# A6.18 Pink-footed Goose *Anser brachyrhynchus*

## 1. Status in UK

| Biological status | | Legal status | | Conservation status | |
|---|---|---|---|---|---|
| Breeding | | Wildlife and Countryside Act 1981 | **General Protection Schedule 2(1)** | Species of European Conservation Concern | **SPEC 4** Favourable conservation status at species level (**secure**) but concentrated in Europe |
| Migratory | ✔ | Wildlife (Northern Ireland) Order 1985 | **General Protection Schedule 2(1)** | (UK) Species of Conservation Importance | **Table 4** |
| Wintering | ✔ | EC Birds Directive 1979 | **Annex II/2 Migratory** | All-Ireland Vertebrate Red Data Book | |

## 2. Population data

| | Population sizes (individuals) | Selection thresholds | Totals in species' SPA suite |
|---|---|---|---|
| **GB** | 192,000 (see text) | 1,900 | 155,582 (82% of GB total) |
| **Ireland** | | | |
| **Biogeographic population** | 225,000 (see text) | 2,250 | 155,582 (69% of biogeographic population) |

*GB population source: Kirby 1995a*
*Biogeographic population source: Rose & Scott 1997*

## 3. Distribution

The breeding areas of the monotypic Pink-footed Goose are globally restricted to eastern Greenland, Iceland and Svalbard. The geese migrate to winter in the countries surrounding the North Sea, meaning that the entire world population winters in just a few European countries. There are two biogeographical populations: those that breed in east Greenland and Iceland migrate to spend the winter months in Britain and Ireland, and those that breed in Svalbard that winter in the Netherlands, Denmark and Belgium (Mitchell *et al*. 1999; Madsen *et al*. 1999). There is no mixing between these two populations which are separated throughout the year.

Most British-wintering Pink-footed Geese occur around estuaries between eastern Scotland and North Norfolk/The Wash (Lack 1986; Owen *et al*. 1986; Mitchell *et al*. 1999). Up to three-quarters of Britain's wintering Pink-footed Geese are found in Scotland, with strongholds in Aberdeenshire, Perth, Kinross, Stirlingshire, the Lothians, and, in late winter, the Dumfries coast of the Solway. In England, the most important sites are around the Lancashire coast, North Norfolk/The Wash, and previously around the Humber (Lack 1986).

There are strong seasonal movements within Britain, with birds moving south during autumn from north Scottish arrival areas. In spring, birds move north again, following the progression of spring grass growth (Fox *et al.* 1994a). This means that Pink-footed Geese may use many separate sites in the course of one winter.

Historically, estuaries provided the most important roost sites, but larger lakes and reservoirs are now also used. Birds usually feed close to their roost site, but may occasionally fly more than 20 km to find suitable forage. Agricultural crops are eaten in addition to native coastal food-plants, but Pink-footed Geese are sensitive to disturbance and prefer large, open areas in which to feed. Birds gradually move south during the winter, utilising several different wintering areas, and may make long movements to alternative feeding areas in severe weather (Lack 1986; Owen *et al*. 1986; Mitchell *et al*. 1999). In spring, birds departing from Britain stage in the southern lowlands of Iceland for several weeks before moving to inland breeding grounds or departing for Greenland (Mitchell *et al*. 1999).

## 4. Population structure and trends

The British wintering total is estimated at 192,000 individuals (Kirby 1995a). The difference between the national population figure (192,000; Kirby 1995a) and international population figure (225,000; Rose & Scott 1997) populations used in this review are a consequence of the different time periods adopted by the relevant sources. It does not imply that 27,000 birds winter outside the UK.

The first comprehensive census of the population in 1950/51 estimated 30,000 individuals, and the population has increased steadily since (Madsen 1991; Mitchell *et al.* 1999). In the early 1980s, approximately 100,000 individuals were estimated to winter in Britain, but by the early 1990s, the population had reached its current size. It has remained relatively stable since (Hagemeijer & Blair 1997; Pollitt *et al*. 2000; Mitchell *et al*. 1999).

The increase reflects an expansion of the breeding range in Iceland where birds have now spread to lowland nesting areas (Hagemeijer & Blair 1997; Mitchell *et al*. 1999). However, the population increase is also probably related to improved winter survival as a result of better foraging opportunities and the establishment of refuges where birds can roost undisturbed (Lack 1986; Batten *et al*. 1990; Owen *et al*. 1986).

Pink-footed Geese are hunted in Iceland, but remain in the remote interior to moult before the autumn migration and therefore far fewer are killed than is the case for Greylag Geese. Between 1995 and 1997, the annual bag of Pink-footed Geese in Iceland was about 12,500 individuals, around a third of the corresponding figure for Greylag Geese (Cranswick *et al*. 1999; Mitchell *et al*. 1999). It may be for this reason that the Pink-footed Goose population has not experienced the same decline as that of the Icelandic Greylag Goose.

