

# WWT/JNCC/NatureScot Goose & Swan Monitoring Programme survey results 2020/21

## Greenland Barnacle Goose *Branta leucopsis*

### 1. Abundance

#### International census 2020

The most recent flyway-wide census of Greenland Barnacle Geese took place in March 2020. The census was undertaken by WWT in Scotland, funded by NatureScot, and by the National Parks and Wildlife Service in Ireland. The census was undertaken just before the Covid-19 lockdown period.

The population estimate was 73,391, a 1.7% increase on the last complete census conducted in 2018 (72,162) (Figure 1). In Ireland, 15,256 birds were counted, a decrease of 6.0% since 2018. In Scotland, 189 sites were surveyed, including 157 islands by aerial census and Barnacle Geese were found at 38 sites (Figure 2). A total of 58,135 birds was counted, an increase of 4.0% since 2018.

Islay was the most important site with 33,202 birds counted (Table 1), 4.5% lower than the number recorded there two years previously. Compared to 2018, there were increases in numbers in areas outwith Islay; numbers on Tiree and Coll increased by 5.0% to 6,802 birds, on Colonsay/Oronsay, numbers increased by 27.5% to 2,868 and, on North Uist (mainland), numbers increased by 40.0% to 8,340.

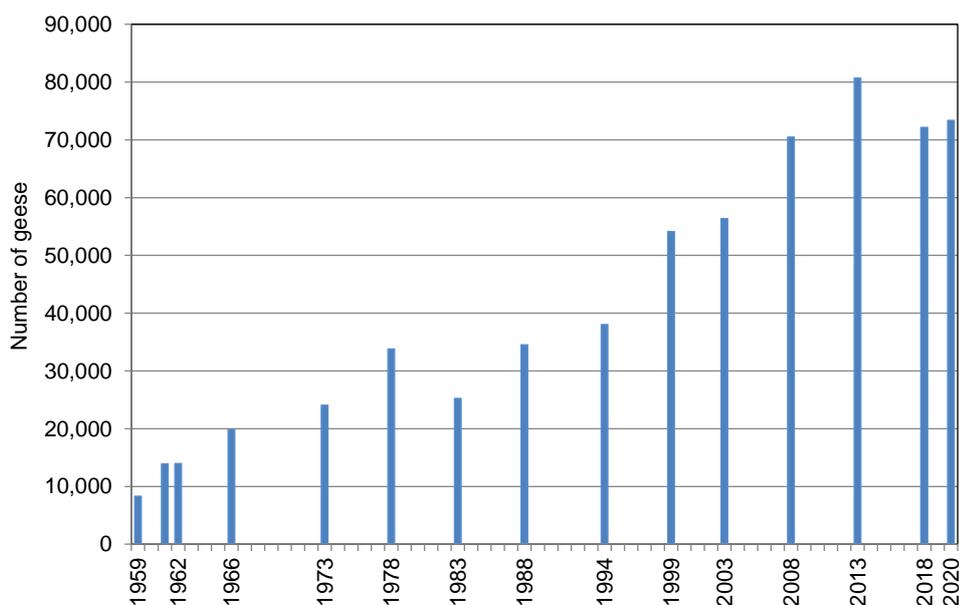


Figure 1. Population estimates of Greenland Barnacle Goose, 1959–2020, derived from the International Barnacle Goose Census.

