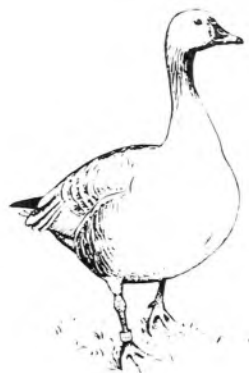


**Wildfowl & Wetlands Trust**  
**Pink-footed Goose *Anser***  
***brachyrhynchus* Project: a**  
**report on the first three seasons**

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FLETCHER and J.V.N. TURNER



The Pink-footed Geese *Anser brachyrhynchus* which winter in Britain represent the whole of the population breeding in Iceland and Greenland (Boyd 1970, Owen *et al.* 1986). Another group, numbering some 30,000 birds, breeds in Svalbard and winters in Denmark and the Low Countries and is considered separate (Madsen 1984).

Annual censuses carried out by The Wildfowl & Wetlands Trust show that Pink-footed Geese wintering in Britain have shown a sustained increase over the last 25–30 years. The total count increased from 48,000 to 186,000 between 1960 and 1988. A full analysis of the expansion and changes in patterns of breeding success and mortality has been completed (Fox *et al.* in press), from which it became clear that there are several gaps in our understanding of the population dynamics of the geese. In particular, we know very little about the site loyalty of Pinkfeet: we know that Greenland White-fronted Geese *Anser albifrons flavirostris* are extremely faithful to their wintering grounds, returning to the same fields year after year (Wilson *et al.* in press), but recapture and recovery information from Pinkfeet caught in the 1950s suggest that they tend to move around and do not necessarily return to the same winter quarters. The count information also suggested that part of the reason for the increase in Pinkfoot numbers was a decline in mortality. This we can only show by ringing geese and analysing recovery data. While our count information is very good for the period 1960 to the present, the only ringing information available comes from 1951–59 when The Wildfowl Trust ringed large numbers of Pinkfeet both in Iceland and Britain.

For these reasons, in the late 1980s it was decided that a marking programme was essential to study the Pinkfoot on its British wintering grounds, to examine site inter-

change and to generate mortality estimates independent of those derived from the count information.

A total of 602 geese have been caught since the first catch in January 1987 (Table 1), 538 in Britain at The Trust Centre at Martin Mere, Lancashire; 43 in northeast Iceland during an expedition there in summer 1987 and 21 in Hold With Hope, northeast Greenland during summer 1988.

All Martin Mere birds have been caught using cannon-nets fired over the birds whilst feeding on waste potatoes. Geese were fitted with a standard BTO ring on one leg and a white plastic darvic ring bearing a unique three letter code on the other. Birds were caught in Iceland during the moult period or before goslings were able to fly, the geese being rounded up on nursery areas and fitted with standard metal Reykjavik Museum rings and white plastic rings as per the British-caught geese. The Greenland birds were also rounded up whilst flightless and marked with Copenhagen Museum rings and with orange darvic leg rings, again bearing three letter codes.

The plastic rings can be read in the field and the project has already generated large numbers of resightings as well as recoveries of birds from feeding and wintering areas. This report briefly summarises the information received to date.

## **Results**

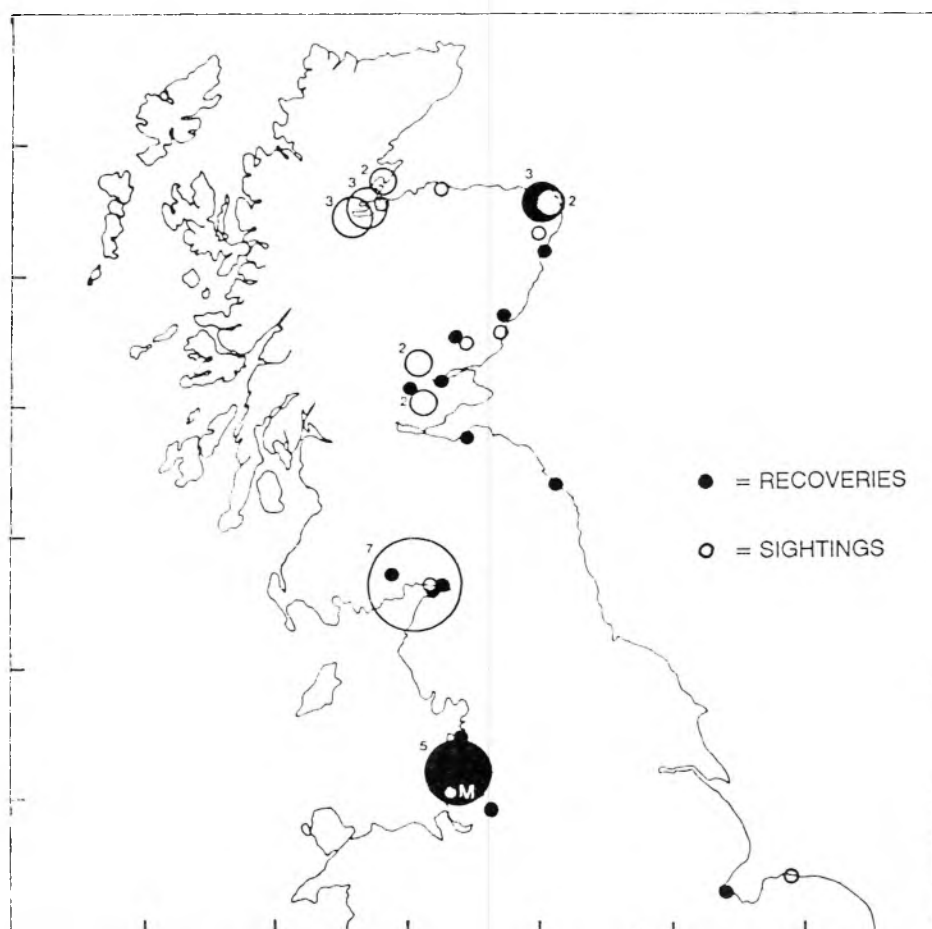
A full breakdown of catches is given in Table 1, whilst a plot of resightings and recoveries is shown in Figure 1.

