

Woodland Management in the presence of the dormouse: Guidance for compliance with the Habitats Regulations¹

DORMOUSE

¹ The 'Habitats Regulations' refers to The Conservation of Habitats and Species Regulations 2010

Purpose of document

The Dormouse is protected under the Habitats Regulations and is a European Protected Species (EPS). This document aims to provide advice for woodland managers and operators on a) how to establish presence of dormouse (*Muscardinus avellanarius*), particularly their breeding sites or resting places, and b) how to manage woodlands so as to avoid or minimise the risk of committing offences under the Habitats Regulations. As with many woodland species, dormice can thrive as a result of sensitive woodland management and the aim of this legislation is not to deter owners from managing their woodlands.

This guidance should be used alongside the Decision tree to aid planning of woodland operations and protecting EPS.

1. Look at your woodland. What is the probability of dormice being present in your woodland or habitat type?

Is your woodland:

- Early stage or older broadleaved woodland?
- Conifer plantation on an ancient woodland site?
- Historic coppice woodland?

Does it have:

Ride edges, shrubby glades, scrub and thick hedgerows connected to woodland and well-vegetated open areas within plantations?

The best conditions are more likely within coppiced woodland and woodlands containing areas prior to canopy closure (5-15 years) and especially contiguous areas / compartments / coupes with different ages and types of woodland structure. The larger the total area of connected woodland/scrub, called the 'woodland unit', especially above 10 hectares, the higher the likely presence of dormouse.

The habitat quality, as indicated by the features in Table 1 will affect both the likely presence and dormouse population density, though dormouse may be present even in woods without any of the favourable features listed below.

Table 1 – dormouse habitat features

Favourable habitat features	Unfavourable features
<ul style="list-style-type: none"> • Integral with or attached to other areas of woodland, PAWS, scrub or young (including conifer) plantation. • Wide range of broadleaved species and ages present, in patches, scattered throughout, or around the edge • Shrub layer present, especially with hazel, honeysuckle or bramble • Species rich edge strip or shrub dominated ride-sides or large patches • Canopy connections across tracks or thick, wide hedgerow connections to other nearby suitable habitat • Mixture of nurse conifer rows and broad-leaved planting • Contains fruiting hazel or sweet chestnut – ideally as managed coppice • Pre-thicket or no thinning history for conifers. 	<ul style="list-style-type: none"> • Small (< 2 ha) isolated wood or adjacent only to an old conifer plantation • Plantation already subjected to several traditional rack thinnings • Densely shaded with little or no understorey • Signs of deer/stock eating regenerating trees/shrubs, or lack of regeneration • Waterlogged ground in winter • No access to large fruiting trees • Few native broad-leaved trees and shrubs i.e. ‘cleaning’ during thinning • All nurse conifers removed in one operation • Site above 300m altitude • Short rotation coppice in cycle.

Table 1A: Habitat favourability for dormice (as used in Method Statement)

