COMMITTEE ON HUNTING METHODS

MEETING REPORT

18 OCTOBER 2016

REPORT OF THE COMMITTEE ON HUNTING METHODS

The Committee on Hunting Methods met on 18 October 2016 at the Greenland Representation in Copenhagen, Denmark. Present were Guðni Magnus Eiriksson (Iceland), Kathrine Ryeng and Hild Ynnesdal (Norway), Amalie Jessen and Nette Levermann (Greenland), Signar Petersen (Faroe Islands) and Charlotte Winsnes from the Secretariat.

1. INTRODUCTORY REMARKS AND ADOPTION OF AGENDA

The Chair of the Committee, Nette Levermann, welcomed the Committee members to the meeting. The draft agenda was adopted with the inclusion of agenda items 8. Review of document "Overview of hunting methods and regulations in NAMMCO member countries", and 9. Stepping down of CHM member. Charlotte Winsnes acted as rapporteur. The Agenda and list of documents can be found in appendix 1.

2. INFORMATION FROM THE DELIBIRATIONS OF FAC/HOD ON THE ESTABLISHMENT OF A NEW COMMITTEE

The HOD/FAC meetings in June agreed to the proposal of establishing a new Committee to deal with issues of animal welfare concerns related to non-hunting human induced activities and asked CHM to draft the RoP.

In the 2 June meeting the CHM had agreed on a ToR for the new committee. With respect to the RoP it was agreed to propose to Council to use the RoP for the CHM revised at the 2 June meeting, and amend it according to the new Committee's ToR. The agreed RoP is found in appendix 2 to this report.

The CHM furthermore agreed to propose to Council that the new Committee be called:
"Animal welfare issues related to non-hunting activities". It was commented that this tittle did not cover the issue of strandings. However, for the benefit of a short title it was agreed that the reference to strandings in the ToR would make ensure that this issue is included in the work of the committee.

3. ADVICE ON ATTENDENCE AND FUNDING OF EXTERNAL EXPERTS

Document NAMCMO/CHM-October/2016-2 was presented under this agenda item. In lack of clear rules regarding attendance and funding of external experts in NAMMCO meetings the Secretariat has asked FAC for guidance. FAC would like to hear the advice of both CHM and SC before making a final recommendation to Council, and had forwarded the following three questions for their consideration and advice:

1. As a rule, should NAMMCO have external experts participating in all meetings dealing with issues of a potentially controversial character (such as SC assessment/endorsement of abundance estimate meetings or TTD expert meetings)?

2. Who should be considered an external expert? Are all participants that are not a member of the specific NAMMCO committee per definition an externa expert, or are there other defining criteria?

3. Which participants to a meeting should NAMMCO pay for?

The CHM commented that the term controversial referred to in question 1 would be open for interpretation and as such could potentially confuse and obscure the question. It was agreed that in general it was important that experts outside the NAMMCO committees was invited to give legitimacy, validation of results and also show transparency when dealing with issues like assessment and estimation of abundance estimates and evaluation of TTD and IDR. Recognising that the expertise may be represented in the NAMMCO Committees, the CHM never the less found it valuable to have outside experts participating in meetings to demonstrate transparency.

In response to question 2 the CHM agreed that an external expert is anyone, invited by a committee to participate in a working group meeting/expert group meeting, and is not a member of that committee regardless of institution and nationality.

In response to the funding question the CHM agreed that all invited external experts should be funded. There had been situations in the past where external experts had funding from elsewhere and NAMMCO had thus not covered their travel and accommodation.

The CHM also commented that in all its work over the years the various member countries had always been responsible for submitting data and information relating to their respective hunts. How the members accomplished this had not been an issue for the committee.

4. ADVICE ON GUIDELINES FOR RELEASE OF WG/EG MEETING REPORTS

Document NAMMCO/CHM-October 2016-3 was presented under this agenda item. In lack of clear rules on confidentiality of reports and meeting documents in NAMMCO the Secretariat has asked FAC for guidance. FAC would like to hear the advice of both CHM and SC before making a final recommendation to Council.

The Committee agreed to the following advice:

<u>For Working Group and Expert Group meeting reports:</u>
These reports remain confidential until 2 weeks after the adopted report has been circulated to the parent committee and Council.

The Committee underlined the importance of NAMMCO members having the possibility to be sufficiently informed of the findings in a given report before making it public. It was seen as essential in order to responsibly respond to any questions or situation emanating from these reports given that would not yet have been discussed by the Council.

The report must include a 1st page or introductory text stating "This report contains the view of the WG/EG and do not necessarily represent the view of NAMMCO. The report will be presented to NAMMCO Council on xxxx."

For Committee meeting reports:
These reports remain confidential until the adopted report has been circulated to Council. This is in line with the RoP's today.

For Committee meeting documents:
The CHM agreed that, to further strengthen the transparency of the organisation, draft agendas and those meeting documents that will be published in the Annual Report should be made public and available on the webpage as soon as they are ready and circulated to the committee members.

5. ALTERNATIVE METHODS FOR COLLECTION OF TTD DATA

The CHM had been tasked by Council at NAMMCO 24 to organise a workshop on alternative methods for collecting standardised TTD data that are less expensive, thus making it easier to compare TTD between countries.

