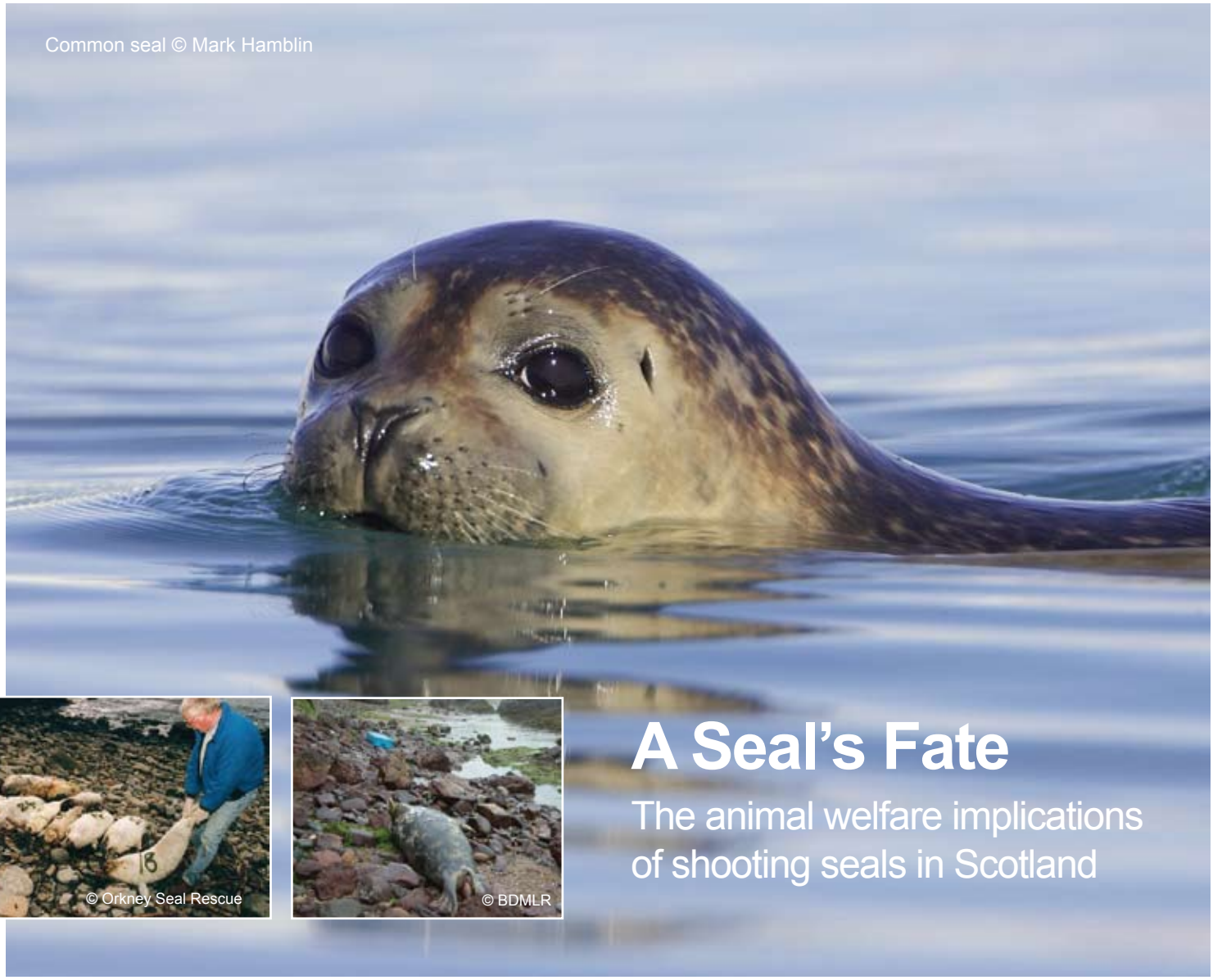
A Seal's Fate

The animal welfare implications of shooting seals in Scotland

A report by Advocates for Animals
www.lookoutforseals.org



A Seal's Fate

The animal welfare implications of shooting seals in Scotland

Contents

This report has been produced by Advocates for Animals, 10 Queensferry Street, Edinburgh, UK, EH2 4PG. Tel: +44 (0)131 225 6039 Email: info@advocatesforanimals.org

www.advocatesforanimals.org www.lookoutforseals.org

1.0 Introduction

Scotland has internationally-important populations of grey and common (harbour) seals around its coast. Serious declines in populations of common seals in some areas have raised conservation concerns and been widely reported. However, the welfare implications of shooting seals in Scottish waters have never been properly addressed.

