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A study of the winter movements of the Dark-bellied Brent Goose

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Since January 1973, Dark-bellied Brent Geese *Branta bernicla bernicla* have been caught and marked with plastic lettered rings, permitting individual identification at 300 m. Catches were made in six different estuaries, and by March 1975, 817 geese, or more than 1% of the sub-species (population about 75,000 in 1974–1975) had been marked. 3,350 re-sightings of 578 individuals have been made in estuaries in south-east England, and on the North Sea coasts of the Netherlands and West Germany. These sightings have provided information on the winter movements of individual geese and the pattern of estuary use of the population.

There are large numbers of Brent Geese in Europe, south of the Baltic, for seven months each year. In October the first large flocks arrive in England at Foulness Island, Essex, and the population there reaches a peak in November/December. As more birds move south-west, those at Foulness disperse to estuaries between the Wash and Western

France. These 'late winter areas' then hold the majority of the world population and the numbers of geese there remain relatively stable for much of January, February and March. There follows a spring movement north-east to the Netherlands and West Germany, where marked individuals have been observed to stay for one and a half months before migrating to their breeding grounds in Siberia.

Information collected in 1974–1975 suggests that during mild winters the second-year birds return in proportionately greater numbers than adults to their areas of ringing. Research on the marked birds is continuing, to study the changes in flock composition, the traditional use of wintering areas, and the behaviour of families. The population is now at its highest level since the major decline caused by the loss of *Zostera* in the 1930s. This is reflected in the increasing level of inland feeding, first observed on a large scale in 1973–1974.

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