



REPORT OF THE NAMMCO WORKSHOP ON HUNTING METHODS

Nuuk, Greenland 9 – 11 February 1999

North Atlantic Marine Mammal Commission

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At its 8th Annual Meeting held in Oslo, Norway 1 – 4 September 1998, NAMMCO received the report from the Committee on Hunting Methods in which it was recommended to hold a Workshop on Hunting Methods. The Council approved the following terms of reference for the Workshop:

- 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);
- 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.

1. APPOINTMENT OF CHAIRMAN

Professor Knud Nielsen (Denmark) chaired the Workshop (see Appendices 1 and 2, for Agenda, Programme and List of Documents for the Workshop).

2. APPOINTMENT OF RAPORTEURS

Kirsti Larsen, Norway and Lotte Rosing Videbæk, Greenland were appointed as Rapporteurs.

3. OPENING ADDRESS AND INTRODUCTORY PRESENTATIONS

Pâviâraq Heilman, member of the Greenland Parliament, in his welcoming address explained that his ancestors successfully used simpler technology than what we have today. Weather, sea and ice conditions, the routines and skills of the hunters are all-important factors for a successful hunt. It is important to continue to improve hunting methods and technology, but the safety of hunters must also be considered along with such goals as improved efficiency and faster killing.

The Chairman, Mr Nielsen, welcomed the participants (listed in Appendix 3). In his opening remarks he said that it was an important aspect of the Workshop that the users and hunters themselves were active participants in the meeting. In reference to the extensive campaigns against hunting and use of marine mammals, he noted that killing a whale is the same as killing any other large game animal provided that the hunt is sustainable and as humane as possible. He echoed Mr Heilman's comment that it is desirable to always strive for better hunting methods

and introduced the next two introductory presentations, a video interview (NAMMCO/99/WS-18) with whaler Schønning Eysturoy (Faroe Islands) and a presentation by Dr Egil Ole Øen (Norway) (NAMMCO/99/WS-1). The presentations had two common themes: a) animal welfare based attitudes about the treatment and killing of animals, and b) that hunters must act in a responsible manner. They both stressed the importance of being open for improvements and that the customary ways should not be kept solely in the name of tradition when better methods are available. As an example, Eysturoy explained that the pilot whale hunt (see Appendix 4 for a list of marine mammal names in different languages) proceeded in a much more calm and orderly fashion after the traditional spear had been discarded as a weapon. He also expressed doubt about the necessity of always using the customary hook to immobilise the whales in connection with the killing. Øen explained that the rules and regulations issued by the authorities are to be viewed as guidelines, and concluded that each hunter has the full responsibility for killing animals using the best method available, without jeopardising his or her own safety or the safety of others.

4. SMALL CETACEANS

4.1 Faroe Islands: Pilot whale hunting

Jústines Olsen (Faroe Islands) presented an overview of the pilot whaling regulations (see Appendix 5 for a list of Current Laws and Regulations in NAMMCO Member Countries). The first catch statistics for the pilot whale fishery dated back to the 1600's. The existing regulations are based on laws from 1984 (NAMMCO/99/WS-3 and NAMMCO/99/WS-4). The regulations stipulate research, conservation and management of whales and seals through NAMMCO and through a separate law for the protection of animals.

Hans Jakob Hermansen (Faroe Islands) explained that pilot whale hunting in the Faroe Islands is opportunistic because the animals are hunted only when observed along the coast (NAMMCO/99/WS-5). Before the whales can be driven into one of the 23 approved bays distributed throughout the country to be killed, the hunt has to be authorised by government officials. He explained that the pilot whale hunt is an important source of food, in addition to helping maintain a way of life and important cultural values, but he felt that the hunt is threatened by misinformation.

