



## NATIONAL WILDFOWL COUNTS

### SPRING COUNTS OF PINK-FOOTED AND GREYLAG GEESE IN BRITAIN, 1988

D.G.Salmon, The Wildfowl Trust, Slimbridge, Gloucester, GL2 7BT.

#### SUMMARY

Surveys of wintering Pink-footed and Greylag Geese were held in Britain in March and April 1988. Totals of 85,800 and 114,600 Pinkfeet were found in the respective months, and 52,100 and 19,500 Greylags. These compare with totals of 172,000 Pinkfeet and 105,000 Greylags in November 1987, the birds being much less dispersed and easier to locate at that time of year. By April both species had a much more northerly distribution than in November, but it is considered that most Greylags had already returned to Iceland. Twenty-six concentrations of at least 1,000 Pinkfeet were found in one month or other, and 18 of 1,000 or more Greylags. Observations were also collected for the remainder of the spring, providing data on the timing and route of return migration. Changes in feeding habits during the season were noted. Suggestions are made regarding future spring survey work.

#### INTRODUCTION

The standard monthly wildfowl counts, organised by the Wildfowl Trust under contract to the Nature Conservancy Council, cannot adequately cover certain species of swans and geese which feed by day well away from water bodies. Special surveys of these species are therefore undertaken, combining counts of birds on fields and flighting into and out of roosts. Pink-footed and Greylag Geese have been surveyed in this way each November since 1960, and also in March from 1961 to 1967 and from 1982 to 1986. The need to monitor changing distribution and to identify areas of particular importance during return passage prompted the organisation in 1988 of spring counts of Pinkfeet and Greylags in both March and, for the first time, April. The feral and native populations of Greylags were omitted, except where the former overlap with the wintering population in Galloway.

The November 1987 counts had found 172,000 Pinkfeet and 105,000 Greylags, the latter figure considered to be much lower than the true population level (Salmon 1988).

## METHODS

The set dates for the counts were the weekends of 12th/13th March and 16th/17th April. They were carried out by the same network of volunteer observers as in the November Pinkfoot and Greylag surveys, in turn based on the monthly wildfowl count teams. Previous March surveys of Pinkfeet and Greylags have found many fewer birds than in November, because both species are much more widely dispersed and therefore harder to locate at that time. Casual records in the past have shown that in April, in particular, concentrations can occur in many places not favoured earlier in the season. The usual week-long tour of Scotland filling in likely gaps in the coverage was therefore undertaken in April, but not in March, Dr M.A.Ogilvie and DGS visiting areas of eastern Scotland where counters were lacking. To gauge an idea of the numbers and distribution of the geese after the mid-April count, and to increase the data on the timing and pattern of migration, counters were asked to send in any observations in the remainder of the spring. A similar request was made to the branches of the Scottish Ornithologists' Club, a batch of forms being sent to each. An appeal for sightings was also made to the general public, via the Wildfowl Trust's media contacts in Scotland. The recording forms for the set counts requested, in addition to the raw survey data, comments and sketch-maps describing the usage of the area by geese in the spring.

## RESULTS

In mid-March it was cold, but conditions over the count weekend were generally excellent, apart from snow showers in a few areas. The April count followed a spell of mild, fine weather with a southerly airstream. On the count weekend itself conditions deteriorated, with rain and low cloud especially in the north and north-east. Visibility was poor in some places, but it remained mild. Thereafter, fair weather returned.

