

Brown Hare (*Lepus europaeus*)



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The brown hare can be distinguished from the rabbit by its larger size and its tall and leggy appearance. It walks with a loping gait and runs with a well-developed stride. The large ears, which are longer than the rabbit's, have distinctive black tips and the tail a black upper surface.

The brown hare is not native to Britain but was introduced before the Roman invasion¹. It is a long-established mammal that has become characteristic of traditional mixed farming landscapes. It is mainly nocturnal. Partly for this reason, an element of mystery surrounds it and the hare has always featured strongly in myth and literature.

The brown hare is still relatively common and widespread in agricultural areas. However, game bag records indicate a fall in numbers of around 80% during the 20th century.

Main Habitat(s): Farmland (especially land managed for cereals, ley farming, upland pasture); hedgerows; woodland.

National status

Much of the decline in hare numbers has taken place since the 1960s. The rate of decline was 2% per year during the 1990s. Because of the significant decline in the population, it was identified in the UK BAP as a Priority Species. The 1991/2 National Hare Survey concluded

that the fall in numbers has been more pronounced in western, pastoral regions than in eastern arable farmland.

The hare receives limited legal protection through the Ground Game Act (1880) and Hare Protection Act (1911).

Regional status

Hares are still widespread in North West England but probably in decline throughout. There are no figures available for regional abundance but they appear to be most numerous in West Lancashire and the Fylde.

Local status

Good information exists on distribution but the lack of systematically collected data make assessment of the population size difficult. However, a marked decline has certainly occurred throughout the county. In less favourable areas, such as east Lancashire, this appears to have happened in the 1970's and early 1980's. Hares may now be completely absent in some areas. In the more suitable lowland plain, a population fall appears to have taken place later, in around the late 1980s, or even early 1990s in the case of the Fylde.

Local strongholds for the brown hare appear to be around west Lancashire and the former mosses of the Lancashire coastal plain. To a lesser degree, the upland pasture fringe of the Forest of Bowland also seems to be important.

Current factors affecting the species

Intensification of farming has resulted in decreased crop diversity, larger fields and the loss of headlands and hedgerows, all of which have had negative impacts on hare populations. Crop diversity is important to hares because their nutritional requirements vary according to the season and so they move between crop types. Hedgerows are important daytime lying up sites, particularly for leverets.

The shift from hay to silage cutting and the use of faster silage cutters throughout the year has increased direct brown hare mortality.

In arable areas, the change from winter to spring sown cereals can result in a shortage of food during the breeding season. In pastoral areas dense stocking rates may cause similar food shortages.

Synthetic herbicides (e.g. paraquat) have been shown to cause hare deaths. The herbicide is ingested either by direct consumption of treated vegetation or through grooming contaminated fur.

The numbers of brown hares taken as part of organised game shoots or legal coursing will be significant in some areas and could be monitored through gamekeeping records. Less easy to quantify would be the impact of shooting by farmers for pest control purposes. Poaching and illegal coursing are another source of pressure on hare populations but, by their nature, are even harder to measure.

In some marginal areas road casualties can be a locally significant cause of hare mortality.

As far as natural factors are concerned, the effects of poor weather (particularly in the spring), predation and disease are significant factors controlling hare populations.

There is heavy predation of leverets especially by foxes. The rise in fox numbers, particularly around urban areas probably has affected hare numbers, as has the reduction in the number of gamekeepers to control fox numbers in the countryside.

Grass sickness (or European Brown Hare Syndrome) is a disease most prevalent in the autumn but its impact on Lancashire populations is unknown.

Current Action / Mechanisms

National Hare Surveys were conducted in 1991/2 and 1998/99. Results from Lancashire were included in the final reports. Records of hares are kept by the Wildlife Trust, and Museums at Fleetwood, Liverpool, Bolton and Towneley Hall, Burnley.

In 1999/2000 the Wildlife Trust and English Nature ran a public 'postcard survey' that encouraged people to report hare sightings.

Countryside Stewardship may be available to landowners to implement habitat measures that would benefit brown hares.

