The Council noted that the harbour porpoise is common to all NAMMCO member countries, and that the extent of current research activities and expertise in member countries and elsewhere across the North Atlantic would provide an excellent basis for undertaking a comprehensive assessment of the species throughout its range. The Council therefore requested the Scientific Committee to perform such an assessment, which might include distribution and abundance, stock identity, biological parameters, ecological interaction, pollutants, removals and sustainability of removals.

*Response of the Scientific Committee:*

The Scientific Committee decided that the matter could best be dealt with by convening an international workshop/symposium on harbour porpoises, which would involve experts working on this species throughout its North Atlantic range. The agenda would include the following themes: distribution, abundance and stock identity; biological parameters; ecological interactions; pollutants; removals and sustainability of removals. (SC/6)

The Scientific Committee utilised the report of the Symposium to develop its own assessment advice to the Council. Recent abundance estimates are available for only a few places in the North Atlantic. Directed harvesting occurs in some areas, but most removals are through by-catch. In some areas, present removals are not sustainable. The Scientific Committee developed research recommendations to address some of the information needs for management of this species. (SC/8)

**Atlantic walrus**:

*Code/Meeting:* 4.25/NAMMCO/2
*Request:*

To advise on stock identity for management purposes; to assess abundance in each

stock area; to assess long-term effects on stocks by present removals in each stock area; to assess effects of recent environmental changes (i.e. disturbance, pollution) and changes in the food supply.

*Response of the Scientific Committee:*

The assessment was postponed pending report of Walrus International Technical and Scientific Committee (WITS). (SC/2) It was decided in late 1994 to request Erik Born of the Greenland Fisheries Research Institute in Copenhagen to co-ordinate the compilation of a status report on the Atlantic walrus in time for the present Scientific Committee meeting. The result of this collaboration was the report, E.W. Born, I. Gjertz and R.R. Reeves, "Population assessment of Atlantic walrus (*Odobenus rosmarus rosmarus*)" This report was used by the Scientific Committee as the basis of its management and research recommendations to Council. (SC/3)

*Code/Meeting:* 4.26/NAMMCO/13

*Request:*

The Management Committee noted that the Scientific Committee had last provided an assessment of walrus in 1994. Noting that considerable new information has become available since then, the Management committee therefore requested the Scientific Committee to provide an updated assessment of walrus, to include stock delineation, abundance, harvest, stock status and priorities for research.

*Response of the Scientific Committee:*

Pending.

**Harp and hooded seals**:

*Code/Meeting:* 4.27/NAMMCO/2

*Request:*

- to assess the stock size, distribution and pup production of harp seals in the Barents Sea and White Sea, and of harp and hooded seals in the Greenland Sea and the Northwest Atlantic;
- to assess sustainable yields at present stock sizes and in the long term under varying options of age composition in the catch;
- to provide advice on catch options in the White Sea/Barents Sea/Greenland Sea and NAFO areas;
- to assess effects of recent environmental changes or changes in the food supply and possible interaction with other living marine resources in the areas.

*Response of the Scientific Committee:*

- These requests forwarded to Joint ICES/NAFO Working Group on Harp and Hooded Seals. A partial assessment was completed, but more work was required. (SC/2)
- The Scientific Committee considered the report of the Joint ICES/NAFO Working Group on Harp and Hooded Seals which had met in Dartmouth, Canada, 5-9 June 1995. The Scientific Committee endorsed the recommendations in the report and identified further research needs. However the required assessments had not yet been completed. (SC/4).
- The Scientific Committee considered the report of the Joint ICES/NAFO Working Group on Harp and Hooded Seals which had met in Copenhagen in 1997. The Scientific Committee used this report as the basis for its advice to Council, while noting that catch options had not been completed for Greenland Sea harp and hooded

seals, and White Sea and Barents Sea harp seals. (SC/6)
- The Joint ICES/NAFO Working Group on Harp and Hooded Seals met in 1998 to complete the assessments for Greenland Sea harp and hooded seals, and White Sea and Barents Sea harp seals. The Scientific Committee used their report as the basis of its advice to Council, and noted that the required assessments had now been completed. Assessment of the effects of recent environmental changes or changes in the food supply and possible interaction with other living marine resources in the areas is ongoing. (SC/7)

*Code/Meeting:* 4.28/NAMMCO/8
*Request:*

The Scientific Committee is requested to co-ordinate joint feeding studies of harp and hooded seals in the Nordic Seas (Iceland, Greenland and Norwegian Seas) and off West Greenland.

