

**2.2**

**REPORT OF THE MEETING OF THE MANAGEMENT COMMITTEE FOR  
SEALS AND WALRUSES**

14 September 2011, Oslo, Norway

**1. CHAIRPERSON'S OPENING REMARKS**

The Chair Amalie Jessen (Greenland) welcomed the delegates (members listed in Address Section 5.3) and the observers to the Management Committee for Seals and Walruses.

Noting a general decline in the catches of seals in the traditional seal hunting areas, the Chair indicated the importance to investigate the reasons underlying such a trend, keeping in mind that possible explanations could be found in biological and climatic phenomena as well as in market forces.

Furthermore NAMMCO member countries were reminded of the importance to promptly deliver removal data, including "struck and lost" and data on by-catch, for inclusion in the meeting documents.

**2. ADOPTION OF AGENDA**

The agenda was adopted (Appendix 1) with the addition of the agenda item Any Other Business under each species, and that agenda items 5. To 8. Would be dealt with jointly with the Management Committee on Cetaceans and that item 4.7 be dealt with before item 4.6.

**3. APPOINTMENT OF RAPPORTEUR**

The Secretariat was appointed as rapporteur.

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

Documents to the meeting were compiled in Appendix 2. Status of Past Proposals for Conservation and Management and Responses with reference to document (Section 2.2, ANNEX 1) and summary of Requests by Council to the Scientific Committee and Responses with reference to document (Section 2.2, ANNEX 2) were summarised. The list of past recommendations to member countries was presented for information in document NAMMCO/20/SMC/5. All new recommendations to member countries agreed below are listed in Appendix 3.

The Chair of the Scientific Committee, Lars Witting, presented the information on seal and walrus stocks from the Scientific Committee report (Section 3.1) under each species.

## Report of the Management Committee for Seals and Walruses

### 4.1 Harp Seals

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

**R-2.1.4 – NAMMCO/12-2003** (standing): To regularly update the stock status of North Atlantic harp and hooded seals as new information becomes available.

**R-2.1.11 – NAMMCO/18-2009** (pending): To evaluate how a projected increase in the total population of Northwest Atlantic harp seals might affect the proportion of animals summering in Greenland.

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

**R-2.1.11** had been forwarded to ICES by Greenland and it was on the agenda of the ICES-NAFO WG on harp and hooded seals meeting held in August 2011. Zabavnikov (Russia) reported briefly from the meeting. The report about this meeting will be available after the next NAMMCO Scientific Committee meeting, which will be dealt by the Management Committee on Seals and Walruses at its next meeting.

#### **Recommendations to member countries**

The Management Committee for Seals and Walruses **endorsed** the Scientific Committee recommendations to undertake new surveys in the Greenland Sea in 2012 and **expects** to review the recommendations of the ICES-NAFO WG on Harp and Hooded Seals which met in August 2011, at its next meeting. The Management Committee further **endorsed** the Scientific Committee's recommendation to facilitate the funding and execution of reconnaissance surveys to locate and identify untraditional pupping areas.

#### **Any other business**

Norway has attempted to increase the seal harvest in the West Ice; however it has been difficult to stimulate a response from the industry. The hunt and the catch have increased from the low level of 2010 when only one vessel was operational. Currently 4 vessels participated but no new vessel has entered into the sealing industry in the past 10 years.

Greenland has given the permission to Norway to hunt harp seals in the Greenlandic EEZ if the ice conditions allow.

### 4.2 Hooded Seals

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

**R-2.1.4 – NAMMCO/12-2003** (standing): To regularly update the stock status of North Atlantic harp and hooded seals as new information becomes available. The Management Committee for Seals and Walruses noted the likely impact of increasing abundance of these species on fish stocks.

**R-2.1.10 – NAMMCO/17-2008** (standing): To provide advice on Total Allowable Catches for the management of harp seals and the establishment of a quota system for the common stocks between Norway and the Russian Federation, leaving full freedom to the Committee to decide on the best methods to determine this parameter based on an ecosystem approach.

