

# seal



handling after the shot



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## Preface

After a long break, hunting on coastal seals was reintroduced at the end of the 1990's and the beginning of the 2000's. The interest for seal as game has increased, but many of the skilled sealers are gone and with them their sound knowledge of both hunting technique and game handling.

The project "The seal- our resource in common" aims at maintaining the remaining knowledge and developing it into methods that meet the demands of today concerning hunting, ethics and quality. The seal is an excellent wildlife resource with a skin that is highly valued, and with a meat of high quality. The goal is to take care of as many harvested seals as possible and improve the chances to get a source of income. Much effort should therefore focus on the production of high quality seal products for reaching a broader market. However, you will not master the skill the first time you handle a game that is new and different for many people. Obtaining knowledge is, in other words, important.

"The seal – our resource in common" has arranged many training courses during the 2000's in Finland, Sweden and Norway. Old sealers have participated and shared their knowledge. Cooks, meat experts, and persons working with different handicrafts have been able familiarize themselves with the seal and to use their special skills on the products. The goal has been to produce high quality raw material as well as finished products. The project has also produced a series of education material concerning almost everything from skin preparation and seal skin sewing to seal meat handling.

The book that you hold in your hand is the continuation of "Säl, hylje, sel – the seal in a modern kitchen", published in 2006. Here you will learn how to handle the seal after the shot in order to get the highest quality meat, fur, leather and blubber. The content of this book represents the project's result so far, and it is a good platform to proceed from here as our knowledge improves and develops.



Anita Storm  
Project leader of The seal – our resource in common

This material is produced by the project "The seal – our resource in common" and Hunters' Central Organisation from Finland was responsible for the printing. The InterregIIIA programme Kvarken Mitt Skandia has partly financed the project. In 2004-2007 "The seal – our resource in common" was a three-country-project, and from 2007, it is a Finnish-Swedish-project. The Kvarken Council administers the project. See [www.nordicseal.org](http://www.nordicseal.org) as well.

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## Introduction

There are three seal species in the Baltic: grey seal, harbour seal, and ringed seal. The grey seal is the largest one, and it may reach a length of more than two meters, and weigh more than 300 kilograms. Today, the grey seal is the only species for which hunting is permitted in the Swedish and Finnish parts of the Baltic.

In the beginning of the 1900's, the seal population in the Baltic area was large, but due to heavy, effective hunting, and environmental toxins, the population declined dramatically. According to some researchers there were only about 3 600 grey seals left in the Baltic in 1975. Therefore, the grey seal was protected from 1982 to 1997 in Finland and from 1974 to 2001 in Sweden. The same was true for the ringed seal, too. Today, the grey seal population has increased to more than 20 000 individuals, and due to damage on fishing gear caused by the seal, both licensed hunting and hunting to prevent damage are now allowed. There is no hunting on ringed seal although some are taken for research.

Currently, seal management plans in the Nordic countries are being written or revised. They are needed to guide the countries in their politics about seal management during the coming decades, and to clarify what

research should be prioritised. Finland presented a management plan for grey seal and ringed seal in 2007. In Sweden, the grey seal management plan of 2001 is under revision, and a plan for the ringed seal is being prepared. In Norway, discussions about management plans have started.

### History

In former days, the grey seal and ringed seal were important game for the communities along the Baltic coasts of Finland and Sweden. In some places, particularly in the Gulf of Bothnia, the seal was a cornerstone for the identity and survival of the archipelago inhabitants. The seal gave everything from food and clothes to blubber and oil. The oil, extracted from seal blubber, was at times a very important commodity that was exported via Stockholm to the rest of Europe.

The seals were harvested by fishing with hooks and nets, by clubbing or with spears, and by seal shooting – with bow and arrow at first, and later on with firearms. In the 19th century, breechloading rifles became common and the hunt became more effective. In the beginning of the 20th century, a bounty was introduced for seals in Finland and Sweden, and the Mauser bolt-action rifle became more frequently used. With the weapons



of former times, the sealer had to be quite close to the seals, and used several ways to entice the seal to come closer. These methods differed among districts. Even at the beginning of the 20th century, a sealer could use a seal pup on a hook like bait and entice the seal mother to come. Seal flippers, or wooden scrapers, were used to scratch on the ice, imitating the sound of a seal moving on the ice. Some sealers even “called for the seal”. By imitating the sounds of seals, seals were lured into shallow water. Among other tactics, the sealer could lift his legs, dash them together, and imitate both the movements and sound of the seal.

Sealing occurred all the year round, but the most important hunting period was early spring, not least during the classic sealing trips in the Gulf of Bothnia and Kvarken. For a long time these were the most extensive hunting ventures in Scandinavia, and a special boat type called fälbåt (fäl-boat) was used. Contrary to the short hunting trips in the home archipelago, the fäl-voyages went far away to the outskirts of the archipelago. The journeys could last for two or three months. The sealers lived on the early spring ices, often in their fäl-boats, when they hunted seal. This form of sealing has had a strong tradition in Ostrobothnia from the 16th century until the mid 20th century. In southern parts of Finland and in Sweden its importance varied.

There is an old saying about the fäl-voyage departure which translates as: At Matthias (February 24), when the first grey seal pups are born, the spear should be sharp. This means that all the careful preparations should be done and the fäl-boat equipped. The sealers should have left home not

later than mid-March, and horses pulled out the fäl-boats to the ice rim and open water. The journey could last until the end of April or beginning of May. Sometimes they made another trip before summer. On their journey, they brought supplies as smoked meat, butter, cheese, round loaves of bread, salt, coffee and aquavit. Apart from this, they ate from the seals. In addition to rifles (during later centuries), the seal spear (väckare) probably was the most important hunting tool. They used the väckare, to pull a shot seal on board, or on the ice, and to kill the seal with one stab. The spear point was also used to check the ice strength. The sealer struck the spear against the ice, and listened to the sound to determine if the ice was strong enough to travel on. He then used a skredstång, a type of ski, to glide towards the seals.

Due to declining profits from sealing, improved standards of living, and declining number of seals, the interest for going out on the hazardous fäl-voyages waned.

### Hunting today

Sealers still clubbed pups in Sweden at the beginning of the 1960's, but many raised their voices for a regulation of the hunting methods in Scandinavia. The main concern was that the high rate of seal harvest plus its timing could have negative effects on the population. In England, for instance, the seals were totally protected during their reproduction period at this time, which resulted in growing seal colonies.



Now, that sealing has been resumed in Swedish and Finnish waters of the Baltic, only firearms are allowed, and various hunting acts strongly regulate the seal hunting in each country. The acts state means, periods, areas, and quotas for hunting and who owns the hunting rights (see also Legislation and collection of samples, p. 14). Ice hunting is still of importance in Kvarken and northwards, even though the long fäl-voyages are no longer made. In south of Kvarken, however, seals are only hunted from open water and islands.

The most common hunting form is for the hunter to wait on an islet for seals to come within shooting range. After the shot, the sealer has to go out by boat – therefore at least two mates are needed to land the seal before it sinks to the bottom. If the seal sinks anyway, the place has to be marked. A sinking seal leaves behind an oil spot on the water surface, which facilitates the search. The seal should only be shot at shallow places where the sealer knows for sure that he is able to land it.

### The seal as a resource

When hunting was first resumed, many sealers discarded the meat and blubber after the seal was killed. It is, however, still possible to take care of what the seal gives us. Pelt, meat and blubber may all become high quality raw materials and products. Seal meat is for instance tasty, low in fat, and very nutritious. It is rich in protein and trace minerals like iron, zinc, copper, calcium, and vitamins A, C and D, but is low in saturated fatty acids

and carbohydrates. The seal meat has the same protein content as ungulate meat, around 22 percent, but much lower content of the vital trace minerals as calcium, iron and magnesium. The levels of selenium and vitamin B12 are also high.

Despite the low fat content of the meat, it has high levels of unsaturated fatty acids (omega-3) and nowadays the blubber is refined into seal oil, as a health food. The oil is said to be useful for problems of the joints and chronic intestinal diseases, as well as having preventive effects on heart- and vascular disorders. Also, chronic skin problems like psoriasis are said to be alleviated by seal oil. As in former days, seal oil can be used in paint and for impregnating wood to prevent decay.

The seal's pelt has always been coveted due to its shine, its beautiful surface and its water repellent character. It wears well, too, and stands rough treatment. Clothes made of sealskin are suitable for people that spend much time outdoors.

The seal is at the top of the food chain and some parts of it therefore contain very high levels of environmental toxins, and should not be consumed (e.g. liver and kidneys). Also the blubber contains high concentrations of toxins like PCB and DDT. The Finnish National Food Administration (EVIRA) is working on recommendations on how much meat from Baltic seals that may be consumed. The recommendation for the time being is not to consume seal meat more than once or twice a month (100 grams per occasion). The same recommendation is valid for Baltic Herring and Salmon caught in the Baltic.

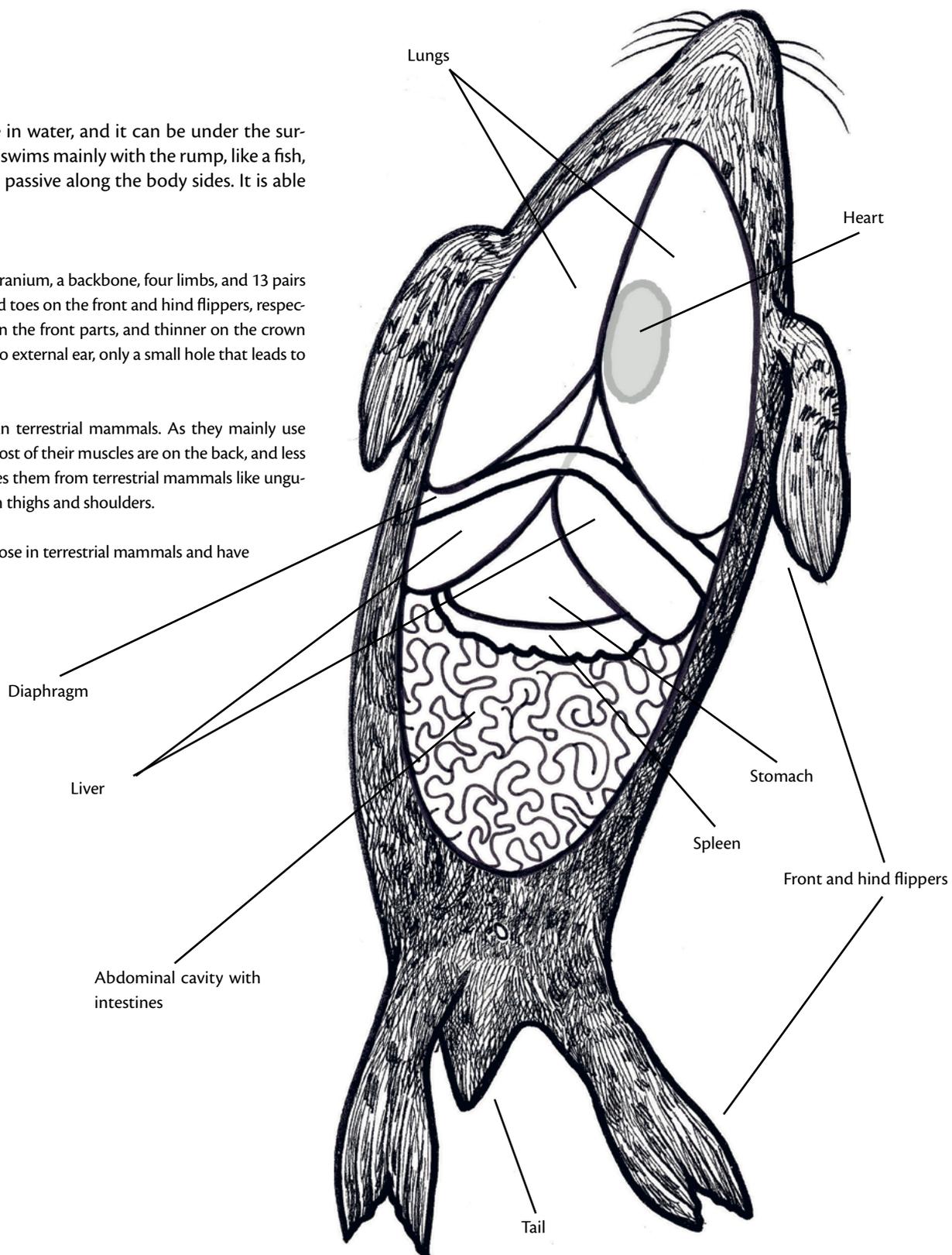
## Seal anatomy

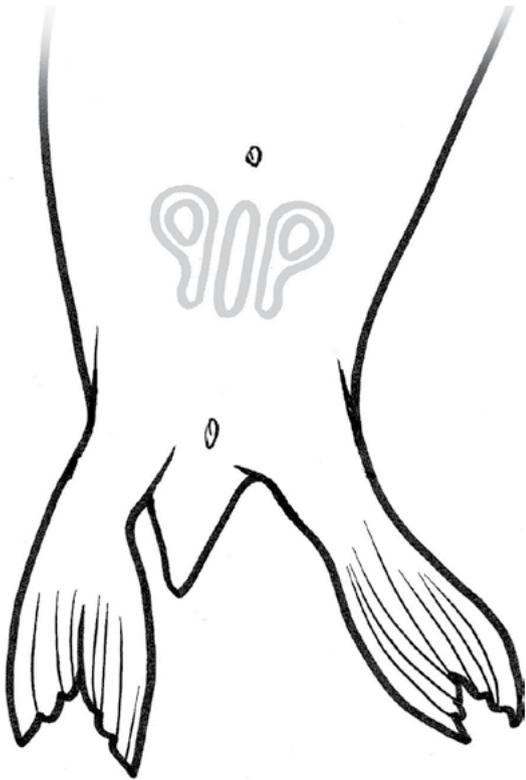
The seal is adapted to a life in water, and it can be under the surface for up to 20 minutes. It swims mainly with the rump, like a fish, with the front flippers kept passive along the body sides. It is able to dive 200 meters deep.

The seal skeleton consists of a cranium, a backbone, four limbs, and 13 pairs of ribs. There are five fingers and toes on the front and hind flippers, respectively. The cranium is thickest in the front parts, and thinner on the crown and on the sides. The seal has no external ear, only a small hole that leads to the internal ear.

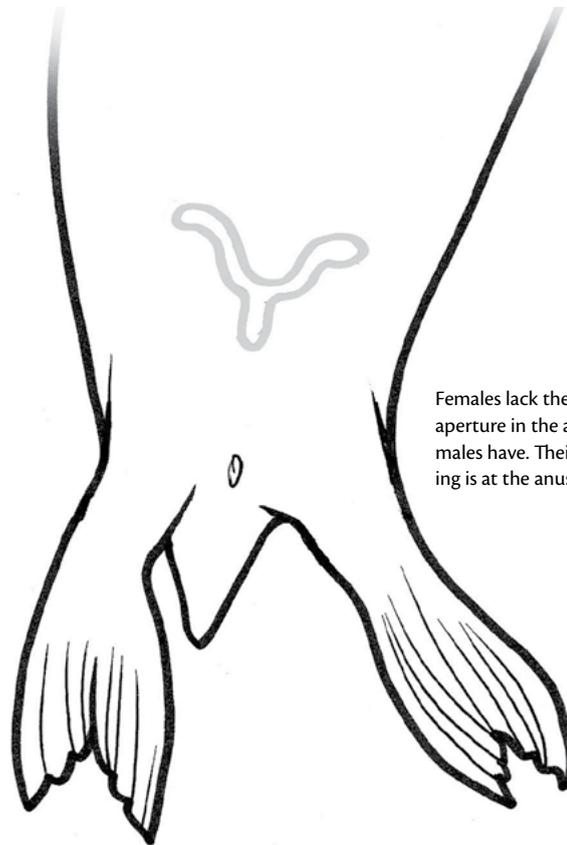
The seal has shorter limbs than terrestrial mammals. As they mainly use their rump when swimming, most of their muscles are on the back, and less at the flippers. This distinguishes them from terrestrial mammals like ungulates that have large muscles on thighs and shoulders.

The internal organs look like those in terrestrial mammals and have similar positions.





Males have a sexual aperture in the abdomen, behind the navel. You can feel the penis bone if you press a hand on the abdomen, just beneath the sexual aperture.



Females lack the kind of sexual aperture in the abdomen that males have. Their vaginal opening is at the anus.

The muscles have a rough structure and the seal meat is low in fat. The fat is instead concentrated as the thick blubber layer beneath the skin, which can reach a thickness of 10 cm during periods when there is plenty of food for the seal.

To be able to stay under the water surface for a long while, the seal has a higher capacity to store oxygen in their muscles than terrestrial mammals. This is due to high levels of myoglobin, an iron-containing sub-

stance that stores oxygen. The iron of the myoglobin gives the meat its very dark colour. As a consequence of the high oxygen storing capacity, the muscles can twitch for a long time after the animal has died.

The seal has also a considerably higher amount of blood relative to its body size, compared to ungulates, which contributes to the high oxygen storing capacity. The level of red corpuscles with its oxygen holding, iron rich haemoglobin is exceptionally high, too.

## Book outline

It may seem a bit difficult to take care of a seal for the first time, but practice makes perfect. To make the best use of the seal, it is important to prepare yourself before the hunt, and to plan for what you are going to do afterwards.

This book will facilitate your planning of each step and what should be done next. Our goal has been to give a systematic narrative of how to handle a seal. We suggest in which order the actions should come, how the cuts should be placed, how the meat should be treated, etc. In reality, of course, there are almost as many ways to handle a seal as there are sealers. The book builds on traditional seal knowledge and on knowledge obtained during several seal projects, and it is adapted to the legislation of today. The aim is to ensure high quality seal products at the end.

The division of chapters in the book follows the flow of actions when a killed seal is handled, and the key chapters are terminated with a Result section, and references to later chapters. Chapters are coded in contrasting colours to make it easy to use the book. In the explanatory chart on the opposite page, you will find the division of chapters, and colours.

### Before the shot

Legislation and collection of samples • Hygiene  
• Checklist • Safety

### Bleeding and skinning

Bleeding • Skinning (Skinning for fur and leather; Skinning for trophy and mounting) • Result

### Gutting

Exposing the entrails (Abdominal membrane; The chest; Removal of entrails; Head and hind quarters)  
• Results (Handling the carcass; Handling the entrails, and collection of samples.

