

Title: The Effects of Coppicing on Populations of the Common Dormouse (*Muscardinus avellanarius*) in Woodland on the Isle of Wight. *Proc. Isle of Wight Nat. Hist. Archaeol. Soc* 20, 2004

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Background to study

The common dormouse is traditionally associated with coppiced ancient woodland which provides a wide variety of shrub and tree species that meet the selective diet of the species. On the Isle of Wight dormice are a relatively common woodland species occurring within 69% of patches over 1 ha in extent. Coppicing has been reinstated for conservation and coppicing regimes may influence dormouse populations and as such is an important consideration for dormouse conservation.

Method

- Dormouse populations were monitored using nest boxes in 5 historically coppiced woodlands. Coppicing had been reinstated on a long rotation (16 yrs) at 4 of the 5 sites. Boxes were checked in July and October for six years (1996-2001). The effect of coppicing was investigated.
- Two further populations of dormice were monitored monthly between May and October for 3 years (1999-2001) within a commercial short rotation (8 yrs) (SRC) and conservation long term rotation (20 yrs (LRC)) woodland and the effect of coppice regime on dormice was investigated.
- At all sites, nest boxes were placed at 15 m intervals in a grid layout. Records of dormouse presence, number of individuals and young and other species were obtained.

Key results

- Nesting birds excluded dormice from nest boxes in spring, but once they had abandoned their nests after breeding dormice utilised the nest boxes and their abundance doubled. Other rodents and bat species using nestboxes excluded dormice for the duration of the summer.
- Nests were built in May at a rate of 1.2/ind across sites and by October this increased to 1.33 nests in the LRC wood and decreased in SRC to 0.85 nests. This may be attributable to higher recruitment (births) observed in LRC (10.8 / ha) compared with SRC (9.9 ind / ha)
- The home range size of male and female dormice was larger in the LRC (0.09 and 0.06 ha) than SRC (0.06 and 0.023 ha) and males in SRC used boxes more frequently than females.
- Overwinter survival was reduced during prolonged winters and based on spring occupancy, dormouse survival was higher in the LRC (2.6 ind / ha) than in SRC (1.3 ind / ha).
- Dormouse density was higher in coppiced sites (8.33 and 8.66 for LRC & SRC) than in the non-coppiced site (6.9 / ha). A similar trend was observed in average nest densities per site.
- Females emerging from hibernation were heavier than males overall and both increased their body mass by 30% by October. Adults lost weight in Aug/Sept however juveniles gained approximately 23% of their body weight during the same time and up until hibernation.

Key messages to landowners and managers derived from these results

- When conducting dormouse surveys in view of development, use replicated nest boxes and field sign surveys to account for false absences of dormice at sites where their use of nest boxes may be constrained by competition with other woodland dwelling species.
- Large woodlands that are coppiced on long rotations provide the most favourable conditions for dormice; however when woodlands are small and isolated new coppice will remove valuable habitat and potentially negatively affect resident dormice.

Key words/phrases

Dormice; *Muscardinus avellanarius*; coppice management; nest boxes; demographics; competition