

**Title:** Small-scale changes in the distribution of the dormouse *Muscardinus avellanarius* (Rodentia, Myoxidae) in relation to vegetation changes. *Mammalia*, 1996

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### **Background to study**

Dormice have a fragmented distribution in the southern part of Sweden and are often found in dense shrubs and thickets which are vulnerable to natural succession and management. Information on how dormice respond to small scale changes in habitat is required to ensure the future viability of fragmented populations.

### **Method**

- Nest survey of fragmented deciduous woodlands within 2000 ha area of southern most Sweden
- Nest searches were made up to 3 m and conducted in winters of 1977/78 and 1986/87.
- Data on nest carrying species of tree and shrub were obtained for each survey season (missing for 72 nests in 1978)
- 200 x 200 m grid squares placed over site map and number of nests in each cell was counted.
- For the 155 grid squares where nests were present the proportional cover (%) of shrub vegetation was estimated using aerial photographs and information from field notes and management plans.

### **Key results**

- A total of 331 and 486 nests were found in 1977/78 and 1986/87 respectively and their density per 4 ha grid square correlated with the proportion of shrub vegetation estimated per square.
- The mean number of nests per grid square did not vary significantly between survey years but the number of occupied grid squares increased from 1977/78 to 1986/87 as did the % shrub cover (12 and 15% respectively).
- Changes in the number of nests in each cell significantly correlated to changes in shrub cover. Decreasing shrub cover caused by natural succession to high canopy and clearance of forest edges was associated with lower nest numbers and increases in shrub cover through secondary growth with increases in nest numbers.

### **Key messages to landowners and managers derived from these results**

- Shrub layers provide important nest sites for dormice and care needs to be implemented when managing woodland edges and rides where dense shrub layers commonly establish.
- Dormice may be present in intermediate successional vegetation stages including abandoned fruit orchards, shrubby clearings and grazed areas and therefore these areas should be included as potential dormouse habitat when considering surveys and developments
- Rotational clear fell of woodlands provide temporary shrubby habitats through natural succession which can support dormouse populations. Managing rotations to ensure shrub habitat is connected and available as older shrub areas become unsuitable.

### **Key words/phrases**

Dormice; *Muscardinus avellanarius*; Sweden; nests; shrub; successional habitat; deciduous woodland; shrub