North Atlantic Marine Mammal Commission

OVERVIEW
TERMS OF REFFERENCES OF NAMMCO WORKING GROUPS, EXPERT GROUP, SYMPOSIA AND CONFERENCES

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(Only the generic Terms of Reference were given for the WGs established under Council (Ad hoc WG on finance and administration, WG on Hunting Methods) and the Management Committee (WG on Inspection and Observation), which later became committees.

Contents

i

OVERVIEW OF TERMS OF REFERENCES DURING NAMMCO MEETINGS AND CONFERENCES 1

February 2018, Tromsø 1

1 Scientific Committee Working Groups 1

1.1 WG on Management Procedures, 24 November 1993, Reykjavik, Iceland 1

1.2 WG on Northern Bottlenose and Killer Whales, 25 November 1993, Reykjavík, Iceland 1

1.3 WG to plan NASS-95, 25 February 1994, Tromsø, Norway 1

1.4 WG to plan NASS-95, 2 December 1994, Tromsø, Norway 1

1.5 Joint Meeting of the WG on Northern Bottlenose & Killer Whales and WG on Management Procedures, 2 February 1995, Copenhagen, Denmark 2

1.6 *Ad hoc* WG on Atlantic Walrus, 31 January - 3 February 1995, Copenhagen, Denmark 2

1.7 WG to plan NASS-95, 2 February 1995, Copenhagen, Denmark 2

1.8 *Ad hoc* WG on Grey Seals, 5-8 February 1996, Tórshavn, Faroe Islands 2

1.9 *Ad hoc* WG on Ringed Seals, 5-8 February 1996, Tórshavn, Faroe Islands 2

1.10 WG on Abundance Estimates, 21-23 February 1997, Reykjavík, Iceland 2

1.11 WG on Sealworm Infection, 10-13 March 1997, Tromsø, Norway 2

1.12 *Ad hoc* WG on the Role of Minke Whales, Harp Seals and Hooded Seals in North Atlantic Ecosystems, 10-13 March 1997, Tromsø, Norway 2

1.13 WG on Management Procedures, 13-14 October 1997, Copenhagen, Denmark. 3

1.14 WG on Economic Aspects of Marine Mammal – Fisheries Interactions, 1-2 March 1998, Reykjavík, Iceland 3

1.15 WG on the Population Status of Beluga and Narwhal in the North Atlantic, 1-3 March 1999, Oslo, Norway 3

1.16 WG on North Atlantic Fin Whales, 8-9 April 1999, Copenhagen, Denmark 3

1.17 WG on Economic Aspects of Marine Mammal – Fisheries Interactions, 16-17 February 2000, Copenhagen, Denmark 3

1.18 WG on North Atlantic Fin Whales, 12-13 May 2000, Tórshavn, Faroe Islands 4

1.19 WG on the Population Status of Beluga and Narwhal in the North Atlantic, 15-17 June 2000, Oslo, Norway 4

1.20 WG on Abundance Estimates, 21-23 November 2000, Bergen, Norway 4

1.21 Joint NAMMCO/JCNB WG on Narwhal and Beluga, 9-13 May 2001, Qeqertarsuaq, Greenland 4

1.22 WG Marine Mammals: From feeding behaviour or stomach contents to annual consumption – What are the main uncertainties? 26-28 September 2001, Tromsø, Norway 5

1.23 WG on Abundance Estimates, 13-15 March 2002, Kerteminde, Denmark 5

1.24 Workshop: Modelling marine mammal – fisheries interactions in the North Atlantic, 13-15 September 2002, Reykjavík, Iceland. 5
1.25 WG on Abundance Estimates, 19-21 March 2003, St. Andrews, Scotland 6
1.26 WG on Grey Seals, 9-11 April 2003, Reykjavik, Iceland 6
1.27 WG on Minke and Fin Whales, 20-22 November 2003, Copenhagen, Denmark 6
1.28 Joint NAMMCO/JCNB WG on Narwhal and Beluga, 3-6 February 2004, Montréal, Canada 6
1.29 WG on Marine Mammals and Fisheries in the North Atlantic: Estimating consumption and modelling interactions, 22-24 October 2004, Oslo, Norway 6
1.30 Fin Whale Assessment Planning Meeting, 25 October 2004, Oslo, Norway 6
1.31 Walrus WG, 11-14 January 2005, Copenhagen, Denmark 7
1.32 Joint NAMMCO/JCNB WG on Narwhal and Beluga, 13-16 October 2005, Nuuk, Greenland 7
1.33 WG on Fin Whales, 20-22 October 2005, Oslo, Norway 7
1.34 WG on Trans-North Atlantic Sightings Survey T-NASS 2007 Planning (I), 22 March 2006, Reykjavik, Iceland 7
1.35 Joint NAMMCO/IWC Scientific Workshop on North Atlantic Fin Whales, 23-26 March 2006, Reykjavík, Iceland 8
1.36 WG on Harbour Seals, 3-6 October 2006, Copenhagen, Denmark 8
1.37 WG on T-NASS 2007 Planning (II), 18-19 November 2006, Reykjavik, Iceland 8
1.38 *Ad hoc* WG: Are Fin Whales in the Central North Atlantic Appropriately Listed in CITES Appendix 1, 20 November 2006, Reykjavík, Iceland 8
1.39 WG on T-NASS 2007 Planning (III), 30 March – 1 April 2007, St. Andrews, UK. 8
1.40 WG on T-NASS 2007 Planning (IV), 12 November 2007, teleconference 8
1.41 WG on T-NASS 2007 Planning (V), 13 November 2007, teleconference 8
1.42 WG on T-NASS 2007 Planning (V), 7 April 2008, Copenhagen, Denmark 8
1.43 WG on Abundance Estimates, 8 April 2008, Copenhagen, Denmark 9
1.44 WG on Pilot Whales, 11 and 13 April 2008, Qeqertarsuaq, Greenland 9
1.45 WG on Pilot Whales, 7-8 July 2008, Copenhagen, Denmark 9
1.46 Joint NAMMCO/JCNB WG on Narwhal and Beluga 17-20 February 2009, Winnipeg, Canada 9
1.47 WG on Assessment, 23 March 2009, Copenhagen, Denmark 9
1.48 WG on Marine Mammals and Fisheries in the North Atlantic: Estimating consumption and modelling interactions, 15-17 April 2009, Reykjavik, Iceland 10
1.49 WG on Abundance Estimates, 7-9 October 2009, Quebec City 10
1.50 WG on Walrus, 23-26 November 2009, Copenhagen, Denmark. 10
1.51 WG on Assessment (WGAS), 9–1 March 2010, Copenhagen, Denmark 10
1.52 WG on Marine Mammals and Fisheries Interactions, 13-14 March 2010, Copenhagen, Denmark. 11
1.53 WG on Abundance Estimates, 7-9 March 2011, Copenhagen, Denmark 11
1.54 WG on Survey Planning, 9-11 March 2011, Copenhagen, Denmark 11
1.55 WG on Coastal Seals, 14-17 March 2011, Copenhagen, Denmark 11
1.56 WG on Assessment (WGAS), 5-7 April 2011, Copenhagen, Denmark 11
1.57 WG on NASS2015 Planning, 10-12 January 2012, Reykjavik, Iceland 12

1.58 Joint NAMMCO/JCNB WG on Narwhal and Beluga, 17-21 Feb. 2012, Copenhagen, Denmark...12
1.59 Harbour Porpoise WG, 4-6 November 2013, Copenhagen, Denmark 12
1.60 Walrus WG, 8-10 November 2013, Copenhagen, Denmark....12
1.61 Survey Planning WG, 18 March 2014, skype meeting....12
1.62 Survey Planning WG, 26 March 2014, skype meeting....12
1.63 Survey Planning WG, 1-3 October 2014, Copenhagen, Denmark....12
1.64 Joint NAMMCO/JCNB WG on Narwhal and Beluga, 9-13 March 2015, Ottawa, Canada....12
1.65 WG on Survey Planning, 14-15 April 2015, Reykjavik, Iceland....13
1.66 WG on Large Whale Assessment, 5-7 October 2015, Copenhagen, Denmark....13
1.67 WG on By-Catch, 29 February 2016, Reykjavik, Iceland....13
1.68 WG on Coastal Seals, 1-4 March 2016, Reykjavik, Iceland....13
1.69 ICES-NAMMCO-NAFO WG on Harp and Hooded seals 26-30 September 2016, Copenhagen, Denmark....13
1.70 WG on Abundance Estimates, October 2016....14
1.71 WG on Large Whale Assessment, 25–27 January 2017, Copenhagen, Denmark....14
1.72 NAMMCO-JCNB Joint WG on Narwhal and Beluga, 8-11 March 2017, Copenhagen, Denmark....14
1.73 Global Review of Monodontids, ...14
1.74 WG on By-catch, 2-4 May 2017, Copenhagen, Denmark....15
1.75 WG on By-catch, 4 April 2018, videoconference....15
1.76 WG on Abundance Estimates, 22-24 Mai 2018, Copenhagen, Denmark....15
1.77 WG on Walrus, 23-25 October 2018, Copenhagen, Denmark....15
2 NAMMCO (or joint) Scientific Committee Symposia & Workshops....16
2.1 NAMMCO International Symposium on Harbour Porpoises in the North the North Atlantic, 10-14 September 1999, "Nordlys", Norway....16
2.2 Joint ICES/NAFO/NAMMCO symposium on the role of marine mammals in the ecosystem in the 21st century, 29 September – 1 October 1 2008, Dartmouth, Nova Scotia....16
2.3 Joint NAMMCO/ICES Workshop on By-catch Monitoring, 28 June – 1 July 2010, Copenhagen, Denmark....16
2.4 Joint NAMMCO/JCNB Workshop on Age Estimation in Monodontids1, 26-27 November 2011, Tampa, Florida....16
2.5 Joint NAMMCO/JCNB Workshop on Beluga Age Estimation 2, 5-9 December 2011, Beaufort, North Carolina....16
2.6 NAMMCO Symposium on Impacts of Human Disturbance on Arctic Marine Mammals, with focus on belugas, narwhals and walrus, 13-15 October 2016, Copenhagen, Denmark....17
2.7 NAMMCO Workshop on Cetacean Abundance and Distribution in the North Atlantic, 28-29 October 2017, Halifax, Nova Scotia....17
2.8 Joint NAMMCO/IMR Workshop on North Atlantic Harbour Porpoises, 3-5 December 2018, Tromsø, Norway....17
2.9 Joint NAMMCO/JCNB Joint Workshop on Climate Change Impact on Management Advice, March 2019, Canada....17
3 Committee on Hunting Methods – Expert Group Meetings....18