### Handling the meat

Preparations • Butchering • Storing • Cooking

### Fur and leather

Removing the blubber • Final trimming • Washing  
• Preservation • Final products

### Blubber

Boiling seal oil • Final products

### Skeleton

Bone working • Final products

Before the shot

Bleeding / skinning

Gutting

Handling the meat

Fur and leather

Blubber

Skeleton



# Before the shot

To hunt and handle seals puts demands on the hunter's skill, judgment, and sense of responsibility – before, during, and after the hunting. The preparations have to be careful in all respects, no matter if it concerns the shot or the cutting-up.

Sealing puts special demands on both marksman and equipment. Sharpshooter precision is necessary when seals are hunted, as the target area is very small. The bullet has to hit the head, an area as large as the palm of a normal hand. With a proper hit, the seal floats for a short while before it sinks to the bottom. Even if a lung shot kills the seal, it will immediately sink or dive, and be lost. Therefore, the sealer must always be prepared to pass on a shot if the seal cannot be recovered. He or she must also be concerned about personal security.

Test your own limitations on a shooting range before you go out sealing. Try to shoot from a distance of 100-300 meters. Remember that seal-hunting occurs at sea, without any reference points for estimating distance. Judgments above water and ice over more than 100 meters are very difficult, with a high risk of misjudging the distance. Strive to choose ammunition with a flat trajectory as this will reduce the importance of exact distance judgment.

For your own safety it is important to make sure that all necessary equipment is at hand (for further details, see the chapter on Safety).

Hygiene and good preparation for storage is important for all kinds of hunting and cutting of game meat, but perhaps even more important during sealing. Due to specific factors, unique for the seal, the meat could quickly go bad and the skin spoil unless you proceed properly (for further details, see the chapter on Hygiene).



A. Legislation and collection of samples

B. Hygiene

C. Check-list

D. Safety

## A. Legislation and collection of samples

The seal-hunting season reaches from April 16 to December 31 in both Finland (licensed hunting) and Sweden (hunting to prevent damage). In the 2007 season, 200 seals were allowed to be harvested in Sweden, and 675 in Finland (i.e. 2006-2007 season), distributed among several counties and Game Management District. Åland has a special hunting quota, which allowed a harvest of 450 seals in 2007 season.

The Hunting Act of each country regulates the sealing. The hunting has to occur from firm ground (also ice) or moored boat in Sweden, and from firm ground or boat in Finland. A harvested seal in Sweden has to be reported to the Coast Guard not later than 9 pm on the same day. A harvested seal in Finland has to be reported to the Game Management District 7 days after hunting season is closed. In Åland, a harvested seal must be reported to the Government of Åland not later than 11 pm the same day.

In Finland, the seal carcass and the internal organs have to be examined by a municipal veterinary before it is commercially used. It is also recommended that meat for personal use be examined. As a rule, the smoke-houses ask for an examination in order to accept meat from private individuals. The examination includes a check for trichinae, among other things. Seals from the Atlantic have trichinae, but so far, no trichinae have been found in Baltic seals, even though the risk cannot be excluded. A tissue sample from the seal should also be taken for research purposes.

In 2007 there were no regulations concerning seal meat examination in Sweden, but some parts, e.g. the sexual organs, neck/chest and abdominal organs, have to be sent to the Swedish Museum of Natural History for research purposes.

The guidelines may change from year to year. Find out what applies to your actual season and country. More instructions about the Hunting Act and how to sample the tissues can be obtained from each country's hunting or nature conservation organization. In Finland, the Ministry of Agriculture and Forestry establishes the seal hunting guidelines, and the Finnish Food Safety Authority is responsible for examinations and possible recommendations for consumption. In Sweden, the Swedish Environmental Protection Agency establishes the guidelines for seal hunting.

Read more:

[www.riista.fi](http://www.riista.fi) (the Game Management District in Finland)  
[www.naturvardsverket.se](http://www.naturvardsverket.se) (Swedish Environmental Protection Agency)  
[www.la.aland.fi](http://www.la.aland.fi) (County of Åland)

## B. Hygiene

Since the seal meat contains many unsaturated fatty acids that easily bind oxygen, the meat quickly turns rancid. This process is accelerated if blubber remains or if bacteria (for instance from outside the seal, contents of the stomach, or from the sealer himself) are left on the meat. To take care of a seal therefore puts high demands on hygiene, quick bleeding, gutting, cutting and cooling.

Wash your hands before you start. Use clean disposable gloves in vinyl or latex during the entire slaughtering and handling of the raw meat, partly to protect the seal meat and partly to protect yourself. Individual seals may carry bacteria, probably a *Mycoplasma*, that is normally found in the seals' mouth. The bacteria are killed when the meat is cooked, but humans may be infected through wounds on the hands when handling the seal. The infection is called seal finger, and the symptoms are a red and swollen finger after an incubation period of up to two weeks. The infection risk is not high, but if it happens, the antibiotic tetracycline in high doses will cure it.

Remember that the seal carries many bacteria on its pelt and in its stomach and intestines. Change gloves between the slaughtering phases. Change knives, too, or clean the tools thoroughly. Keep paper towels and detergent at hand. It is good to wear a disposable apron to protect the meat against contamination. Always use a set of knives and chopping-boards solely meant for seals, in order to reduce the bacteria transmission. Remember that all tools, including the sharpener, should be subjected to the same hygiene rules as the knives.

The fur side of the pelt and the content of the stomach and intestines must not get in touch with the meat. If so happens, trim the contaminated meat or shot wounds. Do not use water as it will spread the bacteria and give them better growing conditions. Use water only to wash your hands and tools.

Read more about mycoplasma:

Ståby, M. Seal Finger – the return of a sealer's complaint (in Swedish)  
*Läkartidningen* 2004, 101:1910-11

## C. Check-list

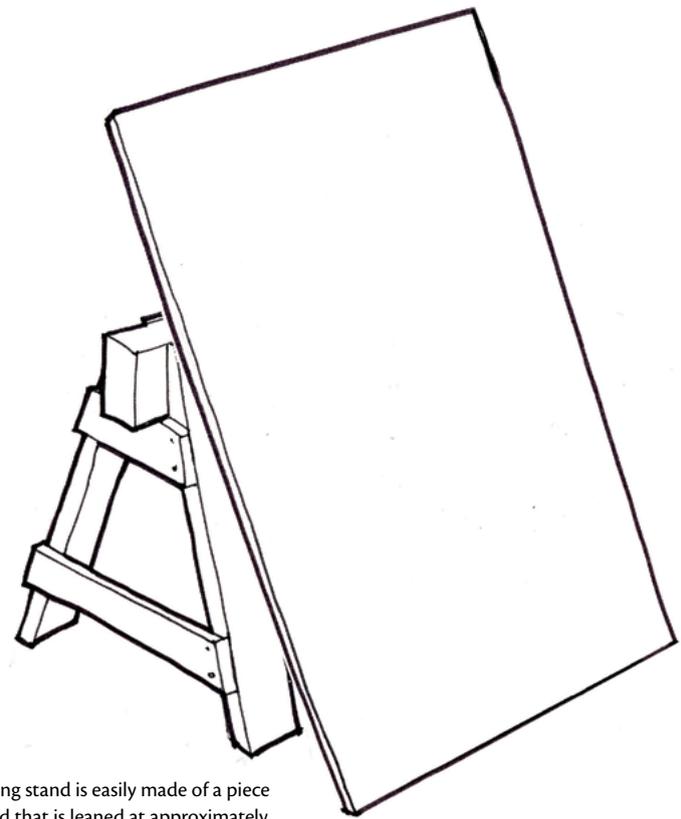
You need the following during and after the slaughtering:

- At least two clean and sharp knives for handling the carcass - one knife for the outside of the body, and another for the inside when gutting and cutting-up (clean them between the different stages). Use a stronger knife for the gutting, and a smaller one to cut around the back spines.
- Sharpener – most knives will dull fast.
- Axe, bone saw, or a pair of pruning shears. Particularly for older seals, a knife is not enough.
- Disposable gloves
- Protective clothing
- Detergent for the hands and knives
- Paper towels
- Working area that is easy to clean, for instance a table
- Clean plastic boxes (or similar) with ice or some kind of cooling medium for the carcass transport.
- Plastic containers or bags for freezing the quartered meat
- Plastic sacks for the intestines and other organs and tissues that will be sent for analysis
- String to close the sacks
- Felt pen to mark the sacks sent for analysis

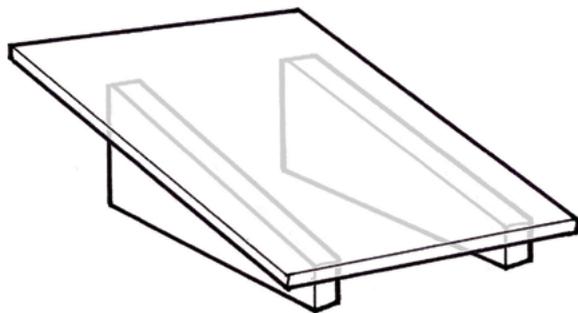
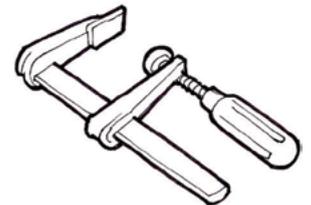


## You need the following during skinning and when preparing the skin:

- An angled skinning stand and clamps, or rounded scraping beam to remove the blubber. These are both ergonomic and will improve the work. The surface has to be smooth and preferably without any knots because any unevenness will result in holes in the skin.
- Trimming table
- Knives of any type. However, avoid short, pointed or stiff blades as they often cut holes in the pelt. Many prefer a short knife with a broad blade that is sharpened at a blunter angle than ordinary knives.
- Scraper knife
- Plastic box for the blubber
- Detergent to wash the blubber-free pelt.
- Sawdust to get a better grip, and for tumbling the skin if you have access to a revolving drum-type tumbler to complement the washing.
- Boiled brine to store the blubber-free and washed pelt in. The brine must be cooled before the pelt is entered, and should therefore be prepared before the sealing. In order to get good quality fur, the pelts should be put into the brine as soon as possible after the blubber has been removed.
- Barrel or large vessel.



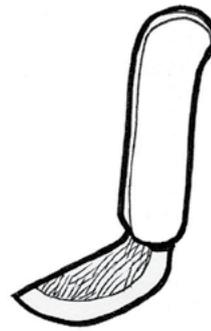
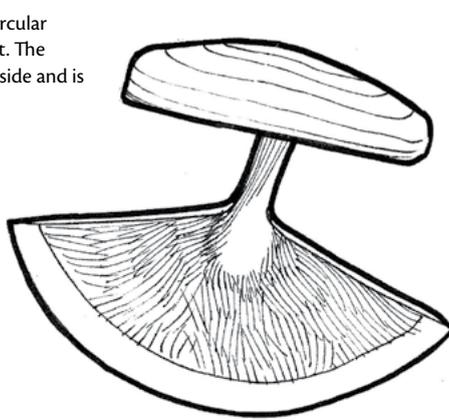
The skinning stand is easily made of a piece of plywood that is leaned at approximately 60 degrees angle. The size could be about 1.2 meters x 1.2 meters, depending on your own height and ergonomic needs.



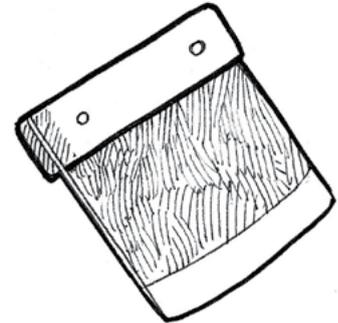
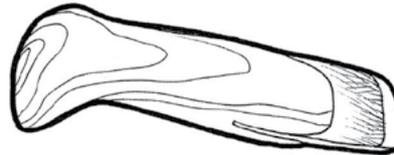
The trimming table is mainly used during the final trimming when the pelt is thinned with an ulu. The table can also be used when pressing out excess oil from the fur side.

A scraping beam is made of half a log, or for instance a telephone pole, or a concrete tube with a diameter of at least 40 centimetres.

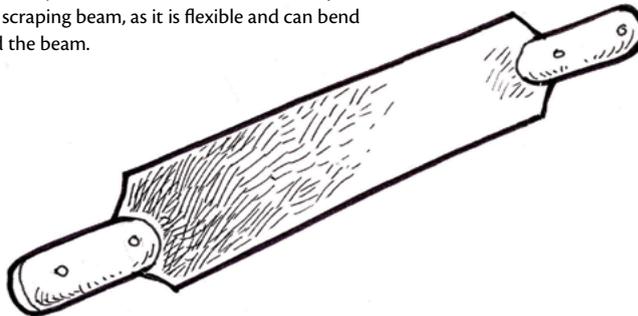
The Inuit use an ulu, a semicircular tool, to trim and thin the pelt. The knife is bevelled on only one side and is used on flat surfaces.



A bent slate knife (like those used in the stone-age) is hard enough to remove the blubber, and if used at the correct angle (less than 45 degrees), it will not cut holes in the pelt. Use this knife on the scraping beam.



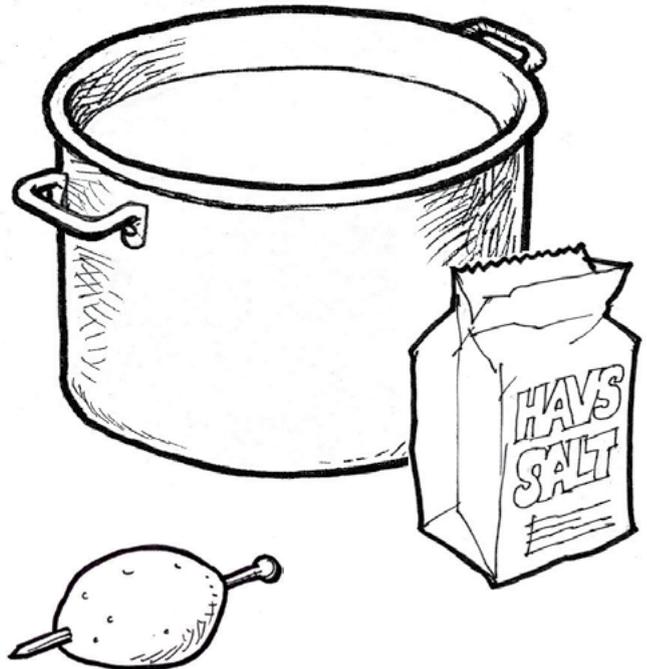
The scraper knife can be made of an old saw blade. Make it about 30 cm long with handles at each end, and only bevel it on one side. Use the scraper on the scraping beam, as it is flexible and can bend around the beam.



Two types of scrapers or softening tools. You use them to press out excess oil from the fur side. An ordinary ice-scraper works well too. The tool should be a bit blunt. These tools are also used to soften the fur at the final stage of the fur processing.

### Brine recipe

Boil 20-30 litres of water. Add sea salt (7, 5 kg salt per 20 litres of water) until the brine is saturated, and the salt no longer dissolves in the water, but precipitates at the bottom of the pot. One way to check the salinity is to use a potato with a seven inch nail stuck through it. The salinity is sufficient when the potato floats in the brine.



## D. Safety

The hunting for grey seal in the Baltic not only occurs in open water, but also in drift-ice. The drift-ice puts higher demands on the sealer, his or her need to pay attention to security, and his/her equipment, as the entire landscape changes when the ice moves.

During periods with much ice, the hunting takes place in smaller boats of fibre-glass or metal that withstand collision with the ice. It is a good combination to travel in a seven to eight meter long boat, and have a smaller “sealing” boat of about four meters length, in tow. When the sealer approaches the seal, he jumps into the “sealing” boat to sneak upon the seal. There should be at least two persons in the “sealing” boat, and one left in the large boat, to prevent it from drifting.

### Remember to bring:

- Good communication equipment (GSM with a range that has been checked in the area, or a satellite telephone)
- Life jacket in summer time
- Possibly a survival suit, or a snow mobile suit in Gore-Tex® (used together with a life jacket)
- Ice-prods (in winter time)
- Compass, preferably a GPS
- Distress-signal rocket
- Food for more than twice the time of the planned hunting
- Additional fuel

Listen to weather and ice reports before you go out sealing. Inform relatives and friends about your travel plan, and update them continuously about your position.