Table 1 gives the count totals by areas, November 1987 being included for comparison. In the absence of a tour to fill in gaps in eastern Scotland, coverage in March was not as good as in November. In particular, some parts of the Moray Firth were not covered in March. In April, however, there were very few gaps, although most of the north-west coast of Scotland, along which some geese are thought to migrate was not covered. As stated above, Pinkfeet and Greylags are much more dispersed and difficult to locate towards the end of the season than in the autumn, so that the relatively low totals found in March and April are not surprising. For both species the March count was roughly half that in November. The higher number of Pinkfeet found in April than March reflects the improvement in coverage in that month. The total Greylag count in April, however, was extremely low, and it is probable that large numbers had already left the country during the very mild spell immediately before the count. Greylags are known to disperse more than Pinkfeet during the winter and also to leave Britain earlier. Since the November count, which was much lower than expected, was written up it has been learnt that the Greylags were very late leaving Iceland, many not doing so until early December in view of mild conditions in their lowland nesting areas. It would appear that some Greylags only stayed in Britain for a matter of three or four months this winter. For comparison, the totals counted in March 1986 were 97,000 Pinkfeet and 51,500 Greylags. In March 1988 coverage was not as good, because a comprehensive tour of eastern Scotland was not undertaken; fewer Pinkfeet were found, despite the recent increases in population, but a similar number of Greylags.

TABLE 1. NOS. OF PINKFEET AND GREYLAGS COUNTED IN NOVEMBER, MARCH AND APRIL, 1987-88.

	PINKFEET			GREYLAGS		
	Nov 1987	March 1988	April 1988	Nov 1987	March 1988	April 1988
Orkney	0	0	0	1300	2100	300
Caithness	0	10	60	3340	5000	4100
Wester Ross/W Sutherld	0	0	0	0	50	30
Moray Basin	30	490	18400	35100	8200	9200
Banff & Buchan	11500	8500	22300	7400	2800	400
Gordon	8800	10400	21700	8400	3500	240
Kincardine & Dee	0	750	650	8100	2600	950
Angus	53700	4500	6100	6300	470	490
Perth & Kinross	31700	15700	11600	13200	7900	1500
Central	0	2100	3600	260	200	1
Fife	6100	4000	54	100	320	30
Lothian	15500	2900	9300	1500	540	50
Borders	19400	10900	6900	3700	3	0
Strathclyde	3500	800	160	5100	5200	620
Cumbria/Dumf & Gall	2100	19300	12700	5400	9800	1600
Lancashire	16500	4600	1100	0	0	0
Northumberland	30	1	0	5800	3500	20
Humb/Lincs/Norfolk	3100	910	0	0	0	0
<b>TOTALS</b>	<b>172000</b>	<b>85800</b>	<b>114600</b>	<b>105000</b>	<b>52100</b>	<b>19500</b>

Figures 1 and 2 plot the changing distribution in 1987-88 site by site for Pinkfeet and Greylags respectively. Table 2 shows the proportions in each region in each month, March 1986 being included for comparison. The incomplete cover around the Moray Firth in March 1988 should be borne in mind. A major shift northwards by mid-April is apparent for both species. The Greylag maps clearly show the exodus which had also occurred by then. In April 55% of the Pinkfeet and 73% of the Greylags were found north of Aberdeen. Spring concentrations also occurred around the Solway Firth, but by April these had largely dispersed. Eastern England was deserted by both species in late March.

Comparison between the regional distribution in March 1986 and 1988 is difficult and could be misleading, because of variations in coverage. In 1986, however, higher Pinkfoot counts at the major Grampian roosts caused a greater proportion to be found in north-east Scotland, while the numbers in south-east Scotland were much lower. With the less intensive coverage of east central Scotland in 1988 a much smaller proportion of Greylags were found in that region, but the percentage of Pinkfeet was similar. Different timing of migration between the two years may also have contributed to these changes.

**FIGURE 1. Distribution of Pink-footed Geese counted in a-November b-March c-April, 1987-88**

- 50-99
- 100-499
- 500-999
- 1000-2499
- 2500+



**b**



**c**

**FIGURE 2. Distribution of Gréylag Geese counted in a-November b-March c-April, 1987-88**

- 50-99
- 100-499
- 500-999
- 1000-2499
- 2500+



b

c

TABLE 2. REGIONAL DISTRIBUTION OF PINKFEET AND GREYLAGS COUNTED IN 1987-88, EXPRESSED AS PERCENTAGES OF THE TOTAL.