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

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In response to request **R-2.1.4**, the Scientific Committee reported that the ICES-NAFO WG meeting on Harp and Hooded Seals in August 2011 has reviewed the status of hooded seals in the Greenland Sea. Zabavnikov (Russia) reported briefly from the meeting.

### **Recommendations to member countries**

The Management Committee for Seals and Walruses **welcomed** the studies on hooded seal condition in the Greenland Sea and the coming harp and hooded seal surveys. The Management Committee further **will review** the recommendations of the ICES-NAFO WG on Harp and Hooded Seals at its next meeting.

### **Any other business**

Greenland has given the permission to Norway to hunt hooded seals for scientific purposes in the Greenlandic EEZ.

Norway is intending to analyse the data from the 2010 scientific sampling programme and to investigate the reasons for the significantly lower abundance of this species compared to earlier years.

## **4.3 Ringed Seals**

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

**R-2.3.1- NAMMCO/5-1995** (standing): 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.

**R-2.3.2 – NAMMCO/7-1997** (standing): 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.

### **Recommendations for scientific research**

The Management Committee for Seals and Walruses welcomed the future deployment of satellite tags in Melville Bay and **reiterated its recommendation** from the previous year to perform abundance estimates on sea ice in offshore areas.

The Management Committee for Seals and Walruses also **reiterated the recommendation** for obtaining new abundance estimates and increasing the effort in tagging for the better understanding of movements, recognizing the difficulties and the expense of surveys.

### **Any other business**

The General Secretary reported on the move to list the ringed seals under the Endangered Species Act (ESA) in the USA. In December 2010, the US issued notifications that the ringed seal and Pacific bearded seal are being proposed to be listed as Threatened on the US ESA across their respective ranges. Deadline for comments to the US was 8 February 2011. NAMMCO submitted information to the hearing pointing out its role and jurisdiction in the management of this species in the

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North Atlantic. No further information has been available since. Greenland also informed the Committee that it had submitted comments to US on the proposal, and it had received a note acknowledging the response from Greenland. It was also informed that the deadline has been prolonged due to many responses.

### 4.4 Grey Seals

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

**R-2.4.2 – NAMMCO/11-2002** (standing): 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 nematode 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 interacts 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.

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

Assessment models were presented for the Committee members by the Scientific Committee Chair.

A model for *Norwegian* grey seals is based on total pup production in 2006-2008, catch statistics, estimated by-catch mortality, and age specific pregnancy rates from Canadian grey seals. Model runs indicate an increase in abundance of the total Norwegian population during the last 30-years, estimating 8,063 (95% CI: 7,627 to 8,549) animals (including pups) in 2010. Current catch levels will likely deplete the populations in Rogaland, reduce the population in Sør-Trøndelag, and increase the population in Nord-Trøndelag, Nordland, Troms, and Finnmark. The Scientific Committee had noted with concern that the quota and the actual removals have greatly exceeded the management advice between 2003 and 2010.

A model for grey seals in *Iceland*, based on the catch-at-age data, annual pregnancy rates and an assumed survival scheme, indicated that the stock declined from about 12,000 grey seals in 1990 to about 5,000 in 2002. Aerial pup production surveys in 2005, 2008 and 2009, showed an increasing trend, estimating abundance at 5,500 (95% CI: 4,158 to 6,990) animals in 2005 and 6,100 (95% CI: 4,578 to 7,630) in 2008-2009.

The Scientific Committee reiterated its recommendation that a greater priority be given to assessing the population size in the Faroe Islands in a timely manner

#### **Recommendations**

The Management Committee for Seals and Walruses **endorsed** the recommendation from the Scientific Committee, to prepare for an assessment, to:

- Establish and/or continue the standardised and regular monitoring programmes for seal abundance in all countries, including the developing of appropriate survey methods

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- Secure catch records and associated data from hunted seals
- Quantify and standardise methods to estimate “struck and lost” and by-catch
- Assess the grey seal population in Russia
- Explore the south-eastern Greenlandic coast for the presence of grey seals
- Estimate the stock identity, size, distribution and structure of the Faroese population of grey seals
- Complete the ongoing genetic analyses of grey seal population structures for the north Atlantic including new samples from the Faroe Islands
- Develop common sampling protocols for all areas in the north Atlantic in preparation for epidemic disease outbreaks, including establishment of blood serum stores for seals sampled
- Compile a database of samples stored in the NAMMCO countries.

