

**2.1**

**REPORT OF THE MEETING OF THE  
MANAGEMENT COMMITTEE FOR CETACEANS**

9 September 2009, Tromsø, Norway

**1. CHAIRMAN'S OPENING REMARKS**

The Vice-Chair of the Management Committee for Cetaceans, Ulla Svarrer Wang (Faroe Islands), opened the meeting and welcomed all participants (see Section 5.3 for members). She reminded the Committee that it has the competence to make management decisions. Last year advice was given on humpback whales off Greenland. The documents for the meeting are listed in Appendix 2.

**2. ADOPTION OF AGENDA**

The agenda (Appendix 1) was adopted.

**3. APPOINTMENT OF RAPPORTEUR**

The Secretariat was appointed as rapporteur.

**4. CONSERVATION AND MANAGEMENT MEASURES FOR WHALE STOCKS**

Past proposals for conservation and management and responses with reference to document NAMMCO/18/MC/3 (section 2.2 ANNEX 1) and past requests to the Scientific Committee and responses with reference to document NAMMCO/18/MC/4 (Section 2.2 ANNEX 2) were summarised. All new recommendations to member countries on scientific research arising and approved by the Management Committee for Cetaceans are contained in Appendix 3.

The Chair of the Scientific Committee, Geneviève Desportes, presented the information on whale stocks from the Scientific Committee report (NAMMCO/18/5, Section 3.1).

**4.1 Beluga**

**Status of past proposals**

The Chair reminded the Management Committee for Cetaceans that last year Greenland was requested to reduce takes to sustainable levels. In response, Greenland reported that they had introduced quotas in 2004 and were now in the third multi-year quota plan. This year the Government had commenced on a new multi-year quota plan. This has been based on advice of the joint NAMMCO / Canada/Greenland Joint Commission on Conservation and Management of Narwhal and Beluga (JCNB) Scientific Working Group (SCWG) given a 70 % probability level of continued population increase for the following five years until 2014 with a take of 310 belugas annually.

## Report of the Management Committee on Cetaceans

### **Requests by Council for advice from the Scientific Committee**

There were three ongoing requests to the Scientific Committee:

- To update the assessment of narwhal and beluga, noting that new data warrant such an exercise (R-3.4.11 - NAMMCO/17-2008).
- The Council recommends that future surveys for beluga and narwhal should be planned using the international expertise available through the Scientific Committee of NAMMCO, and with input from hunters at the planning stage. In addition, if and when new survey methods are applied, they should be calibrated against previously used methods so that the validity of the survey series for determining trends in abundance is ensured (R-3.4.10 - NAMMCO/15-2006).
- Provide advice on the effects of human disturbance, including noise and shipping activities, on the distribution, behaviour and conservation status of belugas, particularly in West Greenland (R-3.4.9 - NAMMCO/15-2006).

### **Advice from the Scientific Committee**

The request R-3.4.11 was forwarded by the Scientific Committee to the Joint NAMMCO / JCNB SCWG, which was tasked with reviewing the new information available and the status of the species, and providing advice on the assessment. The Scientific Committee endorsed the assessment from the Joint NAMMCO / JCNB SCWG with a Total Allowable Catch (TAC) range of 180-310 animals over the next 5 years. The catch of belugas in West Greenland has been reduced in response to previous advice from the Scientific Committee. These reduced takes already seem to be having a positive effect on population size, allowing the population to increase by approximately 8% between 2004 and 2009.

The Scientific Committee strongly recommended that future catches be set according to the probability of population increase of at least 70%. Annual takes between 180 to 310 individuals over the next 5 years should leave the population a 70% to 95% probability of a continued increase until 2014.

The Management Committee for Cetaceans **noted** this advice.

With respect to request R-3.4.10, advice from hunters was sought in organising the 2006 and 2007 aerial surveys off West Greenland. However the Scientific Committee regrets that the survey plans had never been submitted to the Abundance Estimates WG as indicated.