3.1 NAMMCO Expert Group Meeting on Best Practices in the Hunting and Killing of Seals, 24 – 26 February 2009, Copenhagen, Denmark 18
3.2 NAMMCO Expert Group Meeting on Assessment of Large Whale Killing Data, 17–18 February 2010, Copenhagen, Denmark 18
3.3 NAMMCO Expert Group Meeting to Assess the Hunting Methods for Small Cetaceans, 15–17 November 2011, Copenhagen, Denmark 18
3.4 NAMMCO Expert Group Meeting on Assessing TTD data from Large Whale Hunts, 4-6 November 2015, Copenhagen, Denmark 19
4 Committee on Hunting Methods – Workshops 19
4.1 NAMMCO Workshop on Hunting Methods, 9–11 February 1999, Nuuk, Greenland 19
4.2 NAMMCO Workshop on Marine Mammals: Weapons, ammunition and ballistics, 13–15 November 2001, Sandefjord, Norway 19
4.3 NAMMCO Workshop on Hunting Methods for Seals and Walrus, 7–9 September 2004, North Atlantic House Copenhagen, Denmark 19
4.4 NAMMCO Workshop to address problems of "struck and lost" in seal, walrus and whale hunting, Copenhagen, Denmark 14–16 November 2006. 19
4.5 NAMMCO Seminar on Processing and Analysing of TTD Data, University of Oslo, Norway, 7 February 2016 19
5 Management Committee Working Group 20
5.1 WG on Inspection and Observation, 21-22 September 1993, Copenhagen 20
5.2 WG on By-Catch, 31 August 1998, Oslo, Norway 20
5.3 WG on By-Catch, 5 October 1999, Akureyri, Iceland 20
5.4 WG on By-Catch, 25 September 2000, Sandefjord, Norway 20
5.5 WG on By-Catch, 15 January 2002, telephone meeting 20
5.6 WG on By-Catch, 17 February 2003, telephone meeting 20
5.7 Ad hoc WG on Enhancing Ecosystem-Based Management, 3-4 December 2003, Copenhagen, Denmark 20
5.8 WG on User Knowledge in Management Decision, 12 February 2004, telephone 20
5.9 WG on By-Catch, 19 February 2004, telephone meeting 21
5.10 WG on By-Catch, 28 February 2005, Tromsø, Norway 21
5.11 Ad hoc WG on Enhancing Ecosystem-Based Management, 20-21 September 2005, Aberdeen, Scotland 21
5.12 WG on By-Catch, 13 March 2006, Selfoss, Iceland 21
5.13 WG on User Knowledge in Management Decision-Making 21
5.14 WG on By-Catch, 13 February 2007, telephone meeting 22
6 Council Working Groups 22
6.1 Ad hoc WG on Hunting Methods [NAMMCO 1, 1992, Report p. 3] 22
6.2 *Ad hoc* WG on Information, 2 July 1993, Reykjavík, Iceland 22
6.3 *Ad hoc* WG on Finance and Administration [NAMMCO 5, 1995, Report p. 14] 22
6.4 WG on Finance and Administration [NAMMCO 7, 1997, Report p.12] 22
6.5 Steering Group on Survey Planning 22
6.5.1 Steering Group on Survey Planning, 5 November 2012, teleconference 23

6.5.2 Steering Group on Survey Planning. 3 February 2014, Copenhagen, Denmark 23
6.5.3 Steering Group on Survey Planning, 10 November 2015, Tórshavn, Faroe Islands 23
6.5.4 Steering Group on Survey Planning 27 April 2015, Skype Call 23
6.6 Planning Group on Marine Mammals as food resource (MMFR) 23
6.7 WG on By-catch, Entanglements and Live strandings (BYCELS) 23
6.7.1 WG on By-catch, Entanglements and Live strandings (BYCELS), 15 February 2018, Copenhagen, Denmark 24
7 Council International "Conferences" 24
7.1 Seminar on Informed Opinion on the Hunting of Marine Mammals, 26 February 1994, Tromsø, Norway 24
7.2 International Conference on Marine Mammals and the Marine Environment, 20-21 April 1995, Lerwick, Shetland.....24
7.3 Conference on Sealing the Future, 25-27 November 1997, St Johns, Newfoundland 24
7.4 Conference on User Knowledge and Scientific Knowledge in Management Decision Making, 4-7 January 2003, Reykjavik, Iceland 24
7.5 Expert meeting on potential positive health effects of consuming whale and seal oil, 3 October 2007, Copenhagen, Denmark.....24

OVERVIEW OF TERMS OF REFERENCES DURING NAMMCO MEETINGS AND CONFERENCES

February 2018, Tromsø

This document, prepared for the NAMMCO's First Performance Review, contains a review of terms of references (TOR) of NAMMCO working, expert and steering groups, symposium and conferences.

Terms of references are usually explicitly referred but sometimes implied. The terms of references are organised chronologically, within the following mother bodies.

- Council working group
- Scientific Committee working group (WG)
- Scientific Committee symposium and workshop
- Committee on Hunting Methods expert group (EG)
- Committee on Hunting Methods workshops
- NAMMCO International conferences

1 SCIENTIFIC COMMITTEE WORKING GROUPS

1.1 WG on Management Procedures, 24 November 1993, Reykjavik, Iceland

(i) review management procedures in general, including to review the main systems that are developed in various for a

(ii) provide assessment of their parameters on the basis of how they would be applied in individual cases. [NAMMCO 2, January 1993]

1.2 WG on Northern Bottlenose and Killer Whales, 25 November 1993, Reykjavík, Iceland

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

(ii) for the killer whale (*Orcinus orca*)
- advise on stock identity for management purposes,
- assess abundance in each stock areas,
- assess effects of recent environmental changes, changes in food supply and interactions with other marine living resources in each stock areas.

1.3 WG to plan NASS-95, 25 February 1994, Tromsø, Norway

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.

[SC2 report, page 56]

1.4 WG to plan NASS-95, 2 December 1994, Tromsø, Norway

Same as 1.3

1.5 Joint Meeting of the WG on Northern Bottlenose & Killer Whales and WG on Management Procedures, 2 February 1995, Copenhagen, Denmark

(i) undertake the necessary modelling of the species [bottlenose whale] as suggested under agenda items 9.2 and 10.2.2. of its report (Report of the 2d meeting of the SC in Annual Report 1994). While completing this task, the objectives used shall as far as possible be compatible with the RMP-like approach discussed in the report." (NAMMCO/4 - *Report,* 10 & 105).

1.6 *Ad hoc* WG on Atlantic Walrus, 31 January - 3 February 1995, Copenhagen, Denmark

(i) advise on stock identity for management purposes;
(ii) assess abundance in each stock area;
(iii) assess long-term effects on stocks by present removals in each stock area;
(iv) assess effects of recent environmental changes (ie disturbance, pollution), and changes in the food supply" (NAMMCO/2 - *Report,* 64).

1.7 WG to plan NASS-95, 2 February 1995, Copenhagen, Denmark

Same as 1.3

1.8 *Ad hoc* WG on Grey Seals, 5-8 February 1996, Tórshavn, Faroe Islands

(i) review and assess abundance and stock levels of grey seals in the North Atlantic, with an emphasis in their role on the ecosystem in general, and their significance as a source nematodal infestations in fish in particular.

