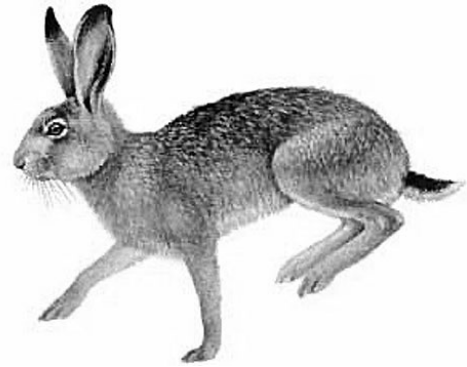


H a r e s

The Brown Hare has undergone the second largest decline of British mammals in recent years.



Ecology

Two species of hare occur in Greater Manchester Brown Hare (*Lepus europeus*) and Mountain Hare (*Lepus timidus*).

Brown Hare

Brown Hares are generally found in farmland areas, where they live entirely above ground. They are larger than rabbits, with longer limbs, and black-tipped ears that are equal in length to the head. The tail is held down when running, showing its black upper surface. Their fur is often described as being a “warm-coloured brown” with orange–yellow fur on the face, throat and flanks. It is believed that the Romans introduced them to Britain. They are mainly nocturnal, foraging at dusk and dawn. They require extensive areas of open grassland and are typically associated with agricultural land including semi-natural grasslands, pasture and spring-sown arable. Their main food is tender grass

shoots, including cereal crops. They require tall vegetation as cover particularly during the breeding season

Breeding takes place between February and September. Females can rear three to four litters a year. Foxes are the main predators, especially of young. Adult hares normally live between 3 and 4 years.

Mountain Hare

Mountain Hares are indigenous to Britain, although those in Greater Manchester are descendants from animals released in Victoria time for hunting. In Britain they are associated with heather moorland. They are smaller than Brown Hares with a more rounded shape and shorter ears and legs. In summer, they have a grey/black coat, and in winter they are partly or completely white.

Like brown hares, they are mostly active at night and largely live above ground, although they sometimes make burrows in the earth or snow. Although they can feed on woody plants such as heather, they prefer to eat grasses, especially during the summer months.



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Breeding takes place from the end of January onwards with young generally being born between March and July. Females produce between one and four litters a year.

Current status and distribution

Hares generally have little legal protection. Brown hares are afforded limited legal protection under the Ground Game Act (1880) and the Hare Protection Act (1911) and the sale of animals is prohibited between March and July (inclusive). Hare coursing was banned under the Hunting Act (2004).

Both species of hare are UK Biodiversity Priority Species. Mountain Hare is listed on Annex V of the EC Habitats Directive (1992) as a species “community interest whose taking in the wild and exploitation may be subject to management measures”.

Brown Hare

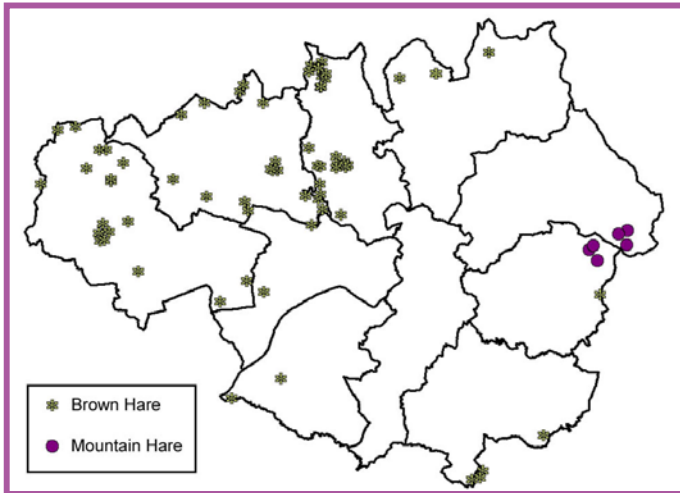
Brown Hare was listed in the original UK Biodiversity Action Plan Priority Species, as it appeared to have undergone a substantial decline in numbers since the early 1960's. The current population range of brown hares in the UK is thought to be 1604 occupied 10km squares, with 1,022 of these squares being in England.

In Greater Manchester the current population size and range is unknown. Existing records are limited and so the distribution is unclear. According to the North West Biodiversity Audit, brown hare is found in all districts of Greater Manchester. The distribution map of records held by the Greater Manchester Ecology Unit (GMEU) show brown hare in eight of the ten districts but they are also believed to occur in the other two.

Mountain Hare

Mountain Hare was added to the list of UK Biodiversity Priority Species in 2007, as there is a perceived population decline that is likely to continue with increased impacts of climate change on fragile upland habitats. Population densities fluctuate periodically

reaching a peak approximately every 10 years, making assessing the current population trends difficult. The current population for Scotland and England is thought to be around 360,000.



Distribution of Brown and Mountain Hares in Greater Manchester

In Greater Manchester, Mountain Hares are found on the moorland on the eastern side of the county and are part of the Peak District population. The population within the entire Peak District is estimated to be 10,000. The proportion of this population that occurs in Greater Manchester is unknown. Records held by GMEU suggest that they are found in Tameside and Oldham.

Factors affecting the species

Brown Hare

The causes of the decline in Brown Hare numbers are unclear, although it is felt that the most probable cause is agricultural

intensification. It is not clear, however, if this is linked to changes in food, cover or an increased vulnerability to predation. Disease may also play a part in the decline.