Seals are killed in Scotland because, as natural predators of fish, they can be seen as pests by fishing interests including anglers, coastal salmon netsmen, fish farmers and sea fishermen. Seals are naturally attracted to salmon in cages and nets, where they can cause damage.

The law in Scotland – the Conservation of Seals Act 1970 – does not currently protect seals from being shot and put at risk of suffering. It also does too little to protect nursing seal pups from being orphaned between birth and the natural age of weaning.

This report has been produced by Advocates for Animals to explain the animal welfare implications of shooting seals and, in particular, why Scotland is not meeting the standards set down and internationally accepted as guidance on humane killing of mammals, both domesticated and wild.

Grey seal pup © Mark Hamblin

2.0 Standards for humane slaughter

> 'What is of prime importance is that if animals are going to be killed, then they should be killed with no avoidable suffering regardless of human utility and circumstances.'
>
> *European Food Safety Authority, 2007*

There is inevitably a high risk of suffering when wild animals are killed. Unlike domesticated animals, they cannot be confined or restrained without causing severe stress. Shooting an unrestrained animal at a distance risks causing wounding, and a slow death, rather than instant and painless killing.

Scientific advisers in Europe and North America have proposed that the standards for killing seals should be related to those for killing animals for food [1,2] or to recognised humane euthanasia.[2] 'Humane euthanasia' means the use of a method that results in 'rapid, irreversible loss of consciousness, and death.'[2] As this report will show, such a result cannot be guaranteed when seals are shot.

There is a considerable body of scientific evidence on the humane killing of animals. Based on this, the World Organisation for Animal Health (OIE) has compiled international welfare standards[3] to be applied when killing animals for food and for disease control purposes. The standards include circumstances when the animals are mobile in a field (for example, deer or other animals kept free range) and are shot with a free bullet. The OIE requires that: 'When animals are killed for disease control purposes, methods used should result in immediate death or immediate loss of consciousness lasting until death; when loss of consciousness is not immediate, induction of unconsciousness should be non-aversive and should not cause anxiety, pain, distress or suffering in animals.'[3]

In relation to commercial seal hunting, the Parliamentary Assembly of the Council of Europe recommended in 2006 to the Committee of Ministers 'to ban all cruel hunting methods which do not guarantee the instantaneous death, without suffering, of the animals[…].' [4]

In 2007 the European Food Safety Authority (EFSA) report on welfare in fur seal hunts compared the killing of seals with the requirements for killing wild, captive or domesticated animals and considered whether any of the methods used could 'meet objective criteria of animal welfare in order to eliminate or reduce avoidable or unnecessary pain and distress.' EFSA stated that: 'What is of prime importance is that if animals are going to be killed, then they should be killed with no avoidable suffering regardless of human utility and circumstances.'[1]

3.0 Requirements for humane killing of seals

> 'Seals are sentient mammals that can experience pain, distress, fear and other forms of suffering.'
> *European Food Safety Authority, 2007*

Since it is recognised that 'seals are sentient mammals that can experience pain, distress, fear and other forms of suffering'[1], any killing sanctioned by the law must be humane. If seals are to be killed by shooting, steps must be taken to ensure that the effect is essentially instantaneous; in addition, the seal should be shot from a sufficient distance so that it is not frightened or distressed beforehand.

Humane killing of a seal by shooting requires that the first bullet destroys the sensory brain functions instantaneously and irreversibly. Effective shooting to achieve this would involve hitting the head or the high part of the neck behind the head with sufficient power, using a soft expanding bullet that would destroy the brain, or a fragmenting bullet that would blow the head apart on impact.[1] EFSA considered that modern rifles with optical sights, and possibly rangefinders, used with expanding bullets, were suitable weapons for killing seals humanely. In Norway, which is considered the only comprehensively regulated seal hunt,[5] shooting adult seals requires a rifle with telescopic sights and 6.5 mm calibre expanding bullets.[1,6]

However, if the gun or ammunition is of insufficient power or the seal is hit elsewhere than the head, there is a greater chance that it will only be injured rather than killed outright or irreversibly stunned.[1] This could also happen if the bullet only just touches the head, for example, hitting the seal in the nostrils or shaving the skin.[1] In this case the seal could dive or sink below the water and could suffer considerably from wounds, infection and/or starvation until it either died or recovered.