1.9 *Ad hoc* WG on Ringed Seals, 5-8 February 1996, Tórshavn, Faroe Islands

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

1.10 WG on Abundance Estimates, 21-23 February 1997, Reykjavík, Iceland

(i) review the analyses and where relevant also to analyse data from NASS-95 to ensure its compatibility, both between NASS-95 survey areas, as well as with data from other sightings surveys, in order to provide a basis for calculating abundance estimates for the relevant cetacean stocks in the North Atlantic,
(ii) monitor stock levels and trends in stocks of all marine mammals in the North Atlantic.

1.11 WG on Sealworm Infection, 10-13 March 1997, Tromsø, Norway

(i) review the current state of knowledge with respect to sealworm infection and consider the need for comparative studies in the western, central and eastern North Atlantic coastal areas, taking into account the priority topics recommended by the Scientific Committee and its *ad hoc* WG on grey seals.
(NAMMCO Annual Report 1996: 28 & 111-116).

1.12 *Ad hoc* WG on the Role of Minke Whales, Harp Seals and Hooded Seals in North Atlantic Ecosystems, 10-13 March 1997, Tromsø, Norway

(i) focus its attention on the food consumption of three predators in the North Atlantic: the minke whale, the harp seal and the hooded seal, with a particular emphasis on the study of the potential implications for commercially important fish stocks.
(*NAMMCO Annual Report 1996*:28)

1.13 WG on Management Procedures, 13-14 October 1997, Copenhagen, Denmark.

(i) undertake an assessment of the status of the Central North Atlantic minke whale stock, including an evaluation of the long-term effects of past and present removals levels on the stock, in the light of the new survey abundance results.

1.14 WG on Economic Aspects of Marine Mammal – Fisheries Interactions, 1-2 March 1998, Reykjavík, Iceland

(i) pay special attention to studies related to competition and the economic aspects of marine mammal – fisheries interactions.

1.15 WG on the Population Status of Beluga and Narwhal in the North Atlantic, 1-3 March 1999, Oslo, Norway

(i) examine the population status of narwhal and beluga (white whales) throughout the North Atlantic.

1.16 WG on North Atlantic Fin Whales, 8-9 April 1999, Copenhagen, Denmark

(i) undertake an assessment of the status of fin whales in the North Atlantic based on all available data.

Specific

Acknowledging the large amount of work involved in such a comprehensive assessment of all possible fin whale stocks in the North Atlantic the Council requests the SC, when conducting such comprehensive assessment, particularly to

a) assess the stock structure for fin whale in the whole North Atlantic.
b) assess the long-term effects of annual removal of 50, 100 and 200 fin whales in a stock area traditionally assumed to have a main concentration off East Greenland and Iceland (EGI stock area),
c) identify MSY exploitation levels for that stock area.

For the purposes of this meeting, items b) and c) above applied only to the EGI stock area (as defined previously by the IWC, see SC/7/FW/4).

1.17 WG on Economic Aspects of Marine Mammal – Fisheries Interactions, 16-17 February 2000, Copenhagen, Denmark

(i) identify the most important sources of uncertainty and gaps in knowledge with respect to the economic evaluation of harvesting marine mammals in different areas;
(ii) advise on research required to fill such gaps, both in terms of refinement of ecological and economic models, and collection of basic biological and economic data required as input for the models;
(iii) discuss specific cases where the present state of knowledge may allow quantification of the economic aspects of marine mammal-fisheries interactions;
a) what could be the economic consequences of a total stop in harp seal exploitation, versus different levels of continued sustainable harvest?
b) what could be the economic consequences of different levels of sustainable harvest vs. no exploitation of minke whales?

It was agreed to separate the request into two sections. At the first WG meeting items i) and ii) were to be considered, while treatment of item iii) was to await the conclusions on the first two.

1.18 WG on North Atlantic Fin Whales, 12-13 May 2000, Tórshavn, Faroe Islands

(i) undertake an assessment of the status of fin whales in the North Atlantic based on all available data"

Specific

To continue the assessment of fin whale stocks in the North Atlantic, focussing in the near term on the status of fin whales in Faroese Exclusive Economic Zone (EEZ) waters.

The Scientific Committee should focus particularly on the following issues:

- Assess the long-term effects of annual removals of 5, 10 and 20 fin whales in Faroese EEZ waters;
- Information gaps that may need to be filled in order to complete a full assessment in this area.

1.19 WG on the Population Status of Beluga and Narwhal in the North Atlantic, 15-17 June 2000, Oslo, Norway

(i) Examine the population status of narwhal and beluga (white whales) throughout the North Atlantic.

Specific

(i) West Greenland belugas:
provide advice on the level of sustainable utilisation of West Greenland beluga in different areas and under different management objectives.

(ii) Narwhal
identify the information that is lacking in order to answer the same question proposed in respect to beluga."

1.20 WG on Abundance Estimates, 21-23 November 2000, Bergen, Norway

(i) complete the abundance estimates for all species from NASS-95, as part of its efforts to monitor the abundance of all species in the North Atlantic. Further analyses of the abundance of non-target species (i.e. all but minke, pilot, fin and sei whales) should be conducted if they are warranted, as the survey was not optimised for these species. The design and conduct of the survey would make this possible to a varying degree, depending on both the species and area in question.

(ii) co-ordinate future sighting surveys and analyses of the results from such surveys in the North Atlantic. Priority species should be minke whales and fin whales, and the survey design be optimised for these species. The survey should also be optimised to cover those areas where abundance estimates are most urgently required.

1.21 Joint NAMMCO/JCNB WG on Narwhal and Beluga, 9-13 May 2001, Qeqertarsuaq, Greenland

Advice Request from NAMMCO

- Investigate the impacts of ice entrapments on: (1) population (develop model to simulate effects on population) and (2) catch statistics.
- Examine the occurrence of ice entrapment events and the relationship to sea surface temperature.
- Examine past aerial survey data for: (1) detection probabilities of small vs. large pods and (2) estimation biases due to differing pod sizes among years. Re-examine the quality of the 1981 and 1982 aerial surveys. Are these surveys useful for trend analysis?
- Review results on the potential stock structure of beluga in west Greenland; specific evaluate tooth morphology data and tagging data that will be available late in 2000.
- Models currently assume a 50:50 sex ratio in the harvest. Include data on sex ratio of the harvest in the models; evaluate results of the model and predicted impacts on the population of beluga and on recommended quotas.

- Conduct a formal and independent review of the model (formulation and estimation techniques) presently used in the assessment.
- Establish a method for formally collecting "anecdotal" data on beluga distribution and abundance in Baffin Bay and Davis Strait. These observations could be from surveys conducted for other projects or from local ecological knowledge.
- Evaluate the extent of movements of narwhal between Canada and Greenland.

Advice Request from JCNB

- Recommend sustainable harvest level for beluga and narwhal under different management objectives.
- Are hunters from Nunavut and West Greenland hunting narwhal from the same stock(s)?
- Are the parameters used in Narwhal population model(s) adequate?
- What are the effects of potential errors in the ageing of narwhal (and beluga) on modelling of population growth rate and recommended harvest level?
- What are the effects of struck/lost on the recommended harvest level?
- What is the status of shared narwhal and beluga stocks and are the present harvest levels sustainable?

1.22 WG Marine Mammals: From feeding behaviour or stomach contents to annual consumption – What are the main uncertainties? 26-28 September 2001, Tromsø, Norway

(i) further investigate the methodological and analytical problems in estimating consumption by marine mammals.

(ii) The main task of the current workshop would be to consider the methodological approaches to the calculation of consumption by marine mammals, making a detailed assessment of their relative merits. The overall goal should be to make concrete recommendations on what approaches should be emphasised, and to make prioritised recommendations for further research in this area."

1.23 WG on Abundance Estimates, 13-15 March 2002, Kerteminde, Denmark

(i) review survey reports and abundance estimates from NASS-2001 survey, particularly for the target species minke and fin whales. Many of these estimates were only partially complete, so the WG was to recommend additional analyses to be conducted.

(ii) evaluate the survey design and procedures used and make recommendations for future surveys.

(iii) plan and schedule the publication of the results from NASS-2001, and those from previous surveys that had not already been published."

1.24 Workshop: Modelling marine mammal – fisheries interactions in the North Atlantic, 13-15 September 2002, Reykjavík, Iceland.

(i) review how presently available ecosystem models can be adapted for quantifying marine mammal - fishery interactions. Several different candidate models have so far been identified: the Icelandic BORMICON, the Norwegian MULTSPEC and Scenario Barents Sea, and the ECOPATH/ECOSIM model. The properties of different models will be discussed and compared, as well as the desired spatial and temporal resolutions.

(ii) choose a preferred modelling approach for analysing the ecological role of minke whales, harp and hooded seals, and other marine mammal species in the North Atlantic, identifying required input data and its precision,

(iii) recommend a process for further development of the model.

(iv) lack of knowledge of important input data will also be identified.

