



NORTH ATLANTIC MARINE MAMMAL COMMISSION



Manual on hunting of small cetaceans in Greenland

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MANUAL ON HUNTING OF SMALL CETACEANS

ACKNOWLEDGEMENT

The North Atlantic Marine Mammal Commission – NAMMCO – is pleased to present this manual on hunting of small cetaceans (*Odontocetes*) in Greenland. The recommendations and description of hunting methods and equipment are based on information from a meeting of experts, hunters, managers and the Committee on Hunting Methods of NAMMCO (NAMMCO Expert Group Meeting to Assess the Hunting Methods for Small Cetaceans 15-17 November 2011).

NAMMCO would like to especially acknowledge the dedicated work of Nette Levermann in the development of this manual.

NAMMCO would also like to acknowledge the KNAPK (Fishermen and Hunters Organisation) in Greenland for its input during the process.

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PREFACE

Coastal people's right to hunt and utilise marine mammals has always been a firmly established principle in the North Atlantic Marine Mammal Commission – NAMMCO. Embedded in this right is also the obligation for hunters and the competent authorities, to conduct the hunt in a sustainable way and in such a manner that it minimises animal suffering associated with the hunting and killing methods, and take into account hunters' safety.

The Committee on Hunting Methods, formally established in 1994, facilitates NAMMCO's work in this field and gives advice on hunting methods to the Council and the member countries. Advice given should be based on the best available scientific findings, technological developments and users' knowledge, and give due consideration to safety requirements / hunters safety and the efficient use of the resources.

The Committee has organised much of its work through the convening of international workshops and expert group meetings on specific topics. A reoccurring recommendation has been to enhance hunters' training.

NAMMCO's Committee on Hunting Methods has produced this manual on hunting of small cetaceans in Greenland. The target group is primarily the whalers, but also includes inspectors, observers, wildlife officers and others engaged in whaling. The whalers have been consulted in connection with this task, but the instruction manual is the direct responsibility of the Committee on Hunting Methods.

Tromsø, November 2014

NAMMCO's Committee on Hunting Methods:

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IMPORTANT SAFETY INFORMATION

WHALES MAY SHOW STRONG INVOLUNTARY REFLEX MOVEMENTS, IN PARTICULAR UP-AND-DOWN THRASHING OF THE FLIPPERS AND/OR TAIL THAT CAN LAST SEVERAL MINUTES. BE AWARE OF THE DANGER OF SUDDEN TAIL MOVEMENTS WHEN APPROACHING THE WHALE.

THE MOST SUITABLE BULLET TYPES FOR BRAIN SHOT OF SMALL CETACEANS ARE: FULL METAL JACKET ROUND NOSE, SOLID ROUND NOSE AND SOLID EXPANDING.

DIFFERENT AMMUNITION HAS DISSIMILAR TRAJECTORIES. THE RIFLE MUST THEREFORE ALWAYS BE TESTED WITH THE AMMUNITION THAT IS EMPLOYED PRIOR TO THE HUNT.

RIFLE BULLETS ARE SLOWED QUICKLY IN WATER, REGARDLESS OF THE CALIBRE AND THE WEIGHT OF THE BULLET. TO ENSURE THAT THE BULLET PENETRATES THE BRAIN, THE SHOT MUST BE FIRED WHEN THE SKULL IS ABOVE WATER.

NEVER PUT A RIFLE AWAY WITH AMMUNITION IN THE CHAMBER.

EMPTY OUT OR REMOVE THE MAGAZINE WHEN THE RIFLE IS NOT IN USE.

CLEAN AND OIL THE WEAPON FREQUENTLY TO AVOID RUSTING AND MALFUNCTION.

THE COLLECTIVE HUNT REQUIRES EXTREME CAUTION FROM THE HUNTERS, IN ORDER TO AVOID SHOOTING ACCIDENTS, EITHER BY DIRECT SHOTS AND/OR INDIRECT BY RICOCHETS, AND ALSO TO AVOID INTERFERING IN EACH OTHER'S HUNTS.

THE HUNTER MUST BE AWARE THAT BULLETS MAY DEFLECT ON WATER.

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INTRODUCTION

The focus of this manual is the hunting equipment and its proper use related to the hunting of small cetaceans in Greenland.

The whaling of small cetaceans (Odontocetes) in Greenland includes the following species: Narwhal (*Monodon monoceros*), Beluga (*Delphinapterus leucas*), Harbour porpoise (*Phocoena phocoena*), Long-finned pilot whale (*Globicephala melas*), White-beaked dolphin (*Lagenorhynchus albirostris*) White-sided dolphin (*Lagenorhynchus acutus*) and Killer whale (*Orcinus orca*).

The placement of vital organs in relation to external anatomical features like blowhole, eyes and fore-flippers are grossly the same for the above mentioned species. The target areas for rifle shots relative to these anatomical features are therefore the same.

Whales in general are difficult to approach and get close-up to in open water. The stunning and killing device must therefore be applied to the animal from some distance.

Whales may dive and occasionally swim under the ice after being hit by the killing device. Hence it may sometimes be difficult to judge when the whale is dead. In addition most of the species will sink when they are dead.

Hunting equipment often has a multipurpose use. It should serve the purposes to stun/kill and secure the whale in order to retrieve it, in one and the same operation. To successfully achieve this effect it must inflict so much damage to organs vital for conscious life, that the whale dies instantly or very fast.

Legislation on whaling has been continually adapted in line with social and technological changes, and the latest Executive Order on protection and hunting of beluga and narwhal describes in detail how the hunt should be exercised including procedures governing the catch. At present time there is no Executive Order on the other species of small cetaceans. However the hunts are governed by regulations such as i.e. the law on hunting and the law on animal welfare. All types of hunting require that the hunters have hunting licenses.

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ANATOMY IN RELATION TO THE KILLING AND SECURING

The overriding principle pertaining to any killing is that it is carried out as quickly and painlessly as possible with due respect to the safety of the hunters. However, the killing method should also entail considerations whether the animal is for human consumption or not.

In hunting death is either caused by so called “neural or circulatory disruption” or a combination of both. Neural disruption means damage of the central nervous system like the brain and spinal cord and where the animal is rendered unconscious and dies instantly or very fast. At circulatory disruption the heart and large vessels should be damaged so the animal dies from bleeding out. The onset of unconsciousness and death may take from seconds to minutes depending on the size of the wound and which organs are wounded. To achieve a quick death the hunter must therefore know the position of the most vital organs and how these organs can be fatally wounded when using different hunting weapons (Figs. 1 and 2).

In the beluga and narwhale hunt neural disruption is the optimal method of killing. The animal is shot in the brain or neck when it surfaces. The consciousness is lost immediately. The preferred ammunition is either full metal jacketed or solid bullets, which can penetrate into the skull or through solid bones like the cervical cord. For circulatory disruption (preferred method of killing for other small cetaceans) the best effect is achieved with expanding bullets.

