

## A6.22 Greenland Barnacle Goose *Branta leucopsis*

### 1. Status in UK

Biological status		Legal status		Conservation status	
Breeding		Wildlife and Countryside Act 1981	General Protection	Species of European Conservation Concern	SPEC 2 (winter) Unfavourable conservation status (localised - winter) and concentrated in Europe
Migratory	✓	Wildlife (Northern Ireland) Order 1985	General Protection Schedule 9(1)	(UK) Species of Conservation Importance	Table 4
Wintering	✓	EC Birds Directive 1979	Annex I Migratory	All-Ireland Vertebrate Red Data Book	Internationally important

### 2. Population data

	Population sizes (individuals)	Selection thresholds	Totals in species' SPA suite
<b>GB</b>	26,950	270	19,115 (63% of GB total)
<b>Ireland<sup>1</sup></b>			
<b>Biogeographic population</b>	32,000	320	19,115 (50% of biogeographic population)

GB population source: Fox *et al.* 1990

Biogeographic population source: Rose & Scott 1997

### 3. Distribution

Barnacle Geese are globally restricted to limited breeding areas in north-east Greenland, Svalbard, and the islands of Novaya Zemlya and Vaigach in the Russian high Arctic. Although the species is monotypic, the populations breeding in each of these three areas are strongly distinct with separate migratory flyways and wintering areas within Europe.

Those breeding in Svalbard, winter in just two areas in Scotland, and stage during migration in Norway (see section 6.23). The north Russian population winters mainly in The Netherlands (staging on migration in Germany, Sweden and Estonia, and amounts to about 176,000 geese (Madsen *et al.* 1999). The Greenland population breeds in north-east Greenland and winters along the north and west coasts of Scotland and Ireland. There is very little interchange between the three populations (Cabot & West 1983; Owen *et al.* 1986; Madsen *et al.* 1999).

After departing in autumn from post-breeding moulting grounds in eastern Greenland, birds stage in southern Iceland, spending up to a month there before moving to British and Irish

<sup>1</sup> Although the species occurs in the Republic of Ireland, there are sites regularly used by Greenland Barnacle Geese in Northern Ireland.

wintering grounds. The whole population arrives in the Loch Gruinart area of Islay for some days before dispersing elsewhere to traditional wintering sites in Scotland and Ireland (Easterbee *et al.* 1987). During spring migration, staging again occurs in Iceland, in several northern valleys, for about a month before returning to breeding grounds (Owen *et al.* 1986; Percival & Percival 1997; Ogilvie *et al.* 1999).

The wintering distribution of the Greenland Barnacle Goose is nearly exclusively on islands along the west coast of Scotland, from Orkney and northern Sutherland to Islay, and along the west coast of Ireland. The most important area is Islay, on which the majority of the Greenland population winters. About a fifth of the population winters in Ireland, with smaller numbers occupying other small and usually uninhabited islands within the Hebrides and on islands off the coast of northern Scotland (Boyd 1968; Owen *et al.* 1986; Lack 1986; Ogilvie *et al.* 1999). After Islay, the next largest concentration in Britain occurs on the adjacent islands of Coll, Gunna and Tiree (Newton & Percival 1989).

Most of the population winters in just a few sites, typically coastal grazed saltmarshes and pastures as well as more intensively managed grasslands on Islay. The birds are well adapted for feeding on short coastal turf, including saltmarshes, and machair, but have become more dependent on intensively managed grasslands, and will also take clover, and spilled grain amongst stubble (Owen *et al.* 1986; Ogilvie *et al.* 1999).

Barnacle Geese rarely travel more than 5 km from their roost to feed (Percival 1991), with roosts occurring on saltmarsh and intertidal sandbanks as well as on small offshore islands. Barnacle Geese are predominantly faithful to specific wintering areas, but there is some movement between sites. Detailed studies of the movement of individually marked birds on Islay have shown that birds are highly site faithful. On average, 66% stay at the same site during the course of the winter, and 70% of surviving birds return to the same site in the following winter (Percival 1991; Pettifor *et al.* 1996). These characteristics, together with localised distribution, mean that site-based conservation is a particularly appropriate conservation strategy, especially if combined with targeted management of grasslands within sites (Percival 1993).

#### **4. Population structure and trends**

The total numbers of Greenland Barnacle Geese wintering in Britain in the period of the review was estimated to be 31,000 individuals, and the all-Ireland population 7,500 individuals (Fox *et al.* 1990; Delany & Ogilvie 1994; Merne & Walsh 1994). The Greenland population has been counted at about five-year intervals since 1959, when the population was first assessed at about 8,300 individuals (Boyd 1968).

The increase in population size is thought to result from improved winter survival, probably the consequence of several factors including restrictions on hunting and changes in agriculture. It has not been uniform across the range; the largest increases occurring on Islay, Tiree and Coll, and the Sound of Harris (Cranswick *et al.* in press). Proportionately the largest increases have occurred on Islay – in the late 1950s, the island held about 35% of the whole Greenland population, whilst it now holds about 65% (Cranswick *et al.* in press).