An important consideration will be predator choice of prey given a range of available prey and prey densities. The WG should at this meeting focus on methodological problems.

1.25 WG on Abundance Estimates, 19-21 March 2003, St. Andrews, Scotland

(i) continue the evaluation of abundance estimates for target and non-target species, determining if additional analyses are required and recommending estimates for acceptance by the Scientific Committee.

(ii) in addition, discuss the publication of survey results, and the future of the NASS.

1.26 WG on Grey Seals, 9-11 April 2003, Reykjavik, Iceland

(i) update the status of grey seals in all areas of the North Atlantic.

Specific

- assess the status of greys seals around Iceland, the UK, the Faroes, Norway, the Russian Federation, the Baltic, Canada and other areas;
- review survey methods;
- review stock delineation (genetics, temporal and geographical distribution);
- provide recommendations for research and management to the NAMMCO Council."

1.27 WG on Minke and Fin Whales, 20-22 November 2003, Copenhagen, Denmark

(i) complete a new assessment of Central North Atlantic minke whales, as more information has become available on the stock delineation of minke whales in the North Atlantic and new abundance estimates are available for the Central Stock area from NASS-2001, and for the Northeast Atlantic from Norwegian surveys conducted from 1996-2001.

(ii) continue with the assessments of fin whale stocks in the areas of interest to NAMMCO countries with existing and new information on abundance and stock delineation as it becomes available. It was emphasised that assessments for the East Greenland-Iceland and Northeast Atlantic stocks should proceed as a high priority."

1.28 Joint NAMMCO/JCNB WG on Narwhal and Beluga, 3-6 February 2004, Montréal, Canada

Advice Request from NAMMCO

- update the assessment of West Greenland Beluga in light of the new survey results and any other new information. No specific management goals have been identified for narwhal, but the overall objective will in all cases be to sustain populations at their present or a greater size. For West Greenland beluga, the Management Committee of NAMMCO has identified the main objective as halting the population decline.

Advice Request from JCNB

- a general assessment of all narwhal stocks potentially shared between Canada and Greenland. The JCNB has mentioned that the JWG should put an emphasis on research on narwhal. The JCNB had also some specific question on beluga stock discrimination in North West Greenland and on how it relates to the Qaanaaq harvest.

1.29 WG on Marine Mammals and Fisheries in the North Atlantic: Estimating consumption and modelling interactions, 22-24 October 2004, Oslo, Norway

(i) review the progress that has been made in the last two years, in two specific areas:

- quantifying the diet and consumption of marine mammals,
- the application of multi-species models that include marine mammals to candidate areas of the North Atlantic.

1.30 Fin Whale Assessment Planning Meeting, 25 October 2004, Oslo, Norway

(i) review the progress that had been made since the last meeting of the WG, based on the made in 2003 by the WG.

1.31 Walrus WG, 11-14 January 2005, Copenhagen, Denmark

(i) provide an updated assessment of walruses, to include stock delineation, abundance, harvest, stock status, and priorities for research. [Previous NAMMCO assessment in 1995]

1.32 Joint NAMMCO/JCNB WG on Narwhal and Beluga, 13-16 October 2005, Nuuk, Greenland

Advice Request from NAMMCO

- to update and finalise the assessment of West Greenland narwhal in 2005,
- to carry out an assessment of East Greenland narwhal,
- to provide an estimate of sustainable yield for the stock. The management objective in this case is to maintain the stock at a stable level.
- to provide a list of research that would be required to complete the assessment, if the assessment cannot be completed with available information.

Advice Request from JCNB

- to focus on narwhal and complete that assessment
- to update the West Greenland beluga assessment using any new information available.
- to consider the implications for its own structure and the organisation of its work of a possible extension of the Commission's competence to include walrus or other marine mammal species.

In addition, the JCNB posed the following questions (not in order of priority) to the JWG:

1. consider ways to resolve the issue of reproductive rates of narwhal.
2. Recent changes have been observed in the distribution of narwhal in Canada. For instance, in Pelly Bay, hundreds of narwhals now regularly occur where they seldom occurred in the past. Are there any explanations available for these distributional changes?

The JWG will therefore concentrate on the following tasks:

- Update and finalize the assessment of West Greenland narwhal;
- Make progress on assessments of other stocks of narwhal, particularly stocks summering in Canada; this will include provision of advice for the different putative management units.
- Identify research required to complete an assessment of East Greenland narwhal.
- Update the available information on the status of West Greenland beluga, taking into account recent harvest levels.
- Address the specific questions posed by the Commission of the JCNB, above.

1.33 WG on Fin Whales, 20-22 October 2005, Oslo, Norway

(i) refine the assessment of the EGI stock area and continue with assessment of fin whales near the Faroes and in the Northeast Atlantic.

[The NAMMCO Scientific Committee would be holding a special workshop in collaboration with the IWC Scientific Committee, "Catch History, Stock Structure and Abundance of North Atlantic Fin Whales" in 2006, discussion of particularly stock structure at the present meeting would be limited, as additional genetic analyses were expected in the near future.]

1.34 WG on Trans-North Atlantic Sightings Survey T-NASS 2007 Planning (I), 22 March 2006, Reykjavik, Iceland

(i) begin planning for the NASS-2007 survey, and its coordination with other surveys to be conducted that year, including NILS, CODA and Canadian, American and Russian surveys. To this end a planning meeting, involving participation from all relevant jurisdictions, should be held sometime in 2006;

(ii) develop a documented plan for the NASS-2007 and its coordination with other surveys. This plan will be presented to the Council, the IWC, ASCOBANS, potential funding agencies and other interested parties.
(iii) seek external funding for the project, if possible.

1.35 Joint NAMMCO/IWC Scientific Workshop on North Atlantic Fin Whales, 23-26 March 2006, Reykjavík, Iceland

(i) review the stock structure, biological parameters, catch history and past and present abundance of North Atlantic Fin Whales.

The IWC and NAMMCO components of the WG would meet separately on the final day to address issues particular to their respective organisations.

(ii) NAMMCO WG: to provide management recommendations for the different stocks.

1.36 WG on Harbour Seals, 3-6 October 2006, Copenhagen, Denmark

(i) review and assess the status of harbour seals throughout the North Atlantic;
(ii) review and evaluate the applied survey methods;
(iii) assess stock delineation using available data on genetics, spatial and temporal distribution and other sources;
(iv) review available information about harbour seal ecology;
(v) identify interactions with fisheries and aquaculture.

1.37 WG on T-NASS 2007 Planning (II), 18-19 November 2006, Reykjavik, Iceland

Same as 1.35

1.38 *Ad hoc* WG: Are Fin Whales in the Central North Atlantic Appropriately Listed in CITES Appendix 1, 20 November 2006, Reykjavík, Iceland

(i) examine the validity of the stock's current CITES listing under Appendix I with reference to the specific listing criteria adopted by CITES. The North Atlantic central stock of fin whales was interpreted at the July 2006 CITES Animals Committee meeting as referring to the East Greenland Iceland (EGI) area.

1.39 WG on T-NASS 2007 Planning (III), 30 March – 1 April 2007, St. Andrews, UK.

Same as 1.35

1.40 WG on T-NASS 2007 Planning (IV), 12 November 2007, teleconference

Shipboard Surveys Debriefing.

1.41 WG on T-NASS 2007 Planning (V), 13 November 2007, teleconference

Aerial Surveys Debriefing. Cancelled due to paucity of documents available for discussion, annual report 2007-2008, page 2018.

1.42 WG on T-NASS 2007 Planning (V), 7 April 2008, Copenhagen, Denmark

(i) carry out a general evaluation of the specific surveys and T-NASS in general, and to make recommendations that will improve future large-scale surveys.

1.43 WG on Abundance Estimates, 8 April 2008, Copenhagen, Denmark

(i) develop estimates of abundance and trends as soon as possible, once the survey (T-NASS) has been completed, with the primary target species (fin, minke and pilot whales) as a first priority, and secondary target species as a second priority.

Specific

(i) examine the early results from the T-NASS 2007 surveys and to discuss plans for further data analysis with special attention to integration with the concurrent CODA and SNESSA surveys."

1.44 WG on Pilot Whales, 11 and 13 April 2008, Qeqertarsuaq, Greenland

(i) develop a proposal for the details of a cost-effective scientific monitoring programme for pilot whales in the Faroes.

The WG interpreted the aim of the monitoring programme as being to assess the continued sustainability of the Faroese catch and that "there should be both a long-term and short-term monitoring directed to determining the continued sustainability of the Faroese catches."

1.45 WG on Pilot Whales, 7-8 July 2008, Copenhagen, Denmark

Same as 1.45

1.46 Joint NAMMCO/JCNB WG on Narwhal and Beluga 17-20 February 2009, Winnipeg, Canada

Specific

a. to provide or update the assessment in all areas of narwhal and beluga in West Greenland, and narwhal in East Greenland, as well as
b. to provide advice on the effects of human disturbance, including noise and shipping activities, on the distribution, behaviour and conservation status of belugas and narwhals, particularly in West Greenland. In addition, the SC requested the JWG to
c. consider whether the organizing of an Age Determination and Methods Validation workshop was warranted; such a workshop would not only include tooth layer reading but also other techniques such as aspartic acid racemization and fatty acid ratios in blubber.