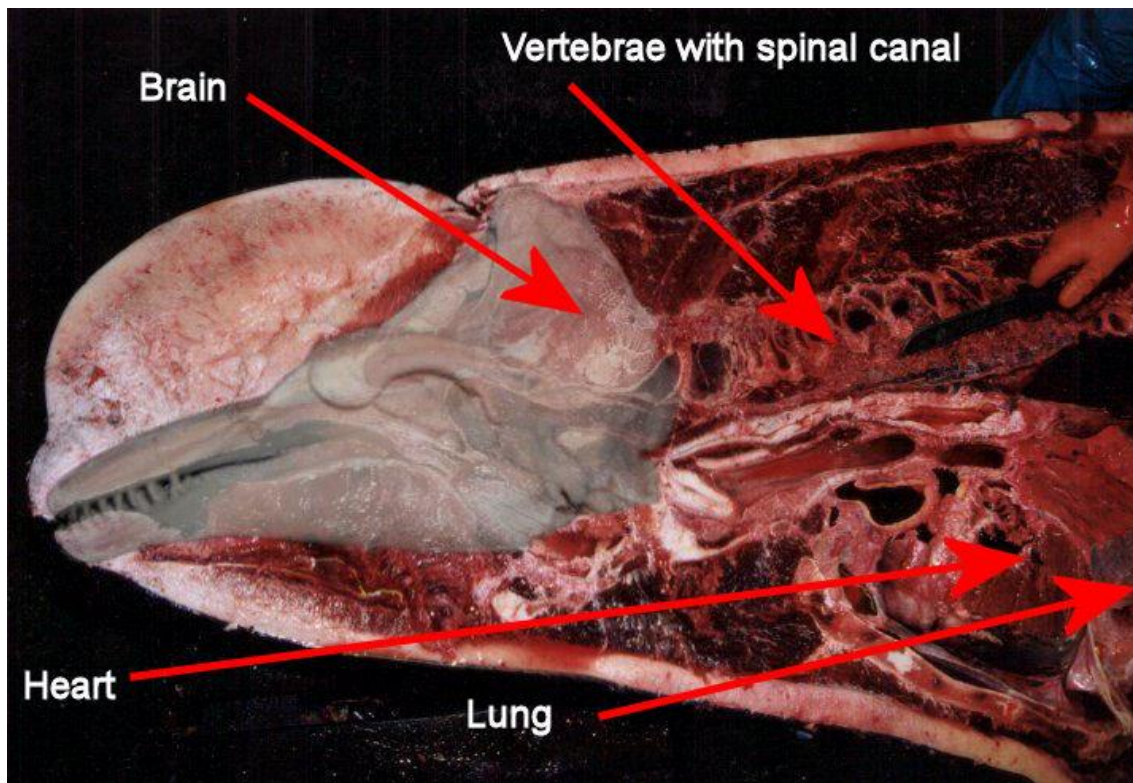


Fig. 1. Longitudinal section showing anatomical positions of vital organs in head, neck and thorax of pilot whale. Position of the vertebrae (spinal cord), the brain, heart and lung are pointed out. Photo: B. Hanusson, J. Olsen.

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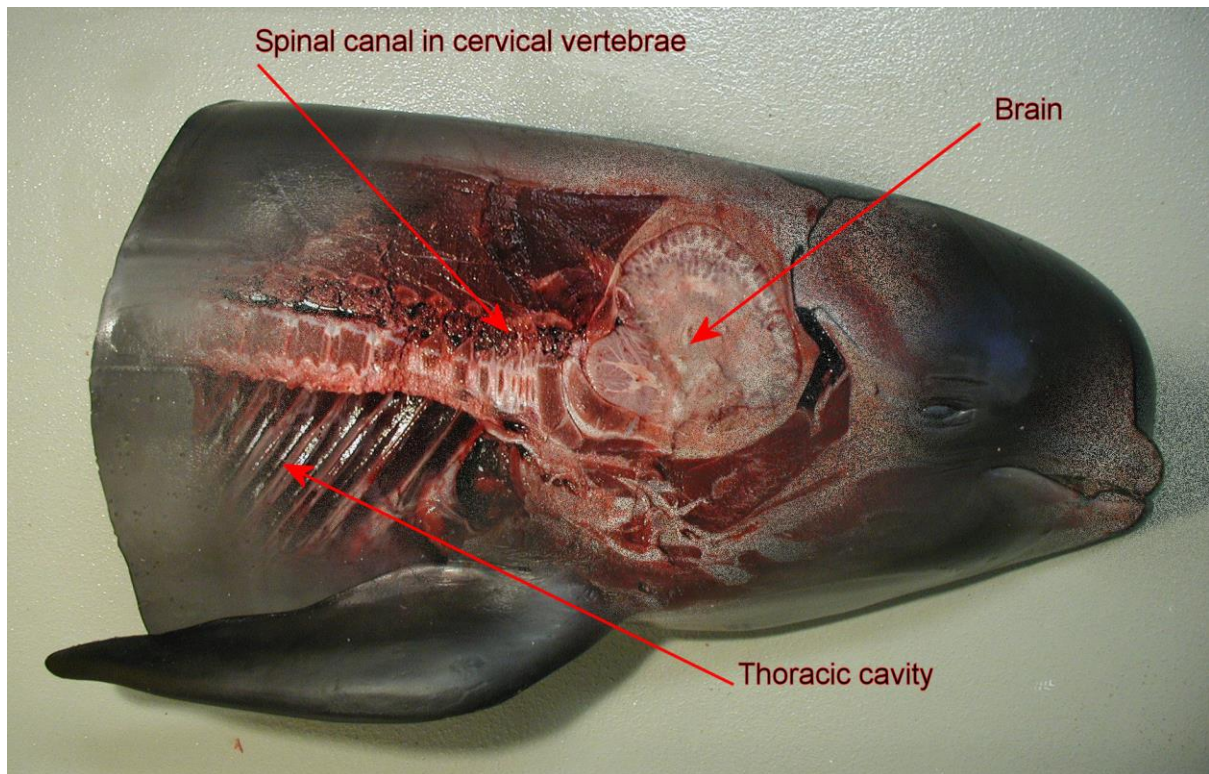


Fig. 2. Pilot whale head and torso. Longitudinal section showing location of brain and spinal cord in neck and thorax. Position of the vertebrae (spinal cord), the brain, thoracic cavity are pointed out. Photo: B. Hanusson, J. Olsen.

HUNTING METHODS AND EQUIPMENT

The hunting methods and equipment used for the hunting of small cetaceans may vary considerably both geographically and in methods. The whales may be:

- Harpooned and killed with firearms from the ice edge or from small skiffs or *qayaqs*
- Shot with a firearm and harpooned/hooked afterwards from small skiffs or *qayaqs*.
- Captured by nets

Factors that may influence the choice of weapons and hunting methods are:

- Whale species
- Traditions
- Environmental conditions
- Availability of equipment and weapons
- Economy
- Others.