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

A ban on the hunting of grey seals in Greenland was implemented from 1 December 2010 as a new Executive Order.

Norway informed on its experiences in sampling from stranded animals.

A management plan for grey seals was implemented in Norway in late autumn 2010, coming into effect from January 1 2011, aiming at ensuring sustainable and viable populations of this species within its natural distribution. The Ministry of Fisheries and Coastal Affairs has decided to stabilize the grey seal population at a Target Level (TL) equal to 1,200 pups born annually. Hunting quotas are used to stabilize the populations at the TL, and measures should be designed to ensure the greatest impact in areas where there is documented significant damage to the fishing industry from seals.

Grey seals are managed within 3 management units (Northern, Central and Southern Norway) based on pupping time and genetic differences. Hunting quotas are set for 5-year periods, so that it will be possible to adjust the removals in relation to new population estimates, new knowledge about the damage to the fishing industry, new environmental threats, etc.

### **Any other business**

Aquaculture farmers in the Faroes are reporting catches and are providing data and samples on the seals shot in the vicinity of salmon farms and submitting them for research.

Canada reported on the national seal management strategy where management objectives are set with a threshold at 0.7 of the maximum population size corresponding to the present day level.

Russia informed about a joint Norwegian-Russian research programme on this species.

#### **4.5 Harbour Seals**

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

**R-2.5.2 – NAMMCO/16-2007** modified **NAMMCO/19-2010** (pending): To conduct a formal assessment of the status of harbour seals for all areas as soon as feasible.

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

No assessment data were presented for harbour seals.

The Scientific Committee expressed great concerns about the high catch levels of harbour seals in Norway during the last ten years, as well as the potentially high by-catch, and recommended that set quotas follow the scientific advice, and that new assessment of harbour seals are carried out as soon as possible.

The Scientific Committee recommended the execution of abundance and distribution investigations in the southeast Greenland, where the status of harbour seals is unknown.

The Scientific Committee noted that there are indications of the presence of further subdivisions within the current management units for all areas, and recommended further investigation of the appropriateness of the current management units.

##### **Recommendations:**

The Management Committee for Seals and Walruses **endorsed** the recommendation from the Scientific Committee, similarly to grey seals, to proceed with the assessment and development of a general management model for harbour seals:

- Establishment and/or continuation of standardised and regular monitoring programmes for seal abundance in all countries, including the development of appropriate survey methods
- Securing catch records and associated data from hunted seals
- Quantification and standardisation of methods to estimate “struck and lost” and by-catch
- Population assessment of harbour seals in Russia
- Survey of harbour seals along the coast of Iceland
- Studies to identify the population structure of Norwegian harbour seals
- Exploration of the south-eastern Greenland coast for the presence of harbour seals
- Development of common sampling protocols for all areas in the north Atlantic in preparation for epidemic disease outbreaks, including establishment of blood serum stores for seals sampled
- Compilation of a database of samples stored in the NAMMCO countries.

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

A total protection of harbour seals in Greenland was implemented from 1 December 2010.

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As for grey seals, the Norwegian management plan for harbour seals implemented in late autumn 2010 and coming into effect from January 1 2011 aims at ensuring sustainable and viable populations of this species within its natural distribution. The Ministry of Fisheries and Coastal Affairs decided to stabilize the harbour seal population at a Target Level (TL) of around 7,000 counted animals during moult. Here too, hunting quotas are used to stabilize the populations at the TL, and measures should be designed to ensure the greatest impact in areas where there is documented significant damage to the fishing industry from seals.

Harbour seals are managed in administrative units following county borders. Small, unique and geographically isolated populations of harbour seals will not be exposed to hunting. Hunting quotas are set for 5-year periods, so that it will be possible to adjust the removals in relation to new population estimates, new knowledge about the damage to the fishing industry, new environmental threats, etc

### **Any other business**

Iceland has followed the recommendation to estimate the abundance of harbour seal by performing counts in the summer 2011.

