

## Winter hen harrier research

Research for the Hawk and Owl Trust has shed new light on the origins of hen harriers wintering in Southern England.



Ecologist Andrew Dobson's findings for his PhD thesis challenge the commonly held theory that most are winter migrants from the Continent. His research over three years indicates that the majority are actually British, from breeding populations in Scotland and Northern England.

The hypothesis has several implications for conservation. Scientists will need to research new explanations for the fluctuations in numbers of the species overwintering in the South.

"Previously we were looking at factors like the changes in vole populations in Scandinavia," Andy says. "But if most of the wintering birds don't breed in Scandinavia we need to look at different processes affecting winter numbers. We need to keep looking to find the links between the breeding population and the wintering one."

He argues that his conclusions also point to the need for further research into the wintering populations and a change in the way environmentalists regard them. "The hen harrier is currently regarded as a bird of upland heather moors, where it is a charismatic species for birdwatchers and individuals with no economic or sporting interest in red grouse.

"If the profile of the hen harrier in its lowland wintering grounds could be raised to similar levels, the species could act as a 'flagship' to attract attention and funding for arable habitat."

At present, protection for the wintering population is sparse because their foraging range is so widespread. Wintering hen harriers, it is thought, hunt up to 20km from their roosts, foraging over vast acreages of arable farmland. Their main prey - farmland birds such as skylarks and pipits - are widespread, giving harriers an immense range to exploit, which is challenging for conservationists to protect.

Since the 1980s there has been an apparent decline in wintering populations, but it is not possible to be conclusive because the birds may simply have switched to new, unidentified roosts. The appearance of a decline may simply reflect a decline in the overall surveying effort.

Previous research focused on breeding hen harriers and this means that there is a gulf between our knowledge of their breeding and wintering ecologies. However, if the majority of birds wintering in Britain are also the birds which will go on to breed in the UK, their status in winter is equally important.

Identifying roosts is one pointer to locating the winter species, but locating them is a challenge. Andy found suitable conditions for roosting to be widespread. Climate and topography are more important than the type of vegetation, he concluded. "Temperature and rainfall affect roosting; harriers strongly avoid the coldest and wettest conditions."

And while the dominant vegetation of known roosts tends to be reeds or heather, he concludes that any appropriate ground shelter could be used for a roost, provided it is sufficiently thick and noisy to offer protection from predators.

More research is needed, especially into the reasons why male and female populations tend to winter in different places. Males are more frequent in the South West, while ringtails (females or immatures) dominate South East populations. Possibly climate is a factor, with smaller males less tolerant of cold than larger females, or perhaps the larger females behave in some way that puts males at a foraging disadvantage.

Do males favour the 'dwarf scrub heath' vegetation more common in the South West, or are they found in such vegetation because they have been forced out of other habitats, Andy asks.

*Andrew Dobson's research was supervised by Professor Michèle Clarke at Nottingham University. The study was initiated on behalf of the Hawk and Owl Trust by Dr Rob Davies and the late Dr Roger Clarke, a greatly-missed world authority on harriers. Thanks go to the National Birds of Prey Trust for funding towards Andy's travel expenses and equipment, and to Esri-UK for GIS-mapping software.*

see also

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