Dolphins and whales that are in the process of dying and even those that have recently died may show strong involuntary reflex movements, in particular up-and-down thrashing of the flippers and/or the tail that can last several minutes. The thrashing can be severe and is dangerous to anyone close enough to be struck by the tail. Precautions must be taken regardless of the killing technique.

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Whales may show strong involuntary reflex movements, in particular up-and-down thrashing of the flippers and/or tail that can last several minutes. Be aware of the danger of sudden tail movements when approaching the whale.

RIFLES /GUNS

CALIBRE

The weapon designation "rifle" refers to a gun where the inside of the barrel has four spiral grooves throughout the length of the barrel. The parts between the grooves are called riflings. The calibre is a "jungle" of designations and is not easy to keep track of. The calibre relates to the distance between the riflings in millimetre or 100-parts or 1000-parts of an inch. Regarding the complete calibre designation, the cartridge (shell case) length is also provided. A commonly used calibre for hunting is calibre 7.62 x 63. This is also called calibre .30-06. This states that the barrel diameter (distance between the riflings) is 7.62 mm, or 0.30 inches. 06 stands for 1906 as the year this calibre was introduced in the US army.

BALLISTICS

Bullets are designed to have specific "terminal ballistic characteristics", with features such as soft (lead) tipped, hollow point, or round nosed bullets having different characteristics. The diameter of the rifle bullets most commonly used for hunting usually vary from .224" (5.56 mm) up to .458" (11.6 mm) and even larger and weights from 3 gram (45 grains) to 45 gram (700 grains) and more. Each bullet can have different sized casings; for example .222 (total casing volume 2 cc), or 22-250 (total casing volume 4 cc). Such variations allow the best match between the many bullet designs and their intended terminal ballistic characteristics.

In 2006 in Nunavut six experienced narwhal, beluga and walrus hunters carried out a field test using .338 Winchester magnum and .375 Holland & Holland calibre rifles with solid and full metal jacket round nose bullets (FMJ RN). They reported (unpublished) significant penetration abilities and improved time to death (TTD) when using this equipment. Controlled terminal ballistic tests done by Olsen and Øen in 2004 (Shooting trials on heads of dead pilot whales. Guidelines to test the efficiency of rifle ammunition used for hunting and euthanasia of small whales. NAMMCO 15, 14-16 March 2006) showed similar results.

In hunting marine mammals, neural disruption is desirable for efficient killing as opposed to terrestrial mammals where circulatory disruption is the norm. When the whale is shot in the head (neural disruption) the soft tissue forms a wound cavity where the bullet energy is dissipated in the cavity. The type of jacket and the bullet tip affect the size and nature of the wounding. The bullet path made by a Full Metal Jacket Round Nose (FMJRN) bullet is often channel-like with minor cavity-formation along the path (fig. 4). This is contrary to soft point / expanding bullets which make large cavities in the tissues they pass (fig. 3).

Military surplus ammunitions (FMJ with pointed nose) which often rotate (tumble) in soft tissue after entry, do not penetrate as well as the round nose solid or full metal jacket bullets that do not tumble in soft tissue.

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Examples of cavity and channel wounds from shooting trials are shown in figs. 3 and 4.

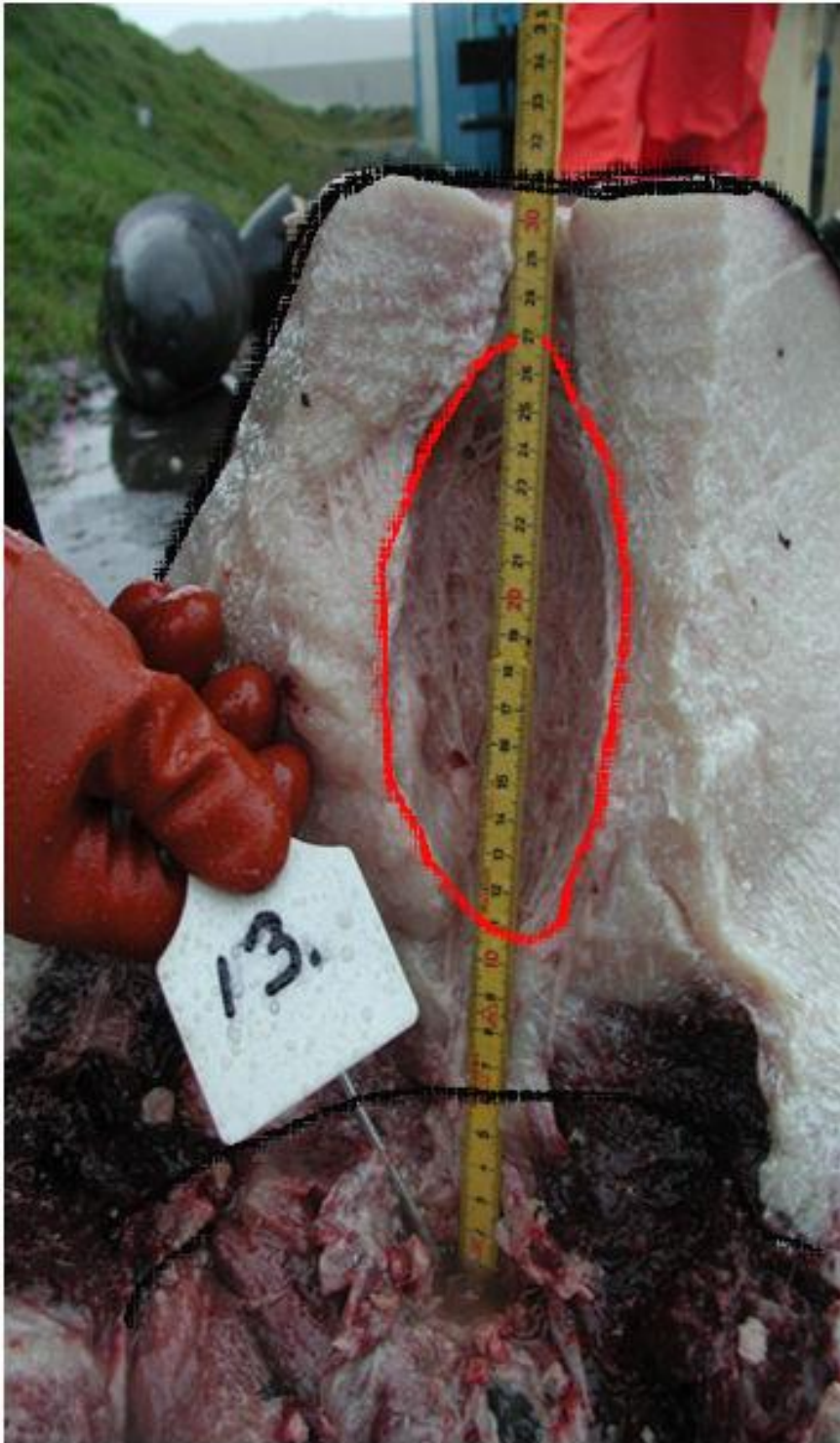


Fig. 3. A cavity wound from a .375 270 gr soft pointed bullet shot in the forehead of a dead and frozen Pilot whale. Cavity wound shown in red circle, thin black outline of the skull and the head. Photo and adaptation: From Olsen and Øen, 2004.