Request R-3.4.9 had also been forwarded to the Joint NAMMCO / JCNB SCWG. The outcome was a recommendation for extending to a more general request with the Scientific Committee establishing a WG on the impacts of human activities other than hunting on marine mammals in the North Atlantic. Terms of Reference for the first meeting would be the evaluation of impact of seismic, shipping and tourist activities on the distribution, behaviour and conservation of marine mammals specifically in the Arctic.

The Management Committee for Cetaceans **took note** of this advice but did not agree on the need for a broad assessment of these questions for all marine mammals. It was anticipated that focus would be on walrus, beluga and narwhal.

#### **Recommendations for scientific research**

Apart from recommendations to Greenland (see Appendix 3), the Management Committee for Cetaceans noted that after a brief review of methods for age estimation in belugas and narwhals the Scientific Committee indicated a need to standardize ages using growth layers with new methods involving Aspartic Acid Racemisation.

The Management Committee for Cetaceans therefore **agreed** on the following recommendations: to support an Ageing Workshop for standardizing ages using growth layers with new methods, and to proceed with its organisation following the lines provided by the Joint NAMMCO / JCNB SCWG.

#### **Other matters**

Request for support from the NAMMCO Council to the Joint Norwegian-Russian research programmes on walrus and beluga ecology

The Management Committee for Cetaceans **reiterated its former recommendations**

- that the Russian authorities facilitate these programmes, especially allowing for the deployment of the satellite tags, both for walruses and belugas;
- that Council supports these programmes and addresses a recommendation to the Russian authorities to facilitate these programmes, in particular allowing the deployment of satellite tags in Russian waters.

#### ***JCNB meeting***

In expressing their appreciation for the information provided by Greenland on the latest management measures for beluga in West Greenland, the Faroe Islands noted that this is a stock shared with a non-member country, Canada. While it was understood that Greenland cooperates bi-laterally with Canada through the JCNB to adopt management recommendations for this stock, the Faroe Islands would welcome a comprehensive presentation of the conclusions of the JCNB in this Committee, given that the NAMMCO Scientific Committee works jointly with the Scientific WG of the JCNB on the development of management advice.

Greenland reported that the JCNB had a Commission meeting in May 2009 but the report was not yet available. The report will be submitted to NAMMCO once finalised. The recommendation from Canada however was at 80% probability to increase the stock, and Greenland recommended 70 % probability to increase the stock based on advice from the Scientific Committee. Greenland in fact, in following scientific advice, set their catch quotas at 70% level for the next 5 years. It is up to the relevant authorities to decide the level. Since January 2009, the Greenlandic municipalities have been restructured from 18 municipalities to 4 municipalities and thus the allocation of quotas by area will be altered.

Greenland commented that the JCNB draft report contained other recommendations on topics including:

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- Impacts of killer whales on beluga and narwhal behaviours
- Fishing interactions and effects on beluga and narwhal
- Calving areas
- Stock structure and ID
- Changing sea ice effects
- “Struck and Lost” and hunting efforts
- Pollution and human activities on populations.

The Management Committee for Cetaceans welcomed the multi-annual catch quotas recently introduced by Greenland for beluga stocks and based on advice of the Scientific Committee, and **noted** that these are intended to rebuild the level of the stocks in coming years and therefore ensure the long-term sustainability of catches.

### 4.2 Narwhal

#### **Requests by Council for advice from the Scientific Committee**

There were two ongoing requests for advice:

- To update the assessment of narwhal and beluga, noting that new data warrant such an exercise (R-3.4.11 - NAMMCO/17-2008).
- The Council recommends that future surveys for beluga and narwhal should be planned using the international expertise available through the Scientific Committee of NAMMCO, and with input from hunters at the planning stage. In addition, if and when new survey methods are applied, they should be calibrated against previously used methods so that the validity of the survey series for determining trends in abundance is ensured (R-3.4.10 - NAMMCO/15-2006).

Again the Scientific Committee forwarded the request to the Joint NAMMCO / JCNB SCWG, which was tasked with reviewing the new information available and the status of the species, and providing advice on the assessment.

