NAMMCO

Fourth Meeting of the Council

Tromsø, 24-25 February 1994

REPORT

North Atlantic Marine Mammal Commission
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Report of the Fourth Meeting of the Council of NAMMCO
Tromsø, 24-25 February 1994

The fourth meeting of the Council of the North Atlantic Marine Mammal Commission was held at the Saga Hotel, Tromsø, 24-25 February 1994. The Chairman of the Council, Kjartan Hoydal, chaired the meeting, which was attended by delegations from the member countries of the Faroe Islands, Greenland, Iceland and Norway. The meeting was also attended by observers from the Governments of Canada, Denmark, Japan and the Russian Federation. Also present were observers from the International Whaling Commission (IWC), the International Council for the Exploration of the Sea (ICES) and the Northwest Atlantic Fisheries Organization (NAFO), as well as observers from a number of non-governmental organisations. Participants are listed in Appendix 1. The Agenda of the meeting is contained in Appendix 2.

1. Opening procedures

1.1 Address of welcome

Ms Alvhild Yttergård, Deputy Mayor of Tromsø, gave an address of welcome to the participants of the Council meeting, and welcomed the organisation's headquarters to the city of Tromsø. The atext of the address is contained in Appendix 3.

1.2 Opening Statements

Opening statements were made by the heads of delegations from the Faroe Islands, Greenland, Iceland and Norway. The full texts of the opening statements are contained in Appendices 4-7.

1.3 Appointment of rapporteur

The Council agreed that the Secretary should function as the permanent rapporteur of Council meetings, unless otherwise agreed.

1.4 Adoption of agenda

The Agenda as contained in Appendix 2 was adopted.

1.5 Admission of observers

Observers from the Governments of Canada, Denmark, Japan and Russia were admitted to the meeting, as were observers from the inter-governmental organisations ICES, the IWC, NAFO, and the non-governmental organisations European Bureau for Conservation and Development, High North Alliance, the Inuit Circumpolar Conference, the Inuvialuit Game Council and the Regional Authority of Northern Norway (see List of Participants in Appendix 1).

The observer from Japan, Dr Nagasaki, presented an opening statement to the Council on behalf of the Government of Japan. The statement is contained in Appendix 8.

1.6 Meeting arrangements

The Secretary explained the practical and social arrangements for the meeting, which included a NAMMCO reception at the Polar Museum in Tromsø, a lunch hosted by the Norwegian Ministry of Fisheries, and a tour of the Department of Arctic Biology where the Secretariat is currently located.

2. Administration and finance

2.1 Report of the Secretary

The Secretary presented a report to the Council on the activities of the Secretariat since the last meeting. The report is contained in Appendix 9. The Secretary reported in particular on the establishment of the offices of the Secretariat in Tromsø since September 1993, and plans for future office accommodation on the grounds of the University of Tromsø. Also outlined was the Secretariat's representation at a number of meetings, both locally in Norway and overseas.

The Secretary also mentioned plans for the Secretariat to gather information on all aspects of marine mammals and their utilization in NAMMCO members countries with the view to building up the Secretariat's capacity as a resource centre. It was noted that information had already been sent from member countries to the Secretariat, but it was further suggested by Greenland that the Secretariat contact the respective administrations directly to request copies of all available material.

2.2 Audited accounts 1993 /appointment of auditor

The audited accounts for 1993 were reviewed and approved by the Council. These are included in the Secretary's report contained in Appendix 9. The Council noted the relatively large surplus from 1993, and agreed that a reserve amount should be set aside as security against any unforeseen future expenses or devaluations.

The Council agreed to the recommendation of the Secretary to appoint certified public accountants, Jensen & Co. of Tromsø, as official auditors for NAMMCO.

2.3 Proposed budget 1994/1995

The Council reviewed the proposed budget for 1994 and the estimate for 1995 (Appendix 10). It was noted that a separate budget had been presented for the Scientific Committee (under 2.2 - 1993 accounts), and that the 1993 surplus for the Scientific Committee had been itemised separately. The Chairman stressed that although this procedure was in order for the current financial year, especially in relation to the planning of the North Atlantic Sightings Survey for 1995, it was not considered appropriate for the Scientific Committee to operate under a budget that was completely separate from the overall Council budget, and that this should be taken into consideration in the preparation of next year's budget.

In response to the Secretary's recommendation to establish a deadline for the payment of annual contributions, the Council suggested that the Secretariat send out regular reminder notices to members requesting payment.

Although no decisions on extra office staff in the Secretariat had yet been made, it was assumed that at least one permanent part-time office assistant would be needed by the beginning of 1995. The 1995 budget forecast had taken such estimated extra staffing costs into account, but it was also noted that, given the existing surplus, an increase in the current level of membership contributions would not be necessary for 1995.

2.4 Selection of logo

The Secretary explained the procedure decided upon by the Secretariat to choose an official logo for the organisation. A logo design competition was advertised in all NAMMCO member countries in November 1993, offering a prize of NOK 10,000 for the best entry. A total of 119 proposals were received by the

Secretariat. Two independent experts from Tromsø took part in the selection process along with the staff of the Secretariat. After a thorough review of the entries, the selection committee agreed on the most suitable design. This was the work of the Faroese artist, Bárður Jákupsson. After consultations with the artist, the motif was adapted into logo-form by a local graphic studio and the result was recommended to the Council by the Secretariat for adoption as the NAMMCO logo. The Council agreed that the recommended logo design should be adopted as the official logo of the organisation.

An exhibition of entries in the competition was on display at the Council reception on 24 February in the Polar Museum in Tromsø.

3. Scientific Committee

3.1 Scientific Committee Report

The Chairman of the Scientific Committee, Jóhann Sigurjónsson, presented the Report of the Second Meeting of the Scientific Committee, which was held in Reykjavik, 23-26 November 1993. The two Scientific Committee Working Groups, the Working Group on Northern Bottlenose and Killer Whales, and the Working Group on Management Procedures, also held their first meetings in conjunction with the Scientific Committee meeting. The full Scientific Committee Report, which includes the reports of the Working Groups, is attached as Appendix 11.

The Council was informed that a joint session of the Scientific Committee and the Working Group on Management Procedures had been held, to which two papers had been presented on management-related issues by invited speakers. These were a review of national, bilateral and multilateral regimes for the management of small cetaceans by Randall Reeves, Canada (co-authored by Mads. P. Heide-Jørgensen, Greenland), and a paper by Dan Goodman, Canada, entitled "The Role of Science in the Management of Seals". Copies of both papers were available to participants at the Council meeting.

The Scientific Committee reported on continued cooperation with other organisations, in particular ICES, to which a number of requests for advice had been forwarded. The Scientific Committee had also agreed to seek an exchange of information with the Scientific Committee of the IWC.

The Scientific Committee had discussed the Preliminary List of Priority Species and agreed to review a draft addition on the bottlenose dolphin. The Committee had agreed that the List should be updated at regular intervals as new data becomes available. It was further suggested that the Council may prefer to have the List produced in the format of a handbook for easy reference.

The Chairman of the Scientific Committee explained that the agenda of the Scientific Committee meeting had been formulated with detailed reference to the requests for advice which had so far been forwarded to the Scientific Committee by the Council. The work of the Scientific Committee in dealing with the specific requests for advice was summarised, and particular reference was made to those areas which the Scientific Committee had identified as needing further work before the Council's requests could be addressed in full.

3.1.1 Marine mammals and the marine ecosystem

The Council was informed that the Scientific Committee continued to follow issues related to the impact of marine mammals on the marine environment. These questions were being dealt with in the ICES Multi-Species Working Group, and were also included in the work of species-specific working groups and national research programmes. It was further noted that there would be a joint ICES/NAFO Symposium in 1995 on the role of marine mammals in the marine ecosystem.

3.1.2 *Management procedures*

Regarding the review and development of management procedures, the Scientific Committee reported that existing management procedures had been reviewed by the Working Group on Management Procedures, but that the Scientific Committee had identified the need for advice from the Council on its intended management role and specific management objectives before further work could be carried out in this area.

3.1.3 *Advice on specific stocks*

Long-finned pilot whales

With respect to long-finned pilot whales, it was reported that the work of the ICES Study Group on pilot whales was not yet complete and a number of outstanding areas had been identified for further research. The Scientific Committee also expressed its concerns regarding the ICES Council decision that the Study Group on Pilot whales should continue its work by correspondence rather than meet again in 1994, and urged the Council to help ensure that the work of the Group was completed as soon as possible.

Northern bottlenose whales

The Scientific Committee reported that although no accurate total abundance estimate was available for northern bottlenose whales, a crude estimate of some tens of thousands was agreed. Total removals over the past 15 years amounted to less than 0.1%. The Scientific Committee agreed that it would be possible to model population trajectories for northern bottlenose whales, but that this would depend on whatever management objectives for the species were determined by the Council.

Killer whales

It was reported that due to the lack of concrete data on stock identity for killer whales it was not possible to make firm conclusions about stock abundance in each area at this stage, while information was available on abundance in different geographical areas. Data was available on ecological aspects such as feeding and interactions. Several further research priorities, with particular reference to stock identity, were outlined by the Scientific Committee as necessary before more comprehensive answers could be provided to the Council.

Harp and hooded seals

The Chairman of the Scientific Committee informed the Council that studies showed a widespread migration of young harp seals across the North Atlantic. Harp seal pup production estimates for the Greenland sea were available. A survey of hooded seals in the West Ice/Greenland Sea was planned by Norway to take place in March/April 1994. An assessment of the harp seal stock in the Northwest Atlantic would be possible based on work carried out by scientists in Canada, upon request to ICES/NAFO by Canada or another Party.

Atlantic walruses

The Chairman of the Scientific Committee informed the Council of the problems associated with addressing the request for advice on Atlantic walruses due to difficulties in obtaining the relevant material on the species. The report of the Walrus International Technical and Scientific Committee (WITS) which had met in January 1993 was still not available at the time of the Scientific Committee meeting in November. The Scientific Committee expressed its concern at having to rely on data which was not readily available when needed.

3.1.4 NASS - North Atlantic Sightings Survey

It was reported that the Scientific Committee had decided to conduct the North Atlantic Sightings Survey (NASS) in the summer of 1995. The Scientific Committee had further identified the priority species for the survey for each member country. A Working Group to plan the survey had been established under the chairmanship of Finn Larsen (Greenland) with specific terms of reference, and NASS Working Group members had agreed to hold their first meeting immediately after the Council meeting in Tromsø, 25 February.

The importance of involving other North Atlantic countries in the survey was stressed by the Scientific Committee, in order to obtain the most comprehensive coverage, including the western North Atlantic. The Scientific Committee recommended that the Council encourage the participation of non-member North Atlantic countries in the survey.

The Chairman of the Scientific Committee concluded his presentation to Council by noting that the Committee had agreed to hold its regular meetings late in the year (November/December), which would not only coincide with the availability of reports from ICES, but would also allow sufficient time for Council members to review the work of the Scientific Committee before the annual Council meeting in the early spring.

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The Chairman of the Council thanked the Chairman of the Scientific Committee for his thorough report on the substantial work of the Committee. He expressed concern regarding the apparent problems faced by the Scientific Committee in addressing matters for which the Committee had to rely on the time frames of other organisations.

The delegation from Iceland commended the Scientific Committee on its excellent work and the high standard of its report, which reflected the competence of the scientists working in the field. It was further noted that it was important to make this material widely available.

The delegation from Greenland noted that the present priority of the Scientific Committee was the North Atlantic Sightings Survey (NASS) in 1995. Furthermore, the Scientific Committee's recommendation to involve neighbouring non-member countries should also be considered. Although it was noted that this could be done on an individual basis between respective research institutes, the Council agreed that the Chairman should draft a letter inviting non-member North Atlantic countries to participate in NASS in 1995.

The delegation from Norway also congratulated the Scientific Committee on its report and the progress it had made in addressing the specific requests from Council, especially given the relatively small number of people involved in the work. The Norwegian delegation further noted the importance of concentrating on the priority areas in which firm decisions were needed.

The Chairman of the Council agreed that the immediate priority was the planning of NASS for 1995 and that it was important that the work of the Scientific Committee not be spread too thinly.

3.2 Cooperation with ICES

The Council noted the rather complicated procedure involved in the request for advice on harp and hooded seals referred to the ICES/NAFO Joint Working Group on Harp and Hooded Seals. A background information document prepared by the Chairman of the ICES/NAFO Working Group, Finn Kapel,

outlining this procedure and the transmission of NAMMCO's request for advice, was made available to the meeting.

It was suggested by the Norwegian delegation that the difficulties could be overcome by forming a NAMMCO Working Group on harp and hooded seals. The Council agreed, however, that it was up to the Scientific Committee to decide how best to deal with the requests forwarded to it from the Council.

It was noted that in order to receive advice from the ICES/NAFO Joint Working Group on Harp and Hooded Seals on the Northwest Atlantic stocks, a Contracting Party to NAFO should support the request from NAMMCO. It was agreed to take the matter up with the relevant non-NAMMCO Northwest Atlantic countries who were also Parties to NAFO.

4. Management Committee

4.1 Report of the Management Committee

The Report of the Management Committee was reviewed by the Council. The Management Committee met during the Council meeting 24-25 February. The Report of the Management Committee, which includes the Report of the Working Group on Inspection and Observation, is contained in Appendix 12.

The Management Committee reported that it had elected Einar Lemche (Greenland) as Chairman and Arnór Halldórsson (Iceland) as Vice-Chairman.

The Council agreed to the recommendation of the Management Committee for member countries to inform the Scientific Committee of their particular management objectives.

The Council noted the suggested future tasks for the Scientific Committee related to the development of management procedures which had been formulated by the Management Committee, both with respect to modelling of the northern bottlenose whale stock, and with respect to further development of RMP-like systems. The Council agreed to request the Scientific Committee to undertake these tasks, as outlined in the report of the Management Committee.

The Council reiterated the concerns expressed in the Management Committee about the problems involved with relying on the time schedules of other organisations for scientific advice.

The Council also noted that the Management Committee had charged the Working Group on Inspection and Observation to continue its work according to the recommendations contained in the Working Group report. These included, among other items, the development of a common inspection scheme for minke whaling in the North Atlantic.

It was further noted that Iceland had drawn attention to the possible need for an extraordinary meeting of the Management Committtee, depending on the outcome of any decision the Icelandic Parliament may make on the question of the resumption of minke whaling in Iceland before the next meeting of the Council.

5. Environmental questions

Conference on marine mammals and the marine environment

The Secretary reported on the planning of the Conference on Marine Mammals and the Marine Environment. A preliminary meeting of some of the planning group members had been held during the Scientific Committee meeting. Further informal discussions with some of the planning group members

and other interested parties, including representatives from Canada, were held during the Council meeting in Tromsø.

It had been decided that it would not be possible to arrange the conference before 1995, nor had final decisions about timing and location yet been made. The Council reaffirmed the responsibility of the Secretariat to proceed with plans in consultation with the appointed members of the informal working group set up to advise on the programme of the conference.

The delegation from Greenland suggested that the timing and location of the conference might be considered in relation to whatever location was decided upon for the next meeting of the Council.

6. Hunting methods

Report of the Working Group on Hunting Methods

The convener of the Working Group on Hunting Methods, Amalie Jessen (Greenland) presented the report of the meeting of the Working Group which was held in Copenhagen 20-21 September 1993. The Working Group report is attached as Appendix 13.

The specific discussions on the aims and status of the Working Group and possible projects for the coming year, as reflected in the report, were reviewed by the Council.

The draft Rules of Procedure for the Working Group was presented to the Council. The Council decided that the Working Group should continue as a permanent Working Group with representatives from each member country of NAMMCO in an advisory capacity. The Working Group should report directly to the Council.

It was noted that the role of the Working Group would be to provide advice on hunting methods for those species of marine mammals relevant to NAMMCO member countries upon request from the Council, individual member countries, Working Group members or non-member governments.

The Working Group on Hunting Methods would hold its next meeting prior to the next meeting of the Council.

7. The NAMMCO Fund

7.1 Preliminary report from the NAMMCO Fund

The Secretary reported on the preliminary work of the NAMMCO Fund, since the Council had decided on its establishment at the Third Meeting in July 1993. A preliminary telephone meeting had been held in early December, when a number of project ideas were discussed. The Board subsequently decided to draw on some of the Fund's resources to arrange a special one-day seminar on information, which was held in Tromsø directly after the Council meeting, 26 February. One of the main aims of the seminar was to provide a forum in which representatives from a number of different sectors, such as users groups, the business sector and the media could exchange experiences and develop ideas for future information projects related to the rational utilization of marine mammals. A copy of the seminar programme is attached as Appendix 14.

It was also reported that the Board of the Fund had held a brief meeting during the Council meeting, and had elected Einar Lemche as Chairman. The Board had also agreed to hold another meeting shortly after the Council meeting.

7.2 Future financial arrangements

It was agreed that the surplus of DKR 500,000 from the 1993 budget with which the Fund was established would be sufficient for the time being. It was further expected that the same would be the case for 1995, when the Council may also decide to transfer any existing surplus from the 1994 budget to the Fund. Other than the money drawn from the Fund to support the arrangement of the information seminar, there would be a remaining sum of c. 400,000 for 1994. It was agreed that the Council could review the financing of the Fund at its 1995 meeting, at which time Members should decide on whether an increase in contributions for 1996 would be necessary in order to supply the Fund with additional resources.

8. External relations

8.1 Report from the Secretariat

The Secretary presented a report to the Council on external relations, outlining both newly established and existing contacts between NAMMCO and other organisations, as well as forthcoming meetings at which NAMMCO had been invited to be represented with an observer. The Report on External Relations is contained in Appendix 15.

It was noted in particular that new contacts had recently been established with the Convention on the International Trade in Endangered Species (CITES), and the International Union for the Conservation of Nature (IUCN). The Secretary had attended the IUCN 19th General Assembly in Buenos Aires as observer for NAMMCO, and the Director General of IUCN had expressed interest in the suggestion to establish working relations between the two organisations.

In response for a request for guidance from the Secretariat, the Council agreed that it was desirable for appointed NAMMCO observers to present written reports to the Council on the meetings they had attended.

The Secretary also reported on a number of other meetings, conferences and working groups of relevance to NAMMCO which involved discussion and further development of marine mammal-related issues and the principles of sustainable utilization of living resources. Of particular significance was the IUCN General Assembly and efforts within the IUCN to formulate guidelines for ecological sustainability, as well as the resolutions specific to whaling which had been formulated for the General Assembly. There had also been a number of other meetings and conferences at which issues related to the utilization of wild species had been discussed, and where case studies from a range of different countries were presented. The Secretary reported that developments in these areas would continue to be followed, and that the Secretariat would aim to produce a more comprehensive report and analysis for the Council before the next annual meeting.

Not included in the Secretary's report was NAMMCO observer participation in the Nordic Council's International Conference for Parliamentarians on Development and Protection of the Arctic region, Reykjavik 16-17 August 1993. Arnór Halldórsson, Iceland, was observer for NAMMCO, and copies of the final resolution of the Conference were made available to the meeting.

The delegation from Iceland stressed the importance for NAMMCO of establishing relations with other international organisations. Where bilateral arrangements had already been established, it was important to maintain and enhance these, and work actively to inform others of the work being done within NAMMCO. The Icelandic delegation further underlined the three main areas which were key factors in the work of NAMMCO, factors which should be associated with the organisation and promoted in international contexts. These were:

1) the principle of sustainable utilization of living natural resources on which the NAMMCO agreement is based;

2) the recognition of the role of science as the basis for sound and rational management; and

3) the ecosystem approach to management, taking multi-species, interactive factors in the marine environment into account.

The delegation from Iceland further suggested that NAMMCO should be stressing these three key aspects of its policy relative to developments in other international fora where NAMMCO was represented with an observer, such as at the International Whaling Commission.

8.2 Other matters

Arnór Halldórsson, Iceland, reported briefly on developments in the United Nations Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks and its relevance to marine mammal issues. There were some areas being discussed in relation to highly migratory fish stocks which could also have implications for approaches to the management of whale stocks, which are also classified as highly migratory in the United Nations Conference on the Law of the Sea (UNCLOS). These included discussions of requirements for regional and international fisheries management organisations and agreements, as well as the nature of specific conservation and management measures to be established through cooperation, including the application of concepts such as MSY (maximum sustainable yield) the precautionary principle.

Arne Bjørge, observer for ICES, and Chairman of the ICES Marine Mammals Committee, reported briefly on developments within ICES on issues related to marine mammals. It was pointed out that ICES was in general taking a stronger multi-species approach in its work, and that there was, in particular, increased activity on marine mammal issues. It had been decided at the last meeting to establish an *Ad Hoc* Group to develop a comprehensive ICES policy on the handling of marine mammals issues, and that this group would report to the 1994 mid-term meetings of ICES. The Group would be comprised of the Chairmen of the Consultative Committee, the Advisory Committee on Fisheries Management, the Advisory Committee on the Marine Environment and the Marine Mammals Committee.

The observer for the European Bureau for Conservation and Development (EBCD), Despina Symons, informed the Council on the latest developments within the European Union on matters related to marine mammals. Whaling had been a priority item on the agenda of the European Parliament (EP), Commission and national governments due the Norway's EU membership negotiations. She noted that there were two resolutions in the EP banning whaling and sealing - the EC Directive on Fauna and Flora and the EC CITES directive forbidding import of whale and seal products into the EU.

EBCD also reported that there had recently been a meeting for the first time between the Council of Europe's Fisheries Committee and the European Parliament's Fisheries Sub-Committee, which had dealt exclusively with marine mammal issues, and which had also involved a debate on fisheries and marine mammal interaction. The Fisheries Marine Mammal Interaction report was finally available and would be voted on in March.

The EBCD had succeeded in creating an Intergroup on Sustainable Use in the EP, under the leadership of a number of MEP's. The first meeting was held in mid-February, and EBCD would be providing the Secretariat of the Intergroup. This was seen as a valuable forum for providing European Parliamentarians with access to information on issues related to the sustainable use of natural resources.

Finally Ms Symons informed the Council on the latest developments and meetings within the IUCN and CITES, including a review of events at the IUCN General Assembly in January and expected discussions on the new criteria for CITES Appendix listings in the CITES Standing Committee meeting to be held in Geneva in March.

The Council reviewed the list of forthcoming meetings (see Appendix 15 - Report on External Relations) and discussed the appointment of observers. It was agreed that Jóhann Sigurjónsson would represent NAMMCO at the 82nd Statutory Meeting of ICES in Newfoundland, Canada in September, and that the Secretary would be observer at the 46th annual IWC meeting in Mexico in May. Other observers would be decided later through correspondence.

9. Closing arrangements

9.1 Report of the meeting

A draft report was not available at the end of the meeting. The Council agreed that a draft report should be circulated for comments as soon as possible after the meeting, and that the final report would then be adopted by correspondence through the Secretariat. It was also agreed that this would be the permanent procedure for future meetings of the Council.

9.2 Adoption of press release

The Press Release and supplementary Information Document, as contained in Appendix 16, were adopted.

9.3 Next meeting

No final decision was made on the location of the next meeting, although there was general agreement that the same time of the year (late February/early March) was suitable. Subsequent arrangements for the 1995 annual meeting would be made through the Secretariat and communicated to members as soon as possible.

9.4 Any other business

The head of the Norwegain delegation made a brief closing statement to the meeting in which he commended the members of NAMMCO on the progress achieved so far in establishing the organisation, while stressing the importance of proceeding carefully and endeavouring, despite different national approaches, to maintain the valuable extent of agreement and cooperation currently enjoyed by NAMMCO members.

List of Participants

Fourth Meeting of the Council, Tromsø, 24 - 25 February 1994

NAMMCO member delegations:

Faroe Islands	Kjartan Hoydal (Chairman) Anna Maria Holbech Geneviève Desportes Jústines Olsen Hans Jacob Hermansen
Greenland	Einar Lemche Amalie Jessen Bjørn Rosing Henrik Nielsen Finn Larsen Aqqalu Rosing-Asvid Anthon Siegstad Hansi Kreutzman
Iceland	Halldór Árnason Guðmundur Eiríksson Arnór Halldórsson Jóhann Sigurjónsson Konráð Eggertsson Kristján Loftsson Helgi Laxdal Hólmgeir Jónsson Lára Konráðsdóttir
Norway	Halvard P. Johansen Jan Birger Jørgensen Lisbeth Plassa Inger Winsnes Egil Ole Øen Arnoldus Schytte Blix Sidsel Grønvik Jon Lauritzen Steinar Bastesen

Government observers:

Canada	Dan Goodman Kenneth A. Brynaert
Denmark	Ole Samsing
Japan	Fukuzou Nagasaki Tomoko Nakazato
Russia	Georgy Luka

Intergovernmental observers:

ICES	Arne Bjørge
IWC	Ole Samsing
NAFO	Lisbeth Plassa

Non-governmental observers:

European Bureau for Conservation and Development	Despina Symons
High North Alliance	Jan Odin Olafsson Georg Blichfeldt Arne Johan Johansen
Inuit Circumpolar Conference	Ingmar Egede Alfred Emil Jakobsen
Inuvialuit Game Council	Larry Carpenter Norman D. Snow Robert K. Bell
Regional Authority of Northern Norway	Morten Selnes

Secretariat:	Kate Sanderson Jens Paulsen Hanne Kulbotten

Agenda

Fourth Meeting of the Council, Tromsø, 24-25 February, 1994

1. Opening procedures
   - 1.1 Address of welcome - Ms Alvhild Yttergård, Deputy Mayor of Tromsø *
   - 1.2 Opening statements *
   - 1.3 Appointment of rapporteur
   - 1.4 Adoption of agenda
   - 1.5 Admission of observers
   - 1.6 Meeting arrangements

2. Administration and finance
   - 2.1 Report of the Secretary
   - 2.2 Audited accounts 1993 / appointment of auditor
   - 2.3 Proposed budget 1994
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3. Scientific Committee
   - 3.1 Scientific Committee Report
   - 3.2 Cooperation with ICES
   - 3.3 Other matters

4. Management Committee
   - 4.1 Management Committee Report
   - 4.2 Advice on specific stocks

5. Environmental questions
   - 5.1 Conference on Marine Mammals and the Marine Environment
   - 5.2 Other matters

6. Hunting Methods
   - 6.1 Report of the Working Group on Hunting Methods
   - 6.2 Other matters

7. The NAMMCO Fund
   - 7.1 Preliminary report from the NAMMCO Fund
   - 7.2 Future financial arrangements

8. External relations
   - 8.1 Report from the Secretariat
   - 8.2 Other matters

9. Closing arrangements
   - 9.1 Report of the meeting
   - 9.2 Adoption of press release
   - 9.3 Next meeting
   - 9.4 Any other business

* open to the public

Address of Welcome
by the
Deputy Mayor of Tromsø, Ms Alvhild Yttergård

Fourth Meeting of the Council, 24-25 February 1994

Dear Participants of the Fourth Meeting of the Council of NAMMCO,

On behalf of the municipality of Tromsø, it is a great pleasure to extend to you a hearty welcome to the Arctic area in general, and to Tromsø in particular. I hope you will find Tromsø as interesting and exciting a town as we think you should.

