



Department
for Environment
Food & Rural Affairs

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Controlled shooting of badgers in the field under licence to prevent the spread of bovine TB in cattle

Best Practice Guidance

May 2013

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Introduction

1. This Best Practice Guidance describes best practice for the controlled shooting of free-ranging badgers in the field and the associated use of artificial light (i.e. 'lamping'). Compliance with this guidance will normally be a condition of a licence issued for the killing of badgers by this means to prevent the spread of bovine TB. **Actions described in this guidance may only be undertaken where a specific licence under the Protection of Badgers Act 1992 authorising the killing of badgers has been issued AND in accordance with Class Licence WML-CL05 covering these methods. This guidance does NOT confer any authority to undertake the actions described.** Those acting under licence must ensure that all licence conditions are complied with and must take all reasonable steps to ensure that the licensed operations are carried out safely and humanely. This document does not cover planning and carrying out an effective badger control operation over the whole of a (proposed) licence area; this should be dealt with in the application Badger Control Plan.

Legal protection of badgers

2. Badgers and their setts are protected under the Protection of Badgers Act 1992 (the '92 Act), which makes it an offence to kill or take a badger, except under licence. In addition, certain methods of killing or taking badgers, including the use of artificial light or any device for illuminating a target (e.g. a spotlight), or sighting devices for night shooting and certain use of vehicles are prohibited under the Wildlife and Countryside Act 1981 (the '81 Act). As well as a licence under the '92 Act, shooting, using any of the above methods, must be carried out in compliance with the conditions of the relevant 'prohibited methods' Class Licence (WML-CL05) issued by Natural England under the '81 Act. **A person guilty of an offence under the '92 Act or the '81 Act may be liable on summary conviction to imprisonment for a term not exceeding six months, or a fine, or both.**

Humaneness standards

3. Controlled shooting is widely considered to be a humane method for wildlife control and its use for culling badgers can be permitted under licence in the '92 Act. To ensure a high level of humaneness when a licence is issued, licence holders must take all reasonable measures to ensure that high standards of operation are maintained, including meeting the required level of competence, following these best practice guidelines and strictly complying with all licence conditions. **Operators must never feel rushed into taking a shot.** The key consideration is for a safe, accurate, and humane shot.

Requirements and constraints

- Those shooting badgers under licence must be competent in the use and safe handling of firearms. The minimum standard of rifle marksmanship required is equivalent to that for the Deer Stalking Certificate Level 1 qualification. The use of shotguns is restricted because of their limited power and range (see 'Weapons and Ammunition' below).
Anyone actually shooting badgers under licence (as opposed to just assisting e.g. by holding a spotlight) will be required to demonstrate an appropriate level of marksmanship, through appropriate training and must have received Defra approved training on the humane shooting of badgers.

Weapons and Ammunition

- Badgers must only be shot within the terms of an appropriate licence using firearms and ammunition that comply with the '92 Act.

The firearms/ammunition permitted under licence are limited to the following:

- Rifles: a minimum of .22 centre-fire calibre, with minimum bullet weight of 50 grains and minimum muzzle energy of 1000 footpounds.
- Shotguns: 12 bore only, with full, three quarter or half choke, using a cartridge loaded with AAA shot or BB shot.

- The provisions of the Act potentially allow the use of some .22 rim-fire rifle cartridges, but these are not considered powerful enough to ensure a humane kill in the field and will not be licensed. In addition, because of the limited power and range of shotguns, - shotguns are only permitted for shooting at very close range – no more than 10 metres – and only when shooting over a bait point from a fixed shooting position, such as a high seat.
- The use of an automatic or semi-automatic weapon (i.e. one with a magazine capable of holding more than two rounds) is prohibited under the '81 Act and there will be a presumption against licensing these for culling badgers. However, it will be permissible to use a semi-automatic shotgun that has one cartridge in the chamber and two in the magazine.
- Use of sound moderators does not need a licence under the '81 Act or the '92 Act, but their use with section 1 firearms (e.g. centre-fire rifles) must be covered by the user's Firearms Certificate [s.1 Firearms Act 1968].

