



REPORT OF THE COMMITTEE ON HUNTING METHODS

This document contains the following:

Report of the meeting of the Committee on Hunting Methods 25 and 26 January 2011 incl.

- appendix 1: List of laws and regulations in NAMMCO member countries
- appendix 2: List of references on hunting methods
- appendix 3: Instructions for data collection
- appendix 4: Draft programme Expert Group Meeting
- appendix 5: Draft table of content for pilot case for user manual

REPORT OF COMMITTEE MEETING 25 AND 26 JANUARY 2011

The Committee on Hunting Methods met on 25 and 26 January 2011 at the Faroese representation in Copenhagen. Present were Egil Ole Øen, chair, and Hild Ynnesdal (Norway), Jústines Olsen, (Faroe Islands), Kristjan Loftsson and Eyþór Björnsson (Iceland), Nette Levermann and Eigil Tofte Bjørvik (Greenland), and Christina Lockyer and Charlotte Winsnes from the Secretariat. The Greenlandic representatives were only present on 26 January.

1. Introductory Remarks, Adoption of Agenda and Appointment of Rapporteur

The Chair of the Committee, Egil Ole Øen, welcomed the Committee members to the meeting. The draft agenda was adopted and Charlotte Winsnes acted as rapporteur.

Due to weather problems in Greenland Levermann and Bjørvik only participated on the 26th.

2. Updates on hunting methods in member countries

The lists of references on hunting methods (NAMMCO/HM-January 2011-2), and laws and regulations in member countries (NAMMCO/HM-January 2011--3) were updated (see Appendices 1 and 2 of this report).

Faroe Islands

Olsen (Faroe Islands) reported that there had been no changes in the regulations on pilot whale hunting.

In 2010 there had been 14 drives of pilot whales with a total of 1,106 animals taken. The new spinal lance was the preferred killing device for a majority of the hunters who concluded that it was a very efficient weapon. A further improvement that has not yet been fully proven is an addition of a sheath around the knife blade, making it even more secure and efficient. Hitherto the spinal lance as a killing device has not been encompassed by the national regulations for the hunting of pilot whales.

The annual meeting of the *Grindamannafelaga* are usually held in March. Among the participants are *syssemen* and *grindeformen*, making it the major arena for distribution of information on hunting and hunting activities for the hunters.

The Committee welcomed the new improvement to the spinal lance and expressed the hope that results from the use of the spinal lance would be presented at the upcoming Expert group meeting on the killing of small cetaceans in November 2011.

Greenland

Levermann (Greenland) reported on the following:

- A new Executive Order regulating the hunt on beluga and narwhal is awaiting formal approval. Changes in this new Executive Order entails among other things regulation of the quota for leisure hunters to be limited to a total of 10% of the overall quota, the protection on the taking of calves has been lifted, specifications related to the hunt by netting and requirements on weapons and ammunition and on the reporting and collection of data.
- Two new Executive Orders on the hunting and protection of large whales which represents a more technical revision of the former Executive Orders take into account that humpback is now a target species.
- The previously announced Executive Order on the protection and hunting of seals is approved, entailing a total protection of harbour seals and grey seals. It further regulates the hunting methods, especially netting, and it gives requirements on ammunition and caliber and utilization of the animals.
- A new Circular on import and export of seal products from Greenland to the EU which follows the stipulations in the corresponding EU ban.

Levermann underlined that NAMMCO recommendations on weapons and ammunition have been acted upon and followed in the new regulations.

Bjørnvik (Greenland) informed the Committee of a new campaign that will commence in the near future. The aim is to estimate and inform on the struck and lost for the species polar bear, walrus, beluga and narwhal, and also on the reporting of hunting activities. An anonymous questionnaire will be distributed to hunters where among other things they will be asked to specify type of hunt, weapon and ammunition and “struck and lost”.

Iceland

Björnsson (Iceland) reported that there had been no changes to the regulations for the hunting of fin and minke whales since last year. The Ministry of Fisheries and Agriculture has decided that quotas for minke whales and fin whales should be in accordance with the recommendations of the Marine Research Institute (MRI). Based on the recommendations of the MRI the quotas for minke whales are 216 and 154 fin whales in 2011.

Loftsson (Iceland) gave a brief summary of the ongoing work on the improvement of the whale grenade for fin whales. The Whale grenade 99 was developed for the hunting of minke whales, but has in cooperation with i.e. Dr. Egil O Øen now been modified to accommodate larger whales. The main improvements are a larger charge of 100g penthrite, the core of the grenade is in steel instead of aluminium and the placement of the hook has been altered to account for the changes in size of the animal.

The Committee acknowledged that the development and modification work carried out in Iceland by Hvalur H.F.'s initiative is quite unique and also beneficial for other communities hunting large whales like fin, bowhead and humpback whales.

Norway

Ynnesdal (Norway) reported that there had been no new regulations last year.

Ynnesdal informed the Committee on two ongoing legal proceedings, one related to seal hunting and the other to whale hunting.

As a result of these proceedings the directorate of fisheries has proposed limitations in the regulations governing the seal hunt connected to the requirements for bleeding and prohibition of taking seals onboard before they have been bled under dangerous ice conditions (*krøking*).