1.47 WG on Assessment, 23 March 2009, Copenhagen, Denmark

Specific

The main tasks of this meeting were to help the Scientific Committee answering several requests of three natures:

a. The Scientific Committee was requested (NAMMCO 17) about Central North Atlantic Minke Whale stock: "to assess the short-term (2-5 year) effects of the following total annual catches: 0, 100, 200, 400";
b. The Scientific Committee was requested (NAMMCO 17): "to study general models for conservation and management of baleen whales, inter alia based on Norwegian studies presented to the Scientific Committee of the IWC"; the WG was therefore charged to explore which possibilities existed;
c. The Scientific Committee had been requested to continue its assessment of humpback whales in the North Atlantic and examine the status of sei whales; and the WG was charged of defining the best way to proceed with these requests. Furthermore, the WG had been charged by the SC to review the new pilot whale abundance emanated from T-NASS and its implication for the assessment of the stock.

1.48 WG on Marine Mammals and Fisheries in the North Atlantic: Estimating consumption and modelling interactions, 15-17 April 2009, Reykjavik, Iceland

Specific

a. to monitor progress made in multi-species modelling and in the collection of input data;
b. to extend the focus (Barents Sea and Iceland) to include all areas under NAMMCO jurisdiction;
c. to investigate dynamic changes in spatial distribution due to ecosystem changes and functional responses, in the light of the distributional shifts seen under T-NASS 2007;
d. to review the results of the Icelandic programme on the feeding ecology of minke whales.
e. to evaluate how a projected decrease in the total population of Northwest Atlantic harp seals might affect the proportion of animals summering in Greenland.

1.49 WG on Abundance Estimates, 7-9 October 2009, Quebec City

Specific

- to evaluate the abundance estimates of the different components of the T-NASS 2007 and associated surveys,
- to discuss and plan for further data analyses and
- to produce, where possible, combined abundance estimates for the entire area covered by T-NASS and associated surveys.

1.50 WG on Walrus, 23-26 November 2009, Copenhagen, Denmark.

Same as 1.31

Specific

(i) provide advice on the effects of human disturbance, including fishing and shipping activities, in particular scallop fishing, on the distribution, behaviour and conservation status of walrus in West Greenland. [Request R-2.6.3, NAMMCO/15-2006]
(ii) a) provide a formal assessment of the Davis Strait (walrus) stock as soon as finalization of the catch series is complete and the results from the planned 2007 survey are available.
b) provide estimate of sustainable yields for the North Water and West Greenland stocks of walrus.
[Request R-2.6.4, NAMMCO/16-2007].
(ii) provide a full assessment of the North Water, West Greenland-Eastern Baffin Island and East Greenland (walrus) stocks. [Request R-2.6.5, NAMMCO/17-2008].

1.51 WG on Assessment (WGAS), 9–1 March 2010, Copenhagen, Denmark

Minke whales

(i) conduct a full assessment, including long-term sustainability of catches, of common minke whales in the Central North Atlantic once results from the 2009 survey become available. In the meantime, the Scientific Committee is requested to assess the short-term (2-5 year) effects of the following total annual catches: 0, 100, 200, 400.

Fin whales

(i) complete an assessment of fin whales in the North Atlantic and also to include an estimation of sustainable catch levels in the Central North Atlantic. This work should be initiated as soon as all estimates become available and before the next meeting of the SC.
(ii) complete an assessment for the Northeast Atlantic stocks as a next step in the process of assessing fin whale stocks in the areas of interest to NAMMCO countries.

Humpback whales

(i) assess the sustainability of yearly catches of 5, 10, 20 humpback whales off West Greenland.

Sei whales

(i) make a state of the art investigation about the possibility of providing a status assessment for sei whales in East and West Greenlandic waters and in waters west of Iceland.

(ii) review the new data from T-NASS and associated surveys and report on the status of sei whales through the fin whale Assessment WG.

1.52 WG on Marine Mammals and Fisheries Interactions, 13-14 March 2010, Copenhagen, Denmark

Workplan

Diets

Regular meetings, perhaps on a biennial basis, should be held to review progress on dietary studies.

Modelling

Should the coordinated modelling exercise be endorsed by the Scientific Committee and NAMMCO, the key steps in the project development would be:

1) a meeting to compile detailed proposals and budgets
2) a data-oriented meeting; common data would need to be carefully pre-agreed to ensure that the results from the different models were comparable.
3) a meeting of the modelling groups to critically compare and suggest improvements to their first attempts to fit their models to the data.
4) a meeting at which final model results are tabled for consolidation, and draft consequent management-related recommendations are developed.

Specific

A meeting to compile detailed proposals and budgets

1.53 WG on Abundance Estimates, 7-9 March 2011, Copenhagen, Denmark

Same as 1.43

Specific

Since the completion of the T-NASS, several abundance estimates have been completed and accepted, including ones for fin, humpback, and minke whales from the shipboard surveys, and several species from aerial surveys in Greenland and Canada.

(i) refine these estimates,
(ii) concentrate on completing remaining estimates for target species from the T-NASS, as well as estimates from some earlier surveys.

1.54 WG on Survey Planning, 9-11 March 2011, Copenhagen, Denmark

(i) the first step in planning another large-scale, internationally coordinated cetacean survey in the North Atlantic,
   a. come to a consensus on our goals, general methodologies, required resources, and timing for the next survey,
   b. use the information from the five NASS over a 20-year period in a more rigorous manner to plan the next so that it can be optimized to meet its objectives in a cost-effective way.

1.55 WG on Coastal Seals, 14-17 March 2011, Copenhagen, Denmark

(i) review the Norwegian management plans for harbour and grey seals,
(ii) perform assessments for harbour and grey seals in the NAMMCO areas and when possible in other North-Atlantic areas,
(iii) develop a common management model for both species in the NAMMCO areas.

1.56 WG on Assessment (WGAS), 5-7 April 2011, Copenhagen, Denmark

The Management Committees (2010) endorsed the Scientific Committee recommendation to use an "RMP implementation simulation process (IST)-like approach – as modified by Norway" as a general model for conservation and management of baleen whales in NAMMCO. It also recognised that advice

based on the RMP work conducted by the IWC, though it might not be applicable for all stocks and may limit the questions that can be raised within NAMMCO.

(i) investigate how NAMMCO can take over a larger and more direct role in this work and become less dependent on other organisations, while also avoiding unnecessary duplication of work.
(ii) investigate the trade-off space between catches and conservation for management procedures that have already been thoroughly investigated but not examined in detail by NAMMCO.

1.57 WG on NASS2015 Planning, 10-12 January 2012, Reykjavik, Iceland

Same as 1.54

1.58 Joint NAMMCO/JCNB WG on Narwhal and Beluga, 17-21 Feb. 2012, Copenhagen, Denmark

(i) update the stock assessment for narwhal and beluga from recent years,
(ii) review and evaluate results of recent research in order to improve our understanding of narwhal and beluga populations in Canada and Greenland.

1.59 Harbour Porpoise WG, 4-6 November 2013, Copenhagen, Denmark

(i) to conduct a comprehensive assessment of the harbour porpoise throughout its range (same as 2.1)

Specific

(i) to provide a full assessment for West Greenland, and initiate the process for Norway, including a review of the method used for obtaining total by-catch estimates.

1.60 Walrus WG, 8-10 November 2013, Copenhagen, Denmark

Same as 1.31

Specific:

(i) standing assessment requests
(ii) investigate the possibility for catch quota carryover, which will be discussed at this meeting, [Request R-2.6.6]

1.61 Survey Planning WG, 18 March 2014, skype meeting

(i) Continue the planning of NASS 2015

1.62 Survey Planning WG, 26 March 2014, skype meeting

Same as 1.54

1.63 Survey Planning WG, 1-3 October 2014, Copenhagen, Denmark

Same as 1.54

1.64 Joint NAMMCO/JCNB WG on Narwhal and Beluga, 9-13 March 2015, Ottawa, Canada

(i) review information on distribution, movements and harvest locations of narwhal,
(ii) develop an allocation model that will provide a mechanism for assigning harvested animals to all summer stocks based on existing data,
(iii) specify and quantify exchange rates between aggregations and stocks,
(iv) identify and quantify uncertainty in the allocation model and determine implications for management,
(v) recommend future work to resolve uncertainties within the model structure.

1.65 WG on Survey Planning, 14-15 April 2015, Reykjavik, Iceland

(i) review the plan of the Icelandic aerial surveys
(ii) facilitate the completion of the planning for the Icelandic-Faroese shipboard surveys.