Firearms and shotgun certificates

- A person shooting badgers under licence must be in possession of a current Shotgun or Firearms Certificate (appropriate to the weapon he or she is using) and have authority to shoot on the land where the shooting is taking place. In the case of

Firearms Certificates, these must recognise specifically that badgers are to be shot or include wording that in the view of the Police, confirmed by them to Natural England, includes the shooting of badgers (note that badgers are not considered to be covered by the term “vermin”). Applications for the necessary amendment to Firearms Certificates must be made to the Police, who may require sight of a copy of the relevant ‘92 Act licence before making an amendment. Any queries on firearms should be directed to the local Police Firearms Enquiry Officer in the first instance. The Police may wish to inspect the land involved.

Use of dogs above ground

10. The use of dogs to hunt uninjured badgers is considered to be part of the act of taking or killing, so prohibited by the ‘92 Act, and there will be a presumption against licensing their use. It would also be an offence under the Hunting Act 2004, unless within one of the Act’s (limited) exemptions.
11. The use of a trained dog to follow a scent trail, with the aim of locating (without physically coming into contact with) an injured badger, does not require a licence and can be carried out under an exemption provided in the Hunting Act 2004. Any dog used in this way should be kept under close control on a leash when following a trail and, if shooting from or near a vehicle, should be kept in the vehicle unless actually being used to locate an injured badger. Normally only a single dog should be used for this purpose. (The exemption under the Hunting Act does not permit the use of more than two dogs.) Use of a dog-muzzle should be considered.

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Use of dogs below ground

12. Dogs must not be used in flushing or driving badgers from setts. Causing a dog to enter a badger sett is an offence and there will be a presumption against licensing this to prevent the spread of bovine TB.

Sett interference

13. The ‘92 Act prohibits interference with a badger sett. A licence to take or kill badgers, unless specified in the licence, does not permit interference with a badger sett. The Act defines a badger sett as “any structure or place which displays signs indicating current use by a badger”. Interference includes damaging a badger sett or any part of it, destroying a sett, obstructing access to a sett, causing a dog to enter a sett, or disturbing a badger when it is occupying a sett.
14. The placing of small twigs or straw in sett entrances, in order to record animals passing in or out of the sett, can be a useful technique for monitoring sett activity. As long as the materials are lightly placed, and do not obstruct the access of badgers to or from the sett, this does not require a licence. In addition, in suitable conditions, a small

amount of sand placed on the ground at sett entrances can be used to detect paw prints, and again does not require a licence.

Licensed persons

15. A licence under the '92 Act to kill or take a badger permits only the person(s) named on the licence to carry out the authorised actions or, in the case of a company, an officer or employee of the company; the work cannot be delegated to a third party. Companies can act only through their agents, i.e. employees or officers. Persons carrying out actions solely to assist those doing the actual killing/taking do not need to be named on the licence but, if performing an action prohibited by the '81 Act, such as operating a spotlight in the course of night shooting but not actually shooting, must act within the terms of the Wildlife and Countryside Act 'prohibited methods' Class Licence (WML-CL05).
16. When applying for licences, consideration needs to be given to which person(s) will be carrying out each activity.
17. A minimum of two people should be involved in night shooting for health and safety reasons and so that, if a spotlight or image intensifier is being used, one person operate the spotlight/image intensifier leaving the other free to concentrate on shooting and the safe handling of the firearm.

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Planning

Police liaison

18. Prior to any control operations it is recommended that the local police are informed of dates, times and areas where control will take place. Different police areas may require different information so it is important to check exactly what information is expected. The local police office should be the first port of call.

Public safety

19. The advance planning and conduct of badger control must take full account of the need to avoid risks to public safety.

Shooting strategy

20. Shooting must be carried out only as part of a coordinated strategy. The aim of the control in the first year/season of the licence is to reduce badger densities (numbers per area) by at least 70%, but not cause their local disappearance, over a short period

of time (no more than six weeks). Culling in subsequent years of the licence must aim to keep badger densities at this reduced level, again without causing local disappearance. This should be planned for when deciding the number of shooters needed and the personnel to assist them. For safety reasons shooters will need to be in close communication so they know where each is operating at any given time.

21. If “controlled shooting” (the shooting of free-ranging badgers in the field) is to be used as the main culling method, then thought must be given to when this will be possible. For instance, crop/vegetation height in the summer may limit shooting opportunities to such an extent that achieving the necessary cull is impractical at that time of year. If so, either alternative control by cage-trapping should be considered or controlled shooting may have to take place at another time of year.
22. The actual dates when culling will be allowed must be agreed in advance with Natural England and will be specified in the licence.