Since the old days Tromsø has been a central port for whalers and sealers. Tromsø has around 54,000 inhabitants and covers an area of c.2,500 square kilometres. This year Tromsø is celebrating its bicentenary, which we take as a clear indication that we are well on the way to achieving our goal of functioning as a modern society in balance with nature.

I know all of you have come here on a serious mission, but I have to warn you about the friendly nature of the local population. 130 years ago, after a two-week stay in Tromsø, the Norwegian author, Bjørnstjerne Bjørnson exclaimed - "There is no way to sleep here, only champagne and amusements!" But having read the comprehensive programme for your meeting, I do believe that the skilled organizer has taken the nature of Tromsø into due consideration!

I would also like to mention that the municipality of Tromsø has a strategy for industrial development based on the natural resources in the North, of which marine resources are a major part. Tromsø is a major centre for development within the areas of fisheries and aquaculture, marine biotechnology, polar research and management, the exploration of the natural resources in the North, and trade with northwest Russia

Tromsø's infrastructure is extensive, with modern facilities such as the airport, only a short drive from the city centre, with weekly connections to Spitsbergen and Murmansk, and a road system linking Tromsø to the surrounding communities as well as to the rest of Norway and Europe.

Tromsø has the northernmost university in the world, with about 5,000-6,000 students this year. An important part of the University is the Norwegian College of Fishery Science with 500 students, both from Norway and abroad.

By combining a wise use of natural resources with our traditional position as a centre for trade, tourism and cultural activities, Tromsø will play a crucial part in the future development of the Northern regions.

Once again, I extend my best wishes for a successful 4th Meeting of the Council of NAMMCO in Tromsø. Good luck with your discussions on the study and management of marine mammals in the North Atlantic. Tromsø, the "Gateway to the Arctic" should be the perfect place for this meeting, and we are also very pleased that the NAMMCO Secretariat is now situated in Tromsø

Welcome to all of you.

Opening Statement by the Faroe Islands

Fourth Meeting of the Council, Tromsø, 24-25 February 1994

The Faroese delegation is very pleased to be able to participate in the first meeting in Tromsø as the hometown of NAMMCO, a meeting organized by our own Secretariat, which is now fully operational. Less than 4 years ago the NAC Memorandum of Understanding was signed by the four members of NAMMCO here in Tromsø, and in the short time since we have bulit up a fully developed regional instrument.

The Faroese delegation notes with appreciation the progress in the work of the Scientific Committee. The report from the meeting in Reykjavík in November seems to us to open up for the first step in a process of establishing management regimes for several smaller cetaceans. It is our view that these should be established on a case by case basis.

The discussion on this topic has been dominated by the discussion in the IWC. The basis for this is very much commercial whaling, as seen by the criteria of maximizing yield (highest continuing yield) and the importance of protection against depletion. Much of the exploitation of smaller cetaceans is not commercial in the sense that it is based on capital intensive investments. Other management objectives will therefore be important for this type of exploitation and the demands on data and investigations might not be so stringent when there is no wish to push the level of exploitation too close to any biological limit.

Our delegation has suggested that this discussion be put on the agenda, and we have also asked for action on specific species of small cetaceans.

Faroese involvement in the IWC process is at present very limited. While certain explorative work being done on the possibilities for the Faroe Islands to be formally exempted from the frustrating and disappointing process in the IWC, Faroese participation in the preparatory work in the Danish IWC delegation has been halted for the time being. It has still not been decided if this should be changed before the 46th Annual Meeting of IWC.

At this meeting the Faroese delegation would like to see an increase in speed as regards filling out the space not covered by the IWC, as well as in areas where the IWC does not fulfil its statutory responsibilities.

Opening Statement by Greenland

Fourth Meeting of the Council, Tromsø, 24-25 February 1994

Mr. Chairman,

Since our last meeting in Reykjavik we have seen NAMMCO being further consolidated.

The headquarters have been established in Tromsø, the Secretariat has been staffed, two working groups have held intersessional meetings, the Scientific Committee has held a full scale, separate meeting, and the Board of the NAMMCO Fund has had its first discussions.

And now we are attending our first regular Annual Meeting, followed by a Seminar on issues in which we have a profound interest.

All these activities have revealed a number of areas where further studies have to be undertaken, or where decisions must be made. But this only demonstrates the raison d'etre of our organization.

In particular, the report of the Scientific Committee points to a number of questions to which answers are still outstanding. This leaves us with the general issue of management under uncertainty.

The answer to the question "how to exercise management under uncertainty" is not simply "leave the marine mammals alone", because we are already influencing marine mammals, and the ecosystems of which they are part, in a managerial way: by fishing, by pollution, by hunting - and by not hunting.

Therefore, the question is not whether we can manage the marine mammals in our ecosystems under the present uncertainties, but how to do it better, more knowingly.

Scientific studies, in particular of stocks which are presently utilized, should be given priority within NAMMCO, and relevant management procedures should be developed and implemented. Nobody else seems to be keen to implement management procedures with respect to marine mammals.

Much has to be done. We hope for a successful meeting.

Opening Statement by Iceland

Fourth Meeting of the Council, Tromsø, 24-25 February 1994

To you, Mr. Chairman and other delegates and guests at this meeting, I have been asked to bring the warmest regards from Thorsteinn Pálsson, Minister of Fisheries, and on behalf of the Icelandic delegation I would like to express our satisfaction that we are now able to convene this fourth meeting of the Council of NAMMCO here in Tromsø, the home town of NAMMCO.

It is less than two years since the agreement on the establishment of NAMMCO was signed in Nuuk. What has been achieved since then is more than one could have anticipated two years ago. We have managed, not only to create various organs of this body such as a Council, a Scientific Committee, a Management Committee, the Board of the NAMMCO Fund and various working groups. We have also managed to let these various organs function together as a unity, making progress on our objectives. This could not have been achieved without hard work and efficient organization. As co-ordination is of vital importance for the effectiveness of any international organization we are encouraged by the work carried out by the Secretariat, headed by the Secretary, Kate Sanderson, and Assistant Secretary, Jens Paulsen.

At this meeting we will be able to verify the outcome of the November session of the Scientific Committee. During the Committee's discussions on management procedures, Icelandic scientists presented documentation on alternative implementation of a management scheme of special interest to Iceland. In general, as to the role of science in our work, we may consider the interrelation of science and the management of marine living resources as self-given, but experience in other fora shows us that this is not the case. I am convinced that the members of NAMMCO will be able to act responsibly upon the work of their scientists.

The Icelandic people have observed the resumption of Norwegian minke whaling with great interest. We fully support the resumption, as it is based on science and in full consistency with the principle of sustainable utilization.

Since we met in Reykjavík last summer the Minister of Fisheries established an *ad hoc* committee which is composed of Members of the Althing from all political parties. Its mandate is to review the current legislation on whaling and to prepare the case for discussion in the Althing of the question of the resumption of whaling by Iceland. The committee is expected to complete its task soon.

NAMMCO has become an effective organization for the conservation, rational management and study of marine mammals in the North Atlantic. We pledge ourselves to work constructively along the direction we have been proceeding and hope that in so doing we will be providing a model for other organizations dealing with the management of marine living resources.

Opening Statement by Norway

Fourth Meeting of the Council, Tromsø, 24 - 25 February 1994

When we met in Reykjavik in July last year, we said that the future of our organization should be considered in the light of the development of the IWC. In our view the majority of the IWC members seemed to move away from the Convention on the regulation of Whaling, and towards an ideological position of unconditional protection of all whales irrespective of whether they are threatened or not. Norway has, however, decided to remain a member of the IWC, and will thus continue its effort to change the IWC so that it again can become an organization dedicated to the management of whales.

The objective of NAMMCO is the management of marine mammals in the North Atlantic. In the present situation we consider it most appropriate to concentrate on sealing. Sustainable management of our living marine resources is vital, and we attach great importance to the continued seal hunt as a part of multi-species management in the North Atlantic. We are looking forward to closer cooperation in this field.

Since we met last, NAMMCO working groups have produced one report on Hunting Methods and another on Inspection and Observation. Both reports will be discussed at our meeting today. We think that the reports are useful contributions to our work both to improve hunting methods and to establish a responsible inspection scheme. The work accomplished by NAMMCO will be the basis for our efforts in the IWC on inspection and observation.

The mass media still give much attention to the hunting methods in whaling and sealing, and their comments are often accompanied by vivid descriptions of whales and seals in agony. The methods used in Norwegian minke whaling and seal hunting are, however, more humane than those commonly used in big game hunting, also in western countries. We see no reason to apply different ethical standards to different animals.

Norway approves the initiative taken by Iceland to arrange a NAMMCO conference on Marine Mammals and Marine Environment. We think it is now the right time for NAMMCO to highlight the knowledge that has been gathered in this area.

In Norway we are concerned about the actions directed against us by environmental protection groups and animal welfare groups. It is enough to mention the names of the vessels *Nybræna* and *Senet*. Recently we have observed renewed activity in the campaign against the exploitation of furs. This is an attack on our sealing communities conducted by people who are not familiar with our traditions. It is an example of urban people's lack of understanding of our way of living close to the nature. They do not appreciate to what extent some communities depend on harvesting from the sea. More information about our use of natural resources, on the basis of sustainability, is obviously required.

We stated at an earlier NAMMCO meeting that the international opposition to whaling and sealing is based more on emotions and assumptions than on well-informed arguments. There is still an urgent need for more constructive discussion on future management of marine mammals. In this context NAMMCO has a very important role to play. We are, therefore, looking forward to the seminar on information and marine mammal hunting on Saturday.

I take this opportunity to congratulate NAMMCO on the establishment of its Secretariat here in Tromsø. I believe that NAMMCO will contribute positively to a better understanding of the principles of sustainable use of all resources in the oceans.

Opening Statement by the Government of Japan

Fourth Meeting of the Council, Tromsø, 24-25 February 1994

On the occasion of the Fourth Meeting of NAMMCO, Japan would like to express its respects to the Contracting Parties of NAMMCO for their efforts in getting the organization on the right track.

The basic philosophy of the Government of Japan on the whaling issues involves three major points:

1) Sustainable utilization of whale resources in line with the concepts agreed upon at UNCED;

2) Respect for food habits and culture which are different from one local community to another in accordance with local climate and traditional ways of life;

3) Basing utilization and management on scientific knowledge rather than on emotions.

The Government of Japan therefore strongly supports NAMMCO and follows its further development with great interest.

Local resources should be utilized and managed by local communities. Those who are most concerned about marine mammals in the North Atlantic region are the people and nations in this region. The rights and responsibilities for the management of marine mammals are theirs. This is why the Government of Japan considers the activities of NAMMCO so worthy of note and encouraging.

We would like to convey from Mr Shima, the Japanese Commissioner to the IWC, his expectations for the furtherance of NAMMCO's activities and his friendship to you all.

Secretary's Report to the Fourth Meeting of the Council
Tromsø, 24-25 February 1994

The following report presents an overview of the activities of the Secretariat since the last meeting of the Council in July, 1993, including the establishment of offices in Tromsø.

1. Establishment of Secretariat in Tromsø

1.1 Staff

Kate Sanderson took up the position of Secretary on 1 August in the Faroe Islands, and moved to Tromsø 1 September. Jens Paulsen took up the position of Assistant Secretary in October, arriving in Tromsø 7 October.

Further permanent staff have not been hired. No decisions concerning additional staff will be made until the Secretariat has moved into more permanent accommodation (see 2.3 below). However, as work progresses at least one half-time office assistant will be needed, probably towards the end of the year. Budget estimates for 1995 (NAMMCO/4- Appendix 10) have taken these forecast additional staffing costs into account.

1.2 Temporary accommodation

Temporary accommodation for the Secretariat was agreed upon between the University of Tromsø and the Ministry of Fisheries in Norway.

The temporary offices of the Secretariat are located in the Department of Arctic Biology. The first two months (September - November) were spent in a vacant office in the Department. Both members of the Secretariat worked from this single office until the interior of the basement accommodation in the Department had been completed. Offices were set up downstairs from November 7, where the Secretariat now leases a space of 40 square metres at a cost of NOK 3,300 per month.

The staff of the Secretariat have greatly appreciated the generous help and cooperation offered by Professor Blix and the staff of the Department of Arctic Biology in this transition period. Being located on the University campus has the great advantage of providing the Secretariat with access to the many activities going on there, not least in the Department itself, where seminars are held regularly on current research projects.

1.3 Future accommodation

Plans are to move the Secretariat to more permanent accommodation before the end of the year. This has been arranged between the University and the Ministry of Fisheries in Oslo. The building previously used by the Department of Arctic Biology will be transported from its present site in Tromsø to an as-yet-unspecified site on the University campus. The Ministry of Fisheries will pay for the transport and renovation of the building and the premises will be shared with the Secretariat of NOR - Nordisk Organ for Reinforskning (Nordic Council for Reindeer Research), which employs one person. Preliminary discussions have taken place between the Secretary and Sven Skjenneberg (retiring secretary of NOR) as to the possibility of NOR sharing some of NAMMCO's facilities in the new building, although no final agreements have been made. The annual rent will be NOK 15,000 (for 50 square metres).

1.4 Equipment

Two sets of office furniture have been purchased, with a view to use in the new premises. The Secretariat has also purchased its own office equipment, including copy and fax machines, and data equipment (two desktops with a network server and two portable computers for use at meetings abroad), using Word Perfect for Windows (6.0).

1.5 Financial arrangements (1993 Accounts - Appendix 2)

Audited accounts for 1993 are presented separately in Appendix 1. Certified accountants Jensen & co, Tromsø have done the 1993 audit and are proposed for official appointment as auditors for NAMMCO.

The Secretariat notes the need for an early deadline for contributions each year, and suggests that this be set as January 31 for the same year. No contributions for 1994 have yet been received.

The Secretariat has established its accounts with Sparebanken Nord Norge in Tromsø.

2. Meetings

Working Group meetings (Inspection and Observation/Hunting Methods) were held in Copenhagen 20-22 September and were attended and reported by the Secretary.

The Scientific Committee (and associated Working Groups) met in Reykjavik 23-26 November, and both members of the Secretariat were present. The final report was circulated to Council members on 14 January.

3. Conference on marine mammals and the marine environment

A preliminary informal meeting to discuss plans for the Conference on Marine Mammals and the Marine Environment was held in Reykjavik during the Scientific Committee meeting in November. Further discussions and consultations are planned to take place during the present Council meeting, and the Secretariat also plans to consult some outside experts who will be in Tromsø for a meeting of the Arctic Monitoring and Assessment Program (AMAP) from 28 February.

Due to the work involved in establishing offices in Tromsø, little progress has been made on plans for the conference. Firm decisions on timing and location must be taken before work can go ahead on formulating and announcing a programme. This will be a priority task of the Secretariat after the present Council meeting.

4. The NAMMCO Fund

A preliminary telephone meeting of the Board of the NAMMCO fund was held in early December, when a number of ideas for projects were discussed. The Secretariat subsequently consulted Board members with plans to hold a special seminar on information in connection with the present Council meeting, and it was agreed that some of the establishment resources of the Fund could be drawn upon to finance the participation of a number of invited speakers to the seminar. Due to time constraints prior to the Council meeting, a further meeting has not been possible, but it is expected that Board members will discuss arrangements for their next meeting and future work during the Council meeting/seminar in Tromsø.

5. Selection of logo

The Secretariat decided to announce a competition to design a logo for the organisation, with a prize of NOK 10,000. This was advertised in daily papers in each NAMMCO member country in November and the deadline was December 15. A total of 119 contributions were received. The range of designs and the work put into these contributions was so impressive that it was also decided that all the entries should be displayed publically in connection with the Fourth Council meeting.

Marit Hauan from Tromsø Museum and Greta Bjørnhaug from Nord Norsk Kunstmuseum (Museum of Art) kindly agreed to take part in the selection committee as external experts. After an initial sorting process conducted by the Secretariat, the experts reviewed the remaining c. 50 entries independent of the Secretariat and arrived at a selection of the four best designs. A further round of deliberations resulted in agreement on the proposed design idea. This was circulated to Council members and has subsequently been adapted by a local professional graphic studio for use as a logo.

The result is presented to the meeting under a separate agenda item for the official approval of the Council.

6. Contacts

The Secretariat has been represented at a number of events since its establishment in Tromsø. An outline of these is provided below. Further details are contained in the separate report on external relations (NAMMCO/4 - Appendix 15).

6.1 Conference on Responsible Wildlife Resource Management - Brussels, 29-30 November 1993

Kate Sanderson was invited to give a paper on NAMMCO at the conference on Responsible Wildlife Resource Management organised by the European Bureau for Conservation and Development (EBCD) in Brussels at the end of November, which was held in the European Parliament. Copies of the lecture have been circulated to Council members, and are also available from the Secretariat. Proceedings of the conference are due to be published in April (see also Report on External Relations).

6.2 Nord Norges Rederiforening (Shipowners' Association of Northern Norway)

Jens Paulsen attended the annual meeting of Nord Norges Rederiforening in Tromsø in early December. The invitation was arranged through the Secretary's contact with a member of the association's hunting group, which consists of representatives of whaling and sealing interests in northern Norway.

6.3 Norges Småhvalfangerlag (Norwegian Small-Type Whalers' Union)

Kate Sanderson was invited to attend the annual meeting of *Norges Småhvalfangerlag* in Svolvær in early December where a brief outline of the work of NAMMCO so far was presented. The meeting passed a resolution welcoming the establishment of the Secretariat in Tromsø and supporting the work of the organisation.

6.4 ICR Symposium, Tokyo

Kate Sanderson attended a symposium in Tokyo (8-10 February) hosted by the Institute for Cetacean Research. The theme of the Symposium was: "The role of wildlife use in shaping local culture". Although originally invited to speak on pilot whaling in the Faroe Islands, Kate Sanderson was also

introduced to the forum as Secretary of NAMMCO and had the opportunity to speak briefly about the organisation, as well as to take part as a panellist in the discussion which concluded the Symposium.

The proceedings will eventually be available from ICR, and the NAMMCO Secretariat will distribute copies to Council members.

6.5 Press

There has been little contact with the press since the Secretariat was established in Tromsø, other than an article in the local Tromsø paper *Nordlys* in October.

7. Future work

The Secretariat still has much work to do in organising data systematically, establishing a coordinated filing system and processing in-coming information. Work in these areas will continue, and priority will be given to producing a comprehensive database of contacts and references.

The Scientific Committee has requested the Secretariat to investigate the possibilities of linking up with e-mail networks for effective communication and transmission of data.

Further contacts with other relevant organisations will be pursued and information will be gathered and distributed to Members as appropriate. The Secretariat will undertake to build up, within available resources, a comprehensive collection of publications, international agreements and laws, journals and other material (eg audio-visual) related to marine mammals and their utilization. It is hoped that the Secretariat may eventually also function as a resource and distribution base for information on marine mammals and marine mammal utilization in the North Atlantic which governments, other organisations and the general public can contact for information.

Priority will also be given this year to producing an informative publication on NAMMCO designed for general distribution.

(Appendix 1 1993 Accounts)

JENSEN & CO ANS
STATSAUTORISERTE REVISORER

Guttorm Jensen, Hans Olaf Brox,
Øyvind H. Kjelstrup.
Medlemmer av Norges
Statsautoriserte Revisorers Forening

I samarbeid med
Arthur Andersen & Co.

To the Council of the
North Atlantic Marine Mammal Commission

TRANSLATION FROM NORWEGIAN

AUDIT REPORT FOR 1993

We have audited the annual accounts of NAMMCO for 1993, showing net income of NOK 1.384.168. The annual accounts, which consist of statement of income and balance sheet, are the responsibility of the Commission's Management.

Our responsibility is to examine the Commission's annual accounts, its accounting records and the conduct of its affairs.

We have conducted our audit in accordance with applicable laws, regulations and generally accepted auditing standards. We have performed the auditing procedures we considered necessary to determine that the annual accounts are free of material errors or omissions. We have examined, on a test basis, the accounting material supporting the financial statements, the appropriateness of the accounting principles applied, the accounting estimates made by the management and the overall presentation of the annual accounts. To the extent required by generally accepted auditing standards we have also evaluated the Commission's asset management and internal controls.

In our opinion, the annual accounts have been presented in confirmity with the Accounting Act and present fairly the Commission's financial position as of 31 December 1993 and the result of the operations for the fiscal year in accordance with generally accepted accounting principles.

Tromsø, 22 February 1994
Jensen & co ans

Øyvind H. Kjelstrup
State Authorised Public Accountant (Norway)

Jensen & Co ANS - Sjølundveien 4 - Postboks 2184, 9002 Tromsø - Telefon 77 61 25 00 - Telefax 77 68 54 80
Revisornummer: 955218981

NAMMCO

PROFIT AND LOSS ACCOUNT 1993

(NOK)

Contributions	**2,388,660**
Operating expenses	
Salaries, wages, removal costs and employer's tax	349,433
Office rent	10,000
Meetings	151,851
Office supplies	207,097
Communications	21,475
Adm. costs, The Faroe Islands (January - July)	90,780
Staff travel and subsistance allowance	127,632
Other operating expenses	62,986
Total operating expenses	***1,021,254***
Operating result	***1,367,406***
Financial income and expenses	
Interest received	17,915
Interest paid	1,153
Total financial income	***16,762***
Profit for the year	**1,384,168**
Transfer to the Scientific Committee	289,823
Transfer to the NAMMCO Fund	500,000
Transfer to general reserve (surplus 1993)	594,345
Total transfer	**1,384,168**

NAMMCO

BALANCE SHEET 31 DECEMBER 1993

(NOK)

Assets

Current assets	
Bank deposits (restricted: 38,579)	987,240
Contributions due	553,647
Total current assets	***1,540,887***
Total assets	***1,540,887***

Liabilities

Current liabilities	
Employees tax deduction and employers tax	45,831
Trade creditors	47,527
Other creditors	63,361
Total current liabilities	**156,719**

Equity

Restricted equity	
The Scientific Committee	289,823
NAMMCO Fund	500,000
Total restricted equity	***789,823***
Distributable equity (General reserve)	**594,345**
Total liabilities and equity	**1,540,887**

NAMMCO

The Scientific Committee

PROFIT AND LOSS ACCOUNT 1993

(NOK)

Contributions	*432,100*
Operating expenses	
Meetings	142,277
Total operating expenses	*142,277*
Operating result	*289,823*

The Scientific Committee

BALANCE SHEET 31 DECEMBER 1993

(NOK)

Assets

Due from NAMMCO	289,823
Total assets	**289,823**

Liabilities and equity

Distributable equity (general reserve)	*289,823*
Total liabilities and equity	**289,823**

1994 Budget and 1995 Forecast Budget

Fourth Meeting of the Council, Tromsø, 24 - 25 February 1994

	Description	1994 (NOK 1,000)	Forecast 1995 (NOK 1,000)
Expenditure			
1	Staff related costs	950	1.150
2	Rent, office	30	20
3	Meeting	100	105
4	Travel and subsistence	200	230
5	Communications	110	115
6	Office removal	60	-
7	Office supplies	100	70
8	Information	300	315
9	Other expenses	117	125
10	Subscriptions	50	60
11	Subtotal	2,017	2,190
12	The Scientific Committee	433	455
13	Reserve	200	200
14	**Total expenditure**	**2,650**	**2,845**
Revenue			
15	Contributions	2,450	2,450
16	Surplus from previous year	594	594
17	**Total revenue**	**3,044**	**3,044**
18	**Surplus**	**394**	**199**

Notes

1. Salaries, leave transportation and Norwegian employers tax (5.3% of the salaries).
2. Removal is expected to take place in autumn 1994
3. Including assistance during meetings, rental of extra meeting and office rooms etc.
5. Telephone, telefax and mail
6. Potential costs in the removal process
7. Copy machine, computers etc., service and other office supplies
8. Information about NAMMCO (printing costs etc.), logo competition
9. Auditor, insurance etc.
12. See also budget of the Scientific Committee
15. Rate of exchange DKR/NOK, 12 January, 1994: 111,19

North Atlantic Marine Mammal Commission

Report of the Second Meeting of the Scientific Committee[1]

Reykjavik, 23-26 November 1993

[1] The report of the NAMMCO Scientific Committee should not be quoted without prior consultation with the Secretary of NAMMCO.

NAMMCO Secretariat
c/- Department of Arctic Biology
University of Tromsø
9037 Tromsø
Norway

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Report of the
Second Meeting of the NAMMCO Scientific Committee

Reykjavik, 23-26 November 1993

The Scientific Committee met at the offices of the Fisheries Association of Iceland in Reykjavik on 23 November and reconvened on Friday 26 November. The meeting was attended by members of the Scientific Committee, invited experts and the staff of the Secretariat. The list of participants is contained in Appendix 1.

1. Chairman's welcome and opening remarks

The Chairman, Jóhann Sigurjónsson, welcomed members and invited participants to the meeting, in particular the two new members Aqqalu Rosing-Asvid and Jógvan Martin Grástein. On behalf of the Committee he thanked the two outgoing members, Finn O. Kapel and Bogi Hansen. He noted the advantage of maintaining a relaxed and open atmosphere in the Committee, but underlined the importance of applying self-criticism in the work ahead. He also noted the importance of having the staff of the Secretariat present as *ex-officio* non-voting members.

2. Adoption of Agenda

The Agenda, as contained in Appendix 2, was adopted.

3. Arrangements for meeting

Kate Sanderson was appointed as rapporteur.

The Committee decided on the order in which agenda items would be dealt with and the time schedule for the meeting. The Secretary explained the practical arrangements for the meeting, which included an invitation to participants from the Ministry of Fisheries of Iceland to an informal dinner on the evening of 23 November.

4. Presentations of invited participants

Randall R. Reeves, Hudson, Quebec, presented a paper to a joint session of the Scientific Committee and the Working Group on Management Procedures. The paper, entitled "National, Bilateral and Multilateral Approaches to Managing the Exploitation of Small Cetaceans" (SC-WG/MP1/1), was especially prepared by R. Reeves for the Scientific Committee, together with one of its members, Mads P. Heide-Jørgensen. The paper presented a review of national, bilateral and multilateral regimes for the management of small cetaceans, with particular reference to the North Atlantic. Three main categories of small cetacean takes were defined - directed killing, by-catch and live capture, all of which, according to the authors, should be taken into account throughout the stock's range in management for effective conservation. The paper concluded that no single management regime will be appropriate for all management contexts and outlined a number of elements which were considered crucial to an acceptable management regime. An abstract of the paper is contained in Appendix 4.