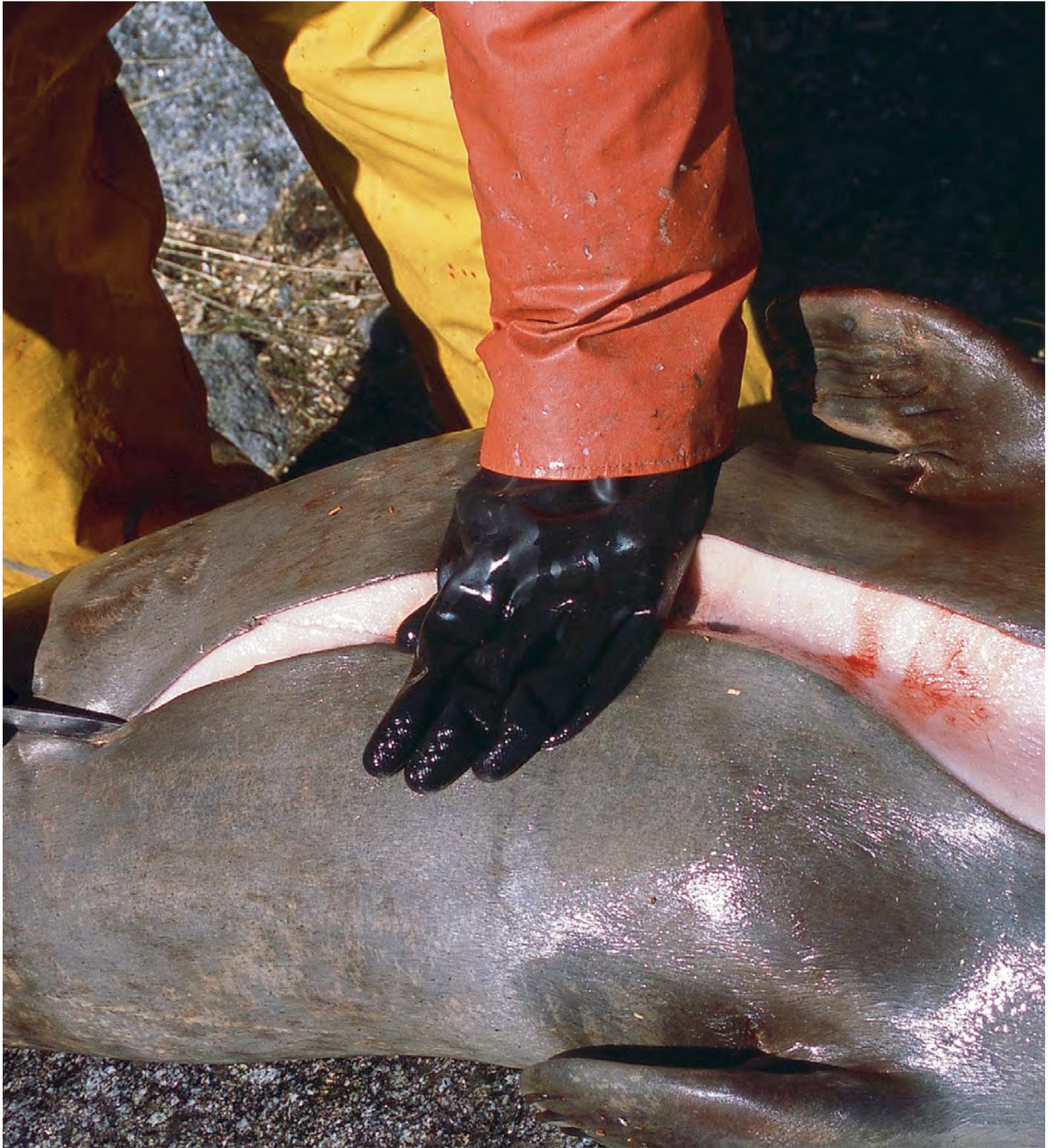
Reed more about hunting on ice and open water, and about the shot itself:

Anon. *The Seal – Hunting and Handling* (in Swedish). Swedish Association for Hunting and Wildlife Management/Kvarken Council, 2004.

Enroth, T. Sealing in the Drift-Ice (in Swedish), *Jägaren* 2007, 3:20-25.







# Bleeding and Skinning

The seal has to be bled immediately after it is killed. After that, the pelt, blubber, and entrails are removed from the body, preferably within an hour in order to get the highest quality of both meat and skin. The longer you wait, the higher the risk for the meat to turn rancid. Blood lipids and blubber might also taint the flavour of the meat. Before you start, you should be prepared for handling the carcass.

It is important to skin the seal properly, or it will reduce the value of the pelt.

Decide right from the beginning how you will use the skin, as there are two rather different skinning methods:

- Skinning for fur and leather
- Skinning for trophy and mounting

Skin the seal in a shady place to avoid the sun, which can spoil the fur. Do not use hooks or other hard or sharp tools to pull up the body into the boat or during transportation in general. In addition, this avoids contamination. If necessary, try to apply them close to the head to avoid unnecessary holes and scars.

Do not let the blood come into contact with the fur or it will result in discoloration. Do not let the knife that you used for skinning, and thus has been in contact with the fur side, touch the meat. To avoid dirt and bacteria, the meat must not come into contact with the fur side or with the surface used during skinning.



## A. Bleeding

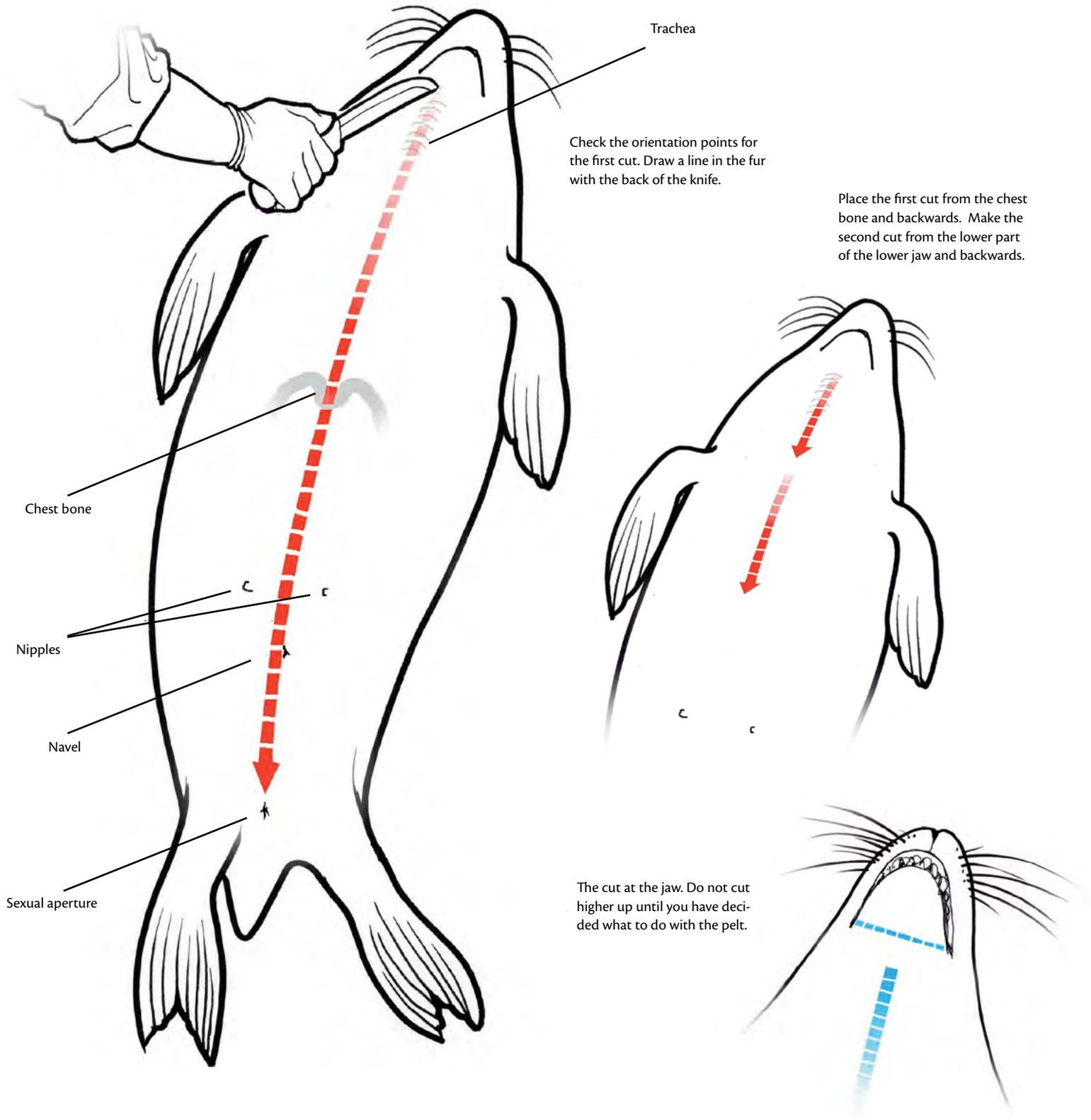
## B. The skinning cuts

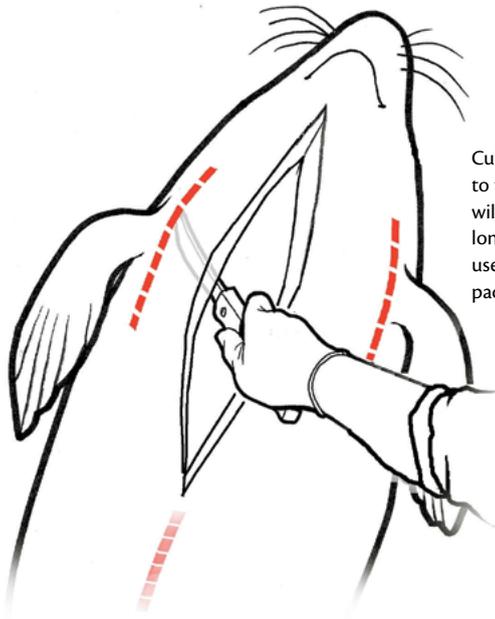
## C. Results



### You need this:

- Disposable gloves (several pairs)
- Sharp bent slate knife or other knife with a long cutting edge + a whetstone/sharpening steel
- Scalpel + pair of pruning shears (if skinning for a trophy)
- A table, or similar working surface to place the body on for a better working position



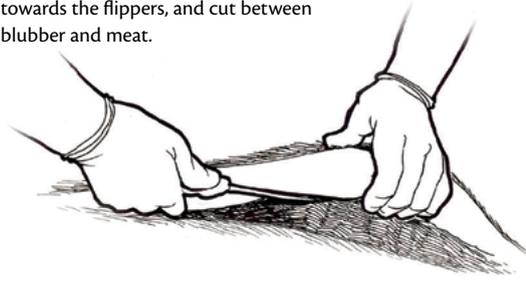


Cut off the arteries that lead from the heart to the front flippers from the inside. The seal will bleed out quickly as the heart beats for a long time after its death if a head shot has been used. This is due to the high oxygen binding capacity of the heart muscle.



Turn the seal on its stomach, break it out, and let the blood drain away.

Work from the longitudinal mid-cut towards the flippers, and cut between blubber and meat.



## A. Bleeding

Even if you do not skin, gut and cut the seal where you have harvested it, the seal has to be bled immediately after being killed, and before you move it to a slaughtering house or similar place for further processing. The amount of blood in the meat decreases markedly if the bleeding is performed properly, which is important for the best meat quality.

### Placing of the body

Put the seal on its back, which is important to get a symmetrical pelt. Check the orientation points: from lower jaw, down to the trachea (the horseshoe-formed rings of cartilage are easily felt through the skin), and to the breast bone, navel, nipple, sexual aperture and anus. Check the sex of the seal and measure the body length for later reporting.

### The first cuts

Draw a line in the fur with the back of your knife along the seal mid-line, from the jaw point and backwards. Make the first cut from the centre of the chest bone (between front flippers) and backward. Cut through the skin and blubber without touching the meat.

It is easiest to start the cut on the chest, as you will be able to see how thick the blubber is. You will also be able to control the depth of your cut

over the abdominal cavity and other soft parts. Be careful – do not cut through the abdomen. Finish the cut some centimetres before the anus. Make the second cut from the lower part of the lower jaw down to the chest bone. Depending on how you want your pelt, start the cut from the lower jaw at different points (see further under B. Skinning).

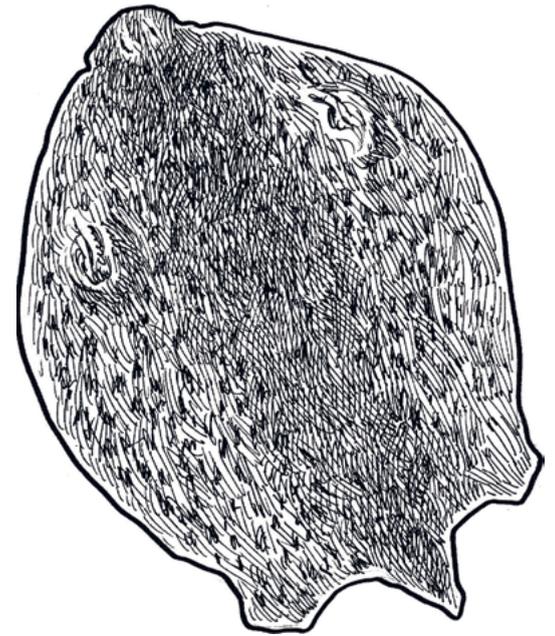
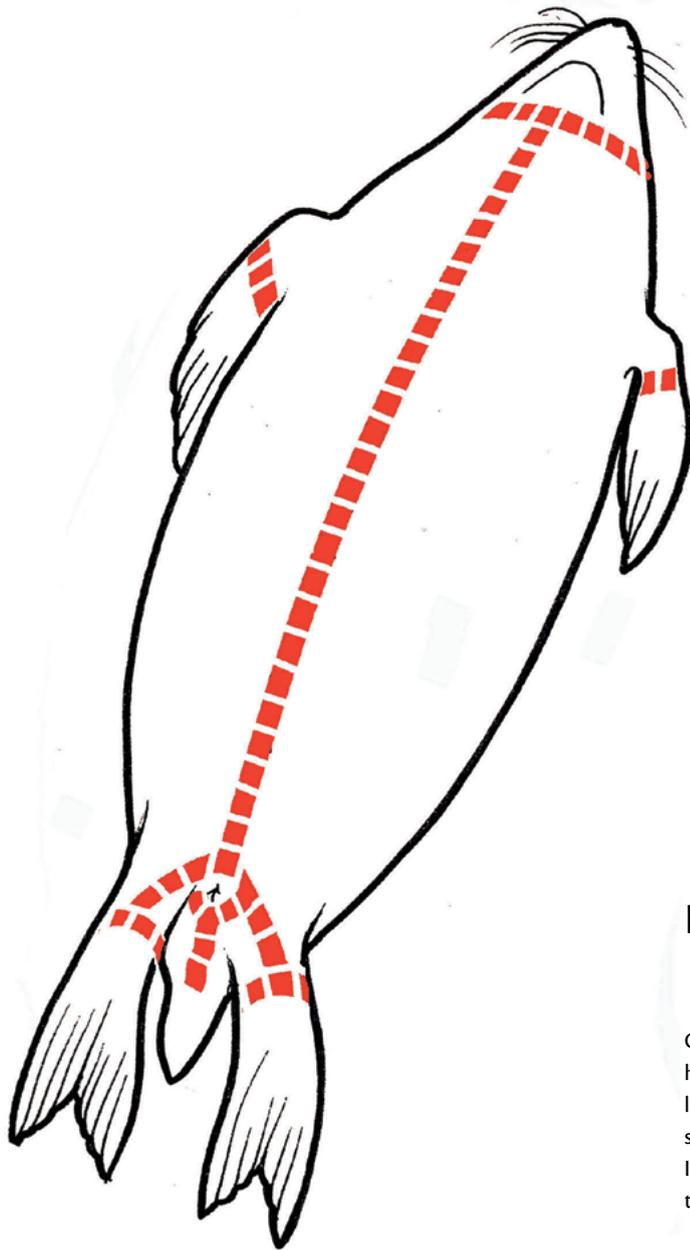
If you are going to move the seal to another place to gut and cut it up, you should end the second cut at the chest bone's point. This will minimize the risk of contamination during transport.

### Bleeding

The most effective way to bleed the seal is to cut off the arteries that lead from the heart to the front flippers. Put in the knife from the mid-cut, beneath the blubber layer and along the body. Cut between blubber and meat towards the front flippers on both sides of the chest bone, leaving the thick blubber on the pelt. Cut off the arteries in the seal's armpits. Turn the seal on its stomach, break it out, and let the blood pour away. Turn the seal on its back again.

The knife will soon go dull when you cut through skin and blubber, so you have to sharpen it frequently. Remember to change the knife, or wash in hot water and detergent, before you begin to handle the meat.

## Skinning for fur and leather



Pelt

### B. Skinning

Continue to remove the skin and blubber from the body. The goal is to have a blubber-free body and a pelt with all the blubber on. Work with long, sweeping movements. If you do not have the seal on a table, you can stand slightly bent and rest the arm that is stretching the skin, on the knee. It will be steadier then. Be careful with the knife. Do not let it cut through the blubber and make holes in the skin.

Let the knife follow the body contour. If the knife angle is too steep, there is a higher risk of cutting holes in the pelt. There are now two methods to proceed with: Skinning for fur and leather, or skinning for trophy or mounting.

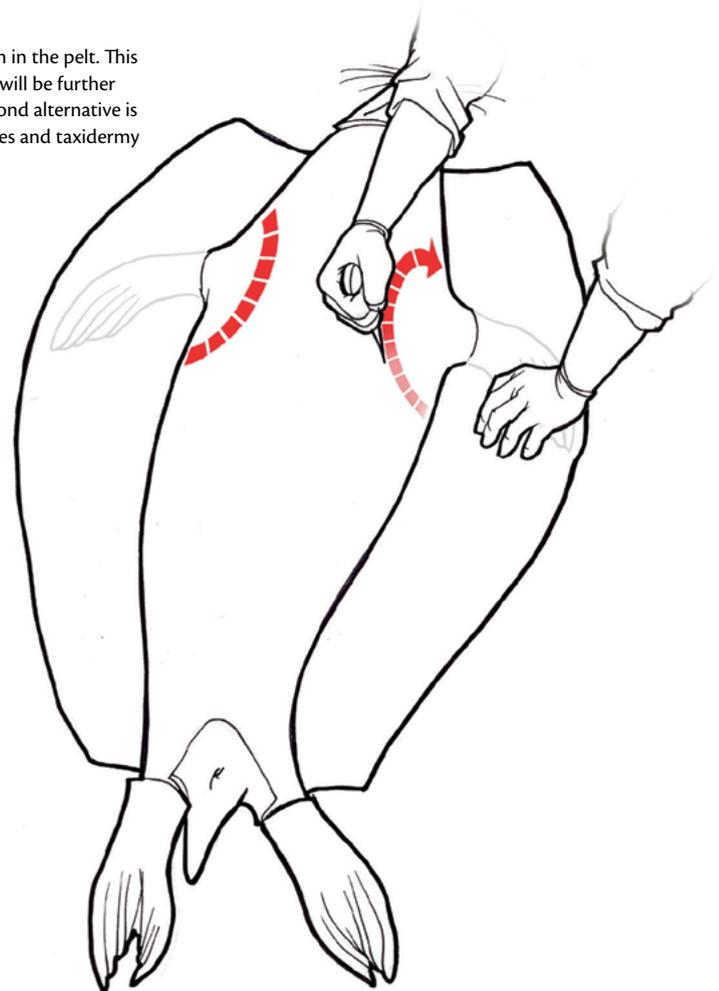


Make a cut around the head between the eyes or the ears. Make sure that this cut joins the first longitudinal cut. The more of the head that is included the more difficult the tanning process, as more gristles and structures are stuck to the pelt.