Shooting

23. **The aim is to ensure that the badger is killed humanely and that the technique is safe for the operators, the public and any non-target animals, such as livestock, in the vicinity.**

Seasons

24. **No shooting of badgers in the field will be permitted from 1st February to 31st May, inclusive.** This is to avoid the possibility of leaving dependent cubs underground to starve as a result of nursing females being culled. However, even during periods during which culling is permitted, where an operator has reason to suspect that an animal may be a lactating sow with dependent cubs, then the animal must not be shot. The actual period when shooting is permitted will be specified in the licence.

Shooting methods

25. Two main methods of shooting are likely to be employed; searching over an area with a spotlight and rifle, where animals may be encountered at various locations and at varying ranges, and shooting over a fixed bait point with a shotgun or a rifle. In practice operators may choose to combine these methods to a greater or lesser extent. Shotguns must only be used when shooting over a fixed bait point at close range (see below). The badger’s main sense is smell, so wind direction relative to the badger and shooter needs to be considered when approaching an animal, preparing to take the shot or deciding on the placement of bait points.

Shooting with the aid of a spotlight

26. Shooting at night with the aid of visible light or sighting devices requires a team of two or three people; the shooter, a spotter, and potentially a third person to drive the vehicle, if used, and to act as an additional safety 'lookout'.

Use of a mechanically propelled vehicle (e.g. quad bike, pick-up, etc.)

27. The use of a vehicle as transport to, or around, a site does not need a licence.

However, the use of a mechanically propelled vehicle in immediate pursuit of a badger is prohibited under the '81 Act. 'Immediate pursuit' is not defined in the Act but Natural England/Defra take the view that using a vehicle to help search for badgers or as a stationary shooting platform would not need a licence. **Shots must never be taken from a moving vehicle.**

Use of artificial light and night sighting devices

28. There are inherent difficulties in shooting badgers from a distance, particularly since the animals are largely nocturnal and most shooting will be carried out at dusk or at night, using a spotlight or night vision equipment. The person shooting must be able to accurately identify the target and confidently locate the heart-lung target area on the badger's body. **Identification of a target by eye-shine alone is unacceptable and must never be relied upon.** The shooter must have a clear view, so as to make a clean and lethal shot, and be certain of the safety of taking the shot. Coloured filters (e.g. red) may reduce a target animal's awareness of the spotlight, and so allow a closer approach or more time to take a shot, but they also reduce the amount of light visible to the shooter.

29. Image intensifying ('night sights') or infra-red sighting devices used as sights on a rifle (Night Vision equipment) are prohibited under the '81 Act but may be licensed by Natural England if certain conditions are met. These include:

- Night Vision must be used over a fixed bait station, which is known to be a safe, secure shooting location
- Night Vision must be used from a fixed, preferably elevated, shooting position
- only 'Generation 2' or '3' Night Vision equipment with infra red (IR) illumination may be used as a rifle scope (or comparable digital Night Vision equipment with IR)
- a separate Night Vision spotting device (also with IR illumination) and/or lamp must be used by a second person to scan the wider area for unexpected non-targets, e.g. livestock and members of the public

It follows that night shooting using Night Vision equipment, as with use of a spotlight and rifle, will also require a minimum team of two people.

Site selection

30. Since shooting will normally occur at dusk or at night, the shooting team must be thoroughly familiar with the terrain, having made visits during daylight hours to check

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the area, to carry out a risk assessment, and to identify safe and unsafe shooting locations. Shooting must take place only on land covered by the licence. Care must be taken, in selecting sites for shooting, to avoid shooting if there is any risk of accidental injury to humans e.g. near rights of ways, near boundaries with third parties, on the edge of villages and near to rural dwellings, and to avoid any risk to non-target species including domestic animals and livestock. An obvious place to select is in the vicinity of a sett, where emergence may be at predictable times, but badgers should not be shot too close to sett entrances. The shooter must ensure that any badger shot is far enough away from a sett entrance, or other cover where the badger might be lost, to allow for a follow-up shot if needed, so avoiding any opportunity for a wounded badger to retreat back into the sett. **For this reason a badger must only be selected to be shot if it is at least 30 metres away from the nearest sett.** Attracting animals to bait points in areas clear of dense vegetation and away from sett entrances should help reduce this risk (see ‘Shooting at bait points’ – below).