#### **Advice from the Scientific Committee**

The Scientific Committee reported on assessments performed during the Joint NAMMCO / JCNB SCWG as follows:

##### ***West Greenland assessment***

Results are quite different from the two last meetings and the Scientific Committee explained the situation. With the 2005 assessment, narwhals in West Greenland appeared to be highly depleted with a safe harvest level being as low as 15 to 75 whales per year. However, new modelling of the population, including the 2007 and 2008 surveys, indicated that the population is at 51% (95% C.I.: 27-79%) of the carrying capacity, with a 2009 modelled abundance of 12,000 (95% C.I.: 6,200-26,000) individuals. Higher harvest levels of 310-185 per year at 70-95% probability level that management objectives will be met were thus advised. The reason for this difference lies behind the new abundance estimates for the two summer aggregations in West Greenland. Surveys conducted in 2007 and 2008 suggest that the number of narwhals

in Inglefield Bredning fluctuates very much, with much higher abundance in 1986, 2007 and 2008 compared with 2001 and 2002. There is also for the first time an estimate for Melville Bay.

The Management Committee for Cetaceans **accepted** the above assessment performed by the Joint NAMMCO / JCNB SCWG and endorsed by the NAMMCO Scientific Committee, **noting** that the conclusion reached in 2009 differed from that reached in 2005.

#### ***East Greenland assessment***

This is the first time that an assessment has been made for this region. Narwhals in East Greenland are estimated to be above the MSY limit. The most appropriate management objective is therefore to not continue an increase in abundance. The Joint NAMMCO / JCNB SCWG therefore applied the management objective that catches should be no more than 90% of the MSY. Total annual takes for narwhals under different probability regimes, where takes are smaller than 90% of the MSY, are 85 - 50 at 70-95% probability that management objectives will be met from 2009 to 2014.

#### **Recommendations for scientific research**

See Appendix 3 for recommendations to Greenland.

#### **Proposals for conservation and management**

The Management Committee for Cetaceans **noted** that the quotas given for the period July 2008 - June 2009 of 260 narwhals in West Greenland (WG) and 130 narwhals in Melville Bay (MB), gave a lower probability of population increase than the 70% recommended for West Greenland narwhals (70% chance of increase corresponds to a total take of 229 and 81 narwhals in WG and MB).

The Management Committee for Cetaceans, based on advice from the Scientific Committee, **recommended** that catches be set so that there is at least a 70% probability that management objectives will be met for West and East Greenland narwhals, i.e. maximum **total removals** of 310 and 85 narwhals in West and East Greenland respectively.

The Management Committee **noted** that NAMMCO is the competent body to advise on East Greenland, and that Greenland has followed the advice of the NAMMCO Scientific Committee, which is now endorsed. The Management Committee welcomed the fact that Greenland has followed the NAMMCO advice.

Greenland stated that it will continue with its multi-year management plan for narwhals using 70% probability of increase – total 310 for W.Greenland and 85 narwhals for East Greenland. Greenland commented that collaboration between managers, hunters and scientists has improved.

### **4.3 Fin whales**

#### **Requests by Council for advice from the Scientific Committee**

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There was an ongoing request to the Scientific Committee to complete an assessment of fin whales in the North Atlantic and also include an estimation of sustainable catch levels in the Central North Atlantic. This work should be initiated as soon as all estimates become available and before the next meeting of the Scientific Committee (R-3.1.7 - NAMMCO/17-2008).

### **Advice from the Scientific Committee**

The fin whale assessment has been postponed to after the completion of the RMP Implementation Assessment of North Atlantic fin whales scheduled for June 2009. The WG on Large Whale Assessment is scheduled to meet 26-28 January 2010 in Copenhagen with fin whales on its agenda.

Norway noted that last year the RMP process with 0.6% tuning was used by Norway to advise Iceland on calculating sustainable annual catch levels of 150 fin whales. The advice was channelled through the Marine Research Institute, Reykjavik.

### **Recommendations for scientific research**

The Management Committee for Cetaceans **noted** that the ongoing catch statistics database should be completed for the January 2010 assessment meeting, and that funding needs to be sought once again for genetical analysis of the fin whale samples from the Faroe Islands before the next assessment meeting.

