

# Latest news from GSMP surveys



Photo: Jim Porter

The table below shows the total counts and the breeding success\* of goose and swan populations wintering in Britain and Ireland, recorded during various surveys in either 2019/20 or 2020/21 (see footnotes). Surveys were undertaken at an international or national scale, or at a few key sites. See the individual population reports that follow for further details.

\* Age assessments comprise two measures of annual breeding (reproductive) success (or productivity): the percentage of young (first-winter) birds in non-breeding flocks and the mean brood size (number of young produced by successful breeding pairs).

More detailed results are available on the GSMP web pages at: <https://monitoring.wwt.org.uk/our-work/goose-swan-monitoring-programme/species-accounts/>

Population	Total count <sup>1</sup>	Breeding success <sup>2</sup>	
		Percentage young (%)	Mean brood size (young per successful pair)
Northwest European Bewick's Swan	1,290 <sup>3</sup>	8.8%	1.95
Iceland Whooper Swan	43,255 <sup>4</sup>	11.8%	2.11
Taiga Bean Goose	216 <sup>5</sup>	12% (Slamannan)	1.50 (Slamannan)
Greenland/Iceland Pink-footed Goose	485,509 <sup>6</sup>	15.4%	2.37
European White-fronted Goose	-	23%	1.54
Greenland White-fronted Goose	21,509 <sup>7</sup>	20.7% (Islay) 10.8% (Wexford)	2.83 (Islay) 3.14 (Wexford)
Iceland Greylag Goose	60,061 <sup>6</sup>	No data collected: see page 31 for details	
British Greylag Goose	-	45.9% (Tiree)	2.89 (Tiree)
Greenland Barnacle Goose	73,391 <sup>8</sup>	9.6% (Islay) 12.2% (Tiree)	2.05 (Islay) 1.65 (Tiree)
Svalbard Barnacle Goose	39,700 <sup>9</sup>	13.1%	2.20
Dark-bellied Brent Goose	-	9.1%	2.35

1 The official UK population estimates (e.g. for calculation of national 1% thresholds) are those published in: Woodward, I., N. Aebischer, D. Burnell, M. Eaton, T. Frost, C. Hall, D. Stroud & D. Noble. 2020. Population estimates of birds in Great Britain and the United Kingdom. 2020. *British Birds* 113: 69–104. The official flyway population estimates (e.g. for calculation of international 1% thresholds) are those published by Wetlands International at <http://wpe.wetlands.org>.

2 All estimates of breeding success are from surveys undertaken during the 2020/21 season, with the exception of Greenland White-fronted Goose which are for 2019/20.

3 Total for Britain and Ireland recorded in January 2020. *Goose & Swan Monitoring Programme: survey results 2020/21 Bewick's Swan* *Cygnus columbianus*

*bewickii*. WWT/JNCC/NatureScot. <https://monitoring.wwt.org.uk/our-work/goose-swan-monitoring-programme/species-accounts/bewicks-swan/>.

4 Flyway total recorded in January 2020. From; Brides, K., K.A. Wood, C. Hall, B. Burke, G. McElwaine, Ó. Einarsson, N. Calbrade, Ó. Hill, & E. Rees. In Press (2021). The Icelandic Whooper Swan *Cygnus cygnus* population: current status and long-term (1986–2020) trends in its numbers and distribution. *Wildfowl* 71: 000–000.

5 Combined total for the Slamannan Plateau (data provided by the Bean Goose Action Group) and the Yare Valley (data provided by RSPB).

6 Flyway total. From; Brides, K., K.A. Wood, S.N.V. Auhage, A. Sigfússon & C. Mitchell. 2021. *Status and distribution of Icelandic-breeding geese: results of the 2020*

*international census*. Wildfowl & Wetlands Trust Report, Slimbridge. 19pp.

7 Flyway total recorded in spring 2020. Fox, A.D., I.S. Francis, D. Norriss & A.J. Walsh. 2020. *Report of the 2019/20 International Census of Greenland White-fronted Geese*. Greenland White-fronted Goose Study report. 20pp.

8 Flyway total recorded in spring 2020. Mitchell, C. & C. Hall. 2020. *Greenland Barnacle Geese Branta leucopsis in Britain and Ireland: Results of the International census, spring 2020*. NatureScot Research Report.

