



## TWENTY EIGHTH MEETING OF THE COUNCIL

*17 - 19 March 2020*

*Oslo, Norway*

<b>DOCUMENT 10</b>	<b>REPORT OF THE WORKING GROUP ON BY-CATCH, ENTANGLEMENTS AND LIVE STRANDINGS (BYCELS)</b>
<b>Submitted by</b>	<b>BYCELS</b>
<b>Action requested</b>	<p>Take note of the report and consider the following forwarded guidelines:</p> <ul style="list-style-type: none"> <li>• guidelines (appendix 1) for the euthanasia of stranded cetaceans, including 2 general principles</li> <li>• guidelines (appendix 2) for member countries on setting up national stranding response network</li> </ul>
<b>Background</b>	

## 1. MEMBERS AND MEETINGS

BYCELS held one meeting in 2019 on 4 October in Copenhagen, Denmark.

Committee members: Guðni Magnús Eiríksson (Iceland), Kathrine A. Ryeng and Hild Ynnesdal (Norway), Nette Levermann (Greenland) and Signar Petersen (Faroe Islands).

Chair: Guðni Magnús Eiríksson

The next meeting is scheduled as an online meeting in June 2020, date to be confirmed.

## 2. OVERVIEW OF MAIN DISCUSSIONS AND DECISIONS

### 2.1 PERFORMANCE REVIEW RECOMMENDATIONS

The Working Group (PRWG) reviewing and following up on the recommendations from the Performance Review Panel forwarded a list of recommendations specific to the work of BYCELS that the Working Group had been asked to address.

BYCELS had been asked to consider the recommendations taking into account:

- the relevance of the recommendations,
- inform of further issues they have identified specifically related to specific recommendations but also in general within the work of their committee,
- propose ways for implementing the recommendations and improving processes if relevant.

The section below includes summaries of the recommendations, the PRWG's comments to the recommendations and response by BYCELS. Recommendation identification key PR18-RCXX reads Performance Review 2018-recommendation number.

### 2.2 PR18-RC7

*Recommendation to establish a formal procedure to review and update the NAMMCO website regularly. It was suggested that Committees together with the Secretariat periodically reviewed and endorsed their relevant sectors.*

**PRWG comment:** The website is the most important visibility and outreach tool of NAMMCO. Its content should be correct and updated. The Committees should be the guarantee of the quality of its content. The review of the content should be one of their recurrent tasks.

**BYCELS response:**

- a) BYCELS considered the recommendation highly relevant
- b) No further issues were identified
- c) BYCELS agreed to recommend the following 3-step process for its work to ensure the quality of the content on the website:
  1. to review all current text and information related to BYCELS on the website.
  2. make reviewing new information on the website a standard agenda item for the annual meeting of the committee. If needed, this may also be done by correspondence intersessional
  3. consider how to make the work of BYCELS more visible

BYCELS agreed to endeavour to finalise step 1 by the end of 2019. To accomplish this, members were tasked with reviewing all current text and information by 30 October 2019. The Secretariat had made an overview of all links related to BYCELS and to facilitate the editing process further the Secretariat would compile all information into one document and circulate it to BYCELS as soon as possible after the meeting.

### 2.3 PR18-RC13 AND PR18-RC25

*Recommendation related to the question of standardising data reporting from Parties to the Committees, ensuring data quality and storage. It also recommended working with other relevant IGOs (IWC) to avoid overlaps in deadlines and facilitate the data submission process.*

**PRWG comment:** The priority is to ensure a reliable database (storage of data) with guidelines on data quality and sharing.

BYCELS response:

- a) BYCELS considered the recommendation highly relevant
- b) BYCELS strongly emphasised the importance of safe storage of data with suitable platform to ensure standardisation, continuity and accessibility. BYCELS also recommended that the Secretariat look at how data storage is handled in comparable fisheries organisations (NEAFC, NAFO, IWC)
- c) BYCELS drew attention to the already ongoing work undertaken by the committee to standardise annual reporting of data from Parties by extending the national progress reports to also include data from CIO/CHM/BYCELS in addition to SC. This work entails identification of which data should be submitted and in what format, one annual deadline for data submission and how and in which form the submitted data can become publicly available on the website.

### 2.4 PR18-RC20

The recommendation was not part of the ones forwarded by PRWG to BYCELS. However, CIO had been asked to consider the recommendation and had concluded that it belonged to BYCELS.