In 2011 there are plans to sample time to death data (TTD) in the whale hunt. TTD data have not been collected on a larger scale since 2002 in Norway and the collection of new TTD data was one of the recommendations from the Expert Group meeting on assessing large whale killing data held in February 2010.

Ynnesdal also reported that 18 vessels participated in the minke whale hunt in 2010. This is the lowest number of participants since the whale hunt was resumed in 1993. Several factors such as lack of a stable first hand market and increased possibility for alternative income sources like new fisheries for several of the vessels currently holding licence for whaling contribute to this situation. The authorities are therefore looking into the possibility of reducing the existing requirements governing participation in whaling to motivate an increase in the number of hunting boats.

3. Expert Working Group meeting to review and evaluate whale killing data for small cetaceans

Following recommendations from the Expert Group meeting to review and evaluate whale killing data for large whales held in February 2010, the Committee on Hunting Methods agreed to recommend to Council:

- *To convene a dedicated Expert Working Group on the taking of small cetaceans in NAMMCO counties as well as Japan, Canada, USA and other relevant regions.*

Council at NAMMCO 19, endorsed the recommendation in principle and asked the Committee to further develop the proposal and allocated NOK 80,000 for the activity in 2011. The Council also asked to be kept informed with respect to the planning, and on 4th January 2011, the Secretariat circulated an email to Council to this end.

The focus of discussion for the present meeting was to further refine the details of the Expert Working Group (EWG) and to plan the steps to be taken in the coming months.

The Committee has previously agreed on the tentative place and dates for the meeting to be Copenhagen 15 – 17 November 2011. Upon assurance from the member states planning to present data to the EWG that sufficient data would be available for the consideration of the EWG prior to mid-November, the Committee agreed to keep both the dates and the meeting venue.

The Committee also revisited the terms of reference for the EWG, and agreed to restructure the wording to make it more clear and coherent. The agreed ToR are:

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.

Invitations to participate and present data will go to Canada, the USA, Japan and Russia. Those participating and presenting data will come at their own expense with the exception of Russia where funding will be sought elsewhere.

The Committee also discussed which experts to invite to the EWG and came up with some additions to the ones already identified. The proposed expert panel consists of:

Dr Arne Bjørge (Norway), Dr Jan Danielsson (Sweden), Dr Pierre-Yves Daoust (Canada), Dr Lars Folkow (Norway), Prof Joseph Geraci (USA), Dr. Hajime Ishikawa (Japan), Senior Veterinarian Justines Olsen (Faroe Islands), Prof Robert Suydam (USA), Prof Lars Walløe (Norway), and Dr. Egil Ole Øen (Norway).

In addition it is anticipated that experienced hunters and other relevant persons will be part of the national delegations.

Greenland was asked to come back with information regarding the possibility of adding Dr Lasse Holm (Denmark) to this list.

All members of the EWG will be invited in a personal capacity as experts in fields such as veterinary medicine, statistics, physiology and biology specifically related to the killing of small cetaceans and animal welfare.

The Committee Chair in cooperation with the Secretariat compiled a list of the kinds of data that are of interest which might be sampled from the different hunts with the aim to make an overview of the results (effectiveness) obtained from the different killing methods used. These results should be presented to the WG for assessment of the effectiveness of different hunting and killing methods. This list was distributed to the Faroe Islands and Greenland in December 2010 and a revised (final) list will be circulated to the other participating countries in order to facilitate the work of the expert group. The final list is compiled in Appendix 3.

The Committee proceeded to discuss the agenda for the EWG meeting. The proposed agenda and programme is contained in Appendix 4. The idea is to finalise the report during the meeting, and to achieve this goal, presenters will be asked to submit written material to the Secretariat well in advance of the meeting. Furthermore given the favourable experience from earlier Expert Group meetings, a drafting group consisting of a few experts and the Secretariat will be established at the beginning of the meeting. This drafting group will be responsible for the collection and drafting of conclusions and possible recommendations.

4. NAMMCO Handbook

Following recommendations from the Expert Group meeting to review and evaluate whale killing data for large whales held in February 2010, the Committee on Hunting Methods agreed to recommend to Council:

- *To develop a handbook /manual for hunters giving relevant information inter alia on weapons, killing techniques and animal welfare.*

Proposal as presented to Council:

It was suggested that an Editorial Committee be established with the aim of developing the handbook, and that the Committee should function as a review body for the Editorial Committee.

The idea of the handbook is that it shall function as a very practical manual for hunters with respect to killing of whales. The handbook shall give basic but vital information on i.e. weapons and ammunition with respect to different species, hitting area by illustrations etc. A reference point is the handbook developed by Alaska some years back for the bowhead hunt which is reported as very useful by the hunters themselves. The manual will be placed onboard all hunting vessels and must be in the respective native languages. It is envisaged that the handbook will be made in one language and then translated to the other languages in the NAMMCO member countries.

It is anticipated that it will be necessary to seek external funding for the development and production of the handbook. Tentatively it is suggested that NOK 100 000 be allocated from Council with the condition that a detailed budget will be developed during the coming months including a list of content for the handbook.

Council at NAMMCO 19 agreed in principle to the production of a hunters' manual, but would revisit the question of funding and budget when the Editorial Committee had done its work.

As background documentation the Committee was presented with the before-mentioned user manual developed for the Alaskan Eskimo hunt of the bowhead whale. It was agreed that an external Editorial Committee was not necessary and that the Committee itself would develop the handbook.