9 Adopted total for Solway Firth. Griffin, L. 2021. *Svalbard Barnacle Goose distribution around the Solway Firth 2020–2021: Flock counts from the Solway Goose Management Scheme area*. Final report to NatureScot. ECO-LG Ltd on behalf of WWT, Slimbridge.

# Icelandic-breeding Goose Census, 2020

## Kane Brides

Despite various restrictions in place due to the Covid-19 pandemic, the 61st consecutive Icelandic-breeding Goose Census (IGC) took place in October and November 2020, with seemingly little effect on the census with all key sites being covered.

Photo: James Lees/WWT



During the October census, a total of 485,509 Pink-footed Geese was recorded, representing a decrease of 3.1% on the 2019 census total (500,928 birds). The 2020 population estimate is likely to be within +/- 5% of the true population value and it therefore seems that the Greenland/Iceland Pink-footed Goose population has been relatively stable since 2015. In Britain, 15 sites held 10,000 or more Pink-footed Geese in October and 27 sites, each holding more than 1% of the population, accounted for 82.1% of the October total count.

Interestingly, at the time of the October census, two colour-marked Pink-footed Geese that had been captured and marked in England were sighted on mainland Europe. Both birds were reported in separate flocks of several hundred birds. One individual was sighted in The Netherlands in October 2020: this bird had been ringed in Norfolk in 2018 and had previously been seen in the UK (in Dumfries & Galloway) during winter 2019/20 suggesting that this individual is a regular wintering bird in the UK. The other individual was sighted in The Netherlands in October 2020, in Belgium in November 2020 and February 2021, and in Denmark in March 2021: this bird had been ringed at WWT Martin Mere in 2018 and has not been seen in the UK since. The sighting in Denmark suggests that this individual may have joined the population breeding in Svalbard.

Whilst it's not known how many individuals from the Greenland/Iceland population were on mainland Europe during the time of the October IGC, it is possible that some migrating Pink-footed Geese were caught up in an area of low pressure over the southern North Sea named Storm *Odetta* which produced an extended period of disruptive winds,

exceptional rainfall and notably cold temperatures to parts of the UK between 24–26 September 2020, with parts of Norfolk experiencing one of the longest duration of gales to affect the area during the past 30 years (Holley 2021).

During 2020, Pink-footed Geese wintering in Britain experienced a lower than average breeding season, with 15.4% young found in those flocks assessed, which is similar to that recorded in 2019 (15.6%) but lower than the mean for the previous decade (2010–2019: 17.4%). The mean brood size of successful pairs was 2.37 juveniles, which is higher than the previous ten-year mean (2010–2019: 2.00). It is possible that weather conditions in Iceland may have affected the 2020 breeding success to some degree: although the mean temperature in northern Iceland in June 2020 was slightly higher than average, wet and windy conditions were reported for many areas during May 2020.

During the November census, combined results from Iceland, Britain, Ireland and Norway saw 92,582 Greylag Geese counted. This figure was adjusted to take into account the estimated number of British/Irish Greylag Geese likely to have been counted during the census, resulting in a population estimate of 60,061 Iceland Greylag Geese. The 2020 population estimate represents a decrease of 18.1% compared to the previous year (73,355 birds) and remains below the ten-year average of 87,804 (2010–2019) as it has since 2013. The recent apparent decline in the population size is a cause for concern.

During the census, just under three-quarters of the population (71%) were found in North Scotland, primarily on Orkney, with 21.2% in Iceland and less than 4% in each of Norway, Ireland and other regions in Britain. Given the increasing difficulties in carrying out age assessments of Iceland Greylag Geese at wintering areas in Britain, due to the overlap with the British population, no age assessments were undertaken during winter 2020/21.

*As always, we are sincerely grateful to everyone who contributes to the IGC across the flyway.*

## Reference

Holley, D.M. 2021. The impacts of Storm *Odetta* in eastern England, 24–26 September 2020. *Weather* 76: 86–88. <https://doi.org/10.1002/wea.3920>.

