

Hunting habitat selection by hen harriers on moorland: implications for conservation management.

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ABSTRACT

We examine habitat use by hunting hen harriers *Circus cyaneus* at three study sites in Scotland to evaluate whether foraging patterns differ between sexes, sites, and stages of the breeding period. We modelled time spent hunting in focal plots as a function of habitat and nest proximity. Male hunting intensity (time spent hunting per hour of observation and km²) varied between sites and breeding periods, being lower during the nestling than the incubation period. Habitat use patterns were mostly consistent among study sites, which is important for developing species management recommendations applicable over the species' range. Males avoided improved grassland, and selected areas of mixed heather and rough grass (with an optimum at ca. 50% heather cover). The effect of nest proximity was small. In contrast, females hunted mainly within 300–500 m of the nest, with a small additive effect of vegetation cover, areas of fragmented heather being preferred. Habitat management to benefit foraging harriers will involve creating (or maintaining) mosaics of heather/grassland around nest areas. Additionally, it might be possible to manipulate habitat to reduce conflict in areas where harrier predation on red grouse is important by segregating areas holding highest grouse densities (with high heather cover) from those favoured for harrier foraging (heather–grass mosaics). However, it would be necessary to test whether these manipulations might also influence harrier nest distribution, an effect which could negate any benefits from this strategy.

Citation

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