EFSA considered that the risk of wounding rather than instantaneous killing or unconsciousness was the 'main disadvantage' of killing seals by shooting. (These comments were made in the context of a commercial seal hunt, where after shooting the seal would be captured and skinned). In this context EFSA defined humane killing in terms of a three-stage process: shooting (or clubbing), to induce a stun or a stun-kill; clinical examination for death or irreversible loss of consciousness and additional stunning if necessary; and slaughter (bleed-out), so that the seal would die from loss of blood to the brain without regaining consciousness. [1, 2, 5, 7] This is equivalent to the process considered as humane slaughter of animals for food in slaughterhouses.

While animal welfare organisations have expressed reservations about the wider acceptability of the three-stage method, it at least has the virtue of ensuring that the animal is dead. In Scotland, there is no legal requirement to ascertain that a shot seal has in fact been killed, and indeed it would be impossible to do this when seals are shot in water, as is common in Scotland.

4.0 Welfare implications of shooting seals

Wounding is a significant welfare problem when animals are shot, as has been widely acknowledged in the context of the terrestrial shooting industry in Scotland. For seals, EFSA lists a number of factors involved in ineffective shooting, even if the power of the rifle and the ammunition are adequate for the task. These include:

- poor marksmanship
- excessive distance (more than 50 metres)
- the small size of the seal's head and upper neck as a target
- use of an unstable platform to shoot from
- unexpected movement by the seal, such as a sudden movement of the head.

Again, these problems are exacerbated when the seal is shot in water and the person shooting the seal loses sight of it.

Shot grey seal pup, Orkney © Orkney Seal Rescue

4.1 Shooting seals in water

> 'Because it is impossible to verify death or irreversible unconsciousness of a seal shot in open water, shooting seals in open water can never be humane.'
>
> *International Veterinary Panel, 1998*

Seals that are shot but sink or dive into water are referred to as 'struck and lost'. They may be conscious, unconscious or dead. Adult seals are more likely to be 'struck and lost' when they are shot in water rather than when they are hunted on land. For these reasons, many experts conclude that shooting seals in water is not humane and should not be permitted.

In 2005 the Independent Veterinarians' Working Group on the Canadian seal hunt recommended that: 'Seals should not be shot in the water due to the high potential for "struck and lost" events, suffering resulting from the inability to confirm irreversible unconsciousness, and potential for the loss of wounded animals.' [2]

According to data cited at a hunting industry conference convened to discuss the 'struck and lost' problem in 2006, the rate was between 5% and 50% for adult seals shot in water, compared to 0% up to 21% for seals struck on land (ice).[9] One of the reasons given for high rates of 'struck and lost' was the presence of waves preventing a clear shot.[9]

EFSA considered that: 'In any seal hunt, it is likely that a certain proportion of the animals will be only wounded, regardless of the power of the ammunition. Wounded seals may escape before they are re-shot, as there is no guarantee that the rifleman will be able to inflict a successful repeat shot immediately. This is especially true for animals which are shot while in water.'[1]

The Parliamentary Assembly of the Council of Europe concluded in 2006 that: 'Shooting of seals with a rifle is a practice that very often inflicts severe suffering on the animals. Instant killing is in fact difficult, and wounded seals dive underwater to escape the projectiles and [in fur hunts] are only later recovered by boat.'[7]

The Parliamentary Assembly further concluded that a seal could only be assured a humane death by the three-stage process described above, including monitoring of the seal immediately after shooting. For this reason, it was recommended that: 'A seal should not be shot in the water or in any circumstance when it is possible the carcass cannot be recovered.'[7]

When a seal is shot in water but is still conscious, it would be impossible to land it (for example by hooking it) in order to verify its condition without the risk of causing further suffering. An International Veterinary Panel observing the Canadian seal hunts concluded that 'any method of taking a seal that requires the seal to be recovered by gaffing or hooking before unconsciousness or death can be confirmed, using the three-step process…can never be humane.'[18]

The International Veterinary Panel also concluded that, because it was impossible to verify death or irreversible unconsciousness of a seal shot in open water, shooting seals in open water can never be humane.[18]