*The Panel noted the low number of strandings reported and the absence of information on hunting effort and ship strikes in the NAMMCO data spreadsheet. Measures of hunting effort related to catches of some species could be obtained relatively easily from analyses of hunting licenses issued, logbooks and inspection and observation reports and interviews with hunters. The Panel recommended that ship strikes be reported more consistently.*

**PRWG comment:** a question of data quality.

BYCELS response:

- a) BYCELS found the recommendation to report ship strikes in a defined standardised manner relevant and within its area of responsibility
- b) The magnitude of the problem in member countries was discussed and it was noted that more information is needed on whether reported incidents were individual cases or if it happens frequently in certain hot spots or ship lanes
- c) NAMMCO member countries do not have regulations for reporting of ship strikes thus reporting has been based on voluntary and random. BYCELS recognised that much work has been carried out by IWC and others on the issue of ship strikes. IWC has a global ship strike database functional since 2007. In 2019 a joint Workshop was held with IUCN and ACCOBAMS discussing ship strike hot spots.

### 2.5 DATABASE, DATA REQUIREMENTS AND DEADLINES

BYCELS in cooperation with CHM and CIO had recommended to Council to synchronise the submission of standardised data from all committees. The proposal, endorsed by Council 27, was to extend the current National Progress Report to include the required annual data reporting from all committees.

BYCELS discussed and finalised the data requirements for by-catch, entanglements, stranding and ship strike. Noting that 2019 would represent a trial year it was envisaged to assess the functionality of the identified data categories based on the 2019 reporting.

BYCELS agreed to propose 1 February as the annual deadline.

The issue of developing a database with the Secretariat as depository had not been discussed by Council 27. BYCELS underlined that the important part is to collect standardised data that allow comparisons between countries. The specific platform where the data are stored should be defined at some stage but the essential issue for the committee is the quality and accessibility of the data.

## 2.6 GUIDELINES

BYCELS had previously agreed to develop guidelines on how to euthanise live stranded cetaceans, how to take samples from stranded animals and how to disentangle large whales in the Arctic.

Various guidelines developed by IWC, ASCOBANS and others had been reviewed with the aim of identifying procedures and actions for recommendation to NAMMCO members. Greenland had requested easily accessible guidelines for practical use for trained wildlife officers and hunters.

### 2.6.1 How to euthanise stranded cetaceans

Taking the Norwegian guidelines on how to handle living stranded whales as inspiration, BYCELS discussed and agreed to recommend to Council the guidelines reflected in appendix 1. It was emphasised that these guidelines related only to cetaceans and not all marine mammals. BYCELS furthermore agreed to recommend the following general rules:

- Under most circumstances stranded large cetaceans are in a terminal condition. For animal welfare as well as human safety reasons, any attempt to refloat and release such animals should not be conducted. If the whale does not refloat on its own after one tidal cycle, euthanasia should be considered if trained personnel and suitable equipment for euthanasia is available
- Methods for chemical euthanasia of large cetaceans are being tested in other countries but are currently not sufficiently developed and should not be used.

### 2.6.2 How to take samples from stranded animals

Several internationally agreed protocols and guidelines on how to sample stranded animals exists ranging from the simplest scenario to a full necropsy. BYCELS decided that there was no need to develop more guidelines for sampling but rather **recommend** that members use the most recent recognised protocol when a situation occurred. Attention was drawn to the 2019 ASCOBANS report/paper: Best practice on cetacean post-mortem investigations and tissue sampling, as this built on the most up to date knowledge and practices.

### 2.6.3 How to disentangle in the Arctic

IWC is a recognised authority when addressing the issue of disentanglement. Disentangling large whales is dangerous, and human injuries and deaths have occurred even with experienced people involved. In recognition of this no guidelines on how to *perform* disentanglement or the specific equipment used for disentanglements is publicly available. Only best practice guidelines referring to general safety, personnel management and equipment, types of platforms etc. is publicised.

The IWC guidelines strongly emphasise that they are made to provide principles and guidelines for trained personnel to safely and effectively respond to reports of entangled live whales at sea. The objective of an entanglement response is to remove all detrimental entangling gear safely from the whale and learn as much from the entanglement as possible to ultimately prevent entanglements from occurring. Actions by untrained persons can worsen an entanglement situation and put human lives at risk. Therefore, the IWC and coordinator of The IWC Expert Advisory Panel on Entanglement Response, David Mattila, do not give detailed instructions on how to disentangle but state that specific disentanglement procedures should be addressed through a thorough and strict training programme.