Finnbogi Joensen (Faroe Islands) presented an overview over the regulations governing the use of the bays for killing whales (NAMMCO/99/WS-5). To be approved the sites must have certain geomorphologic characteristics. Only bays with gentle slopes and shallow water are presently in use. The foreman of the team decides which bay to use in co-operation with Government officials. Distance to the bay, currents, weather and previous geographical distribution of whales killed in the region, determine the location chosen.

In a second presentation Olsen (Faroe Islands) gave an overview of hunting methods currently in use (NAMMCO/99WS-2) (see Appendix 6 for References on Hunting Methods). The basic tenet is that the hunt must proceed so that the animals that are not killed are able to swim away unharmed. When the whales reach the bay the whaling teams on the beach drag the whales

ashore and kill them by cutting the spinal cord and surrounding blood vessels in the neck using a knife (*grindekniv*). One point of contention is the traditional pointed hook, which is driven into the whale's flesh for dragging it ashore before it is killed. A Faroese pilot whale hunter has developed a new and improved blunt hook that is inserted in a pocket in connection with the blowhole. This does not injure the whale, and allows the animal to be dragged onto the beach using much less force. Measurements show that the average time it takes for the whales to lose consciousness or die when using the pointed hook is 65.4 s. The average time is reduced to 29.2 s when using the new blunt hook. More research is needed to determine whether the new blunt hook can altogether replace the old one.

Regin Jespersen (Faroe Islands) gave an account of the district governor's (*Sysselmann*) tasks in relation to the pilot whale hunt and in relation to the other official participants (NAMMCO/99WS-5). The district governor is in charge of distributing the meat to the population in the region free of charge, and according to specific rules after each whale has been measured and numbered. He has the mandate to recommend to the authorities to halt the hunt if the meat supply is saturated. During the drive, the district governor communicates with the boats via radio and can swiftly get to the whaling site. Upon completion of the hunt, he makes a report to the authorities including statistical information, distribution of the meat, weather and current conditions, the progress of the hunt, and whether the particular site should be used again.

Hanus Højgaard (Faroe Islands) described how the hunt is organised in practical terms (NAMMCO/99/WS/5). Each site has several whaling teams that can be contacted by phone, and one in "stand-by mode" to quickly get to the shore and be ready when the driving begins. The beach is blocked, and the police direct traffic before the whales are driven into the bay.

Questions and Discussion

Øen (Norway) commended Faroe Island for the work, in recent years, in developing improved hunting and killing methods. Referring to the results obtained with the new hook compared with the old, he asked why it has not completely replaced the old pointed one. Based on presentations of the anatomical features in the neck region of the pilot whale, he also asked whether it had been considered to produce a longer knife. A longer knife could be stabbed into the neck to sever the spinal cord and the surrounding blood vessels with only one cut, while the current knife requires two or more cuts.

Olsen (Faroe Islands) answered that the long-term plan was to replace the old hook with the new, but more research had to be done to ensure that the new hook worked in a satisfactory manner. In addition, enough hooks had to be produced before they could be generally used in the hunt. He also noted that a Faroese pilot whale hunter has designed a longer knife, but that it has not yet been used. Hermansen (Faroe Islands), however, pointed out that the traditional method of making a cut on either side of the whale's head had several advantages as the head falls forward making it easier to cut the spinal cord and blood vessels.

Nielsen (Chairman) supported Norway's suggestion for designing and testing a longer knife.

Øen (Norway) also referred to information that stranded northern bottlenose whales were killed by the same method as pilot whales. He argued that this method is inadequate for this big animal, and suggested that the use of firearms would be more appropriate. He appealed to the Faroe Islands to replace the knife with a rifle and suitable ammunition for this purpose. Olsen (Faroe Islands) answered that only two or three stranded bottlenose whales are killed every year. He agreed that a rifle would be more suitable than a knife. Jespersen (Faroe Islands) also agreed to this and proposed to ensure that such equipment would be in place around the islands.

