

Managing heather to benefit nesting merlin

A best practice note for land managers





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Merlin are the smallest British falcon. They were returned to the UK Red-list for Birds of Conservation Concern in 2015, because their recovery from earlier decline had stalled. The last British survey in 2008 estimated 1,128 breeding pairs in Great Britain, 301 of them in England. This was 13% less than in the previous survey in 1993/94, with notable declines having occurred in Northumbria, South Pennines, North York Moors and South-West England. Merlin are protected under Schedule 1 of the Wildlife and Countryside Act 1981. In England, four moorland blocks have been designated as Special Protection Areas with merlin as a qualifying feature (North Pennine Moors, North York Moors, South Pennine Moors, and the Bowland Fells), an area covering 2,280km².

Almost 80% of merlin breeding in northern England do so on grouse moors, where gamekeepers manage the heather and legally control predators such as foxes, stoats, and crows to produce surpluses of red grouse for shooting. By virtue of their small size and by nesting on the ground, merlin can be susceptible to predators and thereby can benefit from predator management on grouse moors. Heather, until recently, was managed by burning patches on a 8-20 year rotation to promote new growth for feeding red grouse. Burning now tends to have been replaced by cutting, especially over deep peat. Some taller, older heather is retained for grouse to provide both nesting cover and concealment from foraging raptors and it is in these patches that merlin also prefer to nest.

What did we study?

We studied merlin nesting requirements on moorland in the North Pennines, Yorkshire Dales, and the North York Moors. At nests, we measured heather height and the size of the heather patch containing the nest develop this advisory note in consultation with local raptor workers and moorland managers.

Where do merlin nest?

Merlin nest on the ground concealed within heather. Taller heather (35cm or higher) was preferred by three-quarters of pairs observed (Figure 1). Merlin nested from 220 to 670m above sea level, and even at the upper end of this range, where heather growth was suppressed by colder temperatures and exposure to winds, they nested in the tallest heather available.

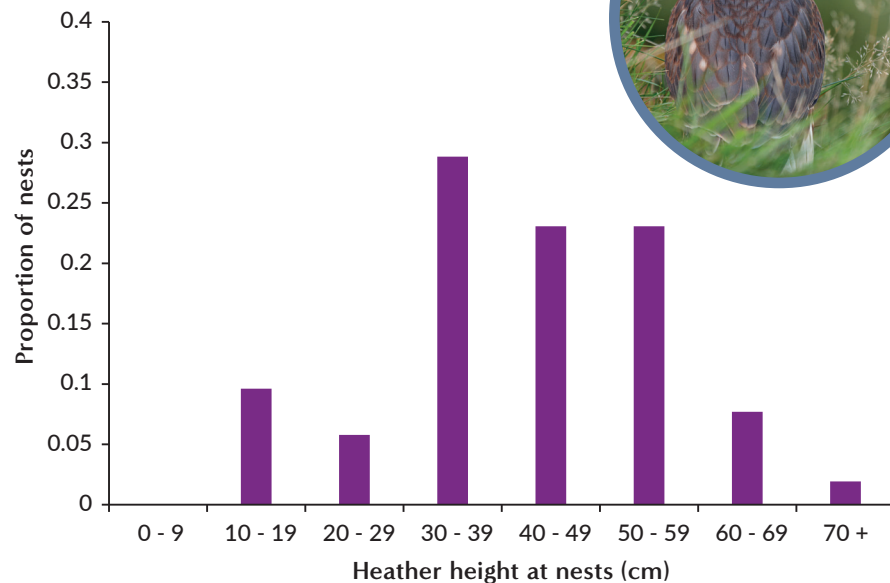


FIGURE 1
Heather height at 52 merlin nests in northern England.

How big does a heather patch need to be?

Overall, 83% of nests were in patches of tall heather that were less than 0.3ha (Figure 2), equivalent to a 30 x 100m strip. The smallest patches used for successful nesting were only 0.0004ha or a patch of 2 x 2m.