Greenland and Norway have both organised this training programme lead by Mattila, and BYCELS had previously discussed developing guidelines especially for the Arctic.

Significant factors characterising the Arctic are light condition and temperature. Rescue operations, at least in Norway, would mostly take place in wintertime with few hours of daylight and sometimes very low temperatures resulting in challenges e. g. like handling equipment with big gloves. The long coastline in Greenland and thereby the difficulties in getting trained personnel to an entanglement event complicates the situation.

Rethinking the rationale of making guidelines for actions that should not be conducted without prior training and professional knowledge on how to act, BYCELS agreed to concur with the sentiment expressed by IWC and others i.e. that such guidelines might prompt untrained personnel to try disentanglement with a very high risk to human lives and to worsen the situation for the entangled whale.

Greenland expressed an interest of developing a bullet point list of things to remember when such situations arise. Several years have passed since the training course was held and the wildlife officers trained by Mattila had been involved in few disentanglements. Thus, it was argued that an easily accessible bullet point list highlighting safety issues for personnel would increase the readiness and capability of the wildlife officers to such incidents in Greenlandic waters.

BYCELS asked the Secretariat to draft such a list for review at the next meeting.

## **2.7 STRANDING RESPONSE NETWORK**

Based on existing stranding response networks Ryeng and Winsnes had developed a draft on how to set up stranding response networks, on what to report and where to store the data. The proposal was aimed as a guidance for setting up national stranding response networks in member countries and not to develop a stranding response network in NAMMCO.

The guidelines give some principles on how to organise a response network (define coordinating authority/where to call, identify management area and volunteer units within each area, items for reporting, how to store data, development of information material etc). BYCELS agreed to forward the guidelines depicted in appendix 2 for the use of member countries.

## APPENDIX 1: GUIDELINES FOR THE EUTHANASIA OF STRANDED CETACEANS

### 1. GENERAL PRECAUTIONS

Definition of euthanasia: *the use of humane techniques to induce the most rapid and painless and distress-free death possible (AVMA 2013).*

From an animal welfare point the pain and suffering of live stranded cetaceans could be ended by euthanasia and should be considered. These guidelines pertain to such events.

**ALWAYS call the responsible authority. Specify telephone number!! Parties: Identify relevant responsible authority for animal welfare issues related to marine mammals.**

- *Do not act before responsible authorities have been notified, and necessary permission granted*
- *Only authorised personnel should perform euthanasia*
- *Human safety is the 1<sup>st</sup> priority. A whale may move the tail or pectoral fins with great force*
- *Action (euthanasia, disentanglement or moving of animals) should not be initiated in a hasty manner due to expectations from the public*

A stranded whale is defined as a whale that is laying on land or in shallow water. The general rule is that such animals should be euthanized, and no rescue operation should be conducted.

When a large whale, such as members of the rorqual family (fin whale, minke whale and humpback whale), sperm whale, killer whale or a beaked whale is stranded on the beach or in shallow water it is assumed that they are already sick or weakened for some reason. Due to its weight, attempts to pull the animal out to sea will inflict wounds and injuries. For animal welfare reasons, **the animal should not be pulled out to sea**. It should either be allowed to die on its own or euthanized if it could be done in a responsible manner from an animal welfare perspective.

Responsible euthanasia requires knowledge of the anatomy of the species and which weapons are the most effective. Euthanasia is only responsible when conducted by competent personnel and with suitable weapons.

### 2. KILLING METHODS

Stranded whales or whales that are entangled beyond rescue can be killed by explosive grenades, explosives, heavy calibre rifles and drugs. However, methods for the euthanasia of large whales by drugs are not sufficiently developed and should not be used.

#### 2.1 EXPLOSIVES

Explosive harpoon grenade/penthrite grenade can be used only on large whales out at sea or in shallow waters where it is possible to approach the animal with a vessel with harpoon gun (shooting distance within 10 – 30 meters). In this context, large whales mean all baleen whales plus sperm whale, beaked whale, and killer whale. **The shoot shall be aimed towards the thorax from the side** as shown in figures 1-6. When used correctly the animal will in most instances die immediately.