*Response of the Scientific Committee:*

The Scientific Committee noted that preparations to co-ordinate such studies between member countries were already under way, outside of the NAMMCO Scientific Committee. The Scientific Committee therefore emphasised its support for such joint studies and urged member countries to participate. (SC/7)

*Code/Meeting:* 4.29/NAMMCO/11
*Request:*

The Management Committee recommended that the Scientific Committee regularly update the stock status of North Atlantic harp and hooded seal stock as new information becomes available.

*Response of the Scientific Committee:*

Ongoing as new information becomes available.

*Code/Meeting:* 4.30/NAMMCO/12
*Request:*

The Management Committee noted that new information recently had become available on the abundance of harp seals in the Greenland Sea and the Northwest Atlantic. In addition new information is available on movements and stock delineation of harp seals in the Greenland, Barents and White seas. The Management Committee therefore reiterated its previous request to the Scientific Committee to regularly update the stock status of North Atlantic harp and hooded seals as new information becomes available. The Management Committee noted the likely impact of increasing abundance of these species on fish stocks. For harp seals in the Northwest Atlantic, the immediate management objective is to maintain the stocks at their present levels of abundance.

*Response of the Scientific Committee:*

Ongoing as new information becomes available.

*Code/Meeting:* 4.31/NAMMCO/13
*Request:*

The Management Committee requests that the Scientific Committee annually discusses the scientific information available on harp and hooded seals and advice on catch quotas for these species given by the ICES/NAFO Working Group on Harp and

Hooded Seals. The advice by the Scientific Committee on catch quotas should not only be given as advice on replacement yields, but also levels of harvest that would be helpful in light of ecosystem management requirements
For the Barents/White Sea and Greenland Sea stocks, in addition to the advice on replacement yields, advice should be provided on the levels of harvest that would result in varying degrees of stock reduction over a 10 year period.
Noting that Canada has instituted a multi-year management plan with a 3- year allowable catch of harp seals totalling 975,000 (not including the catch by Greenland), the Management Committee requested the Scientific Committee to provide advice on the likely impact on stock size, age composition, and catches in West Greenland and Canada under the conditions of this plan.

*Response of the Scientific Committee:*

Pending.

**Ringed seals**:

*Code/Meeting:* 4.32/NAMMCO/5
*Request:*

To advise on stock identity of ringed seals (*Phoca hispida*) for management purposes and to assess abundance in each stock area, long-term effects on stocks by present removals in each stock area, effects of recent environmental changes (i.e. disturbance, pollution) and changes in the food supply, and interactions with other marine living resources.

*Response of the Scientific Committee:*

The Scientific Committee established a Working Group on Ringed Seals. The Scientific Committee considered the report of the Working Group and provided advice to Council. They also provided recommendations for future research. (SC/5) Papers considered by the Working Group as well as other papers were published in the first volume of NAMMCO Scientific Publications, *Ringed Seals in the North Atlantic.*

*Code/Meeting:* 4.33/NAMMCO/7
*Request:*

The Scientific Committee was requested to advise on what scientific studies need to be completed to evaluate the effects of changed levels of removals of ringed seals in West and East Greenland.

*Response of the Scientific Committee:*

It was noted that the exploitation level of ringed seals in Greenland has shown considerable variability over decades in this century. The Scientific Committee chose to focus on scenarios where exploitation is raised by more than twice the level reported in recent years. The Scientific Committee then identified the main gaps in knowledge, and recommended research required to address them. (SC/6)

**Grey seals**:

*Code/Meeting:* 4.34/NAMMCO/5
*Request:*

To review and assess abundance and stock levels of grey seals (*Halichoerus grypus*) in the North Atlantic, with an emphasis on their role in the marine ecosystem in general, and their significance as a source of nematodal infestations in fish in

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| particular. |

*Response of the Scientific Committee:*

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| The Scientific Committee established a Working Group on Grey Seals. The Scientific Committee considered the report of the Working Group and provided advice to Council, including recommendations for further research. (SC/4) |