Dan Goodman, senior policy adviser in the Department of Fisheries and Oceans, Canada, also presented a paper to the joint session of the Scientific Committee and the Working Group on Management Procedures. The paper, entitled "The Role of Science in the Management of Seals" (SC-WG/MP1/4), described the role of science in the management of hunts of harp and hooded seals in Canada. It was noted that the reasons for management have changed from conservation for direct

commercial harvest to consideration of controlling populations because of their impacts. At the same time, however, the role of science has become less clear, management objectives for controlling populations have not been properly formulated, and public policy issues related to these new approaches to marine mammal management have not been resolved. An abstract of the paper is contained in Appendix 5.

These presentations are also referred to under section 9.1 of this report (see also the Report of the Working Group on Management Procedures - Appendix 7).

5. Cooperation with other organisations

5.1 ICES

The Chairman reported that no formal agreement had yet been made with ICES, but that NAMMCO had forwarded several requests for advice to ICES, which concerned long-finned pilot whales, harp and hooded seals, marine mammal interaction with fish and shrimp, contaminant burdens in marine mammals, the development of multi-species approaches to management, and the pathways of radioactive material from northern Scotland in the marine environment and marine mammals.

ICES was dealing with these matters in its various study and working groups, which included the Study Group on Long-Finned Pilot Whales, the Study Group on Seals and Small Cetaceans in European seas, the Joint ICES/NAFO Working Group on Harp and Hooded Seals and the Multi-Species Working Group.

It was noted that in receiving and incorporating NAMMCO requests into its work, ICES had shown its recognition of and willingness to cooperate with NAMMCO.

The Chairman reported that ICES was examining how it would deal with marine mammals in the future, and it was agreed that continued cooperation with ICES was important.

5.2 IWC

The Committee noted that a reciprocal observer relationship had been established between the IWC and NAMMCO. It was also noted that the IWC Scientific Committee had made specific mention of cooperation with NAMMCO at its last meeting in Kyoto. The Committee agreed to seek an exchange of information with the IWC Scientific Committee.

5.3 NAFO

There were no reports on specific relations between NAFO and the Scientific Committee, other than the matter of NAMMCO's request for advice on harp and hooded seals which had been passed on to both the NAFO and ICES Secretariats for consideration in the ICES/NAFO Joint Working Group on harp and hooded seals.

6. Review of available documents and reports

6.1 Documents submitted

Documents and reports available for the meeting were reviewed. These are listed in Appendix 3.

The report reviewed under Agenda item 6.3 is treated under point 9 of this report, and reports under 6.4, 6.5 and 6.7 are treated in this report under point 10.

6.2 *National progress reports*

National progress reports submitted to the meeting by the Faroe Islands, Greenland, Iceland and Norway are listed in Appendix 3.

6.3 *Report of the ICES Study Group on Seals and Small Cetaceans in European Seas, Cambridge, March 1993*

The Report of the ICES Study Group on seals and small cetaceans in Europeans Seas (ICES: C.M. 1993/N:3) was summarised by Nils Øien.

The Study Group had reviewed current knowledge of the status of harbour, ringed and grey seals, as well as several small cetaceans species, namely harbour porpoise, bottlenose dolphin, common dolphin and *Lagenorhynchus spp.* The grey seal population at Orkney, Hebrides and the Scottish mainland is estimated to be 78,700 and has increased nearly 10% since 1990. Several of the harbour seal populations suffered heavy mortalities, up to 60%, during the 1988 epidemic caused by the phocine distemper virus, but seem to be stable or recovering. The ringed seal population in the Baltic seems at present to be stable at c. 5,000 individuals, but this is only a small fraction of the estimated 300,000 thought to have been there around 1900. The decline was attributed originally to over-hunting, but more recently to female sterility due to the effects of high contaminant levels.

Today, few estimates of abundance for small cetaceans within the Study Group area are available, but for the North Sea area an international survey (SCANS) is planned for 1994. For harbour porpoises in the North Sea, concern has been expressed about the effect of high contaminant levels, disturbance, changes in food availability, and by-catches, but at present the Study Group found it difficult to assess their health status. Much time was devoted to the by-catch problem associated with many fisheries, and how to document these. Several case-specific examples indicated that it is possible to obtain detailed and reliable information on by-catches using an observer scheme and directed surveys. Approaches to reduce incidental takes of marine mammals include modification of fishing gear so it is more easily detected, time/area restrictions and area closures.

7. Update of "List of Priority Species"

The Scientific Committee began its work in 1992 with the preparation of a Preliminary List of Priority Species of relevance for NAMMCO. This was presented to the Council in Tromsø in January 1993 in the preliminary report of the Scientific Committee.

At the first meeting of the Committee in January 1993 it was agreed that an additional section on the bottlenose dolphin (*Tursiops truncatus*) should be included, to be drafted by Dorete Bloch. The draft addition on *Tursiops truncatus* is included as Appendix 6, together with corrected versions of Tables 4 & 5 of the List of Priority Species. It was agreed that Committee members would review these additions by correspondence before their final inclusion in the List.

The List had originally been designed for general reference and as a tool for the Council. At the January meeting it had also been agreed that the List of Priority Species should be updated at regular intervals. The Committee discussed the intended function of the List and the frequency with which it should be updated.

The Committee reconfirmed the need to update the List as new data becomes available. Two year intervals were suggested, and it was also suggested that the forum of Scientific Committee meetings could be used simultaneously to review the List and incorporate whatever new data might be available.

The format of the List was discussed, and it was suggested that the Council may wish to have it produced in the format of a reference handbook for general use, available in all relevant languages, and including a multi-lingual name list of all species covered.

8. Impacts of marine mammals on the marine ecosystem

This item was also dealt with at the first Scientific Committee meeting in Tromsø in January, when it was noted that NAMMCO's request for advice on the ecological role of marine mammals had been forwarded to ICES, where it was being dealt with in the ICES Multi-Species Working Group. In its last report to the Council, the Committee had stated that it was not possible to provide substantial answers to these questions in the near future, but that the Scientific Committee would be following research and developments in multi-species approaches closely.

Since January, the report of the ICES/NAFO Joint Working Group on Harp and Hooded Seals has become available, and the Committee noted that these questions were also being addressed with reference to these two seal species. The Chairman informed the meeting of a forthcoming joint ICES/NAFO Symposium in 1995 on the role of marine mammals in the marine ecosystem.

It was agreed that there was a need for observations of food and feeding habits of all marine mammals, which should be kept in mind by scientists in all NAMMCO countries. It was noted that studies of the ecological role of marine mammals were indeed conducted in all NAMMCO countries and specific reference was made to the Norwegian Marine Mammal Research Programme, which has this as one of its main objectives. It was agreed that these issues should be kept on the agenda at future meetings.

9. Development of management procedures

Upon request from the Council, the Scientific Committee established a Working Group on Management Procedures with the following terms of reference:

"to review management procedures in general, including to review the main systems that are developed in various fora and provide an assessment of their parameters on the basis of how they would be applied in individual cases."

The Working Group on Management Procedures met on 24 November and its Chairman, Nils Øien, presented the findings of the Working Group to the Committee. The full report of the Working Group on Management Procedures is contained in Appendix 7.

9.1 Status of development

The Scientific Committee reviewed the report of the Working Group regarding the procedures and objectives currently applied for management of marine mammals in the North Atlantic and elsewhere. This included discussion of the papers presented under Agenda item 4 at the Scientific Committee meeting by the invited speakers, Randall R. Reeves and Dan Goodman (see point 4 above), as well as discussion on the development of the Revised Management Procedure (RMP) by the IWC Scientific Committee. An outline of these discussions is contained in points 5.1 - 5.2 in the Working Group report (Appendix 7).

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.

Regardless of this, it was noted that the RMP could be an appropriate starting point in some management cases. A paper by Butterworth (SC-WG/MP1/3) considered by the Working Group contained suggestions in relation to this for different management situations. The question was raised as to whether the RMP or a similar procedure would be desirable in every case relevant to NAMMCO.

9.2 Future work

The Scientific Committee then discussed the possible future tasks of the Working Group, based on the conclusions of the report presented.

The question was raised as to whether NAMMCO could assume a more active role in the development of management procedures. In the light of this, and of the behaviour of the RMP, further development of an RMP-like procedure was considered a possibility for future work.

It was further noted that the Working Group on Northern Bottlenose and Killer Whales had suggested modelling of northern bottlenose whale population development and that this could potentially be a task for the Working Group on Management Procedures to carry out. However, this would also require a refinement of the terms of reference for the Working Group (see also under point 10.2.2).

The Committee agreed that these matters would be considered by its Chairman in consultation with the members of the Committee in the light of whatever further decisions may be made by the Council.

10. Marine mammal stocks, status and advice to the Council

10.1 Long-finned pilot whales

10.1.1 Review of status

The Scientific Committee decided at its first meeting in January 1993 to base its advice on North Atlantic long-finned pilot whales (*Globicephala melas*) on the report from the ICES Study Group on Long-Finned Pilot Whale. The report of the study Group, which met from 30 August - 3 September 1993, was presented to the Committee by Geneviève Desportes.

The terms of reference of the ICES Study Group on Long-Finned Pilot whales are to:

> "a) conduct an evaluation of the status of long-finned pilot whales in the North Atlantic (i.e. population size and trends, population dynamics parameters), including the importance of behavioural factors and accounting for multispecies interactions;
>
> b) identify key information gaps and critical long-term information work."

Population identity and seasonal movements were analysed with reference to available data based on distributional, genetic, morphological and other evidence. Based on distributional evidence, it was not possible to confirm a distinction between populations in the North Atlantic due to the gap in survey coverage south of Greenland.

Analysis of morphological differences between the Faroe Islands and Newfoundland pointed to two separate populations, although further analysis of the data was required. Genetic evidence, on the other hand, was not inconsistent with the hypothesis of a single North Atlantic stock, but more data was required before this could be substantiated.

Studies of pollutant loads and parasites in pilot whales from the Faroes indicated that the schools studied could be classed into three different groups. This pointed to feeding differences and therefore varying distribution ranges for different schools, thus indicating that there is no resident Faroese population.

Comparisons of isotopes between eastern and western populations suggested a difference in long-term diet of the schools sampled. Differences were also noted between the Faroes and Iceland based on an examination of patterns of dentine and cement deposition and mineralization in teeth.

It could be concluded that there was no resident stock around the Faroes, and there was no evidence to indicate any genetic isolation. If the morphological evidence is accepted, there could be more than one stock in the North Atlantic. This would, however, still leave the question of boundary identification unresolved.

Analyses of social structure and behavioural patterns were discussed in relation to the differences in mean pod size between schools observed in sighting surveys and those from the Faroese coastal catch. This raised questions as to the biological significance of such differences. The need to determine what constitutes a pod, given the differences recorded between the largely offshore sightings survey data and the coastal Faroese catch data, was considered important, in particular in terms of estimating population.

An abundance estimate was available for the eastern Atlantic based on the NASS 1987 and 1989 surveys. However, estimates from the western side of the Atlantic based only on sightings along the coasts of Newfoundland and Labrador, and a complete survey west of 42°W was recommended. Problems were associated with estimated trends in abundance, both in the eastern and western North Atlantic.

A great deal more data were available on population dynamics parameters but more work still needs to be done on reproductive rates before this can be used in terms of population modelling.

There was not a lot of information available on multi-species interaction and further study is required.

10.1.2 Advice on the effects of the Faroese drive hunt on the stock

The Committee concluded, based on the findings of the ICES Study Group on Long-Finned Pilot Whales, that an evaluation of the status of long-finned pilot whales in the North Atlantic could not as yet be provided. Further refinement of some of the available data was required, in particular the items outlined in 10.1.3. below.

10.1.3. Future work

Based on the report of the ICES Study Group, the Scientific Committee identified the need for further work in the following areas:

Population dynamics parameters:
- reanalysis of data and methods for estimating calving intervals and survival rates.

Population size:
- reanalysis of sightings data to evaluate the proximity of other schools to primary sighting and analysis of average sighted group size at varying distances from coastlines;

Population identity:
- review of the potential value of different methods for detecting genetic variability;
- comparison of morphometric data from mass strandings on Cape cod and data from the locations to detect population differences;
- development of satellite tagging methodology;
- design of an appropriate study to detect ranges of movement of individual groups of whales;
- comparison of the carbon and nitrogen isotope ratios between the three groups of schools which are distinguished on the basis of pollutants and parasites.

Multispecies interaction:
- review of information on the status of stocks of prey species.

Modelling:
- estimation of potential rates of population increase and evaluation of the impact of uncertainty in these parameters on this estimation.
- development of population models to evaluate historic population trajectories.

Other long-term work was also identified, including the coordination of methodologies and coverage of future sightings surveys throughout the range of the species.

It was noted that the ICES Council had decided that the Study Group was to continue its work in 1994 by correspondence with the aim of holding a meeting in 1995. Concerns were raised about possible delays this may cause in addressing the requests forwarded by the Council. While the Scientific Committee recognizes the substantial progress made by the ICES Study Group, the Committee urges the Council to help ensure that the necessary preparations will be carried out so that work in the Study Group may be expedited as soon as possible.

10.2 Northern bottlenose whale

10.2.1. Review and advice on status

The Chairman of the Working Group on Northern Bottlenose and Killer Whales, Tore Haug, presented the findings of the Working Group to the Scientific Committee with regard to northern bottlenose whales (*Hyperoodon ampullatus*) . The Report of the Working Group, which met 25 November, is contained in Appendix 8. With regard to northern bottlenose whales, the Working Group had as its terms of reference to:

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

Available information on the catch history in the North Atlantic was reviewed. It was noted that there has been no local hunting of bottlenose whales in either Greenland or Iceland. The Faroes had conducted a limited-scale coastal drive fishery of the bottlenose whale, as well as a limited-scale offshore catch. Records dating from at least as early as the seventeenth century indicate a total of 738 bottlenose whales taken to date in the Faroes, either as directed catches or strandings.

The Norwegian catches of bottlenose whales, including catches in distant waters, were quite substantial in earlier years, and had been conducted during two main periods. The first was from 1882

to the 1920s, during which a total of c. 60,000 bottlenose whales were taken. In the second period, from the 1930s to 1973, a total of 5,800 bottlenose whales were taken.

That a decline in catches off the Faroes coincided with a decline in the Norwegian bottlenose fishery may point to a single stock in the eastern North Atlantic.

Biological parameters were also reviewed. There was some data from Norway and Labrador, no whaling having been conducted in the latter area when sampling began. Samples taken in Iceland for age at sexual maturity and pregnancy rates had been from a stock with a long history of exploitation. There was an indication of differences between samples, which might suggest a lack of exchange of animals between these areas.

The Scientific Committee concluded that it was unable at this stage to reach any firm conclusions on stock identity, ie the existence of one or several stocks of bottlenose whales in the North Atlantic.

Some modelling results of catch series were presented to the Scientific Committee and indicate that from an initial size of approximately 100,000 animals, a stock of approximately 60,000 animals remained in 1976. Due to time constraints, however, the Committee was unable to evaluate and discuss these results in depth.

An estimate of abundance of 5-6,000 animals was derived from analysis of Faroese and Icelandic data from the NASS 1987 survey. Given that this was a surface estimate with no corrections made for diving animals, the Scientific Committee agreed that a reasonable estimate of bottlenose whale abundance in the North Atlantic would be in the tens of thousands.

The Scientific Committee was not at this stage able to present results of an assessment, and no management advice could therefore be offered. It was noted in general, however, that this crude estimate of the population size implied that total removals from the stock over the past 15 years (approximately 1 whale per year) represented an exploitation rate of less than 0.1%.

10.2.2 Future work

The following were noted as priorities for future research on northern bottlenose whales:

a) compilation of catch data, with a yearly breakdown by sex and areas, including Scottish material;
b) examination of catch history including effort data in Norway, Faroes and Scotland;
c) analysis of Norwegian morphometric data and collection of similar data for the Faroes (and other areas, if possible);
d) collection of tissue samples for analysis of genetic material in relation to stock identity and for pollutant studies;
e) collection and analysis of dive times and behaviour to be incorporated in sightings survey analysis; and
f) stomach analysis should be conducted whenever possible.

The Scientific Committee noted the specific tasks outlined above for future research on the northern bottlenose whale, and discussed the Working Group's suggestion of exploring the possibilities of modelling population trajectories using catch series and abundance estimates. It was noted that modelling techniques had been greatly refined since the 1970s, when such modelling would not have been possible. Although it was acknowledged that there was not a great deal of data to include in a model, it was nevertheless considered a worthwhile exercise. The main preparatory work involved in undertaking such population modelling could be done through the Working Group on Management

Procedures prior to a subsequent meeting of the Working Group on Northern Bottlenose and Killer Whales. However, the Scientific Committee also noted that initiation of such a project would ultimately depend on whatever specific management objectives for the species were determined by the Council.

10.3 Killer whales

10.3.1 Review of status

The Chairman of the Working Group on Northern Bottlenose and Killer Whales, Tore Haug, presented the findings of the Working Group with regard to killer whales (*Orcinus orca*). The Committee based its deliberations on this species on the report of the Working Group which is contained in Appendix 8. The terms of reference of the Working Group were to:

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

10.3.2 Advice

The Scientific Committee could not report any conclusive findings on stock identity although local aggregations with long-term site fidelity may provide provisional management units.

In the light of this, there was no conclusive data on stock abundance, while the Committee was able to review available data on abundance in different areas. Sightings surveys off Norway in 1989 gave an abundance estimate of 7,000 (95% c.l. 3,400-14,400) in the northern North Sea and eastern Norwegian Sea towards Bear Island. Surveys conducted in 1987 by Icelandic and Faroese vessels (Icelandic/Faroese and adjacent waters) gave a combined estimate of 6,600 (CV=0.32) with a lower 95% bound of 3,900. Abundance in Norwegian coastal waters not otherwise covered by sightings surveys was estimated from questionnaires and provided an estimate of 1,500 killer whales. Few observations have been recorded from West Greenland, so no abundance estimate was available, despite considerable survey effort since 1984, which would suggest that the species is not abundant in this area.

The Committee reviewed ecosystems and habitat considerations with regard to killer whales. Data on feeding ecology was reviewed. In Norwegian coastal waters the main prey of the killer whale is herring, although other species such as squid, cod and some seabirds are also recorded. In the Faroes, while the main diet of the killer whale diet is fish (including mackerel, herring, and halibut), other marine mammals (seals and whales) as well as a variety of seabirds also form part of the diet. Off Iceland, herring and halibut seem to be the most important food items, although these observations are quite limited in time and space. In Greenland the diet of killer whales is dominated by marine mammals, in particular narwhals.

The only detected effect of environmental change on killer whale stocks is from Norwegian waters. The collapse of the herring stock at the end of the 1960s resulted in changes in the migration pattern of young and adolescent herring, which remained in the coastal waters and fjords rather than migrating into the Norwegian Sea as they had done previously. Coinciding with this there was an observed reduction of abundance of killer whales in the Norwegian Sea, but increased occurrence of the species in coastal and inshore waters of Norway since the early 1970s. Other than this, no environmental effects on the stock, such as the effects of pollution, has yet been documented.

It was noted that the Working Group had addressed the questions forwarded from the Council based on available data. Having identified the shortcomings in the available data, and the research priorities for future work, it was acknowledged that more comprehensive answers could be provided at a later stage.

10.3.3 Future work

The following were noted as priorities for future research on killer whales:

a) the continuation and expansion of photo-identification studies;
b) the continued documentation of vocal dialects;
c) the comparison of Norwegian and Icelandic photo-ID databases;
d) tissue sampling for genetic analysis with regard to stock identity;
e) satellite tracking to detect the range of movement of individuals and groups of whales;
f) the establishment of a central photo-ID catalogue;
g) the full registration and reporting of Greenland catches and their comprehensive sampling;
h) further studies of feeding ecology; and
i) studies of pollutant effects on killer whale stocks.

The Scientific Committee noted that further work on killer whales in the Working Group on Northern Bottlenose and Killer Whales was not necessary until some or all of these priority research requirements had been met, which could then provide more thorough answers to the questions forwarded from the Council.

10.4 Harp seals

10.4.1 Review of status

After giving a review of the historical background for international cooperation on harp and hooded seal management, Finn Kapel presented the Report of the recent meeting of the Joint ICES/NAFO Working Group on Harp and Hooded Seals (ICES: C.M. 1994/Assess:5). Acting on a request from the Norwegian Government, the Working Group was only asked to make assessment for the Greenland Sea stocks, but did review information on other stocks as well.

10.4.2 Requests from the Council

The request for advice from the Council regarding harp (and hooded) seals was as follows:

"- 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."

Concerning distribution, tagging and satellite telemetry studies indicate that there is a widespread migration of young harp seals across the North Atlantic, but no exchange of breeding animals between stocks has been demonstrated.

For the Greenland Sea stock of harp seals, pup production was estimated based both on visual and photographic surveys carried out in 1991 (55,300, 95% c.l. 44,500-68,500), and on updates of mark-recapture experiments (57,800, 95% c.l. 46,000-69,000). The results were discussed by the ICES/NAFO Working Group and the mark/recapture estimate was chosen as the best one for use in the following assessments. Using the same model as in previous meetings, stock and catch projections were carried out for three scenarios of catch composition, all of which were selected to stabilise the population at this present level (Table 3.2.1 in C.M. 1994/Assess:5).

ACFM, the Advisory Committee on Fisheries Management of ICES, dealt with the ICES/NAFO Working Group report at its meeting in early November and followed the recommendations of the Working Group, based on the chosen point estimate of pup production, in giving advice to the Norwegian Government on the Greenland Sea harvest. Regarding the catch options for the White Sea and the NAFO areas, the Scientific Committee did not at present have available material to advise on assessment.

Data on feeding were steadily being compiled for both the northwest and northeast Atlantic, but less so for the Greenland Sea. The ICES/NAFO Working Group pointed to the need for greater knowledge of the status of prey species. As well, the basis for multi-species interaction modelling was still far from satisfactory. The ICES/NAFO Working Group noted that two symposia related to these questions were planned for 1994 and 1995. These were a symposium on the biology of marine mammals in the Northeast Atlantic to be hosted by the Norwegian Marine Mammal Research Programme in Tromsø, November-December 1994, and a NAFO/ICES symposium on the role of marine mammals in the marine ecosystem scheduled for September 1995 in Dartmouth, Canada.

10.4.3 Future work

The ICES/NAFO Working Group identified a series of research items to be carried out by national laboratories.

In the Committee's discussion on the report of the ICES/NAFO Working Group, it was pointed out that it was not likely that there would be new data forthcoming to update the present assessment of the harp seal stock in the Greenland Sea.

For the White Sea stock, it was hoped it would be possible to reassess the Russian data, but these were not presently available in a sufficiently detailed form.

Assessment of the Northwest Atlantic harp seal stock was possible based on work carried out by scientists in Canada. The results could be evaluated by the ICES/NAFO Working Group upon request from Canada or another Party.

10.5 Hooded seals

10.5.1 Review of status - see under 10.4.1 above.

10.5.2 Requests from the Council

Concerning stock discreteness the situation for hooded seals is similar to that noted for harp seals (cf 10.4.2).

For the Greenland Sea stock of hooded seals, no estimate of present pup production or population size was available, and the ICES/NAFO Working Group concluded that it was unable to provide scientific advice on catch levels for 1994.

ACFM noted this conclusion, but stated that catches equal to the average catches since 1983 were not likely to cause a decrease in population size. The Scientific Committee shared this view.

Assessments were not carried out for the Northwest Atlantic stocks of hooded seals.

10.5.3 Future work

For the West Ice/Greenland Sea a survey of hooded seals is planned by Norway to take place in March/April, 1994, and an assessment would have to await the results of this survey.

For the Newfoundland stock of hooded seals the situation is similar as for harp seals (see 10.4.3).

There is no new information on the Davis Strait breeding patch and it is not likely that a new survey of the patch will be carried out in the near future.

10.6 Atlantic walruses

In order to address the request for advice received from the Council on the Atlantic walrus (*Odobenus rosmarus rosmarus*), the Scientific Committee had aimed to review the report from the Walrus International Technical and Scientific Committee (WITS). A final adopted report from the January 1993 meeting of WITS was however not yet available for review. Since no other relevant material on this species was available, the Scientific Committee agreed that it was not in a position to provide any advice at this stage.

The Committee decided to postpone further discussions on this species until it had some material in hand. However, it noted with some concern and drew the Council's attention to its dependence on sources that were not readily available when needed.

11. Planning of the North Atlantic Sightings Survey

The Council decided at its third meeting in July 1993 that a North Atlantic sightings survey be conducted in 1994 or 1995 under the auspices of the Scientific Committee. The Council requested the Scientific Committee to plan joint cetacean sighting surveys in the North Atlantic by coordinating national research programmes.

The Scientific Committee considered this to be a major and very significant task to carry out, and noted that Council members had committed themselves and their available resources to the project. It was further necessary to determine the specific timing of the survey, area coverage and species prioritities.

11.1 Timing

The Scientific Committee discussed the question of whether the survey should be conducted in 1994 or 1995. Upon request the Chairman received information on the planned SCANS survey (Small Cetacean Abundance in the North Sea) from its project coordinator, Phillip S. Hammond. That survey will be carried out by several North Sea countries from 27 June to 26 July 1994. The Committee felt it would be desirable to conduct its survey in connection with the SCANS survey. However, this was considered difficult for some member countries, including Greenland where priority was being given

to beluga and narwhal research in 1994 and funds had already been allocated. It was also pointed out that Norway had already begun planning for a 1995 survey and it was considered necessary to have more planning time in order to ensure the most effective results.

The Committee therefore decided that the survey should be planned for 1995 to be conducted in the period between June and August so as to be compatible with earlier NASS surveys as well as next year's SCANS survey.

11.2 Coverage

It was agreed that the survey should cover the major areas of the North Atlantic, including the western side. It was noted that the participation of non-member North Atlantic countries such as the UK, France, Spain, USA and Canada was important for a comprehensive coverage.

Species coverage was also discussed, and the particular species of interest to each NAMMCO member country were outlined as follows:

Faroes -	pilot whales and bottlenose whales, bottlenose dolphins, white-beaked and Atlantic white-sided dolphins;
Greenland -	minke and fin whales;
Iceland -	minke, fin, and sei whales;
Norway -	minke whales

11.3 Future work

The Scientific Committee agreed to establish a Working Group to plan the sighting survey for the summer of 1995. Finn Larsen was elected as Chairman, and other members are Geneviève Desportes, Aqqalu Rosing-Asvid, Mads Peter Heide-Jørgensen, Þorvaldur Gunnlaugsson, Jóhann Sigurjónsson, and Nils Øien. It was agreed that additional Working Group members could be appointed at a later stage.