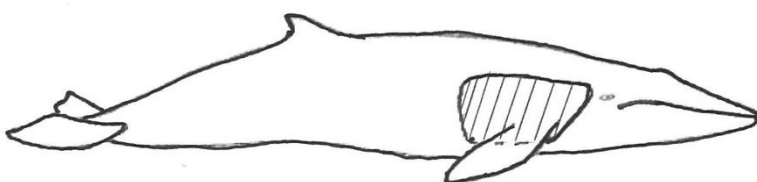
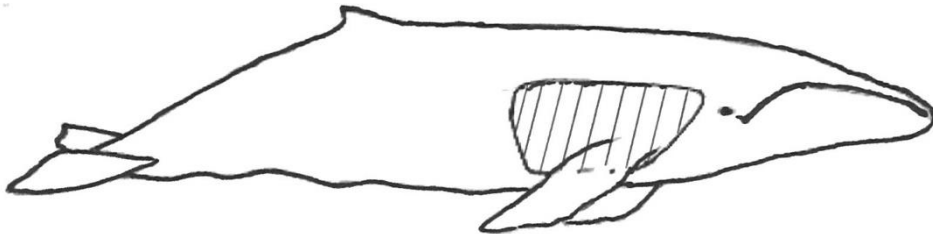


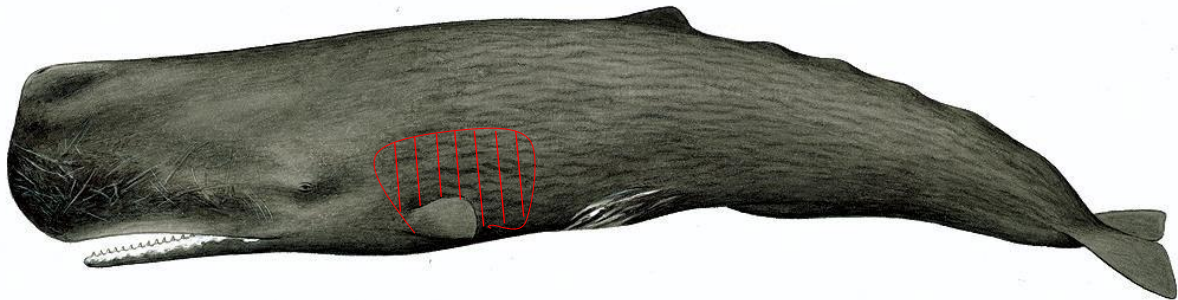
Fig. 1 Minke whale target area (vital organ area – hatched area) for detonation of harpoon grenade



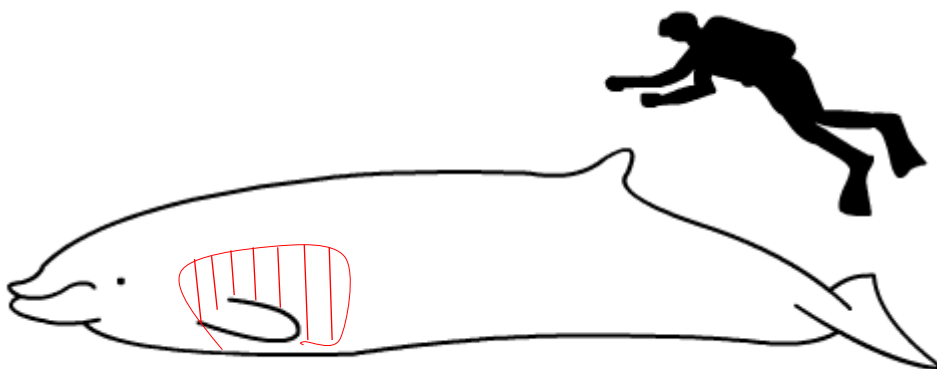
*Fig. 2 Fin whale target area (hatched area) for detonation of harpoon grenade*



*Fig. 3 Humpback whale target area (hatched area) for detonation of harpoon grenade*



*Fig. 4. Sperm whale target area (hatched area) for detonation of harpoon grenade.*



*Fig. 5 Cuvier's beaked whale target area (hatched area) for detonation of harpoon grenade. Basic illustration from Wikipedia.*