31. The shooter must be certain of a safe backstop and ensure the absence of any person or animal which might sustain injury should the bullet/shot miss, pass through the target animal, or ricochet. A stationary vehicle may make an appropriate ‘hide’ or raised platform.

32. Badgers may be encountered, away from the sett, feeding in or crossing fields, but shooting in such circumstances must be limited to where there are no concerns over safety and where the shooter is confident of a clean and lethal shot. For safety reasons the sights on the rifle must not be used to scan the area or check the identity of a potential target – a firearm should never be pointed at anything until it has been positively identified as a legitimate target.

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Shot placement

33. As badgers present relatively low targets, particularly if walking in “tram-lines” or wheelings, or in well worn badger runs, any shot must be taken from close enough for the shooter to ensure that the target animal will be killed humanely. A well-placed shot from within range should prove to be overwhelming and result in a rapid death.

34. The correct target area for shooting badgers in the field (not in cage-traps) is the **heart/lung area** of the chest. The badger’s neck and shoulder areas are extremely well-muscled and, when building up body weight during the late summer and autumn, a substantial layer of subcutaneous fat develops over the body. The badger’s anatomy differs from that of deer or foxes, and the badger’s rib-cage is located appreciably further back than in these species. The “dip” in the badger’s back, behind the shoulders, provides the best guide to the heart/lung target area, which lies below and slightly to the rear of this (Fig.1)

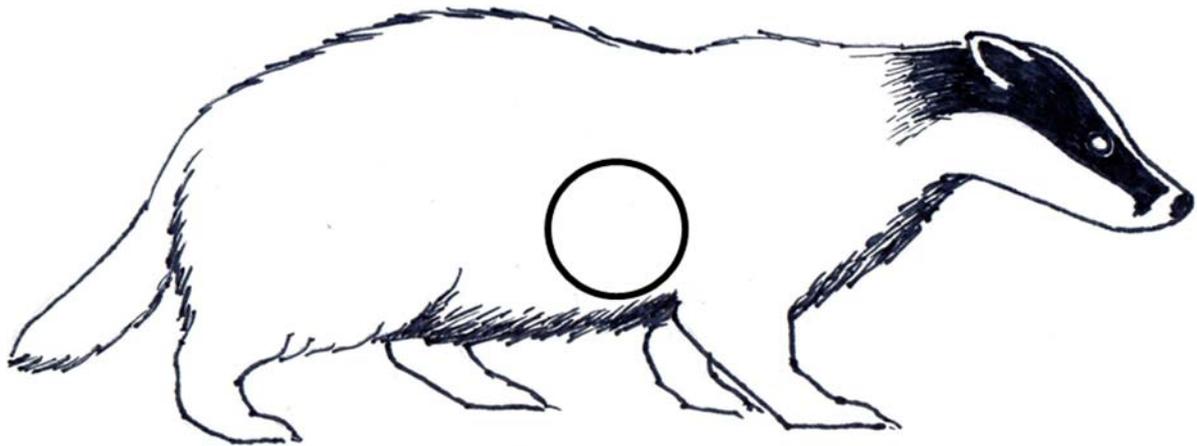


Figure 1: The circle shows the target site for a heart-lung shot from a broadside angle



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Figure 2: Badger in walking posture. Even if the animal is only at a slight angle to the shooter the forelimb can obscure a large part of the target area making a lethal shot more difficult

35. Because of the slant of the shoulder blades, the elbow travels somewhat further backwards than in foxes and deer, and consequently when the fore-leg is in the vertical position, the heart/lung area will be temporarily obscured by a robust bony limb (Fig. 2). The heavy fringe of fur on the foreleg may further obscure the precise point of aim. The angle of the badger relative to the shooter will also alter the effective size and position of the target area on the surface of the animal. The further the animal is from a full broadside view the smaller the target area will appear and the less certain accurate shot placement becomes (see Fig. 2). **Shots must only be taken when the animal is stationary, when the target area is clearly visible and the animal is more or less broadside on**, so the shooter is confident of an accurate and humane shot.
36. The head of an otherwise stationary animal may be moving, or move without warning. An animal is likely to move its head if it becomes aware of potential danger, or as it checks its surroundings. Because of this, and the very small lethal target area, **a head**

shot presents an unacceptable risk of wounding and must not be attempted. In addition, the neck is relatively long and the bony processes of the vertebrae are short, so the neck presents a target line only about 2.5cm (1 inch) thick. The risk of non-fatal injury therefore makes **a neck shot unacceptable in any circumstances.**

