

**Title:** Long-term common dormouse monitoring: effects of forest management on abundance.  
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### **Background to study**

The arboreal common dormouse is likely to be impacted by forest management practices. Historically, the replacement of semi-natural woods to conifer plantations and cessation of coppicing have influenced the decline of the species throughout much of its range. To determine the effect of different forest management activities on dormice, long term monitoring data proves fruitful.

### **Method**

- Common dormice occupying a managed mid aged woodland in Lithuania were monitored using 262-274 nest boxes between 1984 and 2006 (not inclusive). Nest boxes were erected at 50 m intervals (4/ha). 85 boxes were erected in one area (2001-2006) at 25 m intervals (16/ha).
- Nest box checks were conducted monthly/twice monthly between April and October over years.
- Captured dormice were marked with aluminium rings, their weight, sex and age (by weight and colouration) was determined. Dormice were classed as adults after surviving hibernation.
- The study site was mixed tree stands (birch, Norway spruce, black alder and oak with a hazel and glossy buckthorn varying understorey. Forest felling in large plots increased in intensity from 1990 and smaller areas were cleared of windfall tree clearance and hazel and ash were felled.

### **Key results**

- A total of 2,296 dormice were captured and marked over the study period and density remained relatively stable ranging from 0.6 to 1.4 ind/ha in spring and 1.9 to 4.3 ind/ha in autumn. Spring and autumn densities did not vary more than two-fold in two successive years.
- Population densities remained similar before and after felling intensity increased.
- Felling entire understorey reduced dormouse density to 0.1 ind/ha and no litters were recorded within the felled plot in the same year. Dormice density increased after, recovering by year 5.
- Felling young forest stands reduced dormouse density from 2.3 to 0.6 ind/ha and the number of litters recorded from 11 to 1. Movement of litters and young-of-the-year was recorded from felled plots to adjacent unfelled plots. Density continued to decrease 4 years after felling.
- Selective felling of trees did not negatively impact dormouse populations.
- Clear fell was unsuitable for dormice, however by year two 5 young-of-the-year were recorded utilising the site and after 5 years the site was re-occupied.
- Thinning of regrowth in clear fell areas had a negative impact of dormice.

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

- Selective felling of mature trees has the least impact on resident dormouse populations and is therefore recommended over clear fell where possible.
- Felling of understorey should be carried out in small compartments, on rotation, providing unfelled areas adjacent to felled sites for refuge until the site returns to a favourable condition.
- Clear fell areas should be kept small and managed on rotation with suitable habitat (>2 yr old stands and understorey) being available adjacent to clear fell plots.
- Thinning of overgrown clearings is not recommended.

### **Key words/phrases**

Dormice; *Muscardinus avellanarius*; forest management; felling; thinning; nest boxes