4.2 Greenland: Small Cetaceans

Albert Fleischer (Greenland) (NAMMCO/99/WS-8) gave a presentation on the hunting of pilot whales, beluga, narwhal and other small cetaceans. He explained that beluga and narwhal remain important as a source of food, and that the hunt has always been sustainable. Hunting knowledge is passed on from generation to generation through direct observation and participation. Greenlandic hunters combine traditional hunting methods with the restrictions of contemporary regulations. The municipalities of Qaanaaq, Upernavik and Uummannaq have developed regulations stipulating that the hunters may only use kayaks and harpoons, limiting the number of animals taken. Narwhal are caught along the ice edge or in the fjords. They are first harpooned and then shot with a rifle of calibre 30.06. When hunting from the ice edge, the harpoon line is secured in the ice. While hunting from the kayak, a float is fastened to the line. In other areas, narwhal and beluga are also hunted from skiffs. Bjørn Rosing (Greenland) explained that when many boats are hunting in open water, the hunters tend to concentrate their chase on the same animals (NAMMCO/99/WS-6). This complicates the hunt and reduces the possibilities of killing a whale with one shot.

Amalie Jessen (Greenland) gave an account of the rules and regulations for small whale hunting in Greenland (NAMMCO/99/WS-7). These regulations are primarily concerned with the efficiency of the equipment, the size of the vessels and the calibre of the rifles in relation to various whale species, and the permitted types of ammunition. She explained that it is prohibited to hunt whales by surrounding, trapping or blocking them against land or the ice edge. A hunting license and a follow-up hunting report are required of each hunter.

Questions and Discussion

A discussion of the efficiency of various weapons and ammunition ensued. Øen (Norway) asked how many shots were needed to kill these small cetaceans. Danielsen (Greenland) answered that 30.06 were the minimum calibre used and that an experienced hunter could kill a whale with one shot. His experiences, as a hunter in Qaanaaq, showed that the pointed bullet is more efficient than the blunt nosed bullet. Øen (Norway) in disagreeing with the Greenlandic position, maintained that pointed and expanding bullets do not easily penetrate the cranium and that they easily tip or ricochet on the skull bones. He argued that this is not the case for blunt full metal jacket bullets. Rosing (Greenland) felt that the discussion was about different hunting methods. When hunting from a kayak, the hunter has the whale at eye level, at 10-15-metre distance. Under these circumstances the bullet will go straight into the animal and will not ricochet. Øen explained that the concern is not that the bullet will ricochet against the whale's skin, but that it

will ricochet of the cranial bone.

5. BALEEN WHALES

5.1 Norway: Minke whale hunting

Egil Ole Øen, Siri Knudsen, Ole Mindor Myklebust and Per Johnny Mathiassen presented document NAMMCO/99/WS-10.

Only minke whales are hunted in Norway, using small fishing boats that are rigged for whaling in the season. The boats are equipped in the bow with a harpoon canon of calibre 50 or 60 mm, and the harpoons are equipped with a detonating penthrite grenade. Rifles with a minimum calibre of 9,3 firing blunt full metal jacket bullets are used as secondary weapons. If the harpoon grenade does not kill the whales, the rifle is used as a backup. In 1999, some 30 boats, 15 – 40 metres long, will participate in the hunt.

Due to the size of the vessels the hunt can take place only in good weather. When a whale has been spotted, the boat moves slowly towards the area where it is expected to surface to breathe next. The maximum recommended shooting distance is 30 metres. As soon as the whale is shot, it is pulled alongside the boat. If it is not dead or if it moves, a rifle shot to the brain is required.

Until 1984, the traditional cold harpoon (harpoon without a grenade) was used on minke whales. Only 17% of the animals died immediately or quickly with this method. Development and testing of the new penthrite grenade in 1984 increased the percentage of animals dying immediately or quickly to 45%. By 1998, after increased training of the crews, further development of the equipment and a large field study of a new penthrite grenade, the percentage of animals dying immediately or quickly reached 64%.