Shot placement from a high seat

37. Erection and use of high seats should comply with the relevant health and safety requirements (which are outside the scope of this document). High seats must provide a stable platform from which to shoot and when climbing up to or down from the seat firearms must not be loaded. The Deer Initiative, in its series of Best Practice Guides, provides further information on the construction and use of high seats (<http://www.thedeerinitiative.co.uk/uploads/guides/162.pdf>).
38. Shooting at close range from a high seat has the advantage of revealing the relative broadness of the badger's chest, so increasing the opportunity for a well-placed shot to strike the heart and other vital organs within the chest.
39. Figures 1 and 2 should be referred to, noting the dip in the back and position of shoulders as reference points. Account should be taken of the angle of entry of the shot/bullet, but orientation of the badger relative to the shooter may be less important if the animal is close to the high seat as the shot/bullet will be entering from above rather than from the side.

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Humane shooting

40. Before carrying out any shooting the shooter must check the accuracy of the weapon to be used and be satisfied that his/her own level of marksmanship is of a sufficient standard. (Only those who pass the Defra approved competency course will be licensed, but individuals remain personally responsible for ensuring that they operate within their own limits.) In the case of rifles fitted with telescopic sights or night sights, these must be checked to ensure that they are accurately 'zeroed' for the ranges at which shooting is likely to take place.
41. *Rifles:* A skilled marksman using a *centre-fire* rifle (**not** a rim-fire rifle), and using a bullet of a type designed to expand or deform on impact, should, in reasonable field conditions, be confident of a clean kill up to a range of 50 to 70 metres. Shots must only be taken from a distance and position at which the shooter is confident of hitting the target area. Expanding bullets, on hitting the rib-cage, should cause immediate extensive destruction of the heart and lung tissue. Death would be expected to follow rapidly.
42. **Operators must never feel rushed into taking a shot.** The key consideration is the need for an accurate and humane shot. If in doubt wait for another opportunity; do not shoot.

43. *Shotguns*: Shotguns are only suitable for use at very short range. **The shooting distance when a shotgun is used must not exceed 10 metres.** Only 12 bore shotguns with full, three quarter or half choke using AAA or BB shot may be used. Competent use of such cartridges, at short range, should lead to a rapid kill.

Shooting at bait points

44. Badgers will learn to take bait from regularly placed bait points, using bait such as peanuts, or peanuts mixed with treacle. This can provide a means of attracting animals to a safe shooting location where shooting effort can be directed with a reasonable degree of predictability and likelihood of success. Bait take, and badger visits to the bait point, are likely to be maximised if baits are located near to active setts and close to well-used runs. However, to ensure that a second shot can be taken if necessary, **bait points must be at least 30 metres from the nearest sett and must be far enough from dense cover, where a badger might be lost, to avoid the risk of a wounded animal getting away.**
45. Bait points should be chosen to ensure a safe shooting location, with no risk to livestock, and away from any rights of way, boundaries with third parties, edges of villages or rural dwellings. A high seat, or other suitable shooting platform should be used – this can include a hillside or stationary vehicle, as long as a safe line of fire is maintained. The shooting position should be downwind from the bait point and any nearby setts, but ideally located so that a wounded badger running back to the sett will still pass within range of the shooter – a retreating badger, running directly away from the shooter, is unlikely to provide an opportunity for a humane second shot and may quickly get out of range of the weapon being used.
46. Bait points should be pre-baited for a period of time before any shooting takes place. Depending on how quickly the badgers find the bait, this may take a week, or more – it is best to allow ample time for this to ensure that the majority of animals in the location are used to feeding on the bait, before doing any shooting. It may also be advantageous to have several separate bait piles, far enough apart to allow several badgers to feed at a time.
47. A sound moderator on a rifle is likely to be a particular advantage at bait points because of the expectation that shooting will take place at the same location on repeated occasions. Where rifles, fitted with telescopic sights or night sights, are used at close range, it is important to ensure that the point of aim is corrected to allow for the difference in elevation between the rifle barrel and the sights – the zeroing of the rifle and sights must be checked beforehand for the ranges that will be shot over.
48. **Shooting over bait points is the only method for which shotguns may be used.** Due to the very low impact energy of individual shot and the unpredictable pattern of shot at a distance, shotguns must only be used at close range. This means being

within 10 metres of the badger when taking the shot. The use of shotguns is therefore limited to shooting from a fixed shooting position, such as a high seat/shooting platform, over a bait point at distances of no more than 10 metres.