The focus of the handbook will be whale hunting in NAMMCO member countries. The following target hunts were identified:

Greenland

Large whales: Minke, Fin, Bowhead and Humpback – penthrite grenades/collective rifle hunt

Small whales: Beluga, Narwhal and Harbour Porpoises – rifle/netting

Faroe Islands: Pilot whale – knife/spinal lance

Iceland: Minke and Fin whale – penthrite grenade

Norway: Minke whale – penthrite grenade

The Committee discussed the structure of the handbook and agreed to make killing by Whale grenade-99 (penthrite grenade) a “pilot case” and starting point. This part of the handbook will be presented to Council for its consideration at its next meeting

together with a draft of the total contents of the handbook including the budget for the total production of the handbook.

The Committee emphasised the need for the manual to be very concise and concrete. The text should be held to a minimum and be supplemented with drawings or photographic illustrations of good quality. The guiding principle should be to make everything as simple as possible without losing essential information.

A draft table of contents for the “pilot case” was developed – see Appendix 5. Greenland agreed to take the lead with respect to finding illustrations such as photographs and drawings. Egil Ole Øen in cooperation with the Secretariat will make text suggestions based on material already published such as the Alaska manual, but also reports from various workshops etc. Tentatively a draft text should be circulated to the Committee before 18th April 2011. The Secretariat was tasked with developing a budget for the production of the handbook.

5. Election of officers

Egil Ole Øen (Norway) was re-elected as chair and Eyþór Björnsson (Iceland) was elected as vice-chair for the period 2011- 2012.

6. Next meeting

The next ordinary meeting in the Committee will be January/February 2012. In the intervening interval the Secretariat in cooperation with the Chair will call for telephone meetings when necessary, and if a face-to-face meeting is needed this will be organised just prior to NAMMCO 20 in September 2011.

7. Any other business

Greenland informed the Committee that they are in the process of developing an Executive Order with specifications on hunting ammunition for different species. Upon request from Greenland, the Committee discussed the presented material on the relationship between ammunition types and impact energy.

The Committee welcomed the initiative and look forward to the final result.

8. Approval of the Report

The report was approved by correspondence on 1 March 2011.

LIST OF LAWS AND REGULATIONS IN NAMMCO MEMBER COUNTRIES
(Updated February 2011)

FAROE ISLANDS

Parliamentary Act	No 57 of 5 June 1984 on whale hunting No 54 of 20 May 1996 amending Parliamentary Act on whale hunting No 9 of 14 March 1985 on the protection of animals, as last amended by Parliamentary Act No 60 of 30 May 1990 No 43 of 22 May 1969 on weapons etc. as amended by Parliamentary Act No 54 of 12 May 1980 No 128 of 25 October 1988 on hare hunting
Executive order	No 57 of 12 September 1969 on weapons etc. No 19 of 1 March 1996 on exemption from protection of whales No 126 of 23 June 1997 on protection of whales No 46 of 8 April 1998 on pilot whaling No 107 of 21 November 1989 on authorisation of whaling bays, as amended by executive order No 64 of 11 May 1992, executive order No 127 of 27 August 1992, executive order No 141 of 23 June 1993, executive order No 34 of 24 March 1994 and executive order No 94 of 31 May 2001 No 166 of 27 August 1993 on provisional authorisation of whaling bays No 118 of 23 October 1996 on provisional authorisation of whaling bays No 72 of 17 May 2000 on provisional authorisation of whaling bays No. 87 of 20 September 2007 on protections of whales

GREENLAND

Greenland Home Rule Act	No 12 of 29 October 1999 on hunting No 11 of 12 November 2001 on revisions to Greenland Home Rule Act No 12 of 29 October 1999 on hunting No 9 of 15 April 2003 on revisions to Greenland Home Rule Act No 12 of 29 October 1999 on hunting No 1 of 16 Mai 2008 on revisions to Greenland Home Rule Act No 12 of 29 October 1999 on hunting No 25 of 18 December 2003 on animal welfare No 29 of 18 December 2003 on nature protection
Executive Order	No 26 of 24 October 1997 on extraordinary check and approval of harpoon canons No 22 of 19 August 2002 on trophy-hunting and fishing No 20 of 27 November 2003 on hunting licenses for full time hunters No 21 of 28 November 2003 on hunting licenses for part-time and/or sport hunters No 2 of 12 February 2004 on protection and hunting of beluga and narwhal (<i>Under revision, expected approval March 2011</i>) No 21 of 22 September 2005 on protection and hunt of polar bears No 20 of 27 October 2006 on protection and hunting of walrus No 11 of 16 July 2010 on protection and hunting of large whales (<i>Under revision, expected approval April 2011</i>) No 12 of 16 July 2010 on reporting from hunting and strike of large whales (<i>Under revision, expected approval April 2011</i>) No 16 of 12 November 2010 on protection and hunting of seals

Catch registration form (1993-present) “*Piniarneq*”

ICELAND

Whaling Act	no 26, May 3, 1949
Regulation	no 163, May 30, 1973 on whaling
Regulation	no 304, May 9, 1983 on amendments to Regulation No 163 of May 30, 1973 on whaling
Regulation	no 239, May 10, 1984 on amendments to Regulation No 163 of May 30, 1973 on whaling (cf. Regulation No 304/1983)
Agreement	no 9 of 26 June 1991 between Iceland and Spain on an international observer scheme for land-based whaling stations in the North Atlantic area.

