

Problems with badgers in rural areas

Great Britain supports some of the highest densities of badgers *Meles meles* in Europe, with over 30 per square kilometre in some areas. National surveys carried out in the 1980s and 1990s showed that the population increased by 77% over this period. It is therefore not surprising – since badgers are found on farmland, and often close to human habitation – that problems do sometimes occur. These can range from damage to agricultural land or crops, to undermining farm buildings or flood defences. The excavation of setts under roads and railways can be a risk to vehicles and human safety. Equally, normal agricultural, forestry or flood defence operations can sometimes have an impact on badger setts. Badgers are afforded legal protection, and penalties for offences can involve heavy fines or a prison sentence, so it is important that anyone working in the countryside is aware of how to work within the legislation.

Badgers and legislation

Badgers and their setts are protected under the Protection of Badgers Act 1992, which makes it illegal to wilfully kill, injure or take badgers or to interfere with a badger sett. Interference with a sett includes damaging or destroying it, obstructing access to it, causing a dog to enter it, or disturbing the badgers which are occupying it. However, there is provision in the legislation to allow action to be taken under licence.

Under this legislation Natural England may grant licences for the purposes of preventing serious damage to land, crops, poultry or any other form of property, for preventing the spread of disease, for maintenance or improvement of drainage works or flood defences, for any agricultural or forestry operation, for conservation, scientific, educational and development purposes, for zoological, marking or investigatory purposes, or for the preservation or investigation of scheduled monuments.

In many cases, Natural England Wildlife Advisers can advise on alleviating the damage caused by badgers, without resort to licensed action.



Agricultural, forestry and watercourse management operations

Licensed interference to badger setts is not only necessary where badgers are causing damage. Agricultural, forestry or watercourse management activities in the vicinity of, or over, a sett may impact on that sett. Ploughing, planting and harvesting of crops, tree felling and timber extraction, and the construction or repair of flood defences are examples of such activities. Because of the protection afforded to badgers, work of this nature that causes interference must be licensed by Natural England. If there is any doubt, advice should be sought from Natural England (see 'Further information').

Problems with badgers in rural areas

Badger damage

Damage can be caused by both the foraging behaviour of badgers and their sett digging activities.

Land, crops and other forms of property

Ripening cereal crops, especially oats and wheat, may be flattened and some of the grain eaten. This damage is characterised by a 'criss-cross' pattern in the flattened crop and, in some cases, large areas can be levelled and difficult to harvest. Similarly, maize or sweet corn may be pulled down and the cobs eaten so reducing its feed value, or making the crop unsaleable if it is for human consumption. High-value horticultural crops, including soft fruits, orchard fruits and grapevines can also be damaged. However, this is usually localised and seasonal. Damage to grassland - pasture, silage and meadows - where the turf is rooted or pulled up to gain access to soil invertebrates, is a more common complaint. Again, this is often seasonal, with badgers exploiting high densities of grassland invertebrates such as chafer grubs or leatherjackets (crane-fly larvae) which themselves may be harmful to the sward. Rooting for earthworms, on the other hand, can occur all year round and, although the individual 'rootings' are usually small, they can affect large areas of a field and may result in soil contamination of silage. If the sward root system is already damaged by invertebrates, patches of turf may be rolled over like pieces of carpet. Badger rootings are normally no more than 5-15 cm (2 to 6 inches) in depth, but may be potential hazards for both livestock and horses.

Problem badger setts

The excavation of new setts in open farmland, or the encroachment of setts from woodland or hedgerows onto agricultural and amenity land, can cause problems. Field boundaries can be damaged and parts of fields undermined. Tunnel collapses can result in damage to farm machinery and can be a danger to livestock. Spoil heaps outside setts can also be a nuisance, for example, when manoeuvring farm vehicles. Farm buildings, tracks and footpaths can be undermined. There are particular

concerns where setts are excavated beneath roads, railways or electricity pylons.

