



Interim Natural England Advice Note - Dormouse surveys for mitigation licensing – best practice and common misconceptions

This interim advice note aims to provide clarity with regard to Natural England's requirements for effective dormouse surveys to accompany mitigation licence applications. Queries about surveys are the most frequently raised dormouse issue from our customers. It has been produced to help to rectify the issue of differing interpretations of current guidance, which is resulting in confusion, inadequate surveys and disproportionate survey effort being applied. It is not designed as a comprehensive guide to dormouse surveying, although we hope to produce more detailed guidance on surveys in the near future. This advice note should be read in conjunction with the [Dormouse Conservation Handbook \(second edition\)](#), which explains the actual survey techniques employed in more detail.

The aim of a dormouse survey to support a mitigation licence application

Dormouse surveys to support a mitigation licence application should employ sufficient survey effort to determine presence/likely absence of the species on site. The survey effort required should be tailored to the site specifics, which will change on a case by case basis. This should be used alongside habitat survey data for the site and published research to provide an estimate of the population that will be impacted by the works, which is required for the licence. For higher impact cases it is likely to be necessary to determine whether breeding is occurring on site and intensive survey effort prior to impacts will allow more meaningful comparison as part of a monitoring package following completion of works.

Where to survey

Dormouse surveys to inform mitigation licence applications should not be limited to perceived 'optimal' habitat. Where projects that will significantly affect woody habitat occur within known dormouse range, surveys should be completed, even if the habitat appears fragmented. Surveys may also need to encompass suitable habitat adjacent to the site footprint, where impacts are likely to occur beyond this area. Surveys should always be undertaken when proposals will impact on dormouse habitat likely to be occupied by the species (e.g. removal of woodland, hedgerow or scrub within known range). It has become clear as our knowledge of dormouse ecology advances that the species occupies a far wider range of habitats than was initially understood. Planning surveys at an early stage will reduce potential cost and delays were dormice to be discovered during works on a site that had not been surveyed.

When to survey

Dormice are usually active from April to October, exact timings will vary from year to year, dependant on location within the UK, weather conditions and available food resources. Surveys should aim to cover months with the highest probability of detecting dormice. Ideally nest tube surveys should be planned to start early in the active season, to cover the first peak in tube use. Nut surveys should usually be employed in the time period from September to December, beyond this time nuts may lose their diagnostic characteristics, dependant on ground conditions.

Survey methods

- **Nest tubes** are the most commonly used survey technique to support mitigation licence applications. The technique has the advantage that it can be used in all habitats likely to support dormice. There is also an established scoring system to determine the thoroughness of any survey (see below Annex 1). However, it is important to be aware of the limitations of the method, which are outlined throughout this note. Nest tubes are deployed in the most suitable habitat on site and checked for the presence of dormouse nests and individuals. A probability score of detecting dormouse in any one month was devised following research in the South West, detailed in [report R524](#). A sufficient number of tubes should be deployed over a time period to reach a probability score of 20, where possible in that season. Likely absence should not be assumed on a score less than 20. Usually at least 50 nest tubes should be deployed at a spacing of 15-20m intervals. Preferably they should be kept in place for the majority of the active season and checked once a month to maximise the chance of detecting any dormice present. However, where sufficient tubes are deployed and the months of highest probability are included, a survey reaching a score of over 20 will be acceptable. Surveys that involve deploying a very large number of tubes for a short period of time are not good practice and will not be encouraged. Once dormice are detected it is not always essential to continue the survey, although you may wish to leave the tubes in place and do a final check at the end of the season when retrieving them.
- **Nest boxes** may be used in appropriate habitat in addition to nest tubes, as this is likely to increase the probability of detecting dormice where present. Any boxes included must be additional to an adequate tube survey. Nest boxes cannot be included in the scoring system as the probability of their use is not analogous to that for nest tubes. Boxes should be placed at approximately 20m intervals in either a grid or a line through the site. These can be particularly valuable to feed into post works monitoring where necessary.
- **Nut searches** can be a useful additional tool in heavily fruiting areas of hazel, but there are very few sites where this technique alone should be applied and there is a significant risk of false negatives, especially where low densities of dormice occur. Where nut searches are used either systematic searches of five 10m x 10m quadrats or searches of 100 nuts opened by small rodents should be employed. Nut searches should not be used as evidence of likely absence of dormouse on any site.

