

DEVON'S HEDGES

Dormice and Hedges in Devon

Hedges are an important habitat for Britain's only native dormouse, the hazel dormouse. Not only do dormice use hedges for moving between woodlands but we now know that strong populations can live in hedges throughout the year.

Devon's hedges are a national stronghold for this declining species. However, even here they are at risk from unsympathetic management. This information sheet outlines what we know about good dormouse hedges, and how to improve the habitat for these attractive mammals.

Dormice are small arboreal rodents, weighing just 15-30g, living in trees and shrubs or among climbing or scrambling plants. They are reluctant to cross open ground, even over short distances. In hedges little is known about their movements, although radio-tracking has revealed that a dormouse may forage across a total length of 200m of hedge in a week, although travelling back and forth over 300m each night.



Food

Feeding mainly on fruits and flowers, they supplement their diet with insects. Early in the year nectar and pollen are important, while in the autumn, when they need to fatten up for hibernation, good crops of nuts and berries help them to put on weight quickly. Blackberries are a favourite.



Nests

Dormice spend much of their lives sleeping or torpid, so safe nesting sites are very important to them. During the winter they hibernate in nests at or just below ground level. These may be among tree roots, under flat stones, beneath moss or leaf litter, or in the nooks and crannies of a bank. In Devon, hibernation usually starts in November or December and finishes between March and mid-April depending on the weather. Breeding usually takes place in July when litters of four or five young are born. Second litters are sometimes produced but the young have very little time to fatten up for the winter and may not survive.

Summer nests consist of a woven ball of grasses or stripped bark (especially honeysuckle), usually with an outer layer of leaves, and are about the size of a grapefruit when used for breeding or a tennis ball when just for shelter. In hedges these nests are found in dense, usually thorny or prickly, vegetation.

Characteristically, unlike bird nests, they do not have a clear entrance hole.

Favoured nesting sites are thick holly or gorse bushes, in blackthorn or, less frequently, hawthorn where they form dense knots at the height where the hedge has been cut, and in bramble and rose margins. The nests are usually located below 2m in height and may be close to the ground, hidden within grass or rush tussocks. Dormice may perhaps also use cavities in mature hedgerow trees for nesting.

Where there are few natural nesting sites, as is often the case with tall hedges that have not been cut for many years, wooden nest boxes can attract dormice. Advice on nest boxes and where best to place them is available from the Mammal Society. As soon as evidence of occupation by dormice is found, a licence from Natural England is needed before further nest box checking.



A dormouse nest supported by field rose

What makes a good dormouse hedge?

Although any hedge is better than none, at least for dispersing dormice, a thriving population of dormice needs an ample food supply together with safe nesting places. Large, thick and species-rich hedges will meet these needs, particularly those with bramble or rose margins. Devon hedges can provide particularly good habitat because the bank offers safe and secure sites for winter nests with little risk of flooding or trampling.

To be in good condition for dormice, hedgerows have to be managed. The main types of management are cutting, laying, coppicing, repairing banks and planting. Getting the cutting regime right is particularly important, as explained below.



Bramble margins provide much food and safe nesting places

Hedge cutting

Periodic cutting is necessary to keep hedges dense and bushy and lengthens the time before the hedge has to be rejuvenated by laying or coppicing, expensive and labour-intensive activities.

If a hedge is cut every year, although bramble and honeysuckle respond well by producing good crops of nutritious flowers and fruits, woody plants produce very few flowers and so there are hardly any berries like sloes, haws or those of the rowan tree for the dormice to feed on in the autumn.

Nevertheless, hedges that are cut every year can be very dense and dormice nests have been found in them, although it is probable that population levels are low, particularly in hedges which are less than 1m high above the bank and less than 2m wide.

On the other hand, really good crops of berries and nuts are found only in hedgerows that have not been cut for some six years. However, such hedges are usually open inside, providing poor nesting habitat unless they contain dense holly bushes or good tangles of bramble or rose.



