

The behaviour of the Pink-footed Goose on its Icelandic breeding grounds

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A study was conducted from May to August 1973 on the behaviour of the Pink-footed Goose *Anser brachyrhynchus* on its breeding grounds in Thjorsarver, Central Iceland. The activity and position of every goose of 21 nesting pairs within a previously gridded area was recorded every 30 minutes between 05.00 and 22.00 hrs. Continuous records of behaviour were made for 10 minutes per nest every hour for 10 pairs. The data enable detailed analyses to be made upon social interactions within and between nesting pairs.

The behaviour of families on the feeding grounds was studied by recording distance between adults, distance to next family and

the activities of both adults and goslings, in relation to family size and the stage of moult. Continuous taped records were made of the behaviour of 210 families. The bout lengths of various behaviours and also feeding rates were thus calculated. The results indicate the way in which the geese balance a conflict of needs between parental investment (i.e. time spent in alert behaviour to protect goslings from predators and to minimize competition for food between families) and feeding efficiency (the adults need to regrow primaries before migration and the females have to regain weight lost during incubation).

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Flocking and vigilance in geese

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The project is aimed at identifying some of the factors involved in the formation and maintenance of flocks of two species of geese over-wintering in Britain. Earlier short-term studies had determined that, in the European White-fronted Goose *Anser a. albifrons*, associating in flocks of more than 250–300 birds was advantageous because it reduced the time that individuals spent alert to a minimum, and thus increased the available feeding time.

The present study was to determine the precise division of the 'vigilance burden' in winter flocks—with particular reference to family parties of geese. In addition investigations into the effects of local density of birds around individuals are being conducted

to ascertain whether alert behaviour is modified under differing conditions of crowding.

For the 1975–1976 season the focus of attention shifted from Whitefronts to the population of Barnacle Geese *Branta leucopsis* which breed in Svalbard and over-winter on the Solway Firth. As discrete population they are amenable to study, particularly as more than 400 of the flock of 6,000 are carrying large plastic rings bearing a three-letter code. These rings allow individual identification, at distances of up to 300 metres in good light, enabling the objective classification of age and sex, and facilitating the determination of age structure of goose flocks.

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