

Deer: problems in urban and suburban areas

Britain has a large wild deer population, which consists of six species; red deer (*Cervus elaphus*), roe deer (*Capreolus capreolus*), fallow deer (*Dama dama*), muntjac deer (*Muntiacus reevesi*), sika deer (*Cervus nippon*) and Chinese water deer (*Hydropotes inermis*). Red and roe are native to Britain, fallow have been established here for over 1000 years and the others have been introduced more recently by man.

Most deer species are increasing in numbers and extending their range, notably in lowland regions, with the overall English deer population estimated to be in excess of 300,000 animals. In some cases, this growth in numbers has resulted in deer moving into the urban/suburban environment and brought them into conflict with people in the form of garden damage and road traffic accidents. Gardens can be particularly

attractive to deer because they provide much more variety of food in a concentrated area than most woodlands or farms. They also provide an excellent source of shelter from inclement weather. The most problematic of the six deer species to the urban/suburban environment are roe, muntjac and fallow and this leaflet is primarily focussed on the prevention of damage caused by these species.

Types of Damage

Deer are ruminant herbivores, like cattle and sheep, and as such, feed solely on plant material. They have a four-chambered stomach, which enables them to extract the optimum nutritional value from this relatively indigestible and generally low quality food. They can consume relatively large quantities of plant material within a short period of time, which partly explains why damage to gardens can be so extensive. The majority of deer species are generalist feeders, although some, including roe and muntjac, are specialist browsers and others, such as fallow, are predominantly grazers. Deer may browse the leaves, shoots, flowers and buds of trees, shrubs, herbaceous plants and vegetables and may graze ornamental grasses. In extreme cases, possibly in response to nutritional deficiency, they can strip the bark off trees. Where exotic plant species are



present they will almost certainly target these out of curiosity. In addition to causing irrevocable damage to establishing plants, deer browsing and grazing can have serious financial implications. During a single visit to a garden, deer can cause hundreds of pounds worth of damage. Although they show preferences for certain types of plants, selection can be influenced by many factors including taste, texture, nutritional quality, colour, toxicity, weather conditions, time of year and the species of deer involved.

In addition to browsing and grazing, deer can damage young trees by fraying and thrashing. Fraying of young saplings is carried out by bucks rubbing their antlers up and down the main stem to remove the outer tissue, known as 'velvet', that protects the new antlers during their annual re-growth. When the antlers are fully grown after about 3 months, the velvet dies and becomes itchy and irritable to the buck. Fallow bucks tend to fray up to a height of about 0.8 metres from late summer, roe bucks up to a height of 0.5 metres in spring, and muntjac bucks up to 0.4 metres at any time of year. Bucks also thrash young trees with their antlers during the rut (breeding season), to mark their territory or 'rutting stand'.

In addition to the damage caused by deer to gardens, the seriousness of which may be a subjective matter, urban/suburban deer populations may also be associated with an increased risk of road traffic accidents.

Damage Prevention

Deterrents

There are a variety of non-lethal deterrents that can be employed to deter deer from gardens. Current understanding of animal behaviour suggests that to maximise the effectiveness of any deterrent, it is essential to maintain its novelty value. However, the efficacy of a deterrent is also likely to be influenced by the determination of deer to feed within the garden and the availability of alternative suitable feeding areas. For this reason, it is essential to prevent deer establishing a regular feeding pattern within the garden. If this is not achieved, it is likely that the deer will quickly habituate to any deterrents used.

The following are some of the deterrent methods that are used against deer. To achieve maximum effectiveness, they are probably best used in combination on a random rotational basis:

Human presence is probably the most effective non-lethal technique for discouraging wild mammals and birds. However, frequent or extended periods of human

activity in the garden may be required for this to be effective.

Static visual scarers are available in various forms including scarecrows, 'pop-up' effigies, or CDs, tape, string or tin cans strung from trees and bushes. Although some people have used these kinds of deterrents and are convinced they work, there is no objective evidence to support this. If such devices are to be used, their type and location should be regularly changed in order to maintain the novelty value.

Noise-generating scarers may have a deterrent effect but the use of gas-guns, crow bangers, rockets etc., is not recommended within the urban environment or other vulnerable situations unless the disturbance and alarm they may cause to neighbours is addressed.