Flood defences, watercourses and drainage

Spoil from setts excavated on stream banks or ditches can partially or completely impede drainage channels, increasing the risk of localised flooding. Where setts are dug into coastal or floodplain defence embankments, they may create a serious flood risk.

Historic monuments

Interference with a badger sett for the purposes of the preservation, archaeological investigation or prevention of damage of a monument must be licensed by Natural England.

Predation

Badgers are occasionally reported to have been responsible for killing poultry or lambs and, in some cases, domestic pets such as rabbits and guinea pigs. They will certainly scavenge from sheep and lamb carcasses, and will also feed on afterbirths. However, the actual killing of lambs or poultry is difficult to quantify and is generally considered to be unusual behaviour for this species.

Managing badger problems

Some seasonal badger problems, such as rooting, may be tolerable over the limited time period in which they occur. In addition, it may be possible to prevent access by badgers to vulnerable sites or structures by use of proofing measures.

Fencing

Fencing, either permanent heavy duty chain-link, or temporary electric fencing, may be cost-effective in some circumstances. However, careful evaluation of damage should be undertaken to ensure that remedial action is worthwhile. Crop damage, for instance, is often greatest around the field edge and can look much worse than it actually is if viewed only from the field gate or headland.

Electric fencing is best used where there is a short-term risk of seasonal damage to crops.

Problems with badgers in rural areas

Either rabbit-proof electric netting or a four-strand strained wire or 'polywire' fence may be used. For wire fences, the strands should be set at 10, 15, 20 and 30 cm (4, 6, 8 and 12 inches) above ground level. Advice on the use of electric fencing to protect crops against badger damage is given in the Natural England publication *Badger problems: use of electric fencing to prevent agricultural damage* (TIN27).

Proofing

Outbuildings, such as hen houses, can be strengthened using heavy gauge fence netting to prevent access by badgers. Chain-link, weld-mesh, or similar should be used; 18 or 19 gauge rabbit netting or 'chicken wire' is not strong enough. Badgers are good climbers, so where a free standing fence is used, it should incorporate a supported overhang at the top, directed away from the area to be protected. The fence should be at least 125 cm (48 inches) high and be buried to a depth of 60 cm (24 inches). Alternatively, the mesh can be lapped outwards on the ground surface for 50 cm (20 inches) to deter badgers from digging through.

An underground barrier sunk into a trench along a field boundary can prevent badgers expanding a sett from a woodland edge into a field. However, to be worthwhile, suitable fencing material must be sunk to a depth of at least 125 cm (48 inches). Trenches of this depth can be dangerous and care must be taken to ensure that the trench walls are shored up or the trench is wide enough to be safe. If in doubt, advice should be sought from the Health and Safety Executive. The most effective fencing for this purpose is either galvanised or plastic coated chain-link fencing or galvanised steel weldmesh.

Invertebrate control

In addition to preventing access by badgers, it may be possible to reduce the damage by directly controlling their food species, notably invertebrates, many of which are damaging in themselves.

In Great Britain, earthworms are badgers' main food. Length of grass affects the accessibility of earthworms on the ground surface, so badgers prefer to feed in short grassland. This is why well-mown lawns are often attacked.

Leatherjackets, which themselves can damage grassland by feeding on the root system, are also an important seasonal food. Leatherjacket damage is often first noticed in the spring when the grass is beginning to grow, and it has been estimated that they can cause a loss of 1 gram of dry matter per leatherjacket. Researchers in Northern Ireland have calculated the cost of leatherjacket damage there as £15 million per annum.

Chafer grubs cause similar problems. Large populations can build up, especially on neglected permanent grassland. Grass roots are severed by the grubs, and as badgers root for them, the turf is sometimes rolled up like a carpet.

Badger rooting may, therefore, only exacerbate an existing problem. The removal or reduction of these insect pests may reduce the associated badger damage. Ploughing and reseedling will reduce chafer and leatherjacket populations, but it is expensive and not always practical. Harrowing and rolling may help reduce the number of grubs near the soil surface and so reduce badger damage. For serious infestations, chemical control may be an option. However, this may be impractical on a large scale, and the effects on other invertebrates (and those species which feed on them) should be considered. Further advice on the control of insect pests should be sought from an entomologist/ agronomist. In addition, within agri-environment schemes, agreement holders must discuss any proposed action with their Project Officer.