The terms of reference for the Working Group were agreed upon as follows:

1) to plan a large-scale cetacean sighting survey in the North Atlantic;
2) to identify priority species and define main areas to be covered;
3) to properly define the organisation and survey techniques necessary for the particular target species;
4) to make recommendations, where necessary, for the involvement of external expertise to ensure the best possible basis for an effective survey;
5) to suggest efforts to involve other North Atlantic states in the survey to ensure the best possible coverage of the North Atlantic.

The Committee also agreed to recommend to the Council that non-member North Atlantic countries be encouraged to participate in the survey in order to ensure the widest and best possible coverage.

The Scientific Committee agreed that the Working Group should aim to meet as soon as possible, preferably in conjunction with the Council meeting in Tromsø, February 1994, in order to draw up the major lines and begin involving the necessary outside expertise.

12. Work plan and working procedures 1993/1994

12.1. Scientific Committee

The Committee discussed the timing and frequency of future meetings. The Secretary indicated that now that the Commission was properly established, Council meetings would now be held on an annual basis. The next meeting of the Council was planned for late February, 1994. It was considered important that there be enough time between the Scientific Committee meeting and the Council meeting to enable Council members to acquaint themselves thoroughly with the findings of the Scientific Committee.

Late November was considered to be an appropriate time to hold meetings, both in advance of Council meetings when these are held in the spring, and after the field work of the summer and ICES meetings held in September/October.

The Committee also discussed the possibility of holding meetings by electronic media (e-mail). The Committee asked the Secretariat to investigate the possibilities of using such communication with members of the Scientific Committee, and of establishing a standard way of conducting business by such a network.

12.2 Working Groups

The Committee discussed whether it was preferable to hold Working Group meetings in conjunction with the Scientific Committee. It was nevertheless agreed that if this were to be the case, then Working Groups must be given sufficient time in which to finalise their reports for presentation to the Scientific Committee. This implied meetings of at least two days duration. The frequency of meetings of Working Groups would depend on the amount of work that needed to be done.

12.3 Scientific Committee budget

The Secretary reported that the annual NAMMCO budget for 1993 designated DKR 390,000 for use by the Scientific Committee (190,000 for invited experts and 200,000 for projects). It was further reported that c. 125,000 of this had been used so far in 1993, all of which has been used in connection with invited experts.

The Committee underlined the importance for the Scientific Committee of having its own budget within the overall NAMMCO budget.

12.4 Contract studies and invited participants

The Scientific Committee discussed the question of the funding of contract studies and invited participants. Two proposals for funding had been received from the Secretariat. These were briefly discussed, but the Committee agreed that it would not use its resources to fund unsolicited projects. Rather it would use its budget to support especially developed and requested projects and contract studies which were specifically aimed at or necessary to further the work of the Committee and its Working Groups.

12.5 Data requirements and establishment of Scientific Committee database

The Scientific Committee considered the report of the Working Group on Inspection and Observation, and noted the Working Group's questions concerning the minium data which could be collected by inspectors and/or whalers. The Committee discussed this in some detail but was unable to draw up

any guidelines due to the fact that this can only be done on species and/or stock basis, where in addition one would need to know the management framework in each case and the actual procedure that one would aim at using for generating the management advice.

However, in the light of the fact that some catches may be taken before such aspects have been defined and decided upon, the Committee agreed that certain minimum data requirements could be identified that were likely to be of importance for any procedure to be applied. These include: position and date of catch and length and sex of animal. For the time being the Committee recommended that such information be included in the National Progress Reports submitted to the Scientific Committee.

The possibility of storing, computerizing and validating catch data in the Secretariat was discussed. The Committee requested the Secretariat to begin considering how to establish a database in the Secretariat with particular reference to those species of marine mammals that may need to be considered with respect to management advice in the near future.

12.6 Other items

While considering the effectiveness of the Committee's deliberations during meetings of short duration (e.g. during two-day meetings little time can be allocated for reading documents) the question of distribution of papers and documents in advance was discussed. No requirements on this are stipulated in the Scientific Committee Rules of Procedure. The Committee felt that if meetings are to be of short duration in the future, amendments of the Rules of Procedure in this regard should be considered. However, as pointed out by the Secretary, according to the Rules of Procedure the title of documents to be presented at Scientific Committee and Working Group meetings should be received by the Secretariat no fewer than 10 days prior to the meeting, and this practice should be adhered to as far as possible.

The format and content of National progress reports was briefly discussed. The Committee felt that reports presented at any given time should be more up-to-date than was the case this year (covering 1992 only). Also the view was expressed that the content of the reports should be more designed to meet the needs of the Committee. As indicated under item 12.5 above, the Committee agreed that relevant data on catch operations should be included in the National Progress Reports. It was agreed that further consultations on this should take place between the Secretariat and the Chairman before the next meeting.

13. Publications

Although time constraints did not allow detailed discussions on this item, the Chairman drew attention to the importance of openness in the work of the Committee as stipulated in its Rules of Procedure, where it is stated that the "Committee shall aim to have all key scientific papers relevant to its work published in a recognized international scientific journal." Several suggestions were made as to how to deal with this, such as publication of special issues. submission of selected papers to other journals such as the ICES Journal of Marine Science or a publication of a special NAMMCO journal of marine mammal science. Such matters would have important financial implications and would also to some degree be a prestige matter for the organisation, so it was not felt necessary to make any recommendations at this stage. It was agreed that the matter should be drawn to the attention of the Council and further considered by the Committee in the near future.

While the Committee stressed that its report should be made available to the outside world through the Secretariat, and the publication aspect of the report was thus in a way taken care of, it was agreed that due to the nature of the papers by the two invited participants at this meeting, and with their

approval, their papers (in a revised form if necessary) should be made available to the members of the Management Committee and the Council at its February meeting in Tromsø.

14. Any other business

On behalf of the Greenland Fisheries Research Institute, Copenhagen, Finn Larsen extended an invitation to host the next meeting of the Scientific Committee. The Committee expressed its appreciation for the invitation and referred it to the Chairman to decide upon in consultation with the Secretariat.

15. Adoption of report

It was agreed that the report of this meeting should be adopted by correspondence, although a draft of most of the substantive matters had been circulated by the end of the meeting. This procedure was completed on 22 December, 1993..

NAMMCO-SC/2/Report - Appendix 1

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NAMMCO-SC/2/Report - Appendix 2

Agenda

1. Chairman's welcome and opening remarks
2. Adoption of agenda
3. Arrangements for meeting
   - 3.1 Appointment of rapporteurs
   - 3.2 Meeting procedure and time schedule
   - 3.3 Meeting facilities
4. Presentations of invited participants
5. Cooperation with other organisations
   - 5.1 ICES
   - 5.2 IWC
   - 5.3 NAFO
6. Review of available documents and reports
   - 6.1 Documents submitted
   - 6.2 National progress reports
   - 6.3 Report of the Working Group on Management Procedures
   - 6.4 Report of the Working Group on Northern Bottlenose and Killer Whales
   - 6.5 Report of the ICES Study Group on Long-finned Pilot Whales, Copenhagen, September 1993
   - 6.6 Report of the ICES Study Group on Seals and Small Cetaceans in European Seas, Cambridge, March 1993
   - 6.7 Report of the Joint NAFO/ICES Working Group on Harp and Hooded Seals, Copenhagen, September 1993
   - 6.8 Report of the Walrus International Technical and Scientific Committee (WITS), Winnipeg, January 1993
7. Update of "List of Priority Species"
8. Impacts of marine mammals on the marine ecosystem
   - 8.1 Status of knowledge
   - 8.2 Advice to the Council
   - 8.3 Future work
9. Development of management procedures
   - 9.1 Status of development
   - 9.2 Future work
10. Marine mammal stocks, status and advice to the Council
    - 10.1 Long-finned pilot whales
      - 10.1.1 Review of status
      - 10.1.2 Advice on the effects of the Faroese drive hunt on the stock
      - 10.1.3 Future work
    - 10.2 Northern Bottlenose Whales
      - 10.2.1 Review and advice on status
      - 10.2.2 Future work
    - 10.3 Killer Whales
      - 10.3.1 Review of status
      - 10.3.2 Advice on: (i) stock identity; (ii) abundance by area; (iii) effects of environmental changes or changes in food abundance; (iv) ecological interactions
      - 10.3.3 Future work

10.4 Harp Seals
- 10.4.1 Review of status
- 10.4.2 Advice on: (i) stock sizes and distribution; (ii) pup production; (iii) sustainable yields under varying options of age composition in the catch; (iv) catch options in the White sea, Barents Sea, Greenland Sea, and NAFO areas; (v) effects of environmental changes or changes in food abundance; (vi) ecological interactions
- 10.4.3 Future work

10.5 Hooded Seals
- 10.5.1 Review of status
- 10.5.2 Advice on: (i) stock sizes and distribution; (ii) pup production; (iii) sustainable yields under varying options of age composition in the catch; (iv) catch options in the greenland Sea and NAFO areas; (v) effects on environmental changes or changes in food abundance; (vi) ecological interactions
- 10.5.3 Future work

10.6 Atlantic Walrus
- 10.6.1 Review of status
- 10.6.2 Advice on: (i) stock identity, (ii) abundance by area; (iii) long term effects of precent levels of removals on stocks; (iv) effects of environmental changes (i.e. disturbance, pollution) and (v) of changes in food supply
- 10.6.3 Future work

11. Planning of North Atlantic Sightings Survey
- 11.1 Timing
- 11.2 Area coverage
- 11.3 Future work

12. Work plan and working procedures 1993/1994
- 12.1 Scientific Committee
- 12.2 Working Groups
- 12.3 Scientific Committee budget
- 12.4 Contract studies and invited participants
- 12.5 Data requirements and the establishment of NAMMCO SC database
- 12.6 Other items

13. Publications
14. Any other business
15. Adoption of report and closing of meeting

NAMMCO-SC/2/Report - Appendix 3

List of documents

National progress reports

NAMMCO-SC/2/ProgRep-Norway - Progress Report (1992) from Norway.

NAMMCO-SC/2/ProgRep-Iceland - Progress Report (1992) from Iceland.

NAMMCO-SC/2/ProgRep-Faroes - Progress Reports (1992 and 1993) from the Faroe Islands.

NAMMCO-SC/2/ProgRep-Greenland- Progress Report (1992) from Greenland.

Council documents

NAMMCO/WG-IO/Report 1993 - Report of the NAMMCO Working Group on Inspection and Observation, Copenhagen, 21-22 September 1993.

Background documents

Hammond, P. & Heimlich-Boran, S., Small cetacean abundance in the North Sea (SCANS), Sea Mammal Research Unit, Cambridge.

ICES: C.M. 1993/N:3 - Report of the Study Group on Seals and Small Cetaceans in European Seas, Cambridge, England, 31 March - 2 April 1993.

ICES: C.M. 1993/N:5 - Report of the Study Group on Long-Finned Pilot Whales, Copenhagen, 30 August - 3 September 1993.

ICES: C.M. 1994/Assess:5 - Report of the Joint ICES/NAFO Working Group on Harp and Hooded Seals, Copenhagen, 15 - 21 September 1993.

National, Bilateral and Multilateral Approaches to Managing the Exploitation of Small Cetaceans

Randall R. Reeves & Mads P. Heide-Jørgensen

ABSTRACT

Regimes for managing exploitation of small cetaceans were reviewed. Three levels of authority were considered: national, bilateral and multilateral (including both regional and international). The taking of small cetaceans falls into three main categories: directed killing, fishery by-catch and live-capture. For effective conservation of a given stock, it is necessary to manage all three types of taking (as well as human activities that degrade the animals' habitat) throughout the stock's range. Complexity derives from the fact that many stocks move across national boundaries or into international waters and are subjected to more than one category of taking.

Of the 14 states whose national programs have been examined here, less than half were found to have well defined, actively pursued management regimes. In most cases the regime consisted of a prohibition of deliberate taking, with special exemptions for aboriginal harvests and fishing by-catches, and some kind of permit system for live-capture and research takes. Five countries (Japan, Greenland, Faroe Islands, Canada and the United States) were found to have directed fisheries for small cetaceans. Only two examples of bilateral management were identified, and both involved shared stocks of monodontids hunted by Inuit. There were also few examples of multilateral management that went beyond agreement to share information and work towards vaguely defined conservation goals.

The difficulty of developing a scientifically sound, politically acceptable management regime is clear from this review. It is concluded that no single regime will be appropriate for all management contexts. The crucial elements of an acceptable regime are: (1) well defined and generally agreed management goals, (2) a credible scientific research and monitoring program, with direct links to management decision-making, (3) legitimacy (usually stemming from inclusive membership in decision-making bodies), (4) incorporation of a precautionary principle into the management process and (5) provision for flexibility and quick response to new knowledge and unanticipated developments in the status of stocks (e.g. massive die-offs).

The Role of Science in the Management of Seals

Dan Goodman

Abstract

The paper gives a brief description of the role of science in the management of the hunt for harp and hooded seals in Canada. It is suggested that as the situation has changed from managing a harvest of seals for conservation and direct economic and social benefits, the role of science has become less clear. This is due to the fact that the objectives of managing populations of marine mammals because of their possible impacts on fisheries have yet to be clearly formulated, and because the acceptability of controlling populations of marine mammals is a public policy issue, not an issue of resource management based on science.

Scientists are consequently faced with new challenges in investigating marine mammal/fisheries interactions. Scientists must go beyond the task of providing the scientific basis for management alternatives, and work together with fisheries managers to develop a framework for managing seals within the theoretical constructs of multi-species management, optimum yield and political resolution of opposing objectives. The promiment role of public policy in these issues also presents science with the challenge of explaining its findings in a manner understandable to the public. In the broadest sense, science also includes the fields of economics and social science, fields in which further analyses of issues related to marine mammal interactions with fisheries are needed, and which should be considered by the fishery managers when examining alternative management goals and strategies.

NAMMCO-SC/2/Report - Appendix 6

Draft update of "List of Priority Species"

Bottlenose dolphin (*Tursiops truncatus*) and corrected versions of Tables 4 & 5.

10. Bottlenose dolphin (*Tursiops truncatus*)

General distribution

Global distribution in tropic to temperate waters. Not found in arctic waters. The observations made during the North Atlantic Sightings Surveys in the summers of 1987 and 1989 revealed distribution ranging northeast to northern Norway and far south and southwest of Iceland.

National interests

- *Jurisdictions (EEZs):* Faroe Islands (F), Norway (N), (and UK, Ireland, Denmark).

- *Exploitation:* Exploited in the Faroe islands since the Norse settlement. The bottlenose dolphin is taken in single species schools or mixed with schools of pilot whales. Catch statistics are incomplete and sporadic unitl 1986, but indicate irregular yearly catches of 0-200 animals. The catch records are kept at the Faroese Museum of Natural History in Tórshavn.

Indirect catches in fishing gear are reported from the Mediterranean Sea and the western North Atlantic, but these are insufficiently documented.

- *Interactions:* The main prey of the bottlenose dolphin is gregarious squid and fish. This dolphin species is able to take fish caught on hooks and in nets and thus comes into direct conflict with both inshore and offshore fisheries.

Stock identity

Divided globally into two main forms, a coastal and an offshore form. Animals in the northeast Atlantic appear to be larger in size than their northwest Atlantic counterparts, but it is unknown how many geographic forms exist across the North Atlantic.

Stock size and status

Few population estimates have been made for the North Atlantic. The Icelandic/Faroese NASS-87 and NASS-89 surveys located 12 and 24 schools respectively, mainly in the southern part of the survey area, but analysis of the data is not yet complete. The Mediterranean population is estimated at less than 10,000 animals, and the size of the population along the northeast USA coast is estimated at 10,000 - 13,000 animals.

Management regimes

The bottlenose dolphin is listed in CITES Appendix II, and the North and Baltic Sea populations are listed in CMS Appendix II, but the NAMMCO agreement is the only existing one on research, management and conservation of this species in the area.

Research

The question of distinction between inshore and offshore populations in the northeast Atlantic needs careful examination. Analyses of data from the NASS surveys in 1987 and 1989 will add to the limited information available on stock abundance.

Table 9. Catches of bottlenose dolphins in the North Atlantic in the period 1970-1992.

Year	Faroe Islands	Italy/France/ Spain
1970		
1971		
1972		
1973		
1974		
1975		
1976		
1977		
1978		
1979		
1980		9
1981		17
1982		>10
1983		11
1984		
1985		1
1986		3
1987	1	
1988	11	6
1989		
1990		
1991	88	
1992		

Sources: Faroese whaling statistics at the Museum of Nat. Hist., Tórshavn and *Rep. int. Whal. Commn:* National progress reports.

As amended

Table 4. Published data on direct (D) and indirect (I) catch of Atlantic white-sided dolphins and white-beaked dolphins (in parenthesis).

Year	D/I	Canada	Greenland	Iceland	Faroes	Norway
1972	D					
	I					
1973	D					
	I					
1974	D					
	I					
1975	D					
	I					
1976	D	(x)	1		44	
	I					
1977	D	(x)	34			
	I					
1978	D	(x)	1			
	I					
1979	D		8			
	I					
1980	D		11			
	I					
1981	D		5			
	I					
1982	D		1			
	I					
1983	D				10	
	I					
1984	D					
	I					
1985	D		(13)		32	
	I					
1986	D				185	
	I					
1987	D				76	
	I					
1988	D				603	
	I					
1989	D				6	
	I	1		(1)		
1990	D				55	
	I			(4)		
1991	D					
	I					
1992	D				44	
	I					

Sources: *Rep int Whal Commn* : National Progress Reports; D. Bloch.

As amended

Table 5. Catches of killer whales by Norway, Greenland, Faroe Islands and Iceland during 1973-1988.

	Catches			
Year	Norway	Greenland	Faroe Isl.	Iceland/*
1973	1	0		
1974	6	2		
1975	2	1		3
1976	0	0		6
1977	7	11		8
1978	64	0	31	6
1979	221	0		5
1980	52	2		6
1981	13	1		5
1982	protected	1		3
1983		0	11	5
1984		5		0
1985		0		0
1986		16	protected	4
1987				
1988			1	

* Removals in connection with live-capture fisheries.

NAMMCO-SC/2/Report - Appendix 7

SC-WG/MP1/Report

North Atlantic Marine Mammal Commission

Report of the Scientific Committee Working Group on Management Procedures[1]

Reykjavik, 24 November 1993

[1] This report of the NAMMCO Scientific Committee Working Group on Management Procedures should not be quoted without consultation with the Secretary.

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Report of the Scientific Committee Working Group on Management Procedures

Reykjavik, 24 November 1993

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Report of the Scientific Committee Working Group on Management Procedures

Reykjavik, 24 November, 1993

1. Chairman's welcome and opening remarks

The Chairman, N. Øien, welcomed the participants (Appendix 1) and referred to the presentations and discussions the previous day in the Joint session of the Scientific Committee and the Working Group on Management Procedures on the management of seals and small cetaceans (SC-WG/MP1/1 and SC-WG/MP1/4).

2. Adoption of agenda

The Chairman mentioned the question of data requirements raised in the report from the NAMMCO Working Group on Inspection and Observation (SC/2/WP6). He suggested that an item 7 -"Data requirements" be included in the Agenda to cover this subject. The Agenda was adopted as amended in Appendix 2.

3. Appointment of rapporteur

M.P. Heide-Jørgensen was appointed rapporteur.

4. Review of available documents and reports

Four documents were submitted to the Working Group and these are listed in Appendix 3. The report from the NAMMCO Working Group on Inspection and Observation (SC/2/WP6) was also considered.

5. Procedures and objectives currently applied for management of marine mammals in the North Atlantic and elsewhere

5.1 Pinnipeds

5.1.1 North Atlantic

Goodman summarised Canadian management of harp and hooded seals and stated that during the period 1961-1982 with commercial seal harvesting there were clear management objectives related to conservation of the stocks and socio-economic benefits to sealers. The present situation is that the increasing harp seal and grey seal stocks interact with fisheries by consumption of fish. Grey seals are also vectors for the spread of sealworm (also known as codworm, *Pseudoterranova decipiens*). As we move from managing seals for direct benefit to managing seals because of possible impacts on fisheries, it is important to note that management objectives have not been articulated.

Kapel added that for the East Atlantic stocks of harp and hooded seals previously well defined management goals existed. One of the objectives was to maximize the output for the sealing industry. Nowadays, management objectives are not specified.

No active management of seal hunting is conducted in Greenland. Apart from local rules, the only restriction is that one is required to be a permanent resident in Greenland to be allowed to hunt seals.

Since the collapse of the seal skin markets in the 1970s and subsequent catch reductions, no well-defined management plan for harvesting of Icelandic seals exists. However, in Iceland there are some protected areas. A system for promoting sealing was introduced in 1982 for grey and harbour seals, but has only been in effect for grey seals since 1990. The system is financed by the fishing industry in order to keep seal stocks stable or to reduce the stocks. The main incentive for these actions is an alleged economic loss due to fish consumption by the seals and the problems caused by sealworm infestation. These concerns have also triggered a substantial amount of seal research, including regular censuses of grey and harbour seals and feeding studies.

In the North Atlantic there are obvious problems with sealworm infestations, but although grey seals are identified as the final main hosts for sealworm, no simple relationship has been demonstrated between the numbers of grey seals and the rates of infestation.

In Norway coastal seals (harbour seals and grey seals) are protected in southern Norway, whereas some hunting is allowed in northern Norway. Grey seals from the United Kingdom make feeding migrations to southern Norway. In northern Norway a grey seal population centered on the Kola Peninsula is shared with Russia.

The Faroe Islands host a small population of grey seals and hunting is permitted, but catches are very small.

5.1.2 Other areas

No complete survey of seal management outside the North Atlantic was available for the meeting but information from selected areas was briefly discussed.

Butterworth (SC-WG/MP1/3) offered some information on South African fur seals. If harvested on a large scale this population would be managed on a Replacement Yield basis.

In the Antarctic, the Convention for the Conservation of Antarctic Seals under the Antarctic Treaty explicitly recognizes that harvesting of seals should be regulated such that the levels of Optimum Sustainable Yield are not exceeded. The quotas are reviewed in the light of scientific assessments and the regulations include protection of species, closing of seasons, seal reserves and sealing methods. At present, however, no commercial harvesting of seals takes place in the Antarctic.

5.2 Cetaceans

5.2.1 North Atlantic

i) Small cetaceans

A review of management of small cetaceans was presented in SC-WG/MP1/1. In general, few countries have established well defined management goals. However, in most countries small cetaceans are protected from direct exploitation whereas bycatches seem to be a more widespread problem. Few North Atlantic countries have programs for small cetaceans with well defined management objectives.

Greenland has recently responded to a detected decline in abundance of belugas wintering off West Greenland. The new regulations restrict the size of vessels involved and the number caught per day.

Although not clearly stated, these regulations aim at achieving sustainability of present catches. Well defined management goals may emerge as the process of regulating beluga hunting develops.

In Canada, Inuit have constitutionally protected rights related to hunting that include narwhals and belugas. Land-claim agreements establish co-management boards responsible for the development and implementation of management regimes for these species. The interaction between the Nunavut Wildlife Management Board and the Canada-Greenland Joint Commission on the Conservation and Management of Narwhals and Belugas is at present uncertain.

At present there is no organised fishery for small cetaceans in Iceland. As with other marine resources, Iceland has a management regime involving licensing, specific review of stocks and the ability to issue quotas and other regulatory measures that would apply to any directed fisheries for cetaceans.

The Faroe Islands regulate the hunting of pilot whales by restricting the areas where whales may be driven and by closing the drive fishery in specific areas when local needs for pilot whale meat are satisfied. No other specific management goals are defined.

Reeves & Heide-Jørgensen (SC-WG/MP1/1) conclude that the goals of small cetacean management need to be well defined. Management regimes should be supported by credible scientific monitoring programs, they should have legitimacy, and should include precautionary elements.

ii) Large cetaceans

Commercial harvesting

Schweder reviewed the development of the Revised Management Procedure (RMP) in the Scientific Committee of the International Whaling Commission (IWC).

The predecessor of the RMP was the New Management Procedure (NMP), which was first used in 1976. Under the NMP, individual whale stocks were classified as either Protected Stocks (PS), Sustained Management Stocks (SMS) or Initial Management Stocks (IMS). The catch limit was zero for Protected Stocks, 90% of MSY for Initial Management Stocks and was set according to a linear function for Sustained Management Stocks. Stocks were classified on an annual basis. The NMP proved to be difficult to use. The main problem was that procedures for estimating the key parameters (depletion level and MSY rates) were unspecified and the scientists had difficulty reaching agreement. The gap between no whaling (PS classification) and whaling (IMS classification), when measured using these estimated parameters, was narrow. Thus, disagreements within the IWC Scientific Committee about classification could not be avoided.

This difficulty of applying the NMP was part of the background for the moratorium on commercial whaling decided in 1982, and it provided an impetus for the decision to develop a Revised Management Procedure (RMP). The RMP was developed during the period 1987 to 1992. Five different teams of scientists worked independently to construct and develop a management procedure for baleen whales. The criteria for evaluating the alternative procedures, as established by the Commission, were: i) stability of catch limits, ii) low risk of depleting stocks below some chosen level, iii) high continuing yield from the stock.

The developers met twice a year. Intersessionally they improved and ran simulations to test their procedures. At the meetings simulation results and procedures were compared, and new simulation trials were designed. Since varying amounts of uncertainty surround the population dynamics and current status of all stocks of baleen whales which might be subject to commercial whaling, priority was given to the

risk-related criterion and to the robustness of the procedure. Robustness was understood as the ability to prevent unintended depletion in a diversity of scenarios, with respect to the state of nature and to the quality of available methods for assessing it. The diversity of scenarios was supposed to span a range of plausible situations. This is an innovative approach to accounting for uncertainty in a management context, and may provide a precedent for future work with management procedures in NAMMCO and elsewhere.

Of the five procedures, the Bayesian procedure developed by Cooke was selected as the best by the IWC Scientific Committee, and it was adopted in principle by the IWC in 1991. This procedure consists of a simple model for the population dynamics of the stock, prior distribution for the key parameters, and a rather drastic method of downweighting the abundance data. The procedure requires data on historic catches as well as abundance data collected at 5-year intervals. The downweighting of incoming data is done by multiplying the coefficient of variation by four. This results in a procedure which, although robust, 'learns' slowly.

In addition to Cooke's catch limit algorithm the RMP includes methods aimed at addressing multi-stock situations. By subdividing the area into small areas and setting catch limits for each small area, the risk associated with uncertainty is reduced.