Hazel nut

So, no single cutting frequency is ideal for both food and nesting. Instead, try and achieve a wide variety of different hedge structures in a small area. Cut about half of the hedges on a three to five year cycle, particularly those with plenty of blackthorn, leaving those approaching the time when they will need laying unmanaged for longer to produce full berry and nut crops. Avoid cutting more than a half of the hedges in the management unit in any one year, and encourage thick bramble or rose margins. If a hedgerow must be cut every year, perhaps for safety reasons, then try and allow the hedge to expand a few inches outwards and upwards each time – this will give a chance for at least some tree or shrub berries to be produced.

If possible, cutting should be carried out between November and early March to reduce the chance of damaging late breeding nests. However, in Devon the ground is often too soft by November for tractors to travel on the land, so it is not feasible to cut later than October or even September. Any damage to dormice that results from such early cutting is unfortunate, but overall the dormouse population is likely to benefit because without some cutting the overall suitability of hedgerows in an area may decline.



A rich hedge network showing the variability favoured by dormice

Hedge laying and coppicing

Laying is the most common and effective method of rejuvenating thin or gappy hedges and re-creating a dense stock-proof barrier. Unlike coppicing, a recently laid hedge will still provide cover for dispersing dormice, but food supplies and nesting sites will be much reduced for a year or two. To lessen this impact, many Devon hedges can practically be laid one side at a time, with an interval of two years between sides, so providing much better continuity of cover and food.

When the trees and shrubs in a hedge become too big to lay, its life cycle can be restarted by coppicing. Although the re-growth from cut stumps can be vigorous, a coppiced hedge will be unsuitable for dormice for a few years. This may have serious repercussions for the local dormouse population if the hedgerow is the sole link between areas of good

dormouse habitat. So, try and catch a hedge that needs rejuvenating early enough to lay it rather than wait until coppicing is necessary.

In any event, try not to lay more than about a third of hedgerows in an area in any one year, or coppice more than a quarter of them, and carry out such work between November and mid-March.

Bank repair

Since dormice living in Devon hedges will be using the banks for hibernation, repairs to them and to any stone-facing should, preferably, be done in September or October, after the main breeding season and before hibernation begins.

Hedge planting

Planting a new hedge or filling up gaps in existing hedges is often an excellent idea, not only because of the additional habitat created but also because it will increase connectivity and dispersal routes. The more complex and intact the network of hedges the better, reducing the risk of isolation and improving the long-time survival prospects of the population.

When selecting shrubs and trees for planting, choose a range of native species which are typical of the area. Try to use



Honeysuckle flower

plants that are grown from locally-collected seed or cuttings since these are more likely to flower and fruit at times appropriate to the area and its wildlife. If you can obtain honeysuckle plants (the wild variety rather than cultivated) these will add greatly to the attraction for dormice, providing a source of nesting material as well as flowers and fruits.

Gateways and other gaps

Since dormice don't like crossing open ground, try and keep gateways or any others gaps in hedges as small as possible, certainly less than 5m wide. When creating new gateways, wooden gates may be preferable, being easier to cross than metal ones.

How can I find out if dormice are present?

Unless you are very lucky you are unlikely to see or find a dormouse by chance. There are three main ways to look for them, but unfortunately none of them are foolproof; it is very difficult to prove that a hedge is not used by dormice and, in Devon, it is usually safest to assume that it is.

The first way to find out if dormice may be present is to look for hazel nuts, since dormice open these in a characteristic way. However, even if hazel is present in a hedge, nuts will only be produced on bushes that have not been cut for some six years, and even then the grey squirrels tend to get to the nuts first, while they are still green. If you do find nuts with holes in them, then look for those with a precise circular hole in the side, 5-8mm across, with a smooth rim with faint diagonal tooth marks around the edge. Similar holes are made by wood mice and bank voles but these don't leave such a precise round hole or one with a smooth rim, the tooth marks being stronger and perpendicular to the edge.



Hazelnuts opened by wood mouse (left) and dormouse (right)

The second way is to look for natural nests, of the sort described under 'Nests'. The best time to search for these is in October when the leaves are falling and the normally very effective camouflage that nests have starts to fail. Even so, nests are often hard to locate and failure to find any should not be taken as evidence that dormice are absent.