It can be difficult to determine accurately when an animal is dead. A study of the effects of a grenade detonation on the brain has therefore been initiated. The objective is to find a method to determine the exact moment the whale loses consciousness or dies.

Kirsti Larsen (Norway) gave an overview of the Norwegian minke whale regulations, which pertain to the qualifications of the participants, their equipment, rifles and ammunition, and to the killing methods. The Department of Fisheries sets the yearly quota for the season. Each vessel is required to carry an inspector, generally a veterinarian, during the course of the hunt.

Questions and Discussion

Mikkelsen (Faroe Islands) inquired whether the recent increase in the maximum survival time for some whales is related to the increased number of whales caught by each boat. Øen (Norway) answered that these figures refer to whales that have been able to get loose and have to be caught again. In such situations the maximum survival time can reach one hour.

Olsen (Faroe Islands) asked whether rifles are always used, and Øen answered that some whalers routinely use rifles, while others first check to see if the grenade has killed the whales.

Hermansen (Faroe Islands), in reference to the quota system, asked whether there was a limit to the number of whales each boat could carry aboard each trip. Myklebust answered that there are no official limits and that the maximum number depends on the boat size. In addition, Hermansen asked about the location of the brain. Knudsen, in reference to a drawing, explained that the brain, in general terms, is located on a middle plane between the eye and the top of the skull.

Fleischer (Greenland) commended Norway's work on the harpoon grenade, and asked whether this type of grenade destroys a lot of the meat. Øen (Norway) answered that when a shot is fired perpendicular to the whale very little meat is lost. When a shot is fired at an angle from behind, (the way the old cold harpoons were used) large amounts of meat might be destroyed, because the grenade might detonate in the muscle tissue. Myklebust (Norway), upon a request from Jessen (Greenland), explained that Norwegian whalers try to shoot at a 90-degree angle, and that the boat speed follows that of the whale.

5.2 Greenland: Minke whale and fin whale

Isak Vahl (Greenland) explained that minke whales are hunted with 50-mm harpoon canons, or with 30.06 calibre rifles and handheld harpoons from skiffs. There are currently 72 harpoon canons in Greenland. Harpoon grenades are seen as expensive and destructive to the meat, and should therefore not be used on minke whales.

Amalie Jessen (Greenland) gave an account of the Home Rule Government's regulations pertaining to large whales (NAMMCO/99/WS-7). For fin whale hunting a vessel must be at least 36 feet in length. For minke whale hunting, the boat must be less than 70 feet in length. For both species, the 50-mm harpoon canon with detonating grenade is used. The hunters must attend a course on how to handle the grenade. In rifle hunting, a minimum of 5 skiffs are required, all equipped with rifles, handheld harpoons and floats. All catches, including incidental catches in nets and animals that are struck and lost, must be reported to the authorities.

Peter Siegstad (Greenland) described the renovation program for the seventy-two 50-mm harpoon canons. Parts, oil and gaskets are changed in the process. They will subsequently be rechecked every two years. It is estimated that the canons will last for 25 years if they are maintained according to instructions.

Questions and Discussion

The debate that followed focussed on the rifle hunt. Øen remarked that the rifle hunt is problematic, meaningless, and unnecessary. He mentioned that this is a relatively new hunting method, without long a tradition. He explained that it is not efficient to shoot an animal before it is harpooned, as it is done in rifle hunting.

Hovelsrud-Broda (NAMMCO) found it questionable to characterise a form of hunting as traditional or untraditional. All peoples develop their technology and methods in relation to the

existing resources, technology and knowledge, and external influences. Jessen (Greenland) pointed out that none of the current hunting methods are traditional, but have been improved and developed through time.

Jessen (Greenland) explained that the rifle hunt would continue because hunters in smaller villages cannot afford harpoon canons and do not have access to the vessels that could be so equipped (NAMMCO/99/WS-11). It is important for Greenland to keep the small hunting villages viable. Vahl (Greenland) explained that the rifle hunt is critical for the supply of meat to these villages.