NORWAY

Act of 29 May 1981 No 38	Relating to Wildlife and Wildlife Habitats (the Wildlife act)
Act of 27 March 1999 No 15	Relating to the Right to Participate in Fisheries and Hunting
Act of 6 June 2008 No 37	The Marine Resources Act
Act of 19 June 2009 No 97	Animal Welfare

Executive Orders from the Department of Fisheries and Coastal Affairs:

31 March 2000	Regulation of the practice of hunting minke whales.
11 March 2003	Regulation of the practice of hunting seals in the West Ice and the East Ice

The Ministry of Fisheries and Coastal Affairs and the Directorate of Fisheries issues each year executive orders relating to the participation and governing of the hunt of Whales and Seals.

LIST OF REFERENCES ON HUNTING METHODS

(Updated February 2010)

FAROE ISLANDS

- Olsen, J. 2006. Hunting activities in the Faroe Islands: howuser knowledge is gartered, kept and transmitted among pilot whale hunters in the Faroe Islands. *In: Hovelsrud, G.K. and Winsnes, C. (eds). 2006. Users Knowledge. Proceedings from Conference, Reykjavik January 2003: 38-43.*
- Anonymous 1993. Comments from Denmark on IWC44/HKW/9, "Humane Killing Aspects of the Pilot Whale Hunt in the Faroe Islands". IWC Document IWC/45/HK2.
- Bloch, D., Desportes, G., Zachariassen, M. and Christiansen, I.: "The Northern Bottlenose Whale in the Faroe Islands, 1584-1993." *J. Zool., Lond.*(1996) 239, 123-140
- Faroese Home Government 1988. Response from the Danish Government on the Methods used in the Faroese Pilot Whale Hunt, submitted to IWC/40.
- Hoydal, K. 1986. Recent Changes to Faroese Legislation on Whaling. IWC Document IWC/38/HKW. www.hval.djoralaeknin.com

GREENLAND

- Born, E.W. 2005. The Walrus in Greenland. Ilinnisiorfik, ISBN 87-7975-221-7. Pp. 80 (Available in Danish and Greenlandic language versions)
- Caulfield, R. A. 1991. Qeqartarsuarmit arfanniarneq: Greenland Inuit Whaling in Qeqartarsuaq Kommune, West Greenland. IWC Document TC/43/AS4.
- Caulfield, R.A. 2002. Whaling and Sustainability in Greenland. IWC Document IWC/54/AS4.
- Dahl, J. 1989. The Integrative and Cultural Role of Hunting and Subsistence in Greenland, *Inuit Studies*, 13(1): 23-42.
- Donovan, G et al. 2010. Report of the Small Working Group on Conservation Factors (from Whales to Edible Products) for the Greenlandic Large Whale Hunt. IWC Document IWC/62/9.
- Greenland Home Rule 1987. Hunting Methods including the Cold/Warm Harpoon Question, IWC Document TC/39/AS2.
- Greenland Home Rule. 1988. *Arfanniariaaserput - Our Way of Whaling*
- Greenland Home Rule 1988. 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/HK3.
- Greenland Home Rule 1988. Implementation of the Detonating Grenade Harpoon in Greenland's Whaling on an Experimental Basis. IWC Document TC/40/HK4.
- Greenland Home Rule 1989. Introduction of the Detonating Grenade Harpoon in Greenland Whaling on an Experimental basis. IWC Document TC/41/HK2.
- Greenland Home Rule 1990. Greenland Licenses for Hunting Minke Whales with Rifles. IWC Document TC/42/HK2.
- Greenland Home Rule 1990. Introduction of the Detonating Grenade Harpoon in Greenland on an Experimental Basis. IWC Document TC/42/HK1.
- Greenland Home Rule 1991. Designation of Types of Rifles in Greenland. IWC Document TC/43/AS1.
- Greenland Home Rule 1991. Introduction of the Detonating Grenade Harpoon in Greenland, 1991. IWC Document TC/43/HK2.
- Greenland Home Rule 1992. Introduction of the Detonating Grenade Harpoon in Greenland, 1992. IWC Document TC/44/HK1.
- Greenland Home Rule 1993. Greenland Action Plan on Whale Hunting Methods, 1992. IWC Document TC/45/HK3.
- Greenland Home Rule 1994. Greenland Action Plan on Whale Hunting Methods. IWC Document IWC/46/AS3.
- Greenland Home Rule 1995. Comments regarding the Terms of Reference to the second Workshop on Whale Killing Methods. - Greenland Action Plan on Whale Hunting Methods. IWC Document IWC/47/WK4 rev.

Greenland Home Rule 1997. New Technologies, New Traditions: Recent Developments in Greenlandic Whaling. IWC Document IWC/49/AS3.

Greenland Home Rule 1999. Efficiency in the Greenlandic Hunt of Minke and Fin whales, 1990-1998. IWC Document IWC/51/WK8.

Greenland Home Rule 1999. Report on improving in ASW in Greenland. IWC Document IWC/51/WK7.