Shooting badgers in groups

49. Badgers are more likely to be encountered in groups where a bait station has been established, though this may occur in other situations as well. Depending on the circumstances, and the firearm and other equipment being used, it is possible that badgers present when another badger is shot will become wary of that location and of any other factors associated with it (e.g. lights, noise). The potential impact of this on future shooting success should be considered if such circumstances present themselves.
50. If shooting a badger when other badgers are nearby, consideration needs to be given to the possibility of accidentally wounding nearby badgers, particularly with a shotgun, due to the spread of the shot. The relative position of the badgers to each other, the line of fire and the type of firearm being used, need to be considered. Shots must not be taken if there is a risk of wounding nearby badgers.

Following up a shot

51. **The aim must always be to kill the animal with the first shot.** If the shooter is not confident of doing so the shot must not be taken. Nevertheless, the shooter should consider the possibility of needing to take a second shot and be prepared to do so if necessary. This includes choosing the situation in which to take a shot, such as avoiding areas where a wounded badger might quickly gain access to a sett, dense cover, or land where the shooter does not have permission to shoot. If there is any indication that a badger may not have been killed instantly, the shooter should be in a position to fire a follow-up shot. If in doubt, a second shot should be taken and, if necessary to prevent the escape of a wounded animal, this may be taken at a range greater than specified in paragraphs 6, 29, 41, 43 and 48; and, in the case of shotguns, without the use of a bait point or fixed shooting position. Where an animal is assumed to have been fatally shot, it may be advisable to leave it for a couple of minutes (but never more than 5 minutes) before making an approach; the rapid approach of a human may spur a fatally wounded animal to take flight and be lost. Where possible, the approach should be from downwind and from behind the badger, stopping periodically to check (with binoculars) for signs of life. Until the death of the animal can be confirmed, the shooter must be prepared to take a further shot if necessary.
52. Once the animal has been approached, the firearm should be made safe. If the animal is found not to be dead, if necessary, the firearm can be made ready and the shooter can retreat to a safe distance from which to take a further shot.

Using dogs to locate injured badgers

53. As the aim must always be to kill with the first shot, the need to use dogs to locate badgers believed to be injured is expected to be exceptional. See section above on 'Use of dogs above ground'.

Injured badgers in setts

54. If this guide is followed this should not happen. However if an injured badger is believed to have taken refuge in a sett, the sett must not be dug into or interfered with in any way, nor must dogs be entered into the sett. If sett interference is considered to be in the badger's best interests, Natural England must be approached for a licence and any otherwise prohibited actions only taken after an appropriate licence to do so has been granted.

55. Cage-traps can be placed in the vicinity of the sett (see Best Practice Guide for Cage-trapping). No pre-baiting is required and they should be baited and set to catch when first placed. Those carrying out cage-trapping need to ensure they are covered by the appropriate licences under the '81 and '92 Acts.

Confirmation of death

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56. After shooting a badger and in the case of correct shot placement, regardless of first impressions (unless it is obviously still alive), an assessment should be made to confirm that it is dead. Signs that should be checked for include:

- Entry hole is in the target area / chest (if visible)
- Absence of rhythmic breathing (i.e. no chest movement / rise and fall)
- Absence of eye movement / blinking reflex
- Eye wide open and the pupil dilated
- Absence of large muscle spasms (i.e. muscular movement / reflex)

57. The animal should be touched with a blunt instrument following the above checks to test for any reaction. A final check should be made by lightly touching the eye to test for a blink reflex (a small stick or similar should be used). Disposable gloves should be worn when handling the animal.

58. Checks to confirm death must be made as soon as practicable after the shot has been taken (but see above). If involuntary muscle convulsions occur, final checks will need to be delayed until these have ceased.

59. Involuntary muscle spasms affecting the limb and body muscles can occur within a minute of a shot. These convulsions generally last for no more than one to two minutes

and animals remain unconscious throughout. Final checks should not be made until any convulsions have ended.