To provide resolution in comparing the five management procedures during simulation trials, three tuning levels were chosen. For a non-exploited stock with MSYrate=1%, the mean stock size (over the 100 replicates) after 100 years of management should be 60%, 66% and 72% of carrying capacity, respectively, for the three levels of tuning. At its 1991 meeting, IWC decided to use the 72% tuning level and a 54% internal protection level. Selection of the 72% tuning level is in contrast to the 66% level, which the Scientific Committee had in mind. This decision caused the procedure to result in substantially lower catch limits, with a marginal gain with respect to depletion.

In 1993 the Scientific Committee unanimously advised the Commission that development of the RMP was completed and that it could be implemented for North Atlantic and Southern Hemisphere minke whales. The Commission, however, did not accept this recommendation.

During the discussion following Schweder's summary, it was pointed out that the RMP is too conservative for highly productive stocks. For such stocks the long term equilibrium stock level will be much higher than the MSY level; some simulations suggest 93%, others suggest even higher levels. This must be regarded as under-utilization of a whale stock. Also, it was noted that relatively small improvements are gained from surveys, and that there are almost no possibilities for including other information.

While the tuning of the procedure could be changed, e.g. by modifying MSY rates, that would only marginally improve the 'learning' ability of the procedure. Specifically Magnusson mentioned that there was limited incentive to conduct high-quality sighting surveys. The RMP was developed with an emphasis on robustness and it must be concluded that when risk reduction is given priority, performance on the other criteria will necessarily be sacrificed, especially the size of continued yields.

SC-WG/MP1/2 presents a sample application of the RMP to compute hypothetical catch limits for minke whales in the North Atlantic Central Area. Catch cascading resulted in higher catch limits than the total of separate calculations of catch limits for each small area. Catch limits derived for the North Atlantic Central Area using a 66% tuning level, with catch cascading, were similar to catches in the early 1980s. However, allocation of the hypothetical catch limits to the four 'small areas' was markedly different from the distribution of the historic catches.

Aboriginal harvesting

Management of aboriginal harvesting of baleen whales within the IWC is subject to a management procedure somewhat similar to the management procedure of 1976 (NMP). The main difference is that catches are permitted on stocks that are below 54% of carrying capacity but above a certain minimum level as long as the catches are set at levels which will allow the stock to move towards the MSY level. The objectives forming the basis for this procedure are: (i) to ensure that the risks of extinction to individual stocks are not seriously increased by subsistence whaling; (ii) to enable aboriginal people to harvest whales in perpetuity at levels appropriate to their cultural and nutritional requirements subject to the other objectives; (iii) to maintain the status of whale stocks at or above the level giving the highest net recruitment and to ensure that stocks below that level are moved towards it, so far as the environment permits.

In Canada there has been no recent aboriginal harvesting of baleen whales with the exception of one bowhead whale in 1991. However, Inuit land-claim agreements and the constitution provide the right to such harvests subject to conservation.

5.2.2 Other areas

Examples of management regimes for small cetaceans outside the North Atlantic were given in SC-WP/MP1/1. The foregoing discussion of the RMP and aboriginal harvesting also applies to areas outside the North Atlantic.

6. Future work in defining objectives and development of procedures for marine mammal stocks/species relevant to NAMMCO

The Working Group discussed the need for future work to define management objectives for North Atlantic marine mammals. Clear management objectives need to be expressed before management procedures can be developed. No single management procedure would cover the variety of management situations that involve North Atlantic marine mammals.

In relation to this point, several items were raised and discussed. Among these, it was suggested that NAMMCO may prefer to assume an advisory and evaluative role. In this case management for species and areas would be developed on a national basis following national initiatives. The function of NAMMCO's Scientific Committee would then be to critically examine whether the proposed management schemes are in accordance with sound scientific principles. In this context, the importance of coordinating attitudes and management schemes for shared stocks was mentioned.

The application of the RMP for some management situations was discussed, and SC-WG/MP1/3 was presented by Schweder in the absence of the author. SC-WG/MP1/3 recommends that the development method used for constructing the RMP and the conceptual framework of the procedure itself comprise an advantageous overall approach. The paper offers specific recommendations as to further developments, and it states that the catch limit algorithm of the Cooke procedure provides a good basis from which to start the development of any management procedure, particularly because of the fundamental simplicity of the algorithm.

The Working Group agreed that the RMP was appropriate as a starting point for some cases of management. The guidelines put forth in SC-WG/MP1/3 could be useful in the development of management procedures for some of the North Atlantic marine mammals. On the other hand it was

mentioned that a different tuning of the RMP may be needed and that in some cases radical changes are necessary, for example to improve the procedure's ability to react to new data.

From the discussion it was evident that there are several cases where the RMP would not prove ideal, or be of little use at all. One example is the situation where proper management procedures are not needed because catches are insignificant compared to the stock size. Also the problem of reducing codworm infestations by reducing the grey seal stocks may require a management approach different from the RMP.

Because of the variety of problems involving North Atlantic marine mammals, it was emphasized throughout the discussions that case-specific situations, including guidance on management objectives, need to be presented before management procedures can be developed.

7. Data requirements

No exhaustive list of data requirements could be developed during this meeting as this depends on the species concerned and their management. However, independent of this it was recommended that data on catches, preferably specified to areas and sex, should continue to be collected as a minimum.

8. Other business

The future of the Working Group was discussed and guidance from the Scientific Committee was desired on this question. It was recognised that without specific requests and guidance on objectives it would be difficult to develop management regimes for any particular species or case-specific situation.

The Working Group had no suggestions for further approaches on this issue and referred the matter to the Scientific Committee.

9. Adoption of report

The report was adopted by correspondence in December 1993.

References

Director General of IUCN, 1993 - Note by the Director General on Guidelines for the Ecological Sustainability of Nonconsumptive and Consumptive Use of Wild Species.

SC-WG/MP1/Report - Appendix 1

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SC-WG/MP1/Report - Appendix 2

Agenda

1. Chairman's welcome and opening remarks

2. Adoption of agenda

3. Appointment of rapporteur

4. Review of available documents and reports

5. Procedures and objectives currently applied for management of marine mammals in the North Atlantic and elsewhere

   5.1 Pinnipeds

      5.1.1 North Atlantic

      5.1.2 Other areas

   5..2 Cetaceans

      5.2.1 North Atlantic

      5.2.2 Other areas

6. Future work in defining objectives and development of procedures for marine mammal stocks/species relevant to NAMMCO

7. Data requirements

8. Other business

9. Adoption of report

SC-WG/MP1/Report - Appendix 3

List of documents

SC-WG/MP1/1 - Reeves, R.R. and Heide-Jørgensen, M.P., National, Bilateral and Multilateral Approaches to Managing the Exploitation of Small Cetaceans

SC-WG/MP1/2 - Baldursson, F.R., Alternative Applications of the RMP to Central North Atlantic Minke Whale.

SC-WG/MP1/3 - Butterworth, D.S., On Some Aspects of Marine Mammal Management Procedures.

SC-WG/MP1/4 - Goodman, D., The Role of Science in the Management of Seals.

NAMMCO/WG-IO/Report 1993 - Report of the NAMMCO Working Group on Inspection and Observation, Copenhagen, 21-22 September, 1993.

SC-WG/NBK1/Report

North Atlantic Marine Mammal Commission

Report of the Scientific Committee Working Group on Northern Bottlenose and Killer Whales[1]

Reykjavik, 25 November 1993

[1] This report of the NAMMCO Scientific Committee Working Group on Northern Bottlenose and Killer Whales should not be quoted without consultation with the Secretary.

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Report of the Scientific Committee Working Group on Northern Bottlenose and Killer Whales

Reykjavik, 25 November 1993

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Report of the Scientific Committee Working Group on Northern Bottlenose and Killer Whales

Reykjavik, 25 November 1993

1. Terms of reference

The Chairman, Tore Haug, welcomed participants (listed in Appendix 1) and gave a brief account of the rationale for the Working Group and its terms of reference for this meeting. Following a request from the Council of NAMMCO, the Scientific Committee of NAMMCO decided to establish a Working Group on Northern Bottlenose (*Hyperoodon ampullatus*) and Killer Whales *(Orcinus orca*) at its January 1993 meeting in Tromsø. The request from the Council resulted in the following terms of reference for the present meeting, where the WG is requested to:

for the northern bottlenose whale -

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

and for the killer whale (*Orcinus orca*) -

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

2. Adoption of agenda

The Agenda as contained in Appendix 2 was adopted.

3. Appointment of rapporteur

Geneviève Desportes was appointed rapporteur.

4. Review of available documents and reports

The documents listed in Appendix 3 were presented briefly by their authors.

The Chairman also noted that a paper (Faucher and Whitehead) on the live study of northern bottlenose whales in Canadian waters was available for information.

5. Northern bottlenose whales

5.1 Stock identity

In 1976 the Scientific Committee of the IWC decided that "in the absence of clear evidence to the contrary, the bottlenose whale throughout the North Atlantic should be regarded as one stock" (Anon 1977).

It was noted that apparent feeding aggregations existed in the Davis Strait, the Denmark Strait and the Norwegian Sea although these did not necessarily provide evidence of separate stocks.

Regional differences in age at sexual maturity provided by paper SC-WG/NBK1/5 could indicate a low mixing rate of animals between the different feeding areas.

Some insight on stock identity might come from morphometric analysis of existing Norwegian material. Genetic analysis might also help provide some understanding of stock identity, and it was noted that a few tissue samples are being kept in the Faroes and Iceland.

The group was unable at this stage to reach a conclusion on stock identity, i.e., to decide on the existence of one or more stocks of bottlenose whales in the North Atlantic.

5.2 Catch history

There has been no local hunting of bottlenose whales in Greenland in this century. A total of five animals were taken by whaling vessels in 1950 and 1958 (SC-WG/NBK1/2). This might reflect low abundance but also the low esteem in which bottlenose products are held in Greenland.

There has been no commercial hunting of bottlenose whales by Icelanders while the catch history off Iceland by Norwegians is documented in paper SC-WG/NBK1/5.

Catch history data exist for Norway and the Faroes, although they are not of the same kind in both areas.

In the Faroes, both a limited-scale drive fishery and a limited-scale commercial offshore whaling have been conducted. Reports exist of offshore catches between 1894 and 1935 (SC-WG/NBK1/1). Catches were maximum 11 animals per year, totalling 92 animals, and occurred mostly between May and July. These are shown in Appendix 4, Table 1 (revised from SC-WG/NBK1/1). Reports of drive fishery catches and strandings exist mainly from 1709 to the present. The annual catch increased from 1820 and peaked in 1890, whereafter it declined and reached its lowest concurrently with the decline of the Norwegian catches. These catches are presented in Appendix 4, Figure 1 (from SC-WG/NBK1/1). Drive fishery catches peaked at the end of August and during the first half of September. A total of 646 bottlenose whales have been caught in the Faroes from 1584 up to and including 1993.

Scottish sealers and bowhead whalers took a total of approximately 1961 bottlenose whales from 1856 to 1974 including catches in both the Davis Strait and the Greenland Sea (Table 2, from SC-WG/NBK1/5). Of these, 1,787 were taken in the period 1877-1892.

Northern bottlenose whales have been hunted by Norwegian whalers in the North Atlantic during two separate periods (SC-WG/NBK1/5). During the first period, which lasted from 1882 to the late 1920s, a total of about 60,000 bottlenose whales were caught. The second period started with modern Norwegian whaling for small whales (mainly directed at minke whales) and commenced around 1930. Some bottlenose whales were included in the catches, and when the second period stopped in 1973, approximately 5,800 bottlenose whales had been caught in total. Figures 2-4 in Appendix 4 (from SC-WG/NBK1/5) show: the allocation of catch areas (fig. 2); the magnitude of catches (fig. 3); and the distribution of catches by area and time period (fig. 4).

5.3 Estimation of abundance

According to SC-WG/NBK1/5, modelling of catch series indicate that from an initial size of approximately 100,000 animals, a stock of approximately 60,000 animals remained in 1976. Due to time constraints the Working Group was unable to evaluate these results.

The Norwegian vessels made very few sightings of bottlenose whales during the NASS 1987 (Øien 1989), 1988 (Øien 1990) and 1989 (Øien 1991) surveys. This might reflect the fact that at the time of the survey, i.e. in July-August, the bottlenose whales have already left the area surveyed by Norwegian vessels. The Working Group noted that a southward migration out of the Norwegian Sea in mid summer could be inferred from historical catch data given in SC-WG/NBK1/1 and 5.

A direct estimate of abundance comes from analysis of the Icelandic and Faroese data from the 1987 NASS survey (Gunnlaugsson & Sigurjónsson 1990). Most of the sightings recorded on board Icelandic vessels (59 of 86, i.e. 69% representing 141 animals of 221 in total) were sighted between 4-20 July in the eastern part of the area, from Jan Mayen Ridge in the north, southward along the continental shelf edge east of Iceland towards the Iceland-Faroe Islands ridge to the Faroes in the South (i.e. in the area bounded by 70 N-58 N and 7-20 W) (Sigurjónsson, unpubl.). A surface estimate (no correction for submerged animals) of abundance gave 4,900 (CV=0.16) whales for the Icelandic survey vessels. An estimate for the Faroese survey vessel was 900 (CV=0.45) animals (Gunnlaugsson & Sigurjónsson 1990).

It was pointed out that the sightings estimate is undoubtedly seriously biased downwards due to the long dive time of the species. A correction for this might result in estimates 5-10 times higher on the assumption that the mean dive time is some 30 minutes (based on measurements from ten individuals given by Benjaminsen & Christensen 1979).

The Working Group agreed that an order of magnitude of some tens of thousands was a reasonable estimate for the North Atlantic population of bottlenose whales.

5.4 Biological parameters

Some limited data on biological parameters are available for Northern bottlenose whales. Paper SC-WG/NBK1/5 reviewed data on reproduction and age at sexual maturity of bottlenose whales caught in waters off both Iceland and Labrador. The gestation period lasts for about one year, pairing and calving take place at the end of the year, and there is a two-year breeding cycle. The length at birth is about 300cm. Both females and males become sexually mature between the ages of 7 and 9 years off Iceland, and between the ages of 8 and 12 years off Labrador. It was noted that the takes from Labrador are from a stock not previously exploited, while the takes from Iceland are from a stock that was heavily hunted in previous years.

A limited amount of data on reproductive parameters and growth will also become available from the Faroes.

5.5 *Assessment*

The Working Group was not able to conduct an assessment at this meeting. However, it was agreed that the possibilities of modelling population trajectories using catch series and estimates of abundance could be explored.

5.6 *Management advice*

No management advice based on a full assessment could be given. However, it was noted that a reasonable crude estimate of the population in the Northeast Atlantic was in the tens of thousands and that the total known removals from the population during the past 15 years represent less than 0.1% of the population.

6. Killer whales

6.1 *Stock identity*

The Working Group acknowledged that there was no conclusive evidence on stock identity of killer whales int he North Atlantic. There are some indications that killer whales exhibit aggregating behaviour which may provide useful independent units for management purposes. Some groups show long-term site fidelity and, although they are not present all year round in an area, come back year after year. Thus far no matches have been found between Icelandic and Norwegian photo-ID catalogues (SC-WG/NBK1/6 and 8). Most of the vocalizations are different between groups off Norway and groups off Iceland. However one group of Norwegian killer whales (out of 10 studied) has been shown to share a call with a group of Icelandic killer whales (SC-WG/NBK1/6).

6.2 *Stock abundance*

Since no conclusive data on stock identity could be put forward, it was considered preferable to discuss abundance in different areas. The Working Group had two types of recent abundance data available at the meeting, i.e. estimates based on sightings surveys and estimates based on questionnaire censuses conducted mainly on board fishing vessels in the coastal waters.

Sightings surveys conducted in the northern North Sea and the eastern Norwegian Sea northwards to Bear Island during July 1989 (SC-WG/NBK1/4) gave an estimate of 7,000 whales (95% c.l. 3,400-14,400). Surveys conducted during June-August 1987 by Icelandic survey vessels (Icelandic and adjacent waters) (SC-WG/NBK1/8) gave an estimate of 5,500 (CV=0.36) whales, while the survey conducted by and around the Faroe Islands provides an estimate of 1,100 (CV=0.62) whales. The two latter surveys combined gave an estimate of 6,600 whales (CV=0.32) with a lower 95% bound of 3,900 animals.

A questionnaire census conducted in the period 1982-1987 indicated a maximum of 1,500 killer whales in the near-coastal waters of Norway (Christensen 1988). This is compatible with the sightings survey results above since it pertains only to the coastal waters. A minimum of 284 killer whales were estimated from the questionnaire census at the herring grounds off Iceland

which seems rather low in light of the fact that a similar number of animals have already been photo-identified in the area (SC-WG/NBK1/8).

No abundance estimates are available for West Greenland. However, very few observations of killer whales have been recorded, despite considerable survey effort since 1984, suggesting that killer whales are not abundant in this area.

6.3 Ecosystem and habitat considerations

Killer whales in the North Atlantic are known to feed on squid, fish, birds and marine mammals.

Working paper SC-WG/NBK1/6 summarises the situation in Norwegian coastal waters: Herring (*Clupea harengus)* has been listed as the main type of prey of killer whales, at least in the coastal waters from Lofoten to Møre. Other known types of prey are squid, cod (*Gadus morhua*), little auk (*Alle alle*), eider duck (*Somateria mollissima*), northern fulmar (*Fulmarus glacialis*), and mackerel (*Scomber scombrus*) in the Lofoten area, bottlenose whales in Spitsbergen and seals at the Møre coast. Stomach samples and non-lethal studies show that killer whales feed on herring in the Lofoten and Vesterålen area in October-January. The type of prey consumed by killer whales in this area in June-August 1989-1993 has been identified during 15 encounters. In 13 of these encounters the prey was herring, once mackerel and once northern fulmar. Killer whales have been seen trying to catch a young harbour seal (*Phoca vitulina*) in Røst in Lofoten (without succeeding). The next day these whales were seen feeding on herring. The results indicate that herring is an important part of the prey also during summer months in northern Norway. This observation is supported by the fact that the summer distribution area of killer whales coincides well with the area where herring might be present, and that fishing boats often report the presence of herring in areas where killer whales are sighted.

Animals caught in Icelandic waters in 1967 contained remains of squid, fish (including herring) and seals (Jonsgård & Lyshoel 1970). According to SC-WG/NBK1/8, it is evident that at least part of the killer whale population around Iceland feeds on herring, but also halibut (*Hippoglossus hippoglossus*) (taken from longlines while these were hauled), and possibly also bottlenose dolphins (*Tursiops truncatus*) and long-finned pilot whales (*Globicephala melas*), as some reports indicate.

In Denmark a stranded whale was reported by Eschricht (1863) to include remains of 14 seals and 13 harbour porpoises (*Phocoena phocoena*). Seals (including grey seals (*Halichoerus grypus*)) and whales (including harbour porpoises, pilot whales and fin whales (*Balaenoptera physalus*)) are also reported (Bloch and Lockyer 1988) to have been consumed by killer whales in Faroese waters, where also seabirds (eiders, kittiwakes (*Rissa tridactyla*), guillemots (*Cepphus grylle*) and puffins (*Fratercula arctica*)) are taken. Bloch & Lockyer (loc.cit.) emphasise, however, that fish is probably the main food item for killer whales, and they list mackerel, herring, halibut and Greenland halibut (*Reinhardtius hippoglossoides*) (the two latter usually taken from gill-nets or longlines while these are hauled) as particularly important species.

In Greenland waters Eschricht (1863) listed porpoises, white whales (*Delpinapterus leucas*), bowhead whales (*Balaena mysticetus*) , humpback whales (*Megaptera novaeangliae*), walruses (*Odobenus rosmarus*) and seals as known killer whale food items. Killer whales use almost all other species of whales and several species of seals as food items in Greenland, and sometimes fish and squid are also found (Heide-Jørgensen 1988). A killer whale diet comprising exclusively marine mammals is confirmed in working paper SC-WG/NBK1/3, in which narwhals are indicated to be of particular importance.

Before the collapse of the Norwegian spring-spawning herring stock at the end of the 1960s, the herring migrated between feeding areas in the Norwegian Sea (between Iceland and Jan Mayen) and spawning grounds on the coast of Norway. Young and adolescent herring dispersed along the coast, mainly of northern Norway and in the Barents Sea. It has been suggested that killer whale migrations depended largely on the herring migrations (Jonsgård & Lyshoel 1970). After the herring stocks collapsed, the herring no longer migrated into the Norwegian Sea, remaining instead in the fjords and coastal waters of Norway until maturity and spawning. This change in herring migration patterns may explain an observed reduction in killer whale abundance in the Norwegian Sea and a corresponding increase in abundance of the species in Norwegian coastal and inshore waters since the early 1970s (Christensen 1988).

Apart from the possible effect of changes in the herring stocks, the Working Group was not able, with its present knowledge, to identify other environmental changes that could be said to have had any possible effect on killer whales.

6.4 Management advice

There was no conclusive evidence on stock identity, although local aggregations with long-term site fidelity may provide provisional management units.

The remaining requests for advice on 'abundance in each stock area' and 'effect of recent environmental changes in the food supply, and interactions with other marine living recources in each stock area' are referred to paragraphs 6.2 and 6.3 respectively.

7. Other business: recommendations for future research

7.1 Northern bottlenose whales

The Working Group recommended the following as priorities for future research:

a) compilation of catch data, with a yearly breakdown by sex and areas, including Scottish material;
b) examination of catch history including effort data in Norway, Faroes and Scotland;
c) analysis of Norwegian morphometric data and collection of similar data for the Faroes (and other areas, if possible);
d) collection of tissue samples for analysis of genetic material in relation to stock identity and for pollutant studies;
e) collection and analysis of dive times and behaviour to be incorporated in sightings survey analysis; and
f) stomach analysis should be conducted whenever possible.

7.2 Killer whales

The Working Group recommended the following as priorities for future research:

a) the continuation and expansion of photo-identification studies;
b) the continued documentation of vocal dialects;
c) the comparison of Norwegian and Icelandic photo-ID databases;
d) tissue sampling for genetic analysis with regard to stock identity;
e) satellite tracking to detect the range of movement of individuals and groups of whales;
f) the establishment of a central photo-ID catalogue;

g) the full registration and reporting of Greenland catches and their comprehensive sampling;
h) further studies of feeding ecology; and
i) studies of pollutant effects on killer whale stocks.

8. Adoption of report

The Working Group adopted the final report by correspondence in December 1993.

9. References

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SC-WG/NBK1/Report - Appendix 2

Agenda

1. Chairman's welcome and opening remarks
2. Adoption of agenda
3. Appointment of rapporteur
4. Review of available documents and reports
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   - 5.1 Stock identity
   - 5.2 Catch history
   - 5.3 Estimation of abundance
   - 5.4 Biological parameters
   - 5.5 Assessment
   - 5.6 Management advice
6. Killer whale
   - 6.1 Stock identity
   - 6.2 Stock abundance
   - 6.3 Ecosystem and habitat consideration
   - 6.4 Management advice
7. Other business
8. Adoption of report

SC-WG/NBK1/Report - Appendix 3

List of documents

1. Documents presented at the meeting

SC-WG/NBK1/1 - Bloch, D. and Desportes, G., The Northern Bottlenose Whale in the Faroe Islands, 1584-1984.

SC-WG/NBK1/2 - Jensen, J. and Heide-Jörgensen, M.P., Bottlenose Whales, *Hyperoodon ampullatus*, in Greenland.

SC-WG/NBK1/3 - Heide-Jörgensen, M.P., A Note on Killer Whales in Greenland.

SC-WG/NBK1/4 - Öien, N., Abundance of Killer Whales (*Orcinus orca*) in Waters off Norway.

SC-WG/NBK1/5 - Christensen, I.,The North Atlantic Bottlenose Whale (*Hyperoodon ampullatus*).

SC-WG/NBK1/6 - Similä, T., Present Knowledge and Research on Killer Whales in Norway.

SC-WG/NBK1/7- Vikingsson, G. and Sigurjónsson, J., Northern Bottlenose Whale (*Hyperoodon ampullatus*) -Availability of Data and Status of Research in Iceland.

SC-WG/NBK1/8 - Sigurjónsson, J. and Víkingsson, G., Availability of Data and Status of Research on Killer Whales (*Orcinus orca*) in Icelandic Waters.

2. Unpublished background documents

Faucher, A. and Whitehead, H., The bottlenose whales of ' The Gully', Final report for 1988-91 project for WWF- Canada, Toronto.

Reeves, R.R., Mitchell, E. and Whitehead, H., Current status of the northern bottlenose whale, *Hyperoodon ampullatus* (in press - *Canadian Field Naturalist*).

SC-WG/NBK1/Report - Appendix 4

Tables and Figures

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Number of bottlenose whales caught in the areas Iceland, Svalbard, Andenes and Møre in eight successive periods covering the season 1938-69.

Table 1 (Revised from SC-WG/NBK1/1)

Total annual numbers of bottlenose whales recorded in the Faroes from 1584 - 1993, and divided according to whether driven, found stranded, or hunted offshore.

Year	No. driven	No. dead	No. shot	Total
1584	3			3
1618	2			2
1622	6			6
1623	2			2
1626	1			1
1631	3			3
1633	1			1
1634	1			1
1737	2			2
1709	3	2		5
1711	3	1		4
1713	1			1
1715	3			3
1716	3			3
1717		2		2
1719	5	2		7
1720	5			5
1721	3			3
1722		2		2
1723	6			6
1724		1		1
1725	2			2
1726	4			4
1728	2	2		4
1729	2			2
1732	3			3
1734	2	1		3
1735	1			1
1737	3			3
1738	3			3
1741	1			1
1742		2		2
1746	6			6
1748	3			3
1750	1			1
1752	2			2
1754	3			3
1755		1		1
1763		1		1
1767	3			3
1771		1		1
1777	1			1
1778	3			3
1782	2			2
1796	3			3
1802		1		1
1803	2			2
1807	1			1
1814	2			2
1815	1			1
1816	5			5
1817	4			4
1819	7			7
1821	3			3
1822	3			3
1825	2			2
1826	6			6
1829	2			2
1830	2			2
1831	2			2
1833	2			2
1834	2			2
1835	8			8
1836	2			2
1838	2			2
1839	7			7
1841	5			5
1842		1		1
1843	3	1		4
1844	2			2
1845	6			6
1846	5	1		6
1847	3	1		4
1848	1			1
1849	2	1		3
1850	4	1		5
1851		1		1
1852	6			6
1853	14			14
1855	6	3		9
1856	6	1		7
1857	5	1		6
1858	6			6
1859	3			3
1860	9			9
1861	12			12
1862	6			6
1863	8			8
1864	13	1		14
1865	2	2		4
1866		4		4
1867	2			2

Year	No. driven	No. dead	No. shot	Total
1868	10			10
1869	6			6
1870	6			6
1871	7			7
1872	12			12
1873	2			2
1874	16			16
1875	2			2
1876	9	1		10
1877	7			7
1878	3			3
1879	8	1		9
1880	11			11
1881	6	1		7
1882	14			14
1883	11	1		12
1884	7			7
1885	2			2
1886	9			9
1887	12			12
1888	23	6		29
1889		1		1
1890	4	1		5
1891	1	3		4
1892	7	2		9
1893	11			11
1894	7		5	12
1895	1		7	8
1896	19			19
1897	2	2		4
1898	2		4	6
1899	4	1		5
1900	6	2		8
1901	2			2
1902	4			4
1903	4		5	9
1904			6	6
1905	11		6	17
1906			11	11
1907	2	2	4	8
1908			1	1
1909	5		2	7
1910	3	1	4	8
1911			1	1
1913	2		8	10
1914			8	8
1915	1		2	3
1916			2	2
1918	2			2
1920			8	8
1923			2	2
1926	3			3
1927	1			1
1928	2			2
1929	2			2
1930			2	2
1931	2		2	4
1934		1		1
1935	2		2	4
1937	5			5
1940	3			3
1942	1			1
1943	2			2
1946	4			4
1947	3			3
1954	1			1
1963	3			3
1964	3			3
1966	4			4
1967	3			3
1970	1			1
1974	4			4
1978	2			2
1981	3			3
1982	2	1		3
1988	3			3
1989	2			2
1992		2		2
1993	5			5
Total	646	67	92	805

Table 2 (From SC-WG/NBK1/1)

Catches of bottlenose whales in the North Atlantic by nations other than Norway. (Note that some of the records from the Faroes include stranded animals (see Table 1)).