The UK BAP proposes a target to double spring numbers of hare by 2010, but the population size in Lancashire is not known with any degree of certainty

Objectives, targets and proposed actions for brown hare in Lancashire

Broad Objective:	A. Establish baseline information on brown hare abundance and distribution throughout the hare's current range in the county.			
Operational Objective	Action Required (Priority)	Partners	Time-scale	Type
1. Establish a centralised brown hare database to be used to enable assessment of population changes.	1. Collate hare data for Lancashire from National Hare Surveys, game bags and public sightings (recorded on 'biodiversity postcards'). (High)	Fleetwood Museum, GC, WT	S	RM
	2. Identify and map 'hare hotspots' and any corridors linking areas of high hare density. (High)	LCC, Museums, GC, WT	M	RM
2. Obtain estimates of relative abundance in different parts of the county and assess overall population size	1. Design survey methodology and forms for volunteer survey. (High)	Fleetwood Museum, GC, WT	S	RM
	2. Train a network of volunteer surveyors to carry out surveys. (High)	WT, Museums	M	RM

for Lancashire as a whole.	3. Co-ordinate systematic surveys. (High)	WT, Museums	M	RM
	4. Collate results and produce final countywide report by end of 2003. (High)	Fleetwood Museum, GC, WT	M	RM
	5. Update hare database accordingly. (High)	Fleetwood Museum, GC, WT	L	RM
3. Encourage the public to send in informal records.	1. Organise training days and interpretative walks focusing on hares. (Medium)	WT, Museums,GC, LAs	M	RM
	2. Repeat postcard survey in 2001. (Medium)	WT	S	RM
	3. Introduce and publicise internet-based means of record submission in 2001. (Medium)	WT	S	RM, PR
	4. Disseminate results of formal surveys through press releases, internet, etc. (Medium)	WT	M	RM
4. Before end of 2005 assess results and formulate realistic targets by which to increase hare numbers in the county.	1. Use hare database to determine population densities in all parts of the county to identify those areas to be prioritised for hare conservation effort. (High)	LCC, Fleetwood Museum, GC, WT	L	RM
Broad Objective:	B. Ensure that brown hares are present in good numbers throughout their 1970s range by 2015.			
Operational Objective	Action Required (Priority)	Partners	Time-scale	Type
1. Identify 1970s range	1. Investigate old records of brown hare to establish range in 1970. (Medium)	LCC, WT	M	RM

2. Seek to secure sympathetic management of habitat for brown hares.	1. Liaise with landowners and land managers to achieve positive habitat management where populations are known to exist / have recently existed. (Medium)	BHSP, FWAG	O	A, LM
	2. Include brown hares and their habitats in agri-environmental schemes and agency grants. (Medium)	MAFF	M	P
	3. Promote uptake of appropriate agri-environmental schemes. (Medium)	MAFF, BHSP, FWAG	O	A, PR
	4. Promote best practice to land managers on aspects of land management affecting brown hares (e.g. advise on grass cutting regimes that avoid breeding season, pesticide use, etc.). (Medium).	MAFF, BHSP, FWAG	O	A, PR
	5. In the brown hare database (see A.1.1) include details of advice given and grants applied for by land managers for brown hares. (Medium)	WT, GC	O	RM
3. Safeguard hare 'hot spots' from loss or fragmentation due to development and other threats.	1. Use maps of hare 'hot spots' (see A.1.2) to assess development proposals for potential to adversely affect hare populations. (Low)	LCC, LAs	O	SS
	2. Consider new BHS guidelines to allow sites that are important for brown hares to be designated as Biological Heritage Sites. (Low)	BHS P/ship, LCC, WT, LAs	L	SS
Broad Objective:	C. Encourage research into aspects of brown hare ecology relevant to its conservation in Lancashire.			
Operational	Action Required	Partners	Time-scale	Type

Objective	(Priority)			
1. Determine relative importance of factors affecting hare numbers in the county.	1. Seek funding and instigate research into the impact on hares of different farming systems, hare coursing, pesticides, disease and fox predation. (Low)	HE/FE	L	RM
2. Assist national surveys and studies.	1. If required, contribute data to proposed study of "the relative economic importance of brown hares as a game species or pest to assist farmers make informed choices about hare management" (UK BAP brown hare SAP). (Low)	Museums,WT, GC, LAs	L	RM
	2. Encourage participation in future National Hare Surveys. (Low)	Museums,WT, GC, LAs	L	RM
Broad Objective:	D. Promote the brown hare as a flagship species in the Lancashire BAP			
Operational Objective	Action Required (Priority)	Partners	Time-scale	Type
1. Promote the brown hare as a 'flagship' species to highlight the importance of mixed farming for biodiversity.	1. Work with community-based groups to raise awareness of brown hare conservation issues amongst the general public and landowners. (Medium)	WT, FWAG, land-owners, land managers	O	PR
	2. Encourage public participation in surveys and monitoring. (See A2 above). (Medium)	WT	S	PR
	3. Include information about the brown hare in press releases, newsletters and leaflets. (Low)	WT	O	PR

Related Action Plans:

- Skylark SAP
- Arable farmland HAP;

- Species-rich neutral grassland HAP.

The Game Conservancy Trust has published a leaflet called 'Conserving the Brown Hare'. The leaflet can be viewed online at www.gct.org.uk/brownhare and aims to provide information for farmers, landowners and local biodiversity groups.

References & additional reading:

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Date: April 2001.