

Title: Ranging and movement of the Common dormouse *Muscardinus avellanarius* in Lithuania. *Acta Theriologica*, 1997

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Background to study

Despite a large amount of literature on the biology of dormice, only a few studies have attempted to understand the range and movement of dormice in different habitats. There are subsequently gaps in the knowledge of how dormice, especially juveniles exploit their habitat which can be used to help direct their conservation.

Method

- Capture-mark-recapture study of dormice using nest boxes within 2 forests in Lithuania. Study sites equated to 22% and 17% of areas occupied by dormice at densities of 1-3 ind/ha and 0.7-2.4 ind/ha pre and post breeding. Both forests had hazel understorey and consisted of Norway spruce with other deciduous canopy species.
- Nest boxes were placed at 50 m intervals and at a density of 4/ha and were checked once a month from April-October and twice per month in May and September surveys were conducted annually from 1984 until 1993. Individuals were weighed, sexed and classed as adults if they had survived hibernation. All adults were marked with unique rings and juveniles with toe clips.

Key results

- Male home ranges were larger than females, 1 ha compared to 0.8 ha, as was the mean distance travelled between nest sites, 112 m compared to 72 m. Although infrequent, male home ranges shifted between years more frequently than females.
- Females remained sedentary during breeding, bearing litters in one nest box with second broods commonly reared in neighbouring nest boxes. Males travelled further between nest boxes and the furthest distance travelled was 500 m. Females travelled furthest after the breeding season, whereas males went beyond their normal range in May and during the breeding season.
- Home ranges of females seldom overlapped, whereas males frequently overlapped with other males and 2 or more females. Territoriality was observed in both sexes in spring. Juvenile winter home ranges overlapped with adults.
- Early litters travelled the furthest from their birth place (mean=363 m) compared to young born in August/September who travelled on average 127 m. Dispersal commonly lasted one month, after which most individuals became sedentary and 90% of young surviving the first winter were sedentary by autumn of their year of birth.
- Apparent overwinter survival was approximately 30% based on recaptures in spring.

Key messages to landowners and managers derived from these results

- The sedentary nature of dormice suggest that woodlands need to have high species diversity to provide adequate resources within small areas (<1 ha). Any disturbance to woodland should be avoided during breeding season (May-October) when movement of females is restricted.
- Dispersal corridors such as hedgerows should be managed overwinter to avoid disturbance between spring and autumn when juveniles are dispersing. Dispersal routes should be established and/or maintained between dormouse habitats to accommodate frequent dispersal exhibited by juveniles in search of vacant habitat.

Key words/phrases

Common dormouse; *Muscardinus avellanarius*; Lithuania; nest boxes; home range; movement

NB PTES does not condone the use of toe amputation or any methods of marking animals that would harm them in anyway.