1.66 WG on Large Whale Assessment, 5-7 October 2015, Copenhagen, Denmark

(i) continue and update the assessments of the following species et provide management advice
   1. North Atlantic common minke whale
   2. North Atlantic fin whale
   3. North Atlantic humpback whales

1.67 WG on By-Catch, 29 February 2016, Reykjavik, Iceland

General for the By-Catch WG:

(i) Identify all fisheries with potential by-catch of marine mammals
(ii) Review and evaluate current by-catch estimates for marine mammals in NAMMCO countries.
(iii) If necessary, provide advice on improved data collection and estimation methods to obtain best estimates of total by-catch over time.

Specific

(i) establish the framework of the WG work
(ii) identify:
   a. what data and other information are available and which data are missing to be able to evaluate current by-catch estimates in NAMMCO countries,
   b. identify possible Chairs,
   c. schedule the next meeting and its specific TOR.

1.68 WG on Coastal Seals, 1-4 March 2016, Reykjavik, Iceland

(i) assess the status of all populations, particularly using new abundance estimate data that are available from Iceland and Norway
(ii) address by-catch issues in Norway, Iceland, and the Faroe Islands
(iii) re-evaluate the Norwegian management plans (which have been already implemented) for grey and harbour seals
(iv) develop specific plans for monitoring grey seals in the Faroes, e.g., obtaining a relative series of abundance (if a full abundance estimate is not possible at this time).

1.69 ICES-NAMMCO-NAFO WG on Harp and Hooded seals 26-30 September 2016, Copenhagen, Denmark

Harp and hooded seals - Northeast Atlantic stocks

a. Address the special request from Norway on the Management of Harp and Hooded Seal stocks in the Northeast Atlantic by assessing the status and harvest potential of the harp seal stocks in the Greenland Sea and the White Sea/Barents Sea, and of the hooded seal stock in the Greenland Sea. ICES should also assess the impact on the harp seal stocks in the Greenland Sea and the White Sea/Barents Sea of an annual harvest of:
   (i) current harvest levels;
   (ii) sustainable catches (defined as the fixed annual catches that stabilizes the future 1 + population);
   (iii) catches that would reduce the population over a 15-year period in such a manner that it would remain above a level of 70% of the maximum population size, determined from population modelling, with 80% probability.
b. Evaluate new model developments and comparisons with the old assessment model Harp seals: Northwest Atlantic stock:

Harp seals – Northwest Atlantic stock

c) Explore the impact of proposed harvest strategies that would maintain the North Atlantic harp seal population at a precautionary level of a PA framework, using the Canadian levels as a case study, and that would have a low risk of decreasing below the critical level.

1.70 <u>WG on Abundance Estimates, October 2016</u>

(i) *develop estimates of abundance and trends as soon as possible* [Request ***R-1.7.11]***

<u>Specific</u>

- review abundance estimates generated from the NASS2015 and any surveys that have occurred since then, for use in assessments by NAMMCO.

1.71 <u>WG on Large Whale Assessment, 25–27 January 2017, Copenhagen, Denmark</u>

(i) give information on sustainable yield based on new abundance estimates expected from TNASS2015 for all large baleen whales in West Greenland waters [Request **R-1.7.12]**

Minke whales

(ii) complete assessments of common minke whales in the North Atlantic and include estimation of sustainable catch levels in the Central North Atlantic. [Request **R-3.3.4]**

Fin whales

(iii) complete an assessment of fin whales in the North Atlantic and also to include an estimation of sustainable catch levels in the Central North Atlantic. A long-term advice based on the new NASS2015 abundance estimate and the available results from the RMP Implementation Reviews (with 0.60 tuning level) is needed in 2016. [Request **R-3.1.7 amended]**

Humpback Whale

(iv) conduct a formal assessment following the completion of the T-NASS

(v) investigate the relationship between the humpback whales summering in West Greenland and other areas and incorporate this knowledge into their estimate of sustainable yields of West Greenland humpback whales.

(vi) provide advice on future catch levels of humpback whales in West Greenland at different probability levels for a non-declining population evaluated over a 5 year period, similar to the procedure for the advice generated for beluga, narwhal and walrus. The advice should include the latest abundance estimate."

[Request **R-3.2.4**]

<u>Specific</u>

This meeting will focus on humpback whales in Greenland and fin and minke whales off Iceland.

1.72 <u>NAMMCO-JCNB Joint WG on Narwhal and Beluga, 8-11 March 2017, Copenhagen, Denmark</u>

(i) review new information on the biology of narwhals and belugas,

(ii) update the assessments and catch advice based on new information.

1.73 <u>Global Review of Monodontids,</u>

(i) share current scientific knowledge on the status of each stock,

(ii) identify the main gaps in knowledge,

(iii) identify key threats to each stock,

(iv) outline possible areas of scientific cooperation.

Russian participation in the meeting is particularly important to ensure that recent data and knowledge from that part of the Arctic, much of which has not been published in English, is incorporated into the review.

1.74 WG on By-catch, 2-4 May 2017, Copenhagen, Denmark

Same as 1.67 - General

Specific

1. review the Norwegian harbour and grey seals and harbour porpoise by-catch data and estimates;
2. review the Icelandic lumpfish and cod gillnet fishery by-catch data and estimates;
3. review the situation in the Faroese mid-water trawling - precise fleet description, by-catch risk and reporting; methods for improving the situation;
4. review the information from Greenland on reporting of by-catch for the different species.

1.75 WG on By-catch, 4 April 2018, videoconference

Same as 1.67 - General

Specific

1. Review the Icelandic lumpsucker and cod gillnet fishery by-catch data and estimates
2. Updates on answers to BYCWG recommendations from 2017

1.76 WG on Abundance Estimates, 22-24 Mai 2018, Copenhagen, Denmark

(ii) *develop estimates of abundance and trends as soon as possible* [Request ***R-1.7.11]***

Specific

(i) Long-finned pilot whale
- NASS2015 estimate
- Trends

(ii) Common Minke Whale
- Norwegian mosaic survey – previous cycle estimate
- Central North Atlantic minke whale estimate

(iii) Large baleen whales
- Norway – large baleen whales, last two survey cycles
- Iceland/Faroes 2015 revised estimates for humpback and fin whales
- Iceland/Faroes 2007/15: other species

(iv) Sperm whales
- Norway – last two survey cycles
- Iceland/Faroes – 2007 and 2015

(v) Dolphins and porpoises
- Iceland/Faroe Islands shipboard – 2007 and 2015
- Iceland aerial 2016
- Norway – last two survey cycles

(vi) Killer whales
- Norway – last two survey cycles

1.77 WG on Walrus, 23-25 October 2018, Copenhagen, Denmark

Same as 1.31

Specific

Terms of Reference:

- To address R-2.6.7 – *provide assessments of, and advice on sustainable removals from, all stocks of walrus in Greenland covering the period from 2019 to 2023, with the advice for Qaanaaq starting in 2021.*

External experts should be invited from Canada, Alaska and Russia.

2 NAMMCO (OR JOINT) SCIENTIFIC COMMITTEE SYMPOSIA & WORKSHOPS

2.1 NAMMCO International Symposium on Harbour Porpoises in the North the North Atlantic, 10-14 September 1999, "Nordlys", Norway

Perform a comprehensive assessment of the harbor porpoise throughout its North Atlantic range, to include distribution and abundance, stock identity, biological parameters, ecological interactions, pollutants, removals and sustainability of removals."

The SC decided that the matter could best be dealt with by convening an international workshop /symposium on harbour porpoises, which would involve experts working on this species throughout its North Atlantic range.The symposium was intended to provide a forum for the presentation of results of recent research, and was structured around four theme sessions 1) Distribution and stock identity; 2) Biological parameters; 3) Ecology and pollutants; 4) Abundance, removals and sustainability of removals.

2.2 Joint ICES/NAFO/NAMMCO symposium on the role of marine mammals in the ecosystem in the 21st century, 29 September – 1 October 1 2008, Dartmouth, Nova Scotia

Review and present new findings on the syntheses of information over ecosystem components, on biological and physical aspects of the environment, and on new research approaches to understanding the role of marine mammals, which have appeared since the symposium on the ecological role of marine mammals organised by NAFO and ICES in 1995.

2.3 Joint NAMMCO/ICES Workshop on By-catch Monitoring, 28 June – 1 July 2010, Copenhagen, Denmark.

1. Review and describe the advantages and disadvantages of existing observation schemes for marine mammals and seabirds;
2. Recommend best practice when establishing and implementing by-catch observation schemes.

2.4 Joint NAMMCO/JCNB Workshop on Age Estimation in Monodontids1, 26-27 November 2011, Tampa, Florida

1. To standardize tooth GLG reading methods for age estimation in beluga and narwhal where feasible, and calibrate against other techniques such as using AAR, and produce a manual as a guide to tooth reading in the above species.
2. To draw together traditional and new techniques for determining age in marine mammals, where these methods may be applicable to belugas and narwhals, by holding a workshop of experts in this field, and produce a report.

The focus of the workshop was on monodontids although contributions on all marine mammals, and even other organisms, that had possible relevance to methods applicable for monodontids would be welcomed.