	PINKFEET				GREYLAGS			
	Mar 1986	Nov 1987	Mar 1988	Apr 1988	Mar 1986	Nov 1987	Mar 1988	Apr 1988
NORTH SCOTLAND	0.0	0.0	0.6	16.1	5.4	37.7	13.7	69.7
N.E. SCOTLAND	30.9	11.8	22.7	39.0	32.5	22.7	32.8	8.2
E. CENTRAL SCOTLAND	29.0	53.2	30.9	18.5	34.5	18.9	17.1	10.2
S.E. SCOTLAND	5.6	20.3	16.2	14.1	1.0	4.9	0.1	0.3
N.W. ENG./S.W. SCOT.	34.4	12.8	28.9	12.2	23.5	10.0	28.8	11.4
EAST ENGLAND	0.0	1.8	0.6	0.0	3.0	5.5	6.7	0.0

L58
 N.Scotland = Orkney/Caithness/W.Sutherland/W.Ross/*Perth*  
 N.E.Scotland = ~~Moray Basin~~/Banff & Buchan/Gordon/Kincardine & Dee  
 E.C.Scotland = Angus/Perth & Kinross/Central/Fife  
 S.E.Scotland = Lothian/Borders  
 N.W.England/S.W.Scotland = Strathclyde/Dumfries & Galloway/Cumbria/Lancs  
 E.England = Northumberland/Humberside/Lincs/Norfolk

Under the criteria currently in use any site regularly holding 1,000 of either Pinkfeet or Greylags is regarded as of international importance. Table 3 lists all places which held at least that number in the spring 1988 counts. Any site which has not been known to hold at least 1,000 of the species in question from previous goose surveys or the monthly wildfowl counts is marked with an asterisk. Four such areas were found. Caistron Quarry, in the upper Coquet Valley, Northumberland, held much its largest Greylag roost on record in March. The feeding grounds are unknown, but birds arrive from a north-easterly direction. Fedderate Reservoir, 20km west of the Loch of Strathbeg, is a purely a Greylag site in autumn. There have been few past records for the Loch of the Clans, 5km west of Nairn, but the Pinkfeet found feeding in the vicinity in April probably represent a spring passage gathering. On the mainland of Orkney no more than 980 Greylags have been recorded before. The only previous record of over 1,000 Pinkfeet in the Loch Tullybelton area, between Perth and Dunkeld, was in March 1986. If maintained regularly these figures would render the sites of international importance for those species. All the other localities in Table 3 already reach that status. Note the remarkable total of 42,600 Pinkfeet (a quarter of this season's entire population) found on the lochs of Slains and Strathbeg, 30km apart, in April.

TABLE 3. SITES WITH 1,000 OR MORE PINKFEET OR GREYLAGS IN THE SPRING COUNTS, 1988. (\* = 1,000 or more not previously recorded; - = no count)

COUNTY/REGION	SITE	PINKFEET		GREYLAGS	
		March	April	March	April
Orkney	Mainland	0	0	2000*	300
Highland	Caithness lochs	10	60	5000	4100
	Loch Eye	0	140	600	1700
	Cromarty Firth	380	6300	370	70
	Munlochy Ba	-	2500	-	50
	Beaully Firth	-	3600	-	370
	Loch of the Cans	-	2000*	-	250
	Findhorn Bay	0	2200	2400	3100
	Loch Spynie	60	1300	3800	2700
Grampian	Fedderate Reservir	0	1500*	1000	290
	Loch of Strathbeg	8450	20900	1800	100
	Slains Lochs	10300	21700	330	0
	Haddo Country Park	0	190	2400	240
Tayside	Mid-Deeside	750	650	2630	950
	Montrose Basin	4200	2800	420	0
	Lour	-	2100	-	0
	Bankfoot/L Tullybelton	1650	-	270	-
	Drummond Pond	0	0	2520	33
	Dupplin Loch	4000	3200	150	0
	Carsebreck	6300	5100	1000	87
	Loch Leven	3200	2200	400	0
	Cameron Reservoir	4000	54	200	2
	Lake of Menteith	2100	200	3600	1
Lothian	Fala Flow	0	6800	0	0
	Cobbinshaw Reservoir	1100	0	0	0
	Gladhouse Reservoir	1800	2500	0	0
Borders	Portmore Reservoir	1800	330	3	0
	Westwater Reservoir	9080	6600	0	0
Strathclyde	Bute	0	0	1900	550
	Endrick Mouth, L Lomond	0	0	1000	40
Dumf. & Gall./ Cumbria	Stranraer	5	-	1100	-
	Wigtown B (Baldoon Sands)	7000	7000	800	800
Lancashire	Loch Ken	6	-	1400	-
	Inner Solway Firth	10700	4900	160	12
	Fylde	3700	0	0	0
Northumberland	Martin Mere	900	1100	0	0
	Lindisfarne	0	0	1200	0
	Caistron Quarry	0	0	1500*	16

