

Title: Distribution of the Dormouse *Muscardinus avellanarius* in Wales, on the edge of its range, *Mammal Review*, 1995

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Background to study

Wales is on the edge of the distributional range of dormice in Britain and records indicate a sparse distribution of the species within the country. This has been attributed to under-recording, ecological constraints including lack of species rich woodlands with scrub and coppice woodland management and climatic constraints of high rainfall and lower temperatures which are known to reduce activity and breeding success. However no countrywide surveys have been conducted to date and dormouse distribution, status and habitat occupancy is currently undetermined.

Methods

- Information on dormouse distribution and habitat occupancy in the last 15 years was collected using questionnaires to WCA licensees, the Wildlife Trusts and CCW staff. Information obtained included, locality, evidence type (field signs, sightings), habitat type and management, dominant tree species, grazing pressures and conservation status.
- Current presence/absence data was collected from a public participation nut hunt of 1-km square areas. Presence of dormice confirmed by presence of hazel nuts gnawed by dormice.
- Current population density obtained from nestbox monitoring sites
- Historic distribution obtained from records held by Biological Record Centres, Mammal Society and various publications

Key Results

- Historical records indicate a wide but possibly sporadic and patchy distribution of dormice in Wales at the turn of the century followed by a decline, particularly in north Wales up until 1990.
- Current distribution of 107 1-km squares including North Wales, Glamorgan and West Dyfed where records suggest they had previously been lost. Most common in south and eastern areas.
- 84% of occupied sites were in woodland (opposed to hedgerows or scrub) and included conifer plantations (36%) where dormice were reported occupying deciduous patches along rides and forest edges, and within oak (23%) and hazel (27%) dominated sites.
- 53% of occupied sites were considered threatened by inappropriate or lack of management, 40% were managed as commercial woodlands and 15% were currently managed by coppicing.
- Current distribution determined primarily by presence of gnawed hazel shells (79%) and other records were from sightings (nest boxes and cat predation) (19%) and presence of natural nests.
- Questionnaires provided the majority of data on current distribution (83%) and the Great Nut Hunt proved useful in obtaining the remaining 17% of records.
- Dormouse density at three sites was comparable to 27 sites in England and oak dominated sites were associated with lower dormouse densities.

Key messages to landowners and managers derived from these results

- The distribution of dormice in Wales is likely to be constrained by the availability of suitable habitat (small, commercial or inappropriately managed) and a wetter climate. The southern and eastern areas have the greatest potential for conservation effort due to more suitable climate and larger distribution of deciduous woodlands. Northern and western areas should however not be discounted as knowledge of actual distribution is incomplete.
- Hedgerows are likely to be an important in promoting dispersal between small woodlands which are unlikely to contain viable populations.

- Reinstating and initiating suitable management, particularly coppicing could be highly beneficial to maintaining extant populations and expanding the species distribution.
- Conifer dominated woodlands, particularly replanted ancient woodland sites are frequently occupied by dormice in Wales, indicating a) they should not be overlooked as potential sites; b) correct management, particularly of deciduous rides and forest edges needs to be determined to maintain viable populations and c) further studies on dormouse ecology in conifer dominated woodlands is required to determine appropriate conservation management of sites.
- Nut hunts are an effective method for assessing the presence of dormice.

Key words/phrases

Dormice; *Muscardinus avellanarius*; Wales; distribution; records; great nut hunt; hazel nuts; questionnaires; climate; hedgerows; conifer woodland