

**Title:** Animal translocation for conservation: performance of dormice in relation to release methods, origin and season, *Journal of Applied Ecology*, 1994

**Author:** PW Bright and PA Morris

**Country:** UK

### **Background to study**

The dormouse has become extinct over half of its range and due to limitations on dispersal ability (strictly arboreal), reintroductions have been proposed to help re-establish populations within their former distributional ranges. However most translocations are conducted without monitoring and information on the performance of translocation methods is crucial to inform on best practice.

### **Method**

- Wild caught and 1st generation captive bred adult dormice were released into isolated low growing woodland/scrub where a low density population was established.
- Animals released using three methods; Early hard release of 8 wild animals captured in nest boxes in May-June and released from nest box at donor site the same afternoon; Late hard release of 10 wild animals captured and released as above but in August-September; Soft release of 6 wild and 8 captive bred animals into pre-release pens for 8 nights.
- Dormice were fitted with radio collars and tracked post release for 10-20 days. Fixes were obtained every 40 minutes and tree species recorded. Nest sites were recorded each day. Animals were recaptured and repatriated after experiment.

### **Key results**

- The rate of body mass loss was significantly greater for early hard releases than late hard releases however weight was gained by both with supplementary feeding.
- Wild soft releases increased weight in comparison to dormice hard released at the same time and captive bred, but no wild soft released animals lost weight whilst in pre-release pens. Both were initially dependent on supplementary food and post release loss of body mass was small.
- Late hard released individuals used more nest sites, travelled a larger mean distance per night (292 m) and nested furthest away from their release boxes (<665 m) than other release types. Captive bred soft releases travelled the least (109 m) and both soft releases showed high site fidelity. All individuals increased distance from release sites with time.
- Dormice fed on common hawthorn and hazel and failed to utilize scarcer food sources, despite carrying abundant food at the time of release.
- Individuals in deep torpor and those that lost >20% of body weight were considered mortalities. Survival was estimated to be highest (100%) in wild soft releases and lowest in early hard releases (57%). Fatalities appeared to be due to starvation, apart from two males who showed signs of intra-specific competition.

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

- Early hard releases are not a suitable method for translocation as food shortages at this time increases weight loss and subsequent starvation.
- Hard release methods are likely to be unsuitable as individuals may disperse vast distances compromising the establishment of cohesive populations and their ability to obtain supplementary food post release.
- The condition of captive bred dormice may be compromised by the time of release. Supplementary food should be supplied and the availability of species rich habitat post release will be important to ensure food availability and account for release site fidelity.

- Soft releases with supplementary food and nest boxes appear to be the best method for translocations as animals can become conditioned to their environment. Releases should be mid-late summer and within habitats with high species diversity to account for release site fidelity, allowing exploitation of seasonally available food sources. Release pens for males should be 100 m apart to account for possible male territoriality.

**Key words/phrases**

Dormice; *Muscardinus avellanarius*; translocation; reintroduction; hard release; soft release; captive bred dormice; intra specific competition