The outer cut around the flippers is made a bit up on the flipper, since it will be possible to adjust the hole size of the pelt later on.

Cut off the shoulders and leave them in the pelt. This alternative is suitable when the pelt will be further prepared into fur or leather. The second alternative is presented under Skinning for trophies and taxidermy on page 28-28.



## Skinning for fur and leather

This is the most common way to skin a seal and gives a good pelt for clothing, accessories, or utility goods. The fingers and the entire head are not included.

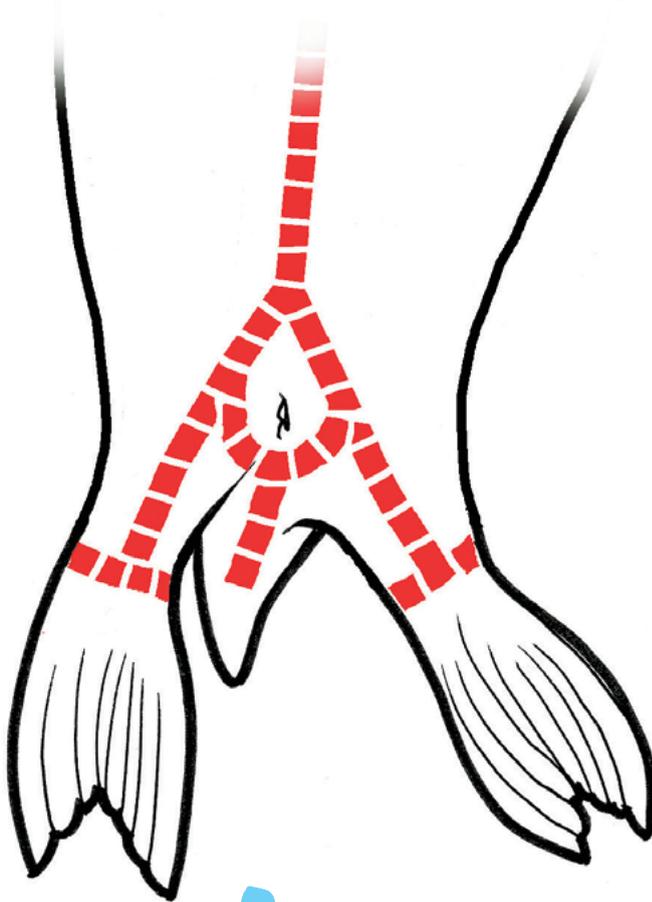
### At the head

Make a cut from the lower part of the jaw, just below the corner of the mouth, around the head and between the eyes and the ears. Remove the pelt.

### At the front flippers

Make an outer cut on the middle of the front flippers, so it will be easier to remove them later on. If you place the cut close to the armpit, there will be quite large holes after the pelt is prepared. It is also important to cut off the two flippers in a similar way so that the pelt becomes symmetrical, and with small holes after the flippers.

Cut off the shoulders at the "armpits", and keep the shoulders in the pelt. There will be a cavity on both sides of the body after the shoulders. Leave the front flippers in the pelt too. Both flippers and shoulders are removed later on, when the body has been taken away from the pelt.



Placing of the cut at the anus and hind flippers

### At the anus and hind flippers

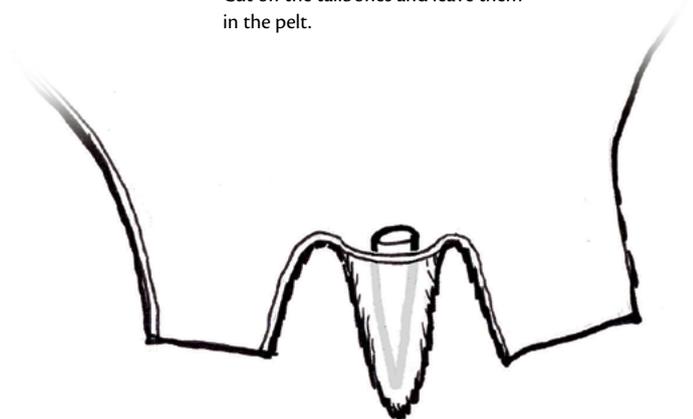
Cut from the abdominal slit on both sides of the anus along the hind flippers to the web. Remove the flippers from the pelt by cutting around them at the joint. If you want to keep the tail skin on the pelt you either cut around the tail bones to detach, or cut off the tail bones from the inside, just where it joins the backbone, and remove them later.

Be very careful when you skin the tail (and neck) where the blubber is as thinnest. A tiny cut or scar might make the pelt stick in the processing machines, which can cause large gashes on the fur.



The tail, alternative 1  
Make a cut in the middle of the tail, work your knife around the tailbones until it detaches from the pelt.

The tail, alternative 2  
Cut off the tailbones and leave them in the pelt.



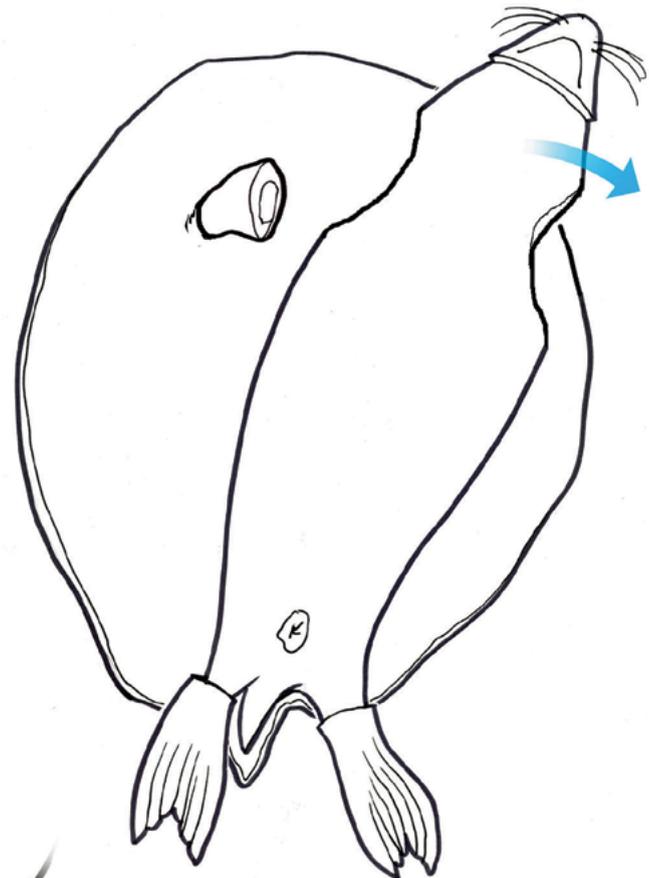
### Continuing the skinning

Continue to skin both sides of the seal with long sweeping strokes, from the head to the tail. Work towards the back of the seal. Roll the seal back and forth in order to reach the back, until the cuts meet. Lift the carcass from the pelt. The work is easier if you stretch the skin with one hand and cut with the other. Support the hand that you are using to stretch the skin against your knee for better ergonomics.

Do not touch the fur and the meat with the same hand that rolled the carcass back and forth.

### Cutting off the shoulders and front flippers

After the carcass is removed, you take care of the shoulders. Lift them up with a hook if convenient, and cut them off the skin. Skin them from the inside, beneath the blubber, out to the fingers of the flippers. The shoulder will come off the pelt when you reach the outer cut around the flipper that was made earlier. Cut off the fingers at a suitable place depending on whether you want to use them or not. If you are going to take care of the flippers, you cut them off at the wrist.

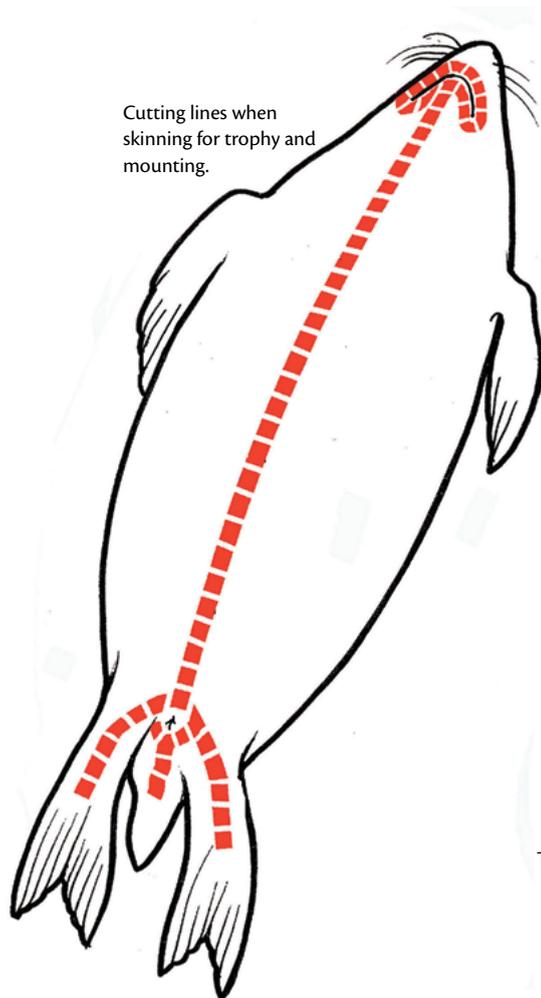


The pelt is off the seal, but the shoulders are still attached to it. Roll off the carcass and cut out the shoulders from the pelt.

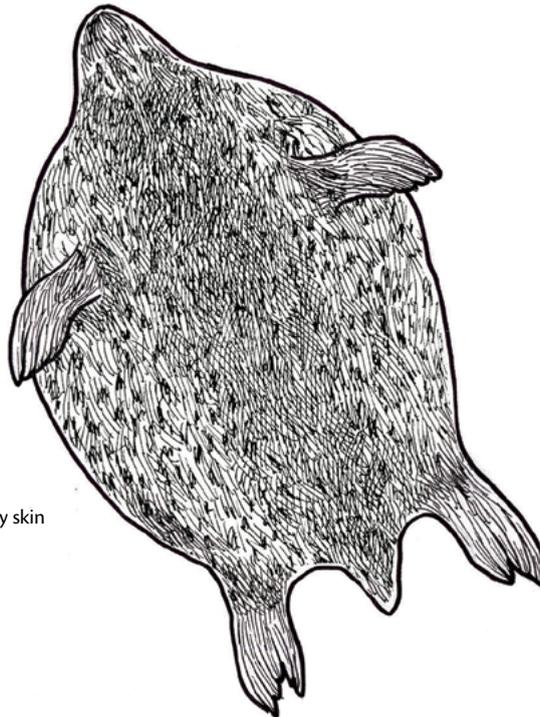


Lift the shoulder, and cut towards the outer cut you made earlier around the flipper, and the flipper and fingers will come off... You are now able to pull them out through the hole in the pelt. When the shoulder has been removed, you cut off the fingers at the wrist.

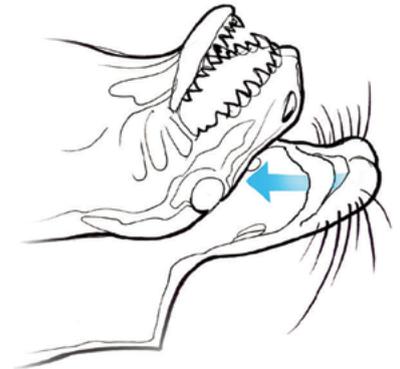
## Skinning for trophy skin and mounting



Trophy skin



Begin to skin the lower jaw. Continue with the upper jaw. Use a knife or a scalpel. Take care to keep the pelt intact.



The skin is removed from the lower and upper jaws and the head is pulled out.

## Skinning for trophy and mounting

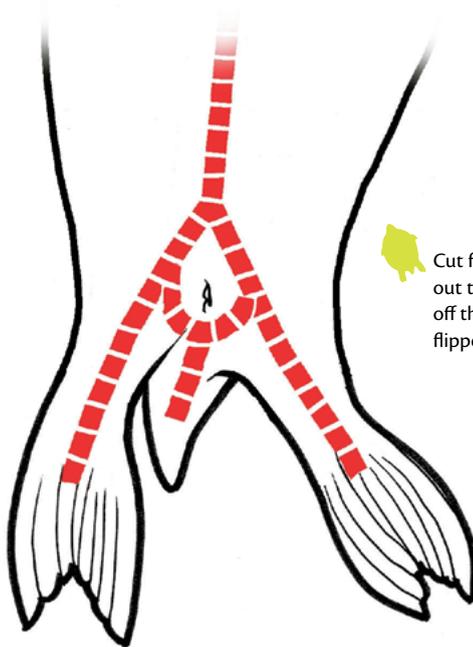
Trophy skinning is similar to when a fox is skinned to make a skin for taxidermy. This method will give a complete pelt that may be mounted later on. A skin that has been prepared for a trophy will be a stiffer one than a skin that will be used for clothing and accessories.

### At the head

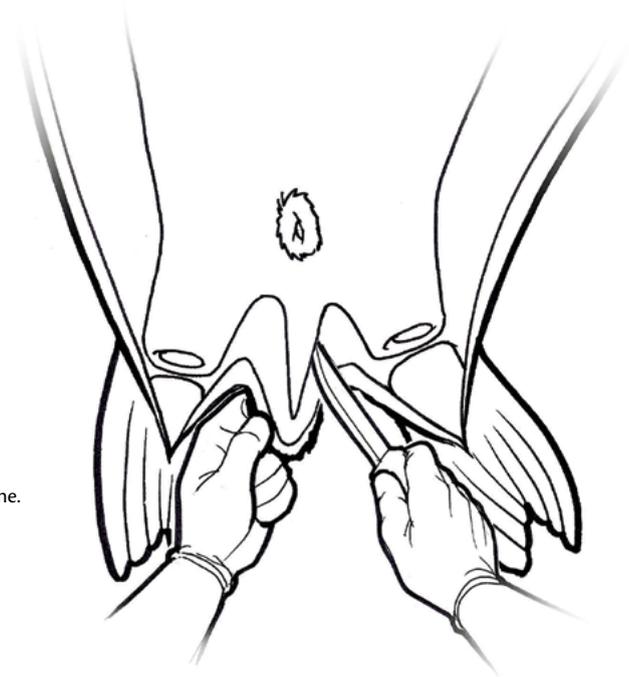
The cut over the chest and abdomen is not made all the way to the lower

jaw, but stops about 4-5 centimetres away, leaving the jaw intact. Remove the skin from the lower jaw. Begin with the bottom lip, proceed with the rest of the lower jaw down to the first longitudinal cut. Turn the bottom lip inside out and continue with the rest of the head.

See that the eyebrows are included and be careful with the ears. Whiskers and eyebrows will come loose if you skin too tightly. Split the lips with a sharp scissor



Cut from the midline cut out to the flipper joints. Cut off the hind flippers at the flipper joint from the inside.



Skin the tailbone.

At the front flipper. Skin both the upper and lower sides so that you can grab hold of the flipper.



### At the anus and the hind flippers

As with traditional skinning for fur and leather, you cut from the midline cut on both sides of the anus and out to the joint of the hind flippers. Remove the skin down to the joint so that you will be able to cut it off from the inside. Skin the tail.

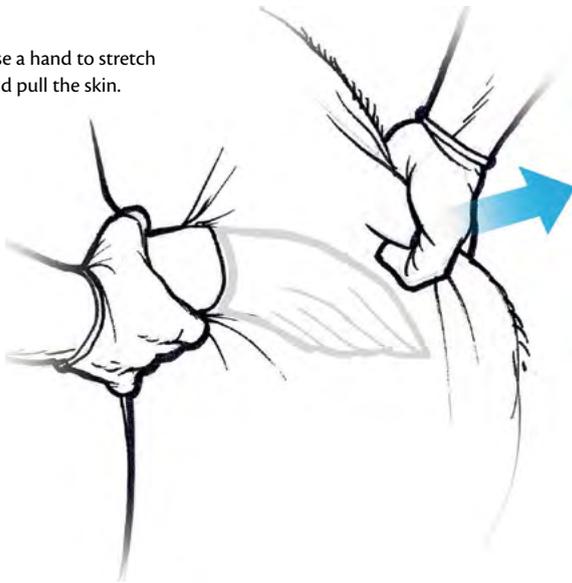
### At the front flippers

Skin each flipper from the elbow to the wrist, and cut off the wrist. Remove the skin from each finger carefully. A scalpel is the best tool for this

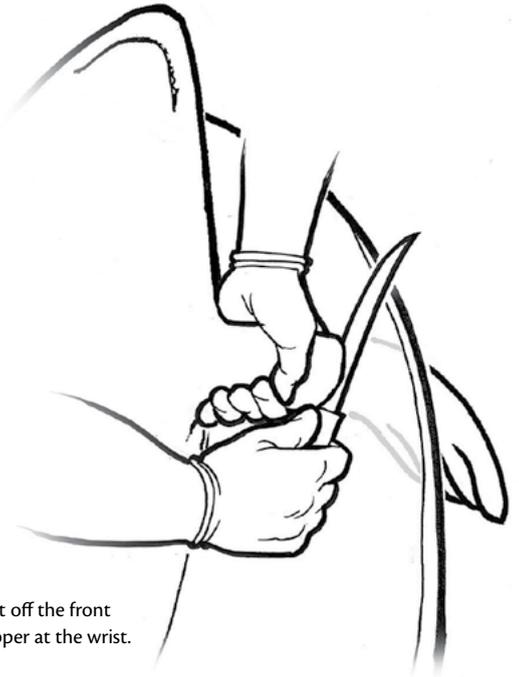
purpose. Cut off the fingers just before the outermost joints with a pair of pruning shears, leaving the last finger joints and claws in the pelt. Leave the shoulders on the carcass, to be dealt with during the cutting up.

Continue to skin on the back in the same way as described under Skinning for fur and leather (p.27).

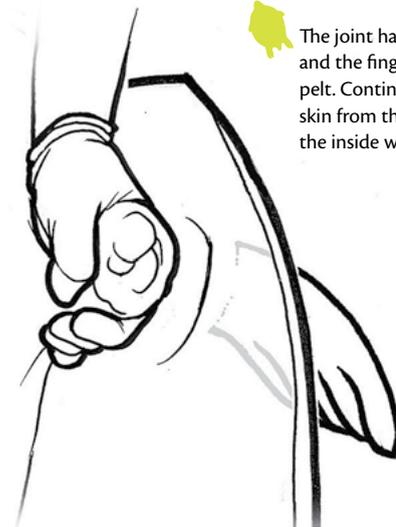
Use a hand to stretch and pull the skin.