Norway has initiated an assessment of harbour seals with counts along the Norwegian coast which will be completed in the following years and the collection of genetic samples from pups in the main breeding areas.

## **4.6 Walrus**

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

**R-2.6.3 – NAMMCO/15-2006** (ongoing): The Scientific Committee should provide advice on the effects of human disturbance, including fishing and shipping activities, in particular scallop fishing, on the distribution, behaviour and conservation status of walrus in West Greenland.

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

The situation remains unchanged: Owing to a lack of explicit studies, the Scientific Committee is not in a strong position to provide advice on the effects of human disturbance on walrus. (SC/17)

### **Recommendations for Scientific Research**

The Management Committee for Seals and Walruses **endorsed** the recommendation from the Scientific Committee for the completion of the hunter survey study and a re-evaluation of the assessment for this stock when a new abundance estimate is finalised.

### **Any other business**

Zabavnikov (Russia) reported on several walrus studies in the Pechora Sea involving aerial surveys and tagging in connection to oil exploration.

## **4.7 Bearded seal**

## Report of the Management Committee for Seals and Walrus

Noting again that only a few studies have been initiated for this data-poor and exploited species, the Management Committee **reiterated its recommendation** that efforts be renewed towards gathering information on biology, abundance and stock status with the view to an assessment.

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

#### 5.1 Common Management Model for grey and harbour seals

The Management Committee **took notice** of the recommendations from the Coastal Seals WG, that a management model for harbour and grey seals should include the following steps:

- Management objectives should be set to secure populations at target levels.
- Identify management units based on population structure.
- Surveys be designed to allow for the estimation of variance and the identification of trends
- Identifying the survey precision needed to meet management objectives.
- Management advice should be provided as total removals, including “struck-and-lost”, by-catch and hunting quotas.
- Initiate studies that identify the occurrence of impacts on fisheries and aquaculture, including sealworm burden in fish in relation to seal density, and will point out areas where the population size needs to be controlled.
- Include an evaluation of the management plan (at latest after 6 years).

The Management Committee **noted** that further considerations are needed before a management model can be recommended as a general model for grey and harbour seals in all NAMMCO areas. In particular stocks of harbour and grey seals are not seen as being in conflict with fisheries and aquaculture in all countries, and therefore it could not generally be expected that common management objectives would be to secure populations at target levels. A more general management objective would be to secure populations at, or above, target levels.

While the identification of a survey precision needed to meet management objectives would be optimal, it is likely not realistic in most NAMMCO countries. An alternative route would be to compare target levels directly to the minimum counts available (or minimum counts corrected for animals not present). This might be more realistic and useful in the sense that imprecise minimum counts (using *e.g.* only one count instead of three) should be negatively biased and thus result in precautionary management. Hence, if the management objective is to ensure a population of at least the target level, it might be possible to obtain this with relatively imprecise, cheaper surveys. A more focused management objective that aims to maintain the stock very close to a target level would require more precise and expensive surveying.

The Management Committee **noted** the lack of a biological reference point in the proposed management model and **recommended** that the management approach aim to assess the current status of a stock relative to a reference point with no removals.



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Finally, it noted that the feed-back approach is a type of catch control algorithm and as such a recommended approach for providing management advice.

### **JOINT SESSION OF BOTH MANAGEMENT COMMITTEES**

#### **7. USER KNOWLEDGE IN MANAGEMENT DECISION-MAKING**

See the report of Management Committee on Cetaceans.

#### **8. RELATED MANAGEMENT ISSUES**

See the report of Management Committee on Cetaceans.

#### **9. TRADE ISSUES AND THE EU BAN OF IMPORT OF SEALSKIN**

The Chair reminded the Committee that this item aims at the exchange of information on the EU ban on the import of sealskin. Norway informed that the first attempt at negotiations between Norway, Canada and the EU did not yield a solution. Presently negotiations on the composition of a mediation Panel are under way between the three parts and they should be completed by the end of 2011. The panel will set its own schedule for the completion of the mediation work.

Greenland is presently dealing with the consequences of the ban, including the Inuit Exemption at the governmental and industry level with a resource demanding administration.

The Observer from Denmark informed that the process in relation to guidelines and control system within the EU and other related partners are preparing the implementation of the ban.