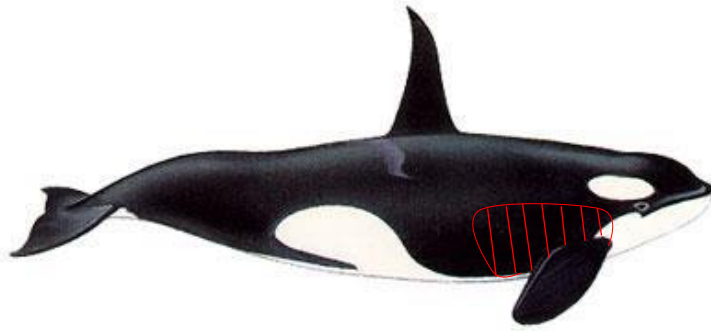


Fig. 6 Killer whale target area (hatched area) for detonation of harpoon grenade

## 2.2 RIFLE

Rifles may be used to kill several whale species. For smaller toothed whales, such as pilot whales and dolphins, ordinary expanding large game ammunition can be used. For large whales, however, the expanding projectile will most often not be able to penetrate the thick skull and reach the brain. Therefore, expanding ammunition should not be used on large whales.

The recommended ammunition in Norway for large whales is full metal jacket, round-nose bullets in calibre 9.3 mm (.366) and upwards. Norwegian investigations have shown that such ammunition penetrates the skull and reach the brain causing instantaneous loss of consciousness and death in minke whales. Calibre .458 has proven good results in both humpback- and sperm whales.

### Aiming/targeting and safety

- Main rule: aim at the brain or first cervical vertebra
- For animals lying on the side: aim towards the brain from the back side (dorsal side) of the animal
- For animals lying on the belly/with stomach down: position yourself to aim from above towards the brain
- The barrel of the rifle must never be in contact with the animal when the shot is fired! If in contact, the rifle may explode, which may be life threatening for the shooter.
- Be aware of the background – the bullet may penetrate the skull and ricocheting represents danger for shooter and personnel.

### 2.2.1 Baleen whales (minke whale, fin whale and humpback whale)

#### Ammunition:

- Minke whale: full metal jacket, round-nosed bullets calibre 9.3 mm (.366) and larger
- Fin whale and humpback whale: full metal jacket, round nose bullets calibre .458 and larger  
For the largest whales, it may be necessary to use several shots to make sure the animal is dead.

To hit the brain in these species, the shot should be placed in the middle plane (sagittal plane) along an imaginary projected line that starts at the eye and advances upwards and backwards at the same angle as an imaginary line from front through blowhole and eye (Figure 7.1).



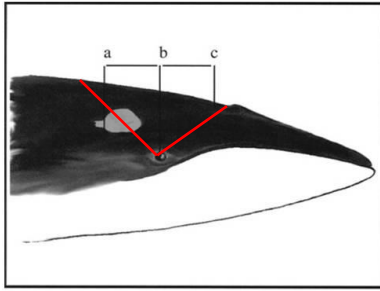


Figure 1  
Minke whale head with the brain as seen from the side

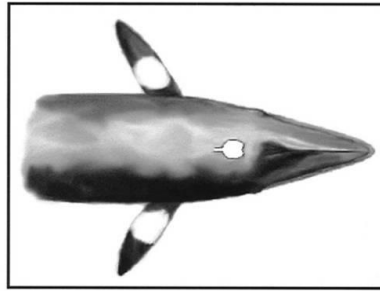


Figure 2  
Minke whale head with the brain as seen from above

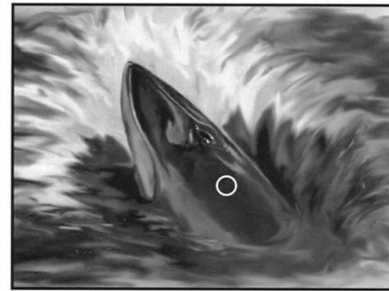


Figure 3  
Minke whale head with the characteristic target point for the rifle seen obliquely from the back

*Fig. 7. The brain's location in the minke whale and target sites for gunshot from different positions. (SK Knudsen, H Rud and EO Øen, 1997). Seen from the side, the brain is positioned in a plane mid-way between the eye and dorsal surface of the head. Fig. 1 shows the back edge of the brain laying along a projection on a horizontal line (a) as far behind the eye (b) as the blowhole (c) extends to the front of the eye. The brain of the minke whale is about 20 cm wide, 20 cm long and 15 cm high. The centre of the brain lays about 55 cm behind the blowhole opening in a small (5.5 m) minke whale and about 75 cm behind the blowhole opening in a large (8.5 m) minke whale.*

#### 2.2.1.1 Shot from the back side (dorsal side)

Aim from above directly towards the brain. If the shot is directed from behind, it must be directed obliquely forwards approximately 60 – 80 cm behind the blow hole.