*Code/Meeting:* 4.35/NAMMCO/11

*Request:*

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| The Management Committee noted that there has been a decline in the numbers of grey seals around Iceland, possibly due to harvesting at rates that are not sustainable. The Scientific Committee had previously provided advice in response to a request to review and assess abundance and stock levels of grey seals in the North Atlantic, with an emphasis on their role in the marine ecosystem in general, and their significance as a source of nematodal infestations in fish in particular (NAMMCO 1995). Given the apparent stock decline in Iceland, an apparent increase in Southwest Norway and in the United Kingdom, and the fact that this species interact with fisheries in three NAMMCO member countries, the Management Committee recommended that the Scientific Committee provide a new assessment of grey seal stocks throughout the North Atlantic. |

*Response of the Scientific Committee:*

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| The Working Group on Grey Seals met in April 2003 and considered the status of grey seal stocks in Canada, the USA, Iceland, the Faroes, Norway, Great Britain and the Baltic (SC/11) |

**Dolphin species** *(Tursiops* and *Lagenoryhncus spp.):*

*Code/Meeting:* 4.36/NAMMCO/7

*Request:*

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| The Council recommended that NAMMCO member countries study the ecological interaction between dolphin species (e.g., *Lagenorhynchus spp.*) and fisheries, with the view to future assessments of such interactions. |

*Response of the Scientific Committee:*

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| Not addressed due to insufficient information. |

*Code/Meeting:* 4.37/NAMMCO/8

*Request:*

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| Noting that ecological interactions between dolphin species of the *Lagenorhynchus* genus and fisheries have caused concern in NAMMCO countries, the Scientific Committee is requested to perform an assessment of distribution, stock identity, abundance and ecological interactions of white-beaked and white-sided dolphins in the North Atlantic area. |

*Response of the Scientific Committee:*

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| The Scientific Committee noted that the IWC Scientific Committee had dealt with these species in 1996. Generally, it was considered that there is insufficient information on stock structure, abundance and feeding ecology to carry out a meaningful assessment of these species at this time. Some new information on abundance may become available from the NASS-95 survey, but these data have not yet been analysed. The Scientific Committee agreed to begin compiling available information on these species in member countries, with the objective of identifying |

knowledge gaps and creating a basis for assessment in the longer term. (SC/7)

*Code/Meeting:* 4.38/NAMMCO/9
*Request:*

At its Eighth Meeting in 1998, the Council agreed to the recommendation of the Management Committee to request the Scientific Committee to perform an assessment of distribution, stock identity, abundance and ecological interactions of white-beaked and white-sided dolphins in the North Atlantic area. The Management Committee noted the conclusion of the Scientific Committee that there is insufficient information on stock structure, abundance and feeding ecology to carry out a meaningful assessment of these species at this time. The Management Committee further noted that, in addition to the focus of the Management Committee's former request for advice on these species in relation to their ecological interactions with fisheries, these dolphin species are harvested in significant numbers in the Faroe Islands. The Management Committee therefore agreed to recommend that the Scientific Committee be requested to facilitate the requested assessment of these species, with an emphasis on the following:
to analyse results from NASS 95 and other sightings surveys as a basis for establishing abundance estimates for the stocks; to co-ordinate the efforts of member countries to conduct research to fill the noted information gaps, taking advantage in particular of the sampling opportunities provided by the Faroese catch, as well as dedicated samples in other areas.

*Response of the Scientific Committee:*

The Scientific Committee noted that the NASS surveys were optimised for species other than dolphins, and that in some cases, it was not possible to identify dolphins to species. In these cases, mapping of sightings may be the only analysis warranted. Further analyses may be feasible from the Faroese and Icelandic survey areas, and the Scientific Committee made preparations to begin these analyses.

These species are harvested sporadically in drive hunts in the Faroe Islands, and there is some by-catch in Iceland. They are rarely taken in Norway or Greenland. Scientific papers on feeding ecology and life history in Icelandic waters are expected to be published soon. The Scientific Committee recommended that a sampling program be initiated in the Faroe Islands for white-sided, white-beaked and bottlenose dolphins, primarily to collect information on feeding ecology, life history and stock delineation. They also recommended that sampling should continue in Iceland and Norway on an opportunistic basis.

