

**Title:** Wilder Wych Dormouse Research Project: Chapter 4, Life Cycle and Survivability. *A Report to the Peoples Trust for Endangered Species, 2011*

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### **Background to study**

To re-establish dormice within their historical range, a Species Recovery Programme was initiated in 1996 to release captive bred dormice into suitable sites unlikely to be naturally recolonised due to the species poor dispersal ability. As part of this programme, 53 dormice were released into semi natural ancient woodland in the Wych Valley in 1996/7. The population has been monitored for 15 years providing data and the life cycle and survivability of encountered individuals has been studied.

### **Method**

- A total of 217 nestboxes were placed along irregular transect lines within the reintroduction site. Box checks were conducted once a month in May & June and September & October since 1997.
- Encountered individuals were weighed and sexed and any litters were recorded to measure breeding success. From 2005 healthy individuals weighing over 8 g were micro-chipped under anaesthetic and were used to assess overwinter survival and lifespan.
- Mean winter temperature and total annual rainfall data was obtained from a weather station 20 km from the site and was correlated to breeding success and overwinter survival.
- Vegetation variables including species composition, canopy connectivity and shrub density were recorded within a 10 m radius of each nestbox to determine breeding site preferences.
- A food availability index was calculated from walked transect data that recorded the abundance and fruitfulness of key shrub and tree species and was correlated to breeding success.

### **Key results**

- The maximum age recorded for dormice was three years and did not vary between sexes.
- The highest number of individuals surviving over winter was in 2006 and coincided with the warmest average winter temperature.
- Between 2007 and 2009 average winter temperatures showed a steep decline and coincided with a reduction in recaptures of individuals that had survived the winter.
- Mean autumn temperatures and autumn and winter rainfall showed a close relationship with the overwinter survival of dormice, with low rainfall and autumn temperatures reducing the number of individuals recaptured the following spring.
- There was no significant difference in the temperature or rainfall data across years.
- Breeding success varied across years and was significantly correlated to the winter average temperature for the preceding hibernation period
- Dormice showed a significant preference for breeding in nest boxes with lower surrounding shrub density. The annual number of litters did not correlate the the availability of food.

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

- Woodland management should enhance woodland diversity, extent and connectivity to ensure dormice populations remain large enough to withstand fluctuations in breeding success and overwinter survival which may be attributable to climatic conditions.

### **Key words/phrases**

Dormice; *Muscardinus avellanarius*; reintroductions; nest box; longevity; overwinter survival; micro-chips; climate