## 5. Protection measures for population in UK

### SPA suite

In the non-breeding season, the UK's SPA suite for the Iceland/Greenland population of Pink-footed Goose supports, on average, 155,582 individuals (calculated using totals from the WWT/JNCC November Grey Goose census (Hearn 1998) for the period 1992/93 to 1996/97 – see section 4.4.1 and Appendix 2 for further explanation). This total amounts to about 82% of the British population and 69% of the international population. The suite comprises 24 sites at which Iceland/Greenland Pink-footed Geese have been listed as a qualifying species (Table 6.18.1).

## 6. Classification criteria

All natural and semi-natural sites in the UK that were known to support more than 1% of the international population of Iceland/Greenland Pink-footed Geese were considered under Stage 1.2 and, of these, 21 were selected after consideration of Stage 2 judgements. A further two sites (Moray and Nairn Coast, and Lindisfarne) were considered and selected under Stage 1.3 (see section 5.3), as Pink-footed Geese were identified as an important component of a wider non-breeding waterbird assemblage at these localities. One further site, Din Moss-Hoselaw Loch has been selected under Stage 1.4 as it supports a population important in maintaining the species' range in Europe.

Given the mobility of these geese through the non-breeding season, especially their use of distinct areas in autumn and spring for staging (pre-migratory feeding), potential SPAs were considered in a number of broadly defined regions. This approach ensured that key sites would be selected from throughout the range within the UK and that areas used upon autumn arrival, in mid-winter, and in spring prior to departure to Iceland and Greenland, would all be represented within the species SPA suite. The Stage 2 judgements made are as follows:

Within the Moray Basin, the Moray and Nairn Coast was selected since Pink-footed Geese occur there as an important component of an internationally important assemblage of waterbirds. Numbers at this site have fallen markedly since the site was classified. The regularly used sites of Cromarty Firth and Loch Eye were also considered but not selected, as they did not add significantly to range or numerical coverage within the Moray Basin.

Ythan Estuary, Sands of Forvie and Meikle Loch, and the Loch of Strathbeg were selected as regularly holding major concentrations of Pink-footed Geese within Grampian. Indeed, the Loch of Strathbeg holds amongst the largest regular numbers in the UK (c. 18% of the international population).

Firth of Tay and Eden Estuary, Montrose Basin, South Tayside Goose Roosts (which comprises Carsebreck and Rhynd Lochs, Drummond Lochs, Dupplin Loch, and Pitcarnie Loch), and Loch of Kinnordy were selected as the key roost sites within the Tayside area. The Loch of Kinnordy was selected solely on the basis of its importance for Pink-footed Geese. The South Tayside Goose Roosts SPA[1] holds the largest regular numbers in the UK (over 19% of the international population). The following regularly used sites were also considered but not selected, as they did not add significantly to range or numerical coverage within the region: Crombie Loch, Loch Tullybelton, Glenfarg Reservoir, Tay/Isla Valley, and Loch Mullion.

Cameron Reservoir, Loch Leven, and the Firth of Forth were selected as the key roost sites within central Scotland. Cameron Reservoir was selected solely on the basis of its importance for Pink-footed Geese. The following regularly used sites were also considered but not selected, as they did not add significantly to range or numerical coverage within central Scotland: River Forth at Gargunnock, Ardloch Loch, and Lake of Menteith.

Gladhouse Reservoir, Greenlaw Moor, Westwater, Fala Flow, and Din Moss - Hoselaw Loch were all selected solely on the basis of their importance for Pink-footed Goose. These sites together protect the key roosting areas within south-east Scotland and Borders. Din Moss - Hoselaw Loch was selected under stage 1.4 by virtue of its importance to maintenance of range, although numbers there have fallen markedly since classification. Cowgill Reservoir was not selected, as it did not provide a significant addition to the range coverage already

[1] comprising Carsebreck and Rhynd Lochs in Strathallan, and Drummond Lochs and Dupplin Lochs in Strathearn.

provided by Westwater Reservoir. The regularly used site of Hule Moss was also considered but not selected, as it did not add significantly to range or numerical coverage within south-east Scotland and Borders.

Castle Loch, Lochmaben and Upper Solway Flats and Marshes were selected as the major sites within south-west Scotland for Pink-footed Geese. Castle Loch, Lochmaben, was selected solely on the basis of its importance for Pink-footed Geese, whilst the Upper Solway Flats and Marshes is an extensive multi-species SPA. Wigtown Bay was not selected, as it did not provide a significant addition to the range coverage already provided by the Solway. The regularly used site of Hightae Loch was also considered but not selected, as it did not add significantly to range or numerical coverage within south-west Scotland.

In England, Morecambe Bay, the Ribble and Alt Estuaries, and Martin Mere were all selected as the core areas supporting Pink-footed Geese in Lancashire, whilst in eastern England, both The Wash and the North Norfolk Coast were included in the suite as major multi-species SPAs holding very large numbers of geese, especially in mid-winter. In north-east England, Lindisfarne was selected since Pink-footed Geese occur there as an important component of an internationally important assemblage of waterbirds.