#### 2.2.1.2 Shot from the side

Aim at a point on the imaginary line that goes backwards from the eye and about 20 - 25 cm below the contour of the head.

#### 2.2.1.3 Shot from the belly side (ventral side)

Aim midway between the jaw bones (mandibles) to a point 30 - 50 cm (depending on the size of the whale) behind the eyes. It may be difficult to accurately place the shot.

#### 2.2.1.4 Shot to the heart

If emergency situations, the shot may be aimed to the heart.

Fin whale species: the heart is located underneath the centre of the pectoral fin when the fin is lying into the body.

Humpback whale: the heart is located underneath the front half of the pectoral fin. See figures 1 - 4

#### 2.2.1.5 Animal reaction to shot in brain and heart

Hits in the brain or cervical vertebrae: often the whale will strike one or more times with the tail fluke before the body it is completely relaxed. If the effect is uncertain, the animal should be reshot. When reshooting, the shot may be placed 10 – 15 cm in front of or behind the first shot.

Hits to the heart: Usually, the animal will show little reaction to the shot. Unconsciousness and death are caused by the bleedings that occur and are therefore not immediate but will take some time.

### 2.2.2 Sperm whale

Use harpoon grenade or rifle of minimum calibre .458 and round-nosed full metal jacket bullet.

The brain is located along an imaginary projected vertical line midway between the eye and anterior contour of the pectoral fin. From the back side (dorsal side) and the ventral side, the shot is directed in the middle plane (sagittal plane) along this imaginary line.

Because of the spermaceti organ in the head, the sperm whale should preferably be shot from the side. The shot is directed at the point of the skull where the vertical line crosses an imaginary horizontal line from the eye. Fig. 8.



Fig. 8. Sperm whale: location of the brain and rifle shooting instructions from different positions. Illustration: Marcos Oliveira, Nat Drawings, [http://natdrawings.blogspot.no/2013\\_04\\_01\\_archive.html](http://natdrawings.blogspot.no/2013_04_01_archive.html)  
Shooting instructions: EO Øen

### 2.2.3 Killer whale

The brain is located approximately right underneath the white spot above the eye. Shot from the side should be directed in the centre of the white spot. Shot from above should be directed in the midline so that it passes through this area – see fig 9.

Use rifles with a minimum calibre of 9.3 mm (.366) and a full metal jacket round-nosed bullet (equivalent to ammunition for minke whales).

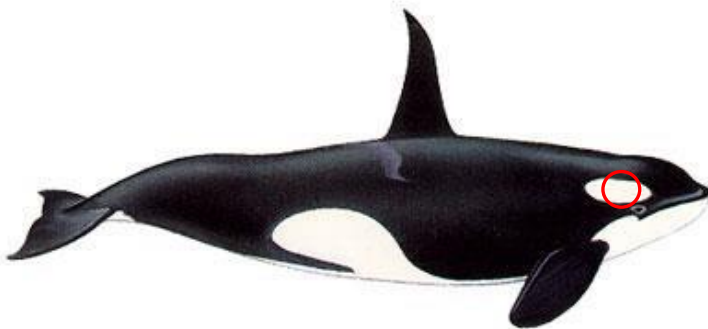


Fig. 9. Killer whale: location of the brain and rifle shooting instructions from different positions. Illustration: [www.regjeringen.no/no/dokument/dep/nfd/veiledninger\\_brosjyrer/2000/fakta-om-hval-inorske-farvann/4/id275084](http://www.regjeringen.no/no/dokument/dep/nfd/veiledninger_brosjyrer/2000/fakta-om-hval-inorske-farvann/4/id275084) Shooting instructions: EO Øen

### 2.2.4 Other toothed whales

#### Ammunition:

- Pilot whales and dolphins: expanding bullets (hunting ammunition) may be used in calibres e.g. .270, .308, .30.06 or equivalent calibres  
In dolphins and harbour porpoise, shotguns with slugs, i.e. lead bullets, may also be used.

In dolphin species the shot should be directed from the blowhole towards an imaginary line through the anterior contour of the pectoral fins (approximately 45 °) – see fig 10.