The Faroe Islands underlined the importance of completing the genetic study as outlined in a joint project proposal which is still seeking external funding. The Faroe Islands suggested that some of the Scientific Committee funds should be used to help complete this work. Despite being a relatively small sample (<20 animals), the matter of uniqueness or otherwise needs to be clarified. The Faroe Islands will continue to collect further samples.

In conclusion, the Management Committee for Cetaceans **noted** the above suggestions and recommendations, and **recommended** the use of Scientific Committee funds to complete the genetical studies, if necessary.

The Management Committee for Cetaceans will expect a new assessment next year.

## **4.4 Minke whales**

### **Requests by Council for advice from the Scientific Committee**

There was an ongoing request to the Scientific Committee to conduct a full assessment, including long-term sustainability of catches, of common minke whales in the Central North Atlantic once results from the 2009 survey become available. In the meantime the Scientific Committee is requested to assess the short-term (2-5 year) effects of the following total annual catches: 0, 100, 200 and 400 (R-3.3.4 - NAMMCO/17-2008).

### **Advice from the Scientific Committee**

The Scientific Committee tasked the Large Whale Assessment WG to assess the short-term effects of the given catches.

The last assessment was in 2003. The 2007 estimate was very low for reasons not understood, although there were unusual environmental circumstances. In 2008, a partial survey revealed that sightings rates were comparable with previous levels. Results suggest that the overall population moves throughout a large area over time with distributional fluctuations.

The short-term assessment used an updated Hitter-based assessment and projection under the specified catch levels for the different abundance options available for the both the Central Inner Coastal (CIC) and Central Medium Area (CMA), and with MSYR<sup>1+</sup> of 1, 2 and 4%. Yearly catches of 400 whales for the next five years, while not likely to put the resource under any serious threat, could nevertheless cause a reduction in abundance at a higher rate than might be considered appropriate (possibly exceeding 2% per year). Therefore, a catch of 200 minke whales per year should be considered as the largest short-term catch that could be contemplated. There are nations other than Iceland that take minke whales from the Central Medium area and the catch levels above refer to all removals from the CIC or Central Medium areas.

#### **New proposals and recommendations for scientific research**

The Management Committee for Cetaceans recommends a review of stock structure; that genetic work using Skaug's method for reviewing the stock structure of North Atlantic minke whales be completed as soon as possible and be presented to the January 2010 assessment meeting; and, that satellite tagging continues in Iceland (CIC) to look at in-season short term movements as well as the autumn migration.

In addition, the Management Committee for Cetaceans noted a number of other recommendations from the Scientific Committee to member nations (Appendix 3).

Iceland reported that efforts had been made on stock structure with tagging undertaken although not successful. Diet sampling from commercial catches was being undertaken and a full-scale aerial survey for minke whales took place in the summer of 2009 for comparison with the 2007 survey. Results will be available to the Working Group on Large Whale Assessment in January 2010.

Greenland reported that the aerial T-NASS survey was analysed, providing an abundance estimate that was accepted by the IWC in June 2009.

#### **Proposals for conservation and management**

Noting that a full assessment, including the 2009 estimate, will be conducted at the next meeting of the Large Whale Assessment WG in January 2010, the Management Committee for Cetaceans **recommends** that 200 minke whales per year be considered as the largest short-term catch that should be contemplated over the short-term, 2-5 years. This catch level refers to total removals from the CIC or CMA, both Icelandic and others.

#### **4.5 Sei whales**

##### **Requests by Council for advice from the Scientific Committee**

There were two ongoing requests to the Scientific Committee:

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- To investigate the status of sei whales in East and West Greenland waters, and provide estimates of sustainable yield (R-3.5.1 - NAMMCO/16-2007).
- To review the new data from T-NASS and associated surveys and report on the status of sei whales through the Fin Whale assessment WG (R-3.5.2 - NAMMCO/17-2008).