Document NAMMCO/CHM-October/2016-4 had been prepared by the Secretariat. It contained an overview of the different methods and how collection of TTD data is carried out today for different hunts.

The CHM briefly discussed the issue and reviewed the document and agreed to postpone a more indebt discussion after having discussed the issue in more detail internal in the member countries.

6. STRUCK AND LOST

The CHM had been tasked by Council at NAMMCO 24 to review underlying reasons for Struck and Lost (S&L) with the aim of decreasing it.

Document NAMMCO/CHM-October/2016-5 had been prepared by the Secretariat. It gave an overview of the known S&L rates today for different hunts. In addition, the document tried to define S&L and summarised different factors that may contribute to S&L. Prior to the meeting member countries had responded to a questioner developed by the Secretariat with the aim of getting the latest updated S&L rates for different hunts including how it is recorded and also possible identified reasons behind the S&L.

The Committee members discussed the situations in the different hunts in member countries.

The Faroe Islands reported that S&L is nearly non-existing in the pilot whale hunt. However, some reports have been on whales injured from the propel of the boats. Some of these whales were dead before being injured, and they had later been killed and landed. With respect to harbour porpoises this species has not been targeted for the last 30 years. Seals are only shot around fish farms.
The CHM suggested that it might be beneficial for the Faroe Islands to look into technical possibilities developing a shield around the outboard motors to prevent this kind of propeller incidents in the future.

Greenland reported that for the beluga, narwhal and walrus the reported S&L is low. Regulations require that S&L be reported and the S&L animals are reduced from the quota. The CHM agreed that this requirement most probably do not encourage hunters to report S&L.

For the large whales the S&L estimates are easier to control via the requirement to register the grenades to receive the allocated subsidy. In addition, more efforts have been put into reducing the S&L in the large whale hunts, and the S&L rate are very low.

The CHM agreed that there were pros and cons on including or not including S&L in the quotas as a means to get more exact S&L estimates. It was noted that to be able to give advice it is essential to know in more detail how the hunting takes place and also how the hunts are administered. The CHM acknowledge that it is the hunters themselves who have the most extended knowledge. It is thus important to get their input on when and why S&L occurs before advising Council on this issue. The CHM therefore recommended that Greenland initiate meetings with hunters with the aim of hearing their views on what happens when a whale/walrus/seal is S&L.

Iceland reported that S&L is a minor problem in both the minke whale (1 %) and fin whale (1,4%) hunts. There has been no systematic recording of S& L but it was thought to be due to the harpoon line being cut.

Norway reported S&L rates of around 1 % and the reasons given by hunters are technical failure and cutting of harpoon line as in Iceland.

The Committee agreed to advice Iceland and Norway to address their hunters with the aim of finding out why the harpoon line breaks.

The CHM briefly discussed the possible merits of initiating some kind of control mechanism for technical inspection of hunting weapons and gears. In Iceland and Norway the national inspectors oversee that the mandatory equipment are in place but do not necessarily check the functioning of these. Generally, the CHM acknowledge that it will always be the hunter's intent to land an animal, the alternative costs are far too large to think otherwise. Consequently, it is in the hunters own interest and should be their responsibility to ensure that weapons and gear are according to regulations, well-functioning and at the appropriate place. NAMMCO and the authorities should strive to find out how to reduce S&L and inform the hunters accordingly.

The CHM agreed to ask the Secretariat to develop a one page information sheet stating what S&L is, what can be done to avoid and reduce the risk of S&L and what the hunter should focus on in order to avoid S&L. The sheet would inform on known possible reasons for S&L like the importance of target point and angel of shoot. The information sheet will be translated into the NAMMCO languages and will be placed on the webpage. A draft will be circulated to the CHM for adoption.

The CHM also agreed to make the background document presented under this agenda item into a working document for the Committee in its work on S&L. The Secretariat was tasked to update the document in relation to the most recent information divulged through the responses on the questionnaire.

7. NEXT MEETING

The CHM agreed that the next meeting should be a telephone meeting/skype/teleconference. The Secretariat was tasked with setting up a doodle pol for possible meeting days in February 2017.

Agenda items that will be discussed are among others 1) updates on hunting methods and regulation in member countries and 2) Struck and Lost.

8. REVIEW OF DOCUMENT

The Secretariat had developed a document giving an overview of hunting methods and regulations in NAMMCO countries. The document also included a table on conservation status for the review of the CHM. The document had been circulated to all members by email and input had been received from all members. The CHM was asked to review the document a final time and some small corrections were made in the meeting. The document is contained in appendix 3 to this report.

9. STEPPING DOWN OF CHM MEMBER

The Secretariat informed the Committee that Egil Ole Øen had withdrawn from the CHM as of the summer 2016.

The Committee expressed their deep and sincere appreciation to Egil Ole Øen for his long-standing commitment to the work of the Committee. Øen's expertise, extended knowledge and network have been instrumental in the successful work done by the CHM. The Secretariat was asked to convey these sentiments to Øen.

10. ADOPTION OF THE REPORT

The report was adopted by correspondence at 14 November.