The EFSA report[1] refers to a number of countries where 'struck and lost' rates have been recorded. For example, in Sweden, data on seal shooting between 2001 and 2006 showed 'struck and lost' rates as high as 43%.[1] In Canada, a 'struck and lost' rate of 50% was recorded for older harp seals shot in open water: in other words, for every seal shot and recovered from the water, one seal had sunk and its fate was unknown.[1]

In Norway, shooting seals in water is forbidden.[5]

Finally, while there are serious animal welfare problems associated with shooting seals in water, indicating that this practice should no longer be permitted, it must of course be emphasised that there are important ethical and conservation concerns regarding the shooting of seals at their haul-out sites, which are not considered in this publication.

4.2 Shooting seals from an unstable platform

> 'Shooting seals from boats should be viewed as inherently inhumane.'
>
> *Report by University of Bristol, University of London and International Whaling Commission, 2007*

A review of evidence, including video footage, from the Canadian seal hunts between 2003 and 2007, was published in 2007 by scientific and veterinary experts from a number of institutions including the University of Bristol, the University of London and the International Whaling Commission. The review concluded that: 'There are many practical problems when trying to shoot seals from a boat, even in a relatively calm sea (the boat is moving, the ice is moving, and seal may also be moving), and these lead to high levels of wounding. Since it is not possible to address these problems, shooting seals from boats should be viewed as inherently inhumane'.[8]

The swaying or surging of the boat from which the seals were being shot was also one of the reasons given at a hunting industry conference for a 'struck and lost' rate of between 5% and 50% for adult seals shot in water. [9]

Shot grey seal pups, Orkney © Orkney Seal Rescue

In Sweden, shooting is only permitted from shore; if the wind speed is very low (under seven miles or 11km per hour), seals can be shot from a boat anchored to ice.[5]

Shooting from boats and other unstable platforms such as fish farm cages is currently permitted in Scotland.

4.3 Competence of the person shooting the seal

Obviously, the rates of wounding depend heavily on the skill of the marksmen, as well as environmental conditions.

Analysis of video footage of the shooting of over 50 individual seals in Canadian hunts up to 2007 by scientific and veterinary experts found that 82% of the seals were not killed by the first shot and only 41% were hit in the head region (55% were hit in other parts of the body).[8]

4.4 Minimum standards in other countries

Unlike Scotland – where seal killing is not carried out on a commercial basis – most countries with commercial seal hunts have guidelines or regulations in place intended to prevent the most serious suffering. The EU Environment Directorate General's report of 2008,[5] reviewing seal hunting practice internationally, set out a number of general best practice standards that should be included in legislation regulating seal hunting. These requirements include:

- The seal hunter and the seal must be sufficiently stable and the target (the seal's head) seen clearly.
- Specified standards for firearms, consistent with EFSA recommendations.
- Training for hunters.
- Death must be monitored and the seal should be bled out.
- Independent observation and monitoring, with assurance of independence.
- Reporting of where and when a seal is killed, the weapon used and environmental conditions at the time.
- Systematisation of the information collected to ensure compliance.

The Environment Directorate of the EU, having reviewed current practice internationally, considered that Norway was the only comprehensively regulated seal hunt, but that no country's practices met the welfare requirements discussed in the EFSA report.

4.5 Shooting of seals in Scotland

There are currently no standards of this nature applicable in Scotland, except at s.1 of the Conservation of Seals Act 1970, which specifies the calibre of rifle that must be used.

In particular, seals are often shot when they are in water. Additionally, seals are often shot from a boat, which is a moving platform, or from another type of platform less stable than land, such as the walkways of a fish farm. Finally, there is no legal requirement for the person shooting seals to be a competent marksman.

5.0 Potential impact of maternal loss on pre-weaning pups [19]

One of the most serious animal welfare problems associated with the shooting of seals is the effect on nursing seal pups if they should lose their mother at any time between birth and the natural age of weaning.

Seal pups are born in a relatively advanced condition. Common seal pups can swim from birth and have a highly developed following response to their mother in the water and on land. Grey seals are born at a slightly less advanced stage of development, still wearing the lanugo (long-haired) white coat, and – although they can swim from birth – they tend to avoid entering the water for about the first ten days after birth.

Although they are able to swim, seal pups of nursing age of both species do not forage for live prey and are entirely dependent for their survival on their mother's fatty and protein-rich milk. Therefore, if they should lose their mother before weaning, they will slowly starve.