#### **10. ELECTIONS**

Hild Ynnesdal (Norway) was elected as Chair and Ásta Einarsdóttir (Iceland) was elected as vice-Chair.

#### **11. ANY OTHER BUSINESS**

There were no issues under this agenda item.

**AGENDA**

1. CHAIRMAN'S OPENING REMARKS
2. ADOPTION OF AGENDA
3. APPOINTMENT OF RAPPORTEUR
4. CONSERVATION AND MANAGEMENT MEASURES FOR SEAL STOCKS

4.1 Harp Seals

*White / Barents seas*  
*Greenland Sea*  
*NW Atlantic*

- Status of past proposals
- Requests by Council for advice from the Scientific Committee
- Responses by the Scientific Committee
- New proposals and recommendations for scientific research
- Proposals for conservation and management

4.2 Hooded Seals

*Greenland Sea*  
*NW Atlantic*

- Status of past proposals
- Requests by Council for advice from the Scientific Committee
- Responses by the Scientific Committee
- New proposals and recommendations for scientific research
- Proposals for conservation and management

4.3 Ringed Seals

*Greenland*  
*Others?*

- Status of past proposals
- Requests by Council for advice from the Scientific Committee
- Responses by the Scientific Committee
- New proposals and recommendations for scientific research
- Proposals for conservation and management

4.4 Grey Seals

*Greenland*  
*Norway*  
*Faroe Islands*  
*Iceland*

- Status of past proposals
- Requests by Council for advice from the Scientific Committee
- Responses by the Scientific Committee

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- New proposals and recommendations for scientific research
- Proposals for conservation and management

### 4.5 Harbour Seals

*Greenland*

*Norway*

*Iceland*

- Status of past proposals
- Requests by Council for advice from the Scientific Committee
- Responses by the Scientific Committee
- New proposals and recommendations for scientific research
- Proposals for conservation and management

### 4.6 Walrus

*Greenland*

- Status of past proposals
- Requests by Council for advice from the Scientific Committee
- Responses by the Scientific Committee
- New proposals and recommendations for scientific research
- Proposals for conservation and management

### 4.7 Bearded seal

*Greenland*

*Norway*

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

### 5.1 General Models

## 6. ECOSYSTEM-BASED MANAGEMENT

## 7. USER KNOWLEDGE IN MANAGEMENT DECISION-MAKING

## 8. RELATED MANAGEMENT ISSUES

### 8.1 Marine mammal – fisheries interactions

### 8.2 Environmental questions

### 8.3 By-catch data and monitoring

### 8.4 Other topics

## 9. TRADE ISSUES AND THE EU BAN OF IMPORT OF SEALSKIN

## 10. ELECTIONS

## 11. ANY OTHER BUSINESS.

**LIST OF DOCUMENTS**

<b>Document no</b>	<b>Title</b>	<b>Agenda item</b>
NAMMCO/20/SMC/1	List of Documents	
NAMMCO/20/SMC/2	Agenda	2.
NAMMCO/20/MC/3	Status of Past Proposals for Conservation and Management	4.
NAMMCO/20/MC/4	Summary of Requests by NAMMCO Council to the Scientific Committee, and Responses by the Scientific Committee	4.
NAMMCO/20/SMC/5	Recommendations to member countries 2010	4.
NAMMCO/20/6 and ANNEXES	Report of the Eighteenth Meeting of the Scientific Committee	4., 5., 7. and 8.

**RECOMMENDATIONS TO MEMBER COUNTRIES 2011****Harp seal*****Greenland:***

The Management Committee for Seals and Walruses **endorsed** the Scientific Committee recommendations to undertake new surveys in the Greenland Sea in 2012 and **expects** to review the recommendations of the ICES-NAFO WG on Harp and Hooded Seals which met in August 2011, at its next meeting. The Management Committee further **endorsed** the Scientific Committee's recommendation to facilitate the funding and execution of reconnaissance surveys to locate and identify untraditional pupping areas.