Appendix 1

AGENDA AND LIST OF DOCUMENTS

AGENDA

1. Opening procedure
    1.1 Introductory remarks
    1.2 Adoption of agenda and review of documents
2. Information from the deliberations of FAC/HOD on the establishment of a new Committee
3. Advice on funding and attendance of external experts – (FAC request)
4. Advice on guidelines for release of WG/EG meeting reports
5. Alternative methods for collecting TTD
6. Struck and Lost
7. Next meeting
8. AOB

LIST OF DOCUMENTS

NAMMCO/CHM-October/2016-1 Draft agenda and list of documents
NAMMCO/CHM-October/2016-2 Attendance and funding of external experts
NAMMCO/CHM-October/2016-3 Confidentiality of reports and meeting documents
NAMMCO/CHM-October/2016-4 Various methods of collecting TTD
NAMMCO/CHM-October/2016-5 Reasons for and overview of S&L today
Report from the telephone meeting 2 June 2016.

<u>Background documents – especially for agenda item 6:</u>
NAMMCO 2006: Report from the Workshop on S&L in 2006
NAMMCO 2010: Report from the 1st Workshop on assessing TTD in large whales in 2010
NAMCMO 2011: Report from the Workshop on small whales in 2011
NAMMCO 2015: Report form the 2nd Workshop on assessing TTD in large whales in 2015
NWMB 2013: Report on Marine Mammal Struck and Loss in Nunavut, Canada March 19-21 2013

NAMMCO

NEW COMMITTEE

RULES OF PROCEDURE FOR THE COMMITTEE ON ANIMAL WELFARE ISSUES REALTED TO NON-HUNTING ACTIVITIES

I Terms of Reference

1. The Committee shall, upon request from the Council or individual member countries, provide advice on animal welfare issues related to non-hunting human induced activities, and live strandings, affecting marine mammals. The Committee 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.

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

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

II Membership

1. Each NAMMCO member country shall be represented in the Committee and have one vote regardless of number of national representatives.

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

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

III Observers

1. Attendance of accredited observers shall not be permitted at the meetings of the Committee unless otherwise decided by the majority of the Committee and approved by the Council.

IV Meetings

1. The Committee shall meet once a year, preferably prior to the annual meeting of the Council, unless otherwise decided by the Council. Additional meetings may be held when

judged necessary by the Committee and approved by the Chairman of the Council.

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

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

V Report

1. A draft report shall be presented for consideration before the end of the Committee meeting. The final report of each meeting shall be prepared by the Secretariat as required by the Committee and transmitted to all members of the Council as soon as possible after the meeting and within two weeks after the conclusion of the Committee's deliberation.

2. The report of the Committee shall be made available by the Secretariat to anyone who so wishes, according to guidelines approved by the Council.

VI Amendment of Rules

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

OVERVIEW OF MARINE MAMMAL HUNTING METHODS AND MONITORING/OBSERVATION IN NAMMCO MEMBER COUNTRIES

The overall aim of the hunt is to kill the animal instantaneously or as quick as possible in a manner that maximizes hunter's safety and the efficiency of the hunt while at the same time minimizes animal suffering.

A prerequisite for responsible resource management is to have mechanisms to monitor the resources not only with respect to abundance and trends but also how they are gathered and used. In recognition of this, NAMMCO established in 1998 an International Observation Scheme whereby observers monitor hunting activities in member countries on an annual basis. Each year a different hunt is chosen randomly to be observed.

The purpose is to provide a mechanism to monitor the conduct and regulation of marine mammal hunting activities, whereby ensuring international transparency in whaling and sealing operations in the region. NAMMCO observation is two-fold: 1) observing whether member countries implement the national inspection scheme they have committed to (in other words do they correctly fulfil their own inspection) and 2) observing whether there is compliance with the hunting regulations. The observer scheme also represents a possibility to record and get reliable data on animals that are struck but lost.

1. FAROE ISLANDS

Whale hunting is subject to detailed regulations laid down by the Faroese Parliament and the Ministry of Fisheries. Seal hunting is not governed by any special legislation[1].

1.1 Whales

Long-finned pilot whale, White-sided dolphin, White-beaked dolphin and Bottlenose dolphin are the four whale species that can be hunted in the Faroe Islands as drive hunts. In addition, it is permitted to shoot harbour porpoise.

When a school of pilot whales or other small whales, except harbour porpoise, is sighted the district administrator has to be notified. The district administrator, in consultation with the whaling foremen, decides into which whaling bay the school shall be driven, following currents. A whaling bay has to fulfil certain criteria and there are presently 23 authorised whaling bays in the Faroes. Once the decision on location is made, the boats form in a semi-circle behind the whales and stones are thrown into the water to make air bubbles, which help herd the whales in the desired direction. Upon approaching the whaling bay the boats are arranged by size, the smallest boats which can get closest to the beach, are in the front row, while the larger boats are kept behind. In this manner the school is beached or driven so close to the beach that people are able to wade out to the whales to secure them for the killing.

The actual killing method has changed very little throughout history. The whale is secured *with a blowhole hook,* after which the *spinal lance is positioned in the midline between the blowhole and the dorsal fin at one hand's breadth behind the blowhole and directed at an angle approximately 10 degrees backward. With a single thrust followed by sideways movements the spinal cord and the surrounding blood vessels are severed, directly followed by severing the jugulars and the carotids with a whaling knife so that the whale can be bled properly.* Once the cut is made, the whale lies completely paralyzed and unconscious.