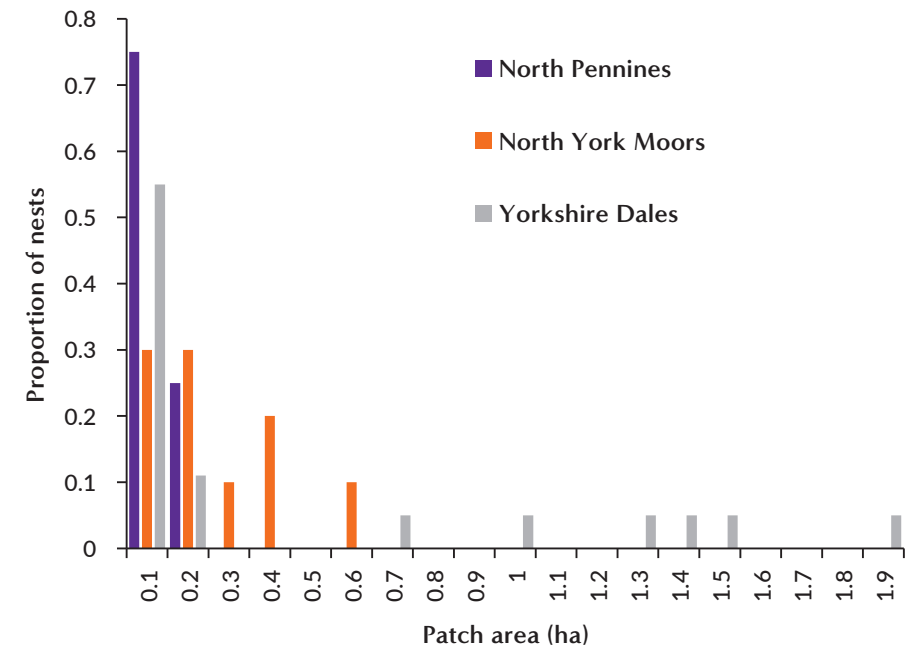


FIGURE 2
The size of heather patches 52 merlin nests were located in northern England.

Do pairs return to nest at the same site each year?

Having spent the winter foraging in coastal areas and lowland grasslands, merlin return to breed in favoured moorland territories each spring. Males tend to be more site faithful than females, but the actual heather patch used for nesting can vary between years within an established territory. Most foraging occurs within 1-km of the nest, an area approximating to 300ha, which corresponds to their territory. Within these breeding territories, which are typically 70% heather, multiple patches of suitable tall heather, each up to 0.4ha in size, should be retained to provide a choice of nest sites. It is essential that surveyors licenced to visit and monitor merlin nests inform moorland managers of nest locations each year to ensure that sufficient nesting patches are retained, both within that territory and the wider landscape.

Where should tall heather patches for merlin be provided?

Suitable patches of tall heather should be provided both within currently occupied territories and those occupied within the past ten years. Merlin often nest on the upper slopes of moorland, thus suitable heather patches should be provided in these areas.

How much tall heather needs to be provided?

In our study, territories occupied by merlin had an average of 13% heather taller than 35cm. DEFRA's Heather and Grass Burning Code (2007) recommends that 10% heather taller than 40cm is sufficient for ground-nesting raptors such as merlin and hen harrier.

Can heather patches previously used for nesting now be managed?

Heather is in dynamic states of growth, meaning that as some stands degenerate and create a more open canopy with less cover, they can become less attractive for nesting. This is compensated by building phases of heather growing and maturing to provide new nest sites. Thus, some degenerative heather stands can be burned or cut as other stands mature. These newly managed stands of shorter heather provide breeding sites for moorland waders of conservation concern such as curlew and golden plover. It is important that tall heather is managed at a similar rate to which other stands mature in order to retain sufficient tall patches to provide a choice of nest sites in each territory.

How do I determine if merlin are nesting?

It is an offence under the Wildlife & Countryside Act to intentionally disturb nesting merlin. Visits to nests for monitoring and chick ringing purposes require a disturbance licence from the British Trust for Ornithology. Many regions of northern England have merlin study groups, whose members are licenced to visit nests. Close liaison between these groups and land managers is essential not only for access, but also for minimising disturbance and information sharing.

Summary

Grouse moors can be important breeding sites for merlin. When providing merlin nesting habitat:

- Retain 10% of heather taller than 35cm within multiple patches up to 0.4ha in size within current and recently occupied breeding territories (300ha), which is equivalent to 30ha per territory. Ensure that a good proportion of these are on the upper slopes of moorland.



Contact points for further information

Merlin Magic Project

www.gwct.org.uk/merlinmagic

Licensing

www.bto.org/our-science/projects/bird-ringing-scheme/taking-part/protected-birds/england-s1

Raptor Study Groups

Further details of raptor study groups operating can be found at:
<https://raptorforum.wordpress.com>

Heather & Grass Burning Code

www.uplandsmanagement.co.uk/best-practice-guides



Green Recovery Challenge Fund



The
National Lottery
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