Rosing (Greenland) in reference to the previous comments, asked how much of the whale meat is consumed in Norway. Myklebust (Norway) answered that all the meat is consumed, but that the blubber currently is stored in freezer facilities awaiting export licenses.

Vahl (Greenland) said that one problem for the hunters are that the stores no longer offer the best ammunition. Øen (Norway) expressed concern that retailers determine the efficiency of hunting. He asked how many whales are lost and how many shots are fired before the whale is killed. Jensen (Greenland) answered that efficiency of the rifle hunt is 80% while the harpoon canon hunt is 100% efficient.

Olsen (Faroe Islands) asked, in relation to the rifle hunt, about the number of boats, the number of hunters and the time involved, and about the risk to the hunters. Vahl (Greenland) answered that one leader is in charge of the rifle hunt. He decides when to leave the village and which whale to pursue. The hunters communicate via radio. Only the most experienced hunters shoot at the whale. Shots are fired repeatedly, but the objective is to expend as few bullets as possible. As soon as the whale is secured with the handheld harpoon, the floats are fastened, and the whale is killed within 10-15 minutes. Jessen (Greenland) added that the whale is shot in the lungs before it is chased and killed (NAMMCO/99/WS-16).

Olsen (Faroe Islands) asked if netted beluga and narwhal would voluntary swim into, or were chased into the nets. He also asked whether the nets are kept under constant surveillance and if the whales are shot or die on their own. Fleischer (Greenland) explained that the hunters check the nets every day. If the animals are found alive they are killed immediately.

Nielsen (Chairman) summed up the discussion by pointing out that there are various positions on the rifle hunt of minke whales. It is agreed that the rifle hunt should be reduced as much as possible, but how fast and how soon is not clear. The debate, he said, reflected the fact that neither the rifle hunts nor the harpoon canon hunts are traditional hunting methods.

5.3 Iceland: Whaling

Ed. Note. The participants from Iceland, due to inclement weather, were unable to attend the meeting in Nuuk. As a result there is no discussion of the Icelandic contributions. The following summaries are based on their written contributions.

Thorður Eythorsson (Iceland) explained that Iceland stopped whale hunting in 1986 as a result of

IWC's moratorium on commercial whaling (NAMMCO/99/WS-12). Fin whale, sei whale, minke whale and sperm whale had been hunted from land based stations since 1883. By 1915, the stocks around Iceland had been drastically reduced, due to extensive Norwegian whaling. At this time, whaling was halted by law. In 1948 whaling was resumed and continued until 1986. Icelandic authorities initiated extensive biological research, including stock estimates of large cetaceans and the impact of whaling on these stocks. On the basis of these studies, the scientists suggest that the stock can sustain a take of 100 – 200 animals per year. (Ed. Note. In March 1999 the Icelandic "Alting" (parliament) decided to resume whaling sometime in the future.)

Guðmundur Haraldsson (Iceland) gave an account of minke whale hunting explaining that prior to the 1960's, the number of minke whales caught was low (NAMMCO/99/WS-15). Between 1977 and 1985 the IWC quota for Iceland was 200 animals per year. The product from these whales was sold in Iceland only. After a profitable market in Japan opened up, the whaling activities increased. The whalers used 50-mm harpoon canons to kill minke whales, and later they employed .458 calibre rifles as secondary weapons.

Kristján Loftsson (Iceland) gave an account of the development of hunting equipment and methods for hunting large whales (NAMMCO/99/WS-14). He explained that the Icelanders used the technique developed by Sven Foyn: a 90-mm harpoon canon with a grenade loaded with black powder. Later, successful experiments were carried out using the Norwegian penthrite grenade for large whales. The boats were equipped with winches and lines made, early on, from hemp, and later from polyester and finally wire. The dead whales were brought ashore for flensing and processing.

