Forestry Commission England

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English Woodland Grant Scheme

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Deadwood

Purpose This notes explains what the Forestry Commission expects for the management of deadwood habitat through Woodland Management Grant (WMG). It supports and expands on the explanation given on page 10 of EWGS 6 “Woodland Management Grant Guide”.

Introduction Deadwood supports a large and complex food chain and is an essential element of any sustainably managed woodland. Decaying wood produces humid, protected niches for invertebrates, plants and fungi which in turn help form the woodland soil and directly support other plant, bird and animal populations. Many of the species reliant on deadwood are now rare or endangered.

Most trees and woodlands contain dead wood. It may occur as dead branches within a tree, standing dead trees or coppice stems, and fallen deadwood. It may be large/small, wet/dry, sunny/shady, old/recent, coniferous or deciduous.

Modern forestry and arboriculture has until recently considered dead wood to be a wasted resource, a danger, an obstacle or a source of disease. Time, effort and money have been spent on removing it. Its value is now recognised, but the range of advice and the absence of scientific data have made it difficult to offer simple guidelines to woodland owners and managers. This note attempts to draw together the sources of advice in a clear and useful manner.

General principles Each site should be assessed separately for deadwood. Applying any form of management prescription dogmatically is misguided. However, although there is no right or wrong level of deadwood, the amount found in semi-natural woodland is generally significantly higher than in managed woodland.

Professional guidance should be sought on special or highly sensitive sites (e.g. Sites of Special Scientific Interest).

On sites of high floristic value where there is little or no history of deadwood, then the continued removal of timber and branches is likely to be preferred (to both limit shading and to reduce nutrient build up). In cases where deer browsing is adversely affecting the regeneration of woodland species, however, brushwood left from harvesting can inhibit deer access and reduce browsing damage.

Deadwood is rarely the problem it is perceived to be. Because deadwood rots away, it can quickly cease to be an obstacle to management. Retaining deadwood in clusters can also reduce its impact on other management activities. It is rare for deadwood to represent a threat of disease. The obvious exceptions are elm that can host the Dutch Elm Disease carrying bark beetle, and Cricket Bat Willow infected by Watermark Disease. In most other cases, destroying diseased trees is rarely successful in preventing the spread of the disease, and the removal of tree roots for example is not only extremely difficult but also highly destructive.

The management of standing and fallen deadwood habitat

Trees that are dying or have died standing should be left standing wherever it is safe to do so, or made safe without felling the main stem if possible.

Fallen deadwood should be left in situ if possible, except where it impedes access. Where it must be moved, stack it in safe piles in a shady moist environment.

Windblown trees provide extremely valuable habitat where the roots have lifted and exposed the soil. Some specimens should be retained.

Branch wood arising from felling work should ideally be left in piles, which can be reduced by repeated cutting. If this is impracticable, then burning or mechanical chipping may be options. Burning is best limited to discrete areas, but may provide some interesting micro-diversity. This must not be done in areas that could effect other environmentally valuable features such as veteran trees or floristically interesting areas. Mechanically chipped waste wood does not produce good deadwood habitat. If chipping is employed, leave some larger pieces of deadwood intact.

Leave fallen deadwood beneath hedgerow and in-field trees unless it obstructs other land use operations. However, there should be no cultivation, application of fertilisers and pesticides or over-grazing beneath the crowns of such trees; fallen dead wood can provide a useful barrier to such operations.

Old (Veteran or Ancient) trees contain dead wood both as dead branches and rotting wood within the trunk and major limbs. These form a particularly unique habitat, which may require specialist care

The creation of new deadwood habitat

Deadwood should ideally be provided where it builds upon any existing deadwood reserves, as many invertebrates are relatively immobile. Clusters of deadwood can be linked by ongoing addition.

Newly created deadwood in woods with little existing resource must be positioned in shade, some stacked in safe piles, close to internal open areas where flowering plants will provide food for adult invertebrates.

Smaller trees dying from over-shading should be left to become deadwood rather than being ‘tidied up’.

Larger volumes of standing deadwood can be created by ring barking to kill the selected tree. This can form an effective part of other activities such as thinning and removing unwanted species from a wood. A mixture

of tree sizes is desirable.

Where there is no in situ source of deadwood, it can be introduced from nearby sources (e.g. from ride widening, hedge laying).

How much deadwood?

Too much dead wood can impede access, be a fire risk, and change the characteristics of woodland to the detriment of other conservation interests, e.g. ground flora. Too little dead wood can result in a loss in biodiversity, particularly of invertebrates, fungi and lower plants, with a subsequent effect on birds and mammals.

The general prescription is that dead wood should be removed from sites of high floristic value is mentioned above. On all other sites the minimum standard suggested is that 5-10% of the average stand volume or $20m^3$ per hectare should be dead or contain significant decaying wood features. The following simple procedure can be used to assess this:

- Select a sample plot approx. 10m x 10m. The plot should be representative of the species mix in the compartment and a number of plots should be sampled depending on the size and complexity of the compartment/woodland.
- Count the total number of stems (**X**)
- Count the total number of dead stems or stems containing significant decaying wood features (**Y**)
- Y multiplied by 100, divided by X, should equal 5 or more
- Include fallen and standing dead and decaying timber >15cm diameter and trees containing significant decaying wood features.
- Ignore all dead/decaying wood <15cm diameter.
- The species of dead/decaying wood should be representative of the stand composition.
- Dead/decaying wood need not be evenly distributed across the compartment. A lack in one area may be compensated for by a surplus elsewhere.

For the purposes of assessing Woodland Management Grant, the Forestry Commission will expect applicants to adhere to the general principles of this note and to be seen to be working towards the minimum standard outlined above.

For those seeking Certification under the UK Woodland Assurance Standard, the suggested minimum target is $20m^3$ per hectare or 5-10% of the average standing volume

Further references

"*Life in the deadwood – a guide to managing deadwood in Forestry Commission forests*". Forestry Commission 2002. (Currently out of print, but available to download from the FC website www.forestry.gov.uk/publications)

"*There's Life in that Dead Wood*" Butler, J., Currie, F., and Kirby, K. Quarterly Journal of the Royal Forestry Society, Vol 96 No. April 2002

"*Dead wood matters: the ecology and conservation of saproxlyic invertebrates in Britain*", Kirby, K.J. and Drake, C.M. (eds) English Nature Science series No 7 1993

"*The conservation management of deadwood in forests*", Ferris-Kann, R., Lonsdale, D, and Winter, T. Research Information Note 241, Forestry Commission 1993

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Further Advice The EWGS website www.forestry.gov.uk/ewgs contains all the information needed to apply for grant support. If you do not have access to the internet, you can request any of the information from your local Forestry Commission office.

We recommend getting professional advice on woodland management and grants. A list of national and regional professional organisations is available at www.forestry.gov.uk/england-advice or from your local FC office.

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