Year	Nation	No of bottlenose	Catch area	Sources
1856	UK (Scotland)	28	Frobisher Strait	4, 6
1877	"	10		1, 6
1878	"	9		1
1879	"	8		1, 6
1880	"	32		1, 6
1881	"	111		1, 6
1882	"	413		1, 6
1883	"	535		1, 4
1884	"	283	Greenland and Davis strait	1
1885	"	(55) 84	Jan Mayen and Davis Strait	1, 4
1886	"	23	Greenland	4
1887	"	20	Greenland and Davis Strait	4
1889	"	10	Greenland	4
1890	"	22		4
1891	"	3		5
1892	"	224		7
1905	UK (Shetland)	1		II (9), 2
1906	"	1		II (9), 2
1907	UK (Shetland & Hebrides)	2		II (9), 2
1909	UK (Shetland)	2		2, 8
1910	"	1		2, 8
1911	"	2		2, 8
1912	"	8		2, 8
1913	"	8 (7)		II (37), 8
1913	Iceland	2		II (32)
1913	Denmark (Faroe Islands)	8		II (37), 2

Year	Nation	No of bottlenose	Catch area	Sources
1914	Denmark (Faroe Islands)	8		II (38)
1916	"	1		II (39)
1920	UK (Scotland)	5		8
1920	Denmark (Faroe Islands)	8		II (40)
1923	"	2		II (41)
1925	UK (Scotland)	1		8
1950	Denmark (W. Greenland)	2		XXXV (21)
1953	Canada (Newfoundland)	1		XXXI (21)
1958	Denmark (W. Greenland)	3		XXXV (25)
1962	Canada (Nova Scotia)	40		LI (33)
1963	"	22		LII (34)
1963	Denmark (Faroe Islands)	3		LIII (33)
1964	"	3		LX (34)
1964	Canada (Nova Scotia)	6		LVII (34)
1967	"	5		LXI (32)
1970	Denmark (W. Greenland)	1		LXX (21)
Total	1856-1974	1961		

Sources: 1 = Norsk Fiskeritid. 1883-1924, 2 = Risting, 1922, 4 = Lubbock, 1937, 5 = Lindeman, 1899, 6 = Southwell, 1884, 7 = Mitchell, 1975, 8 = Thompson, 1928. International whaling statistics IWS are specified with volume no. in Roman numeral, and page no. in brackets.

Figure 1 (From SC-WG/NBK1/1)

Bottlenose whales in the Faroe Islands, 1709 -1993 (caught and found dead).

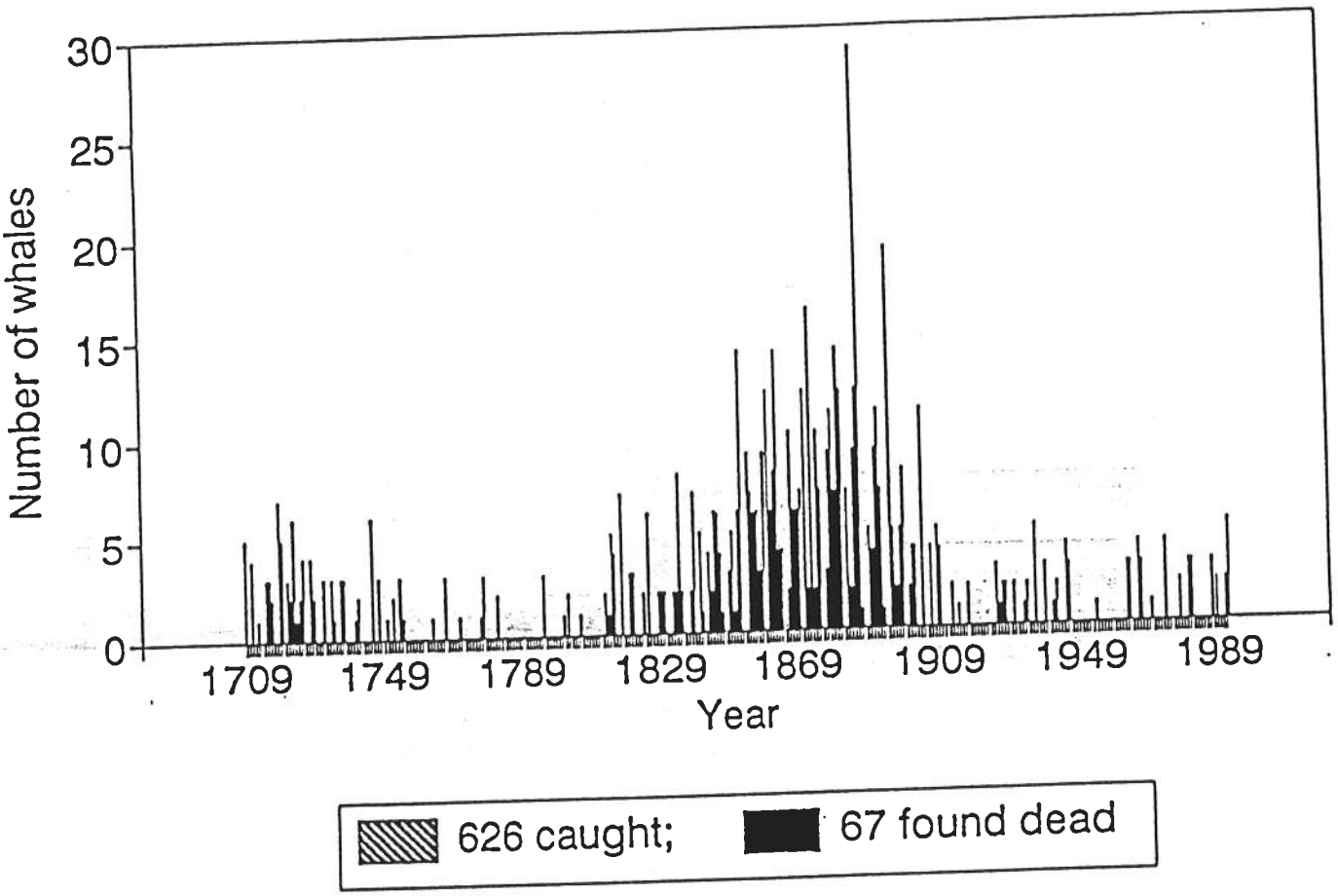


Figure 2 (from SC-WG/NBK1/5)

Position where bottlenose whales have been caught by Norwegian whalers in the period 1938-72. The number of whales taken at each position is indicated in the legend.

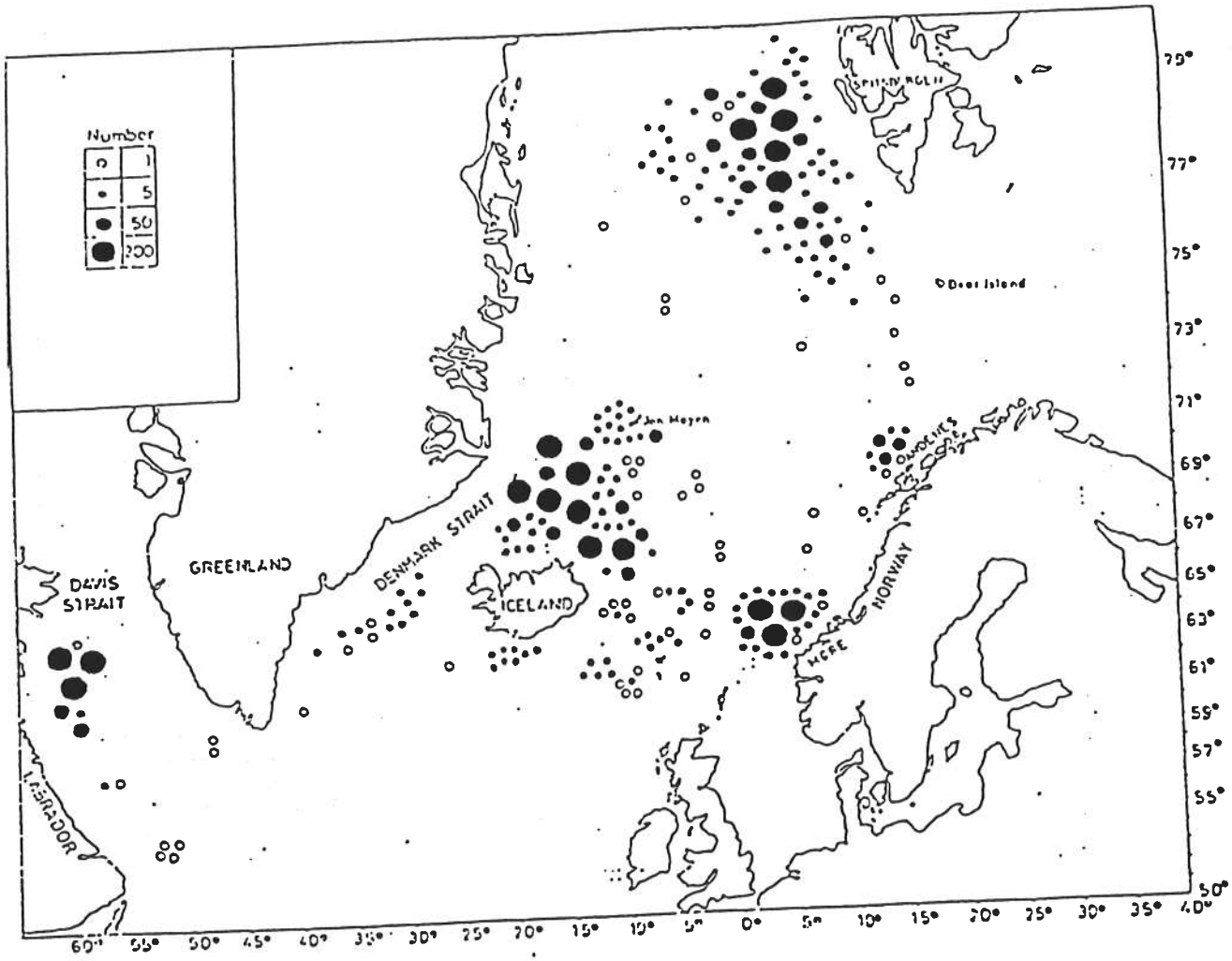


Figure 3 (from SC-WG/NBK1/5)

Norwegian catches of bottlenose whales 1882-1974 (———), the sealers share of total (.....) and the number of bottlenose whaling ships (------).

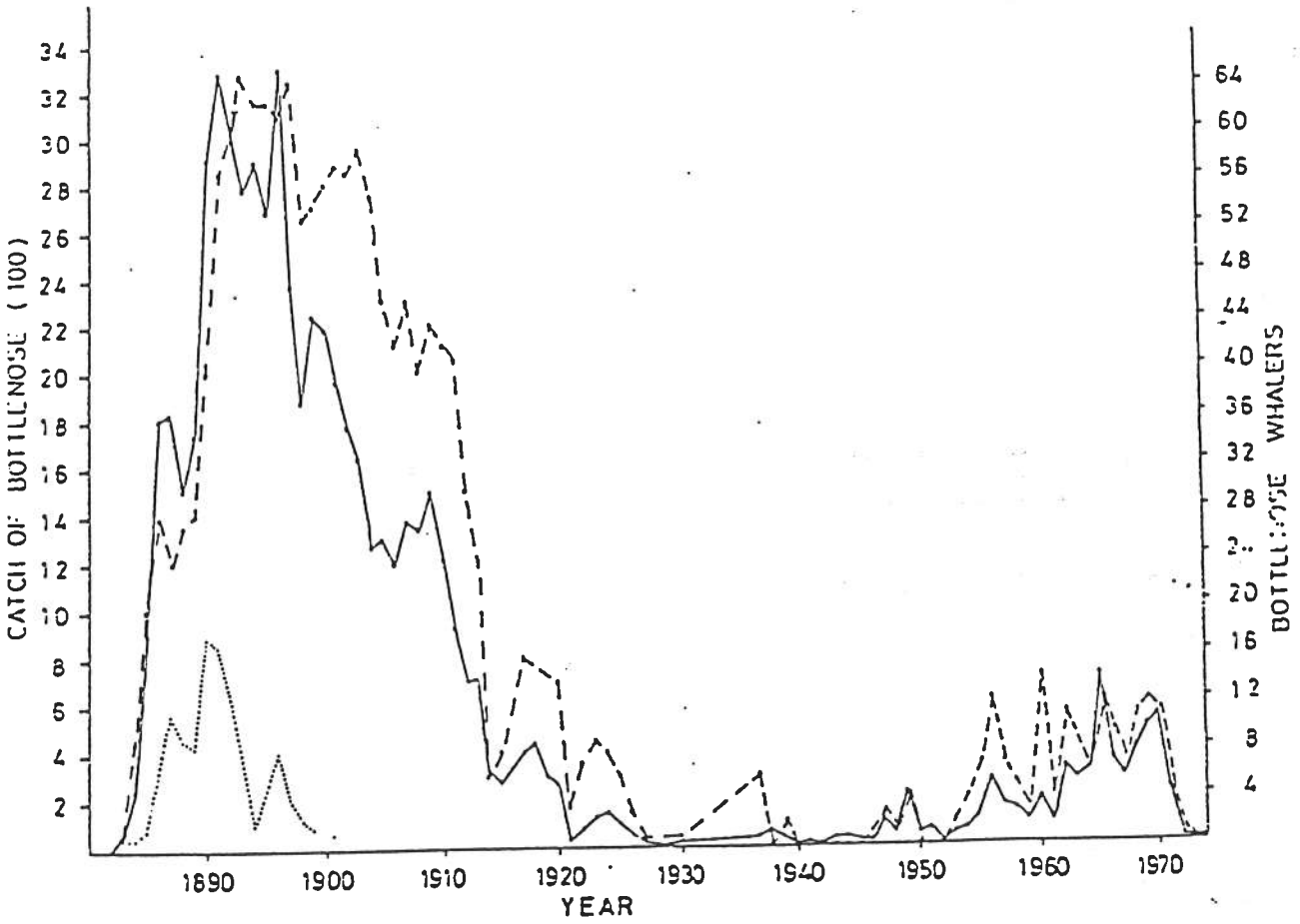
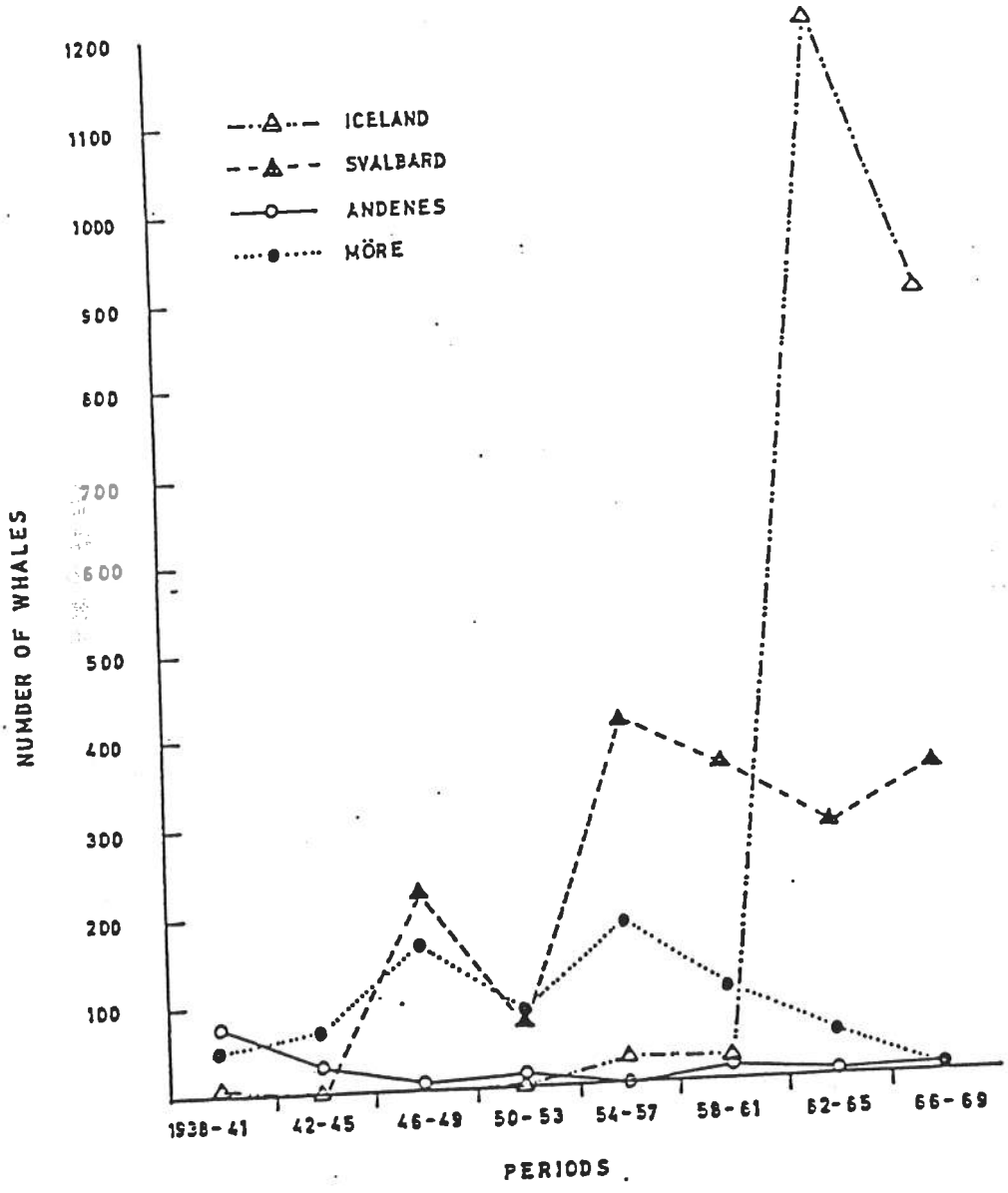


Figure 4 (from SC-WG/NBK1/5)

Number of bottlenose whales caught in the areas Iceland, Svalbard, Andenes and Møre in eight successive periods covering the season 1938-69.



Report of the Third Meeting of the Management Committee (NAMMCO/MC3)

Tromsø, 24-25 February 1994

The Management Committee met in Tromsø, 24 and 25 February 1994 and was attended by delegations from all member countries. The Committee also admitted observers from the Governments of Canada, Denmark, Japan and Russia to its meeting.

1. Adoption of Agenda

The Agenda as contained in Appendix 1 was adopted.

2. Election of Chairman and Vice-Chairman

Einar Lemche, Greenland was elected Chairman of the Committee and Arnór Halldórsson, Iceland was elected Vice-Chairman.

3. Matters arising from the Scientific Committee

The Management Committee noted the work of the Scientific Committee in dealing with the requests for advice on specific stocks forwarded to it from the Council, and noted further that the Scientific Committee had identified a number of aspects of research which still needed to be carried out before the Council's requests for advice could be fully addressed. The Management Committee noted the need for the Scientific Committee to complete this outstanding work as efficiently as possible.

It was also noted that the Scientific Committee had discussed the need for further guidance from the Council as to management objectives for specific cases and areas. The Committee agreed that member countries should inform the Scientific Committee of their particular management objectives.

a) Development of Management Procedures

The Management Committee decided to recommend to the Council that the Scientific Committee Working Group on Management Procedures be given the following future tasks:

1) With respect to the northern bottlenose whale the Committee requests the Scientific Committee to undertake the necessary modelling of the species as suggested under agenda items 9.2 and 10.2.2 of its report. While completing this task, the objectives used shall as far as possible be compatible with the RMP-like approach discussed in the report.

2) It was noted that the RMP could be an appropriate starting point in some future management cases. Therefore, taking into account the discussion in the Working Group on Management Procedures and the Scientific Committee, further development of RMP-like systems should be carried out.

b) Other matters

The Management Committee noted the delays associated with relying on the time schedules of other bodies for scientific advice on specific species. The Management Committee noted the Scientific Committee's request to Council to ensure that the necessary work is carried out so that work in outstanding areas can be expedited as soon as possible. In particular the Management Committee agreed to recommend that the Chairman of the Council write to the Walrus International Technical and Scientific Committee (WITS) to establish direct contact and ensure that the Scientific Committee receives copies of the relevant data and reports.

4. Report of the Working Group on Inspection and Observation

The Management Committee reviewed the report of the Working Group on Inspection and Observation. The Management Committee decided to charge the Working Group to carry out further work according to the specific recommendations (4.1 and 4.2) contained in its report. It was also decided to request the Working Group to pursue the development of a common inspection scheme for minke whaling in the North Atlantic, with reference to the list of basic elements outlined in the Working Group report, as well as further considering other aspects mentioned in section 4 of the report.

The Report of the Working Group on Inspection and Observation is attached as Appendix 2.

5. Any other business

Iceland raised the question of the possible need for calling extraordinary meetings of the Management Committee, depending on the outcome of deliberations on the resumption of whaling in Iceland.

NAMMCO/MC3 - Appendix 1

Third Meeting of the Management Committee

Tromsø, 24-25 February 1994

Agenda

1. Adoption of Agenda

2. Election of Chairman and Vice Chairman

3. Matters arising from the Scientific Committee

   a) Development of Management Procedures
   b) Other matters

4. Report of the Working Group on Inspection and Observation

5. Any other business

NAMMCO/MC3 - Appendix 2

NAMMCO/WG-IO1

North Atlantic Marine Mammal Commission

Report of the Working Group on Inspection and Observation[1]

Copenhagen, 21-22 September 1993

[1] This report of the NAMMCO Working Group on Inspection and Observation does not necessarily reflect the views of the Council and should not be quoted without first consulting the Secretary of NAMMCO.

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9037, Tromsø, Norway

Report of the Working Group on Inspection and Observation

Copenhagen, 21-22 September 1993

The Working Group met in the offices of the Greenland Home Rule Government, Copenhagen, September 21-22. The meeting was convened by Einar Lemche (Greenland) and attended by Amalie Jessen (Greenland) Jústines Olsen (Faroe Islands), Kristján Loftsson, (Iceland), Egil Ole Øen (Norway) and Halvard P. Johansen (Norway). Kate Sanderson (Secretary) was rapporteur. The Agenda for the Working Group meeting is contained in Appendix 1.

1. Terms of Reference/Mandate

At the Third Meeting of the Council of NAMMCO in Reykjavik (July 1-2 1993) the Council decided to establish a Working Group:

> "to consider inspection and observation schemes, in order to harmonize regulations and thereby *interalia* ensure that data collected will be compatible." (Report of the Third Meeting of the Council of NAMMCO, 1-2 July 1993, p.6)

The terms of reference of the Working Group would apply, where appropriate, to the utilization of all marine mammals relevant to NAMMCO.

2. Inspection and Observation Schemes

Working Group members presented an overview of the systems of inspection and observation in their respective member countries.

a) Faroes

Whales:

According to Faroese law, all whales are protected. The Faroese Government may make exceptions for specific species, which at present are: long-finned pilot whale, Atlantic white-sided dolphin, Atlantic white-beaked dolphin, bottlenose dolphin, harbour porpoise.

Harbour porpoises are occasionally shot, and such catches must be reported to the local district authorities. The annual catch of harbour porpoises ranges from 0-5 animals.

Catches of the other four species, the most significant of which are pilot whales, are conducted according to a Government executive order on *grind* (pilot whaling). The currently valid regulations, which came into effect in 1986, will soon be replaced with a revised executive order. The executive order on *grind* stipulates the way in which the drive and kill are to be organized and conducted, outlining the responsibilities of the appointed officials in the authorized location. In the executive order the Government has the authority to temporarily forbid whaling if catches have been sufficient in a certain region. A separate executive order lists the locations (bays) which are authorized for use as whaling bays.

The Faroese government is the highest authority in all matters relating to pilot whaling. The six chief district officers (whose main function today is as district chief of police), are responsible for overseeing the organization and conduct of the whale drive, as well as for the calculation and division of the catch in the district. Four pilot whaling foremen are chosen in each whaling bay for a period of 5 years at a time. The foremen are responsible, together with the chief district officer, for the organization of the drive

and kill, and the foreman's boat must fly the national flag during the drive so that it can be easily identified.

After a whale drive in his district, the chief district officer must send the Faroese Government a report on the conduct of the drive, recorded on a standard report form issued by the Government. Copies must also be sent to the Faroese Museum of Natural History. This form requires details of the drive, such as the location and time at which the whales were first sighted, the time taken to drive the whales to the chosen bay, the time taken to kill all the whales in the school, the number of participants in boats and on land, as well as information on the extent to which whales were beached effectively. Catch reports outline the division of the catch and calculation of shares by the chief district officer.

Seals:

There are no specific regulations on the killing of seals in the Faroes other than the Animal Welfare act (1985) which prohibits the shooting of seals with shotguns. If seals are to be shot, it must be done with a rifle, for which one must apply for a licence.

There is no organised seal hunting in the Faroes. It is normally fish farmers who request permission to shoot seals which interfere with their nets.

b) Greenland

Catch statistics for all forms of hunting in Greenland were restructured from January 1, 1993 with a new system of reporting all catches. Hunters are divided into two groups - those making a living from hunting and sport hunters. An annual record of catches must be submitted in order for the hunter to be given a hunting license for the following year.