5.4 Japan: Minke Whale Hunting

In his presentation of Japanese whaling Dr Hajime Ishikawa (Japan), explained that Japan take a few hundred minke whales per year in the Antarctic and North Pacific waters for research purposes. Improved hunting methods have reduced the time to death significantly the last few years. In Japan, 75-mm harpoon canons with Japanese penthrite grenades are used for minke whale hunting. Electric lances have been used in the past as a secondary killing method. A 1998 study of the use of rifles with different types of ammunition as a secondary killing method, indicated that calibre .375 (9,5 mm) full-jacketed bullets were very effective and penetrated the skull of the minke whale. Comparison between 300 grain round nosed bullet and 250 grain sharp nosed bullets revealed that the former had more effective power of penetration than the latter. In spite of reductions in the average time to death, the instantaneous death rate was stable at 30% in the Japanese hunt. The rough sea conditions prevalent in these pelagic hunts seem to be the main reason for the low (compared to the Norwegian hunt) instantaneous death rate.

6. SEALS AND WALRUS

6.1 Greenland: Sealing and Walrus Hunting

Amalie Jessen (Greenland) summarised the regulations for seal and walrus hunting in Greenland (NAMMCO/99/WS-7). Municipal rules are developed on the basis of the hunters' experiences. For walrus, some adjustments have recently been made to the hunting areas. There are no regulations for seals, with the exception of harbour seals. The Home Rule Government is currently in the process of developing general regulations for seal hunting. Greenland is also monitoring the Canadian quota system for harp and hooded seals. The two countries share these seal populations, and decisions made by Canada have consequences for Greenland. Jessen added that the Home Rule Government has initiated a study of the diving physiology of seals in connection with seal netting.

Ejnar Jacobsen (Greenland) stressed the continued dietary and cultural importance of seals for the Greenlandic people (NAMMCO/99/WS-8). As an example he mentioned that in 1998, 160,000 seals were caught. The hunters are always interested in improving the existing methods and equipment. As a result, seals are now killed more efficiently than before. Seal netting is an important method during the dark winter months. The nets are placed near an iceberg or through holes in the sea ice. They are checked daily, weather permitting.

Bjørn Rosing (Greenland) stated that it is difficult to speak of seal hunting in general terms because the methods vary from species to species (NAMMCO/99/WS-6). Hunting from a small skiff in constant motion is difficult and may require the hunter to fire more than one shot. One method is to tire out the seal by firing shots around it. When it surfaces to breathe, it is shot at close range and dies immediately.

Jens Danielsen (Greenland) explained that walrus are either caught on the ice in the fall or from skiffs during the summer (NAMMCO/99/WS-8). The technique is to harpoon them before they are shot. The co-operation between the hunters is part of the traditional hunting method. It is important to understand walrus behaviour in order to be a successful hunter. They are dangerous animals and may attack a man in his kayak.

Questions and Discussion

Øen (Norway) began by asking about the rifle calibre used on walrus. No direct answer was provided, but Krohn (Greenland) answered that military ammunition was used in the past, and that regular hunting ammunition is currently in use.

Mikkelsen (Faroe Islands) explained that in his experience, both seals and harbour porpoise sink easily, and asked about the struck and lost ratio of seals. Kreutzmann (Greenland) answered that this varies with the season and the thickness of the blubber. During the spring, when the seals have little blubber, about 10% sink. Harbour porpoise are hunted from skiffs and 2–3 % are lost.

6.2 Norway: Sealing

Atle Brudevik and Bjørne Kvernmo (Norway) explained that Norwegian sealing takes place from boats 44-57 metres long, equipped with smaller boats for manoeuvring between the ice floes. Adult seals are shot with .308 calibre rifles with expanding ammunition, while the .222 is used for killing the young seals. A total of 1.2–1.5 shots are fired per animal caught. The hunters must pass a marksmanship test prior to boarding the vessel. The seals congregate on the ice floes, and if the ice is strong enough the hunters are dropped directly onto the floes. If not, the sealing is conducted from the smaller boats. The seals are first shot in the head by the shooter, and then another crewmember jumps on the ice and gives the seals a blow to the head with the *hakapik*. The seals are bled immediately afterwards and then hoisted aboard the mother-vessel for flensing and butchering.