### **Advice from the Scientific Committee**

The Management Committee for Cetaceans **endorsed** the recommendation of the Scientific Committee for the WG on Large Whale Assessment to make a state of the art investigation about the possibility of providing a status assessment for sei whales in East and West Greenlandic waters.

### **4.6 Northern bottlenose whales**

The Management Committee for Cetaceans **supported** a recommendation from the Scientific Committee addressed to the Faroe Islands (see Appendix 3).

### **4.7 Long-finned pilot whales**

The Management Committee for Cetaceans recalled the proposal for cost effective short- and long-term monitoring of pilot whale in the Faroes presented by the Scientific Committee last year (see status in NAMMCO/18/MC/4, Section 2 ANNEX 2: 3.8.3).

The Faroe Islands reported that plans are underway to implement such a programme, the aim of which is to update the existing comprehensive biological data on pilot whales that was provided by the dedicated international research programme in the Faroe Islands in 1986-1988.

The Management Committee **underlined** the importance of finalising the updated abundance estimate for pilot whales (R-1.7.11 - NAMMCO/16-2007) and noted that this was expected to be dealt with by the Scientific Committee WG on Abundance Estimates next month, and would therefore be available for the review of the Scientific Committee at its next meeting.

### **4.8 Harbour porpoise**

#### **Requests by Council for advice from the Scientific Committee**

There was an ongoing request to the Scientific Committee to perform a comprehensive assessment of the species throughout its range, which might include distribution and abundance, stock identity, biological parameters, ecological interaction, pollutants, removals and sustainability of removals (R-3.10.1 - NAMMCO/7-1997).

### **Advice from the Scientific Committee**

Information is still lacking on abundance in all areas, and on removals in Iceland, Norway and the Faroes. However, with the abundance estimate from T-NASS being finalised as planned, an assessment may be possible in 2011 providing there is an availability of data on removals.

### **Recommendations for scientific research**

The Management Committee **endorsed** the Scientific Committee recommendations given in Appendix 3.

#### **4.9 White-beaked, white-sided and bottlenose dolphins**

##### **Requests by Council for advice from the SC**

There was one ongoing request to the Scientific Committee to proceed with the assessments once the necessary studies pinpointed by the Scientific Committee have been completed, probably by 2007 (R-3.9.6 - NAMMCO/13-2004).

##### **Advice from the Scientific Committee**

The Management Committee for Cetaceans **noted** that there were still inadequate data on the three species for an assessment.

##### **Recommendations for scientific research**

The Management Committee for Cetaceans **endorsed** the Scientific Committee's recommendations regarding T-NASS data and Faroese research programme data analyses (Appendix 3).

#### **4.10 Humpback whales**

##### **Requests by Council for advice from the Scientific Committee**

There was a two-part ongoing request (R-3.2.5 - NAMMCO/17-2008) to the Scientific Committee:

- To assess the long-term effects of catches of 0, 2, 5, 10, 20 humpback whales off West Greenland and estimate sustainable yields for other stocks, as well as conduct a formal assessment following the completion of the T-NASS.
- In addition, the relationship between the humpback whales summering in West Greenland and other areas should be investigated and this knowledge incorporated into the estimate of sustainable yields of West Greenland humpback whales.

This was replaced by a new request provided below.

##### **Advice from the Scientific Committee**

With reference to the above requests, the Scientific Committee informed that new advice awaits a full assessment. The Management Committee for Cetaceans **noted** the magnitude of the task represented by this assessment, because of the complicated stock structure.

The Scientific Committee recommended that Council evaluates the urgency of the task compared with other requests, and possibly redrafts a request.

The Management Committee **noted** this, and drafted a modified request that will replace the existing R-3.2.5 – NAMMCO/17-2008 given above. **This new request tendered is:**

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“Assess the sustainability of yearly catches of 5, 10, 20 whales of humpbacks off West Greenland.”

### **Recommendations for scientific research**

The Management Committee for Cetaceans **noted** the Scientific Committee recommendations to Greenland (Appendix 3).

### **Proposals for conservation and management**

The Management Committee for Cetaceans **reiterated its recommendation** from previous years, based on the Scientific Committee 2008 advice that removals, including any by-catch and struck and lost, of up to 10 animals per year would not harm the stock in the short or medium term.