Common seal pups in the UK are born at about 11kg[10,11]. During the 3-4 week nursing period, they gain at least 0.5kg a day, resulting in a weaning weight which is usually at least twice their birth weight.

Pregnant grey seal shot in Lunan Bay, 2003
© BDMLR

Grey seal pups in UK are born at about 15kg (range 13-16kg[12]), gain about 1.5kg per day (range c. 1.2-1.9kg/day) on their mother's milk, and are weaned after about 17 days[12] at an average of 38-40kg (range c. 24–58kg[13]).

After weaning, or when a nursing pup is orphaned, stored blubber is mobilised as an energy source. In natural conditions, mothers leave their pups after weaning, and pups then learn to feed independently on live prey. Common seals start this learning process immediately after weaning, and it has been estimated that viable pups learn to feed within about two weeks of weaning[14] and achieve a positive energy balance within about a month of weaning. Grey seal pups may go through a post-weaning fast lasting a variable time of up to several weeks before they begin to learn to feed on live prey. Their relatively greater energy store at weaning serves to see them through this fasting period.

If a common or grey seal pup loses its mother before the natural weaning has taken place, it will be compromised to the extent that its body weight falls short of that needed to survive the period of transition to independent feeding combined with the shortfall of actual weaning age. The latter is important because a pup which is orphaned much younger than the natural weaning age will not at that stage of development show foraging behaviour or feed on live prey in order to compensate for the lack of milk.

5.1 Common seal pups

Records from rehabilitation centre admissions suggest that common seal pup strandings during the nursing period generally occur at or below the normal birth weight. Pups which lose their mothers at birth will swim energetically for 2-3 days, often following other mother-pup pairs or other, older pups. However, they will gradually weaken, and – without intervention – will become moribund at about 5-6 days. Although there is little data available, the rate of weight loss in orphaned common seal pups is estimated at about 0.2-0.3 kg/day.

Common seal pups orphaned up to ten days of age are likely not viable and at 11-12 days are probably not viable, because even if they were to attempt to learn to forage (unlikely at that age), they would revert to a moribund weight of 10kg before they could have learned to feed successfully. The time to reach this moribund condition could be between 3–4 days for pups orphaned at birth, and 26 days for pups orphaned at 12 days.

Pups orphaned between 13–16 days might be able to survive. At that age most would be 17–18.5kg. If they followed the post-weaning norm of learning to feed within 14 days, they should not fall below 14–15kg before learning to feed. However, this assumes that they are psychologically mature enough to engage in foraging behaviour. If they are not, it could take them as long as 29–36 days to reach a moribund condition. Pups orphaned at 17 days and 19kg are probably viable, and pups at 19 days and 20kg are almost certainly viable.

Shot seal, Orkney © Orkney Seal Rescue

5.2. Grey seal pups

Research[13] suggests that no grey seal pups who lose their mother at less than five days old can survive, and the time for a starving pup to reach a moribund state at around 13kg would be about 4-16 days, depending on the age and size of the pup when it lost its mother. From six days of age and about 22 kg weight, pups have a slightly increased chance of surviving, although for male pups up to 14 days and about 35kg weight, this chance is still less than 50%. Female pups who lose their mother from six days on and 22+ kg have a greater than 50% survival chance, which increases to more than 70% at day 14. However, if the orphaned pup does not survive, but starves to death, the time to reaching a moribund condition could be as long as 40 days. In practice, a starving pup would probably succumb to opportunistic bacterial infections resulting in pneumonia or septicaemia.

5.3. Factors affecting survival

These estimates of viability for both species would be subject to factors including the availability of food close to the natal site and the presence of other pups. These estimates also do not take into account the effects of stress on an orphaned pup, nor the likelihood of a distressed pup contracting pneumonia or septicaemia, which would probably shorten the time to die. Some orphaned seal pups may manage to nurse from other mothers, although the amount of milk obtained in this way is probably insufficient in most cases to increase survival significantly.

There is undoubtedly a tendency to think that because a seal pup is physically advanced, and able to move about competently in the water, it can probably learn to feed itself even if it loses its mother prematurely. Records of orphaned grey seal pups swallowing stones and other beach debris have tended to support this view. However, it is not widely appreciated that seal pups in the wild feed only on live prey, and they do not learn to do this until after weaning. It is not known exactly what triggers the transition from suckling from the mother to foraging for live prey, but the transition may require physiological and metabolic conditions (dependent on body mass, lean tissue and blubber balance) to be met in addition to the mother's absence and the appropriate age (and psycho-social development) of the pup.