The most efficient wound type for neural disruption is a channel wound which gives the greatest depth of penetration, fig. 4. The most suitable bullet types for small cetaceans are:

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Full Metal Jacket Round Nose, Solid Round Nose, and Solid Expanding. It appears from the shooting trials on dead pilot whale heads (Guidelines to test the efficiency of rifle ammunition used for hunting and euthanasia of small whales. NAMMCO 15, 14-16 March 2006) that among calibres tested (.270, .308, .338, .375) the bullet type was more important than the calibre size for small cetaceans.

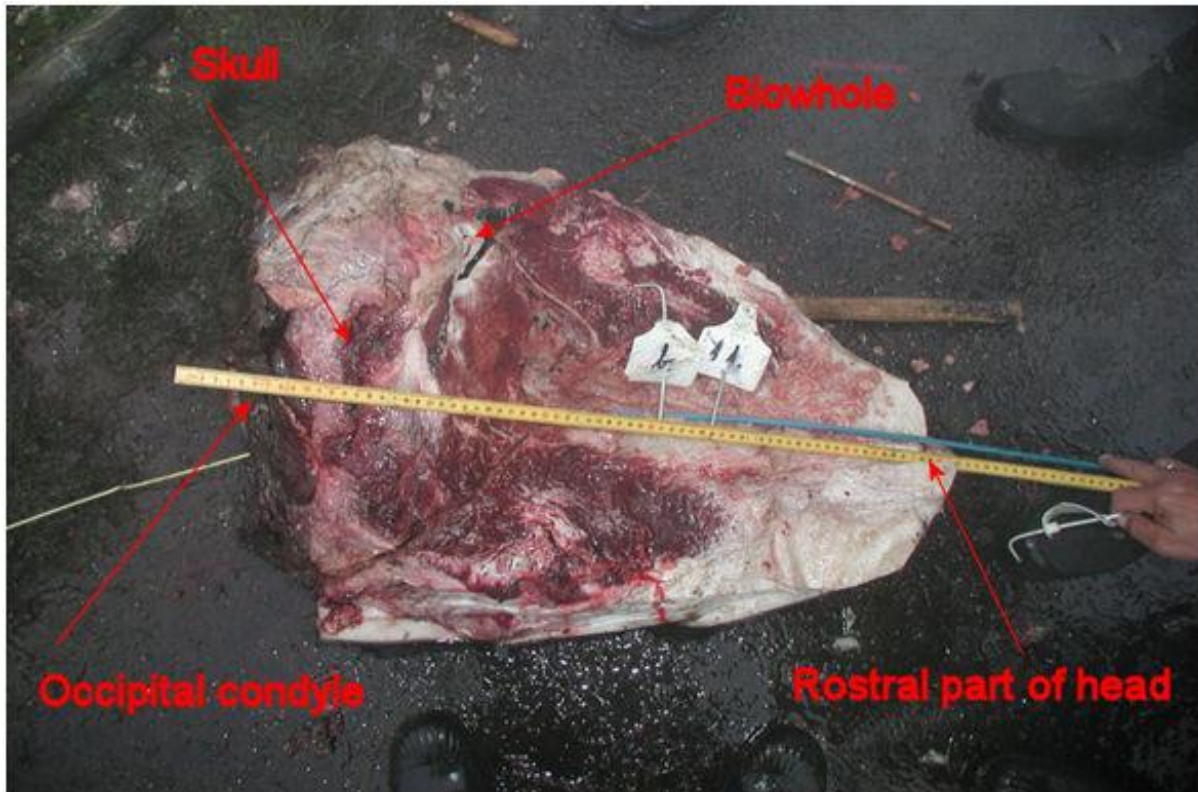


Fig. 4. The labels 11(b) and the blue probe show the channel cavity made by a .338 Win, 250 gr Round nosed solid bullet shot in the forehead of a dead and frozen Pilot whale. The bullet has passed completely through the skull. From Olsen and Øen, 2004.

With respect to ammunition and weaponry, the skill of the hunter is important when deciding on suitable calibre. Choice depends on the target site and the type of damage that is desired to kill the animal. High calibres gives rise to greater impact and energy transformation that result in greater shock effect. However, the recoil caused by high calibre weapons might influence the accuracy of the shooting.

The most suitable bullet types for brain shot of small cetaceans are:
Full Metal Jacket round nose, Solid round nose and Solid expanding.

AMMUNITION

Full metal jacket, fig 5. has a relatively soft centre surrounded by a cap of hard metal (jacket) that is open at the back end. The front part (ogive) can have different shapes, from pointed to hemispherical. Full metal jacketed projectiles are reckoned to penetrate deep inside the

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target. Pointed bullets however, can easily skid (ricochet) off bone, while round-nosed bullets or butt-nosed types more easily penetrate into and go through bones without skidding or becoming deformed. With respect to shots at hard bones such as the skull or neck vertebrae, a full metal jacketed, round-nosed bullet is recommended. However, the type of ammunition for the hunt of small cetaceans is not defined in the Greenlandic legislation in the current executive order.

Soft- or hollow-pointed bullets fig. 5 have a soft tip centre covered by a jacket that is open at the front and closed at the back. They are reckoned to crack up and expand to a form of a mushroom at impact creating a wide wound channel when passing through soft tissue. However, they might disintegrate and often stop or skid at the impact of bones. Soft and hollow pointed bullets are therefore not recommended for shots to the brain of small cetaceans.

Full metal bullet, fig 5. These projectiles are made of metal alloy that expands (enlarges) in the same manner as lead- and hollow-pointed bullets and are not suitable for whales larger than dolphins.



Fig. 5. The figure shows different types of bullets. From the left: pointed, full metal jacket calibre .308, soft nosed calibre .30-06, round nose, full metal jacket calibre 9.3, and round nose, full metal jacket calibre .375. Photo: EO Øen.

SIGHTS

The rifle must have good sights. Rifles are generally equipped with open sights with shed and grain. These are simple sights that require the eye to focus on three points at the same time. It is cumbersome and many prefer the more modern, optical sights (mono scopes, redpoint sights) where such difficulties are eliminated. The magnification is adjustable as a rule and provided by the mono scope. However, there is no advantage for great magnification for the hunt of small cetaceans as this gives problems with finding the target area quickly.