### *Winter 1986–87*

The catch on 31 January 1987 was the first of Pink-footed Geese for over 28 years, and 114 birds were caught. Perhaps the most

**Table 1.** Capture, resighting and recovery information from Pink-footed Geese ringed by The Wildfowl & Wetlands Trust, 1987–89.

		Birds marked <i>n</i>	Birds resighted <i>n</i>	Birds recovered <i>n</i>	Total recoveries and resightings <i>n</i>
MARTIN MERE	January 1987	114	43(38%)	6(5%)	89
	April 1987	45	29(64%)	4(9%)	50
ICELAND	July 1987	43	2 (5%)	1(2%)	3
MARTIN MERE	February/March 1988	148	83(56%)	5(2%)	153
GREENLAND	July 1988	21	1	1(5%)	1
LOCH LEVEN	October 1988	2	0	0	0
MARTIN MERE	November 1988	163	34(21%)	8(5%)	51
	April 1989	68	10(15%)	0	10

**Figure 1.** Distribution of ringing recoveries and resightings of Pink-footed Geese captured and marked at Martin Mere 1987–89 (M).

interesting recovery from the first batch of ringed birds involved a goose which was shot at Gyggjarholt, south-central Iceland in May 1987. This is an area which we found in spring 1989 being used by birds as a staging area before moving into the hinterlands to nest in the Thjorsaver area of the central Iceland desert. Two recoveries were from the south Lancashire area, whilst two more were from Scotland (Aberdeen and Lothians) during October 1988 and October 1987 respectively, when birds may have been on migration towards their ultimate wintering site. The last recovery came from Central Region in February 1989, a bird which had not been resighted after its initial capture. Many of the geese caught in January have become firm favourites at Martin Mere, with 27 sightings of ACI, AIB and AIF, all of which have remained in Martin Mere/Marshside area throughout each winter and, until at least February 1989, giving important information on site use around the Martin Mere reserve.

Forty-five geese were caught on 3 April 1987 and this catch remains remarkable for the high proportion of resighted birds compared with the catch earlier in the year. This is especially so since only 55% of resighted birds were seen in Lancashire, compared with 77% amongst the January catch. Again, resightings suggest a clear pattern of staging further north in Britain, with October/November or March/April records from Dumfries (at the Trust's reserve at Caerlaverock, 4 birds), Inverness (2), Ross-shire (1), Tayside (1 in November 1988 of a bird subsequently recovered in Tayside one month later), Aberdeen (1) and Northumberland (1). The long suspected link between the Lancashire geese and the flock in the Wash/North Norfolk area was confirmed by a goose ringed in April 1987, resighted at Martin Mere in December 1987 but which subsequently moved to spend the mid-winter period at the Holkham National Nature Reserve in North Norfolk. In 1988–89, there were two ringed birds amongst the Holkham flock, although sadly it proved impossible to read the rings concerned. Also of interest were the movements of ALD which was seen on the Solway in October 1987 and March 1988, and was back at Martin Mere in November 1988.

Of considerable interest is the sighting of ALC in spring 1989. A male ringed at Martin Mere on 3 April 1987, ALC was

seen the next winter on 2 and 3 January 1988 at Crossens Marsh, Ribble Estuary, Lancashire. We have just learned from Jesper Madsen at the Game Biology Station, Rønne, Denmark that ALC has been seen on the west coast of Denmark. On 17 April 1989 it was reported from Vest Stadil Fjord and was seen two weeks later at Nissum Fjord, 20 km to the north, on two occasions. Paired to an unringed female, ALC will almost certainly migrate with Svalbard breeding birds which winter in Denmark and the Low Countries. This is the first positive sighting of a Martin Mere ringed Pinkfoot in continental Europe – one bird had been reported as shot in the Netherlands, though this bird may have been shot in Britain and sold abroad.