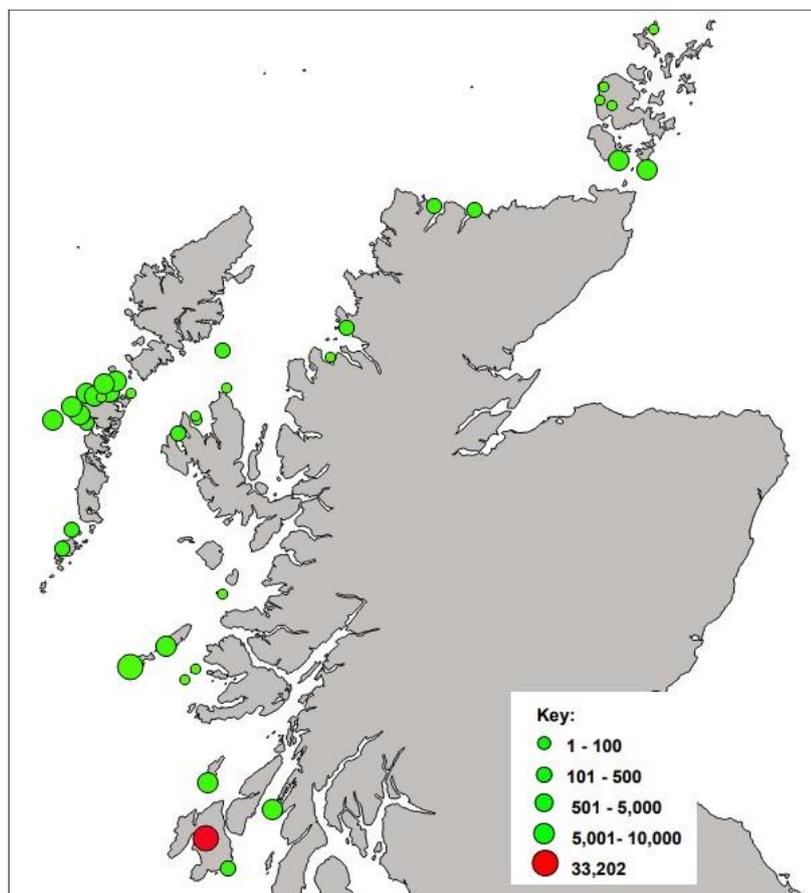


Figure 2. The distribution of Greenland Barnacle Geese in Scotland recorded during the mid-March 2020 international census.

Table 1. Counts of over 1% of the Scottish total of Greenland Barnacle Geese made during the March 2020 survey (Mitchell & Hall 2020).

Site	Area	Count in 2018	Count in 2020	% change
Islay	Argyll	34,750	33,202	-4.5
Tiree	Argyll	5,126	5,656	10.3
Oronsay/Colonsay	Argyll	2,250	2,868	27.5
Paible/Balemore	North Uist	1,442	2,640	83.1
South Walls	Orkney	1,460	1,738	19.0
Berneray	North Uist	745	1,467	96.9
Coll	Argyll	1,266	1,146	-9.5
Grenitote/Sollas/Malacate	North Uist	325	1,076	231.1
Newton	North Uist	231	965	317.7
Eilean Mor	Argyll	1,180 <sup>1</sup>	915	-22.5
Balranald	North Uist	677	910	34.4
South Ronaldsay	Orkney	231	737	219.0

<sup>1</sup> 2018 value is the combined count of 650 at Danna (Argyll) and 530 birds at Luig (Argyll). No Greenland Barnacle Geese were recorded at either site during the 2020 census, but 915 birds were recorded on Eilean

Mor, an island just to the south of Danna. It is possible that the Eilean Mor flock comprised birds from both Danna and Luing, due to disturbance at both sites.

Note; a complete census report will be made available by NatureScot in due course.

### Annual counts at key sites

On Islay, the most important wintering site in the UK for Greenland Barnacle Geese, four co-ordinated counts were undertaken during winter 2020/21. These revealed 34,381 birds in November, 32,107 December, 37,364 in January and 29,798 in March. The low figure in March 2021 could have been associated with periods of cold weather earlier in the winter driving geese to Ireland or others sites in Scotland. The mean of these four counts was 33,413 birds which represents a modest 1% increase compared to the winter 2019/20 mean (33,067 geese) (Figure 3).

Winter maxima at other key sites include 700 birds on Danna, Argyll (March), 7,416 on Coll & Tiree, Argyll (March) and 2,753 on Colonsay/Oronsay (December).

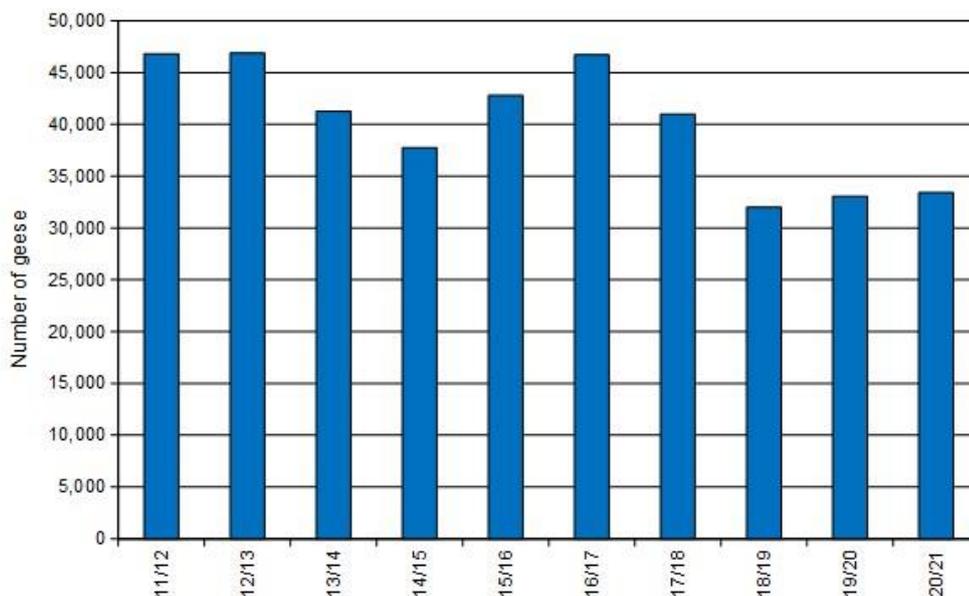


Figure 3. Adopted counts (mean of the winter counts) of Greenland Barnacle Geese on Islay, 2011/12–2020/21.