*Code/Meeting:* 4.39/NAMMCO/9
*Request:*

The Management Committee noted that bottlenosed dolphins, like white-sided and white-beaked dolphins, are also harvested in the coastal drive fishery in the Faroe Islands. The Management Committee agreed to recommend that, in connection with the updated request for advice from the Scientific Committee on white-sided and white-beaked dolphins, that bottlenosed dolphins also be included in this assessment

*Response of the Scientific Committee:*

See 4.38

*Code/Meeting:* 4.40/NAMMCO/10
*Request:*

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| The Management Committee noted that the requested assessments for these species could not at present be completed because of a lack of information on stock identity, distribution, abundance and biology. The Management Committee therefore recommended that the Scientific Committee monitors developments in this area and continues its assessments, as new data become available. |

*Response of the Scientific Committee:*

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| To be completed as new information becomes available. |

*Code/Meeting:* 4.41/NAMMCO/13
*Request:*

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| The Management Committee has asked the Scientific Committee to carry out assessments of these species, but to date insufficient information has been available on stock delineation, distribution, abundance and biological parameters to initiate the work. The Committee was pleased to note that considerable progress has been made in the Faroes in describing the ecology and life history of white sided dolphins and that information on white beaked dolphins should be available from Iceland and Norway in about 2 years time. Abundance estimates are lacking in all areas except Icelandic coastal waters, and no information on stock delineation or pod structure is yet available. The SCANS survey planned for 2005/6 and coastal surveys planned for Norway (see 9.3) should provide information on distribution and abundance in some areas. The Committee endorsed the plan of the Scientific Committee to proceed with the assessments once the above-mentioned studies have been completed, probably by 2007. |

*Response of the Scientific Committee:*

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| Pending. |

**Fin whale:**

*Code/Meeting:* 4.42/NAMMCO/8
*Request:*

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| The Scientific Committee is requested to undertake an assessment of the status of fin whales in the North Atlantic based on all available data. (This request was later elaborated as follows: "Acknowledging the large amount of work involved in such a comprehensive assessment of all possible fin whale stocks in the North Atlantic, the Council requests the Scientific Committee, when conducting such comprehensive assessment, particularly to:<br>- assess the stock structure of fin whales in the whole North Atlantic.<br>- assess the long-term effects of annual removal of 50, 100 and 200 fin whales in the stock area traditionally assumed to have a main concentration off East Greenland and Iceland (EGI stock area),<br>- identify MSY exploitation levels for that stock area.") |

*Response of the Scientific Committee:*

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| The Scientific Committee established a Working Group on Fin Whales to deal with this request. The Working Group met in April 1999. Their report dealt with the stock structure of fin whales throughout the North Atlantic, and with assessment of the EGI stock. The Scientific Committee used the report of the Working Group to formulate advice and research recommendations to NAMMCO Council. Detailed assessment of |

other fin whale stocks was not carried out, but will be if further requests from Council are forthcoming.

*Code/Meeting:* 4.43/NAMMCO/9
*Request:*

The Management Committee noted that the Scientific Committee has completed its assessment of the stock structure of fin whales in North Atlantic, and that more research on stock structure is required before firm conclusions can be drawn. The Management Committee therefore recommended that member countries initiate the research required to elucidate the stock structure of fin whales.
The Management Committee recommended that the Scientific Committee continue its assessment of fin whale stocks in the North Atlantic, focussing in the near term on the status of fin whales in Faroese territorial waters. The Scientific Committee should focus particularly on the following issues:
- Assess the long-term effects of annual removals of 5, 10 and 20 fin whales in Faroese waters;
- Information gaps that may need to be filled in order to complete a full assessment in this area.

*Response of the Scientific Committee:*

The Scientific Committee reactivated the Working Group on North Atlantic Fin Whales and used their report as the basis for their advice to the Council. The results of the assessments indicated that fin whales in the area have likely been substantially depleted by past harvests, but there was great uncertainty in the results. The Scientific Committee noted that in attempting to respond to the Council's request for advice on the long-term effect of various catch levels in the Faroese area, it had immediately become apparent that there is insufficient information on stock identity to carry out a reliable assessment of the status of fin whales in Faroese waters, and thus provide reliable advice on the effects of various catches. The Scientific Committee therefore recommended a research program primarily geared to understanding the stock relationships of fin whales around the Faroes.