2.5 Joint NAMMCO/JCNB Workshop on Beluga Age Estimation 2, 5-9 December 2011, Beaufort, North Carolina

1. Provide a guide as to acceptable levels of accuracy and precision for age reading that will enable ages to be used in population models.
2. Conduct an inter-reader/laboratory comparison for calibration and standardization of age readings from Growth Layer Groups (GLG) in teeth among all readers/laboratories.
3. Provide information on validation that will enable GLG to be translated to real age.
4. Produce a manual of guidelines for the preparation and reading of GLG in beluga teeth.

2.6 NAMMCO Symposium on Impacts of Human Disturbance on Arctic Marine Mammals, with focus on belugas, narwhals and walrus, 13-15 October 2016, Copenhagen, Denmark

1 Present an overview of the information currently available;
2. Identify and characterize possible sources of disturbance, and the effects on individuals and populations;
3. Consider the need for possible mitigation measures to minimise sources of anthropogenic disturbances;
4. Reflect on future studies needed to assess long-term impacts of anthropogenic activities on both individual and population levels (particularly in the light of global warming).

2.7 NAMMCO Workshop on Cetacean Abundance and Distribution in the North Atlantic, 28-29 October 2017, Halifax, Nova Scotia

(i) Generate a set of North Atlantic wide design-based abundance estimates for 2015/16 for those cetacean species for which sufficient data are available. Species will include minke, fin, humpback, pilot whales and others that the data support. Estimates will be corrected for biases to the extent possible. The expected outcome is a complete set of estimates, or, more likely, an incomplete set of estimates and an action plan to achieve a complete set in timely fashion.

(ii) Discuss modelling the spatial and temporal distribution and habitat use of cetaceans in the North Atlantic using data from 2015/16. Discussion will be focussed on the most important and available variables to inform modelling; the merits or otherwise of modelling the entire northern North Atlantic; the challenges of combining multiple datasets from different projects/platforms/methodologies; and the logistics and timelines of moving forward with modelling. The expected outcome is an action plan for moving forward.

2.8 Joint NAMMCO/IMR Workshop on North Atlantic Harbour Porpoises, 3-5 December 2018, Tromsø, Norway

The goal of the workshop is to update the 1999 review, taking into account the 2008 IUCN assessment, and report on the conservation status of the North Atlantic harbour porpoise population(s). This current review will outline knowledge gaps and will provide recommendations for monitoring and research priorities for future assessments in this region.

The WS should

- within ten defined sub-areas in the North Atlantic identify the populations/sub-populations/ecological stocks/management units/assessment units and/or knowledge gaps for doing so

And for each sub-area

- review information on distribution, abundance, directed and incidental catches, and life history parameters, criteria required for a quantitative modelling assessment
- review information available on indirect (sub-lethal) pressures, such as chemical and noise pollution and other disturbances;
- where sufficient data are available, undertake a full conservation status assessment for porpoises within each sub-area using a population dynamics modelling approach, which includes an evaluation of directed and incidental capture rates;
- identify knowledge gaps and define research priorities and cooperation for assessing the conservation status within each sub-area, as well as monitoring requirements within each sub-area.

2.9 Joint NAMMCO/JCNB Joint Workshop on Climate Change Impact on Management Advice, March 2019, Canada

(i) Identify specific effects of climate change on belugas and narwhals

- Request papers on changes in distribution, population dynamics, etc. resulting from climate change in Canada/Greenland waters
- The focus will be less on the mechanism of the effects, and more on identifying simple predictors and possible consequences

(ii) Identify specific ways that the JWG's advice may be informed by these effects
- Climate change may affect timing and distribution of hunted populations.
- Climate change may affect population model parameters used for assessment.
- Development in the arctic may result in changes in habitat and carrying capacity as well as increased anthropogenic disturbance which may require changes in assessment models.

3 COMMITTEE ON HUNTING METHODS – EXPERT GROUP MEETINGS

3.1 NAMMCO Expert Group Meeting on Best Practices in the Hunting and Killing of Seals, 24 – 26 February 2009, Copenhagen, Denmark

(i) The work should build upon the knowledge and experiences already gathered in previous workshops organised by the Committee on Hunting Methods and possible new developments emerging since the last workshop held in 2006.

(ii) The work should be undertaken in a focussed group of specially invited experts with experience in seal hunting practices both from NAMMCO member countries as well as from other sealing nations and communities.

(iii) The expert group will critically assess different seal hunting methods within their contexts, addressing such questions as:
a. The use of specific hunting methods and equipment in particular settings
b. Training requirements for hunters
c. Control and monitoring of hunting methods
d. Research needs to improve the basis for further assessment

(iv) The expert group will develop recommendations on best practices based on state of the art in sealing today and identify where and how specific improvements can be made.

(v) As background information for the work of the expert group, the Secretariat, in cooperation with the Committee on Hunting Methods, will prepare a collation of relevant information and recommendations on seal hunting methods from previous NAMMCO workshops and other relevant and up-to-date sources of information on sealing practices.

3.2 NAMMCO Expert Group Meeting on Assessment of Large Whale Killing Data, 17–18 February 2010, Copenhagen, Denmark

(i) Organise an expert group in February/March 2010 to
a. undertake a review and evaluate the whale killing data submitted to NAMMCO by Japan in 2009,
b. undertake a review and evaluate the data and information on recent and ongoing research on improvements and technical innovations in hunting methods and gears used for the hunting of large whales in NAMMCO countries.

3.3 NAMMCO Expert Group Meeting to Assess the Hunting Methods for Small Cetaceans, 15–17 November 2011, Copenhagen, Denmark

1. Review and assess current hunting and killing methods for small cetaceans
2. Review and assess information on recent and ongoing research on improvements and technical innovations in hunting methods and gear used for hunting of small cetaceans
3. Review and assess time to death (TTD) data on the killing of small cetaceans
4. Give recommendations with respect to possible improvements.

3.4 NAMMCO Expert Group Meeting on Assessing TTD data from Large Whale Hunts, 4-6 November 2015, Copenhagen, Denmark

(i) undertake a review and evaluate the whale killing data submitted to NAMMCO by member countries and associated hunting nations,

(ii) undertake a review and evaluate the data and information on recent and ongoing research on improvements and technical innovations in hunting methods and gears used for the hunting of large whales.

4 COMMITTEE ON HUNTING METHODS – WORKSHOPS

4.1 NAMMCO Workshop on Hunting Methods, 9–11 February 1999, Nuuk, Greenland

(i) to review existing marine mammal hunting methods in member countries, including technical developments with respect to equipment and methods, with the view to providing a technical evaluation of different hunting methods (fin and minke whaling; hunting of small whales; seal and walrus hunting);

(ii) to examine possibilities for technical innovation and further enhancement of efficiency and safety of hunting methods, with a view to providing recommendations for improvements, where relevant.

4.2 NAMMCO Workshop on Marine Mammals: Weapons, ammunition and ballistics, 13–15 November 2001, Sandefjord, Norway

(i) increase the understanding of weapon types, ammunition and ballistics for hunters, administrators and other personnel, and

(ii) develop a minimum set of requirements pertaining to weapons and ammunition types with regard to different species.

In order to achieve this the Workshop would address topics such as:

- weapon types and ammunition in combination with terminal ballistics
- the impact of weapon types and ammunition on different marine mammal species
- safety for the hunters with respect to weapons use.

4.3 NAMMCO Workshop on Hunting Methods for Seals and Walrus, 7–9 September 2004, North Atlantic House Copenhagen, Denmark

(i) review existing seal and walrus hunting methods known

(ii) evaluate methods used in seal and walrus hunting in relation to killing efficiency and struck and loss rates

(iii) examine possibilities for technical innovation and further enhancement of efficiency and safety of hunting methods, with a view to providing recommendations for improvement, where relevant, and,

(iv) if possible, determine minimum requirements for safe and efficient killing of different seal species and walrus, considering variations in hunting methods.

4.4 NAMMCO Workshop to address problems of "struck and lost" in seal, walrus and whale hunting, Copenhagen, Denmark 14–16 November 2006.

(i) review hunting methods for seal, walrus and whale with respect to the problem of "struck and lost" (S&L)

(ii) identify possible studies of S&L to be undertaken in cooperation between researchers and hunters, in order to achieve accurate and reliable estimates of S&L

(iii) identify the reasons why some hunts have a high or low S&L rate

(iv) make recommendations on how to reduce S&L, in consideration of hunting techniques, equipment modifications, season, locality and reduction of animal suffering.

4.5 NAMMCO Seminar on Processing and Analysing of TTD Data, University of Oslo, Norway, 7 February 2016.

Statistical analyses of time to death

5 MANAGEMENT COMMITTEE WORKING GROUP

5.1 WG on Inspection and Observation, 21-22 September 1993, Copenhagen

Established by NAMMCO 3 [Report of 3nd NAMMCO meeting July 1993, p. 6]

Consider inspection and observation schemes, in order to harmonise national regulations and thereby *interalia* ensure that data collected will be compatible. [Report of 3nd NAMMCO meeting 1993, p. 6] The ToRs of the WG would apply, where appropriate, to the utilisation of all marine mammals relevant to NAMMCO.