Thirdly, you can place nesting tubes in hedges to mimic holes in trees. These are more likely to be effective in hedgerows that have few natural nesting sites, which tend to be those that are high and open because they have not been cut for many years, or which lack bramble or rose margins. Nest tubes can be obtained from the Mammal Society together with a leaflet on how to use them. But please be aware that although anyone can put up tubes and inspect them, once you have found a dormouse nest you need a licence from Natural England to carry out further checks.



Dormouse nest where blackthorn is densely branched because of flail cutting

Dormice and the law

Across Europe the distribution of hazel dormice has declined considerably in recent decades, as their woodland, scrub and hedgerow habitats have been lost or changed. As a result the species receives full protection under UK and European law. It is illegal not only to kill or injure them deliberately but also to damage or destroy their breeding sites or resting places. Such damage or destruction is an offence whether it was deliberate or not. It is also an offence to disturb dormice deliberately if it will reduce their chances of surviving or breeding, or reduce local populations.

Hedgerow management will inevitably cause some disruption to dormice. Following the best practice outlined in this leaflet will show that you have taken all reasonable steps to comply with the legislation. If you do, inadvertently, cause some damage, the risk of you being prosecuted is likely to be reduced if you have followed this guidance.

Since dormice are present in many of Devon's hedges, it is safest to assume that they are present in all and to act accordingly. This leaflet presents current understanding of best practice and its recommendations should be followed unless you are confident that dormice are absent.



A torpid dormouse. (DWT - A. Taylor)

Case study

Rob and Paula Wolton, of Locks Park Farm near Hatherleigh, manage the many hedges on their 30ha farm in West Devon for dormice and have a good population of them - in 2007, Rob found as many as 51 natural nests in just under 4km of hedge on the farm. The hedges are all species rich, with hazel, sallows and blackthorn being the main woody plants, followed by oak, hawthorn and birch. The average number of woody species per 30m stretch is 8.8, compared to a national average of 3.7. About half the 34 hedgerows on the farm have bramble or field rose margins a metre or more wide, and all are set on earth banks.

Rob and Paula manage their hedgerows to create as broad a range of different sizes and structures in as small an area as possible. At one extreme there are hedgerows which are kept low and dense by cutting to a height of 2m every year, while at the other extreme there are those that have received no management for decades and are now lines of trees. Some hedgerows have over the last 15 years been cut at intervals of between two and six years, and many have been layed during this period.

In hedgerows that are regularly cut, the majority of nests (61%) Rob found were in shrubs, and of these 80% were in the cut line, mostly in blackthorn. In contrast, in hedges which had not been cut for 6 years or more, he found most nests (68%) were in bramble or rose margins with very few in shrubs other than holly. Altogether, over 60% of nests were within 1 m of the ground or top of the bank.

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Further reading

- Bright, P and MacPherson, D. 2002. Hedgerow Management, dormice and biodiversity. English Nature Research Report 454. English Nature, Peterborough.*
- Bright, P.W., P.A. Morris and Mitchell-Jones, A. 2006. The dormouse conservation handbook. 2nd edition. English Nature (Natural England), Peterborough.*
- Chanin, P. and Woods, M. 2003. Surveying dormice using nest tubes. Results and experiences from the South West Dormouse Project. English Nature Research Report 524. English Nature, Peterborough.*
- Defra. 2007. Hedgerow Survey Handbook: A standard procedure for local surveys in the UK. 2nd edition. Department for Environment, Food and Rural Affairs, London.
- Morris, P. 2005. Dormice. The Mammal Society.
- Wolton, R. 2008. Where dormice nest in hedgerows. The Dormouse Monitor, Spring 2008. People's Trust for Endangered Species, London

Useful websites

- Devon Hedge Group www.devon.gov.uk/hedges
- Devon Mammal Group www.devonmammalgroup.org
- Hedgelinek www.hedgelinek.org.uk
- Dormouse Monitor www.greenboot.co.uk/Dormouse_monitor
- The Mammal Society www.mammals.org.uk
- Natural England www.naturalengland.org.uk

* These documents can either be ordered via the Natural England web site, or downloaded in PDF format.

This information sheet was produced in March 2009 as a supplement to 'Devon's Hedges: Conservation & Management' first published by Devon County Council and the Devon Hedge Group in 1997.