Common seal pup

Even when seal pups are weaned naturally in the wild at a normal weight and age for the species, they may not survive their first year. Studies have shown that healthy grey seal weanlings have only a 74% (males) and 89% (females) chance of surviving for two months[13]. Any shortening of the nursing period if the pup loses its mother prematurely – even by a couple of days – will reduce this chance still further: the younger the pup when orphaned, the less the chance of survival. However, a pup orphaned in the middle of the nursing period may suffer for much longer than a newborn pup because it will not be able to feed independently, and will take longer to die from starvation and debilitation.

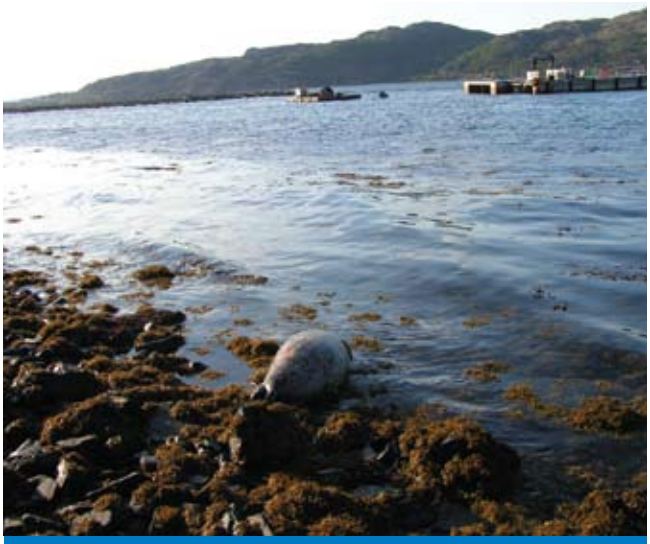
Although the time taken to die for orphaned pups of either species could theoretically be several weeks if they just gradually lose weight, in practice such pups normally succumb to pneumonia or septicaemia.

6.0 Conclusions

The evidence on wounding rates shows that it is extremely difficult to guarantee that seals can be killed humanely by shooting. The fact that in Scotland seals are often shot in the water, from unstable platforms and by people whose competence is unproven means that shooting cannot be viewed as humane.

The law in Scotland fails to meet advised general best practice standards which should be seen as the very minimum conditions for shooting of seals. Such standards would, in effect, rule out shooting at seals that are in open water from boats or from fish-farm walkways or floating platforms and would require competence testing of anyone wishing to shoot a seal.

In addition, the law in Scotland currently allows the killing of nursing mother seals during their breeding season (by means of licences granted under s.10 of the Conservation of Seals Act 1970). This is cruel as it can result in dependent pups slowly starving to death over a period of up to several weeks.



Shot seal near salmon farm, Lochalsh 2008
© Nigel Smith

7.0 Recommendations

Advocates for Animals recommends that the Scottish Government should use the Scottish Marine Bill to prohibit the shooting of all seals.

If the Scottish Government considers it necessary to permit limited derogations from such a ban, Advocates for Animals believes that this must be by way of a robust licensing scheme. This would cover only those situations where it could be independently verified that an individual seal was causing significant damage to a fishery, fishing equipment or fish farm cages and that all non-lethal alternatives to killing had genuinely been tried, and had failed.

As a minimum, any proposed licensing scheme must include the following conditions:

- A prohibition on the shooting of seals during their breeding seasons.
- A prohibition on the shooting of seals in water.
- A prohibition on the shooting of seals from boats or other unstable platforms.
- A requirement for independent assessment of shooting competence.
- A requirement to ensure that whenever a seal is shot, it is actually killed.
- Regular reviews to take account of new scientific evidence.