Fig. 10. Dolphins: rifle shooting instructions. Shooting instructions: EO Øen  
 Illustration: Lagenorhynchus albirostris © Würtz-Artescienza, CMS nettsider;  
[http://www.cms.int/reports/small\\_cetaceans/data/l\\_albirostris/l\\_albirostris.htm](http://www.cms.int/reports/small_cetaceans/data/l_albirostris/l_albirostris.htm)

In pilot whales, the shot should be directed in the same angle, approximately 15 – 20 cm behind the blowhole - see figure 11.

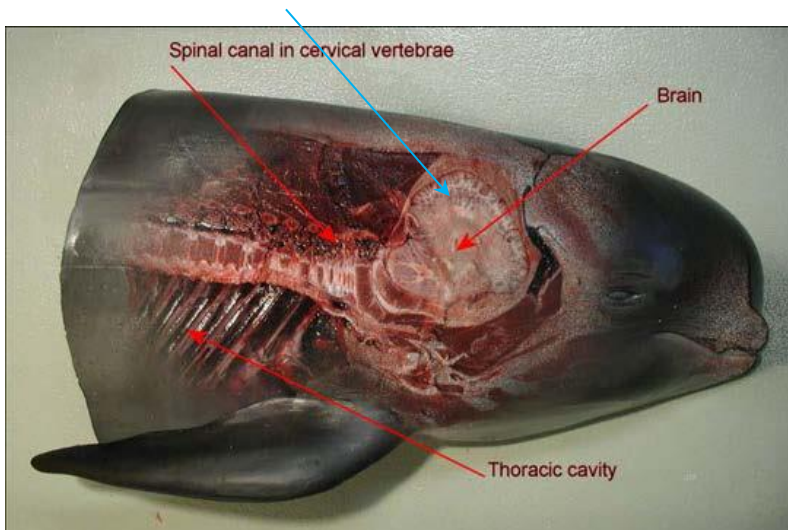


Fig. 11 Location of the brain and correct aiming of the rifle shoot (blue arrow). Shooting instructions: EO Øen  
 Illustration: B.Hanusson, J. Olsen

## APPENDIX 2: STRANDING RESPONSE NETWORK

### HOW TO REPORT, WHAT TO REPORT AND WHERE TO STORE THE STRANDING DATA

#### ORGANISATION

- Define relevant coordinating/leading authority (unit and contact person (Ministry/Directorate/Research Institute)) - where to call

It is recommended that the leader/coordinator is a veterinarian or experienced biologist who will be able to assess the situation in order to initiate relevant action (euthanise, possible sampling, who should respond and to what)

- Identify coastal areas (management areas) and volunteer units within each area

Suggestions for volunteers: local zoological/ornithological/nature/animal welfare organisations.

Member Countries to identify possible NGOs or interested persons to be volunteer in the network. Training courses should be arranged for the network of volunteers

If sampling is required, suitable equipment should be stored at sites identified by the member countries.

#### HOW TO REPORT A STRANDING ALIVE OR DEAD FROM THE POINT OF VIEW OF THE PERSON FINDING THE ANIMAL(S)

To be widely distributed!! Local police station, NGO's local newspapers, radio stations etc, municipality,

Important to remember when approaching a live stranded animal

- Approach the animal calmly and carefully. Keep away from the tail!
- People, dogs and wild animals should be kept at a distance.
- Do not move the animal by pulling on its fins or tail.
- Call coordinator who will ask for further information such as:

##### **Stranding both alive and dead**

- Location and date found
- Species and sex
- Overall length
- Condition of the animal
- Your contact details should further information be needed

Based on this information the Coordinator will decide on further action.

Live strandings: information will be forwarded to relevant task force (as a rule large whales will be euthanised if possible).

Dead strandings / after euthanasiation: Sampling according to protocol relevant to the size of the animal or coordinator gives instructions about sampling and further processing of the samples (pathological investigations).

Necropsy and sampling procedures should be performed according to standardized international protocols as far as possible – e.g. ASCOBANS best practice on cetacean post-mortem investigations and tissue sampling.

### **WHO KEEPS THE DATA – DATABASE**

Consider and identify unit to collate all data from stranded animals - repository for a stranding database.

Consider joining an existing database (e.g. ASCOBANS, IWC)

Should existing national databases be displayed on [www.nammco.org](http://www.nammco.org)?

### **DEVELOP TRAINING AND INFORMATION MATERIAL FOR STRANDING NETWORK VOLUNTEERS**

Use existing materials available online (IWC, ASCOBANS, The Scottish Marine Animal Stranding Scheme)

Greenland already has developed a 1-page information sheet.