Fin and minke whales:

Special whale licenses are issued for the hunting of minke and fin whales, with requirements for the regular reporting of catches and the recording of a variety of data from the catch, including tissue samples from each whale with information on species, date and locality of the catch. Licenses are issued per whale, and the holder of the license must have taken a course in the use of the penthrite grenade harpoon, and his equipment must be inspected and in good order.

Control and inspection of fin and minke whale catches is not carried out through direct control at each hunting locality, but each catch must be reported to the municipal authorities no later than one month after the catch, and the hunter must have a stamp from the municipal authorities if he is going to sell his catch. In the peak season, immediate catch reports are required.

It was reported that after the three years in which it has been used, this licensing system is functioning well.

Small whales /seals:

There are no quotas set for catches of small whales. However, a catch-recording license system has also been introduced for beluga and narwhal catches, although without the requirement of a special whale license. In 1993 the reporting regulations for beluga and narwhal catches were extended to include restrictions on the size of vessels and number of whales taken per vessel in the drive hunt.

Catches of other small whales (eg porpoises) as well as walruses and polar bears must be recorded in the annual catch reports.

All seal catches must also be recorded on the annual catch reports issued to each hunter. Apart from this, there are no other regulations for control and inspection systems for sealing.

In general it was explained that there is no on-location inspection as such, due to the practical difficulties of implementing such arrangements. However, there are plans to establish a national hunt inspection system with hunt officers and their representatives in all districts who could maintain direct contact with hunters.

For the most part, control is represented by the reports submitted by the hunters themselves and any additional information from the local districts.

c) Iceland

Whales:

Regulations in Iceland stipulate that the Ministry of Fisheries shall appoint an observer for each land station who shall be officially paid. It is further stipulated that owners of each land station shall be obliged to tolerate the inspection of land station activity by foreign inspectors.

When catches of fin and sei and sperm whales were carried out in Iceland, Iceland was a party to two international agreements on observation schemes. The first from 1972 was between Iceland, Norway and Canada. The second was with Spain from 1981. All observers and inspectors operated ashore at landing stations, since all whales caught in Icelandic whaling operations were brought to land stations.

Logbooks, officially approved by the Ministry of Fisheries, were kept to record data such as the number and species of whales taken, whales struck but not retrieved, position of catch, sex, size and reproductive status (of females) etc.

When minke whaling was operating in Iceland, 8-9 boats operated from the west, northwest, north and east coasts. Fisheries inspectors were responsible for random, on-the-spot control and inspection, which took place at the landing stations (c. 5 different locations).

Licenses issued for minke whaling carried with them certain conditions and obligations. Whaling guns had to be approved by the Ministry of Fisheries.
When a whale was caught a telegram had to be sent reporting the catch and its serial number, which also allowed inspectors sufficient time to reach the landing station. Weekly reports to the Marine Research Institute were also required.

There were no international observers appointed in the latter years of commercial whaling in Iceland.

Seals:

All Icelandic citizens are free to catch seals outside the territorial boundaries of farms and specially protected areas. However, due to strict regulations regarding the use of firearms in Iceland, only experienced hunters who can demonstrate a real need for powerful guns, as are required for sealing, may obtain a license for their use.

d) Norway

Whales:

The inspection and observation regulations applied in Norway in connection with this year's commercial minke whaling were explained. A total of 27 boats took part in the whaling for which a quota of 160 minke whales was allowed for the season, with each boat receiving its own non-transferable quota. 157 whales of the quota of 160 were taken before the season was officially closed by law on 12 September.

This year's whaling was subject to a special inspection arrangement which, it was noted, could become a model for future seasons. Inspectors were present on board every vessel, all of whom were trained veterinarians, and who had been prepared for the season through a special training course. It was reported that this system of on board inspectors on every boat functioned well, given the limited quota. However, space on board was an important consideration, especially since in minke whaling operations, all whales caught are flensed on board at sea, requiring sufficient space and manpower for this to be efficient. The smallest of the vessels is around 48-50 feet with only a three-man crew.

Inspectors had two major tasks to perform:

1) to control that whaling vessels and their crews abided by the regulations; and
2) to gather specific scientific data.

Apart from the special arrangement with inspectors this year, whaling regulations for minke whaling in 1993 were similar to those which applied when minke whaling was last in operation in 1987.

Aside from the on-board inspectors, publically appointed controllers are responsible for checking the quality of the whaling equipment.

All whalers were required to pass a shooting test with both rifles and harpoons. This test will probably become an annual requirement.

In addition to this a special course for those operating the harpoons was held in connection with this year's whaling operations. The course was largely subsidised by public funds, but participants also had to pay some of the costs themselves. The course included training in the use and maintenance of equipment, safety requirements in the use of the penthrite grenade, the relevant whaling regulations, as well hygiene requirements in the storage of meat.

It was explained that in relation to hunting in general in Norway, there are well-established training and inspection requirements and regulations. All hunters (whether of large game or small) must pass a public hunting test. Those wishing to hunt large game with rifles must pass a shooting test each year with the ammunition they use in the field. Shooting licenses must be shown to inspectors at any time.

There is also a public on-the-spot control system to inspect weapons and hunting licence, in order to make sure that all the right ammunition is used. In moose hunting, for example, the hunter can also be asked to collect biological samples from the animal in order to control the age and sex of the animals taken.

There had also been some discussion of the possibility of using electronic data systems to help with control of catches and the regulation of quotas within particular zones.

The Secretary reported that a proposal from NORFICO (Nordic Fisheries Management Company, Tromsø) had been forwarded to the Secretariat. This concerned a project called Hval-link, which outlines a system of gathering and reporting catch data via the Immarsat C satellite.

Seals:

In Norwegian sealing from the western and eastern ice, four vessels take part and an inspector is present on board each one. All sealers must have passed a shooting test. The species hunted are harp and hooded seals. Quotas are set every year. Only adult seals are taken and the quotas are reassessed every year. Each boat must submit an annual report on its sealing activities.

The regulations for coastal sealing are being revised and will include clearer regulations for the culling of seals (grey and harbour seals) along the coast.

3. Common basic principles

The Working Group discussed some basic principles and features of marine mammal utlilization common to all NAMMCO member countries. In this connection it was considered important to distinguish clearly between the hunting of larger whales and the hunting of smaller marine mammals (small whales and seals).

It was noted that seal catches were not significant in the Faroes or Iceland, but were of major importance in Greenland and also of some significance in Norway. However, some extent of coastal seal catches (whether organised culls or incidental catches) was common to all NAMMCO member countries.

It was noted that at the present time, and apart from Norway's catch of seals in the Russian zone, NAMMCO members only hunt marine mammals within their own fisheries zones.

NAMMCO member countries all have a basic legal framework in which the hunting of whales is forbidden, with exceptions made for specific species. Only national authorities can take action in connection with breaches of the regulations.

Also common to NAMMCO members was the fact that in the hunting of larger whales (eg minke) only boats with licences are permitted to catch whales. There is a regular reporting system for all such catches of larger whales, and some system of control and inspection is in effect in relation to such whaling.

It was noted that no international observers were or had been involved with minke whaling (small-type coastal whaling) in any NAMMCO member country.

Control and inspection schemes have developed largely in relation to the nature of the hunt itself. Where an inspector is present, the opportunity also exists to gather a wide range of data (eg biological) in addition to the other tasks of the inspector.

4. Possible harmonization of national regulations

The Working Group agreed that respective members should acquaint themselves with each others' regulations and methods of reporting in order to determine the common ground shared with respect to inspection and observation schemes.

Some kind of control system was considered necessary to ensure that the reporting system is effective. Such control systems could be expanded in all land-based hunting.

Norway suggested that there may be the basis for a common inspection scheme for minke whaling in the North Atlantic. In this respect it was necessary to determine the minimum standards required. The system used in fisheries inspection could serve as a model. In the case of long-distance vessels conducting whaling far offshore, for example, it would be most suitable to have inspectors on board every vessel.

The Working Group noted that it was ultimately up to the national jurisdiction of individual members countries to enforce catch regulations.

It was agreed that it would be impractical to require a standard system of controlling times to death for every animal as this would require the presence of an inspector on board every boat.

4.1 Recommendation:

The Working Group agreed to recommend that a standard NAMMCO checklist be formulated for inspectors. This could, for example be along the lines of the Norwegian fisheries inspection report form: "Report on inspection of fishery in Norwegian areas of jurisdiction".

It was also noted that quality control of equipment was a very important consideration in any such checklist.

Suggested basic elements of an inspection system (for minke whaling):

The Working Group agreed on some basic elements for a common inspection scheme for coastal minke whaling. Such a system would also be based on the principle that any one authorized to inspect can do so at any time.

These basic elements include:

1. Check of hunting equipment (quality control)
2. Report beginning of hunt (departure, discovery of whale)
3. Report the catch from sea
4. Report intended landing destination of the catch
5. Check that exploding grenades have been used
6. Register number of shots in the logbook - whether successful or not (explain reason for failed shot)
7. Licences for catcher boats

The Working Group also agreed that it could further consider the elements of inspection and observation systems, based on the above-mentioned points, which could be applied in common to coastal catches of large whales in respective member countries.

International Observers:

On the question of the role and function of international observers, the following points were left open for further discussion in the Working Group:

- within the 200 mile EEZ of each country it is up to respective governments to decide whether international observer schemes were appropriate. The Working Group therefore made no recommendations for establishing a common NAMMCO policy on allowing external international observation.

- the Working Group discussed the fact that international observation was not concerned with the enforcement of regulations. Rather it concerned the observation of the catch and the writing of reports to the home base. The costs of international observation would be covered by the observer's own country/institution.

- it should be possibile to allow international observers on board some vessels (at their own cost), although there would also be a need for certain requirements in relation to the qualifications of those acting as observers. Such international observation would be according to agreements between NAMMCO member countries and non-member governments/inter-governmental institutions.

4.2 Recommendation:

The Working Group agreed to recommend that a common system be used for recording data on the number and species of seals taken in respective NAMMCO member countries. This should be confined to simple data, such as is required in the annual catch reports for various hunted species in Greenland.

5. Compatibility of data collected

The Working Group noted that the biological data necessary to collect depends on the management procedures concerned, and this can differ from species to species.

Usual biological data collected in the course of hunting activities by inspectors include the number of animals, sex, catch location, presence of foetus and so on. In many cases tissue samples were also relatively easy to gather and store.

It was agreed that it was up to the Scientific Committee to recommend what data should be collected.

It was also noted that there was some need for standardization between NAMMCO countries with regard to the parameters applied to hunting efficiency.

The Working Group was of the impression that the compatibility of scientific data between NAMMCO countries was not problematic.

The Working Group identified data on times to death and length measurements as possible areas of incompatibility.

6. Possible questions to Scientific Committee

The Working Group agreed to ask the Scientific Committee whether any particular data on marine mammal species relevant to NAMMCO may be required for scientific purposes, which could be collected by hunters/inspectors in the course of their activities.

The Working Group agreed to ask the Scientific Committee for advice on the standard methodology for collecting data to ensure consistency of data. In this regard it was also stressed that hunters could not be expected to be responsible for collecting detailed data, and the sample would have to be a simple, standard one.

7. Report

The Working Group agreed to send the final report to the Scientific Committee prior to its meeting in Reykjavik in November, with particular reference to items 5 and 6.

NAMMCO/WG-IO1 - Appendix 1

Agenda

1. Terms of Reference/Mandate
2. Inspection and Observation Schemes
    a) Faroes
    b) Greenland
    c) Iceland
    d) Norway
3. Common basic principles
4. Possible harmonization of national regulations
5. Compatibility of data collected
6. Possible questions to Scientific Committee
7. Report

NAMMCO/WG-HM2

North Atlantic Marine Mammal Commission

Report of the Second Meeting of the *ad hoc* Working Group on Hunting Methods[1]

Copenhagen, 20-21 September 1993

[1] This report of the NAMMCO Working Group on Hunting Methods does not necessarily reflect the views of the Council and should not be quoted without first consulting the Secretary of NAMMCO.

NAMMCO Secretariat
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University of Tromsø,
9037, Tromsø, Norway

Report of the *ad hoc* Working Group on Hunting Methods

Second meeting, Copenhagen, 20-21 September 1993

1. Opening proceedings and participants

The Working Group met at the offices of the Greenland Home Rule Government, Copenhagen from September 20-21, 1993. The agenda is attached as Appendix 1. The meeting was convened by Amalie Jessen (Greenland) and attended by Hansi Kreutzmann (Greenland), Jústines Olsen (Faroe Islands) Kristján Loftsson (Iceland), and Egil Ole Øen (Norway).

2. Appointment of rapporteur

The Secretary was appointed as rapporteur.

3. The Working Group to date

The meetings and discussions which have taken place so far in the Working Group were reviewed. These included a preliminary meeting held in Tromsø in January 1993 and correspondence conducted between Working Group members since then.

4. Review of the document list

The Convener referred to the Working Group's aim of gathering documentation on hunting methods and regulations in respective NAMMCO member countries with the intention of compiling a list of this documentation. Iceland and Norway would undertake to provide further material. A preliminary reference list compiled chronologically and according to country is included as Appendix 2.

5. Review of the Draft Rules of Procedure[1]

The Working Group discussed the formulation of Rules of Procedure for the Working Group on Hunting Methods. The Draft Rules of Procedure are attached as Appendix 3. The following points reflect Working Group discussions on specific aspects of the Draft Rules of Procedure and refer to the articles as set out in the Draft Rules of Procedure (Appendix 3).

I *Terms of Reference*

1. The Working Group discussed the aims and status of the Group. Members agreed with the interpretation that the Working Group had been initially established on an *ad hoc* basis with the intention of it developing into a permanent group which would function in an advisory capacity. It was noted that a permanent group dealing with hunting methods should aim to gather information on hunting methods, discuss developments and problems in hunting technologies and methodologies and address specific questions as they arise.

   However, members also agreed that the status of the group was unclear in relation to the general Management Committee established by the Council. It was noted that the Report of the Inaugural Meeting of the Council of NAMMCO referred to the establishment of an "*ad hoc* Committee" on hunting methods, while the group has subsequently been defined as a Working Group.

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[1] After reviewing this Report of the Working Group on Hunting Methods, the Council decided at its Fourth Meeting that the *ad hoc* Working Group should be made a permament Working Group (ie not Committee) which reports directly to Council. The Rules of Procedure attached to this Report have been amended to refer to a Working Group. Likewise, references in the text of the Report have also been amended to refer to Working Group (rather than Committee, as was orginally used).

Working Group members agreed that the terms of reference and work of the Group would be most appropriately defined in the form of a permanent independent Working Group which would report directly to the Council. In this regard the Working Group noted in particular the emphasis placed by the Council on the wide-ranging importance of the matter of hunting methods, as stated in the Report of the Second Meeting (Tromsø, January 1993): "The Council agreed that the question of hunting methods was a matter of relevance to NAMMCO on all levels - scientific, management and information."

2. *Ad hoc* Working Group members agreed that the permanent Working Group should have the scope to initiate discussions on matters its members considered important and relevant without it being necessary to seek Council approval before addressing such matters. It was also considered desirable for the Working Group itself to be able to initiate specific tasks where appropriate, subject to Council approval.

II *Membership*

3. *Ad hoc* Working Group members agreed that it was important that the Working Group itself decides on the outside expertise to be sought when necessary.

V *Report*

2. The Working Group noted the need for guidelines for the Secretariat on the availability and distribution of data. The Working Group would follow guidelines on data availability relating to the Scientific Committee when such guidelines have been prepared.

6. Possible tasks of a permanent Working Group on Hunting Methods

The *ad hoc* Working Group discussed in more detail the kinds of issues which the permanent Working Group could address and the tasks it could perform in the future. It was agreed that the Working Group should be open to requests for advice on all matters for which its members could provide the appropriate expertise.

Some examples of the matters relevant to the Working Group which could be further addressed included:

- a comparative examination of levels of wastage of meat in connection with the use of grenade harpoons with two-claw harpoons used in minke whaling in Greenland and Norway, and four-claw harpoons used in fin whale hunting in Greenland. Greenlandic whalers had pointed out that there was more wastage of meat in the use of the grenade harpoon than the cold harpoon. This is not in accordance with Norwegian experiences and investigations on grenade harpoons over the years. The Committee will investigate the reasons for the different experiences of Greenlandic and Norwegian whalers in this regard;
- the production of a common manual with instructions for the use, operation and maintenance of harpoon guns;
- a comparison of parameters used for collecting data related to hunting methods.

Ad hoc Working Group members discussed the role of the Working Group on Hunting Methods as an advisory one, where members could raise issues for discussion in the group and, not least, seek to maintain an exchange of information between members.

7. Next meeting/any other business

It was agreed to hold a brief meeting prior to the next Council meeting to review the final report and make any further amendments which may be considered necessary. It was also agreed to finalize a preliminary documentation list to be included with the Working Group report at the next meeting of the Council in January or February 1994.

NAMMCO/WG-HM2 - Appendix 1

Agenda

1. Opening procedures
2. Appointment of rapporteur
3. The Working Group to date
4. Review of the document list
5. Review of Draft Rules of Procedure
6. Possible tasks of a Committee on Hunting Methods
7. Next meeting/Any other business

NAMMCO/WG-HM2 - Appendix 2

Preliminary List of Documents on Hunting Methods

Faroe Islands

Hoydal, K., Recent Changes to Faroese Legislation on Whaling, Paper presented to the IWC/38 Humane Killing Working Group, Malmö, 1986.

Faroe Home Government, Response from the Danish Government on the Methods used in the Faroese Pilot Whale Hunt, submitted to IWC/40, 1988.

Comments from Denmark on IWC44/HKW/9, "Humane Killing Aspects of the Pilot Whale Hunt in the Faroe Islands", IWC Document IWC/45/HK2, 1993.

Greenland

Greenland Home Rule (GHR), Hunting Methods including the Cold/Warm Harpoon Question, IWC Document TC/39/AS 2, 1987.

Petersen, Robert, Communal Aspects of Preparation for Whaling, of the Hunt Itself and of the Ensuing Products, 1987.

GHR, Denmark's Answers to the Remaining Questions stated in Document IWC/39/19 "Report of the Humane Killing Working Group", Annex 4, IWC Document TC/40/HK 3, 1988.

GHR, Implementation of the Detonating Grenade Harpoon in Greenland's Whaling on a Experimental Basis, IWC Document TC/40/HK 4, 1988.

GHR, Arfanniariaaserput - Our Way of Whaling, 1988.

Dahl, J., The Integrative and Cultural Role of Hunting and Subsistence in Greenland, *Inuit Studies*, 13(1): 23-42, 1989.

GHR, Introduction of the Detonating Grenade Harpoon in Greenland Whaling on a Experimental basis, IWC Document TC/41/HK 2, 1989.

GHR, Introduction of the Detonating Grenade Harpoon in Greenland on an Experimental Basis, IWC Document TC/42/HK 1, 1990.

GHR, Greenland Licenses for Hunting Minke Whales with Rifles, IWC Document TC/42/HK 2, 1990.

Josefsen, E, Cutter Hunting of Minke Whale in Qaqortoq (Greenland): Case Study, IWC Document TC/42/SEST 5, 1990.

Larsen, S. E. and Hansen, K. G., Inuit and Whales at Sarfaq (Greenland): Case Study, IWC Document TC/42/SEST 4, 1990.

Caulfield, R. A, Qeqartarsuarmi arfanniarneq: Greenland Inuit Whaling in Qeqartarsuaq Kommune, West Greenland, IWC Document TC/43/AS 4, 1991.

GHR, Designation of Types of Rifles in Greenland, IWC Document TC/43/AS 1, 1991.

GHR, Introduction of the Detonating Grenade Harpoon in Greenland, 1991, IWC Document TC/43/HK2, 1991.

GHR, Introduction of the Detonating Grenade Harpoon in Greenland, 1992, IWC Document TC/44/HK1, 1992.

Rosing, J., Havets Enhjørning, 19xx.

Jessen, A., Modern Inuit Whaling in Greenland, 1992.

GHR, Greenland Action Plan on Whale Hunting Methods, 1992, IWC Document TC/45/HK3, 1993.

Iceland

Lambertsen, Richard H. and Moore, Michael J., Behavioral and post mortem observations on fin whales killed with explosive harpoons with preliminary conclusions concerning killing efficiency: report to the International Whaling Commission from the Icelandic Whales research laboratory, 1 November, 1983, IWC Document TC/36/HK 3.

Rowsell, Harry C., Assessment of harpooning as a humane killing method in whales: A report to the International Whaling Commission, 1979.

Øen, Egil Ole, Progress Report on Penthrite as Detonating Charge for 90 mm Harpoons, IWC Document TC/39/HK 4, 1987.

Norway

Øen, E.O., Progress Report on Studies to increase the Efficiency of Killing Methods in Norwegian Small-Type Whaling, IWC Document SC/34/0 10, 1982.

..... Killing Times of Minke Whales in the Norwegian Coastal Whaling in the 1981 and 1982 Seasons. *Nord. Vet.-Med.* 35, 314-318: 1983.

..... Electrical Whaling - A Review. *Nord. Vet.-Med.* 1983, 35: 319-323.

..... Progress report on research to develop more humane killing methods in Norwegian whaling, IWC Document TC/35/HK 1, 1983.

..... Progress report on research in 1983-84 to develop more humane killing methods in Norwegian whaling, IWC Document TC/36/HK 1, 1984.

..... The Use of Drugs in Whaling. Rep., IWC Document TC/36/HK 2, 1984.

..... Progress report on research in 1984-85 to develop more humane killing methods in Norwegian whaling, IWC Document IWC/37/19, 1985.

..... Chemical Immobilization and Marking of Minke Whales. A Report of Field Trials in 1988, IWC Document SC/41/NHMi 10, 1989.

..... A Review of Attachment Techniques for Radio Transmitters to Whales, 1990, in *North Atlantic Studies - Whaling Communitie*, Vol. 2, Nos 1 & 2, ed. E. Vestergaard, Aarhus Universitet, 1990: 82-84.

..... Trials of Chemical Immobilization of Minke Whales with Etorphine Hydrochloride in 1989, IWC Document SC/42/NHMi 16, 1990.

..... A new VHF-Transmitter for Minke Whales, IWC Document SC/42/NHMi 17, 1990.

..... The Norwegian Hunt of Minke Whales: Hunting of Minke Whales with Modified Cold Harpoons in 1983, IWC Document IWC/44/HKW 1, 1992.

..... The Norwegian Hunt of Minke Whales: Description and Analysis of the Minke Whale Hunt with Cold Harpoons in the 1981, 1982 and 1983 Seasons, IWC Document IWC/44/HKW 2, 1992.

..... The Norwegian Hunt of Minke Whales: Hunting Trials using 20mm High-Velocity Projectiles in 1982, IWC Document IWC/44/HKW 3, 1992.

..... The Norwegian Hunt of Minke Whales: A Norwegian Penthrite Grenade for Minke Whaling. Description of the Model and Developmental Work, IWC Document IWC/44/HKW 4, 1992.

..... Norwegian Penthrite Grenade for Minke Whales: Hunting Trials with Prototypes of Penthrite Grenades in 1984 and Results from the 1985 and 1986 Seasons, IWC Document IWC/44/HKW5, 1992.

..... A new Penthrite Grenade for the Subsistence Hunt of Bowhead Whales by Alaskan Eskimoes. Developmental Work and Field Trials in 1988, IWC Document IWC/44/HKW 6, 1992.

..... Hunting Methods for Minke Whales in Norway. Report from the 1992 Scientific Catch, IWC Document IWC/45/HK 1, 1993.

..... Norwegian Penthrite Grenade for Minke Whales: Results from the 1992 Season, 1993.

..... Avliving av strandet Hval, *Nor. Vet. Tidsskr.* 105, p. 748-749, 1993.

..... Avliving av standet Hval, *Nor. Vet. Tidsskr.* 105, p. 845-846, 1993.

NAMMCO/WG-HM2 - Appendix 3

Rules of Procedure for the Working Group on Hunting Methods

I Terms of Reference

1. The Working Group shall, upon request from the Council or individual member countries, provide advice on hunting methods for those species of marine mammals relevant to NAMMCO member countries. The Working Group shall ensure that such advice is based on the best available scientific findings, technological developments and traditional knowledge, with due consideration given to saftey requirements and efficiency of utilization.

2. Members of the Working Group may raise specific questions for discussion during meetings of the Group. The Working Group may make proposals to the Council for specific tasks to undertake within its terms of reference.

3. Non-member governments with observer status in NAMMCO may request advice from the Working Group through the Council.

II Membership

1. Each NAMMCO member country shall be represented by up to two Working Group members.

2. The Working Group shall elect from among its members a Chairman and a Vice-Chairman, who shall each serve for two years, after which time they may be re-elected.

3. The Working Group may also seek outside expertise when the Working Group considers this to be necessary and appropriate.

III Observers

1. Attendance of observers shall not be permitted at the meetings of the Working Group on Hunting Methods unless otherwise decided by the majority of the Working Group and approved by the Council.

IV Meetings

1. The Working Group shall meet at least once a year, preferably prior to the annual meeting of the Council, unless otherwise decided by the Council. Additional meetings may be held when judged necessary by the Working Group and approved by the Chairman of the Council.

2. A provisional agenda for the Working Group shall be compiled by the Chairman and distributed to Working Group members no later than 30 days prior to the meeting in question. Comments or suggestions for revision of the provisional agenda shall reach the Chairman no less than 10 days prior to that meeting.

3. The Chairman shall, in consultation with other members of the Working Group and the Secretary of NAMMCO, seek to ensure that key documentation of relevance to the provisional agenda is available at the beginning of each meeting.

V Report

1. A draft report shall be presented for consideration before the end of the Working Group meeting. The final report of each meeting shall be prepared by the Secretariat as required by the Working Group and transmitted to all members of the Council as soon as possible after the meeting.

2. The report of the Working Group on Hunting Methods shall be made available by the Secretariat to anyone who so wishes, according to guidelines set by the Working Group and subject to approval by the Council.

VI Amendment of Rules

1. Proposals for amendment of these Rules of Procedure shall reach the Chairman of the Council not less than 60 days prior to the Council meeting at which the matter is to be discussed. The Chairman of the Council shall transmit these proposals through the Secretariat to the Members of the Council not less than 30 days prior to that meeting.