**Hooded seal*****Greenland:***

The Management Committee for Seals and Walruses **welcomed** the studies on hooded seal condition in the Greenland Sea and the coming harp and hooded seal surveys. The Management Committee further **will review** the recommendations of the ICES-NAFO WG on Harp and Hooded Seals at its next meeting.

**Ringed seal*****Greenland:***

The Management Committee for Seals and Walruses welcomed the future deployment of satellite tags in Melville Bay and **reiterated its recommendation** from the previous year to perform abundance estimates on sea ice in offshore areas.

The Management Committee for Seals and Walruses also **reiterated the recommendation** for obtaining new abundance estimates and increasing the effort in tagging for the better understanding of movements, recognizing the difficulties and the expense of surveys.

**Grey seal*****All countries:***

The Management Committee for Seals and Walruses **endorsed** the recommendation from the Scientific Committee, to prepare for an assessment, to:

- Establish and/or continue the standardised and regular monitoring programmes for seal abundance in all countries, including the developing of appropriate survey methods.
- Secure catch records and associated data from hunted seals.
- Quantify and standardise methods to estimate "struck and lost" and by-catch.
- Assess the grey seal population in Russia.
- Develop common sampling protocols for all areas in the north Atlantic in preparation for epidemic disease outbreaks, including establishment of blood serum stores for seals sampled.
- Compile a database of samples stored in the NAMMCO countries.

***Greenland:***

## Report of the Management Committee for Seals and Walruses

The Management Committee for Seals and Walruses **endorsed** the recommendation from the Scientific Committee, to prepare for an assessment, to:

- Explore the south-eastern Greenlandic coast for the presence of grey seals.

### ***Faroese:***

The Management Committee for Seals and Walruses **endorsed** the recommendation from the Scientific Committee, to prepare for an assessment, to:

- Estimate the stock identity, size, distribution and structure of the Faroese population of grey seals.
- Complete the ongoing genetic analyses of grey seal population structures for the north Atlantic including new samples from the Faroe Islands.

### **Harbour seal**

#### ***All countries:***

The Management Committee for Seals and Walruses **endorsed** the recommendation from the Scientific Committee to proceed with the assessment and development of a general management model for harbour seals:

- Establishment and/or continuation of standardised and regular monitoring programmes for seal abundance in all countries, including the development of appropriate survey methods.
- Securing catch records and associated data from hunted seals.
- Quantification and standardisation of methods to estimate “struck and lost” and by-catch
- Population assessment of harbour seals in Russia.
- Development of common sampling protocols for all areas in the north Atlantic in preparation for epidemic disease outbreaks, including establishment of blood serum stores for seals sampled.
- Compilation of a database of samples stored in the NAMMCO countries.

#### ***Iceland:***

The Management Committee for Seals and Walruses **endorsed** the recommendation from the Scientific Committee to proceed with:

- Survey of harbour seals along the coast of Iceland.

#### ***Norway:***

The Management Committee for Seals and Walruses **endorsed** the recommendation from the Scientific Committee to proceed with:

- Studies to identify the population structure of Norwegian harbour seals.

#### ***Greenland:***

The Management Committee for Seals and Walruses **endorsed** the recommendation from the Scientific Committee to proceed with:

- Exploration of the south-eastern Greenland coast for the presence of harbour seals.

### **Common Management Model for grey and harbour seals**

#### ***Norway:***

The Management Committee *took notice* of the recommendations from the Coastal Seals WG, that a management model for harbour and grey seals should include the following steps:

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- Management objectives should be set to secure populations at target levels.
- Identify management units based on population structure.
- Surveys be designed to allow for the estimation of variance and the identification of trends.
- Identifying the survey precision needed to meet management objectives.
- Management advice should be provided as total removals, including “struck-and-lost”, by-catch and hunting quotas.
- Initiate studies that identify the occurrence of impacts on fisheries and aquaculture, including sealworm burden in fish in relation to seal density, and will point out areas where the population size needs to be controlled.
- Include an evaluation of the management plan (at latest after 6 years).

### **Walrus**

#### ***Greenland:***

The Management Committee for Seals and Walruses **endorsed** the recommendation from the Scientific Committee for the completion of the hunter survey study and a re-evaluation of the assessment for this stock when a new abundance estimate is finalised.