

Title: A review of the Dormouse (*Muscardinus avellanarius*) in England and a conservation programme to safeguard its future, *Hystrix*, 1995

Authors: PW Bright & PA Morris

Country: England

Background to Study:

Evidence suggests that dormice have undergone a reduction in abundance and distribution across the UK, however basic ecological information regarding the species is lacking, hindering the understanding behind the decline and the implementation of conservation measures to help prevent any further loss. Based on existing knowledge and pilot studies starting in 1986, this review was commissioned to establish what is known about the ecological requirements of dormice and the reasons for its decline to help direct a conservation programme to secure its future in the UK.

Method:

- Field studies were conducted using wire cage traps and nest boxes to obtain information on breeding and density in relation to woodland management.
- Radio tracking studies were conducted to establish how dormice exploit their habitats.
- Climatic data was used correlate species distribution and climatic conditions.

Key Results:

- Nest boxes are a valuable tool for monitoring dormice especially in coppiced woodland where few alternative secure nesting sites exist.
- Dormice rarely travel more than 100 m from their daytime nest and seem reluctant to cross open space suggesting they have poor dispersal ability.
- Male dormice exhibit territoriality during breeding and the home ranges of both males and females is relatively small (0.19-0.45 ha) compared to other woodland small mammals.
- Dormice are wholly arboreal spending >90% of their time >2 m above ground in spring and summer. This behaviour changes in autumn when activity is lower to exploit bramble and overwinter dormice usually hibernate in a woven nest above the ground.
- Dormice prefer diverse low growing woodland with horizontal branches, especially hazel coppice of 10-20 years old which provides plentiful nuts. The diversity, especially of shrub understorey is important in providing a seasonal succession of food which they will exploit.
- Bramble and honeysuckle are important resources for nesting and feeding and nest boxes located >5m from honeysuckle are less likely to be utilized by dormice.
- Dormouse populations appear to be more viable in woodlands over 20ha in size and increased fragmentation can reduce the occurrence of dormice.
- Dormice appear to survive best in the warmer and drier parts of Britain and when weather is poor the dormouse will frequently enter torpor in summer which compromises their breeding potential as this occurs during mid-summer. Late births often result in low juvenile survival.
- Unpredictable weather patterns are likely to affect dormouse populations deeming them susceptible the effects of climate change.

Key messages to landowners and managers derived from these results:

- Key sites where dormouse monitoring can be conducted using nest boxes (>50) need to be established as part of a National Dormouse Monitoring Scheme.
- Management of woodlands should involve thinning tall trees to encourage an un-shaded diverse understorey to develop. Coppice hazel in small patches on a long rotation (15-20 years).
- Grazing should be discouraged and arboreal access routes should be preserved to allow access to high canopy, facilitate movement across forest gaps such as rides.

- Maintain/create a good network of hedgerows that link dormouse habitat as these are likely to facilitate dispersal.
- Reintroductions offer potential but a period of acclimatization in cages is essential before release. Supplementary food should be provided and releases should be conducted early-late summer in respect of food availability and increasing the potential for released population to breed. Male releases should be done at least 100 m apart to account of territoriality.
- Captive bred dormice have potential for use in reintroduction programmes however they may exhibit reduced ranges and need to be supplemented with food to prevent starvation.

Key words/phrases

Dormice; *Muscardinus avellanarius*; England; conservation; National Dormouse Monitoring Scheme; habitat requirements; climate