NAMMCO

North Atlantic Marine Mammal Commission

Seminar

Informed Opinion -
on the hunting of marine mammals

26 February 1994 - Hotel Saga - Tromsø
09.00 - 18.00

The seminar is organised by the Secretariat of NAMMCO with support from the NAMMCO Fund

North Atlantic Marine Mammal Commission
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Informed opinion on the hunting of marine mammals

A special one-day seminar on information problems, needs and strategies

26 February 1994 - Hotel Saga - Tromsø - 09.00 - 18.00

Seminar aims:

1) *to provide those affected by "informed opinion" in the urban West - the marine mammal hunters, the administrators and the business people - with a forum for discussing problems, experiences and needs with regard to information on the hunting of marine mammals;*
2) *to involve representatives and specialists from a number of different sectors, such as business, the media and public relations, in a constructive discussion and exchange of ideas on information strategies for the future;*
3) *to discuss concrete ideas and specific proposals for future projects.*

Background:

Most of those directly involved with the hunting and/or management of whales and seals are well aware of how public opinion in the urban West is "informed" on issues related to the use of marine mammals today. It is also clear that marine mammal management policy in many countries is itself largely informed by public opinion, which appears to be characterised by an increasing opposition to the concept of the hunting of wild animals, not least whales and seals, for whatever reason. This is particularly so in countries where the use of whales and seals for human consumption does not have the same economic, social or cultural significance as it does for the people of coastal communities around the North Atlantic and in other parts of the world.

The opposition to the hunting of marine mammals is by no means simply manifested as a difference in attitudes from one culture to the next. Whaling and sealing communities and nations have long been, and continue to be, faced with widespread and well-organised pressure campaigns aimed at stopping all hunting of marine mammals. Businesses have also been subjected to economic pressure for the marine mammal policies of their own countries, or of the countries from where their products derive. As a result, hunters, managers and business people alike have been forced to respond to the protest, criticism and misundertanding of the issues by creating and implementing concerted information strategies to defend and protect their interests. These strategies have, however, rarely been coordinated either on national or international levels, and there have been few organised exchanges of views between those most directly involved.

We hope this seminar will provide for just such an exchange of views, and that it will also help to generate useful ideas for future information strategies and specific projects from which all involved may benefit.

Programme

Seminar Chairman -	Einar Lemche (Greenland Home Rule Government)
9.00	*Welcome and introduction* Kjartan Hoydal, Chairman of NAMMCO
Session 1)	***General background presentations - identifying the problems:***
9.15	Fred Pearce (UK), freelance journalist and author of *Green Warriors*: The Green movement and attitudes to sustainable harvesting of wildlife
9.45	Eugene Lapointe (Switzerland/Canada), former Secretary General of CITES: Information problems and needs in international fora
10.15	Klaus Barthelmess (Germany), whaling historian and researcher: Public opinion and marine mammal issues in Germany - problems and needs
	Discussion
11.00	*Coffee*
Session 2)	***Specific problems and strategies:***
	Whales -
11.30	Mike Curley (Director, Faroe Seafood, UK): Dealing with a consumer boycott of Faroese fish in the UK
11.45	Louis Wilson (F.I.S.C. - Faroe Islands Solidarity Committee - UK): Citizen action against anti-whaling campaigns in the UK
12.00	Nils Ragnar Kamsvåg (Foreign Affairs Department, Oslo): Norwegian information policy and the resumption of minke whaling in Norway
	Discussion
12.30	*Lunch (Saga Hotel)*
Session 2) cont. Seals -	
1.45	Kristian Fleischer - (Managing Director, Great Greenland): Problems and needs promoting and selling seal products
2.00	Dan Goodman - (Department of Fisheries and Oceans, Canada): Information perspectives and the future of sealing in Canada
2.15	Ivar Aune - (Aune, Bernhardt & Partner, Germany): Anti-fur activities in Germany - why seal doesn't sell
	Discussion

Session 3) ***Ideas and Projects - informal discussions*** (with coffee)

2.45 Georg Blichfeldt - (High North Alliance):
Comments on the seminar presentations and
an introduction to the discussion session

3.00 *Discussion session*

The third session of the programme is intended for informal discussion among seminar participants, with the input from the day's presentations having provided some background and specific case studies. If the main seminar proves too large a forum for constructive discussion, participants should be prepared to take part in one of two or three smaller discussion groups, to consider some of the following points:

1. Who ?

- ❒ What is the information role and responsibility of:
  - governments
  - inter-governmental organisations (such as NAMMCO)?
  - the business sector?
  - NGOs
- ❒ How far can information work be coordinated between these different sectors?
- ❒ Is the business sector prepared to take a stand on the issues?

2. What and How?

- ❒ What kinds of information projects should be given priority?
- ❒ How can boycotts be dealt with / avoided? Do they pose a serious economic threat?
- ❒ How do we create better markets for sealskins?
- ❒ How can marine mammal issues be linked to broader discussions of wildlife use and conservation internationally?

5.15 *Summaries from discussion groups*

5.45 *Chairman's closing remarks*

7.30 *Dinner* - Arctandria Restaurant

External Relations

Report from the Secretariat to the 4th Meeting of the Council, Tromsø, 24-25 February 1994

1 Exchange of observers with other organisations and forthcoming meetings

1.1 ICES

The 82nd Statutory Meeting of ICES will be held in St John's, Newfoundland, Canada 22-30 September 1994. An observer for NAMMCO should be appointed in good time. Particular attention is drawn to the planned Joint Committee Session on "Occurrence and Effects of Contaminants in Marine Mammals" (Marine Mammals Committee and Marine Environmental Quality Committee). Jóhann Sigurjónsson was NAMMCO observer at the 81st Statutory meeting in Dublin, September 1993.

Arne Bjørge, Chairman of the Marine Mammals Committee, is ICES observer at NAMMCO/4.

1.2 IWC

The 46th Annual Meeting of the Commission will be held in Puerto Vallarta, Mexico 23-27 May 1994. Names of observers are to be notified by 15 April. Einar Lemche was NAMMCO observer at the 45th IWC meeting in Kyoto in 1993.

Ole Samsing, Ministry of Foreign Affairs, Denmark, is observer for the IWC at NAMMCO/4.

1.3 NAFO

The next meeting of the General Council of NAFO will be held in Canada in September 1994. NAFO's observer status at NAMMCO meetings has been delegated to Norway, with Hallstein Rasmussen as observer at last year's meeting.

Lisbeth W. Plassa, Directorate of Fisheries, Norway, is NAFO observer at NAMMCO/4.

1.4 CITES - Convention on the International Trade in Endangered Species

The CITES Secretariat was originally contacted in November, 1992 with an invitation from NAMMCO to exchange observers, but no reply was received. CITES was since re-contacted and the Secretariat has now responded positively to NAMMCO's suggestion to establish reciprocal observer relations.

NAMMCO is invited to send an observer to the forthcoming ninth meeting of the Conference of the Parties to CITES, to be held in Fort Lauderdale (USA) from 7 to 18 November, 1994. Names of observers should be notified by 1 July. CITES was unable to be represented with an observer at NAMMCO/4.

1.5 CMS - Convention on the Conservation of Migratory Species of Wild Animals

Correspondence has been maintained with Arnulf Müller-Helmbrecht of the CMS Secretariat in Bonn. An invitation is extended to NAMMCO to send an observer to the fourth meeting of the Conference of the Parties to CMS in Nairobi, Kenya 7-11 June 1994. The deadline for notification of attendance is February.

CMS was unable to send an observer to NAMMCO/4.

1.6 ASCOBANS - Agreement on the Conservation of Small Cetaceans of the Baltic and North Seas

Correspondence and copies of reports have been exchanged with the interim secretary of ASCOBANS in Cambridge, Christina Lockyer. The Agreement was ratified by Denmark on 29 December and will officially come into effect on 29 March. Copies of the report of the preliminary meeting of ASCOBANS held in Cambridge in October are available from the Secretariat. NAMMCO will be invited to send an observer to the first full meeting of range states to be held in Sweden in late September (final details not yet available).

The interim secretary was not able to attend NAMMCO/4.

1.7 FAO - The Food and Agriculture Organization of the United Nations

FAO has been kept informed of NAMMCO meetings and invitations have been extended to send observers. It has not however been possible for FAO to send observers to NAMMCO meetings to date.

1.8 IUCN - International Union for the Conservation of Nature

The IUCN Secretariat in Gland was initially approached for information on membership requirements. After corresponding with the Director General, Martin Holdgate, an invitation was extended to NAMMCO to send an observer to the 19th General Assembly in January in Buenos Aires. The Director General also expressed interest in NAMMCO's suggestion to establish working relations. The Secretary attended the General Assembly in Buenos Aires from 17-22 January. An observer's report is attached as Appendix 1.

An invitation was extended to IUCN to attend NAMMCO/4 but no further notification has been received.

1.9 Nunavut Wildlife Management Board, Canada

An invitation to attend NAMMCO/4 was extended to the newly formed Nunavut Wildlife Management Board (Iqaluit, Northwest Territories, Canada). NAMMCO's invitation was discussed at the first meeting of the Board which was held recently, and a reply has been received from the Interim Chairman, who expresses interest in establishing contact and exchanging information with NAMMCO.

2. Observers' reports

The Secretariat notes that written reports have not been received from NAMMCO observers to IWC, ICES or NAFO, and requests advice as to whether the Council requires written reports from appointed observers in the future.

3. Marine mammals and the principles of sustainable utilization

At the third meeting of the Council in Reykjavik, 1-2 July 1993 (item 17, point 3), the Secretariat was instructed to gather information on: "other meetings, conferences and working groups of relevance to NAMMCO in which issues related to marine mammals and the principles of sustainable utilization of living resources were being further discussed and developed" and to report back to the Council at its next meeting.

Since the last meeting of the Council a number of meetings have taken place where issues related to both specifically to marine mammals as well as in general to the principles of sustainable utilization of living resources have been discussed. However, time has not allowed for the production of a full report on these meetings and discussions. A brief outline is presented below, and the Secretariat will continue to follow

developments and compile relevant documentation with the view to preparing a comprehensive report later in the year.

No doubt the most significant discussions of the principles of sustainable utilization have gone on within the IUCN, specifically with the work of the Species Survival Commission's Specialist Group on the Sustainable Use of Wild Species, which formulated a text of guidelines for the 19th General Assembly of IUCN. This is discussed in Appendix 1 - observer's report from the IUCN General Assembly, Buenos Aires, January 1994.

ISI - Indigenous Survival International - held its 7th General Assembly in Sisimiut, Greenland, 14-18 August 1993. A number of resolutions were passed related to marine mammals and sustainable utilization. Amalie Jessen is the member for Greenland of the ISI Steering Committee.

The 5th World Wilderness Congress was held in Tromsø 27 September - 3 October 1993. This was organised to coincide with the 1st Northern Forum Conference. The overriding theme of the Wilderness Congress was "Wild Nature and Sustainable Living in Circumpolar Regions" and discussions in general revolved around defining the concept of wilderness from different perspectives. The programme included a symposium entitled "Arctic Wildlife and Whaling: Conflicts in Management", with a one-day workshop on whaling, consisting of a series of lectures focused mainly on the resumption of commercial minke whaling in Norway, and concluding with a panel discussion and debate on the issues.

The Northern Forum also organised a session entitled "Management of Living Marine Resources - towards new regimes" which dealt with both fisheries and marine mammal management issues.

The European Bureau for Conservation and Development organised a conference in Brussels 29-30 November, 1993 entitled "Responsible Wildlife Resource Management", to which the Secretary was invited to give a lecture on NAMMCO. Other presentations included the specific examples of kangaroo, elephant and seal management, as well as more general papers dealing with issues of sustainable use, animal welfare and cultural and biological diversity.

The lectures given at the Symposium entitled "The Role of Wildlife Use in Shaping Local Culture", hosted by the Institute of Cetacean Research in Tokyo (8-10 February 1994) also presented several different case studies of wild resource management on local levels, including the examples of sea turtles in Nicaragua, marine mammals in Greenland and Canada, whaling in Indonesia, elephants and other wildlife in Zimbabwe, and fur seals in the Pribilof Islands.

In general it can be said that in many of these fora and discussions, differences in basic definitions of the generally-accepted and widely-used terminology are often at the heart of the issue, in particular with respect to the such key words as conservation, management, sustainability, and even use. These terms are being defined by the contexts in which they are used - an important factor to bear in mind in future discussions in international fora.

Report on External Relations - Appendix 1

The 19th General Assembly of IUCN - the World Conservation Union,

Observer's report
Buenos Aires, 17-26 January 1994

Following an invitation to NAMMCO from the Director General of IUCN, and after consultation with the Chairman of NAMMCO, the Secretary, Kate Sanderson, attended the IUCN General Assembly in Buenos Aires from 17-22 January as observer for NAMMCO.

1. IUCN - background and structure

The IUCN (World Conservation Union), established in 1948, is one of the oldest international conservation organisations, with a membership comprised of over 60 States, as well as government agencies, international and national non-governmental organisations, and affiliate members, which together make up a membership of some 650. In 1980 the IUCN launched its "World Conservation Strategy", and this was followed up in 1991 with the release of a new strategy entitled "Caring for the Earth - A Strategy for Sustainable Living", with recommended actions for creating and maintaining a sustainable society. The theme of the 19th General Assembly was "Caring for the Earth and its People".

Membership is divided into three categories: A, B or C. State members and government agencies are A members. States have three votes each in the General Assembly, while government agencies have one of the three votes of their State, or one vote if they are independent members. National and international non-governmental organizations are B-members. National NGOs have one vote each, while international NGOs have two votes, C members (affiliates) are observers only.

It is not possible for inter-governmental organisations such as NAMMCO to become full voting members. IUCN has working and observer relations with a range of other organisations, including the IWC. The question of establishing working relations between NAMMCO and the IUCN was raised in a letter to the Director General in November 1993, who replied in early January that the matter would be taken up in the Council after the General Assembly. The next meeting of the Council is at the end of May, 1994.

Other than its members in the General Assembly forum, the Union is comprised of the Council, the Secretariat (based in Gland, Switzerland), regional and national offices, and the following 6 Commissions: Species Survival Commission; Commission on National Parks and Protected Areas; Commission on Environmental Law; Commission on Environmental Strategy and Planning; Commission on Ecology and Commission on Education and Communication.

Chairs of the Commissions, regional councillors, the President and Treasurer are elected by the General Assembly. The Council is made up of the 24 regional councillors, (3 for each of the 8 geographical regions), the President, Treasurer, five co-opted councillors and the Chairs of the Commissions. The Council meets at least once a year.

The President of the IUCN for the next triennium (1994-96), elected at the General Assembly, is Dr Jay Hair (USA), who replaced Sir Shridath Ramphal (Guyana). The Director General as from April 1994 is Ambassador David McDowell (New Zealand), who takes over from Dr Martin Holdgate (UK).

2. The 19th General Assembly

The 19th General Assembly began with a preliminary session on Monday, January 17 and an opening ceremony in the evening. Proceedings continued on 18 and 19 January with plenary discussions on the work of the various commissions, the proposed guidelines on sustainable use (see 2.1 below), the mission statement of IUCN and the election of regional councillors and a new president. Voting on resolutions took place in the second week from 24 - 26 January. Points 2.1 - 2.3 below outline briefly some aspects of proceedings of the General Assembly which are of particular relevance to NAMMCO.

2.1 Draft Guidelines on the Ecological Sustainability of Consumptive and Non-Consumptive Uses of Wild Species

The 18th IUCN General Assembly in Perth 1990 unanimously passed a resolution calling for the development of guidelines for the sustainable use of wild species. This led to the establishment of two different but related bodies which have been addressing the tasks outlined in the resolution. These are the Sustainable Use of Wildlife Programme (SUWP), which was established within the IUCN Secretariat by the Director General. The Programme is based in Washington, with Dr Steve Edwards as Director. The other, set up by the Chair of the Species Survival Commission, is the Specialist Group on Sustainable Use (SGSU), chaired by Robert and Christine Prescott-Allen (Canada). These bodies have been responsible for the formation of a draft set of criteria and guidelines for sustainable use of wild species. After three years of work and extensive international review by a large number of people, the final draft was reviewed and amended by the IUCN Council, resulting in the General Assembly document entitled: the "Guidelines for the Ecological Sustainability of Noncomsumptive and Consumptive Uses of Wild Species". The discussion of these "Guidelines" was one of the major features of proceedings in Buenos Aires in January.

The Specialist Group on Sustainable Use met in Buenos Aires just prior to the General Assembly to consider the application of sustainable use criteria to particular case studies, as well as to consider the four resolutions on the draft Guidelines. Doubts and criticisms were raised by members of the Specialist Group concerning the final draft of the Guidelines, and many were of the opinion that they should be further refined and tested on real use cases before they could be adopted.

This was also the main thrust of discussions and presentations in the General Assembly Workshop on the Sustainable Use of Living Natural Resources (20-21 January), which was attended by the NAMMCO observer. A number of papers were presented which outlined different case studies of the use and management of wild species, and discussions were focused largely on the appropriateness of the draft guidelines as related to these and other case studies. The two-day session ended with a specific discussion of the resolutions presented to the General Assembly on the draft guidelines, and it was already clear from this discussion that there was strong feeling that it would not be appropriate to adopt the Guidelines without further amendments and refinements. A small working group was set up to produce a compromise resolution.

The final resolution on the Guidelines which was adopted by the General Assembly commended the work already done in drafting the guidelines, but put off their adoption, calling for further refinement and testing in the field over the next triennium. This was considered a valuable result of the meeting. The draft text as it stood contained a number of inconsistencies and was considered too specific for application in all cases. The Specialist Group on Sustainable Use will now continue its work and undertake to further refine the Guidelines before the next General Assembly in three years time.

2.2 *Whaling resolutions*

Three resolutions on commercial whaling were submitted to the General Assembly, as well as two on the proposed Southern Ocean whale sanctuary. Wherever possible, the IUCN seeks consensus resolutions resulting from compromise between the proponents of resolutions on similar issues. The IUCN Secretariat had, prior to the General Assembly, consolidated into one text the three quite different commercial whaling resolutions, which had been submitted by the International Council for Environmental Law (ICEL), Greenpeace International, and the European Bureau for Environment and Development (EBCD). The same was done with the two resolutions on the Southern Ocean whale sanctuary proposed by WWF (UK) and the International League for the Protection of Cetaceans.

During the meeting in Buenos Aires, the three proponents of the commercial whaling resolutions met to discuss the possibility of a compromise text. Despite several attempts, this did not prove feasible. A meeting was then arranged by the Resolutions Drafting Committee, at which the first of the three resolutions (by ICEL) was used as the basis text, to which elements of the other two resolutions were added. This drafting meeting was open to any interested parties other than the proponents themselves, and was therefore also attended by the NAMMCO observer, and well as representatives from State members such as Denmark (Greenland), Australia, the Netherlands and the UK.

As no agreement could be reached on a final compromise text at this meeting either, it was agreed that the individual paragraphs of the final consolidated resolution should be voted on separately by the General Assembly. This included an operative paragraph, similar in the original ICEL and EBCD resolutions, urging the IWC to adopt the Revised Management Procedure and finalize the Revised Management Scheme and incorporate this into the IWC Schedule. This operative paragraph was voted down, although not by a large majority.

Previous General Assemblies of IUCN have adopted resolutions by consensus calling for the continuation of an indefinite moratorium on commercial whaling. Although the resolution on commercial whaling adopted by the 19th General Assembly was similar in nature to previous IUCN resolutions, it was significant that more rational, science-based views of whaling were reflected in resolutions proposed by IUCN members (ie EBCD and most of the original ICEL text). This meant that the resulting resolution had to be voted on paragraph by paragraph, as consensus could not be reached on the issue. It seems, however, that communication and organisational problems on the part of the IUCN Drafting Committee hampered the process and caused confusion when voting took place.

The consolidated resolution urging support for the establishment of a whale sanctuary in the Southern Ocean was also adopted, (and was not voted on), although the State members of Canada and Denmark, as well as some Inuit NGO representatives, stated that they would not have supported the resolution had it been put to the vote.

3. In general

It is clear that the discussions and policy formation taking place within the IUCN are of relevance to the conservation and management aims of NAMMCO. In particular, much work is being done towards refining the concepts of conservation and sustainable use, and this work will continue over the next three years until the 20th General Assembly, when the further revised guidelines for sustainable use are expected to be adopted. Rational, science-based approaches to the sustainable use of wild species, including marine mammals, are finding support among a growing number of IUCN members. However, it is also clear that more information and active input is required to ensure that such approaches are central to discussions of the conservation and management of living natural resources in the IUCN in the future.

PRESS RELEASE

Fourth Meeting of the Council - Tromsø, 24 - 25 February 1994

The Council of the North Atlantic Marine Mammal Commission - NAMMCO - held its fourth meeting in Tromsø, Norway, 24 - 25 February 1994. The Commission has as its objective to contribute through regional consultation and cooperation to the conservation, rational management and study of marine mammals in the North Atlantic. It is established by an international agreement between the Faroe Islands, Greenland, Iceland and Norway, and a permanent Secretariat has recently been established in Tromsø.

The fourth meeting of the Council was attended by delegations from the member countries. Observers from Canada, Denmark, Japan and Russia were present. In addition, observers from the International Council for the Exploration of the Sea (ICES), the International Whaling Commission (IWC) and the Northwest Atlantic Fisheries Organization (NAFO) participated at the meeting. Observers from a number of non-governmental organizations were also present.

The Council expressed its satisfaction with the work of its Scientific Committee. Amongst the main tasks of the Scientific Committee last year were to provide advice on the status of six species of North Atlantic marine mammals and its review and consideration of current marine mammal management schemes with particular reference to the North Atlantic. The Committee initiated planning for a large-scale North Atlantic cetacean survey scheduled in 1995.

The Council requested the Scientific Committee to continue its work on management procedures and especially to look at the problems involved in the procedures developed in the International Whaling Commission known as the Revised Management Procedure.

The Council expressed its satisfaction with the working arrangements which have been established with a number of other international organizations and agreed that NAMMCO should take an active role at the international level in promoting the principles on which its work is based.

The Council received a report on the activities of the NAMMCO Fund. The aim of the Fund is to support projects which contribute to the knowledge and understanding of the rational and sustainable utilization of marine mammals.

The Council discussed the reports of the Working Groups on Inspection and Observation and Hunting Methods and agreed that these working groups should continue their deliberations.

At its meeting the Council approved the selection of a logo for the organization from the 119 contributors to the NAMMCO logo competition. The creator of the selected logo is Bárður Jákupsson from the Faroe Islands, who is the winner of the prize of NOK 10,000.

The Council agreed to hold its next meeting in February 1995.

NAMMCO INFORMATION DOCUMENT

Fourth Meeting of the Council, Tromsø, 24-25 February 1994

1. Scientific Committee

Amongst the main tasks of the Scientific Committee last year were to provide advice on the status of six species of North Atlantic marine mammals and to review and consider current marine mammal management schemes with particular reference to the North Atlantic. The Committee initiated planning for a large-scale North Atlantic cetacean survey scheduled in 1995.

The Council requested the Scientific Committee to continue its work on management procedures. The Scientific Committee has established a Working Group on Management Procedures with the following terms of reference:

"to review management procedures in general, including to review the main systems that are developed in various fora and provide an assessment of their parameters on the basis of how they would be applied in individual cases."

It was agreed that the Working Group should be given the following future tasks:

1) With respect to the northern bottlenose whale, the Scientific Committee should undertake the necessary modelling of the species as suggested in the Committee's report. While completing this task, the objectives used shall as far as possible be compatible with the RMP-like approach (Revised Management Procedure) discussed in the report.

2) It was noted that the RMP could be an appropriate starting point in some future management cases. Therefore, taking into account the discussion in the Working Group and Scientific Committee, further development of RMP-like systems should be carried out.

2. Working Group on Hunting Methods

The role of the Working Group on Hunting Methods is to provide advice on hunting methods for those species of marine mammals relevant to NAMMCO member countries. The Group shall ensure that such advice is based on the he best available scientific findings, technological developments and traditional knowledge, with due consideration given to safety requirements and efficiency of utilization.

Amongst the issues to be dealt with by the Working Group are the following:

- A comparative examination of levels of wastage of meat in connection with the use of grenade harpoons with two-claw harpoons used in minke whaling in Greenland and Norway, and four-claw harpoons used in fin whale hunting in Greenland.
- The production of a common manual with instructions for the use, operation and maintenance of harpoon guns.
- A comparison of parameters used for collecting data related to hunting methods.

3. Working Group on Inspection and Observation

The Management Committee reviewed the report of the Working Group on Inspection and Observation. The management Committee decided to charge the Working Group to carry out further work according to the following specific recommendations contained in its report:

1) The Working Group agreed to recommend that a standard NAMMCO checklist be formulated for inspectors. This could, for example, be along the lines of the Norwegian fisheries inspection report form: "Report on Inspection of Fishery in Norwegian Areas of Jurisdiction".

2) The Working Group agreed to recommend that a common system be used for recording data on the number and species of seals taken in respective NAMMCO member countries. This should be confined to simple data, such as is required in the annual catch reports for various hunted species in Greenland.

It was also decided to request the Working Group to pursue the development of a common inspection scheme for minke whaling in the North Atlantic, with reference to the following list of basic elements:

- check of hunting equipment (quality control)
- report beginning of hunt (departure, discovery of whale)
- report the catch from sea
- report intended landing destination of the catch
- check that exploding grenades have been used
- register number of shots in the logbook - whether successful or not (explain reason for failed shot)
- licences for catcher boats.

The Working Group would also consider other aspects mentioned in the report.

4. External relations

Since its establishment in 1992, the North Atlantic Marine Mammal Commission has established working relations with a number of other international organizations such as ICES, IWC, and NAFO. At its fourth meeting held in Tromsø, 24-25 February 1994, the Council of the North Atlantic Marine Mammal Commission agreed to continue these relations in order to further its objective to contribute through regional consultation and cooperation to the conservation, rational management and study of marine mammals in the North Atlantic. The Council agreed that the organization should take an active role in promoting the principles on which its work is based.

In its review of the activities related to the management and conservation of marine mammals undertaken by other organizations, the Council expressed its agreement with some resolutions adopted at the 19th General Assembly of the IUCN. Resolutions related to sustainable marine fisheries, marine pollution and the by-catch of marine mammals in fisheries, and fisheries in the Northwest Atlantic, among others, are based on the principles of sustainable use of resources and are consistent with the objectives of NAMMCO. The Council noted however

that the resolution on commercial whaling adopted by the IUCN contains a number of elements contradictory to the principles of sustainable use and international law.

Similarly, the Council expressed its concern that continuation of the zero-catch limit for commercial whaling by the IWC, despite the development of a Revised Management Procedure and scientific advice that certain whale stocks could be harvested on a sustainable basis, contradicts the principle of sustainable use adopted at the Rio Earth Summit. The Council of the North Atlantic Marine Mammal Commission also expressed its view that certain proposals for the establishment of a circumpolar sanctuary in the Antarctic by the IWC would contravene the principles of sound resource management.