Mountain Hare

Nationally, particularly in parts of Scotland, numbers of mountain hares have declined due to changes to grouse moors as they either become afforested or the heather has been removed by excessive grazing. Disease and habitat fragmentation may also be factors and there is concern that the hybridisation with brown hares recorded in northern Europe may be occurring in the UK. In some areas they are also seen as pests.

Evidence from the Peak District appears to suggest that the population is stable, although road deaths are believed to be an additional negative influence on hare numbers.

Current actions

- ◆ [The Hare Conservation and Recording project](#) was set up as a joint project between Lancashire, Greater Manchester and North Merseyside. To provide a central place to record sightings and provide information about brown hare.

Objectives and targets

Brown Hare

The revised UK targets for Brown Hares are:

- ◆ Maintain current range of brown hare in the UK (Occupied 10 km squares in England = 1,022)
- ◆ Increase the population size of brown hare to double the 1995 level by 2010.

Mountain Hare

No national targets for Mountain Hare have been produced as yet.

Given the lack of baseline information on the populations of Brown Hare and Mountain Hare in Greater Manchester, the targets are the same for both species:

Objective	Quantity	Target Date
Establish the current distribution, range and population of Brown Hares and Mountain Hares in Greater Manchester	Target units to be number of occupied squares and the densities of occupied squares.	2010
Maintain the baseline populations.	As identified above.	2015

Once a baseline has been established, these targets will be reviewed.

Proposed actions

Working with neighbouring LBAP partnerships:

- ◆ Collate existing records of mountain and brown hare records. [GMEU. 2009](#)
- ◆ Co-ordinate survey of all suitable 1km of Greater Manchester (see appendix 1 for

survey protocol). [GMBP, WT's, LA's, GCT, GMEU. 2011](#)

- ◆ Publicise and encourage the submission of causal hare records through the brown hare website www.brownhare.org.uk. All. Ongoing

- ◆ Promote and encourage management of land through entry and higher-level stewardships, to favour hares. [FWAG](#), [NE](#). [Ongoing](#)

Lead Partners

FWAG	The Farming & Wildlife Advisory Group
GCT	The Game Conservancy Trust
GMBP	Greater Manchester Biodiversity Project
GMEU	Greater Manchester Ecology Unit
LA's	Local Authorities
NE	Natural England
WT's	Wildlife Trusts

Best practice guidelines

Ideal farmland for Brown Hares should have a mixture of arable and grassland fields with some woodland. In Greater Manchester arable land is largely restricted to Wigan. In these areas grazing can be a limiting factor on hare numbers. Best practise therefore includes:

- ◆ Large areas of cereal should be broken up as much as possible
- ◆ Provide mown grass strips away from hedgerows for summer grazing.
- ◆ Planting game crops for pheasants or wild bird crops will also provide cover and food.

For livestock farms best practice measures include:

- ◆ Providing some areas of uncut and ungrazed grass to provide cover for leverets (young hares)
- ◆ When making silage, cut the field from the centre outwards, rather than from the outside in, allowing hares to escape.
- ◆ Leave some fields without livestock in the autumn and winter.

Generally a mixed landscape of open fields, hedgerows, uncut grass and small woodland will benefit brown hares.

The use of herbicides such as Paraquat should be avoided as it kills hares.



Brown Hare © Steve Young

Further information about managing land for Brown Hare can be found here:

[Preserving the Brown Hare](#): A practical guide for farmers, landowners and local biodiversity

action plan groups. The Game Conservancy Trust

Links to relevant BAP's

Farmland Birds
Grasslands
Hedgerows
Twite
Upland
Native Woodlands

References

Mammal Society – Fact Sheet: The Brown Hare
(http://www.abdn.ac.uk/mammal/brown_hare.shtml)

Mammal Society – Fact Sheet: The Mountain Hare
(http://www.abdn.ac.uk/mammal/mountain_hare.shtml)

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MacDonald, D. and Burnham, D. (2007) *The State of Britain's Mammals 2007*. Mammal Trust UK

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Acknowledgements

Thanks to Steve Young for supplying the brown hare photograph. Thank you also to John Fielding for the use of the mountain hare photograph under the Creative Commons Licence. The illustration is copyright free clipart taken from www.freeclipartnow.com.

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APPENDIX 1 – SURVEY METHODOLOGY**1KM SQUARE SURVEY**

This survey involves walking a transect within selected 1km squares. The method is derived from that used in the national survey (Hutchings & Harris, 1996), but there are some important differences; for example fieldwork for the national survey was undertaken in winter but this survey takes place in spring (March-May).

A route should be selected through the square that allows views of the majority of the land. This transect route should be marked on a map. If possible the transect should follow linear features such as hedgerow, footpaths, roads and riverbanks. The transect should be walked and the location and numbers of any hares seen marked on the map. If the transect route includes walking along the same path twice, only record the hares seen on the outward journey. The habitat where hares are seen should be recorded using Phase 1 habitat types.

Surveys should:

- ◆ Be undertaken in good weather conditions (i.e. not wet or windy conditions or where visibility is less than 200m).

- ◆ Be undertaken during the three hours after dawn or the three hours before dusk (ideally between 6-9am or 4-7pm).
- ◆ Take approximately 2 hours.

For more details see <http://www.brownhare.org.uk/>