1.1.1 Training

New legislation was introduced in 2015 and hunters are now obliged to have participated in a training course on pilot whaling, and should have been issued with a course certificate to be entitled to kill whales. The course includes the review of the NAMMCO instruction manual on pilot whaling.

[1] Parliamentary Act No 56 of 19 May 2015 on pilot whales and other small whales, most recently amended by Parliamentary Act No 44 of 6 May 2016. Executive order No 100 of 5 July 2015 on pilot whale drive.

1.1.2 Monitoring

Monitoring and systematic reporting of the whale hunt takes place through the district administrators report to the Ministry of Fisheries. For each drive hunt information is reported about where and when the school of pilot whales was found, whaling bay, total killing time, number of whales, size and sex, number of participating boats, number of hunters on shore and in boats and if there have been any violations of the regulations as well as appraisal, marking and sharing of the pilot whales.

If any harbour porpoise is hunted, hunters are obliged to report the number of shot harbour porpoises to the district administrators, which report to the Ministry of Fisheries.

1.2 Seals

Grey seals are only intentionally killed in the Faroe Islands as nuisance animals around fish farms in the Faroese fiords. There is no specific legislation pertaining to the hunting of seals and the seals that are killed are shot with rifles. In 1969 new weapons legislation banned the use of rifles as hunting weapons in the Faroes. However, in response to the complaints from fish farmers, permission to kill seals with rifles of minimum calibre 6.5 mm using hollow pointed bullets were given.

1.2.1 Reporting

Fish farms are obliged to report the number of seals, that are shot, to the Ministry of Fisheries. According to the weapon legislation persons should have participated in a training course on weapons and have been issued with a weapon certificate to be entitled to handle weapons.

2. <u>GREENLAND</u>

The responsibility for whaling and sealing lies with the Ministry of Fisheries, Hunting and Agriculture. They regulate and administer the hunts, while the Fisheries Licence Control Authority, through their wildlife officers, supervise and control the activities. The Ministry issues regulations that detail the scope and requirements for obtaining hunting permits, reporting requirements and sanctions. Whale and walrus hunting is regulated with respect to quota whereas seal hunting is not, however the municipality may set local regulations[2].

2.1 Whales

<u>Minke whales, fin whales, bowhead whales and humpback whales with harpoon gun</u>

The hunt is opportunistic and seasonal, *i.e.* the hunters are not full-time whalers. Fin whales are caught either by two boats of a minimum length of 30 ft working together, or by one boat of a minimum length

[2] Greenland Home Rule Act

	No 1 of 16 May 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 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 12 of 16 July 2010 on reporting from hunting and strike of large whales
	No 16 of 12 November 2010 on protection and hunting of seals
	No 12 of 22 December 2014 on protection and hunting of large whales
	No 13 of 30 December 2014 on hunting licenses for full time hunters
	No 14 of 30 December 2014 on hunting licenses for part-time hunters
	No 1 of 15 January 2016 on protection and hunting of beluga and narwhal

Catch registration form (1993-present) "*Piniarneq"*

of 36 ft. One boat with a minimum length of 36 ft is required for the humpback whale. The bowhead is caught by three boats of a minimum length of 36 ft working together. The majority of the minke whales are also taken by this method by one boat with a length of 30-70 ft. Each boat should be equipped with one certified 50mm Kongsberg harpoon gun, which is checked every second year.

The primary weapon is a harpoon with the Norwegian penthrite "Whale Grenade 99". This whale-grenade was produced for minke whales, but has been modified to accommodate the hunt of the larger whales (triggering cord extended from 40 cm to 90 cm, and explosive increased from 30 g to 45 g of penthrite). Primary and secondary weapons for the three larger whale species are the modified "Whale Grenade 99". Gunners shoot in the heart and lung region by aiming at an area close to the pectoral fins.

The secondary weapon for the minke whale is either a new grenade or rifle of a minimum calibre of 7.62 mm (30.06) employing full mantled bullets. Some hunters use solid round- nosed bullets together with rifles with higher calibre (.375), due to its better penetration. Rifle shots are aimed at the neck, in the back of the animal's head.

Hunting generally occurs in good sea conditions only (<Beaufort 3) as the main method of hunting is stealth. Trips generally last less than 24 hours and once a vessel has caught a whale it tows it to the nearest suitable flensing site. Hunting usually occurs within 60 nmi of the home port of the vessel and depending on conditions up to 10 nmi offshore.

2.1.1 Collective minke whale hunt

The collective minke whale hunt is carried out in settlements without harpoon gun boats. The collective minke whale hunt is the only hunt of large whales in areas with little infrastructure, such as East Greenland and West Greenland north of Disko Bay.

A minimum of five skiffs are required to carry out a hunt, but normally it will be around 8 -10 small (usually around 19 ft and never more than 29 ft) boats equipped with outboard motors. Each boat generally contains around 2-4 people. Boats of larger size without harpoon gun can also take part, but not as the leading boat. Each skiff has to be equipped with at least one hand harpoon with line and buoys. This harpoon is attached to the whale at the first opportunity, to prevent the animal from sinking. During the course of the hunt, hunters attempt to herd the whale towards shallow and inshore waters.