Greenland informed that there would be an IWC inter-sessional meeting in December 2009 to discuss the humpback and minke whale quotas for Greenland.

## **4.11 Killer whales**

### **Requests by Council for advice from the Scientific Committee**

There was an ongoing request to 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 (R-3.7.2 - NAMMCO/13-2004).

### **Advice from the Scientific Committee**

The Management Committee for Cetaceans **noted** that there was nothing new to report for this species and no likely progress on standing requests in the foreseeable future. The Scientific Committee recommended putting this item on hold in the agenda until such time that new information becomes available to address the requests.

Russia reported fishery interactions between killer whales and mackerel which might be of interest in ecosystem interactions studies.

Norway commented that survey design is not so advanced for schooling species and that there is no closing mode on schools. This situation contributes to the long time before abundance estimates can be made.

In conclusion, as there was unlikely to be new information for assessment in the near future, the Management Committee for Cetaceans **agreed** not to return to this species until such time as new information with relevance for conservation and management is available for consideration.

## **T-NASS**

### **Requests by Council for advice from the Scientific Committee**

There was an ongoing request that once the (T-NASS) survey has been completed, the Scientific Committee should develop estimates of abundance and trends as soon as

possible, with the primary target species (fin, minke and pilot whales) as a first priority, and secondary target species as a second priority (R-1.7.11 - NAMMCO/16-2007).

At present, progress is as follows:

- Abundance estimates for fin whales have been finalised (Icelandic-Faroese shipboard and Greenland aerial T-NASS surveys) or are on their way (Norway shipboard T-NASS survey).
- Abundance estimates for minke whales are completed (Icelandic and Greenlandic aerial, Norwegian shipboard) or near completion (Icelandic-Faroese shipboard).
- Some progress has been made in the analyses of pilot whale data, although further analyses are required, which should be presented to the next Abundance Estimate WG in October this year.

The Management Committee for Cetaceans **noted** that there will be a meeting of the WG on Abundance Estimates in Quebec, Canada, in October 2009 with a full agenda and welcomed this progress. The Management Committee also **noted** that the Scientific Committee recommends that the T-NASS estimates not yet reviewed and endorsed by the Abundance Estimate WG be presented to the October 2009 meeting.

## **5. PROCEDURES FOR DECISION-MAKING ON CONSERVATION AND MANAGEMENT MEASURES**

### **5.1 General Models**

#### **Requests by Council for advice from the Scientific Committee**

There was one ongoing request to the Scientific Committee to study general models for conservation and management of baleen whales, *inter alia* based on Norwegian studies presented to the Scientific Committee of the IWC in 2008 (R-1.6.3 - NAMMCO/17-2008).

#### **Advice from the Scientific Committee**

The Scientific Committee tasked the Large Whale Assessment WG meeting held in Copenhagen in January 2009 to make recommendations to this request. In response, the RMP (as modified by Norway) which has been intensively validated and is freely available, and provides a good framework for identifying sustainable management approaches, was recommended.

This may significantly increase the workload of NAMMCO and there will be a need to strengthen the assessment capabilities including inviting external experts; thereby the need for extra manpower and funds.

The Scientific Committee strongly recommends using an “RMP implementation simulation process (IST)-like approach – as modified by Norway” as a general model for conservation and management of baleen whales in NAMMCO. Furthermore, The Scientific Committee advises that implementation will have cost implications, which have to be considered.

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There were concerns about the cost implications. However it was realised that this represented a clear course of action and that this approach should be adopted. Norway explained that the costs depend on specific requests: if all data, abundances and other data are readily available, then costs are actually very small. If species where data are sparse but catch series are available the costs may be very great if new surveys will be required. Whatever route is taken in modelling, at least an abundance estimate must be available for any management regime.

In conclusion, the Management Committee **endorsed** this recommendation for using the modified RMP approach where appropriate.

### **6. RELATED MANAGEMENT ISSUES**

All the topics listed below were discussed in a joint session with the Management Committee for Seals and Walruses under their agenda item 7.