Cut off the front flipper at the wrist.

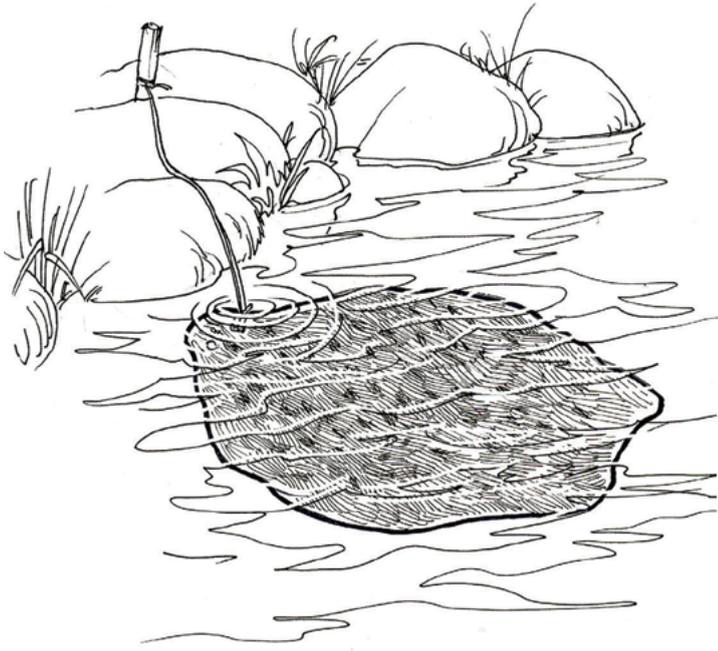


The joint has been cut off and the fingers are left in the pelt. Continue to remove the skin from the fingers from the inside with a scalpel.

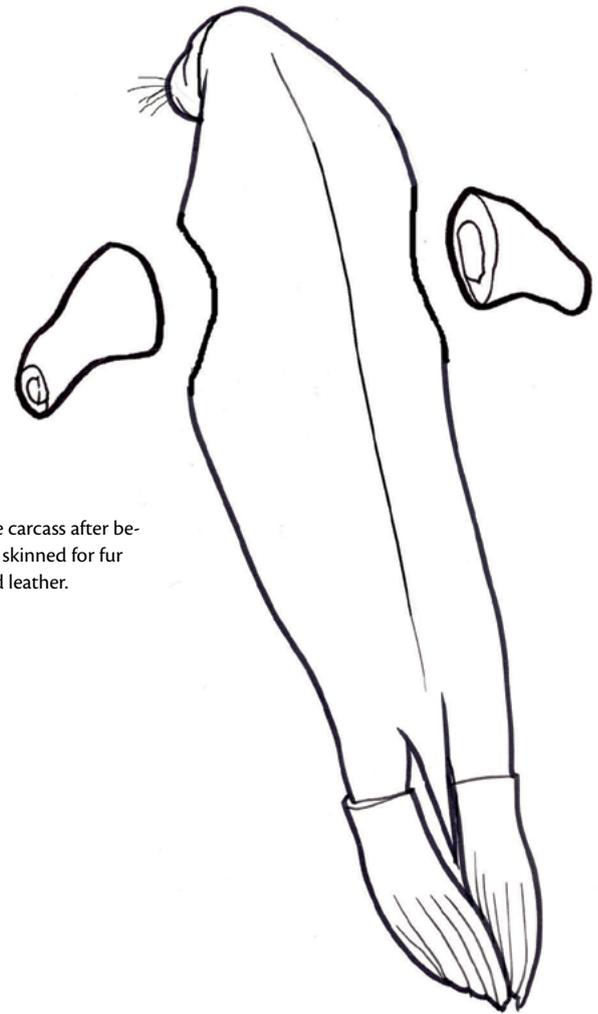


The joint on the front flipper comes loose when you find the right place to cut through the gristle.





Remember to keep the pelt moist.



The carcass after being skinned for fur and leather.

## C. Results

By now, you have a carcass with entrails, and either a pelt with two small flipper holes, or a skin for a trophy with fingers and toes. The most important thing you have to do now is to take care of the meat, which is presented in the chapter on Gutting.

Until you can handle the pelt, it has to be stored properly. Protect it from sunshine and temperatures above 20-30 degrees C. Pelts from marine animals are particularly sensitive. If possible, tie the pelt to a rope and put it into the sea. The seawater will rinse the fur from blood and prevent it from drying and turning yellow. Be careful, so that no folds result. For the preparation of the pelt, see chapters on Fur and Leather, and Blubber.



# Gutting

The seal has to be gutted within an hour after the seal was killed to avoid spoilage of the meat. If bleeding was done immediately after killing, the body may be transported to another place that is more suitable for gutting and cutting up. We recommend that the content of the chest and abdominal cavity be removed at the same time, as is done in gutting fish.

Change gloves and knife, or wash the knife thoroughly before you start, so that no bacteria from outside the seal get on the meat and spoil it. If this happens, you must cut away the contaminated meat plus a substantial part of the area around it. Gunshot injuries have to be trimmed, too, since they are hotbeds for bacteria as well.

If the meat is meant for personal consumption, the seal may be field dressed on location. The best surface to use is the seal's pelt, with the fur side down. Take care to avoid any contact between the carcass and the fur side.

If the meat is meant for the market, you have to check the national legislation regarding inspection and other issues.



## A. Exposing the entrails

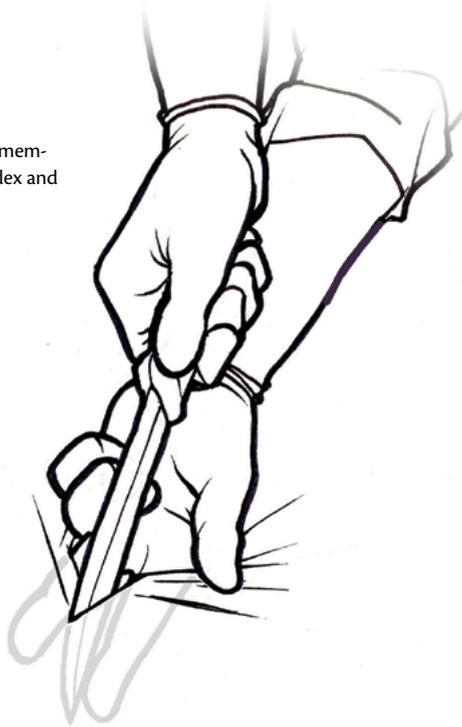
## B. Results



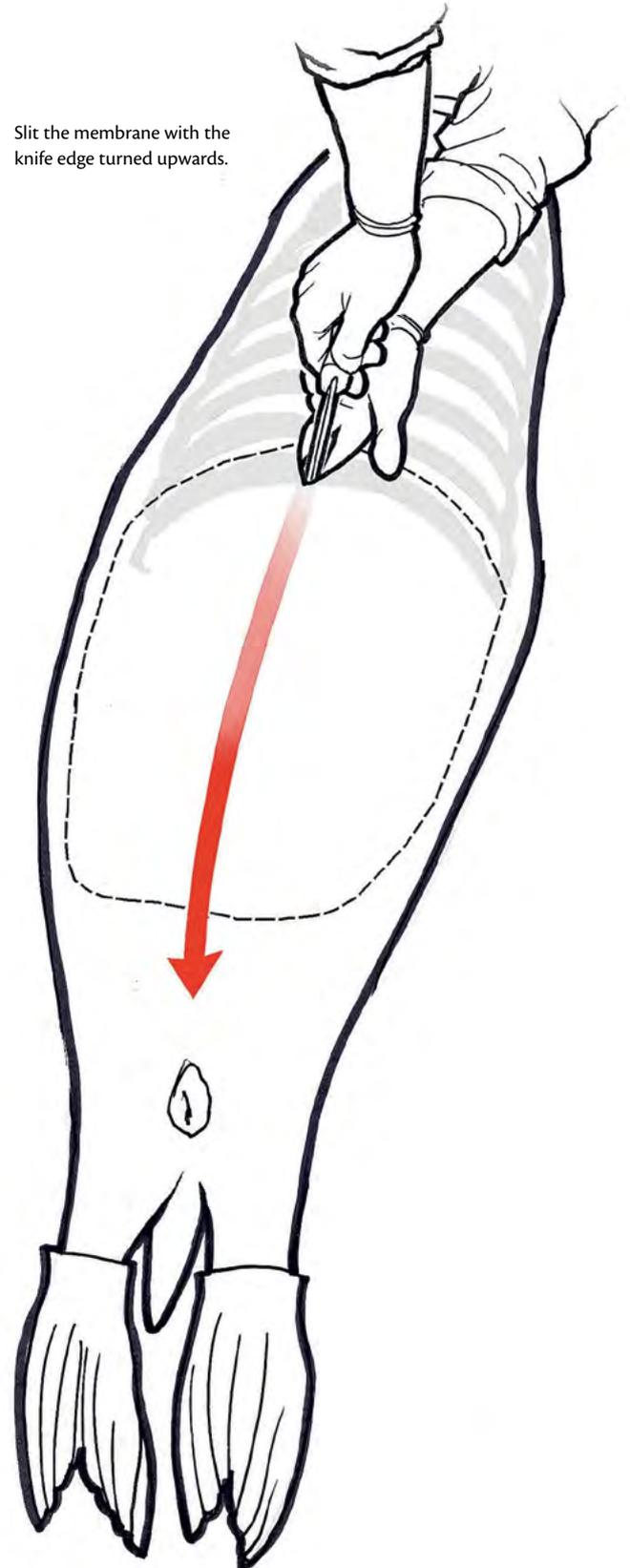
### You need this:

- Sharp and clean knife
- Sharpener/whetstone
- New disposable gloves
- Pair of pruning shears
- Cleaned working surface/table
- Plastic bags for the entrails plus ties to seal the bags
- Felt pen for labelling
- Possibly transport containers for the carcass + ice

Lift the abdominal membrane with your index and middle fingers.



Slit the membrane with the knife edge turned upwards.



## A. Uncovering the entrails

Extreme care must be taken not to break open the stomach and intestines during removal. If the gut contents get out, do not let them touch the meat. Trim away all contaminated meat. You may spray or sprinkle vinegar on the edges around the trimmed areas to neutralize the contamination.

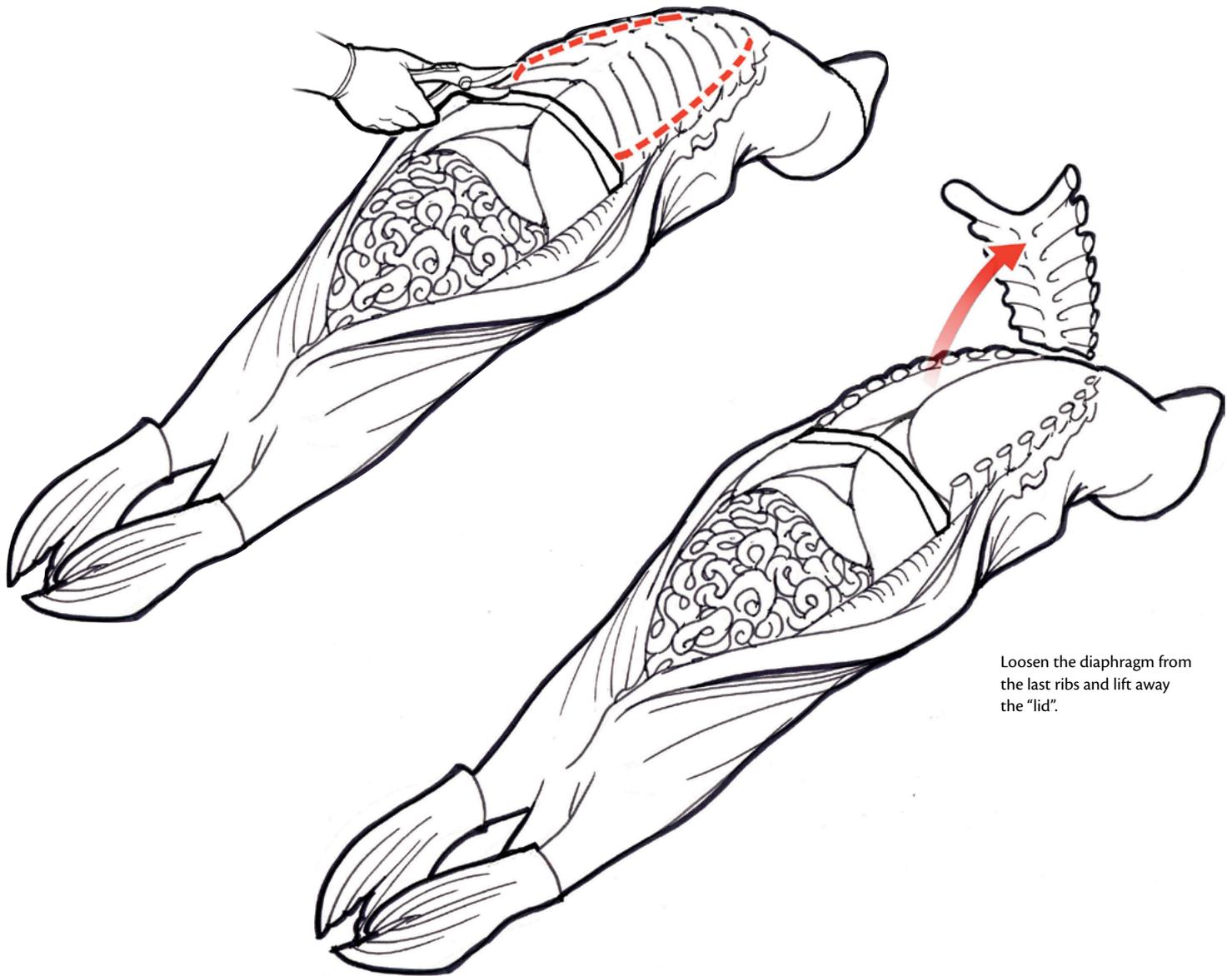
### Abdominal membrane

Put the seal carcass on a clean surface. Begin at the tip of the chest bone and make a small cut in order to get your fingers in under the abdominal membrane. Lift the membrane with the fingers to create a gap between the membrane and the guts. Slit the membrane down to the pelvic bone with the knife-edge turned upwards. Take care not to nick the guts and risk contamination.

### The chest

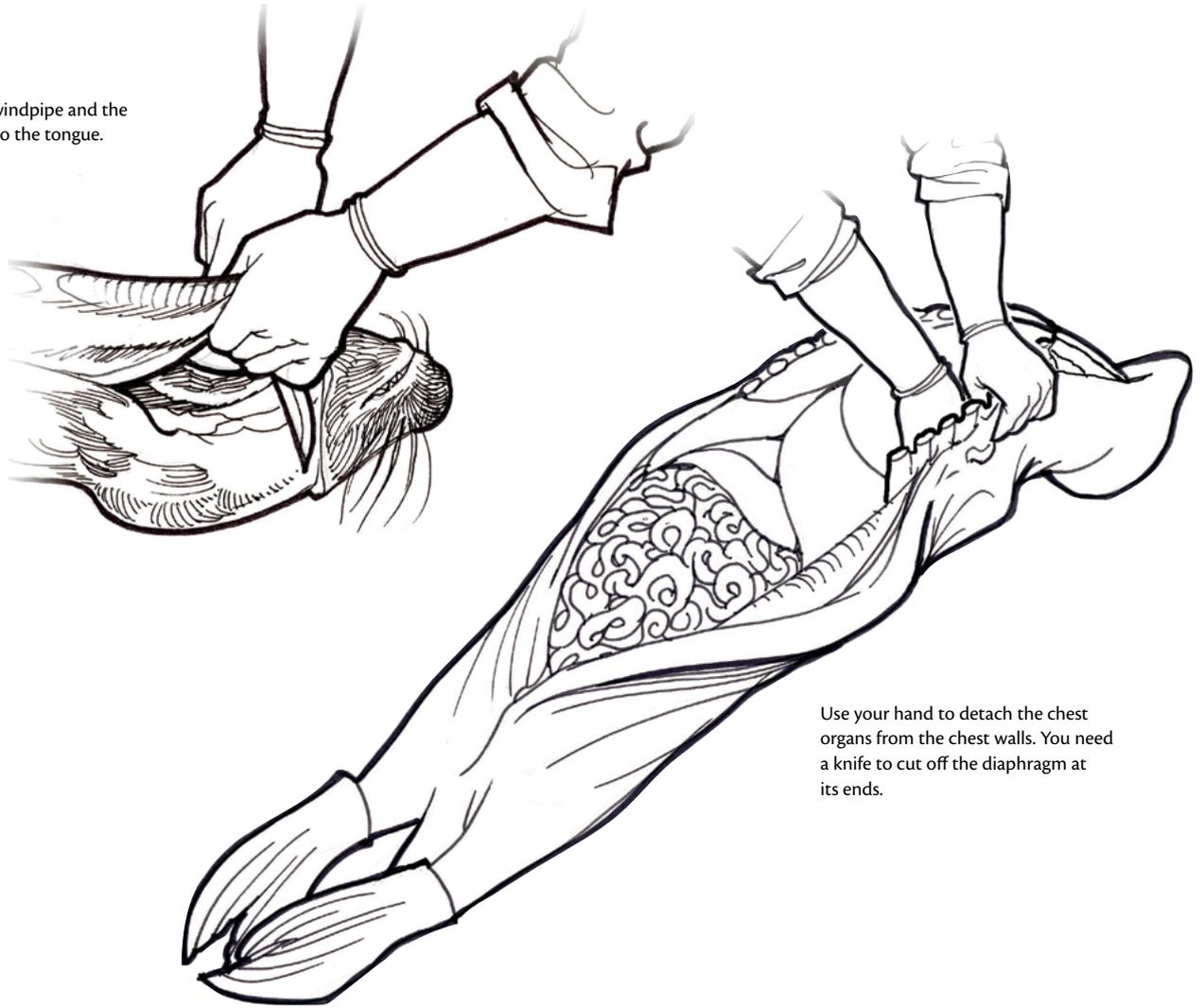
Cut off the ribs on both sides of the chest, and loosen the diaphragm from the lower part of the chest bone and the last ribs. Lift the “lid” to open up the breast cavity and allow you to reach its contents. For young seals, it is easy to use a sharp knife, but for older seals, you may need a pair of pruning shears.