The weapons used are rifles of a calibre of 7.62 mm. (30.06) or larger using full mantled bullets. As a rule, the whales are first wounded and then secured with the hand harpoons. When possible, the hand harpoon is used before wounding the animal. One hunter is the designated leader and it is his task to secure the animal with the hand harpoon. Once a whale has been secured, it is killed by shots aimed at the neck. Round-nosed solid bullets together with rifles of higher calibre, such as .375, are often used to kill the whale.

2.1.2 Small whale hunts

Harbour porpoise, white-sided and white-beaked dolphins, long finned pilot whales, killer whales, narwhal and beluga are the small cetacean species that are hunted in Greenland. The hunting method is essentially similar for all the species; a collective hunt with small, open, motorboats. The whales are shot with rifles with a minimum calibre of .30-06 full metal jacket bullets (exception is the smaller harbour porpoise where recommended calibre is .222). The hunter aims at the thorax region which will kill the whale rapidly by hitting the heart, lungs or vertebrae. The shot ranges vary from 5 – 30 meter. After a successful shot the hunter secures the whale with a long shafted gaff hook (*n*iss*ik*) before it sinks.

In the narwhal and beluga hunt which takes place in the open sea and ice-cracks, the whale will first be harpooned to attach floats to secure the whale before being shot. The desired target is the brain, but the neck and heart are also regarded as good hitting points. Harpoon hunts from qayaqs takes place close to the ice edge in North Greenland. Two hunters will cooperate and when the whale is spotted from shore they will very quietly embark the qayaqs. They will secure the whale with hand held harpoons and then shoot it using rifle calibre 30.06 or .375 with full metal jacket pointed ammunition.

In East and North Greenland hunters are allowed to hunt with net during the dark period of the year when there is no daylight. The nets are set in open water or under the sea-ice, and they are checked daily. An average of 20 whales are hunted by this method annually.

2.2 Seals and walrus

Six species of seals are found in the waters surrounding Greenland. These are harp seal, ringed seal, hooded seal, harbour seal, bearded seal and grey seal. Today the focus of the hunt is on harp seal, ringed seal and hooded seals, with catch of harp and ringed seals by far the dominant.

Hunting methods vary depending on season, region and species. The hunt for harp and hooded seals takes place all year around, but predominantly during summer and fall in open water. The hunter localizes the seal and shoots it with a rifle. In northern Greenland during the dark winter months netting is the prevailing method for the hunters to catch ringed seals. The use of nets is a local small scale hunt compared to the traditional rifle hunt. In spring, when ringed seals haul-out on the ice, hunters use white screens to sneak up to an appropriate shooting distance and shoot the seal dead in the head.

No quotas are set for the Greenland seal hunt, because of the very large seal population and relatively small sustainable hunt. Hunters are required to report their catches to the Ministry on an annual basis. Seals can be hunted by all Greenlandic residents, provided they have either a full time or a part time hunting permit. Rifle is the most common weapon for seal hunting. Calibre .30-06 is common in some districts during the winter, while the calibres .17, .22 Mag., and .222 are the most common in the spring and summer hunts. There are no specific guidelines relating to the type of rifles that can be used, however the ammunition used must have a muzzle energy E100 > 160 Joule, for shotgun the minimum allowed caliber is 20. Some communities may have more restrictive local rules on transportation.

Greenland has from 1 December 2010 completely protected the harbour seal and grey seal pending biological advice indicating that the stocks are in a condition to be hunted.

Walrus can only be killed by fulltime hunters with licences issued by the municipality. The walruses are shot with rifles with a minimum calibre of .30-06 full metal jacket sharp point bullets. Application of full- and semi-automatic rifles are not allowed. It is mandatory to harpoon the animal before delivering the deadly shot to prevent it from sinking. The harpoon must have one or several attached floats. Sometimes the first shot will be a body shot with the aim of slowing down the animal before harpooning it.

2.3 Training – whales, seals and walrus

There are no regulatory training courses on how to shot or where to aim at the animal in Greenland. Knowledge is passed on from generation to generation and between captain and crew. For the whale hunts there are courses on handling and maintenance of harpoon grenades. Furthermore, the NAMMCO instruction manual on hunting of small cetaceans has been send out to all hunters reporting a catch of a small cetacean for the last five years.

2.4 Monitoring and inspection system – whales, seals and walrus

The wildlife officers work in close cooperation with the municipality authority, the police, Arctic Command and the Government of Greenland. The wildlife officers monitor the whale seals and walrus activity itself by inspections of some of the hunts at sea and / or by controlling permits, licenses and equipment used on-board the vessels and skiffs and at the open markets where the hunters can sell their products. In 2015, 8 wildlife officers and 4 assisting wildlife officers were employed nationally.

2.5 Reporting system – whales, seals and walrus

The reporting system in Greenland is a self-reporting system where all catches are reported to the Ministry of Fisheries, Hunting and Agriculture. For every marine mammal taken under license the hunter

or the responsible person (captain of the harpoon boat or the chosen leader in the collective hunt) is required to fill out a reporting form that is submitted to the Ministry shortly after the hunt.