Greenland Home Rule 1999. Status for Greenland Action Plan on Whale Killing Methods. 1999. IWC Document IWC/51/WK6.

Greenland Home Rule 2000. A note regarding information encouraged in IWC-resolution 51/44. IWC Document IWC/52/WKM & AWI2.

Greenland Home Rule 2000. Report on improvements in ASW in Greenland. IWC Document IWC/52/WKM & AWI4.

Greenland Home Rule 2000. Status for Greenland Action Plan on Whale Hunting Methods. IWC Document IWC/52/WKM & AWI3.

Greenland Home Rule 2001. A note regarding information encouraged in IWC-resolution 51/44I. IWC Document IWC/53/WKM & AWI1.

Greenland Home Rule 2001. Report on improvements in ASW in Greenland. IWC Document IWC/53/WKM & AWI3.

Greenland Home Rule 2001. Status for Greenland Action Plan on Whale Hunting Methods. IWC Document IWC/53/WKM & AWI2.

Greenland Home Rule 2002. A note regarding information encouraged in IWC-resolution 1999. IWC Document IWC/54/WKM & AWI2.

Greenland Home Rule 2002. Report on improvements in ASW in Greenland. IWC Document IWC/54/WKM & AWI3.

Greenland Home Rule 2002. Status for Greenland Action Plan on Whale Hunting Methods, 2001. IWC Document IWC/54/WKM & AWI5.

Greenland Home Rule 2003. A note regarding information encouraged in IWC-resolution 1999. IWC Document IWC/55/WK9.

Greenland Home Rule 2003. Report on improvements in ASW in Greenland. IWC Document IWC/55/WK10.

Greenland Home Rule 2003. Status for Greenland Action Plan on Whale Hunting Methods, 2002. IWC Document IWC/55/WK11.

Greenland Home Rule 2003. Times to death in the Greenlandic minke and fin whale hunt in 2002. IWC Document IWC/55/WK12 rev.

Greenland Home Rule 2004. A note regarding information encouraged in IWC-resolution 1999. IWC Document IWC/56/7.

Greenland Home Rule 2004. Report on improvements in ASW in Greenland. IWC Document IWC/56/6.

Greenland Home Rule 2004. Status for Greenland Action Plan on Whale Hunting Methods, 2003. IWC Document IWC/56/8.

Greenland Home Rule 2004. Summary of activities related to the Action Plan on Whale Killing Methods. IWC Document IWC/56/5.

Greenland Home Rule 2005. A note regarding information encouraged in IWC-resolution 1999. IWC Document IWC/57/WKM & AWI6.

Greenland Home Rule 2005. Report on improvements in ASW in Greenland. IWC Document IWC/57/WKM & AW7.

Greenland Home Rule 2005. Status for Greenland Action Plan on Whale Hunting Methods, 2004. IWC Document IWC/57/WKM & AW8.

Greenland Home Rule 2006. A note regarding information encouraged in IWC-resolution 1999, for the Greenland catch of 2005. IWC Document IWC/58/WKM & AWI3.

Greenland Home Rule 2006. Report on improvements in ASW in Greenland. IWC Document IWC/58/WKM & AWI4.

Greenland Home Rule 2006. Status for Greenland Action Plan on Whale Hunting Methods. IWC Document IWC/58/WKM & AWI5..

Greenland Home Rule 2006. Summary of activities related to the Action Plan on Whale Killing Methods. IWC Document IWC/58/WKM & AWI6.

Greenland Home Rule Government 2006. Whale killing methods and associated welfare issues in Greenland. IWC Document IWC/58/WKM & AWI7.

- Greenland Home Rule Government 2007. Summary of Activities Related to the Action Plan on Whale Killing Methods (based on Resolution 1999-1). IWC Document IWC/59/WKM&AWI/3
- Greenland Home Rule Government 2007. White Paper on Hunting of Large Whales in Greenland. IWC Document IWC/59/ASW8rev.
- Greenland Home Rule Government 2008. Summary of Activities Related to the Action Plan on Whale Killing Methods (based on Resolution 1999-1). IWC Document IWC/60/20
- Greenland Home Rule Government 2009. Summary of Activities Related to the Action Plan on Whale Killing Methods (based on Resolution 1999-1). IWC Document IWC/61/WKM&AWI/6
- Greenland Government 2010. Summary of Activities Related to the Action Plan on Whale Killing Methods (based on Resolution 1999-1). IWC Document IWC/62/22
- Happynook, K. 2004. Whaling around the world. World Council of Whalers. ISBN 0-9733760-0-7 Pp.74 (Greenland in p. 25 – 34)
- Jessen, A. 1992. *Modern Inuit Whaling in Greenland*.
- Josefsen, E, Cutter 1990. Hunting of Minke Whale in Qaqortoq (Greenland): Case Study. IWC Document TC/42/SEST5.
- Larsen, S. E. and Hansen, K. G. 1990. Inuit and Whales at Sarfaq (Greenland): Case Study. IWC Document TC/42/SEST4.
- Petersen, R. 1987. *Communal Aspects of Preparation for Whaling, of the Hunt Itself and of the Ensuing Products*.
- Rosing, J. 1986. Havets Enhjørning. Højbjerg Wormianon.
- Silis, I. 1997. Hvalernes Fjord. Atuakkiorkfik, ISBN 87 558 1250 3. Pp. 88
- Stevenson, M. G., Madsen A. and Maloney E., editors. 1997. The Anthropology of Community-Based Whaling in Greenland, A Collection of Papers Submitted to the International Whaling Commission. Studies in Whaling No 4, Occasional Publication No 42, Canadian Circumpolar Institute, University of Alberta, Canada
- Ting, H. 1990. Encounters with wildlife in Greenland. Atuakkiorkfik. ISBN 87 558 0547 7. Pp. 61
- Video – 1998. Hvalfangst i Grønland.
- Video – 1989. Introduktion om hvalgranat i Greenland.
- (WWC) World Council of Whalers. 1998. Whaling and Whale Use around the World – Greenland. *General Assembly Report*: p. 21.

