Changes in breeding success and abundance of ground-nesting moorland birds in relation to the experimental deployment of legal predator control

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ABSTRACT

1. An 8-year-field experiment on moorland in northern England manipulated the abundance of legally controllable predators whilst maintaining consistent habitat conditions. Subsequent changes in both the breeding success and abundance of five ground-nesting bird species were monitored: lapwing *Vanellus vanellus*, golden plover *Pluvialis apricaria*, curlew *Numenius arquata*, red grouse *Lagopus lagopus scoticus* and meadow pipit *Anthus pratensis* and the abundance only of snipe *Gallinago gallinago* and skylark *Alauda arvensis*.
2. Control of fox *Vulpes vulpes*, carrion crow *Corvus corone*, stoat *Mustela ermina* and weasel *Mustela nivalis* reduced the abundance of fox (-43%) and crow (-78%); no changes were detected in already low stoat or weasel abundances.
3. Reductions in foxes and crows led to an average threefold increase in breeding success of lapwing, golden plover, curlew, red grouse and meadow pipit.
4. Predator control led to subsequent increases in breeding numbers (≥14%per annum) of lapwing, curlew, golden plover and red grouse, all of which declined in the absence of predator control (≥17%per annum).
5. *Synthesis and applications*. Controlling predators is a potentially important management tool for conserving a range of threatened species. Considerable sums of public monies are currently spent on habitat improvement for conservation and some of these public funds should be used to underpin habitat works with predator removal.

Citation

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