Electronic sights (point sights) show the sight point as a red dot on the target. Such sights have become usual in the rifle hunt of whales in other countries.

Different ammunition has dissimilar trajectory. The rifle must therefore always be tested with the ammunition that is employed prior to the hunt.

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Rifle bullets are slowed quickly in water, regardless of the calibre and weight of the bullet. To ensure that the bullet penetrates the brain, the shot must be fired when the skull is above water.

CARE AND MAINTENANCE OF THE RIFLE

When used at sea, the weapon will be exposed to damp and salt water. It is very important that the weapon is cleaned and oiled to prevent rusting. It may be necessary to brush the weapon (barrel, mechanism, outside) daily. Powder residue on the bolt (end piece), cartridge chamber and barrel should be removed with a cleaning cloth or a brush (cleaning) stick before being oiled with gun oil. If there is much debris on the weapon, it should be cleaned with soap and boiling water.

Before the weapon is used, it is important to wipe the barrel and firing pin free of oil or grease to avoid misfire. This is in particular important in cold weather or surroundings. 2-3 times annually the weapon should be cleaned thoroughly and oiled. After some seasons, it is recommended for safety reasons that the weapon is checked thoroughly by experienced personnel.

Never put a rifle away with ammunition in the chamber.

Empty out or remove the magazine when the rifle is not in use.

Clean and oil the weapon frequently to avoid rusting and malfunction.

MISFIRE AND MALFUNCTION

Misfire - meaning that the shot does not go off, occurs. The most common reasons are poor maintenance or weapon error/failure:

- A broken or damaged firing pin
- A failure in the spring to the firing pin
- Fat (grease) or dirt (powder residue) that slows down the firing pin
- Powder residue or fat in the cartridge chamber.

The bolt is hard to open

Should the bolt become stuck fast or be difficult to open, it is always a **DANGER SIGNAL** that can indicate too high pressure with the firing of the shot. All use (of the rifle) should be stopped until it can be clarified what the reason is and the condition has been corrected.

Unusual noise and /or recoil

A weak or missing recoil or a hissing sound at the firing of the shot can indicate a shot with an erroneous/failed loading and a danger that the bullet is sitting in the barrel. This can happen especially with self-loading of ammunition. In such circumstances the barrel must be checked as empty before a new shot is fired.

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Hissing noises or sounds like a can of sparkling water being opened in connection with the shot, is a sure sign ALWAYS that THE BULLET IS jammed INSIDE THE BARREL. The barrel MUST be checked before a new shot is fired.

"A double sound" or significant delay between the triggering and firing of the shot is a sign of bad ignition and should be investigated.

Poor accuracy

- Poor ammunition
- Improper mounting or bad fixing of the mechanism to the gun stock
- The gun stock is sticking to the barrel because of damp
- Badly affixed sights
- Poor cleaning, with lead, jacket and powder residue in the barrel
- Too much oil in the barrel
- Strong wind and/or cold
- Insufficient training of gunner

Accidental shots

Accidental shots are ones that go off unintentionally. It can happen, for example, that a shot goes off when the bolt is driven in without pulling the trigger. This is most often in conjunction with a semi-automatic rifle of a military type, but can happen in all weapons where the firing pin sticks out of the bolt or the primer/firing cap sticks out from the primer pocket of the cartridge (self-loading).

SAFETY RULES

- The rifle must always be handled as if loaded.
- Never put the rifle away with ammunition in the chamber.
- Empty out the magazine when the rifle is not to be used immediately.
- Clean the weapon frequently to avoid rusting and malfunctioning.
- Concerning loading and use, the rifle barrel must always point out to sea and not inwards to the deck.
- The cartridge should go easily into the cartridge chamber. If it is to be pushed in hard with the bolt, check for mechanical problems or dirty chamber/ barrel or wrong type of ammunition, which can lead to the barrel blowing up when the shot is fired.
- A weak recoil or a hissing sound following a shot can mean that the bullet has not left the barrel. THE RIFLE BARREL MUST BE CHECKED AS EMPTY BEFORE THE NEXT SHOT IS FIRED.
- If the shot does not go off, the most usual reason is lack of maintenance or fat/powder residue on the firing pin.
- If the shot goes off on loading (accidentally) it can be blamed on the firing pin projecting forward from the end piece because fat/powder residue is stopping it from going back into the safety position.

AFTER THE HUNT

Following a whale hunt, all hunting equipment must be made ready for use in future hunts. The lines and the buoys must be cleaned and tied up again. The harpoon and rifle must be

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disassembled, checked, cleaned, dried and if necessary the harpoon point must be sharpened. Then it should be reassembled so it is ready for the next whale hunt.

BACK-UP

It is common to have a backup method should the whale not die immediately as a result of the first killing attempt, or there is uncertainty about the result of the killing. In the small cetacean hunt, a rifle or a harpoon is used interchangeable depending on whether the purpose is killing or securing the animal followed by killing.

If a wounded whale is escaping, the hunter must take every step to get the whale killed.

IMPROVEMENTS OF SMALL CETACEAN HUNTING GEARS

Technological improvements in Greenland have entailed the use of hand-held harpoons made of iron, the harpoon shafts as well as the spearing point. This makes the harpoon heavier which results in better penetration into the animal. In addition, this harpoon can be used to pull up whales that have sunk, fig. 6 and 7.



Fig. 6. Hand-held harpoon of iron. The harpoon shaft as well as the spearing point is made of iron. This makes the harpoon heavier which results in better penetration into the animal. Photo: P. N. Hansen.

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Fig. 7. Hand-held harpoon of iron. In addition this harpoon can be used to pull up whales that have sunk. Photo: P. N. Hansen.

Other improvements have consisted of a better supply of ammunition, new rifles, and use of stronger ropes, better boats and GPS. The GPS is used for directing hunters to the area of the last successful hunting place and is also used for timing the diving behaviour of the whales in order to predict when or where to expect the next surfacing.

SPECIES SPECIFIC TARGET SITES

The hunts of harbour porpoise, dolphins, pilot whales and killer whales are very similar, and are normally carried out as a collective hunt. When the whales are spotted, the hunters will approach parallel to the animals. If the weather is sunny, they will position themselves so that they have the sun in their back. This makes it easier to spot the whales when they are diving.

The aim is to deliver a broadside shot into the thorax region (Fig. 8), to kill the whale rapidly by hitting heart, lungs (“circulatory disruption”) or vertebrae. Typical shooting ranges vary from 5 – 30 m. After a successful hit, the hunter must rush to the animal and secure it with a long shafted (4-7 m) gaff hook, called *nissik* in Greenlandic, before it sinks. A hit to the trunk behind the dorsal fin is not necessarily instantly lethal, but the animal may be immobilized and can be retrieved.

