



# Mountain hare newsletter

## Scottish Mountain Hare Survey 2006/07

In 2007 the Game & Wildlife Conservation Trust, in partnership with the Macaulay Institute and Scottish Natural Heritage (SNH), along with the support of the Scottish Gamekeeper's Association, carried out a postal survey to determine the distribution of mountain hares within Scotland and assess the numbers harvested in 2006/07. We were delighted with the overwhelming response and as a result we were able to produce a comprehensive report on the distribution of Scotland's mountain hares as commissioned by SNH<sup>4</sup>.

This newsletter outlines the main findings of the survey. Thank you for the information you all provided. Without your help, and that of many others, it would simply not have been possible to undertake this survey. Your information has enabled us to produce the first in-depth distribution map for mountain hares across Scotland, which can now be used as a benchmark to monitor mountain hare distribution in the future. This is particularly important as the mountain hare is now a Biodiversity Action Plan (BAP) species so more attention will be paid to its management and status. It also allowed us to compare the distribution and level of harvest of mountain hares, with the smaller-scale survey performed in 1995/96<sup>5</sup>, providing scientists and policy makers with up-to-date information on any recent changes.

### Congratulations

Mr C D Espie is the winner of an original mountain hare watercolour study by wildlife and sporting artist, Ashley Boon. Mr T J A Laing and Mr R J Wotherspoon, have each won a bottle of 10 year old Famous Grouse Malt Whisky.

Our thanks to Ashley Boon and the Edrington Group who very kindly provided these raffle prizes.

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*Mountain hare (left and top left). © Scott Newey*



# The results

The total area surveyed for mountain hares was 71,098km<sup>2</sup>, equivalent to 90% of the total area of Scotland. Of this area, mountain hares were present on 34,359km<sup>2</sup> (48%) and absent from 36,739km<sup>2</sup> (52%). See Figure 1.

We were particularly interested in how distribution might have changed since the 1995/96 survey. Of the 20,462 km<sup>2</sup> surveyed in both 2006/07 and 1995/96, (26% of the total area of Scotland) mountain hares were consistently seen in 59% of the area and were consistently absent in 21%. Of the remaining area, mountain hares were present in 10% of the area in 1995/96, but not 2006/07, and present in 9% in 2006/07 but not in 1995/96. This suggests that there has been no net gain or loss in distribution in the area surveyed in both 1995/96 and 2006/07. It should be noted, however, that it is not possible to assess whether mountain hare distribution has changed outwith this area. Frustratingly we cannot comment on mountain hare abundance as both studies focused on distribution rather than the number of mountain hares across Scotland.

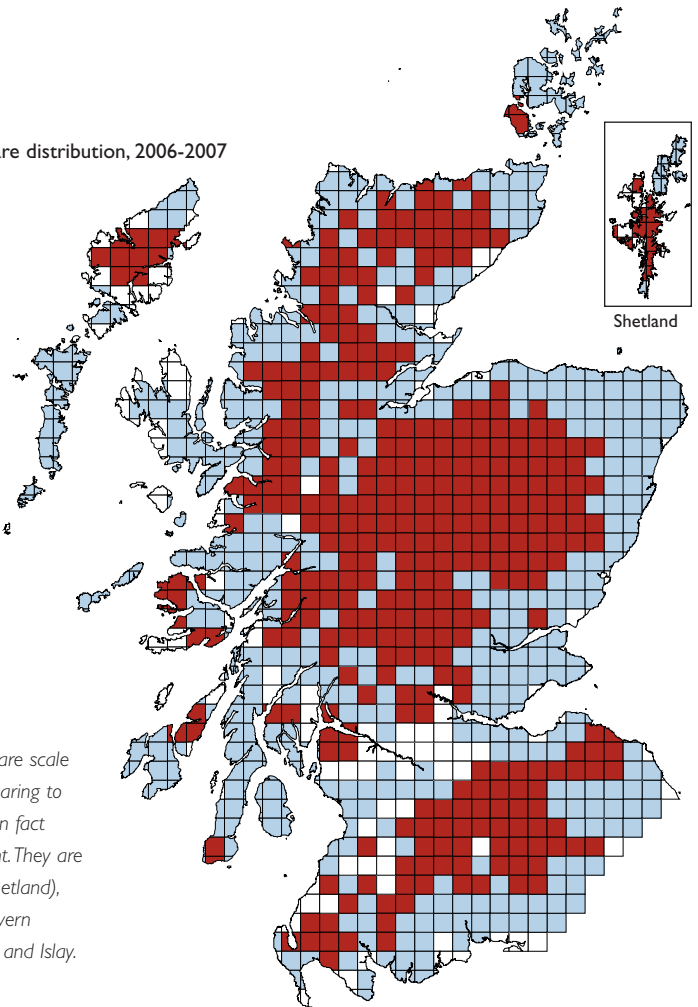
It is widely accepted that mountain hares are closely associated with grouse moors as the management of heather moorland for red grouse also benefits mountain hares<sup>2</sup>. We therefore compared the intensity of management of the estates surveyed in 2006/07 with the total area of mountain hare presence on those estates. The estates were divided into three management groups: those that undertake extensive heather management and predator control (driven grouse moors); those that undertake a lesser degree of heather management and predator control (walked-up grouse moors) and those that perform minor (if any) management (no grouse interest). This comparison showed that on average, mountain hares were reported on 64% of the area of driven grouse moors, compared with just 9% of walked-up grouse moors,