60. **A final check for signs of life must be made at least three minutes after the final shot to that animal and before the animal is bagged up.** Only once the animal is confirmed dead and all visible movement/reaction, and the animal's heartbeat, have ceased, should the animal be bagged (see carcase disposal below). The animal must be bagged up before being put in a vehicle for transport to the 'collection point' (see 'storage' below).

Carcase handling, removal, storage and collection

61. Badger carcases will not routinely be collected for post-mortem examination or disease analysis, but some may be required for monitoring purposes.
62. In handling carcases, particular attention should be paid to health and safety issues to avoid possible aerosol transmission of bacteria and other potential hazards such as ticks or other parasites.
63. Operators do not need a licence to handle dead badgers as long as they have been taken and killed **humanely**.
64. Operator safety: badger carcases and any material from them (urine/faeces/blood etc.) may contain TB and provide a source of infection. Operators must take appropriate action to minimise the chances of spreading this material around and infecting themselves, colleagues or the area in which they are working. Appropriate protection should be worn (e.g. gloves, mask, overalls, washable boots).
65. Carcases being transported from the shooting site to any other location, such as a collection point at a farm premises, must be appropriately bagged (see below) and transported in a covered vehicle or under a secure cover if in an open-backed vehicle.

Animal by-products regulations

66. The European Union Animal By-Products Regulation 1069/2009 (EU ABPR) lays down health rules concerning animal by-products. The Regulation divides animal by-products into three categories, according to the degree of risk which they pose, and specifies the permitted treatment or disposal routes for each category. Wild animals normally fall outside the scope of the Regulation, but when they are, "suspected of being infected with diseases communicable to humans or animals", they fall within the list of Category 1 materials (Article 8(a)(v)). Bovine TB is a zoonotic disease and therefore the

carcasses of any badgers suspected of harbouring the disease fall within the definition of Category 1 animal by-products.

67. Category 1 materials are required to be collected, transported and identified without undue delay and either incinerated in an approved incineration plant or processed in an approved rendering plant, with the processed products being finally disposed of as waste by incineration or burial in an approved landfill. Burial without first processing is not a permitted disposal route for Category 1 material.

Carcase bagging

68. Carcasses must be double-bagged in heavy-duty PVC sacks, following the procedures set out below:

- Bagging should be carried out at the site where the badger is killed unless there is good reason not to do so.
- Great care must be taken and disposable gloves worn at all times when handling carcasses.
- Take the first bag and:
 - roll it down three-quarters;
 - carefully place the carcass inside;
 - unroll the bag;
 - “goose-neck” the bag (i.e. hold the bag closed above the carcass then twist the upper part of the bag like a rope);
 - either knot the “goose-neck” or tie it with PVC tape, strong string, a cable-tie, or similar.
- The first bag must then be placed in the second.
- The second bag is then “goose-necked” and either knotted or tied, as above.
- Gloves must be disposed of in accordance with local Clinical Waste Disposal Instructions.

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Following the above procedures will help avoid possible aerosol transmission of bacteria from carcasses.

A label or equivalent identification mark must then be attached to the bag indicating it is a badger for collection and disposal as category 1 waste.

Storage

69. Bagged carcasses must be stored on site pending collection. Alternatively, collection points may be established but these must be approved by Animal Health and Veterinary Laboratories Agency (AHVLA) as a handling site. Transporting the badger carcasses to such a site would also need to be done under animal by-products rules on transport using an approved or registered operator. The cost of meeting the required standards needs to be taken into account.

70. Under the EU ABPR, carcasses must be disposed of without “undue delay”. The length of time a carcass can be stored requires judgement as it is dependent on several factors such as the season and the appropriateness of the storage conditions (e.g. refrigeration and protection against vermin). A carcass must be in a condition that a collector will accept. Carcasses must not be stored outdoors or where scavengers such as foxes, dogs or rats could have access to them. This can be achieved by storing carcasses in a vermin-proof building:

Collection

71. An appropriate collection service would need to be put in place. As badger carcasses would be Category 1 material, all material collected as part of this round will be classed as Category 1 material. The EU ABPR prohibits bringing animal by-products on to any premises where livestock is kept. Therefore carcasses must not be removed from a vehicle collecting other animal by-products from other premises. .