Kirsti Larsen (Norway) gave an overview over the Norwegian sealing regulations. One part pertains to the quota, the sealing area and the season. The other pertains to hunting and killing methods and requirements for the hunters. In addition, all vessels are required to have an officially appointed inspector onboard.

Egil Ole Øen (Norway) gave a brief summary of the various seal killing methods, and their efficiency. In connection with accusations against Norwegian sealers that they skin seals alive, he explained that a careful investigation into the matter revealed that these accusations are false. Muscle reflexes allow an animal to move both head and limbs long after the brain has stopped functioning. One result of the investigation was an implementation of stricter requirements for the hunters. He explained further that another study showed that 98.7% of seal pups shot from skiffs died instantaneously from one shot.

Questions and Discussion

Gelså (Greenland) asked how long time it takes after an adult seal has been shot until it is hit with the *hakapik*. Brudevik (Norway) answered that it might take up to 10-20 minutes. The second hunter has to keep a certain distance prior to the shooting in order to avoid disturbing the seals and the hunt.

Mikkelsen (Faroe Islands) asked why the ammunition has been changed from 6,5 mm to 7,62 mm. Brudevik (Norway) explained that this has to do with the availability of ammunition.

6.3 Faroe Islands: Sealing

Bjarni Mikkelsen (Faroe Islands) gave an historical overview of sealing in Faroe Islands (NAMMCO/99/WS-17). In the past, seals were caught in their birthing caves and killed by giving them a blow to the head with a club. Today only rifles are permissible as a weapon. There is no management strategy for seals, but hunting is to a degree limited by general hunting rules, and very few Faroese have a rifle license.

6.4 Russia: Sealing and beluga hunting

Vladimir A. Potelov (Russia) gave an overview of seal and beluga hunting in the White Sea area of the north-western Russia (NAMMCO/99/WS-9). He explained that in this area the harp seals are usually hunted on the ice floes using larger boats. Helicopters may be used for transporting the seals ashore for flensing and butchering. The pups are killed with the *hakapik*, while adult seals are shot with rifles of calibre 5,6 mm and 7,62 mm. Ringed seals are caught mainly in seal nets. Beluga are usually hunted by being driven into shallow water, where they are caught in nets and killed by rifles of calibre 7,62 mm.

Questions and Discussion

Nielsen (Chairman) asked why the *hakapik* was not used in the Faroe Islands. Mikkelsen (Faroe Islands) answered that a myth about sealing says that seal blood in the birthing caves will deter the seals from returning.

6.5 Iceland: Sealing

Pétur Guðmundsson (Iceland) explained that pups, at about the end of their weaning, are the main targets for hunters (NAMMCO/99/WS-13). They are hunted mostly for their pelts but also for their meat. He gave an historical overview of sealing in the last 1000 years. In the past, clubbing was the main method of killing seals. Methods now include the use of clubs, nets and rifles of calibre .22, and .222 - .243. Farmers have the right to hunt seals within the boundaries of their property. The methods are to a degree determined by the local terrain.

7. RECOMMENDATIONS

FROM NAMMCO'S WORKSHOP ON HUNTING METHODS 9 – 11 February 1999 Katuaq, Nuuk Greenland

1) FAROE ISLANDS: HUNTING OF LONG-FINNED PILOT WHALE (*Globicephala melas*)

The Workshop noted with satisfaction that Faroe Islands has accomplished a number of improvements in the pilot whale hunt. These include a gentler driving of the whales, prohibition against the use of the spear, and the use of a new blunt hook for securing the animals. In addition, other efforts such as educational programs in the schools on how to hunt whales are under way. The Workshop notes, however, that the pointed hook is still in use and recommends that further effort be made to replace this with the new blunt hook for securing the animals.