Common seal pup

Shot seal near salmon farm, Lochalsh 2008
© Nigel Smith

References

1. European Commission. Scientific Opinion of the Panel on Animal Health and Welfare on a request from the Commission on the Animal Welfare aspects of the killing and skinning of seals. The EFSA Journal (2007) 610, 1-123
2. Smith B et al. *Improving Humane Practice in the Canadian Harp Seal Hunt*. A Report of the Independent Veterinarians' Working Group on the Canadian Harp Seal Hunt. August 2005. http://ivwgonline.org/IVWGReportAug2005.pdf
3. OIE Terrestrial Animal Code. 2007. Chapter 7.6 http://www.oie.int/eng/normes/mcode/en_chapitre_1.7.6.htm
4. Parliamentary Assembly of the Council of Europe. Recommendation 1776 (2006) Seal hunting. http://assembly.coe.int/Main.asp?link=/Documents/AdoptedText/ta06/EREC1776.htm
5. European Commission. Directorate General for Environment. *Assessment of the potential impact of a ban of products derived from seal species*. COWI April 2008
6. North Atlantic Marine Mammal Commission (NAMMCO). *Report Of The NAMMCO Workshop On Hunting Methods For Seals And Walrus*. Copenhagen, Denmark 7-9 September 2004.
7. Parliamentary Assembly of the Council of Europe. *Seal hunting*. Report of Committee on the Environment, Agriculture and Local and Regional Affairs Rapporteur: Mr Pasquale Nessa, 7 July 2006. http://assembly.coe.int/documents/workingdocs/doc06/edoc11008.htm
8. Butterworth A, Gallego P, Gregory N, Harris S and Soulsby C. *Welfare aspects of the Canadian seal hunt: final report*. 31 August 2007 http://www.hsus.org/web-files/PDF/seals/welfareaspectsofcanadiansealhunt_butterworth.pdf
9. North Atlantic Marine Mammal Commission (NAMMCO). *Report Of The NAMMCO Workshop To Address The Problems Of "Struck And Lost" In Seal, Walrus And Whale Hunting*. Copenhagen, Denmark 14-16 November 2006
10 Bowen, W.D., Oftedal, O.T., Boness, D.J. and Iverson, S.J. 1994. *The effect of maternal age and other factors on birth mass in the common seal*. Can. J. Zool., 72: 8–14.
11 Coltrell, P.E., Jeffries, S., Beck, B. and Ross, P.S. 2002. *Growth and development in free-ranging common seal (Phoca vitulina) pups from southern British Columbia, Canada*. Mar. Mamm. Sci., 18: 721–733.
12 Kovacs, K.M. and Lavigne, D.M. 1985. *Growth of grey seal (Halichoerus grypus) neonates: diferential maternal investment in the sexes*. Can. J. Zool., 64: 1937–1943.
13 Hall, A.J., McConnell, B.J. and Barker, R.J. 2001. *Factors affecting first-year survival in grey seals and their implications for life-history strategy*. J. Anim. Ecol., 70: 138–149.
14 Muelbert, M.M.C. and Bowen, W.D. 1993. *Duration of lactation and postweaning changes in mass and body composition of common seal Phoca vitulina pups*. Can J. Zool., 71: 1405–14.
15 Nordoy, E.S. and A.S. Blix. 1985. *Energy sources in fasting grey seal pups evaluated with computed tomography*. Am. J. Physiol., 249 (Regulatory Integrative Comp. Physiol. 18): R471-R476.
16 Øritsland, N.A., Påsche, A.J., Markussen, N.H. and Ronald, K. 1985. *Weight loss and catabolic adaptations to starvation in grey seal pups*. Comp. Biochem. Physiol. 82A, 4: 931–933.
17 Nordøy, E.S., Ingebretsen, O.C. and Blix, A.S. 1990. *Depressed metabolism and low protein catabolism in fasting grey seal pups*. Acta Physiol. Scand., 139: 361–369.
18 Burdon, R.L., Gripper, J., Longair, J.A., Robinson, I. and Ruehlmann, D., 2001. Rapporteur: Fielder, J. Veterinary Report Canadian commercial seal hunt Prince Edward Island, March 2001, Canada. Report of an International Veterinary Panel, 36 pp. Cited in EFSA report, reference 1.
19 *Potential Impact of maternal loss on pre-weaning pups of harbour and grey seals*, 2009, (unpub) by Susan Wilson, Tara Seal Research.

www.lookoutforseals.org

Advocates for Animals, 10 Queensferry Street, Edinburgh EH2 4PG. Tel: +44 (0)131 225 6039
Email: info@advocatesforanimals.org Website: www.advocatesforanimals.org

This report is printed on 100% recycled paper.