The range of other techniques such as nest searches, stripped honeysuckle bark, hair tubes and trapping are not advised to support a mitigation licence application (Please see [Dormouse Conservation Handbook](#) for further detail on these techniques).

How recent must a survey be?

A survey to support a mitigation application should ideally be from the current or previous season. For higher impact schemes, surveys from the previous season are acceptable, low impact schemes may be acceptable with surveys up to 3 years old, providing there has not been any significant change to the habitats present since the survey was conducted. Given the limited nature of data provided by dormouse surveys, specific cases may be made for the acceptance of older data - but please be aware that usually these will result in a 'not satisfied' decision being reached on the Favourable Conservation Test with a requirement for updated survey information.

Common misconceptions with regard to nest tube surveys

The standard of dormouse surveys that accompany mitigation licence applications varies considerably and it has become apparent there are a number of misconceptions that can easily be dispelled. Please see below:

Scores can only be included in the probability calculation for the months actually checked. The probability score applies from when the nest tubes are deployed to when they are removed, not just the months where the tubes are physically checked. It is, however, recommended that nest tubes are checked once every month (every 2 months as a minimum), as dormouse nests may degrade especially when overtaken by wood mice and can lose many of their unique characteristics.

Checking nest tubes several times within a month will increase the score. The probability score cannot be increased by checking repeatedly in any single month. Tubes should be checked no more than monthly when they are being used for survey purposes only. Checking tubes more frequently than this is not only poor practice, but could result in unacceptable levels of disturbance.

The score remains the same irrespective of the number of tubes used. Fifty tubes is the standard number suggested for surveying, but if 25 are used the probability score should be halved and if 100 are used the score should be doubled. However, it is not good practice to deploy several hundred tubes and only survey for a couple of months to determine likely absence. Where possible tubes should be deployed for the majority of the active season, to maximise the chance of detecting dormice. Once dormice are detected it is not always essential to continue the survey.

Increasing the density of tubes will increase the score. This is not backed up by research. Tubes should be placed at 15-20m intervals for most sites. There will be site specific situations where this will need to be varied. Where spacing is altered throughout the site, this needs to be fully justified in the method statement (e.g. 10m spacing in exceptional cases - very small sites). However deploying 100 tubes at 5m spacing to shorten the survey period required is not good practice.

Nest tube surveys provide accurate distribution data. Usage of nest tubes by dormice is patchy and depends on a whole range of site specific factors (such as presence of suitable locations for natural nests). It is not acceptable to clear sections of habitat within a contiguous site that did not return positive results in a dormouse survey if dormice have been detected elsewhere on the site. Once detected dormouse should be assumed to be present in all suitable habitat on site, unless there are effective barriers to movement and an adequate survey has been completed on both sides of the site.

Annex 1. Basic details of the nest tube scoring system - please see the [Dormouse Conservation Handbook](#) Table 5 page 27 and [the original research paper](#) and the basic details below.

**Index of probability of finding dormice present in nest tubes in any one month
(based on 50 tubes deployed - double these scores for 100 tubes and halve for 25)**

Month	Index of probability
April	1
May	4
June	2
July	2
August	5
September	7
October	2
November	2

**All the monthly scores for the period over which the tubes are in place are added together.
A minimum score of 20 must be reached to determine presence/likely absence.**

Many thanks to the consultants who raised queries and provided comment to Natural England with regard to dormouse surveys, these have helped to draft this interim guidance.