The information given includes information about the hunter, his licence and boat, description of the weapon used to kill the animal, serial number of the grenade in case of a large whale, etc. Furthermore, it gives information on species, catch area and different kind of biological data depending on the species e.g. for large whales: flensing place, body length, sex, reproductive state of females, stomach contents, weight of editable products and estimated time to death (TTD). Cases of "struck and lost" are also reported.

No edible products from a licensed marine mammal may be sold before the catch is reported to the municipality. By this reporting the hunter will obtain a stamp on their licence. To get a stamp it is required that a filled out reporting scheme is handed in and for whalers with a harpoon boat licence also the receipt for the purchase of the whale grenade as well as the used grenade with serial number must be presented.

3. ICELAND

The responsibility for whaling lies with the Ministry of Industries and Fisheries and is regulated, administrated and supervised by the Directorate of Fisheries. Whale hunting is subject to detailed regulations whereas no special legislation governs seal hunting[3].

3.1 Whales

Iceland hunt two species: The minke whale and the fin whale.

The minke whale hunt in Iceland is carried out with similar weapons and boats as are described for the Norwegian minke whaling above. Minke whales are hunted in Icelandic coastal waters from small or medium sized (60-70 feet) fishing boats that are rigged for whaling in the spring and summer season. The weapons are deck mounted 50 mm Kongsberg harpoon guns equipped with the penthrite grenade (Whale grenade-99) developed in Norway in 1997-1999. The grenade is loaded with 30 g pressed penthrite as explosive. Back-up rifles of calibres .375 or .458 using full metal jacket, round-nosed bullets are used if the whale is not instantly dead by the grenade detonation. The vessels usually search for whales at slow speed (4-6 knots/h) and the whales are often shot from a relative short range (< 30m). No sonar or similar instruments are used during the hunt as such instruments are regarded to scare the whales off.

Fin whale hunting is conducted from medium-sized boats that are exclusively used for whaling. Hunting grounds are within Iceland's 200 miles exclusive economic zone and the whales are towed to a land station for flensing and processing. The whales are killed using 90 mm Kongsberg harpoon guns and a modified Whale Grenade-99 designed to trigger the detonation of 100 g pressed penthrite as explosive at a depth of 110 cm after penetration into the whale. The back-up weapon is a new grenade.

Hvalur hf., the company hunting fin whales in Iceland, has since 1985 worked to improve the killing efficiency in the hunt. Whale Grenade-99 replaced the former "Black Powder Grenade" (filled with 650 g of black powder as explosive) that had been used for large whales for at least 70-80 years. The killing

[3] Law No 26, May 3, 1949 on whaling, No 92, July 1, 1991 on amendments to Law 26/1949 on whaling (cf. Law No 40/1979 and 23/1991)

Regulation No 163, May 30, 1973 on whaling
No 359, April 6, 2009 on amendments to Regulation No 163 of May 30, 1973 on whaling (cf. Regulation No 304/1983, 239/1984, 862/2006, 822/2007, 456/2008 58/2009 and 263/2009). No 414, April 29, 2009 on the ban on whale hunting in specific areas.

Rules in the licenses for minke whaling and fin whaling.

by the "Black Powder Grenade" is a combination of the concussion from the blow and the wounds and tissue lacerations caused by the heavy splinters from the cast iron grenade. However, the wounding and killing efficiency of such splinters is highly unpredictable.

3.1.1 Training

No training courses /requirements exists on an annual basis. However, courses for gunners have been held regularly, and in order to get a licence to whale the gunner have to undertake a course on handling of harpoon gun and grenades. In addition, he must have general license for firearms.

3.1.2 Monitoring and inspection system

There are random inspections carried out by inspectors from the Directorate of Fisheries.

3.1.3 Reporting system

In Iceland there is a self-reporting system to report the position, sex and length, foetus/size of foetus where all whale catches are reported to the Directorate of Fisheries.

3.1.4 DNA register

DNA samples of minke and fin whales are taken and recorded from all whales ensuring full traceability of whale products. The register, which include the DNA profiles of all whales captured, permits the control and validation of all whale products sold in the domestic or international markets. It has also been used for a range of scientific purposes. The samples are analysed and stored at the Marine Research Institute in Reykjavik.

3.2 Seals

Primarily harbour and grey seal pups are hunted. The right to hunt seals are held by landowners and is pertaining to seals that are on their land.

Netting is the most common method for hunting harbour seal pups (mainly in the spring). Rifles are not used in order to reduce any disturbance in whelping areas. Nets are set close to small rocky islands or across creeks and channels. In the glacial rivers along the south coast, nets are pulled upstream between riverbanks to catch pups. They are then landed and killed using a seal club or shot with a .22 calibre rifle.

Grey seal pups are almost entirely killed in whelping areas using either a seal club or .22 calibre rifle from a short distance. Adult grey seals are shot using higher calibre rifles (.222 -243 calibre).

4. NORWAY

Marine mammal hunting is subject to detailed regulations (hunting seasons, quotas, methods of stunning and killing, training of hunters and their supervisors etc). The rules and regulations are laid down by the Ministry of Trade, Industry and Fisheries, and are administered and supervised by the Directorate of Fisheries.[4]

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[4]

Act of 29 May 1981 No 38 - Wildlife and Wildlife Habitats (the Wildlife act)
Act of 27 March 1999 No 15 - 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 Ministry:

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
22 December 2009 - Regulation of the practice of hunting seals on the coast of Norway

4.1 Whales

The only targeted species is the minke whale.