Snip the chest with a pair of pruning shears or cut with a strong knife.



Loosen the diaphragm from the last ribs and lift away the “lid”.

Cut off the windpipe and the gullet close to the tongue.



Use your hand to detach the chest organs from the chest walls. You need a knife to cut off the diaphragm at its ends.

### Removal of entrails, and the pelvic bone

Cut off the windpipe and the gullet with a slit inside the lower jaw, at the tongue. Use the knife to loosen the chest contents from the attachments at the back. Grab the windpipe and gullet and pull them out from body. Cut close to the vertebral column so that the aorta will be included. Cut off the diaphragm. The organs of the chest, the stomach, and the intestines will now come in one large packet.

Coming so far, you use the sharp knife carefully to cut through the pelvic bone. Turn the knife-edge away from the entrails packet to avoid cutting holes in it. For mature individuals it may be necessary to use a pair of pruning shears to penetrate the pelvic bone. Continue to cut around the

anus opening at each side. Do not touch the anus with the knife. Lift up the entire entrails packet. Use your fingers to get the entrails out through the opening in the split pelvic bone. In addition, the female's sexual organs will be removed. Put the entrails a safe distance away so that they will not come in touch with the carcass.

### Head and hind quarters

Due to the contamination risk, the carcass must not be moved as long as the head and pelt are still there. The head and hind flippers are therefore cut off before transporting the carcass.

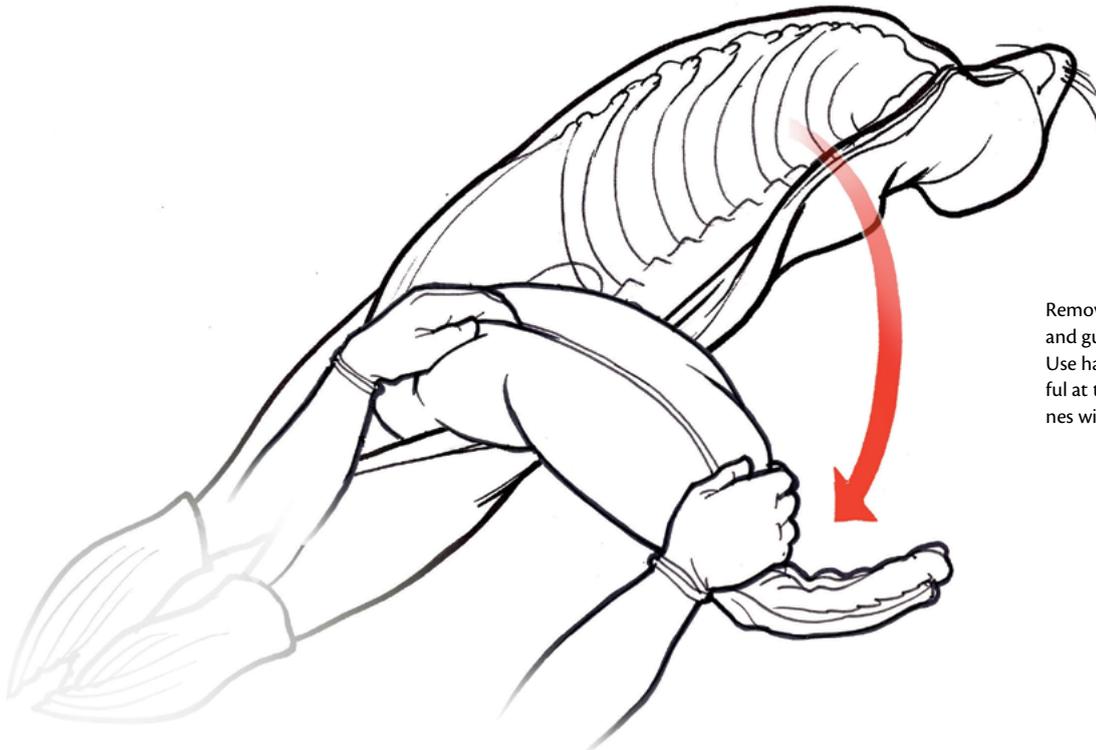
Alternative 1. Cut off the pelvic bone with a knife.



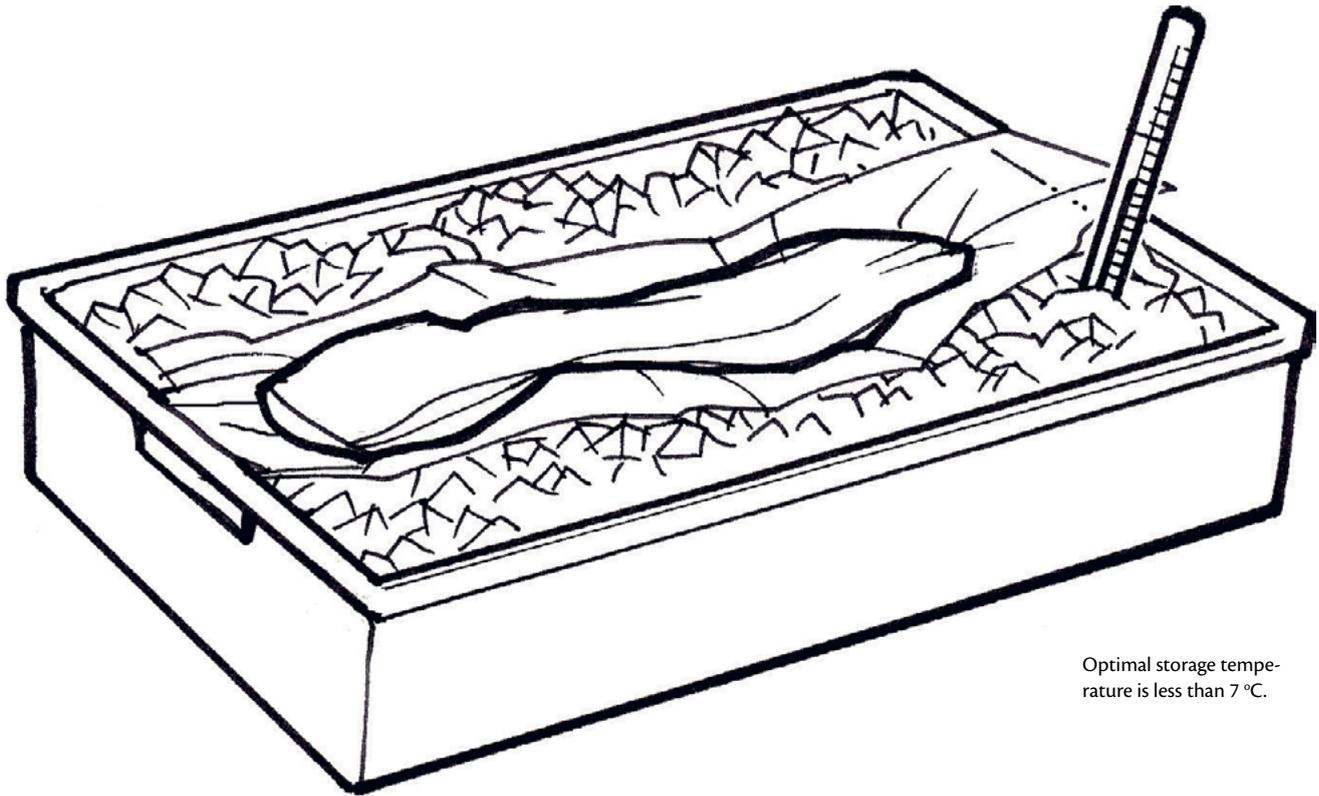
Alternative 2. Use a pair of pruning shears to snip off the top of the pelvic bone like a lid.



Force apart the split bone.



Removal of entrails. Grab the windpipe and gullet and lift out the entire packet. Use hands and knife, if necessary. Be careful at the pelvic bone so that the intestines will not break.



Optimal storage temperature is less than 7 °C.

## B. Results

### Handling the carcass

Trim the meat free from any remains of blubber, skin and membranes. If the meat is going to be cut up in the field, it must be placed on a clean surface and the work started immediately. If it is going to be transported to another place to be cut up, it has to be stored chilled in clean containers like plastic boxes, during transportation. Put ice or ice packs around the transport vessels. The carcass or quartered meat has to be chilled to less than 7 °C during the first 24 hours. The meat is tender and does not need to be hung for ageing. The carcass can, however, be hung overnight to cool and to get rid of excess blood.

### Handling the entrails, and collection of samples

Put the entire entrails packet in a strong plastic bag. Make sure you know if there are any legal obligations for tissue sampling, what samples should be taken, and how they should be stored and transported.

Do not eat the meat if it shows signs of diseases like sores or tumours. However, seals from the Atlantic or the Baltic may have many seal worms (nematodes) in their stomach and intestines. Even though they look unpleasant, they are harmless to consumers as they live in the guts without affecting the meat.





# Handling the meat

The meat return for a seal is approximately 20 percent of total weight. The main part of the meat is on the back of the seal. The quartering is relatively easy. The meat is almost free from sinew and membranes and is very tender.

The meat is divided into:

- Two inner fillets
- Two tenderloins (or backstraps)
- Neck meat
- Ribs and flank meat
- Shoulders and legs/hips with front and hind flippers

The best parts are the tenderloins/backstraps/, the neck and inner fillets.

Seals weighing less than 100 kilograms have the best meat according to most people. On older seals the muscles are coarser and the meat tougher. Older males have higher levels of pheromones and testosterone that can give the meat an unpleasant taste and smell.

## A. Preparations

Be aware of the importance of hygiene. Wash your hands before butchering the meat, change gloves, and wash or change the knives that you used for gutting. It is recommended to butcher the meat in a suitable locality. If it has to be done in the field, the pelt, with the fur side down, can serve as a surface.

Prepare for the storage and cooling of the meat. Protect the meat from water or soil contamination if it has to be transported. Make sure that the meat can be stored on clean surfaces or in clean containers after being cut up. The more you have prepared, the less risk there is of the meat turning rancid.



## A. Preparations

## B. Butchering

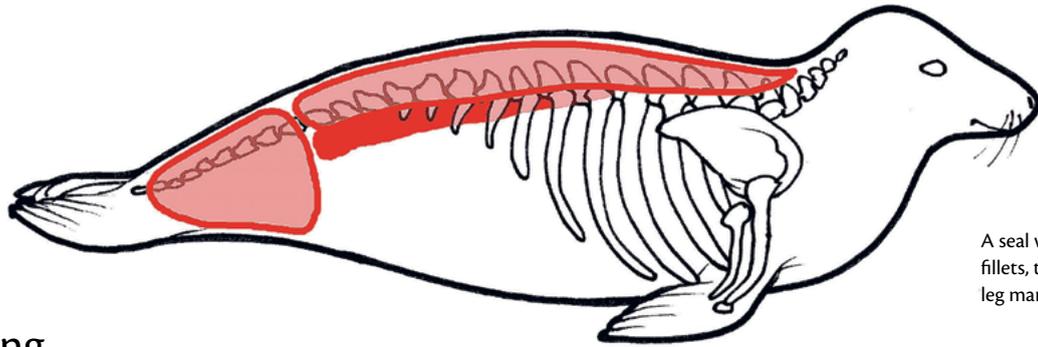
## C. Storing

## D. Cooking



### You need this:

- Small, sharp, and flexible knife
- Whetstone/sharpener
- New disposable gloves
- Cleaned working table/surface
- Paper towels
- Good, hermetic and clean vessels for storage/plastic bags
- Ice pack for transport



A seal with the inner fillets, tenderloins, and the leg marked.

## B. Butchering

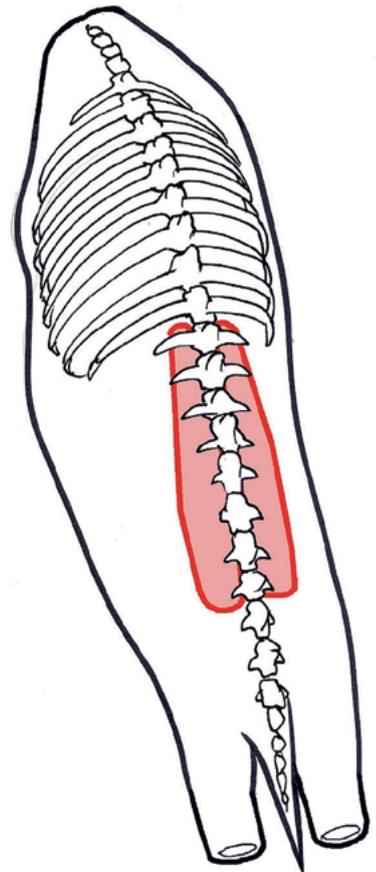
Start with the inner fillets and continue with the other parts.

### Inner fillets

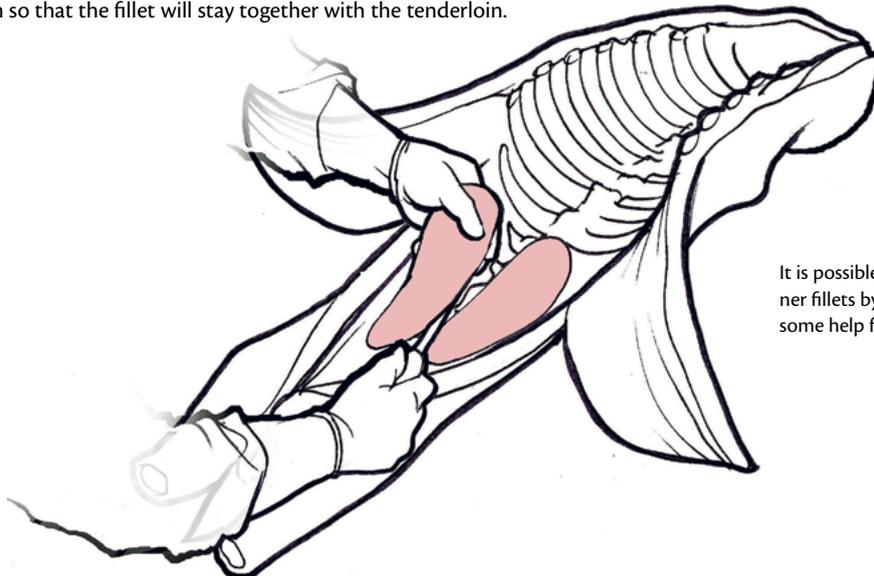
The inner fillets constitute two percent of the carcass weight, and the meat is very fine and tender. They are located in the seal's abdominal cavity, behind the kidneys on each side of the backbone. They extend from the last pair of ribs to the pelvis. You can almost loosen them by hand.

Put the carcass on its back. Cut carefully along the vertebrae of the backbone, from the pelvis and upwards, detaching the fillet from the muscular attachment at the hind flipper. Use your hands as much as possible rather than the knife. Then make a horizontal cut towards the flanks to separate the inner fillet from the tenderloin. Work upwards until the fillet loosens, then repeat with the other fillet.

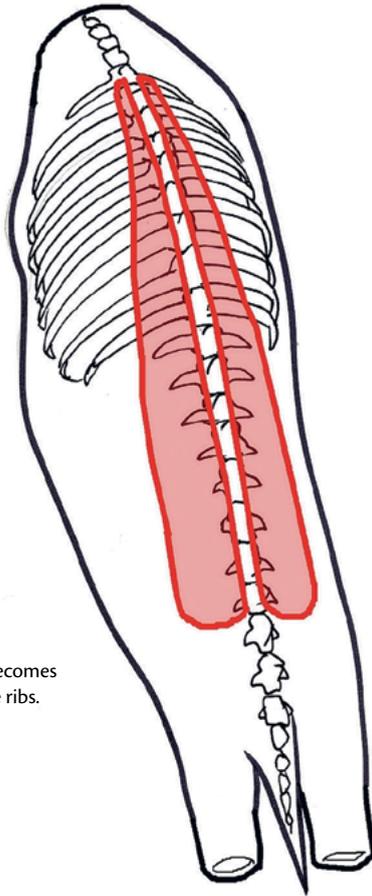
Another alternative – if you want a really big seal fillet – is to cut out the fillet together with the tenderloins. Cut along the backbone all down to the abdomen so that the fillet will stay together with the tenderloin.



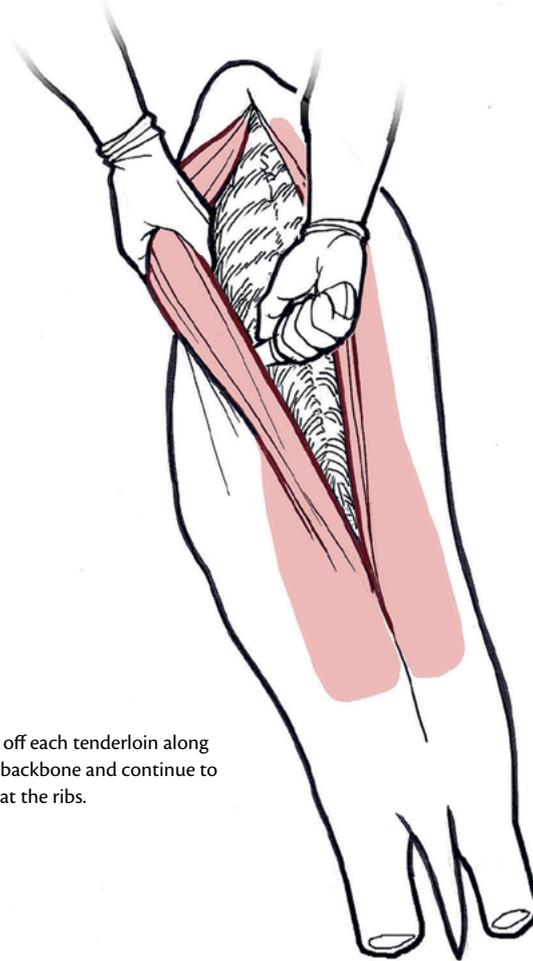
The inner fillets are located beneath the backbone. They begin at the last pair of ribs.