Badgers and tuberculosis

The link between badgers and bovine tuberculosis (TB) infection in cattle is complex and the results of research show that removal of badgers, for example by culling, can have negative as well as positive effects on disease control. However, it makes sense to minimise direct contact between the two species where possible. Badgers are known to enter buildings and even to climb into feeding troughs, and cattle are often inquisitive about badger setts. Advice to farmers on minimising the risk of TB is given in the Defra leaflet *TB in cattle - reducing the risk* (PB 4516).

Problems with badgers in rural areas

Licensing

Any action which interferes with a sett requires a licence. A sett is defined in the Protection of Badgers Act 1992 as 'any structure or place which displays signs indicating current use by a badger'. The term 'current use' is open to interpretation but does not simply mean that badgers are actually present at the time of inspection. If there is any doubt, further advice should be sought from Natural England's Wildlife Advisers (see 'Further information').

Use of a sett by badgers can be assessed by various methods, such as examining sett entrances for prints and hairs, or by placing small twigs across the entrances which will be knocked aside by any badgers going in or out. If a problem sett is in current use, a licence must be applied for before any interference with the sett can take place. Normally, a Natural England Wildlife Adviser will make a site visit to assess the problem and discuss possible solutions.

Where a licence is sought to kill or remove badgers, for example because they are believed to have killed lambs or other livestock, Natural England requires good evidence that badgers were responsible before the issue of a licence can be considered. Whilst provisions in the Act allow licensed action against badgers causing serious damage, the badger is nevertheless a protected species, and all other reasonable means of resolving the problem must first have been attempted or be shown to be ineffective or impractical.

A report, published by the former Ministry of Agriculture, Fisheries and Food (MAFF) in 1998, indicated that action taken under licence (from 1993-1996) was successful in more than 90% of cases (over 95% in 1996). Furthermore, it was estimated that fewer than 0.1% of badger social groups were affected by the closure of main setts each year under MAFF licences. The report concluded that licensed management is therefore unlikely to have any significant detrimental impact on the status of the badger in Britain.

Agricultural and forestry operations

To comply with legal requirements, licences are issued to allow farmers to carry out normal agricultural operations over badger setts. These are usually valid for one year. Conditions attached to these licences are aimed at minimising adverse effects on the structure of the sett. For example, ploughing is usually limited to a depth of no more than 30 cm (12 inches). Licence monitoring by Natural England's Wildlife Advisers has indicated that active sett entrances, initially blocked by such actions, are quickly re-opened by the badgers.

Similarly, licences can be obtained to permit forestry operations, such as thinning, clear felling or replanting, in the vicinity of setts. The Forestry Authority's Forest Practice Guide FCPG009, *Forest operations and badger setts* gives guidance on carrying out forest operations near setts and advice on whether a licence is needed. Advice can also be obtained from Natural England Wildlife Advisers (see 'Further information').

One-way badger gates

Where appropriate, licences are issued to allow either part or the whole of a problem sett to be closed down to resolve a problem. To avoid trapping badgers underground, it is usually a condition of the licence that the badgers are excluded from the sett first. Typically, this is done using one-way badger gates. The gates, normally constructed of wood, only open outwards allowing badgers to exit but not re-enter the sett. Detailed advice on how to make and use these gates is given in the Natural England publication *Using one-way gates on badger sett entrances* (TIN25).

Where attaching gates to individual sett entrances is impractical, they can instead be installed in an electric fence surrounding the entire sett.

Proofing with strong wire mesh may be necessary to prevent badgers from returning to a sett from which they have been excluded.