Although most counts were of roosts many observers noted different feeding habits in spring to November. The chief changes were to grass in March and new-sown barley in April. On the east shore of the Wash Pinkfeet changed from inland fields to old water-meadows from mid-February. Several counters noted that geese were more scattered and fed at a greater distance from the roost in spring than autumn. Two observers in northernmost Scotland stated that geese stopped off for longer on spring migration than in autumn.

Many counters provided data on numbers after the April count as requested. Information was also received from 35 members of the public and 2 SOC members who were not already counters. Although far from complete, and not tied to specific dates, this exercise produced valuable data on the patterns of movement and departure towards the breeding grounds, summarised area by area in the following paragraphs. (Sightings where the species was not identified are omitted).

The PINKFEET left Scolt Head, Norfolk, on 11th February and the rest of the county by mid-April. On the south shore of the Solway Firth there were still 1,000 on Skinburness Marsh on 3rd May. The last Pinkfeet left Wigtown Bay on 12th May. On 2nd May 500 were seen moving north over Glen Falloch, just north of Loch Lomond. There were many reports of Pinkfeet flying north over Perthshire between 19th and 28th April, but 5,200 remained at Carsebreck on 2nd May. At Montrose Basin there was a gradual departure until 16th May, but the Pinkfeet had left mid-Deeside by 29th April. The main exodus from the Slains Lochs began on 21st April, when the numbers declined to 10,000. Most of the remainder left on 26th April and only 2,100 remained on 3rd May. By 20th May they had gone. The major departure from the Loch of Strathbeg was at a similar time, with just 350 present on 29th and 50 on 1st May. In the vicinity of Loch Spynie, near Lossiemouth, the numbers of Pinkfeet built up from 1,250 on the mid-April count to 3,000 on 22nd, suggesting passage from further south, but they declined markedly thereafter. The existence of a westerly migration route was shown by observations of a total of 1,600 Pinkfeet flying north over the Uists on 19th April and 260 northwest in three different localities in Wester Ross in early May. The origin of 500 moving north at Struie, Inverness-shire, on 6th May is unclear.

The Bute GREYLAGS had gone by the first week of May; the 250 at Moine Mhor, Argyll, by 7th April. In mid-April several small parties were reported moving north in the Oban area, and large numbers in Strathearn. In the Uists a total of 129 at two sites on 5th April were considered to be migrants, while over 300 were seen moving north later in the month. The mid-Deeside Greylags had left by 26th April. Small flocks were reported on the move in Grampian: at Stonehaven on 2nd May, Methlick on 21st April and Dufftown on 30th April. None were seen at the Loch of Strathbeg after the 100 on the mid-April count. Most departed from the Loch Spynie area on 20th and 21st April and from Caithness in the week after the April count, when the weather improved, although 3,000 were still present on freshly sown barley near Loch Scarmclate on 21st April. In Orkney, 28 Greylags were still present on Sanday on 13th May.

#### DISCUSSION

The main aim of the counts, to ascertain the spring distribution of the two species in question and identify sites of particular importance at that time, was fulfilled. It was not expected that all birds would be located, but the total counts were a little disappointing. The period of departure is presumably slightly variable from year to year, so alteration of the timing of any future spring surveys would not necessarily result in a higher return. On the other hand, the earlier the counts are held, the fewer birds are likely to have left the country. The "filling-in" exercise in eastern and northern Scotland is clearly necessary, and it is questionable whether any repeat spring survey would be worthwhile without this. On grounds of practicality and cost-effectiveness a single spring goose count may therefore be all that would be justified in future, bearing in mind that a mid-March general wildfowl count is held anyway. The special goose count could be held in late March/early April in the hope of finding more Greylags, and therefore having more chance of locating spring staging posts. Coverage in north-west Scotland should be improved in view of the evidence of that region being a migration route.