## **5. Protection measures for population in UK**

### **SPA suite**

The UK's SPA suite for the Greenland population of Barnacle Geese supports, on average, 19,115 individuals (calculated with data from the international census of March 1994 (Delany & Ogilvie 1994) – see section 4.4.1 and Appendix 2 for further explanation). Estimating use of the suite by the population is complex: some SPAs act as feeding areas, supporting the geese during the day, with other nearby SPAs being used as roost sites at night. Thus, the same birds may utilise two or more SPAs in any one day. Allowing for such movements, the total within the suite amounts to about 63% of British wintering numbers and about 50% of the international population. Greenland Barnacle Geese do not regularly occur in Northern Ireland. The suite comprises 11 sites at which Greenland Barnacle Geese have been listed as a qualifying interest (Table 6.22.1).

### **Other measures**

Changes in agricultural practice have benefited the species by improving foraging opportunities, with birds on Islay showing a strong preference for grazing on grassland subject to intensive agricultural management (Percival 1993). Conflict between Barnacle Geese and farmers has followed such changes in agriculture, population growth and the growth of numbers on Islay. To maintain protection of the population a variety of management schemes have been put in place on Islay, the most recent being the Islay Goose Management Scheme, which began in 1992. Such schemes have aimed to reduce the conflict. A similar scheme has been established on South Walls in Orkney.

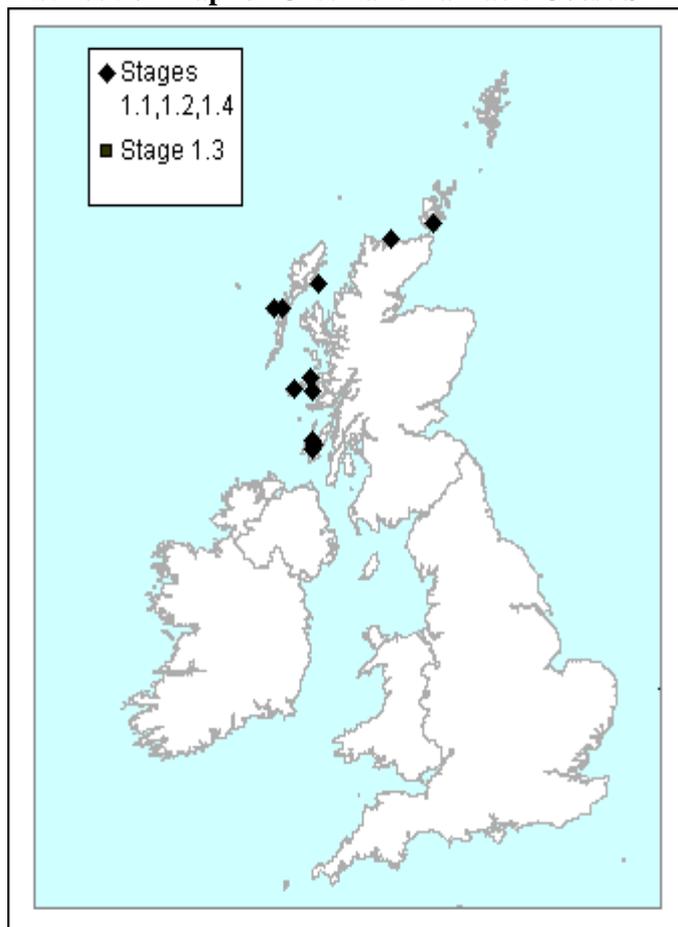
## **6. Classification criteria**

All sites in the UK that were known to support more than 1% of the national population were considered under Stage 1.1, and all except Danna/Keills/Eilean Mór; Colonsay and Oronsay; South Walls (Orkney); and islands in the Sound of Harris were selected after consideration of Stage 2 judgements (especially those relating to population size and range).

Danna/Keills/Eilean Mór, and Colonsay and Oronsay, were not selected owing to their relatively small populations and proximity to the population centre of Islay. South Walls in Orkney provides the feeding area of geese that roost on Switha. It was not selected because, being largely an agricultural feeding area, it did not meet the requirements of the Birds Directive as an SPA for wintering geese. The islands in the Sound of Harris were not selected because they did not significantly enhance either the numbers or range contained within the site series.

The Rinns of Islay was not selected as recent records show that the site is not regularly used. This is also the case for Eilean na Muice Duibhe on Islay, which was previously noted as being of international importance for Barnacle Geese (Pritchard *et al.* 1992). There have been no recent records of use.

### Distribution map for Greenland Barnacle Goose SPA suite



**Table 6.22.1 – SPA suite**

Site name	Site total	% of biogeographical population	% of national population	Selection stage
Bridgend Flats, Islay	6,700	20.9	21.6	1.1
Coll	1,029	3.2	3.3	1.1
Gruinart Flats, Islay	20,000	62.5	64.5	1.1
Laggan, Islay	1,800	5.6	5.8	1.1
Monach Isles	540	1.7	1.7	1.1
North Sutherland Coastal Islands	631	2.0	2.0	1.1
North Uist Machair and Islands	1,500	4.7	4.8	1.1
Shiant Isles	172	0.5	0.6	1.1
Switha	1,000	3.1	3.2	1.1
Sleibhtean agus Cladach Thiriodh (Tiree Wetlands and Coast)	959	3.0	3.1	1.1
Treshnish Isles	82	0.3	0.3	1.1
<b>TOTALS</b>	19,115 (in March 1994)	49.8%	63.2%	