ICELAND

- Lambertsen, Richard H. and Moore, Michael J. 1983. 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. IWC Document TC/36/HK3.
- Rowell, Harry C. 1979. Assessment of harpooning as a humane killing method in whales: A report to the International Whaling Commission.
- Øen, Egil Ole 1987. Progress Report on Penthrite as Detonating Charge for 90 mm Harpoons. IWC Document TC/39/HK4.

NORWAY

- Knudsen S. K., Mørk S. and Øen E. O. 1999. A study on methods to assess time to unconsciousness or death in minke whale after penthrite grenade detonation. IWC Document IWC/51/WK12.
- Knudsen S. K., Rud H. J. and Øen E.O. 1999. The position of the brain in the minke whale in relation to external features. IWC Document IWC/51/WK13.
- Knudsen S. K., Mørk S. and Øen E. O. 2002. A novel method for *in situ* fixation of whale brains. *Journal of Neuroscience Methods* 120: 35-44
- Knudsen S. K. and Øen EO. 2003. Blast-induced neurotrauma in whales. *Neuroscience Research* 46(3):265-386.
- Knudsen S. K. 2003. Criteria of death in whales. A comparative review. IWC Document IWC/55/WK.
- Knudsen S. K. 2004. Assessment of insensibility and death in hunted whales. A study of trauma and its consequences caused by the currently used weapon and ammunition in the

- Norwegian hunt for minke whales, with special emphasis on the central nervous system. Thesis for the degree of Doctor Medicinae Veterinariae. The Norwegian School of Veterinary Science, Tromsø. ISBN 82-7725-096-7.
- Knudsen S. K. 2005. A review of the criteria of insensibility and death in hunted whales compared to other species. *The Veterinary Journal*. In press.
- O'Hara T.M., Albert T.F., Øen E.O., Philo L.M., George J.C. and Ingling A.L. 1999. The role of Eskimo hunters, veterinarians, and other biologists in improving the humane aspects of the subsistence harvest of bowhead whales. *JAVMA*, 214, 1193-1198.
- Skoglund, K. 1997. Documentary film on Norwegian sealing. Polarfangst.
- Øen E. O. 1982. Progress Report on Studies to increase the Efficiency of Killing Methods in Norwegian Small-Type Whaling. IWC Document SC/34/010.
- Øen E. O. 1983. Electrical Whaling - A Review. *Nord. Vet.-Med.* 35: 319-323.
- Øen E. O. 1983. Progress report on research to develop more humane killing methods in Norwegian whaling. IWC Document TC/35/HK1.
- Øen E. O. 1983. Killing Times of Minke Whales in the Norwegian Coastal Whaling in the 1981 and 1982 Seasons. *Nord. Vet.-Med.* 35, 314-318.
- Øen E. O. 1984. Progress report on research in 1983-84 to develop more humane killing methods in Norwegian whaling. IWC Document TC/36/HK1.
- Øen E. O. 1984. The Use of Drugs in Whaling. IWC Document TC/36/HK2.
- Øen E. O. 1985. Progress report on research in 1984-85 to develop more humane killing methods in Norwegian whaling. IWC Document IWC/37/19.
- Øen E. O. 1989. Chemical Immobilization and Marking of Minke Whales. A Report of Field Trials in 1988. IWC Document SC/41/NHMi10.
- Øen E.O. 1990. A new VHF-Transmitter for Minke Whales. IWC Document SC/42/NHMi17.
- Øen E. O. 1990. A Review of Attachment Techniques for Radio Transmitters to Whales. In: Vestergaard, E. (ed.); *North Atlantic Studies - Whaling Communities*, Vol. 2, Nos 1 & 2, Aarhus Universitet, 82-84.
- Øen E. O. 1990. Trials of Chemical Immobilization of Minke Whales with Etorphine Hydrochloride in 1989. IWC Document SC/42/NHMi16.
- Øen E. O. 1992. A new Penthrate Grenade for the Subsistence Hunt of Bowhead Whales by Alaskan Eskimos. Developmental Work and Field Trials in 1988. IWC Document IWC/44/HKW6.
- Øen E. O. 1992. The Norwegian Hunt of Minke Whales: A Norwegian Penthrate Grenade for Minke Whaling. Description of the Model and Developmental Work. IWC Document IWC/44/HKW4.
- Øen E. O. 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/HKW2.
- Øen E. O. 1992. The Norwegian Hunt of Minke Whales: Hunting of Minke Whales with Modified Cold Harpoons in 1983. IWC Document IWC/44/HKW1.
- Øen E. O. 1992. The Norwegian Hunt of Minke Whales: Hunting Trials using 20mm High-Velocity Projectiles in 1982. IWC Document IWC/44/HKW3.
- Øen E. O. 1992. Norwegian Penthrate Grenade for Minke Whales: Hunting Trials with Prototypes of Penthrate Grenades in 1984 and Results from the 1985 and 1986 Seasons. IWC Document IWC/44/HKW5. Øen E. O. 1993. Avliving av strandet Hval. *Nor. Vet. Tidsskr.* 105, p. 748-749.
- Øen E. O. 1993. Avliving av standet Hval. *Nor. Vet. Tidsskr.* 105, p. 845-846.
- Øen E. O. 1993. Hunting Methods for Minke Whales in Norway. Report from the 1992 Scientific Catch. IWC Document IWC/45/HK 1.
- Øen E. O. 1993. Norwegian Penthrate Grenade for Minke Whales: Results from the 1992 Season.
- Øen E. O. 1995. A New Penthrate Grenade Compared to the Traditional Black Powder Grenade: Effectiveness in the Alaskan Eskimo's Hunt for Bowhead Whales. *Arctic*. 48, No 2:177-185.
- Øen E. O. 1995. A Norwegian Penthrate Grenade for Minke Whales: Hunting Trials with Prototypes and Results from the Hunt in 1984, 1985 and 1986. *Acta vet. scan.* 36: 111-121.
- Øen E. O. 1995. Description and Analysis of the use of Cold Harpoons in the Norwegian Minke Whale Hunt in the 1981, 1982 and 1983 Hunting Seasons. *Acta vet. scan.* 36: 103-110. 1995.
- Øen E. O. 1995. High Velocity Projectiles for Killing Whales. Hunting Trials using 20 mm High Velocity Projectiles for Minke Whales in 1982. *Acta vet. scan.* 36: 153-156.