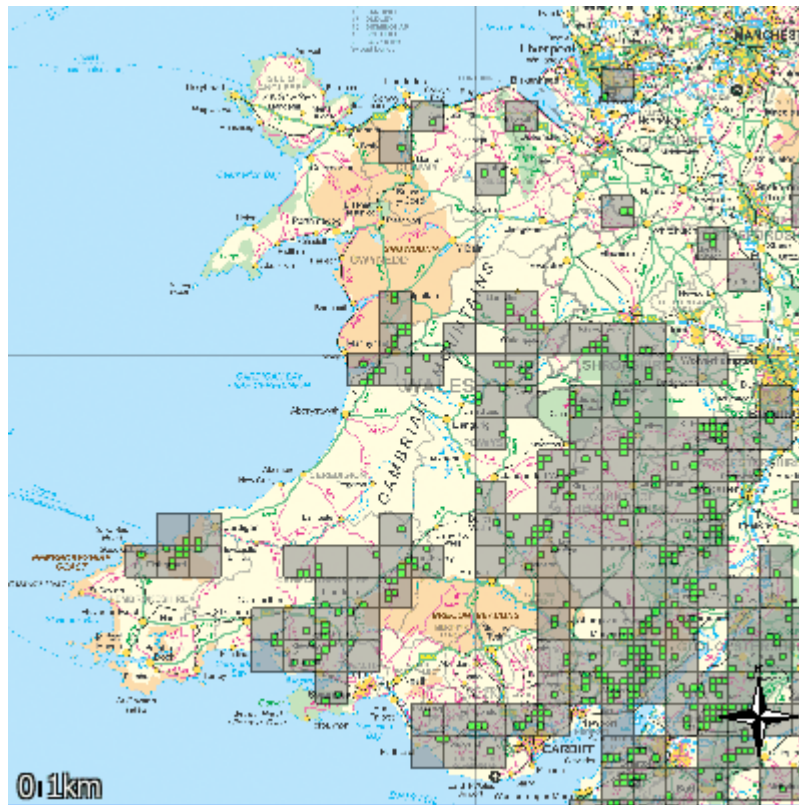
Level	Definition
High	Presence of most of the favourable features listed in Table 1.
Medium	Some of the favourable features listed above OR any woodland/scrub within 150 metres of high favourability habitat
Low	Other woods (i.e. not high or medium) with no connected high favourability habitat within 150 metres (these can be excluded from the ‘woodland unit’ for the purposes of a licence application).

Further information on habitat requirements of the species is available from the Dormouse Conservation Handbook (2006), also see further reading list.

2. Are dormice known or likely to be present in or near (within 3km of) this particular wood?

a. *Is your woodland approximately within current known range of the species?*

Please note, not all recent occurrences of dormice may be mapped.



Dormouse (*Muscardinus avellanarius*).

Map: NBN

b. *Consult the National Biodiversity Network*

The National Biodiversity Network (NBN) is available on the web www.searchnbn.net/interactive/map.jsp?srchSp=NHMSYS0000080214 . Search for presence of dormouse near or in your woods by using the interactive map, zoom to your area of interest and seek the records from more recent decades (not all occurrences of species may be shown on the map and lack of records does not necessarily confirm absence). Your local Countryside Council for Wales or County Wildlife Trust representative, is also likely to be able to give site specific information on likelihood of dormice presence as may the Local Biological Records Centre www.lrcwales.org.uk Natural History Societies and local Mammal Groups - contact details from: www.mammal.org.uk

3. Would the proposed operations or activities have an impact on dormice if present?

If dormice are, or are likely to be, present will your planned operation impact in any of the following ways?

- Kill or injure a dormouse.
- Cause disturbance to dormice that is likely to impair their ability to survive, breed, reproduce or hibernate; or affect significantly their local distribution or abundance.
- Damage or destroy a dormouse resting-place or breeding site.

The following types of operations have a risk of committing offences if dormice are present:

- Harvesting, including felling or thinning of stands
- Ground preparation
- Tending and establishment
- Construction & maintenance of infrastructure
- Management of open space

Table 2 lists forest operations and the risk of committing an offence associated with each operation.

4. After habitat assessment, can the activity be modified to avoid killing and injuring dormice, protect likely breeding sites or resting places of dormice against destruction or damage, avoid disturbance to animals that may affect their ability to survive, breed, reproduce or hibernate or affect significantly their local distribution or abundance?

Table 2 provides further information on how you may adapt the operations listed above to reduce the risk of committing an offence and the need for a licence. The aim should be, during operations, to avoid damaging or destroying a resting place or carrying out activities that disturb dormice in their nests. Dormice are unable to move around a woodland quickly, (for instance to flee from a threat), their breeding and hibernation places (nests) are very hard to find and are likely to be distributed throughout the woodland. Thus, providing an alternative operation, or location for the operation, that will not damage or destroy their nests is difficult.