**Distribution map for Pink-footed Geese SPA suite**

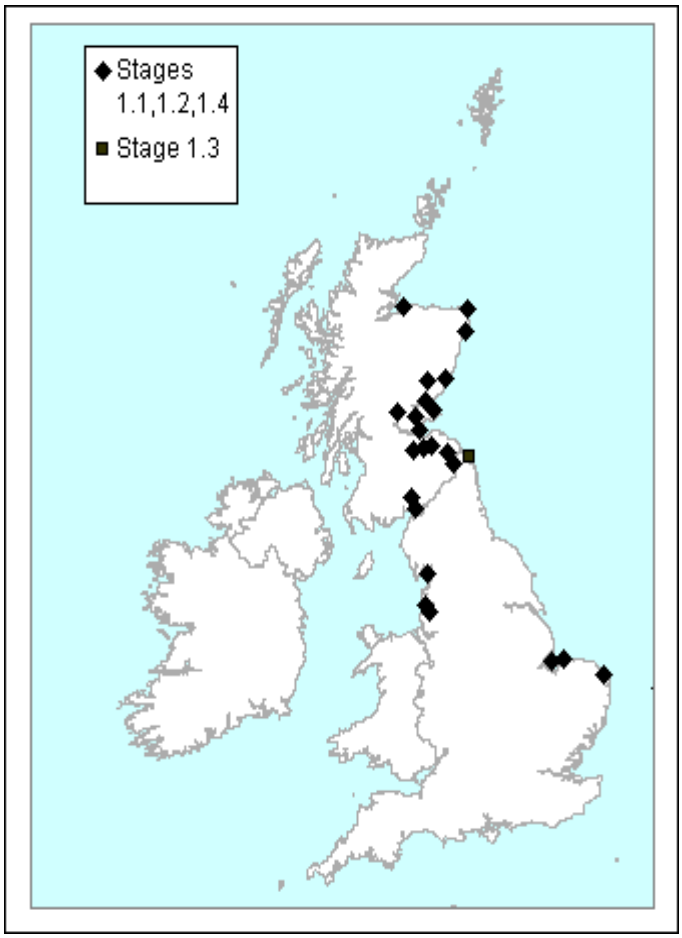

**Table 6.18.1 – SPA suite**

| Site name | Season of peak use | Site total | % of biogeo-graphical population | % of national population | Selection stage |
|---|---|---|---|---|---|
| Broadland | Winter | 3,290 | 1.5 | 1.7 | 1.2 |
| Cameron Reservoir | Autumn | 16,233 | 7.2 | 8. 5 | 1.2 |
| Castle Loch, Lochmaben | Spring | 5,450 | 2.4 | 2.8 | 1.2 |
| Din Moss - Hoselaw Loch | Winter | 1,180 | 0.5 | 0.6 | 1.4 |
| Fala Flow | Autumn | 6,719 | 3.0 | 3.5 | 1.2 |
| Firth of Forth | Autumn | 12,400 | 5.5 | 6.5 | 1.2 |
| Firth of Tay and Eden Estuary | Autumn | 3,769 | 1.7 | 2.0 | 1.2 |
| Gladhouse Reservoir | Autumn | 3,068 | 1.4 | 1.6 | 1.2 |
| Greenlaw Moor | Autumn/ Spring | 5,450 | 2.4 | 2.8 | 1.2 |
| Lindisfarne | Winter | 1,984 | 0.9 | 1.0 | 1.3 |
| Loch Leven | Autumn | 18,230 | 8.1 | 9.5 | 1.2 |
| Loch of Kinnordy | Autumn | 4,760 | 2.1 | 2.5 | 1.2 |
| Loch of Strathbeg | Autumn | 39,924 | 17.7 | 20.8 | 1.2 |
| Martin Mere | Autumn | 25,779 | 11.5 | 13.4 | 1.2 |
| Montrose Basin | Autumn | 31,622 | 14.1 | 16.5 | 1.2 |
| Moray and Nairn Coast | Spring | 139[2] | 0.1 | 0.1 | 1.3 |
| Morecambe Bay | Spring | 2,475 | 1.1 | 1.3 | 1.2 |
| North Norfolk Coast | Winter | 23,802 | 10.6 | 12.4 | 1.2 |
| Ribble and Alt Estuaries | Winter | 23,860 | 10.6 | 12.4 | 1.2 |
| South Tayside Goose Roosts | Autumn | 43,300 | 19.2 | 22.6 | 1.2 |
| The Wash | Winter | 33,265 | 14.8 | 17.3 | 1.2 |
| Upper Solway Flats and Marshes | Spring | 15,983 | 7.1 | 8.3 | 1.2 |
| Westwater | Autumn/ Spring | 31,127 | 13.8 | 16.2 | 1.2 |
| Ythan Estuary, Sands of Forvie and Meikle Loch | Autumn/ Spring | 17,213 | 7.7 | 9.0 | 1.2 |

| | | | |
|---|---|---|---|
| TOTALS | 155,582 (in November) | 69.1% | 81.9% |

[2] Numbers have declined to low levels following classification.