Head shots (“neural disruption”) are normally instantly lethal, but the hunters avoid it due to the high risk of losing the whale. The whale will usually sink fast and will easily be lost before it can be retrieved with the *nissik*. Hunters have also experienced that head-shots may induce violent reflex movements, and this can be dangerous to the hunters and damage the boat - and result in a higher risk of struck and loss. There may be different explanations for this observed reaction, although all are hypothetical.

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The collective hunt requires extreme caution from the hunters, in order to avoid shooting accidents, either by direct shots and/or indirect by ricochets, and also to avoid interfering in each other's hunts.

The hunter must be aware that bullets may deflect on water.

HARBOUR PORPOISE, FIG. 8

The hunt takes place in ice-free, off-shore areas using rifles as primary weapon from small, open boats with powerful engines. There are often several boats participating in each hunt, but there will not be any appointed leader. This collective hunt requires extreme caution from the hunters, both in order to avoid ricochet and also in order to not disturb each other's hunts.

The calibre commonly used is .222 with a full metal jacket bullet. Due to the fast swimming speed, and the relatively short shooting ranges, open sights are preferred. 12 or 16 gauge shotguns were used earlier, but are no longer preferred due to longer survival time.

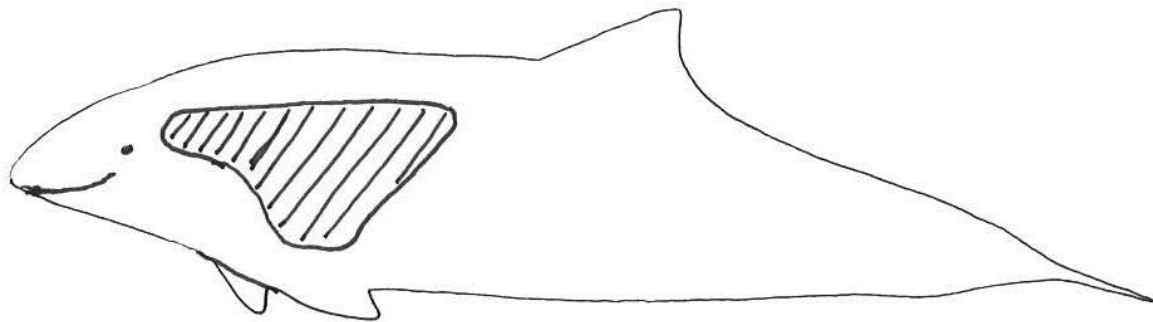


Fig. 8. The marked area indicates the optimal target area in harbour porpoise. From NAMMCO Expert Group Meeting to Assess the Hunting Methods for Small Cetaceans 15-17 November 2011.

WHITE-SIDED AND WHITE-BEAKED DOLPHINS, FIG. 9.

Due to the larger body-size, calibre .30-06 with full metal jacket bullets are commonly used.

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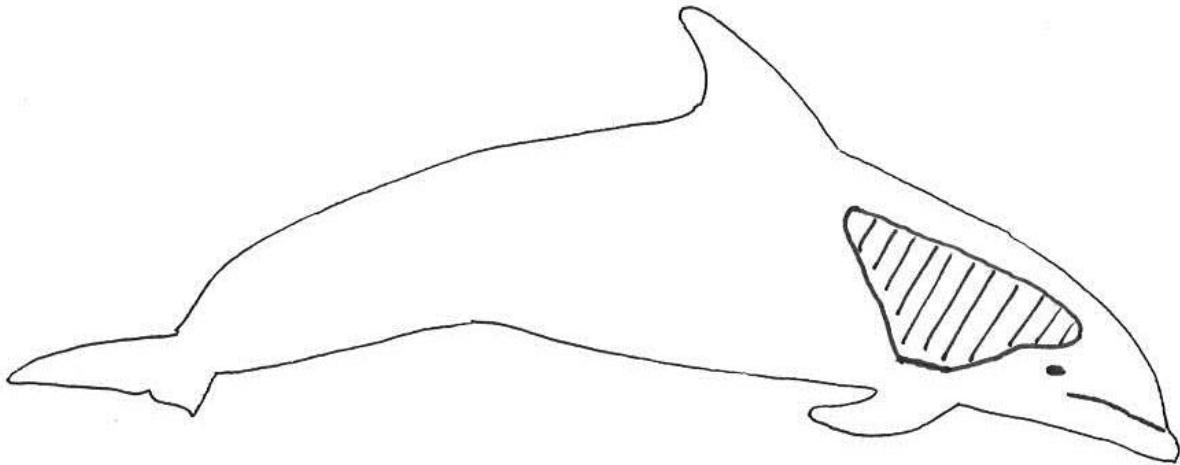


Fig. 9. The marked area indicates the optimal target area of white beaked and white sided dolphins. From NAMMCO Expert Group Meeting to Assess the Hunting Methods for Small Cetaceans 15-17 November 2011.

LONG-FINNED PILOT WHALE, FIG. 10

The strong schooling behaviour of pilot whales makes the hunt relatively easy, compared to the harbour porpoise and dolphins. The commonly used calibre is .30-06 with full metal jacket bullets.

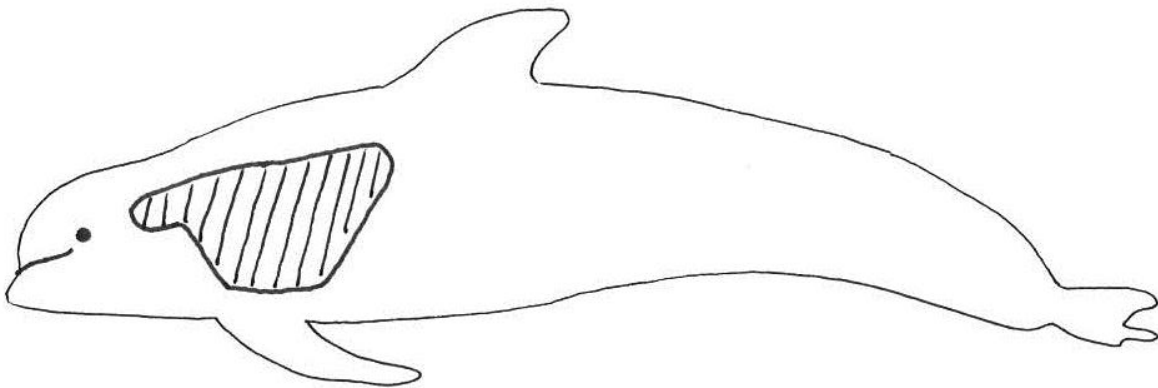


Fig. 10. The marked area indicates the optimal target area of a pilot whale. From NAMMCO Expert Group Meeting to Assess the Hunting Methods for Small Cetaceans 15-17 November 2011.