If the operation you are planning does not have a satisfactory, low-risk alternative as indicated within Table 2 then you may decide to apply for a licence. Licence applications require the preparation of a method statement which describes how the proposed work will be undertaken. A dormouse method statement template based on best practice as described in table 3 is available for forestry or woodland harvesting operations. See www.forestry.gov.uk/forestry/infd-769erv for further details.

5. If dormice are likely to be present and impacts cannot be avoided is survey information available?

Recent survey information will confirm presence and numbers to provide information on any impact.

If you suspect that dormice are present in your woodland and you intend to carry out management you will need to assess the risk that you may commit an offence (i.e. impact dormice as described in section 3 above).

The organisations listed in section 2 are most likely to know of recent surveys. If survey information is available go to section 8, if none is available then move to section 6.

Alternatively, if habitat assessment (Section 1) and species range (section 2) indicate that dormouse presence is highly likely then you may assume they are and proceed to section 8.

6a. Can the landowner/manager do an initial survey of the site?

Confirming presence

To reduce the risk of committing an offence look for evidence of dormice and if they are found adjust management plans in the light of the guidance given here.

Signs or indicators for dormouse

Dormice are small animals that leave few obvious signs. **Their hibernation nests** are small [7-10cm], made of woven grasses and are concealed on the ground. Their **summer breeding nests** are above ground, often in the shrub layer, but sometimes higher in the canopy. Dormice are usually thinly spread throughout the woods they occupy, with only a few individuals per hectare, and both their breeding and hibernation nests are difficult to find. **If you do come across a nest you must be careful not to interfere with it in any way as this in itself could constitute an offence.**

Other signs of their presence include **feeding holes made in hazelnut shells** with a characteristic smooth inner surface to the hole or **stripped honeysuckle bark** (used in making nests).

For more information on surveying for dormouse (especially where no hazel occurs, or nest tubes and nest boxes are used) see the Dormouse Conservation Handbook (2006). **See 6b**

6b. Specialist Survey required to identify and locate any breeding sites or resting places.

A specialist survey may be carried out by a qualified professional or alternatively consider engaging local specialists, for example, a local mammal

group may be interested in a site visit in your woodlands and this could provide information on dormouse presence.

7. Evaluate the results of surveys.

If by self-assessment (following the guidance above) and/or specialist survey you are confident that dormice are not using your woodland then no further action is necessary and the operation may proceed. It would be sensible to keep a record of your decision and information used to reach it (for example a specialist survey). If evidence of dormice is subsequently discovered during operations (especially nests), you should stop work, consult the Welsh Assembly Government and the Countryside Council for Wales and review your plans as required. It is therefore important for operators to remain vigilant for dormice while undertaking work.

8. Can the work be undertaken, or proposals modified to avoid an offence being committed?

Once confirmed dormouse habitat has been identified through survey you may decide to go ahead with woodland management by avoiding these areas (NB annotating felling and/or design plans with breeding or resting areas is recommended) and by using best practice (see Table 3 and good practice references below).

9. Can you provide evidence to support a licence application that satisfies the following criteria?

If you have evidence that dormice are present through signs described above, and you wish to perform operations that are likely to cause an offence (Table 2) a licence will be required before the operation can be undertaken. A template Method Statement is available to guide you through this process (www.forestry.gov.uk/forestry/infd-769erv). The Application for a European Protected Species Licences – forestry or woodland operations will require details about dormouse presence and evidence that there is no satisfactory alternative to committing the offences in question i.e., damaging or destroying dormouse resting or breeding sites even when dormice are not present. Licences are to be granted for specific circumstances and are subject to strict tests. There is no guarantee that a licence will be granted. However, as with many woodland species, dormice can thrive as a result of sensitive woodland management and this will be taken into account when any licence application is made.