Norwegian fishermen are hunting minke whales from small (50 feet) or medium sized (60-120 feet) fishing boats that are rigged for whaling in the spring and summer season. The weapons are 50 mm and 60 mm harpoon guns. The harpoon is equipped with a penthrite grenade (Whale grenade-99) developed in Norway in 1997-1999. The grenade is loaded with 30g pressed penthrite as explosive. The back-up weapon is a rifle of calibre .375 or .458, using full metal jacket, round-nosed bullets. The vessels usually search for whales at slow speed (4-6 knots/h) and the whales are often shot from a relatively short range (< 30m). No sonar or similar instruments are used during the hunt as such instruments are considered to scare the whales off.

4.1.1 Training

Starting in 1984 all gunners and licence holders have been required to attend obligatory training courses. Shooting tests with harpoon gun and rifle have to be passed annually. The recommendation is to fire the grenade at the whale from a side position (45°-135° - relative to the animal's long axis) and aim at the thorax (chest). The rifle is usually fired at close range and when the whale's head is over water. The shot is directed to the brain.

4.1.2 Monitoring system

In 2006 Norway introduced and made mandatory an automated monitoring system, and is thus far the only country to do so. This electronic system verifies when and where a shot has been fired and when a whale has been taken on board. Consequently, struck and lost whales are also recorded. All licensed whaling boats are equipped with an Electronic Trip Recorder (the Blue Box). The system cannot be manipulated and consists of a control and data logger box (Blue Box) designed to independently monitor and log hunting activity data. An independent GPS and different sensors deployed in certain areas and structures of the boat collect the data, and the programmes are designed for continuous operation and logging of data for at least 4 months. It is equipped with back-up batteries and automatic restart functions if system interruption occurs.

After the hunting season, the encrypted data from the Blue Box are decrypted and analysed by authorized personnel in the Directorate of Fisheries. For more reading see document Øen, EO: electronic monitoring of Norwegian minke whaling, IWC 2005

4.1.3 Inspection

There are also random inspections occurring carried out by inspectors from the Directorate of Fisheries. These inspectors have attended the same training courses as the whalers.

4.1.4 Reporting system

There is no mandatory reporting of TTD or IDR.

The reporting system in Norway is a combination of a self-reporting system and the automated blue box. The automatic monitoring system is a supplement to the electronic catch reporting system. The hunters are obliged to electronically report the catch (or no catch) daily. This report includes information on catch, position of catch, sex, length, circumference, blubber dimension, foetus/size of foetus and number of grenade used in the catch.

4.1.5 DNA register

DNA samples are taken and recorded from all whales ensuring full traceability of whale products. The Norwegian minke whale DNA register was first established in the mid 1990's when Norway reinstated commercial minke whale hunting. The register, which include the DNA profiles of all whales captured (approximately 9000 as of 2014), permits the control and validation of all meat and whale products sold

Executive orders pertaining to the participation and governing of the hunt of Whales and Seals are issued annually by the Ministry and the Directorate of Fisheries.

in the domestic or international markets. It has also been used for a range of scientific purposes. The samples are analysed at the Institute of Marine Research and the register is hosted by the Directorate of Fisheries.

4.2 Seals

4.2.1 The pack ice hunt

Today only the harp seal is hunted in the Greenland Sea (West Ice). Traditionally also hooded seals were hunted but this hunt was prohibited from 2007. Norwegian vessels have been allocated an annual quota in the Barents Sea (East Ice) in the Russian Economic Zone but no Norwegian vessels have conducted sealing in the REZ for several years.

Ocean going vessels suitable and equipped for seal hunting are licensed. The crew usually consists of 13 – 15 persons and they normally stay out at sea from 4 to 6 weeks during the hunting season (1 April to 30 June).

Weaned harp seal pups and adult harp seals (over one year) are subject for the hunt. The seals must be on the ice and are shot either from the ice or from the vessel or from a smaller boat. Seals are shot in the head, and the shooting range is normally 30 – 70 meters. All adult animals are to be shot with a rifle. Pups may be shot with a rifle or killed on the ice by using a hakapik or a seal blow hook, named slagkrok as the only weapon. The hakapik is mandatory to use as secondary weapon on all animals that are shot. Slagkrok may be used as secondary weapon on pups. The secondary weapon should be used as soon as possible after the animal is shot. Bleeding of the animal should be performed immediately after the use of the secondary weapon. When the hakapik or slagkrok is used as the only weapon on pups, a blow to the head with the blunt part is immediately followed by a blow the with the spike. Then the animal is bled. Today, almost all seals are killed with a rifle. Hakapik as the only weapon is only occasionally used to kill pups.

According to the regulations relating to the seal hunt it is explicitly forbidden to:

- Kill un-weaned pups
- Hunt adult harp seals in whelping areas
- Hunt seals that are in the water
- Shoot seals if conditions are such that they cannot be struck with a hakapik and be bled on the ice
- Hunt in artificial light
- Use lines, nets or any form of trap
- Use shotguns
- Use a hakapik on adult animals that have not been shot first
- Use a slagkrok on adult animals
- Strike with a hakapik or a slagkrok anywhere but on the skull.