5.2 WG on By-Catch, 31 August 1998, Oslo, Norway

Consider how the issue of by-catches of marine mammals could be addressed at its next meeting, noting the duties of States under article 61.4 of UNCLOS in this respect.
[MC 1997, Annual Report 1997, p. 69]

5.3 WG on By-Catch, 5 October 1999, Akureyri, Iceland

Same as 5.2

5.4 WG on By-Catch, 25 September 2000, Sandefjord, Norway

Same as 5.2

5.5 WG on By-Catch, 15 January 2002, telephone meeting

Same as 5.2

5.6 WG on By-Catch, 17 February 2003, telephone meeting

Same as 5.2

5.7 Ad hoc WG on Enhancing Ecosystem-Based Management, 3-4 December 2003, Copenhagen, Denmark

[Established by MC 2003]

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

5.8 WG on User Knowledge in Management Decision, 12 February 2004, telephone

[Established under MC by Council 12, 2003]

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

5.9 WG on By-Catch, 19 February 2004, telephone meeting

Same as 4.2

5.10 WG on By-Catch, 28 February 2005, Tromsø, Norway

Same as 4.2

5.11 Ad hoc WG on Enhancing Ecosystem-Based Management, 20-21 September 2005, Aberdeen, Scotland

Same as 4.6

Specific

1. review the development of multi-species models for marine resource management which include marine mammals, the extent to which these can be applied in management today, and the gaps and work required to further develop these models for management purposes. This review will have as its basis the work carried out to date through the NAMMCO scientific committee and any other relevant information provided by participating countries,
2. examine the management objectives and experiences in relation to the application of ecosystem-based management across the North Atlantic where marine mammal utilisation occurs,
3. report back to the Management Committee at its next meeting, with recommendations for how best to advance NAMMCO's focus on ecosystem-based management.

Focus of the meeting

- Mapping the status of developments with respect to EBM
- Reviewing the development of multi-species models for marine resource management which include marine mammals
- Examining the management objectives and experiences in relation to the application of EBM across the N. Atlantic where marine mammal utilisation occurs
- Identifying where the specific interests/role of NAMMCO in EBM lie
- Reporting and making recommendations to the Management Committee of NAMMCO.

5.12 WG on By-Catch, 13 March 2006, Selfoss, Iceland

Same as 4.2

5.13 WG on User Knowledge in Management Decision-Making

Re-established by MC 2006

- Define in which areas of management and research a collaborating forum between users, managers and scientist would be beneficial,
- Make recommendations as to how such a collaborative forum may be established.

Apparently, no follow up and no subsequent meeting

5.14 WG on By-Catch, 13 February 2007, telephone meeting

Same as 4.2
[Issue transferred to SC by Council 6, 2007, on recommendation of MC 2007]

6 COUNCIL WORKING GROUPS

6.1 Ad hoc WG on Hunting Methods [NAMMCO 1, 1992, Report p. 3]

(ii) review hunting methods as required by the members of the Council
(iii) include consideration of measures necessary to ensure the safety of those directly involved in hunting.

6.2 *Ad hoc* WG on Information, 2 July 1993, Reykjavík, Iceland

Established by NAMMCO 2 [Report of 2nd NAMMCO meeting 1993, p. 7]

The WG will present a report to the Council at the next meeting of NAMMCO. The WG would make suggestions for the kinds of projects which required extra funding, gather and compare information material from respective NAMMCO member countries, and consider points raised during the meeting by representatives from High North Alliance and the European Bureau for Conservation and Development.

6.3 *Ad hoc* WG on Finance and Administration [NAMMCO 5, 1995, Report p. 14]

Review the financial and administrative aspects of the Secretary's report, and to consider these together with the draft budget

6.4 WG on Finance and Administration [NAMMCO 7, 1997, Report p.12]

- review annual accounts and develop budgets and forecast budgets for the Council,
- review administrative matters related to the activities of the Commission,
- consider any other financial and administrative matters, the Council may decide to forward to it.

6.5 Steering Group on Survey Planning

Plan T-NASS-15 on a scale as large as possible in consultations with Finance and Administration Committee (FAC) and the Scientific Committee (SC)

(i) Work intersessionally and report back to the FAC for decision making as soon as possible (no later than next year's SC meeting);
   a. be in charge of the SC T-NASS budget in consultation with the SC Chair and the Secretariat.
   b. Work by "Skype", as well as up to two face-to-face meetings before next SC meeting;
(ii) Plan extended coverage including detailed budgets (including contacts to non-NAMMCO country participants);
(iii) Investigate and list expected national resources (integrating planned surveys);
(iv) |Discuss, investigate and seek funding possibilities in consultation with FAC;
(v) Define the needs for, and Terms of Reference for, a potential survey coordinator;
(vi) Decide on meetings of the Survey Planning WG (one potential meeting before next SC meeting).

6.5.1 Steering Group on Survey Planning, 5 November 2012, teleconference

Following 6.5

6.5.2 Steering Group on Survey Planning. 3 February 2014, Copenhagen, Denmark

Following 6.5

Specific

(i) Develop final proposals for so-called extension surveys (besides national surveys and under special funding), i.e., surveys for
   (a) the East Greenland coastal area
   (b) targeting pilot whales around the Faroe Islands
   (c) the Jan Mayen area

(ii) prepare an overview budget

6.5.3 Steering Group on Survey Planning, 10 November 2015, Tórshavn, Faroe Islands

Following 6.5

Specific

(i) Post cruise debriefing and planning of analysis of the extension surveys (outside national jurisdiction and under special funding) and national surveys

(ii) Plan analysis and presentation

(iii) Financial status

6.5.4 Steering Group on Survey Planning 27 April 2015, Skype Call

Following 6.5

Specific

(i) to provide a status of the plans for a TNASS2015 survey.

6.6 Planning Group on Marine Mammals as food resource (MMFR)

Established by Council 21 (2012) to focus on marine mammals as food resource. An FAC extended group met in June 2013 and the planning group established its own ToR at its meeting in January 2014. Later (February 2014), the Planning Group changed the focus from organising an event to producing a paper/report that would essentially lead up to the message of marine mammals as a valuable, environmental friendly food and nutrition resource. The process would be two-folded a) the production of a background document reviewing and compiling existing material relevant to the topic, and b) the development of a strategy for communicating the message to different target audience. (Report MMFR 28 February 2014)

MMFR held 8 meetings between 2013 and 2017, and the planning group was dissolved at the Council meeting in 2018 (NAMMCO Annual Report 2017, page 20.) The last meeting initiation of a life cycle assessment pilot project, comparing the ecological cost of consuming locally hunted seal meat and importing meat in Greenland , that represents the last part of the total project.

6.7 WG on By-catch, Entanglements and Live strandings (BYCELS)

Established by Council 25 (2017) to deal with animal welfare issues solely related to by-catch, entanglements and live strandings.

(a) The Working Group shall upon request from the Council or individual member countries, provide advice on welfare issues related to by-catch, entanglement, and live strandings, affecting marine mammals. 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 safety requirements for humans.

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

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

(d) The Committee may seek outside expertise if it considers this necessary and appropriate. The WG will nominate its Chair in agreement with FAC.

6.7.1 WG on By-catch, Entanglements and Live strandings (BYCELS), 15 February 2018, Copenhagen, Denmark

Following 6.7

7 COUNCIL INTERNATIONAL "CONFERENCES"

7.1 Seminar on Informed Opinion on the Hunting of Marine Mammals, 26 February 1994, Tromsø, Norway

(i) 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,

(ii) 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,

(iii) Discuss concrete ideas and specific proposals for future projects

7.2 International Conference on Marine Mammals and the Marine Environment, 20-21 April 1995, Lerwick, Shetland

[NAMMCO 3, July 1993)

The Conference focused on the sources, levels and effects of chemical pollution in the marine environment and marine mammals, as well as the consequences of marine pollution for coastal communities. It was prompted by contemporary concerns about the state of the marine environment and the desire to understand better the nature and extent of impacts on, and risks to, marine ecosystems and their various components from human activities, both on land and at sea.

7.3 Conference on Sealing the Future, 25-27 November 1997, St Johns, Newfoundland

Focus on the effect of trade barriers that have constrained the international trade in seal products and impeded the sustainable development of sealing communities around the world.

7.4 Conference on User Knowledge and Scientific Knowledge in Management Decision Making, 4-7 January 2003, Reykjavik, Iceland

Find ways to incorporate user knowledge into the management decision-making process in parallel with science and how users and scientists can co-operate on knowledge gathering.

7.5 Expert meeting on potential positive health effects of consuming whale and seal oil, 3 October 2007, Copenhagen, Denmark

Technical meeting on the potential positive health effects of consuming whale and seal oil.