Consider potential for long-term provision of habitat for dormouse

In Britain the dormouse has undergone a serious decline in the last 30-40 years, largely attributable to habitat degradation and fragmentation. Dormice are now absent from most of northern Britain but there is a real opportunity for woodland owners to conserve this charismatic species where it is present. Consider the potential for maintaining populations by planning regular but sensitive active management to provide a continuity of habitat over time that

will support the favourable conservation status of this species. Woodland habitats can be improved for dormice by encouraging long-term presence of a shrub layer through intervention which ensures plant succession, and by increasing the overall contiguous area composed of a mosaic of woodland ages and hedgerows. Specific guidance includes:

- Maintaining and promoting a diverse matrix of different aged habitats with patches of early growth e.g. by creating small glades during thinning or a patchwork coppice coupe style management [even of conifers]. More frequent intervention may be required in younger conifer woodlands compared to older broadleaved woodlands.
- Ensuring rack, ride and track management enables cross-track canopy connections to strengthen. Providing connections across open ground to increase the size of the connected woodland unit for dormice. Enrichment planting and encouraging a range of broadleaf species [especially in conifer plantations]. Provide a shrub-rich patchwork within plantation woodland by heavily thinning small areas, or small clear-fells. Management against deer browsing is often necessary.

Good practice reference list

- Bright, P., Morris, P. & Mitchell-Jones, T. (2006) *The dormouse conservation handbook*. Second edition. pp74. English Nature, Peterborough. [NB Pre 2006 legislative changes]
- Sanderson, F., Bright, P. & Trout, R.C. (2004) Managing woodlands for dormice. In: Eds. Quine, Trout & Shore. Managing woodlands and their mammals. Joint FC and Mammal Society conference, November 2002. 19-24. Forestry Commission. Edinburgh.
- Thompson, R.N., Humphrey, J.W., Harmer, R. & Ferris, R. (2003) Restoration of native woodland on ancient woodland sites. Forestry Commission, Edinburgh. pp52.
- Eds: Corbet & Harris. (1991) The hazel dormouse. In: The handbook of British mammals; 3rd Edition. Blackwells, Oxford. Eds Gurnell & Yalden [NB.5th edition in press, winter 2006]

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The Dormouse year

A particularly early or late spring or winter will normally mean dormice are active earlier or later respectively. Southern populations can be active for longer in a given year than northern ones.

Dormice are particularly vulnerable to forest operations when breeding, but also during winter when they are hibernating on the ground.

Calendar of dormouse activities during a typical year (*Use in conjunction with information in Tables 2 and 3*).

....dormice hibernating...			pre-breeding		main dormouse breeding period			active and gaining weight	dormice hibernating	
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
<i>Some forest operations possible</i>			<i>Operations will have least impact</i>		<i>NO FOREST OPERATIONS PERMITTED</i>			<i>Operations will have least impact</i>		<i>Some forest operations possible</i>	

Table 2 Forest operations, risk of committing an offence associated with each operation and procedure for reducing risk.

Forest operations are in **bold** type, descriptions in plain type; low risk alternatives are proposed where possible and the approach to managing risk is suggested. If you wish to continue with an operation for which there is no low-risk alternative you **will** need to apply for a licence.

Risk of committing an offence	HIGH RISK Operations that are likely to damage or destroy breeding or resting places of dormice.	Alternative approaches to high risk operations that may reduce risk.	Managing risk: Options for low risk approach	
Operation	Sub-operations (and brief description of impact)		Safest	Some risk
<i>HARVESTING</i>	Thinning, Clearfelling, Coppicing (any length cycle), Rejuvenating derelict coppice: Can significantly disrupt feeding activities, kill individuals and damage nests even during period of least impact; In winter damages and destroys hibernation sites and in summer, breeding and resting sites.	No low risk alternative	N/A	N/A
	Removal of brash: can damage and destroy hibernation sites.	1. Swift removal of cut material before dormice hibernate or during same winter as cutting	1	N/A
	Extraction of timber: all ground nests on extraction route will be damaged or destroyed (removal of trees along route - treat as for Thinning operation).	No low risk alternative	N/A	N/A
	Timber stacking on rideside: can damage or destroy hibernation nests.	1. Stack timber on sparsely vegetated ground where hibernation nests are not likely. 2. Remove timber stack between 1 April & 30 September or in the same winter/spring work period as when stacked.	1+2	1
<i>GROUND PREPARATION</i>	Scarification/ploughing/cultivation of well-vegetated areas: damages and destroys hibernation and nest sites.	1. Only work in areas before they become well vegetated, e.g., during the first 2 years following clearfelling and do not	1+2	N/A