## REFERENCE

Salmon, D. G. 1988. Pink-footed and Greylag Geese in Britain, November 1987. Unpubl rep. The Wildfowl Trust.

## ACKNOWLEDGMENTS

The survey was carried out under contract to the Nature Conservancy Council.

I am indebted to C.Mitchell for producing the maps, and to the following for undertaking the counts and other observations (with apologies for any inadvertent omissions):-

R.Anderson, A.Ball, A.Ballantyne, J.Barnes, Mrs D.Batchelor, D.Bell, Dr M.Bell, L.Brain, A.Bramhall, R.Broad, K.Brockie, I.Brockway, A.Brown, Mrs M.Burgess, J.Burn, E.Cameron, C.Campbell, M.Carrier, C.Casey, Mr & Mrs J.Clarke, P.Clement, J.Coats, P.Corkhill, C.Corrigan, Ms L.Cranna, D.Creasy, J.Crossley, Mrs A.Day, I.Dennis, R.Dickson, T.Dix, J.Doherty et al., B.Drever, J.Dunbar, E.Duncan, Rev & Mrs A.Duncan-Jones, R.Elliott, A.Emmerson, I.Findlay, M.Fisher, V.Fleming, J.Forrest, D.Forshaw et al., Dr J.-F.Giroux, R.Goater, A.Gordon, P.Gordon, R.Gordon, Mrs E.Graham, N.Graham, Mrs J.Grant, Mrs C.Gray, Mr & Mrs H.Gray, Mr & Mrs H.Green, Mrs S.Hacker, Mrs M.Hall-Gardiner, J.Harding, Dr M.Harris, Mr & Mrs R.Heath, Miss A.Henderson, Mrs M.Hepburn, Mrs M.Howat, H.Huxley, P.Hyde, Dr D.Jenkins, S.Keightley, Dr V.Keller, J.Kirk, Mrs B.Knight, Miss E.Landa, S.Laybourne et al., M.Leven, Mr & Mrs J.Lister, R.Lord, J.Lough, R.McCullough, W.McCullough, Mrs M.Macfarlane, G.McGregor, R.McGregor, I.Mackie, Mrs J.MacLean, G.MacNab, J.McNish, D.McPhee, Mrs J.McPhail, Mrs E.McRae, Mrs H.McReady, S.Madakan, J.Malster, J.Martin, R.Mason, A.Mathieson, Mrs W.Mattingley, F.Mawby et al., F.Milne, J.Mirtle, J.Mitchell, Dr D.Morton, Mrs G.Napier, D.O'Connor, Dr M.Ogilvie, A.Panter, J.Parkin, Dr I.Patterson, A.Paw, B.Redman, I.Pirie, B.Pounder, J.Pragvair, Ms D.Reed, M.Richardson, R.Richter, J.Riddoch, W.Ritchie, Ms C.Roaf, G.Roberts, B.Robertson, C.Robertson, Dr B.Rowling, J.Ross, M.Ross, N.Rossiter, Dr B.Sage, C.Scotland, Mrs C.Shankland, Mr & Mrs S.Shimeld, P.Shimmings, Mrs E.Sinton, F.Slack, A.Smith, Mrs B.Smith, C.Smith, T.Smith, J.Stewart, I.Suttie, Mrs M.Stephen, F.Symonds, N.Taylor, S.Taylor, A.Thorpe, P.Todd, M.Trubridge, L.Urquhart, P.Vandome, G.Waby, R.Walker, R.Walls, Dr S.Wanless, R.Watson, Mrs C.Watt, N.Watts, I.Webster, J.Wheldon, J.Wiffen, Mrs J.Wilcox, R.Wilkinson, P.Wilson, J.Young, R.Youngman, B.Zonfrillo.

September 1988