#### *Summer 1987*

The catch of 43 Pinkfeet in northeast Iceland was the first catch of birds in this area and has been described elsewhere (see Fox *et al.* 1987). The numbers of records generated was disappointing, with a single bird seen at Caerlaverock in the autumn of 1987, one shot on the Ribble in January 1988 and one bird resighted at Martin Mere in early October 1987.

#### *Winter 1987–88*

Thirteen geese were caught on 21 February and a further 144 captured at Martin Mere on 4 March. These catches have generated many interesting resightings. In particular, the large numbers within Lancashire during the winter of 1988–89 have given tremendous insight into feeding ranges of Pinkfeet within that wintering group. Some individuals have been seen through both subsequent winters at Martin Mere, but use Burscough Moss and Halsall as feeding areas during the course of the winter in response to local feeding conditions. One local recovery from Lancashire complements three from Aberdeenshire, and AZP which was seen on the north side of the Solway near Annan in December 1988 was recovered on the Cumbrian side of the estuary in February 1989. The link between the Solway and the Lancashire area is again confirmed by the movements of AZS which remained at Martin Mere in early April but was seen at Caerlaverock on 12 April. Two geese from these catches were also seen in south-central Iceland during May 1989.

*Summer 1988*

During the successful 1988 summer expedition to Hold With Hope, northeast Greenland, a further 21 Pinkfeet were captured in moult and ringed. These carry orange darvic leg-rings, but apart from one sighting of a bird 6 km west of Perth in November 1988, there have been no live sightings of these birds. Another bird from this catch had been shot very close to this site a few days earlier.

*Winter 1988–89*

Two Pinkfeet were caught by the Tay Ringing Group at Loch Leven in October 1988, but there have been no subsequent resightings. Not surprisingly, the birds ringed this winter at Martin Mere have resulted in the lowest resighting rates, with little time elapsed since birds were marked. However, there has been a relatively high rate of recoveries, with nine (out of 164 caught over two weekends) reported by the end of May 1989. Four were shot in the south Lancashire area and one in Cheshire, but most interesting were recoveries of birds in Tayside, Dumfries and Lincolnshire during December 1988. Further resightings of two geese in Central Region confirm that many of the geese present at Martin Mere during November 1988 were staging before moving northwards to Scotland and eastern England for part of the winter. Such a movement had not been suspected before and is of considerable interest. It is hoped to arrange more catches early in the winter to monitor this phenomenon in future years. The most recent catch was of late stragglers at Martin Mere on 30 April 1989, with 68 newly ringed birds and one retrap. Because of the presence of a research team in Iceland during spring 1989, 29 of the birds caught were marked with yellow picric dye on the undertail coverts to aid identification of ringed geese in the field. However, none

of these was subsequently resighted away from Martin Mere where many of the birds remained until their mass departure on 2 May.

*Spring 1989*

Analysis shows that breeding success of Pink-footed Geese seems to correlate well with weather conditions in spring on the wintering grounds and nesting areas when the geese arrive. A mild spring in Scotland means good grass growth and fitter geese leaving Britain; a late spring in Iceland means later first egg-laying dates and generally poorer breeding success. To look at just how Pinkfeet respond to the weather conditions, a small team travelled from Slimbridge to study the geese in south Iceland during 1989. Detailed studies of feeding behaviour, distribution and abundance were carried out in what turned out to be one of the poorest springs since 1942. The main breeding area of Thjorsarver was still covered in snow on 9 May, well after the date when the first clutches are normally started. Only six leg rings were seen out of many thousands of legs scrutinised, and of these five were read successfully. Some 19,000 geese were located in the southern uplands during early May, and the low proportion of resightings partly reflects the small proportion of geese which carry rings. This confirms the need for continued marking of Pinkfeet to enable us to learn more about this fascinating population. More birds will be caught and marked this coming winter and as ever we rely on birdwatchers and counters to supply resighting information. Any information about marked birds is extremely valuable, even if it is not possible to read the letter combinations engraved on the rings. In particular, flock size, whether the bird is paired or has young are important, along with date, time and location.

*Although the project has been a great success to date, its continued effectiveness depends on the considerable efforts of many people who have put so much into the study of Pinkfeet. In particular, we must thank members of the Southwest Lancashire Ringing Group for catching the geese at Martin Mere. Thanks also to the staff at Martin Mere, especially Dr J. Kear who has supported the work so enthusiastically, to C. Tomlinson and A. Wooldridge for helping to set up the catches and for putting their magical thumbs to work (a thankless task at the best of times) and to regulars such as C. Liggett, P. Bullen, D. Watson and D. Lambert (our good*

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