		work November – March inclusive. 2. Leave edges of areas that have become well vegetated unworked.		
	Brash burning: can damage or destroy hibernation sites if carried out in hibernation period.	1. Confine brash burning to limited areas only. 2. Work April/May or September/October	1+2	N/A
	Brash clearing: can damage or destroy hibernation sites if carried out in hibernation period.	1. Swift removal of cut material before dormice hibernate or during same winter as cutting.	1	N/A
<i>TENDING & ESTABLISHMENT</i>	Chemical weeding by over-spraying in active and hibernation season: disturbs hibernating dormice.	1. Spot -spray or targeted spraying. 2. Work April/May or September/October	1+2	1
	Brush/scrub cutting or clearance: in winter can damage and destroy hibernation sites and in summer breeding and resting sites.	No low risk alternative	N/A	N/A
	Clearance of vegetation from a fenceline, new or established: in winter can damage and destroy hibernation sites and in summer breeding and resting sites.	No low risk alternative	N/A	N/A
<i>MANAGEMENT OF OPEN SPACE</i>	Mowing ride edges: can damage or destroy hibernation sites and resting sites.	1. Restrict mowing to existing short sward area. 2. Only mow in autumn	1+2	N/A
	Road edge work involving removal of road/ride edge trees: destruction of breeding and resting sites. Causing disturbance to a significant population by breaking up the connectivity of a site	No low risk alternative	N/A	N/A
<i>CONSTRUCTION & MAINTENANCE OF INFRASTRUCTURE</i>	Creating roads/tracks and other permanent woodland clearance: clearance of woodland in winter can damage or destroy hibernation sites and in summer, breeding and resting sites.	No low risk alternative	N/A	N/A

	Creating lorry access or turnaround: can damage or destroy hibernation nests.	1. Creating lorry turnaround and/or stacking area on sparsely vegetated ground where no hibernation nests are likely.	1	N/A
	Public access: creation of paths in winter can damage or destroy hibernation sites and clearance of vegetation in summer, breeding and resting sites.	1. Design route on sparsely vegetated ground where no hibernation nests are likely.	1	N/A

Table 3 – Best practice approach for carrying out operations in the presence of Dormice. An EPS licence may include additional conditions due to local circumstances. See method statement (link) for greater detail on best practice.		
Operation	Sub-operations	Best practice guidance (minimum requirements in bold, desirable best practice in normal type)
<i>HARVESTING</i>	Thinning including cleaning broadleaves from conifer plantations on ancient woodland sites (PAWS)	<p><u>Small woods (<10 ha)</u></p> <ul style="list-style-type: none"> • Limit overall harvesting operations (clearfell and thinning) to maximum of 33% of unit in a 5 year period. (A 3 year period may be acceptable if thinning will result in an increase in favourability of habitat for dormice.) • Thin ≤25% of the high favourability habitat AND ≤33% of woodland unit area in 5 year period. (A 3 year period may be acceptable if thinning will result in an increase in favourability of habitat for dormice.) <p><u>Large woods (>10ha)</u></p> <ul style="list-style-type: none"> • Limit overall harvesting operations (clearfell and thinning) to maximum of 50% of unit in a 5 year period, leaving blocks (minimum 5-10ha) of the woodland unit unthinned. • Thin ≤33% of high favourability habitat AND ≤50% of overall woodland unit in 5 year period. (A 3 year period may be acceptable if thinning will result in an increase in favourability of habitat for dormice.) <p><u>All woods</u></p> <ul style="list-style-type: none"> • No work June-August. Preferably, work in September-October or April-May, it is possible to work October-march but this is less favourable. • Leave the remaining areas of habitat unthinned for at least 5 years (A 3 year period may be acceptable if thinning will result in an increase in