KILLER WHALE, FIG.11

The killer whale hunt is usually performed as a collective hunt with small boats. Rifles, with a minimum calibre of .30-06 and full metal jacket bullets, are commonly used as the primary weapon.

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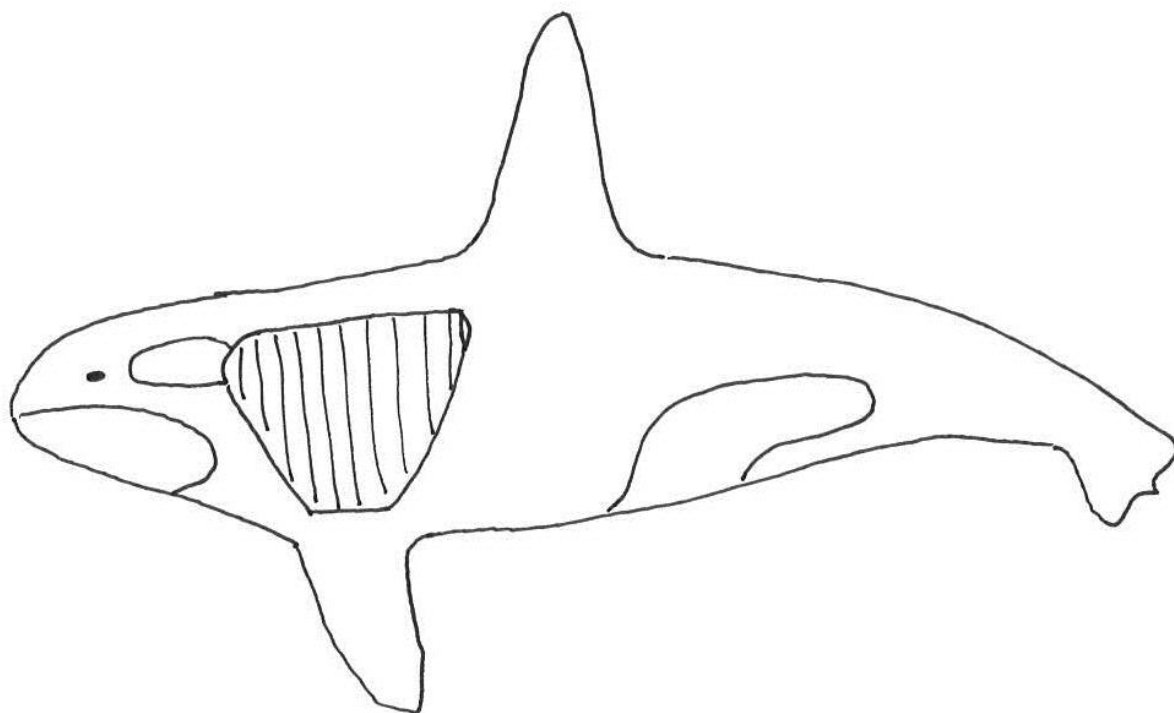


Fig. 11. The marked area indicates the optimal target area of a killer whale. From NAMMCO Expert Group Meeting to Assess the Hunting Methods for Small Cetaceans 15-17 November 2011.

NARWHAL, FIG. 12 AND BELUGA, FIG. 13

Narwhal and beluga are hunted by harpoon from *qayaqs* and with rifles from small boats (skiffs). In a few places in northern and eastern Greenland the whales are also captured with nets regulated through a municipal order.

Often Greenlandic hunters combine traditional hunting methods with the restrictions of contemporary regulations. For instance, the former municipalities of Qaanaaq, Upernavik and Uummannaq have developed regulations stipulating that the hunters may only use *qayaqs* and harpoons, thereby limiting the number of animals taken. It is prohibited to hunt whales by surrounding, trapping or blocking them against land or the ice edge.

RIFLE HUNT FROM SMALL MOTOR BOATS

There are differences in surfacing behaviour between belugas and narwhals, the latter surfacing less frequently than belugas. The hunt takes place in open water and ice cracks. The whale is first harpooned with floats attached to the harpoon line and then shot with a rifle of calibre 30.06/.375. full metal jacket bullets.

The whale is targeted from the side (Fig. 12 and Fig. 13). The brain is the preferred target, but the neck and heart are also regarded as suitable targets. The criteria of death used by the hunters are air bubbles rising to the surface, slackened flippers and jaw. If the whale is not hit

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in vital areas it dives and is re-shot on resurfacing. When the animal is dead, it is secured by a rope around the tail.

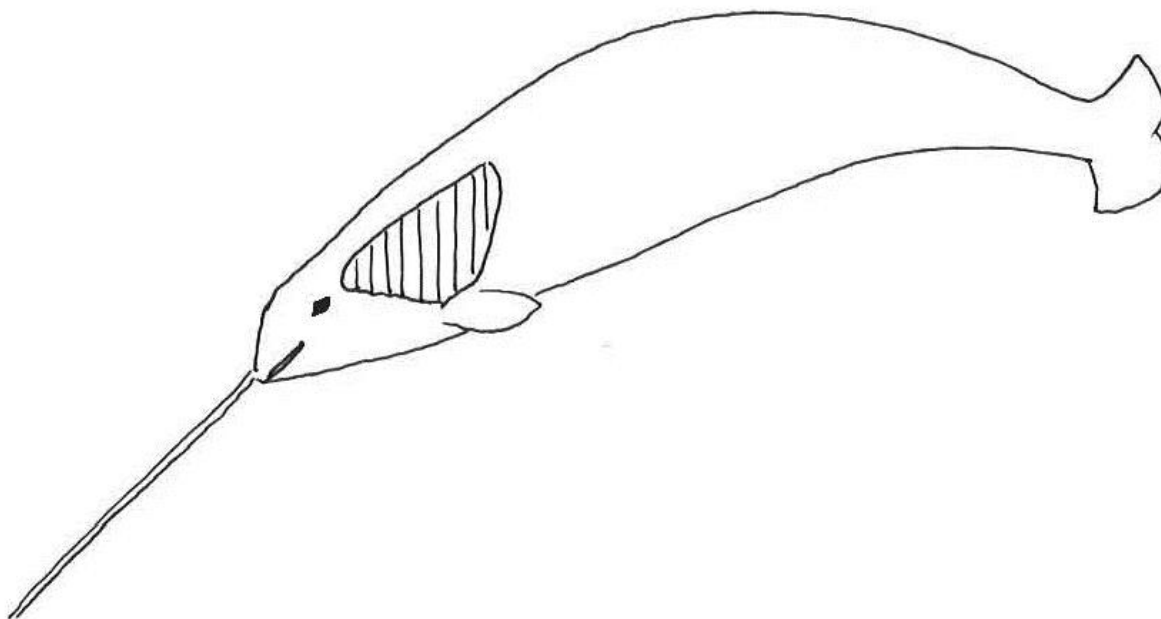


Fig. 12. The marked area indicates the optimal target area of a narwhal. From NAMMCO Expert Group Meeting to Assess the Hunting Methods for Small Cetaceans 15-17 November 2011.

