

Disturbance during this period resulted in the attraction of other birds to the site, producing overestimates of population size. Counts after fledging gave very reduced census efficiencies, because birds quickly dispersed from the breeding grounds. Fuller (1981) found counts during this period impossible largely as a result of a large influx of presumed continental birds to his study area.

The results of this study show that only occasionally was the visit efficiency close to 100% (it is often well above or below). Multiple visits during the breeding season merely added to the confusion. We suggest that the following procedure will give the most reliable estimates of breeding pairs, assuming that exhaustive nest searching is out of the question. Two or three visits should be made to the site at weekly intervals during the latter half of the incubating period (when attendant adults are most likely to be present) and over the hatching period (when birds from elsewhere are less likely to be attracted). We found that during this period very few "additional" birds were present. The maximum number obtained in the counts should then be used as a basis on which to assess the population. From our data for this period, the two maximum counts (of 51 birds each) were very close to our estimated population of 25 pairs. Two or three counts during this period might also overcome, in part, the problem of overlooking birds whose nesting attempt had failed, though the presence of these repeat clutches, and late breeders, will always give some inaccuracy.

If only one visit is possible, then counts of incubating adults should be attempted. This should be carried out from a distance to cause minimal disturbance to birds. This may be possible in many areas, as vegetative growth is unlikely to be so advanced at this time as to obscure incubating birds. However, on undulating ground accurate counts of sitting birds are probably not feasible. Workers on the Outer Hebrides (Fuller *et al.* 1983) also suggested counting Lapwings by this method, but the method was not verified because their survey was made in June, after most eggs had hatched.

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REQUEST FOR INFORMATION

Bar-tailed Godwits with colour marks

In the spring of 1984 the Vrije Universiteit of Amsterdam (Netherlands) started a research programme on Bar-tailed Godwits *Limosa lapponica* in the Dutch Wadden Sea. The aim of this research is to investigate a supposed correlation between spring condition and subsequent breeding success. The spring condition is measured as the increase in body weight, whilst breeding success is estimated as the percentage of juveniles against adults in the autumn.

In spring, March-May, very large numbers of Bar-tailed Godwits gather in the Wadden Sea for pre-breeding moult and fat deposition. However, we do not yet know from which wintering areas these birds come, or when the birds pass through. To examine this, birds caught in the successive catching periods have been marked differently. Several combinations of single and multi-coloured flags below the tarsus were used. Birds may carry one flag only on the right leg or one on the left leg and one on the right leg. The colours of these flags can be red, blue, or green and yellow horizontal stripes with or without a red or blue tip.

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In the autumn a group of birds pass through the Wadden Sea rapidly without moulting. Many of these presumably move on to Southern Morocco and Mauritania, since rapid passage of adults in breeding plumage is also evident on the northern Moroccan coast. A group of birds staying in the Wadden Sea move to Great Britain after moulting. This implies that birds from different wintering areas might have different moulting strategies. It is also known that males moult earlier than females. Therefore information on the plumage state and sex (females are noticeably bigger than males) are invaluable for our study.

Anyone who sees a colour marked Bar-tailed Godwit, is kindly asked to report the sighting to the WSG Colour-marking Register, Department of Zoology, University of Durham, South Road, Durham DH1 3LE, U.K., giving full details on the combination of the flags, date, place, sex, plumage and if possible the size of the flock in which the marked bird was seen.

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