It is possible to loosen the inner fillets by hand, or with some help from the knife.



The tenderloin becomes thicker below the ribs.



Cut off each tenderloin along the backbone and continue to cut at the ribs.

### Tenderloins and neck meat

The tenderloins are the largest muscles on a seal and constitute up to nine percent of the carcass weight. They follow the body lengthwise, on both sides of the backbone. The tenderloin is thin at the chest (above the ribs and neck), and becomes thicker after the last pair of ribs and down to the pelvis.

Turn the carcass on its abdomen. Start the cut at the fifth pair of ribs from the neck. Place the knife flat on the side of the backbone, cut along the backbone, and around the vertebrae, towards the pelvis to the end of the tenderloin. Go back to the starting point and continue towards the neck.

Use your hand, when you are cutting off the tenderloin from the ribs as well. Place the knife flat against the ribs. Turn the tenderloin out and

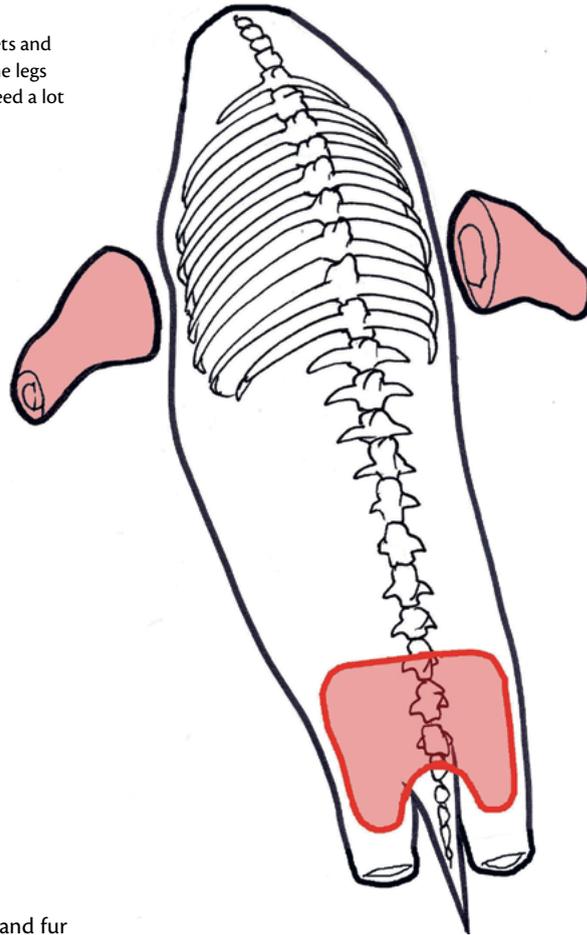
downwards while cutting to make the work easier. Cut off the tenderloin at its lower edge when it has come loose from the side, and cut it off at its lower edge. Repeat the procedure on the other tenderloin.

Above the tenderloin is the neck meat that can be handled at the same time. Just continue to cut along the vertebrae of the backbone and release the neck meat in the same way as with the tenderloin.

### Tenderloin with flank meat and ribs

The tenderloin may be cut out together with the ribs and flank meat, giving a saddle. Turn the carcass on its back. Loosen the ribs from the backbone with a pair of pruning shears or a strong knife and continue as described above.

Shoulders and legs. After the inner fillets and tenderloins have been taken care of, the legs are cut off from the backbone. They need a lot of trimming.



### Shoulders

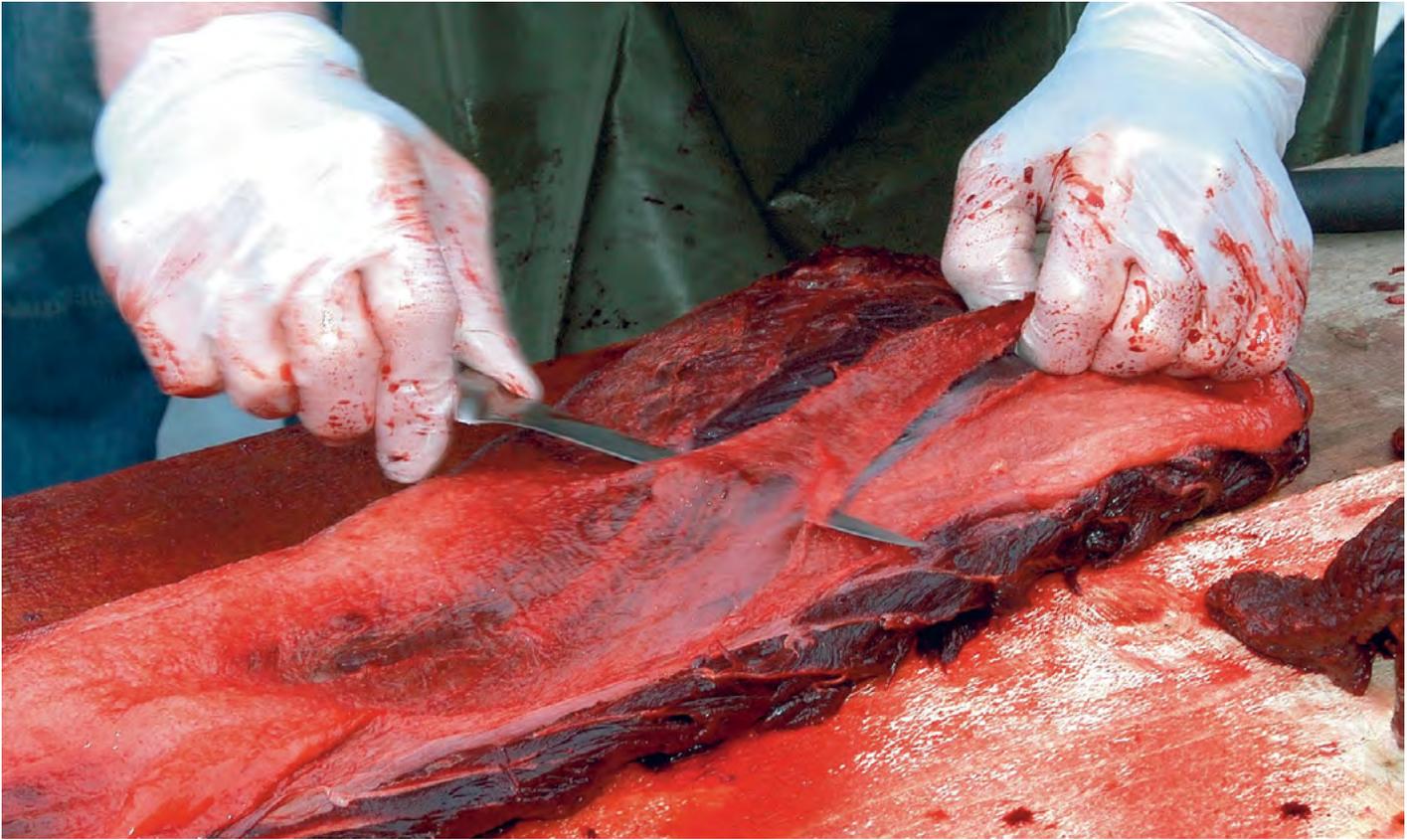
The shoulders were already detached during skinning for leather and fur and need only to be trimmed. They consist of about half meat and half bones. Since they have more fat and sinews than other parts of the seal, shoulders easily turn rancid.

Shoulders that are left on the carcass after skinning for mounting as trophies are cut off at the armpit.

### Legs

The legs make up the main part of the hind flippers, but there is very little meat on them. You may trim them, however. Cut off the legs at the hip joint where the inner fillets end.

If you do not take care of the rib and flank meat, you can discard it.



## C. Storing

Trim the quartered meat thoroughly from fat and membranes to avoid a rancid taste. Cut away all areas with bloodshot meat.

If the meat is not already chilled, it has to be chilled to less than 7 °C in a dark place. Seal meat has to be chilled before rigor mortis occurs. Meat that has not been chilled before freezing will contract strongly, and become tough and less juicy.

After chilling, the meat should be frozen in hermetic packages (preferably vacuum-packed), or cooked at once. When cooking fresh meat, we recommend that it has been inspected for trichinae, or is prepared at temperatures of more than 78 °C. Seal meat keeps fresh for just one week, at maximum, in a refrigerator.

Before it is frozen, you should absorb excess blood with a cloth or paper towels that do not leave fluff. An alternative to vacuum packaging is to glaze the meat with ice to make it keep longer. Freeze the meat in open boxes until it is completely frozen. Take it out, dip it into water, and put it back into the freezer. Repeat this procedure several times until the meat has a thick layer of ice. Then put the meat in hermetic packages, and keep in the freezer.

When you have finished the butchering, you will have the remains of the carcass, including skeleton and head, and a pelt with blubber. The next step is to remove the blubber from the pelt.

## D. Cooking / recipes

Seal meat is a delicacy, and if prepared properly it will make a real gourmet dinner. In former days, the meat was often boiled, and there were local varieties such as salted front flippers, which is still popular among many elderly in the north of Norway. However, the seal meat is also very suitable for roasting in the oven, and to bar-beque, smoke, or dry.

Before the fresh, or thawed meat, is cooked, it should be put in brine, yoghurt, or milk to help remove more blood and improve the taste. Spices and pickling flavour seal meat in the same way as they do pork. Therefore, the seasoning should be quite light. The seal meat has a lot of flavour in itself. Salt, and white and black peppers, are the base, as usual, but garlic and herbs such as thyme are also well suited.

### Smoked seal à la Finngrundet, 4 portions

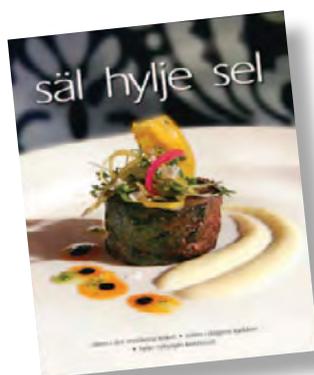
Preferably served as a starter, tapas, or sauna snack. Canned chili salsa and marinated olives can be bought in a store. The meat lasts for a week in the refrigerator. A tip: add a pat of garlic-flavoured sour cream and serve with a cold beer.

200 gm	smoked seal meat (salted)
8 stems	boiled asparagus
1 bundle	mixed lettuce
2 dl	chili salsa
1 small tin	marinated olives
1/2 dl	berries of sea buckthorn

### Marinade

3 dl	rosé vine
1 tbsp	black pepper, whole
1 twig	fresh rosemary
1	orange, juice + peel
1/2 dl	rapeseed oil

Mix all ingredients of the marinade and put it together with the meat into a plastic bag. Press out the air, and close the bag. Leave for 24 hours to marinate. Pour out the marinade and cut the meat in thin slices. Arrange the meat, asparagus, lettuce, salsa, and olives nicely on a plate. Spread the sea buckthorn berries on top.



Read more about cooking and recipes:  
Andersson, C. & Jonsson, S  
Säl. Hylje. Sel – the seal in the modern kitchen.  
The Swedish Association for Hunting and Wildlife Management, 2006.





## Smoked seal leg with potato salad and tomato vinaigrette, 4 portions

A lovely starter, late supper or tapas plate. Preferably served with a cold beer.

160 gm	smoked seal leg in thin slices
2	boiled potatoes
1 leaf	of Savoy cabbage
4	radishes
8	sugar peas
2-3 tbsp	sour cream
1 tbs	capers
1	small tomato
1 tbsp	rapeseed oil
1 tbsp	olive oil
1 tbsp	white balsamic vinegar
	granulated sugar
	salt
	ground black pepper

Cut potatoes, cabbage, radish, and sugar peas into small dice, or sticks. Gently mix everything with sour cream and capers, and season with salt and pepper.

Cute the tomato in wedges, remove the seeds, and peel with a sharp knife. Cut the tomato into thin strips and then dice. Mix the oils and vinegar. Add the diced tomato, season with sugar, salt, and pepper, and mix gently.

Arrange the potato salad, meat and tomato vinaigrette beautifully on a plate. Garnish with lettuce leaves.



## Roast seal fillet with beetroot and potato purée, deep fried leeks and balsamic-honey reduction, 4 portions

A full-bodied red wine having some sweetness is a perfect complement to this dish.

400 gm	seal fillet
	butter
	rapeseed oil
	salt
	ground black pepper
1 twig	of rosemary
150 gm	potato
150 gm	beetroots
2 tbsp	cream
	white pepper
1 dl	balsamic vinegar
2 tbsp	red wine
2 tbsp	liquid honey
1/4	leek
4 dl	rape oil

Put the oven at 95°C. Trim the fillet and wipe the meat with paper towels. Brown the meat in butter and rapeseed oil. Season with salt and pepper. Put a meat thermometer into the thickest part of the fillet, place the rosemary twig on top, and roast it in the oven until the meat temperature reaches 54°C. Take out the fillet and let it rest for 15 minutes.

Meanwhile, peel and boil the potatoes and beetroots until soft in lightly salted water. Pour out the water and mix the vegetables in a food-mixer into a smooth purée. Add a pat of butter and cream. Season with salt and white pepper.

Make the balsamic-honey reduction. Boil the vinegar, wine, and honey gently on low heat until it has reduced a bit.

Rinse, clean and cut the leek into thin strips of approximately 10 centimetres in length. Dip them quickly in boiling water and let them drain in a colander. Deep-fry the leek strips (~180°C) until they colour. Let them drain on paper towels, and salt lightly.

Cut the meat in centimetre-thick slices and serve together with the beetroot and potato purée. Decorate with the balsamic-honey reduction on top, and garnish with the deep fried leek.



# Fur and leather

The seal pelt is a very good resource for making clothing, accessories or furnishing details. In former days, people on the Baltic coast used seal fur to make gloves, shoes and headgear. There are many possibilities of what you might do.

The seal fur has short and thick hair fibres. The hair is straight on the back, but is curved on the sides. It wears well, repels water, and with proper preparation it becomes shiny and soft. In April-May, when the seal moults its fur, there is reason for the sealer to check the fur quality. If there are short and thick hairs, and longer guard hairs that easily loosen, it is better to make leather of that particular pelt. The initial preparations are almost the same for leather as for fur.

As a rule, the young animals have nice pelts, which are suitable for clothing. Large males often have many scars on their neck from fights. Such pelts are more often used for utility goods.

First, you have to remove the blubber and wash the pelt. The more careful you perform each action, the better the final product will be. Take care not to cut too deep when removing the blubber, as this may lead to hairless spots after the final tanning process. Keep the pelt moist during the entire process, and not in temperatures above 20-30 oC or there is a risk that the pelt will spoil.

Do not use short, pointed and stiff knife blades when removing the blubber.



A. Removing the blubber

B. Final trimming

C. Washing

D. Preserving

E. Final products



You need this:

- Fillet knife
- Skinning stand with clamps, a scraping beam, or a high-pressure washer
- Salt (course and fine)
- Plastic box (for the blubber)
- Detergent
- Washtub
- Sawdust
- Possibly a sawdust-filled revolving drum
- Brine, prepared earlier
- Barrel or similar

Remove the blubber on a scraping beam with a ground-slate knife. The knife angle is important - hold the knife in less than 45 degrees. A steeper angle increases the risk of cutting hole.

## A. Removing the blubber

Pelt and blubber from a large seal can weigh up to 50 kilograms, and it is quite heavy to work with. It is important to work on an even surface. There are four options:

- Skinning stand with clamps
- Scraping beam
- Trimming table
- High-pressure wash

Be careful when you cut at the edges where the skin is elastic. Blubber rinds that often are left at the farthest pelt edge may be cut off afterwards. Use some sawdust if you find it hard to grab the pelt.

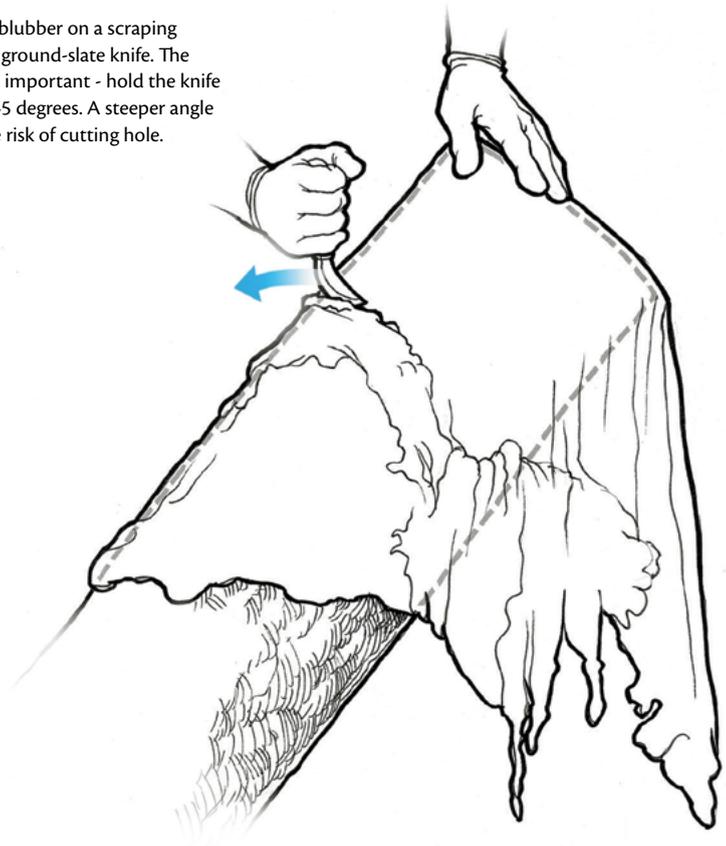
### Flay stand

Use a fillet knife on the flay stand. Place the pelt on the flay stand with its fur side down. Put a tub beneath to gather the blubber. Put the pelt with its centre on the flay stand rind. Make a cut in the blubber across the pelt. Cut until you reach the skin. Continue with long and light strokes to remove the blubber.