Problems with badgers in rural areas

Fox control

Foxes may sometimes use badger setts either as permanent homes, where badgers are no longer in residence, or for temporary refuge. Any attempt to deal with a fox suspected to be located in a badger sett which displays signs of current use by badgers (see 'Licensing') must be carried out in line with the Protection of Badgers Act 1992 and the Hunting Act 2004. Among other things, this legislation makes it an offence to:

- Interfere with a badger sett, eg in order to dig out a suspected fox, unless licensed to do so.
- 'Stop' a badger sett for any reason, eg to prevent a fox gaining access to it for refuge, unless licensed to do so.
- Enter a dog into a badger sett, eg in order to flush out a suspected fox, except where this is done in line with the tightly drawn conditions of the exemption in paragraph 2 of Schedule 1 to the Hunting Act 2004, which allows the use of a single dog below ground to flush out wild mammals in order to protect birds kept for shooting (the 'gamekeepers' exemption').

A licence must be obtained before a dog can be introduced into a badger sett under this exemption.

The responsibility for issuing licences for fox control lies with Natural England.

Dogs trapped in badger setts

It is an offence to deliberately introduce a dog into a sett unless licensed to do so. Where the dog is being used to hunt a wild mammal, the requirements of the 'gamekeepers' exemption' in the Hunting Act 2004 must also be complied with.

However, some dogs, often terriers, may enter badger setts of their own accord. Before interfering with a sett to retrieve a trapped dog, a licence must be obtained from Natural England. A licence will only be necessary if the sett displays signs of current use by badgers. (For further information on assessing sett activity, see 'Licensing').

Licences will only be issued where there is reasonable certainty that the dog can be located within the sett, and where there is evidence that the dog is still alive and can be retrieved. Digging into a sett is not without risks; the collapse of tunnels can endanger the dog and risk human safety. Most dogs emerge unscathed, and of their own accord, within 48 hours, so a licence would not normally be issued before this time had elapsed. Natural England Wildlife Advisers can advise on the most suitable course of action in these cases.

Unfortunately, Natural England cannot offer a service that is available 24 hours, seven days a week. If a dog does become trapped in a sett over a weekend and immediate advice is required, dog owners could contact their local Police Wildlife Crime Officer or the RSPCA. Help in determining whether the sett is active may be sought from local badger groups. If the dog has not emerged from the sett by the end of the weekend and a licence is required, the Wildlife Licensing Unit should be contacted (see below). The time elapsed before contacting Natural England should not have a material effect as, dogs can survive for several days without food or water and action would normally be delayed for 48 hours to allow the dog to emerge by itself.

Further information

In England, for further advice on resolving badger problems and on licensing procedures please contact:

Natural England, Wildlife Licensing Unit, First Floor, Temple Quay House, 2 The Square, Bristol, BS1 6EB

Tel: 0845 601 4523 (local rate)

Fax: 0845 6013438

wildlife@naturalengland.org.uk

For advice in relation to badgers, cattle and tuberculosis please contact your local State Veterinary Service Animal Health Office. Contact details can be found on the Defra website: www.defra.gov.uk/corporate/contacts/ahdo.htm.

For general enquiries on bovine TB please contact the Defra Helpline on 08459 335577 (local rate) or e-mail TB.Webmaster@defra.gsi.gov.uk.

Problems with badgers in rural areas

This leaflet was produced by Natural England's Wildlife Management and Licensing team.

Licence application forms, guidance notes and leaflets are available from the Wildlife Licensing Unit and the Natural England website at:

www.naturalengland.org.uk

Other Natural England publications dealing with badgers are:

- Natural England TIN004 Badger problems: advice to householders.
- Natural England TIN025 Using one-way gates on badger sett entrances.

- Natural England TIN026 Badger gates in rabbit-proof fencing.
- Natural England TIN027 Badger problems: use of electric fencing to prevent agricultural damage.

Badgers and development

The following also contain useful advice and are available from the Defra website:

- *TB in cattle - reducing the risk* (PB 4516).
- *Farm biosecurity - protecting farm health* (PB 4517).
- Forestry Commission Practice Guide FCGP009 *Forest operations and badger setts*.
- English Heritage Advisory Note No 16 *Badgers on historic sites*.