- 6.1 Marine mammal - fisheries interactions**
- 6.2 Environmental issues**
- 6.3 By-catch data and monitoring**
- 6.4 Other topics**

### **7. ANY OTHER BUSINESS**

There was no other business.

### **8. ADOPTION OF REPORT**

The report was adopted by correspondence.

**AGENDA**

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**Appendix 2 - LIST OF DOCUMENTS**

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NAMMCO/18/MC/2	Agenda
NAMMCO/18/MC/3	Status of Past Proposals for Conservation and Management
NAMMCO/18/MC/4	Summary of Requests by NAMMCO Council to the Scientific Committee, and Responses by the Scientific Committee
NAMMCO/18/5	Report of the Sixteenth Meeting of the Scientific Committee.

**Appendix 3 - RECOMMENDATIONS TO MEMBER COUNTRIES**

**Beluga**

***Greenland:***

The Scientific Committee **recommended** Greenland to cooperate with Canada on the collection of life history samples; also to collect data from 'struck and lost' whales from all areas and type of hunts; and in addition to continue validation of the new ageing method (Aspartic Acid Racemisation).

**Narwhal**

***Greenland:***

The Scientific Committee **recommended** that should be further tagging studies to collect information on the behaviour of individuals, while acknowledging that other methods such a photo identification and genetic mark-recapture may be necessary to fully characterize the relationships between harvest locations and stocks. The Scientific Committee also recommended that surveys be repeated every 3 to 5 years to update abundance estimates.

In addition, as for belugas, the Scientific Committee **recommended** the collection of 'struck and lost' data from all areas and types of hunt.

The Scientific Committee **recommended** that data on age structure be included in the assessment model if appropriate.

**Minke whales**

***Iceland:***

The Scientific Committee **recommended** that the catches be sampled for diet data with special attention to environmental changes. Analysis of prey abundance in relation to minke whale density is recommended from past and future surveys.

***Iceland and Faroe Islands:***

With respect to final analyses of the Faroes/Icelandic TNASS shipboard survey, the Scientific Committee **requested** that they be presented to the next meeting of the WG on Abundance Estimate in October 2009 for endorsement.

***Greenland:***

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The Scientific Committee **recommended** that the analysis of the Greenlandic T-NASS shipboard survey be carried out and presented to the next Working Group (WG) on Abundance Estimate in October 2009 for endorsement, together with results of the aerial survey.

### *Norway and Iceland:*

The Scientific Committee **recommended** that the spatial distribution analysis be undertaken, and that body condition indices in the Barents Sea and Iceland be analysed.

### *All:*

The Scientific Committee **recommended** that an investigation of potential changes in the ecosystem be done within the framework of the WG on Marine Mammal-Fisheries Interactions. This investigation would complement the spatial analysis of survey data.

### **Northern bottlenose whales**

#### *Iceland and Faroe Islands:*

The Scientific Committee **reiterated** its recommendations that Iceland and Faroes publish diet data for bottlenose whales. Furthermore, analysis of T-NASS acoustic data to obtain distribution data is **recommended**.

### **Harbour porpoise**

#### *Faroe Islands:*

The Scientific Committee **recommended** that the Faroese survey on the Faroe plateau be made compatible with the SCANS II survey.

### *Iceland and Greenland:*

The Scientific Committee **recommended** that analysis of T-NASS data be available at the October 2009 Abundance Estimate WG meeting in Quebec, Canada.

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

#### *All:*

The Scientific Committee **recommended** that Greenlandic and Icelandic aerial and Norwegian shipboard data on dolphins from T-NASS be analysed.

#### *Faroe Islands:*

The Scientific Committee **recommended** that the Faroe Islands proceed with analysis of the programme on the biology of white-sided dolphins (data needed for assessment) and present results at the next Scientific Committee meeting.

### **Humpback whales**

#### *Greenland:*

The Scientific Committee **recommended** proceeding with the analysis of biopsies and photo-ID in all areas, and the completion of the T-NASS survey data.