The prescribed ammunition used for pups is similar to what is prescribed for the hunting of smaller terrestrial games (roe deer, fox, etc.), which is soft-nosed, expanding bullets with impact energy of minimum 981 Joules (100 kgm) at 100m (calibre .222 and higher).

The prescribed ammunition for adult seals is similar to large terrestrial mammal ammunition (moose, red deer, etc.) which is soft-nosed, expanding, projectiles with impact energy of at least 2700 Joules (275 kgm) at 100m for 9g bullets and 2200 Joules (225 kgm) at 100m for 10g bullets (calibre 6.5, .308 and higher).

4.2.2 Coastal seal hunting

Grey seals and harbour seals are harvested along the Norwegian coast and ringed seals and bearded seals along Spitsbergen. The hunt is conducted from land or from smaller boats and is carried out using rifles.

The requirement for the ammunition is the same as the requirement for ice-breeding seals. The hunt is licenced.

Training, reporting and inspection.

Hunters and inspectors are trained prior to the pack-ice hunt. The shooters must pass an annual shooting test. It is mandatory to keep a catch log book and to have an inspector on-board (usually a veterinarian) during the hunt. Vessels may also be required to take on-board international observers. In the coastal seal hunt the hunter also has to pass an annual shooting test. There is no mandatory reporting of TTD or IDR for either of the two hunts.

Table 3. Overview of the conservation status of marine mammal stocks in NAMMCO countries.

		Cetaceans		**Seals and walruses**	
	References	*Hunting allowed*	*Protected*	*Hunting allowed*	*Protected*
Faroes	http://www.logir.fo/Logtingslog/56-fra-19-05-2015-um-grind-og-annan-smahval Parliamentary Act No. 56 of 19 May 2015 on Pilot Whales and Other Small Whales, most recently amended by Parliamentary Act No. 44 of 6 May 2016	Long-finned pilot whale Restrictions on local catch: White-sided dolphin White-beaked dolphin Bottlenose dolphin Harbour porpoise	All other cetacean species	Grey seals around fish farms (the only resident species)	None
Greenland	http://lovgivning.gl/lov?rid={E0380274-B10B-4D74-A3C1-CFBFD9C62C00} Regulation No 16 of 2010 on protection and hunting of seals http://lovgivning.gl/lov?rid={37A7FCF4-46A0-4B47-B42C-B8385F315D65} Regulation No 20 of 2006 on walrus http://lovgivning.gl/lov?rid={482B7987-C939-4587-8940-A21E5F886C72} Regulation No 1 of 2016 on beluga and narwhal http://lovgivning.gl/lov?rid={11B42C53-951D-4252-82D0-F70CD281054F} Regulation No 12 2014 on large whales	Bowhead whale **(quota)** Fin whale **(quota)** Humpback whale **(quota)** Minke whale **(quota)** Narwhal **(quota)** Beluga **(quota)** Killer whale Pilot whale Bottlenose whale White-sided dolphin White-beaked dolphin Harbour porpoise	All other cetacean species	Walrus (**quota**) Hooded seal Harp seal Ringed seal Bearded seal	Grey seal, Harbour seal
Iceland	Regulation of whaling No 163 May 30, 1973 with amendments	Fin whale **(quota)** Minke whale **(quota)**	All other cetacean species	Grey seal Harbour seal (the two only resident species)	None

		Cetaceans		Seals and walruses	
	References	*Hunting allowed*	*Protected*	*Hunting allowed*	*Protected*
Norway excl. Svalbard	**Whale** http://www.fiskeridir.no/Yrkesfiske/Regelverk-og-reguleringer/J-meldinger/Utgaatte-J-meldinger/J-53-2016 with later amendments J—143-2016 Regulation on whaling in 2016 (regulering av fangst av hval i 2016) Changes every year due to quota but content wise the same from year to year. **Seal** **Offs shore sealing – pack ice hunt** http://www.fiskeridir.no/Yrkesfiske/Regelverk-og-reguleringer/J-meldinger/Gjeldende-J-meldinger/J-49-2016 J-49 2016 – the only regulation existing **Coastal seals** http://www.fiskeridir.no/Yrkesfiske/Regelverk-og-reguleringer/J-meldinger/Gjeldende-J-meldinger/J-36-2014 J-36 2014 seal general prohibition J-260 2015 quota seal – changes every year	Minke whale **(quota)**	All other cetacean species	**Pack ice hunt** Harp seal **(quota)** Hooded seal (**quota - since 2007 quota=0)** **Coastal stocks** Grey seal **(quota)** Harbour seal **(quota)** Permission can be granted during special time periods: Ringed seal Harp seal	Other seal species
Svalbard	https://lovdata.no/dokument/SF/forskrift/2002-06-24-712#KAPITTEL_2 "Forskrift om høsting på Svalbard"	Minke whale (**quota)**	All other species	Protected during breeding season, permitted: Bearded seal: 01/02-27/04 + 05/06-30/11 Ringed seal 01/02-20/03 + 20/05 – 30/11	Walrus All seals other than those mentioned below.