- Øen E. O. 1995. Killing Methods for Minke and Bowhead Whales, Dissertation presented for the degree of Doctor Medicinae Veterinariae.
- Øen E. O. 1996. Avlivingsmetoder for store pattedyr. En dyrevernmessig vurdering av de vanligste former for avliving ved eutanasi, slakting, jakt og fangst i Europa. *Nor. Vet. Tidsskr.* 108, p. 313-321.
- Øen E. O. 1997. Norwegian minke whaling 1996. Rep. IWC Document.
- Øen E. O. 1998. Norwegian minke whaling 1997. IWC Document.
- Øen E.O. 1999. Improvements in hunting and killing methods for minke whales in Norway. IWC Document IWC/51/WK11.
- Øen E.O. and Mørk S. 1999. Observations of agonal movements, injuries and pathological changes in minke whales after intra-body detonation of penthrith. IWC Document IWC/51/WK10.
- Øen E.O. and Walløe L. 1999. Norwegian minke whaling 1996, 1997 and 1998. Whaling activities, inspection routines, new developments and research 1996-99. IWC Document IWC/51/WK9.
- Øen E.O. 2000. Norwegian minke whaling 1999. IWC Document IWC/WKM & AWI1.
- Øen E. O. 2001. Hunting of whales in Norway in historical perspective. Proceedings of the 32nd International Congress on the History of Veterinary Medicine, 15-18 August, Oslo.
- Øen, E. O. 2001. Norwegian minke whaling in 2000. IWC Document IWC/53/WK.
- Øen, E. O. 2002. Norwegian minke whaling in 2001. IWC Document IWC/54/WKM & AWI6.
- Øen E. O. 2003. Improvements in hunting and killing methods for minke whales in Norway 1981-2003. IWC Document IWC/55/WK17.
- Øen EO and Knudsen SK. 2007. Euthanasia of whales: The effect of .375 and .458 calibre round-nosed full metal jacketed rifle bullets on the central nervous system of the common minke whale. *J. Cetacean Res. Manage.* 9(1):81-88.

**DATA COLLECTION IN PREPARATION FOR
THE EXPERT GROUP MEETING ON
ASSESSING HUNTING AND WHALE KILLING DATA FOR SMALL
CETACEANS 15 - 17 NOVEMBER 2011**

Background: To facilitate that the expert group on small cetaceans will have the essential and necessary data to do an assessment of the killing methods it is suggested that the listed data may be collected in the coming season.

It is a prerequisite that the hunters are informed that all information they give will be treated confidential.

NB! A practical method is to define death as the moment the mouth is slackened or open, the flippers are slackened/lies along the sides and/or all movements has ceased.