		<p>favourability of habitat for dormice.).</p> <ul style="list-style-type: none"> • Plan ahead to avoid any other major operations (see table 2) that will reduce habitat quality within 5 years. • Choose a thinning pattern with reduced dormouse impact (see method statement)
	<p>Clearfelling including felling of conifers from PAWS for restoration</p>	<p><u>All woods</u></p> <ul style="list-style-type: none"> • No work June-August. Preferably work in September-October OR April-May • Retain remaining areas of habitat for at least 5 years. • Plan ahead to avoid any other major operations (see table 2) that will reduce habitat quality within 5 years <p><u>Small woods (<10 ha)</u></p> <ul style="list-style-type: none"> • Fell ≤15% of highly favourable habitat AND ≤20% of woodland unit in a 5-year period • Coupe size 1ha max (0.3-0.5ha desirable) in high favourability habitat and 2ha max (0.3-0.5ha desirable) in medium favourability habitat.. <p><u>Large woods (>10ha)</u></p> <ul style="list-style-type: none"> • Fell <25% of high favourability habitat AND <33% of woodland unit in a 5-year period. • Coupe size 3ha max in high favourability habitat and 10ha max in medium favourability habitat.
	<p>Restoring derelict coppice</p>	<ul style="list-style-type: none"> • Schedule most work November - March. • Restrict derelict coppice operations to a maximum of 25% of unit area in first year, if remainder is connected to adjoining suitable woodland and then around 10% annually to complete restoration of derelict area.

		<ul style="list-style-type: none"> •
	Traditional coppicing cycle	<ul style="list-style-type: none"> • Schedule most work November-March. • Restrict coppicing to up to 25% of unit in any one year but averaging 10% of total coppice per year over the 15 to 20 year cycle. • Follow a patchwork cutting cycle ensuring that new growth is alongside older growth.
	Extraction of timber	<ul style="list-style-type: none"> • Where possible schedule most work outside breeding season (June-August inclusive).
<i>GROUND PREPARATION</i>	Scarification/ploughing/cultivation	<ul style="list-style-type: none"> • Avoid working in hibernation period (November-March inclusive) • Only disturb small areas of ground and target those areas with sparse vegetation cover.
<i>TENDING & ESTABLISHMENT</i>	Brush/scrub cutting or clearance	<ul style="list-style-type: none"> • If possible work in winter (November-March) and work at small scale (e.g. 10% of woodland unit in one season).
	Brushing, pruning (including young conifers on PAWS)	<ul style="list-style-type: none"> • Brush outside breeding season (June-August)
<i>MANAGEMENT OF OPEN SPACE</i>	Mowing ride edges	<ul style="list-style-type: none"> • Mowing regimes are employed for a variety of reasons and interests. As such the woodland manager should refer to Table 4 – Dormouse Activity table to reduce the risks to dormice through tailoring the mowing regime accordingly. This may require discussion with the licensing body.
	Road edge work within dormouse site	<ul style="list-style-type: none"> • Seek to incorporate in thinning/clearfell operations. Where not possible, limit scale and undertake works in autumn.
<i>CONSTRUCTION & MAINTENANCE OF INFRASTRUCTURE</i>	Creating roads/tracks and permanent woodland clearance	<i>Follow guidance for CLEARFELLING.</i>
	Creating lorry access or turning area	<i>Follow guidance for CLEARFELLING.</i>

