

Title: Conservation of the Dormouse, *British Wildlife* 4, 1993

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Background to study

The dormice has been seldom studied due to difficulty in finding and capturing individuals and surveys based on field signs indicate that they occur in a wide variety of woodland types, often Hazel coppice, in overgrown hedgerows and some oak or beech woodlands. Their patchy distribution and decline justifies the need to gain information on dormice ecology to guide future conservation.

Method

- Review of 7 years of large scale research into dormice ecology to direct conservation efforts.

Key results

- Dormice live at low density (3-10 per ha), in good habitat and radio tracking revealed they are specialist feeders, requiring a succession of fruiting trees and shrubs and prefer pollen, flowers, fruits and nuts. Hazel nuts are particularly important fatty food prior to hibernation.
- Bramble and honeysuckle are valuable in providing flowers and fruits for long periods of time when other food sources are scarce. The bark of honeysuckle is also used to build nests.
- Dormice will supplement their diet with aphids and caterpillars at times of food scarcity.
- Dormice are arboreal, typically travel <70 m per night and need food resources within their range which are accessible via interconnecting branches as they seldom cross open ground.
- Coppicing on a long cycle (15-20 yrs) produces a well lit understorey and encourages tree diversity providing suitable dormice habitat. Shorter/ longer cycles are likely to be unsuitable.
- Tree holes are important nest sites and are may be utilised more than woven nests in shrub.
- Nest boxes provide a good substitute in habitats where tree holes are absent or rare, such as younger or coppice woodland. Nest boxes can result in local increases in dormouse density.
- Dormice are long lived (<5 yrs) and rarely produce more than 1 litter/yr in summer. Young remain with mother for 6-8 weeks. During bad weather and periods of food scarcity dormice enter torpor (<11 hrs/day) which can negatively affect reproductive output and reduce survival.
- Dormice enter (<6 month) hibernation after the first autumn frosts and initial research suggests hibernation is at ground level, in tightly woven nests sunken into a depression under wet moss.
- Loss of broad-leaved ancient woodland and overgrown hedgerows, a reduction in coppicing, an increase in plantation woodland, increasing isolation of extant habitat, grazing of woodlands and unpredictable variations in climate have all contributed to the loss of dormice in Britain.

Key messages to landowners and managers derived from these results

- Dormice require woodlands with a high diversity of trees and shrubs with a widely spreading interconnected understorey that is not heavily shaded by taller trees
- Maintain connectivity of canopy branches across rides will allow movement of dormice.
- Coppice woodland in small compartments using a long cutting cycle of 15-20 years.
- Nest boxes (>20), placed 1.5-2 m above ground are a useful method for monitoring dormice. They may in part help increase population density and increase survival.
- Exclude livestock from woodlands occupied by dormice as they may trample hibernating dormice in winter and damage the understorey during dormouse foraging season.

Key words/phrases

Dormice; *Muscardinus avellanarius*; England; habitat requirements; food resources; nest boxes ecology; decline