For any given species the following data would be of interest:

1. Weapons, ammunition and equipment/gear used or combinations of weapons/gears for the different species or in the different hunts
2. Number of animals that are struck with harpoons/rifle shots/combo of harpoon and rifle shots/gaffed (pilot whales) and retrieved
3. Number of animals that are struck with harpoons/rifle shots/combo of harpoon and rifle shots/gaffed (pilot whales) and lost 1) dead or 2) alive
4. If whales were lost, the most probable reasons for losses
5. If harpooned and shot ; Where the animal was hit with harpoon and rifle shot(s) (Please, mark as exactly as possible on a figure)
6. How many shots and/or harpoons were used before the animal died
7. If available measured Time to Death (TTD). (**using watch**): Time measured from the first harpoon/shot/gaff to the animal is perceived as dead
8. In the absence of measured TTD (point 7) report estimated TTD, (**without using watch**): Estimated time from the first struck of harpoon /shot/gaff to the animal is perceived as dead

In addition the following information would be acknowledged:

- Is training of hunters mandatory?
If YES what kind of training and how is it transmitted/given to the hunters
- If there are control mechanisms, to describe these
- How are data reported

**NAMMCO EXPERT GROUP MEETING TO ASSESS SMALL WHALE
KILLING DATA**

15 - 17 November 2011, Copenhagen

DRAFT AGENDA / PROGRAMME

TUESDAY 15 NOVEMBER

0900 – 1030 Introductory session – agenda items 1, 2, 3, 4, 5 and 6

1. INTRODUCTORY ITEMS
 - 1.1 Appointment of Chair
 - 1.2 Appointment of rapporteur(s)
 - 1.3 Review of Documents
2. TERMS OF REFERENCE AND BACKGROUND TO THE MEETING
3. ADOPTION OF THE AGENDA
4. CRITERIA OF DEATH
5. BALLISTICS: INTERNAL, EXTERNAL AND TERMINAL BALLISTICS
6. ANATOMICAL FEATURURES OF SMALL CETACEANS WITH RELEVANCE TO THE KILLING

1030 – 1100 Coffee break

1100 – 1700 Main session - agenda item 7

1300 – 1345 Lunch

1515 – 1530 Coffee break

7. DESCRIPTION OF KILLING METHODS IN USE AND/OR UNDER DEVELOPMENT, SAMPLING AND REVIEW OF TTD DATA
 - 7.1 Greenland
 - 7.1.1 Beluga
 - 7.1.2 Narwhal
 - 7.1.3 Pilot Whale
 - 7.1.4 Dolphins
 - 7.1.5. Other species
 - 7.2 Faroe Islands
 - 7.2.1 Pilot Whale
 - 7.2.2 Dolphins
 - 7.2.3 Other species
 - 7.3 Canada

- 7.3.1 Beluga
- 7.3.2 Narwhal
- 7.3.3 Other species

- 7.4 Japan
 - 7.4.1 Dolphins
 - 7.4.2 Other species

- 7.5 USA
 - 7.5.1 Beluga
 - 7.5.2 Other species

- 7.6 Russia
 - 7.6.1 Beluga
 - 7.6.2 Other species

WEDNESDAY 16 NOVEMBER AND THURSDAY 17 NOVEMBER

0900 – 1700 Main session continues – agenda items 7, 8, 9, 10, 11, 12 and 13

- 8. ASSESSMENT AND COMPARISON OF METHODS AND EFFICACY
 - 8.1 Beluga
 - 8.2 Narwhal
 - 8.3 Pilot Whale
 - 8.4 Dolphins/Harbour Porpoise
 - 8.5 Other species.

- 9. EDUCATION AND TRAINING OF HUNTERS

- 10. MONITORING SCHEMES

- 11. CONCLUSIONS AND RECOMMENDATIONS

- 12. OTHER MATTERS

- 13. ADOPTION OF REPORT.

**USER MANUAL FOR THE PENTHRITE GRENADE (GRENADE-99) USED
IN THE HUNTING OF BALEEN WHALES:**

Preface (*editing text from AEW-C-manual*) (EOØ)

1. CRITICAL SAFETY INFORMATION (EOØ *submit text to SEC*)
 - 1.1 edit text from AEW-C-manual
 - 1.2 use text from safety instructions supplied by producers of Grenade -99.
2. USERS MANUAL (EOØ *submit text SEC*)
 - 2.1 Transportation and storage, (GR - *photo: transport box and placement in transport box*)
 - 2.2 Short description of the grenade (*photo: grenade incl text*)
 - 2.3 Loading of the harpoon gun, patron and “forladning” (*illustration*)
 - 2.4 Assembly of the grenade and the harpoon (GR - *photo: charged canon and grenade on harpoon*)
 - 2.5 Disassembly of the grenade and the harpoon.
3. DESCRIPTION OF THE WHALE GRENADE-99 (EOØ - *submit text to l SEC*)
 - 3.1 Design and function, illustration in longitudinal view
 - 3.2 Arming and safety mechanism
 - 3.2.1 Etc.
4. WHALE GRENADE-99 - MANNER OF OPERATION (*this section is only needed if the content is not described under sections 2 and 3*)
 - 4.1 xxx
5. MAINTAINENCE OF GUN (EOØ *submit text to SEC*)
 - 5.1 (GR- *photos: canon well maintenance 50 and 60 mm*)
6. ANATOMY AND TARGET POINT MINKE WHALE (EOØ *submit text to SEC*)
 - 6.1 Central (GR – *find illustrations*)
 - 6.2 Circulation (GR – *find illustrations*)
 - 6.3 Respiration (GR – *find illustrations*)
 - 6.4 Target point, (GR – *illustration grenade, photo from the hunt*)
 - 6.5 Target point, (GR – *illustration rifle, photo from the hunt*)
7. ANATOMY AND TARGET POINT FIN WHALE
8. ANATOMY AND TARGET POINT BOWHEAD WHALE
9. ANATOMY AND TARGET POINT HUMPBACK WHALE