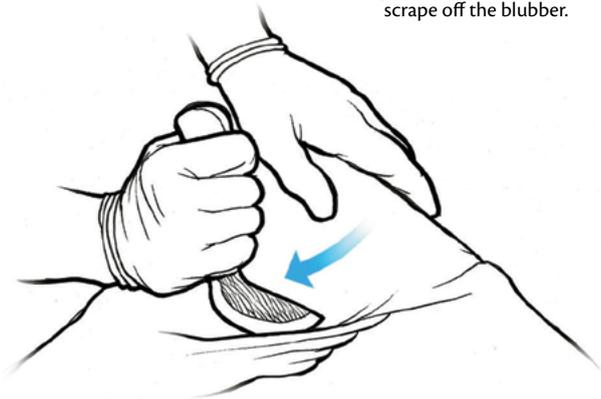
You should cut - not scrape. Work with the knife in an angle of less than 45 degrees. Keep the pelt stretched, and be careful. You do not want any holes. As long as there is blubber left, or hanging down, its weight will stretch the pelt. You may use clamps to stretch it further. Folds and wrinkles on the pelt increase the risk of making holes. Move the pelt upwards as removing the blubber. When you have cleaned the first half of the pelt, you just turn it 180 degrees and continue with the other half.

### Scraping beam

Place the pelt with its fur side down along the scraping beam. It is easier to keep the pelt well stretched on the beam, due to the rounded form, so we recommend using the scraping beam. Use a bent knife or a scraper knife to remove the blubber in the same way as described above.



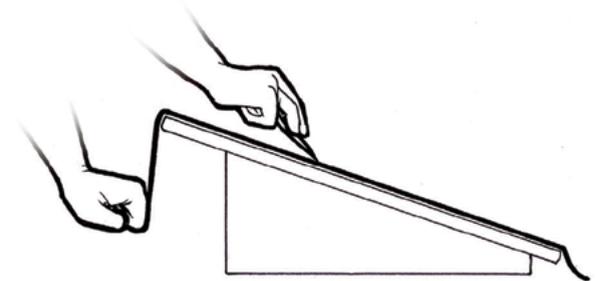
Use long, sweeping, and strong movements. You should cut, not scrape off the blubber.



When you use an ulu, the blade should stick out beneath your index and middle fingers. Place your index and middle fingers on the blade, and let the ring and little fingers hold the handle. The bevelled side of the blade is turned up.

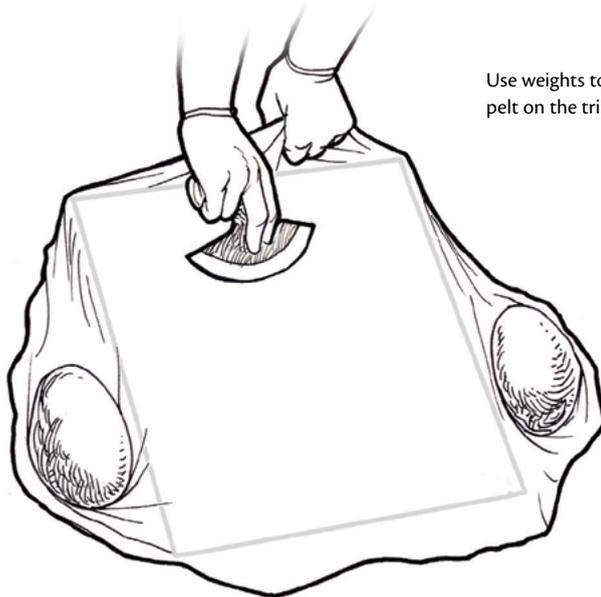


Working posture for work on trimming table with an ulu. Grab the pelt to stretch it and keep that hand beneath the table, safe from the knife.



**Note!**

Do not cut too deep, or you can damage the hair roots. This may lead to hairless spots on the final pelt.



Use weights to stretch the pelt on the trimming table.

Press the excess fat out of the fur with a scraper. Use the trimming table as surface.



**Trimming table**

If you do not have a skinning stand or a scraping beam, you can use a trimming table or similar. Place the pelt with its fur side down, and use the ulu. Begin to cut at the nose. Continue to remove the blubber while lifting and moving the pelt as you proceed. The blubber will slip towards the centre, and keep the pelt stretched to make the work easier. When half the pelt is free from blubber, turn it and continue with the rest until all blubber is removed.

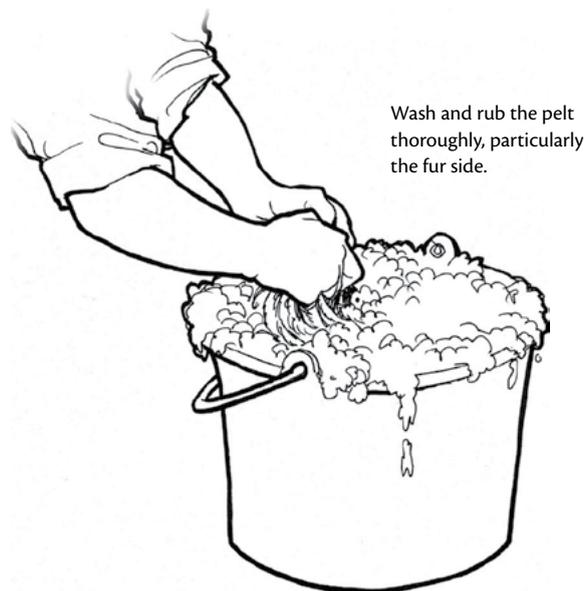
**High-pressure wash**

Fasten the pelt on a flat surface with nails close to the pelt edge. Wash it with a high-pressure washer. The fat will dissolve and give rise to a milky

liquid. This is a quick method, but unfortunately, you cannot take care of the blubber, which can be used for many things.

**Press out excess fat**

When you have removed all blubber, you have to press out all excess fat from the pelt. Use a flat surface and a scraper (an ice scraper for car windows will do). Place the pelt with its fur side down, and the head part towards you. Press out the fat with firm strokes. Turn the pelt around and repeat on the fur side. Be careful with the fur - do not use tools that are too sharp. You may also work on the flay stand and use the dull side of the scraping knife.



## B. Final trimming

You may send the pelt to a tannery when the pelt is free from blubber. It is not necessary to trim the pelt further. However, if you are going to tan the fur yourself, or want to be really careful, the final trimming can be done with an ulu on a trimming table, or the like. You have to cut away the membrane layer beneath the blubber and the epidermis, and into the connective tissue. Be careful not to cut the hair roots. If small black dots turn up, the hair roots have been damaged. The skin should have a bluish colour. The pelt grows in size during the trimming since it stretches when you cut off the membranes.

### Read more:

Movie: Helling, A. *Skin preparation on Vega*. (In Scandinavian, coming production).  
 Books/reports: Nykvist, M. *Traditional seal fur preparation*/ Kleppe, S & Weckmann, A. *Tanning sealskin with alum, fat, and bark* (in Swedish). Kvarkenrådet 2007.  
 Oakes, J.E. *Factors influencing Kamik Production in Arctic bay, Northwest Territories*. Canadian Ethnology Service. Paper No. 107, 1987.  
 Rahme, L. *Skin, tanning and preparation with traditional methods* (in Swedish). Lottas Garveri, 2003.

## C. Washing

You have to wash the blubber-free pelt to get rid of fat and blood remains in the fur. It may otherwise react with oxygen and give discolorations. If the pelt is meant for leather, you do not have to wash it as neat as for fur preparation.

Rinse the pelt in cold water. Put it into a tub, and fill with lukewarm water so that the pelt is well covered. Add 0.5 to 1 dl of detergent, depending on the pelt's size. Stir and rub, or use a scrub brush to clean the fur in the hair direction. Wash it three times, rinsing between washes with clean water – until the fat in the fur has dissolved.

An old washing machine of no other use makes the work much easier. If you have a sawdust revolving drum it can be used as a complement to the washing. Particularly the fur side will gain from such treatment.



## D. Preservation

There are two recommended methods to preserve the pelt until processing.

- Salting
- Freezing

### Salting

Rub the fur side with fine salt. Fold the pelt, fur side against fur side, and spread coarse salt on the skin side. The edges tend to roll up so that the fatty skin side will meet the fur, so you have to press and flatten out the edges and put a lot of salt on them. Place the folded pelt in a barrel with brine. It is ideal to use a barrel that is so wide that you do not have to fold the pelt more. The more folds on the pelt, the higher are the risk of air pockets that will prevent the brine from acting. Put a flat weight on top to keep the pelt beneath the surface, and close the barrel with an air-tight lid.

The pelt will be fine for a while if you have prepared it well. After a week, or so, you must change the brine since the pelt absorbs the salt which weakens the brine. Keep the barrel in a cool space. If it is too warm, the pelt will turn yellow. The pelt may turn yellow if you have been careless with the washing and salting.

### Freezing

Put the pelt in a freezer at a temperature of at least – 20 °C. There must be plenty of space, and the pelt should lie unfolded and flat. Do not move the frozen pelt unless necessary, as the skin fibres easily break.

### Traditional methods

In the past, they dried seal pelts on a north-facing wall during spring and early summer in the Baltic area, but this is nothing we recommend. These kind of dried pelts are, however, suitable for making shoes.

Cut off the blubber that is left. Nail the pelt to a north-facing wall. After some days of drying, you can scrape away more fat from pelt. Repeat the scraping procedure three to four times during the drying.

You can also stretch the pelt onto a frame to dry, as the Inuit do. In this

case, the blubber, membranes and connective tissues have to be cut off before you stretch the pelt. This kind of dried pelt becomes much softer than those dried on a wall do. (See Books /Reports in page 54).

### Processing / tanning

Further processing and tanning of the pelt is a difficult task. The best you can do is to send it to a tannery. Keep the pelt in the brine in a cool place, or in the freezer until you send it away. Check with the tannery how to pack and transport it. Tell them how thin you would like the skin to be, and if it is meant for clothing or utility goods. Check also if the tannery has the experience to process seal pelts. There are only a few tanneries in Scandinavia that will undertake seal pelt processing.

Remember to label the pelt before sending it away. Use a nail to make a unique pattern of holes, or heat an iron tool to brand it.

## E. Final products

The final seal fur, or seal leather, is very beautiful with a fantastic shine. It is only your imagination that can place a limit to what can be made. Some examples are waistcoats, shoes, skirts, trousers, ropes, bags, and ties.

Read more about processing and product examples:

*Harri, H. & Mäki, E. Seal – from pelt to creation (in Swedish). Sälen vår gemensamma resurs. Kvarkenrådet, 2004.*

*Rautaneva, M. Sewing book for outdoor products (in Swedish). Sälen vår gemensamma resurs. Kvarkenrådet, 2005.*





# Blubber

The blubber has a considerable value in itself, since it can be boiled to produce seal oil. One single seal might give as much as 80 litres of oil. Rinse the blubber free from all blood, and carefully remove all meat and other tissues to avoid bad smells and discoloration. Cut the blubber into small pieces. The treatment of the blubber varies depending on what the seal oil is going to be used for. The most common treatment is to boil the blubber, but there are others methods under development.

If the blubber cannot be taken care of immediately, it is possible to vacuum-pack or freezes it until later. The blubber will go rancid if it is stored in any other way, and the oil will become dark with a bad smell.

## Rendering the seal oil

Due to the risk of fire and bad smells, it is better to work outside.

First, you have to grind the blubber in a meat grinder, or cut it into small pieces. This will give an even and fast melting process. Take a large saucepan and add some water (~1 dl) before you fill it with blubber. Many people prefer this method since the water prevents the blubber from burning. Heat the blubber slowly to 99 to 100 °C until the water vaporizes and the blubber melts. The temperature of the oil will now increase quickly. Check the temperature rise on the thermometer, and do not let it start boiling.

Skim the stuff off the surface continuously. When the oil reaches a temperature of 125 to 140 °C it is done. The higher the temperature the darker the oil becomes. Leave it to cool overnight. Strain the oil with a colander, and a second time with a thin cloth or coffee filter. Keep the seal oil in some kind of container with a tight lid. Fill the vessel to the top, leaving no space for oxygen in order to prevent oxidation of the oil.

It is possible to boil the seal oil without any water in the pan, but you have to stir the blubber all the time until it melts and oil forms at the bottom, or the blubber will burn. You can also use an old oven and put the blubber on a rack, heat the oven to 120 °C, and let the oil drip into a catching vessel.

If the boiling temperature is too low, the oil will not refine enough, become thick, and soon go rancid. If the boiling temperature is too high,

the oil becomes reddish. Properly boiled and pure seal oil is bright yellow with no smell.

Still another way to get the seal oil is to just press out the oil from the fresh blubber, a method that has been tested by the project "The seal – our resource in common".

## Final products

- Seal oil may be used for:
- Impregnation of wooden products
- Paint – if you add pigments to the oil. Outdoor wall paint based on seal oil is said to last for 20-30 years.
- Rust protection. Iron tools that have been treated with seal oil, and dried in the sun, are said to be rust free for 10 years.
- Shoe and leather lubricant
- Fur and leather tanning
- Lamp fuel. The wick must be porous and placed at an angle of 45 degrees.

The oil can also be used as health food, and to anoint hoofs and paws.



## You need this:

- Knife
- Possibly a meat grinder
- Thermometer
- Large pan or pot
- Source of heat, ideally a hot plate
- Good, air-tight vessels



# Skeleton

The seal skeleton differs from those of terrestrial animals in that their extremities are reduced. The skeleton is also thinner and weaker. It is therefore not suitable for making larger utility goods, but it is quite suitable for making smaller accessories and ornaments. The bones have a particular fishlike smell, which disappears after drying for some time in an airy environment.

## Working with bones

Use gloves when you handle the uncleaned bones. Boil the bones at least twice and scrape off meat and membranes each time. Most of the meat and membranes will loosen after the first boiling. Let them soak for a while after boiling, and scrape the bones clean completely. Let the bones dry. You can saw, drill, grind and polish the seal bone by hand or with machines. It will never become smooth, but it is beautiful as it is. In addition, the claws and teeth are useful. If you saw the teeth in pieces, they can be strung on a necklace.

## Final products

Needles, pickers, hooks and trinkets, for instance.

Inuit children use the finger bones from the hind flippers as Lego to play with. The flippers are trimmed and boiled until clean, and put in a bag for the children.

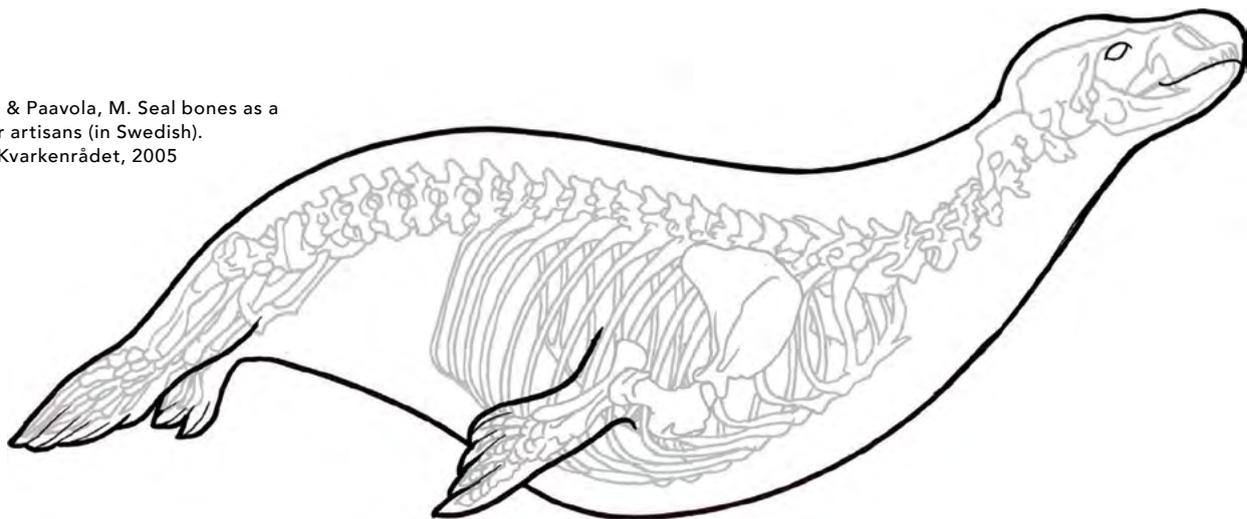
## Read more:

Salonen, M. & Paavola, M. Seal bones as a resource for artisans (in Swedish).  
*Infoblad 1*. Kvarkenrådet, 2005



## You need this:

- Scalpel
- Files of different types
- Pair of pruning shears
- Pan
- Source of heat



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- Rautaneva, M. Sewing Book for Outdoor Products (in Swedish). *Sälen vår gemensamma resurs*. Kvarken Council, 2005.

### Internet

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### Miscellaneous

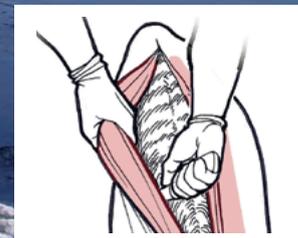
- Anon. Decision on Controlled Hunting on Grey Seal 2007 (in Swedish). Swedish Environmental Protection Agency NDR 412-162-07 Nv
- Anon. Management Plan for Seal Populations in the Baltic. Draft (in Swedish). Finnish Ministry of Agriculture and Forestry, 2007.

## Summary for good fur, leather and meat

1. Bleed the seal immediately.
2. Remove the pelt and the entrails as soon as possible after bleeding.
3. Be very careful about hygiene. Keep the working space, hands, and tools clean and free from contaminants. Change knives, sharpeners, and disposable gloves between skinning, entrails removal, and cutting up.
4. Remove the entrails in one movement. Make sure that you have not broken the stomach and intestines.
5. If the gut content comes in contact with meat, you must cut off the contaminated meat with a clean knife. Do not use water - use vinegar.
6. Cool the meat immediately to less than 7° C. Freeze the meat that you will not consume fresh.
7. Keep the pelt moist during the slaughtering and skinning procedures.
8. Wash the pelt, and preserve it in salt before sending it to a tannery.

# Thanks

To all of you that have assisted with valuable knowledge, opinions, and thoughts during the work with this book.



After a long period of total protection, a limited hunt on seals is now allowed in Swedish and Finnish waters of the Baltic Sea. However, what will you do with the seal after it is harvested?

This book tells you how to handle the seal after the shoot in order to get the best quality of both meat and pelt. You are guided pedagogically through all processes from preparations before sealing, and butchering to the preparation of end products.

“Seal – handling after the shot” is a sequel to “Seal - the seal in a modern kitchen” that was published in 2006.