2) FAROE ISLANDS: KILLING OF STRANDED NORTHERN BOTTLENOSE WHALE (*Hyperoodon ampullatus*)

Stranded bottlenose whales are killed in the same way as pilot whales. Questions were raised over whether this is an adequate method of killing such a large animal, and it was recommended that rifles with adequate ammunition be used for killing stranded whales of this species.

3) GREENLAND: HUNTING OF SMALL CETACEANS

- 3a) In Greenland hunters use full metal jacket, pointed bullets to kill harpooned small whales (beluga, *Delphinapterus leucas* and narwhal, *Monodon monoceros*). Investigations have shown that when a pointed bullet meets bone (such as cranium), it tends to tip or ricochet, while a full metal jacket, blunt-nosed bullet penetrates bone better. The Workshop therefore, recommends that Greenland initiates studies in co-operation with the hunters, testing both pointed and blunt bullets on whale carcasses to determine the best ammunition for use in the hunt.
- 3b) It was further recommended that Greenland develop objective descriptions of hunting methods, equipment and how efficient these are in small cetacean hunting, considering regional variations.
- 3c) Greenlandic hunters informed the Workshop that work had been started on the development of a new handheld harpoon that can improve the efficiency of beluga, narwhal, walrus (*Odobenus rosmarus*) and seal hunting. The Workshop views this as a positive initiative and recommends that Greenland continue to support this project.

4) BALEEN WHALE HUNTING

- 4a) A Norwegian hunter has taken the initiative to develop a new whale harpoon that can be adjusted for each individual harpoon canon. This is a notable initiative that can contribute to better marksmanship and thereby to more efficient killing. The Workshop recommends that Norway continues to support this project.
- 4b) During the Workshop there were several expressions of concern that Greenland hunts minke whales using rifles and handheld harpoons as the only weapons. An in-depth discussion revealed that there is significant disagreement in this area, and it was agreed to note the discord. Some delegates felt that animals should always be killed as quickly and painlessly as possible, and doubted if this was achievable using only rifles and handheld harpoons. It was also asserted that this hunting method is relatively new (introduced in the 1950s), and if it was to continue, there was a need for adjustments and improvements based on accumulated experience. Also the Greenlandic Home Rule Government wishes to limit the rifle hunt as much as possible.

The Greenlandic rifle hunt of minke whales has several times received significant criticism. The Workshop finds that this type of hunting can negatively influence the

attitudes towards all Greenlandic hunting. The Workshop recommends that this hunting method be subject to a critical analysis and an objective description of methods and equipment, with the goal of determining necessary adjustments.

- 4c) The Workshop recommends that Greenland continue to work towards the goal of using the harpoon grenade in all hunts for baleen whales. It is, however, a source of concern that the penthrite harpoon grenade is so costly in Greenland that many hunters cannot afford to use it. The Workshop recommends that Greenland initiate an enquiry into the reasons for the price policies and work towards a price change.
- 4d) Greenland has carried out a number of improvements on weapons and equipment used in whale hunting with the harpoon canon. In addition, the hunting regulations for large whales have been developed and improved. The Workshop notes with approval that Greenland has made these improvements and recommends that the work will continue in the future.
- 4e) It was emphasised that the hunters were not able to buy the ammunition determined by experts to be the most efficient for killing whales, because it was not available in Greenland. The Workshop finds it questionable that market considerations have higher priority than professional judgement and justification, and recommends that Greenland investigate the situation.
- 5) The Workshop notes with approval that the Greenlandic Parliament has decided to formulate an animal protection law, and in this manner create an authoritative body that can introduce the element of animal protection in hunting regulations.
- 6) In conclusion the Workshop agreed that the meeting had been valuable, in professional terms, and that it was desirable to plan a similar meeting in the future, but with a focus on particular hunting methods.