

Ecological impacts of deer in woodland

This special issue of *Forestry* is devoted to papers exploring the range of impacts that deer may have on the ecology of woodland. The papers were presented at a 2-day meeting held by the Forest Ecology Group of the British Ecological Society in April 2000 at the University of East Anglia, Norwich, England. Most of the papers focused on the situation in lowland Britain but they have relevance to all geographical regions where deer populations are increasing. The first paper is an introduction to the issues involved and draws out some of the key points emerging from the main papers. Some of the deer species currently present in British woodland are shown in the photographs below, together with a variety of impacts on woodland vegetation in Britain.

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Plate 1. Reeves' muntjac deer (*Muntiacus reevesi*) – an adult male in May, starting to moult. This species is native to China and was first brought to Britain in the late 19th century. Muntjac deer are now widely established throughout much of southern and central England and are present at high densities in many different types of woodland. Photo: Norma Chapman.



Plate 2. Roe deer buck (*Capreolus capreolus*). Although native to Britain, the roe deer has increased substantially in range and numbers as a result of 19th century re-introductions into England. It is common and still increasing in many lowland English landscapes. Photo: Andrew Bennett.



Plate 3. Fallow deer buck (*Dama dama*). Probably introduced by the Normans, the species was initially kept in parks or special hunting areas. With the passage of time, free-living populations have become widespread in England. Photo: Norma Chapman.



Plate 4. Red deer stag (*Cervus elaphus*). A native species that was once characteristic of woodland throughout much of Britain. Whilst it has remained common in Scotland, local populations have become established in England as a result of re-introductions and escapes. Photo: Trevor Banham.



Plate 5. Wytham Woods, Oxfordshire, March 1981. The vigorous bramble (*Rubus fruticosus*) field layer was typical of the wood at that time. Numbers of fallow deer increased in Wytham Woods during the 1970s and 1980s with the consequence that bramble has been largely eliminated from the understorey (see papers in this issue by Kirby; Morecroft *et al.*; Perrins and Overall). Photo: Keith Kirby.



Plate 6. Wytham Woods, Oxfordshire, 1996. This view is typical of the vegetation structure now existing over a large part of Wytham Woods. In contrast to Plate 5 there is an absence of bramble and a browse line is evident. Photo: Mike Morecroft.



Plate 7. Monks Wood, Cambridgeshire, early 1990s. In the wood the coppice re-growth has failed as a result of browsing by muntjac deer (see paper in this issue by Cooke and Farrell). This view shows an extreme example of such an area and shows the total absence of any understorey. The observer is recording vegetation along a transect line marked by a tape measure. Photo: Arnie Cooke.



Plate 8. Electric fence, Monks Wood, Cambridgeshire, April 1989. Several methods have been used in the wood to reduce grazing pressure by muntjac deer including electric fences (see paper in this issue by Cooke and Farrell). Photo: P. Wakely. Photograph Copyright English Nature.



Plate 9. Roudsea Wood, Lancashire, November 1991. The effect of excluding roe deer is clearly shown. A dense field layer of bramble is only evident on the left of the photograph, within the deer fence. Photo: P. Wakely. Photograph Copyright English Nature.



Plate 10. Hales Wood, Essex, April 1991. In some actively coppiced woods in England, attempts are made to protect new coppice growth from deer by the construction of 'dead hedges'. An example is shown here beyond the recently cut coppice in the foreground. Building such temporary fences is labour-intensive and, even when well constructed, they only deter deer for the early years of coppice growth. Once the deer breach the fences they may still browse out the low growth beneath and between the growing coppice. Photo: P. Wakely. Photograph Copyright English Nature.

Plate 12. A woodland edge in Northamptonshire, March 1990. One of the factors that has probably helped to increase deer populations in lowland England is the widespread growing of winter cereal crops since the early 1970s. Muntjac, roe, red and fallow deer can all thrive in landscapes that consist of mosaics of woodland and farmland. Photo: P. Wakely. Photograph Copyright English Nature.



Plate 11. Mark Ash Wood, New Forest, Hampshire, October 1974. The ancient broadleaved stands of the New Forest have long been heavily grazed by large herbivores. The stands are virtually devoid of an understorey yet they retain considerable biological interest in their dead wood faunas and in their bird communities. Nonetheless many woodland species cannot survive in such heavily grazed woods and there is a need to understand how different grazing pressures affect biological communities in woodland (see paper in this issue by Fuller and Gill). Photo: P. Wakely. Photograph Copyright English Nature.