Incineration

72. Once Category 1 material has been collected, it must go to Category 1 approved renderers or incinerators either directly or via Category 1 intermediate plants. Guidance on the disposal of Category 1 material can be found via this link.

www.gov.uk/dealing-with-animal-by-products#types-and-treatments-of-animal-by-products.

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Risks of infection

73. In theory all waste material arising from the operation (such as splatter) will be Category 1 material. However judgement is required to ensure proportionate effort and costs. Guidance can be provided for operators on bio-security and disinfection.

74. Care should be taken to deal with any blood and other carcass debris that may be left on the ground after shooting. As much potentially infected material as possible should be bagged up with the badger. Any debris left should be well covered by soil (at least 8cm/3in).

Cleansing and disinfection of equipment

75. Arrive at a farm in a clean vehicle. If equipment is to be used on more than one farm, then before moving to the next farm, equipment which might transfer disease, such as overalls and boots, must be cleaned of biological material (soil etc.) and then disinfected with an appropriate disinfectant. To remove the smell of disinfectant, which might be detected by badgers, a final rinsing with clean water is recommended.

Security

76. All clinical waste (e.g. used gloves/disposable clothing) must be collected and disposed of in a designated bag which must be returned to a pre-determined disposal point for final disposal.

Other issues

Monitoring of sett activity and closure of inactive setts

77. For the purpose of disease control, as long as densities are sufficiently reduced, it is not generally necessary or cost effective to remove every last badger. Culling which is detrimental to the survival of the local population is prohibited under the Bern Convention and there will be upper limits on the number of badgers that can be taken in a licensed area. Therefore, badger activity will continue in culled areas, albeit at lower levels.
78. Monitoring sett activity will help to provide an indication of the effectiveness of the control operation and whether further control at a particular site (within the six-week period) would be appropriate. It may also be useful in ensuring that badgers are not eradicated from the local area. Any such monitoring must not involve interference with a badger sett, such as obstruction or damage to the sett.
79. It must not be assumed that, because control has been carried out near a sett, the sett is no longer occupied and can therefore be closed down. In the Randomised Badger Culling Trial it was estimated that cage-trapping removed, on average, about 70% of the local badger population. It is therefore quite likely that some badgers will remain in an area following trapping and also following controlled shooting. As long as a sett displays signs that indicate current use by a badger it is protected under the '92 Act 1992 and must not be interfered with without an appropriate licence.

Health and safety

80. An appropriate risk assessment should be conducted before any shooting is carried out and thorough controls put in place to ensure safety of the general public and of all involved in the operation. The controls should include measures to minimise risk of exposure to potentially infective material, use of appropriate protective clothing and other measures where risk of exposure is identified, measures to avoid injury from handling badgers, as well as risks of using firearms. Reference should be made to Health and Safety Executive leaflet AS7(rev) 'Guns' (<http://www.hse.gov.uk/pubns/as7.pdf>) and in addition relevant shooting organisations should be able to provide appropriate information on safe handling of firearms.

Record keeping

81. Certain information will be required in order to complete the licence return to Natural England. In addition, it is best practice to record on a daily basis what has been done, where, and by whom. Day-to-day details of the control operation should be provided by the contractor and passed to the licence co-ordinator to enable him/her to complete the necessary licence returns. It is vital, therefore, that adequate and accurate records are kept.
82. Records must include farm/site name, location, number of shooting teams and shooting nights undertaken, and the actual location at which each badger was killed. Kill locations should be recorded as a four-figure Ordnance Survey grid reference – e.g. in the format SX2134. Grid references can be found by checking the location on a 1:50,000 or 1:25,000 Ordnance Survey maps of the area and following the instructions on the map for recording a grid reference, or by using a hand held GPS device.
83. This information is likely to be sensitive, so care must be taken not to lose field note books or leave them unattended (e.g. in unlocked vehicles). Loss must be reported to the cull co-ordinator and the police as soon as possible.

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84. The information listed below deals with species other than badgers but, although detail may need to be modified for badgers, some broad principles will apply.
85. British Association for Shooting & Conservation, 2013, 'A Code of Practice: Lamping (Night Shooting)'. www.basc.org.uk/en/codes-of-practice/lamping.cfm.
86. The Deer Initiative, 2009, 'England & Wales Best Practice Guides: Culling. High Seats'. www.thedeerinitiative.co.uk/uploads/guides/162.pdf.