*Code/Meeting:* 4.44/NAMMCO/10
*Request:*

The Management Committee noted that the requested assessment (see 4.38) had not been fully completed and awaited in particular the provision of more information on stock delineation. The Management Committee therefore recommended that the Scientific Committee continue its assessment, as new data become available.

*Response of the Scientific Committee:*

To be addressed as new information becomes available.

*Code/Meeting:* 4.45/NAMMCO/11
*Request:*

The Management Committee clarified its previous request for advice on fin whales, asking that the Scientific Committee continue with its assessments of fin whale stocks in the areas of interest to NAMMCO countries with existing and new information on abundance and stock delineation as it becomes available.

*Response of the Scientific Committee:*

The Working Group on Fin and Minke Whales met in November 2003 and provided stock assessments for the East-Greenland/Iceland stock and for Faroese fin whales

(SC/11).

*Code/Meeting:* 4.46/NAMMCO/13
*Request:*

The Management Committee noted that it had previously asked that the Scientific Committee continue with its assessments of fin whale stocks in the areas of interest to NAMMCO countries with existing and new information on abundance and stock delineation as it becomes available, and endorsed the plan of the Scientific Committee to complete an assessment for the Northeast Atlantic stocks and update assessments for other areas, probably in 2005.

*Response of the Scientific Committee:*

Pending.

**Humpback whale:**

*Code/Meeting:* 4.47/NAMMCO/11
*Request:*

The Management Committee noted the conclusions of the Scientific Committee that there was evidence of a rapidly increasing abundance of humpback whales around Iceland, and recommended that the Scientific Committee complete abundance estimates for this species as a high priority. The Scientific Committee should also consider the results of the "Years of the North Atlantic Humpback" (YoNAH) project as it pertains to member countries in providing advice for this species.

*Response of the Scientific Committee:*

The Scientific Committee concluded that the discrepancy between the NASS and YoNAH estimates suggests that the North Atlantic population of humpback whales is likely considerably larger than estimated in the YoNAH study (SC/11).

*Code/Meeting:* 4.48/NAMMCO/13
*Request:*

The Management Committee noted the conclusion of the Scientific Committee that there is evidence from the NASS of a rapidly increasing abundance of humpback whales in the Central North Atlantic. The Scientific Committee was requested to assess the sustainable yield levels for humpback whales, particularly those feeding in West Greenlandic waters. The management objective in this case would be to maintain the stock at a stable level.

*Response of the Scientific Committee:*

Pending.

## 5. OTHER

*Code/Meeting:* 5.1/NAMMCO/8
*Request:*

Greenland noted the need for greater input from hunters and users in the work of the Scientific Committee. While noting the need for scientists to be able to conduct their work on their own scientific terms in the context of their Committee meetings, it was suggested that scientists and users of marine mammal resources which are the subject of examination by the Scientific Committee could, for example, meet prior to meetings of the Scientific Committee in order to exchange information relevant to the

work planned by the Scientific Committee. With these ideas in mind, Greenland recommended that concrete steps should be taken to provide for a more active dialogue between scientists and resource users. This recommendation was endorsed by Council.

*Response of the Scientific Committee:*

The Scientific Committee agreed to consider a proposal put forward by the Secretariat, to use the "Status of Marine Mammals in the North Atlantic" stock status reports as a means of incorporating the knowledge of marine mammal users. This proposal will be presented to NAMMCO Council for approval. (SC/7)

The Scientific Committee Working Group on the Population Status of Narwhal and Beluga in the North Atlantic met jointly with the Scientific Working Group of the Joint Commission on the Conservation and Management of Narwhal and Beluga (JCNB) in May 2001. Prior to the main meeting, the Joint Working Group met with hunters from Greenland and Canada, and Canadian hunters participated throughout the meeting. (SC/9)

*Code/Meeting:* 5.2/NAMMCO/9

*Request:*

With respect to the language used in the Report of the Scientific Committee, Greenland suggested that it must be kept precise and simple. The Management Committee agreed to convey this as a suggestion to the Scientific Committee.

*Response of the Scientific Committee:*

No response.

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