## 2. Breeding success

Breeding success is measured annually on Islay and counts in winter 2020/21 revealed a below average breeding season. Just over 4,000 birds were aged there of which 9.55% were young, and a mean brood size of 2.05 young per successful pair was recorded (Table 1, Figure 4). The percentage of young recorded on Islay has been over 10% in only three of the last ten years.

On Tiree, a sample of 500 birds held 61 young (12.2%) with a mean brood size of 1.65 young per successful pair (Table 1).

Table 1. The percentage of young and mean brood size of Greenland Barnacle Geese during winter 2020/21.

Site	Number aged	Percentage of young (%)	Mean brood size	Number of broods
Islay	4,010	9.55	2.05	83
Tiree	500	12.2	1.65	37
<b>Overall</b>	<b>4,510</b>	<b>9.84</b>	<b>1.92</b>	<b>120</b>

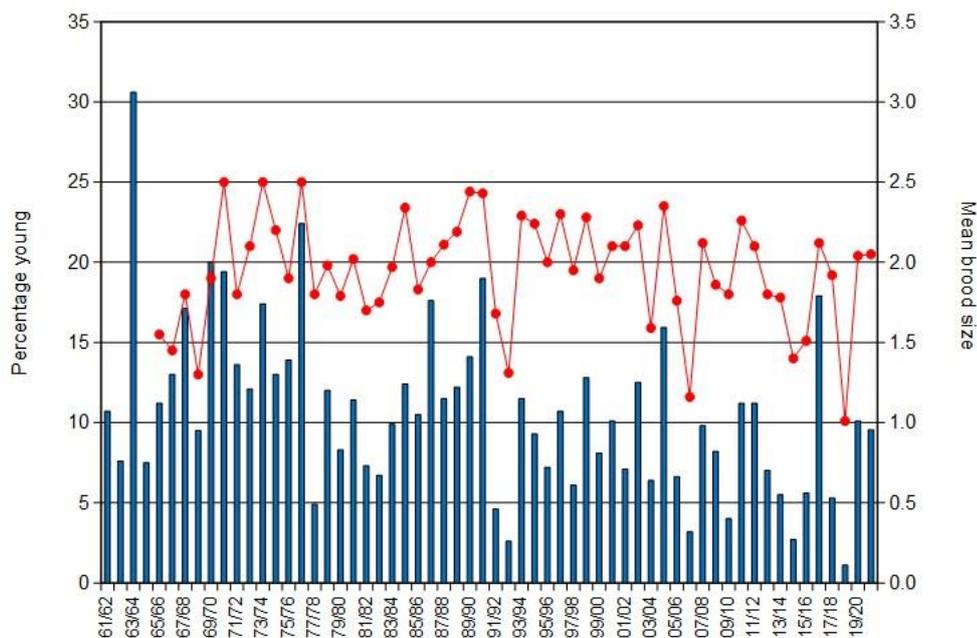


Figure 4. Percentage young (blue columns) and mean brood size (red circles) of Greenland Barnacle Goose on Islay (where data have been collected regularly), 1961/62–2020/21.

### 3. Discussion

The population total of this protected species has declined in the last seven years from 80,670 birds in 2013 to 73,391 in 2020. This is probably due to increased mortality through legal hunting in Iceland and the culls on Islay which have increased, at a time when annual reproductive success has been low. Despite the monthly fluctuations in counts, the between year means suggest that winter numbers on Islay have stabilised. The over-winter population there has, however, decreased by a third in the last five winters as a result of the management taking place there. In winter 2020/21 a further 805 Greenland Barnacle Geese were shot on Islay.

Results from age assessments conducted during autumn 2020 on Islay (from where the largest sample is provided) show that the preceding breeding season was again just below the long term average; the figure of 9.55% young recorded in flocks on Islay was, however, higher than the previous ten-year mean of 7.76% ( $\pm 1.56$  SE). The long term mean for the period 1961 to 2019 was 10.7% young. The mean brood size on Islay in 2020 was slightly higher than average at 2.05 young per successful pair, compared to the previous ten-year mean of 1.8 young ( $\pm 0.12$  SE).

### 4. Acknowledgements

Thanks are extended to Malcolm Ogilvie and John Bowler for providing age counts, and to NatureScot for providing the additional counts.

### 5. References

Mitchell, C. & C. Hall. 2020. *Greenland barnacle geese Branta leucopsis in Britain and Ireland: Results of the International census, spring 2020*. NatureScot Research Report.

This report should be cited as:

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## Goose & Swan Monitoring