**Figure 1** Mountain hare distribution, 2006-2007

- Mountain hares present
- Mountain hares absent
- Not surveyed

Each square is 10x10 kilometres.

The use of a 10x10-km square scale resulted in some areas appearing to have mountain hares when in fact they were reported as absent. They are (from north to south) Yell (Shetland), Mainland (Orkney), the Morvern peninsula (adjacent to Mull) and Islay.



with mountain hares essentially absent from estates which had no grouse interest.

The survey found that 24,529 mountain hares were taken in 2006/07 across 90 estates which represent 7% of the 350,000 mountain hares estimated as the UK population in 1995<sup>1</sup>; it is recognised that this population estimate may be either over estimated or under estimated by up to 50% owing to the limited data available for the species and that the majority (99%) is in Scotland. The majority (50%) of the mountain hares taken were for the purposes of tick control, followed by sport (40%) and crop/forestry protection (10%). The main reason for taking mountain hares has changed over the last 11 years, as in 1995/96 the majority (60%) were taken for

sport. The number of mountain hares taken in 2006/07 was 32% more than in 1995/96 over the same area; however, we don't know the size of the population this harvest was taken from and there was no evidence that this level of harvest had reduced the distribution of mountain hares in this area.

We believe that this survey should be repeated periodically to monitor the mountain hare distribution within Scotland. Additionally, future research should focus on measures of abundance which are required to track any changes in the size of their population.

**If you would like to read the full report it can be downloaded from the Scottish Natural Heritage website at: [www.snh.gov.uk/pubs/detail.asp?id=968](http://www.snh.gov.uk/pubs/detail.asp?id=968)**

## References:

1. Harris S, Morris P, Wray S & Yalden D (1995). A review of British mammals: population estimates and conservation status of British mammals other than cetaceans. *Joint Nature Conservation Committee*, Peterborough. 176pp.
2. Hewson R (1984). Mountain hare *Lepus timidus* bags and moor management. *Journal of Zoology*, 204, 563-565.
3. Hudson P J (1992). *Grouse in space and time: The population biology of a managed gamebird*. Game Conservancy Ltd, Fordingbridge. 244pp.
4. Kinrade V, Ewald J, Smith A, Newey S, Iason G, Thirgood S & Raynor R (2008). The distribution of mountain hare *Lepus timidus* in Scotland (2006/07). Scottish Natural Heritage Commissioned Report No. 278 (ROAME No. R07AC308) 58pp.
5. Tapper S (1996). *Distribution and level of take of native mountain hares Lepus timidus*. A report by The Game Conservancy Trust under contract to the Joint Nature Conservation Committee. Contract: F76-01-23.