

Title: An investigation on the occurrence of the hazel dormouse (*Muscardinus avellanarius*) in nest boxes within different habitats of Denge Wood, *MSc Dissertation, University of Greenwich, 2007*

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Background to study

Dormouse conservation is a priority in England, however issues arise when conservation has to account for multiple priority species which may not require the same management. This study looks at the suitability and utilisation of unconfirmed dormouse woodland which is currently managed for a protected species of butterfly, whose conservation requirements differ from the hazel dormouse.

Method

- 50 nest boxes were erected at 100 m intervals in a 420 ha ancient semi-natural woodland. The boxes encompassed a range of wooded habitat. Coppicing is carried out in areas on a 25-30 yr cycle in 2 ha blocks. The habitat is dissected by wide rides created for butterfly conservation, potentially restricting dormouse movement.
- Monthly box checks were carried out and captured individuals were weighed, sexed, aged, categorised as active or torpid, and their breeding condition determined.
- Habitat surveys were conducted <10 m radius of each box and split into ground, understorey and canopy recording % cover and density (DAFORN) of each species present; % bare ground and human disturbance. All components were valued for their suitability for dormice creating a Habitat Suitability Index (HSI) of areas across the study site to correlate with dormouse activity.
- Woodland patch size and connectivity were assessed using aerial satellite maps.
- Tawny owl pellets obtained monthly within one area were assessed for their content.
- Nut searches were conducted to investigate utilisation of woodland by dormice.

Key results

- 14 of 50 nest boxes were occupied by dormice of which 9 were situated on sweet chestnut trees. Nest boxes with a hole facing northerly were most frequently occupied.
- Dormice were first recorded using nest boxes from June (1) with a gradual increase in occupancy each month. Highest occupancy was recorded in September (n=16). The minimum number of dormice observed during the study was 17.
- A total of 22 of 66 plant species recorded were key species for dormice and HSI scores assigned to nest box areas showed the majority of occupied nest boxes were located in areas with near average or higher HSI scores. Some higher HSI scored areas were uninhabited by dormice.
- No evidence of dormice was recorded within the Tawny owl pellets.
- Woodland rides which isolate some areas within the study site did not affect the distribution of dormice but may be restricting movement across the site.

Key messages to landowners and managers derived from these results

- Nest box occupancy in year 1 of monitoring may show lower occupancy than commencing years.
- Woodland rides may not present barriers to dormice, however leaving some areas with interconnecting branches is recommended when managing for dormice and for butterflies.
- Denser and more diverse interconnecting understorey will increase the suitability of sites for dormice. Erect nestboxes in the most suitable localities to increase detection.

Key words/phrases

Dormice; *Muscardinus avellanarius*; Habitat Suitability Index; nest boxes; monitoring; owl pellets; nut hunts; butterfly conservation