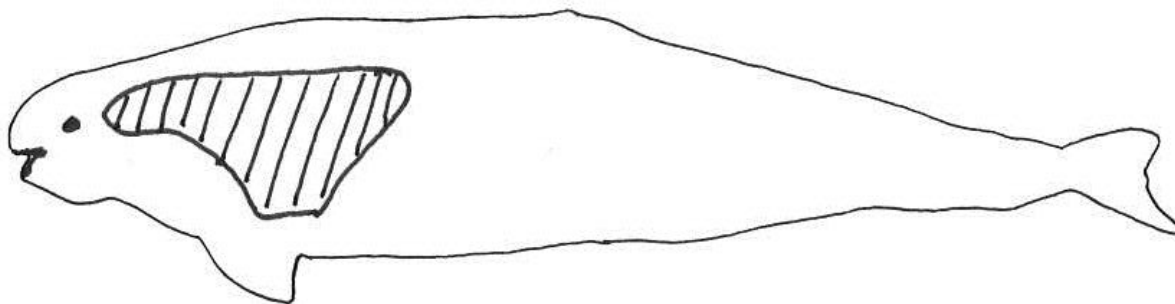


Fig. 13. The marked area indicates the optimal target area of beluga. From NAMMCO Expert Group Meeting to Assess the Hunting Methods for Small Cetaceans 15-17 November 2011.

HARPOON HUNT FROM QAYAQS

This type of hunt takes place close to the ice edge in North Greenland from mid-May to mid-September. For safety reasons, two hunters will cooperate as it is potentially dangerous to go out in a *qayaq* alone. Silence and stealth are important in this hunt in order not to spook the animals. The hunters will observe the whale(s) from shore and very quietly embark the *qayaqs*. The hunter uses a hand-held harpoon in a thrower to gain extra throwing distance. The harpoon shaft (Fig. 14) is made of wood and the harpoon point is made of stainless steel

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and tusk from walrus. Attached to the harpoon is a buoy of skin/cloth tied to a wooden frame on a line of 15-16 m.

The whale will first be secured with the harpoon and buoy, fig. 15 and then shot using rifle calibre 30.06 or .375 with full metal jacket ammunition when it re-surfaces. The target for the shot is the brain, neck or heart. When it is dead the animal is hauled to a beach or ice edge for flensing and further processing.

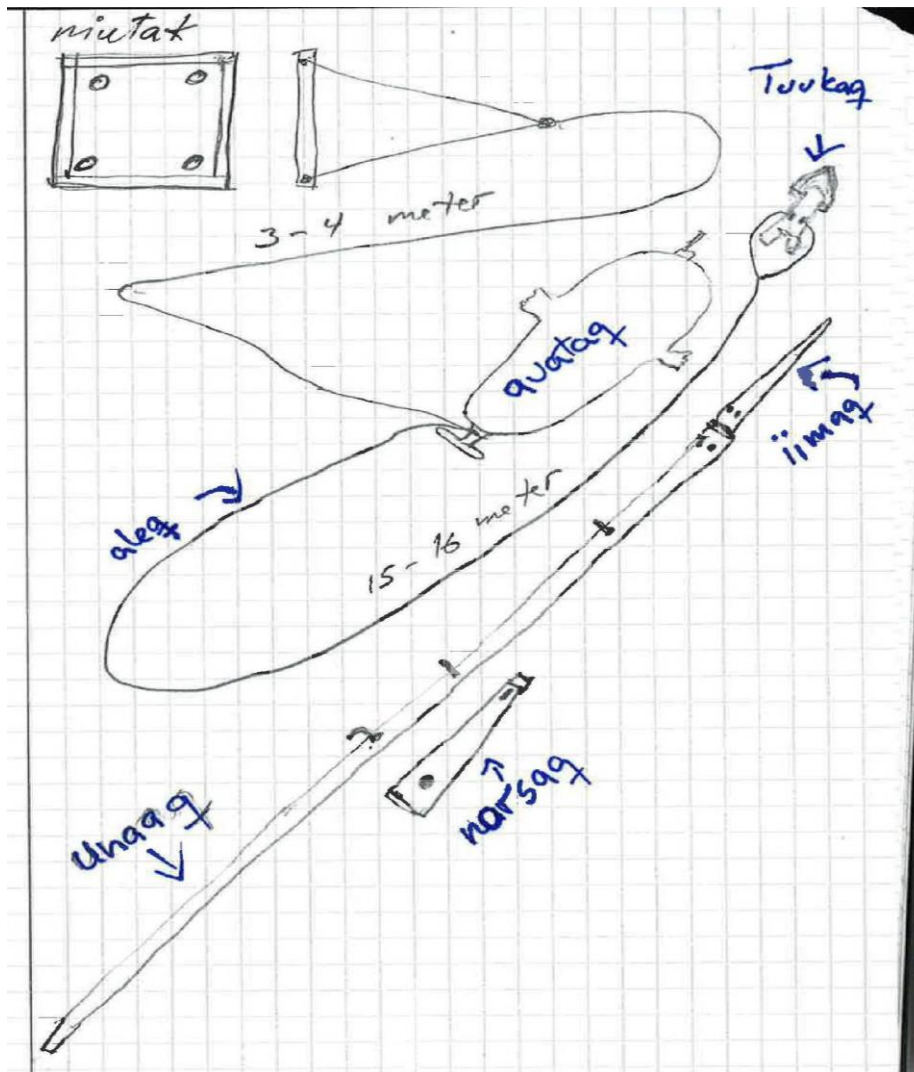


Fig. 14. Harpoon and equipment used for small cetacean hunting from qayaqs in Greenland. From NAMMCO Expert Group Meeting to Assess the Hunting Methods for Small Cetaceans 15-17 November 2011.

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Fig. 15. Hunt of narwhal from qayaq in North Greenland. Attached buoys lying in the water to the right of the qayaq. Photo: P. Hegelund.

NET HUNTING

This traditional method targeting narwhal is used only according to a Municipality Executive Order in East and North Greenland, during dark periods of the year and during very ice-filled conditions.

The net is set in open water or under the sea-ice. The net is 10 meters high and 30 – 40 m long with a 380 mm mesh-size. The net is anchored to land by a wire or chain and held upright by intervals of floats attached by an arm's length of rope to the headline. The base of the net is not secured, but is weighted at intervals by hanging stones. Another netting method is free floating nets anchored underwater at one end. Sink lines are used for weighting the foot line.

All nets are checked daily for captures, and live animals will be shot.