# Taiga Bean Geese wintering in Britain in 2020/21

**Carl Mitchell**

There are two regular flocks of Taiga Bean Geese wintering in Britain and, despite some travel restrictions in place due to Covid-19, both were monitored during winter 2020/21. Counts were undertaken at the Slamannan Plateau, Falkirk, by the Bean Goose Action Group and at the Yare Valley, Norfolk, by RSPB reserve wardens and local birdwatchers.

At the Yare Valley, where the number of wintering Bean Geese has been declining for the past 25 years, the peak count was of only six birds, one fewer than the previous winter. The first confirmed sighting was on 25 December, and the six birds were last seen at Cantley on 18 January emphasising the remarkably short duration in which the birds winter in Norfolk. The presumed same six birds were seen at Calton Marshes, Suffolk, on 24 January. It is wonderful that the flock persists, but surely it will not be long before the birds stop wintering in England.

At Slamannan, the first 75 Bean Geese were seen on 5 October, and a peak count of 210 birds was recorded there on 28 November, three more than the

maximum recorded in the previous winter (207). Two Global Positioning System (GPS) tagged birds left as early as 25 January, whilst others remained until what are now more typical dates of early/mid-February. Breeding success was estimated from two separate flocks totalling 167 birds in mid-December; 20 birds were aged as first-winter (12% young) with a mean brood size of 1.5 young per successful pair. The number of Bean Geese wintering at Slamannan has declined from a peak of 300 birds counted as recently as 2007/08.

Since 2011, a number of Bean Geese from the Slamannan flock have been caught and fitted with GPS tracking devices to help map their winter quarters, reveal their migration routes and breeding quarters and shed light on the timing of their movements. Six tagged individuals continued to provide location data throughout winter 2020/21 and revealed that two birds, originally caught in Scotland in October 2019, did not return to Slamannan, instead they wintered in northwest Denmark. This could be one of two strategies: in winter 2019/20, the pair may have chosen to winter in Scotland for the first time and got caught and tagged, with the pair returning to their normal habit of wintering in Denmark; however, it is more likely that the pair were regular Scottish wintering birds, but in 2020/21 “short-stopped” on the Continent. Links with wintering flocks in Denmark have been hard to determine, but “short-stopping” could offer clues as to why numbers are declining at both sites in Britain.

*Thanks to Angus Maciver and Ben Lewis for providing data reproduced here.*



Photo: Thomas Heinicke

# Breeding success of Dark-bellied Brent Geese in 2020

## Kane Brides

2020/21 saw the 36th consecutive season that GSMP volunteers assessed the breeding performance of Dark-bellied Brent Geese wintering in Britain. Flocks found at 100 locations within ten estuaries or coastal areas from North Lincolnshire to The Solent in Hampshire were assessed: 20,827 geese were aged in total.

Overall, the results show that flocks in Britain held 9.1% young, which is lower than the previous year (13.1% in 2019/20) and also the previous ten-year mean (10.2%, 2010/11–2019/20). Brood size information was collected at four of the estuaries/coastal areas and, of the 74 broods recorded, the mean brood size was 2.35 young per successful pair which is slightly higher than the previous year (2.26 in 2019/20) and also the previous ten-year mean (2.17, 2010/11–2019/20).

Reports from monitoring stations in the breeding grounds in Arctic Russia (Soloviev & Tomkovich 2020) suggest that the breeding season was generally average. The weather was reportedly good with many areas experiencing above average temperatures, and rodents were reported in abundance at some monitoring stations (in years with high rodent numbers, predators are able to exploit this resource and prey less on eggs and goslings); therefore, conditions were seemingly good for breeding geese in 2020.

*Our continued thanks goes to all counters who have contributed to these age assessments.*

## Reference

Soloviev, M. & P.S. Tomkovich. 2020. *Arctic Birds: an international breeding conditions survey*. Online database: <http://www.arcticbirds.net/>. Accessed 08/06/2021.