Chemical repellents for plant protection must be approved under the Plant Protection Products Regulations 2005 or the Control of Pesticides Regulations (COPR) 1986.

The only product specifically approved as a repellent against deer is 'Aaprosect' (active ingredient ziram), which is a dithiocarbamate bird and animal repellent for *professional use only*. This product is irritant to the skin, eyes, nose and throat hence label instructions and directions of use, including protective clothing requirements must be followed. Although 'Aaprosect' can give short term protection to the dormant stages of growing trees and shrubs, it provides little or none to new growth and is likely to be of marginal use only in garden situations. Furthermore, it can be toxic to elongating shoots or buds about to open.

Products approved as general mammal repellents may be used to repel deer. For example, 'Liquid Curb Crop Spray' (aluminium ammonium sulphate) is an inorganic repellent for *professional use only* against damaging mammals and birds.

The effectiveness of such general mammal repellents against deer is unproven.

Human hair stuffed into sacks or old stockings, and distributed around the garden, is another 'traditional' method, but again there is no objective evidence of its effectiveness.

Proofing & Exclusion

Tree and shrub shelters are relatively inexpensive to buy and can prove effective barriers against deer damage. Different designs are available; e.g. solid or mesh shelters, and can be purchased from large garden centres. It is important to identify the species of deer causing damage, as this will determine the height of the shelter to be used. Fallow deer can browse up to a height of 1.8 metres, roe up to a height of 1.2 metres

and muntjac to about 1.1 metres. Shelters that will protect trees and shrubs long enough for them to grow out of reach of the browse line are essential.

Wire Netting can provide relatively inexpensive short-term protection against deer damage. Regular inspection and maintenance is important as deer will push through and trample netting to gain access to plants.

Hedging can provide a natural and aesthetically pleasing barrier against deer access. Provided the hedge is of a sufficient width and thickness, deer will be reluctant to jump over it as they cannot see what lies on the other side.

Electric fencing can be effective against deer although it is less effective than it is against some other species, since deer hair appears to provide some insulation against the electric current. Routine inspections are essential to clear overgrown vegetation and remove fallen branches that may short the power supply. The major disadvantage of using electric fencing in a garden situation is the hazard it may present to children and pets. However, if deer damage is mainly caused at night, timers can be used to automatically switch the fence off during the day.

Permanent fencing is the most costly approach to damage prevention (£3 - £5 per metre) and is only economically viable where serious damage has been caused or is likely. The fencing specifications for fallow, roe and muntjac as recommended by the Forestry Commission are shown below.

| Species | Max. Mesh size (mm) | Min. Height (m) |
|---------|---------------------|--|
| Fallow | 220 x 200 | 1.5 |
| Roe | 200 x 150 | 1.2 (for areas < 2.5 ha) 1.5 (for areas > 2.5 ha) |
| Muntjac | 75 x 75 | 1.5 |

To reduce the cost of erecting a deer-proof fence, alternative materials can be used, e.g:

- Two rolls of sheep netting stacked one on top of the other
- Strands of high-tensile steel wire strung above the sheep netting to attain the desired height
- High tensile plastic netting
- Recycled plastic posts
- Metal box strainers and intermediate posts

Materials used for the construction of deer-proof fences can be purchased from Agricultural Merchants, Timber Merchants or large Garden Centres.

Deer-resistant Plants

Although a large proportion of garden plants are vulnerable to deer browsing and grazing, some exhibit varying levels of resistance. These include poppy, fuchsia, viburnum, hydrangea, sedum, berberis, mahonia, hosta and cotoneaster. However, despite any inherent properties, resistance can be influenced by other factors such as the plant variety or the availability of more palatable plants within the garden.

Lethal Control

The shooting of deer in England is governed by the Deer Act 1991. Statutory close seasons in England for fallow and roe (all dates inclusive) are shown below. Although there is no statutory close season for muntjac at present, the British Deer Society (BDS) recommends that does and bucks are not shot between 1 March and 31 October.

| Species | Does | Bucks |
|---------|----------------|----------------|
| Fallow | 1 Mar - 31 Oct | 1 May - 31 Jul |
| Roe | 1 Mar - 31 Oct | 1 Nov - 31 Mar |

N.B: The recently launched Defra Deer Action Plan proposes some changes to the current deer legislation in England (see Appendix).

The problems and risks of using firearms within an urban/suburban area have to be considered. As the rifle calibres permitted under the Deer Act 1991 have potentially lethal ranges of several hundred metres, this raises serious safety concerns in relation to their use in confined areas such as gardens and allotments. Anyone considering shooting deer in urban/suburban situations must check that their firearms certificate allows this. The local Police station should be notified before carrying out any shooting.

It is an offence under the Highways Act 1980 for any person, without lawful authority or excuse, to discharge any firearm within 50 feet of the centre of any public highway, if, in consequence, any user of the highway is injured, interrupted or endangered. The loud report of these weapons may also cause public disturbance and alarm in some situations.

Exceptions where deer cause serious damage

Under Section 7 of the 1991 Act, deer may be shot during the statutory close seasons on cultivated land, pasture or enclosed woodland where there are reasonable grounds to believe that deer of the same

species were causing, or had caused, damage to property on the land concerned, were likely to cause further damage and the action taken was necessary to prevent damage.

Restrictions on the use of shotguns

Section 4 of the 1991 Act prohibits the use of smooth-bore guns (including shotguns). However, where there are reasonable grounds to believe that deer are causing damage to property, under Section 7(2) shotguns may be used where the gun is 12-bore or more and loaded with certain ammunition. However, although a shotgun may appear to be a safer option than a rifle in an urban/suburban environment, the type of single non-spherical projectile permitted by Section 7(2)(a) can be vulnerable to ricochet and could, potentially, be more dangerous than a rifle. The shot size permitted by Section 7(2)(b) (size AAA) gives too dispersed a pattern to be humane at anything other than very close range; only up to about 15 metres.

Anyone considering using a shotgun to kill deer in an urban/suburban environment must have regard for the exact wording of the Deer Act 1991 and satisfy themselves that they meet the criteria within the Act. In particular, it should be noted that Section 7 of the Act only applies to certain people, for example the occupier of the land in question, or those with the right to kill or take deer on that land.

Shooting deer at night

In England, the Deer Act 1991 prohibits the shooting of deer at night i.e. between the expiration of the first hour after sunset and the commencement of the last hour before sunrise, except where this is done to prevent suffering by an injured or diseased deer. In certain circumstances, however, it may be permitted under a Notice served by the appropriate Minister under Section 98 of the Agriculture Act 1947. Notices requiring night shooting of deer have rarely been issued and are only considered in exceptional cases.

Disclaimer

In this leaflet, the wording of the legislation has been abbreviated and paraphrased. It is intended as a guide only. It may not be relied upon as a defence and anyone considering taking action which might be subject to legislation, should consult the actual Act before taking action and seek independent legal advice if necessary.

Further Information

In England, for further advice on resolving deer problems please contact:

Rural Development Service

Address: Wildlife Administration Unit, RDS, Burghill Road, Westbury-on-Trym, Bristol, BS10 6NJ

Telephone: 0845 601 4523 (local rate)

Fax: 0845 6013438

E-mail: enquiries.southwest@defra.gsi.gov.uk

Website: <http://www.defra.gov.uk/wildlife-countryside/vertebrates>

The Deer Initiative

Address: PO Box 2196, Wrexham, LL14 6YH

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Website: <http://www.thedeerinitiative.co.uk/>

References

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This leaflet was produced by the Rural Development Service (RDS) National Wildlife Management Team.

Appendix

The Defra Deer Action Plan "The sustainable management of wild deer populations in England" proposes several changes to the Deer Act 1991 which includes topics such as, the firearms permitted for shooting the smaller species of deer, methods of taking or killing deer to prevent suffering, introduction of licensing arrangements to allow the taking and killing of deer at night and in the close seasons for certain purposes, changing the date of the start of the

doe/hind close seasons, covering hybrids under the close seasons of parent species, and consideration of prohibiting the release of Chinese Water

For further details see:

[http://www.forestry.gov.uk/pdf/deerstrategyengland301204.pdf/\\$file/deerstrategyengland301204.pdf](http://www.forestry.gov.uk/pdf/deerstrategyengland301204.pdf/$file/deerstrategyengland301204.pdf)