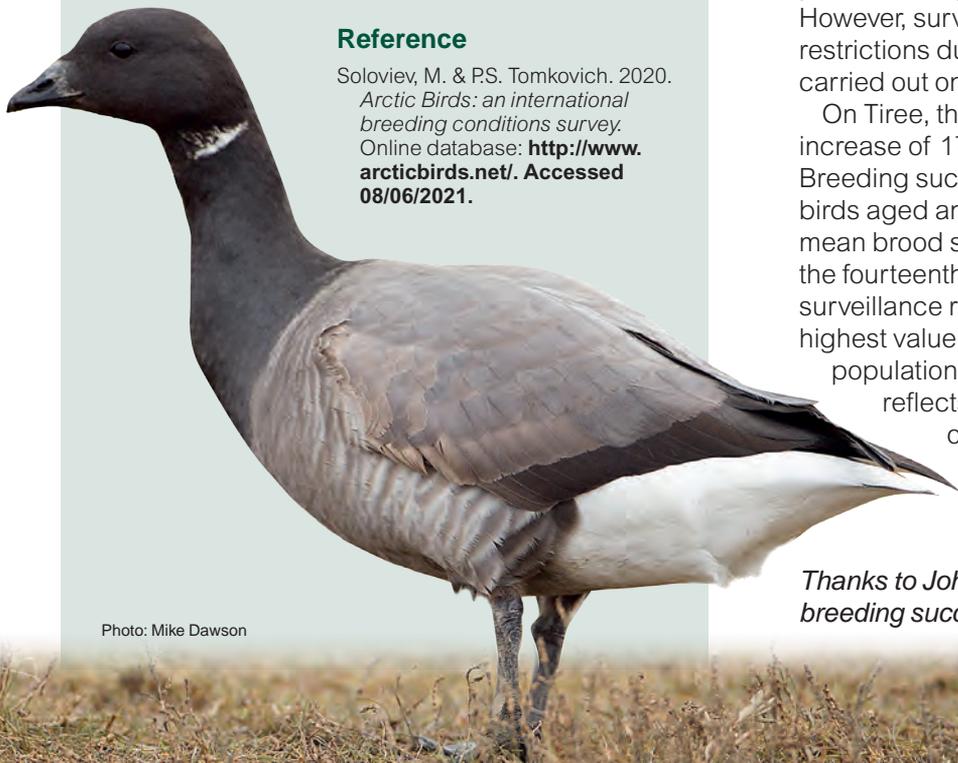


Photo: Mike Dawson

# British Greylag Geese in key areas of Scotland in 2020

## Carl Mitchell



Photo: Mark Wilson

The British population of Greylag Geese is now widespread throughout the country, with birds commonly seen in many areas; thus their status is mostly tracked through the Wetland Bird Survey (WeBS). However, key concentrations in north and northwest Scotland are monitored separately, often as part of goose management schemes. Near annual counts are normally carried out at four key sites in Scotland by NatureScot and RSPB: Orkney, Tiree (Inner Hebrides), the Uists (Outer Hebrides) and Harris/Lewis (Outer Hebrides). A population count and assessment of annual breeding success is usually carried out in late August to assess numbers post-breeding and before the shooting season starts. However, surveillance in 2020 was curtailed by travel restrictions due to Covid-19, and counts were only carried out on Tiree.

On Tiree, the late August count was 3,203 birds, an increase of 17.3% compared to 2019 (2,730). Breeding success was once again high with 2,330 birds aged and, of these, 45.9% were young with a mean brood size of 2.89 per successful pair. This was the fourteenth year in a row that breeding success surveillance recorded over 25% young and the highest value ever recorded. The increase in the population and record breeding success probably reflects a “bounce back” following an absence of shooting parties on the island in winter 2019/20, no egg-gelling due to the lockdown, and good weather in spring 2020.

*Thanks to John Bowler for providing counts and breeding success data reproduced here.*

## Greenland White-fronted Goose population monitoring in 2019/20

**Tony Fox, Alyn Walsh, Ian Francis & David Norriss**

As usual, we report here the results from the simultaneous census of Greenland White-fronted Geese from the winter before last (*i.e.* 2019/2020), presenting the combined results from Britain (coordinated by the Greenland White-fronted Goose Study; GWGS) and from Northern Ireland and the Republic of Ireland (co-ordinated by the National Parks and Wildlife Service; NPWS) in the Republic of Ireland). We continue to be reasonably confident that the numbers presented here are a fair reflection of the total number of birds in the entire global population because of the extraordinary between-year site loyalty shown by marked individuals to their winter quarters. Sequential between winter resightings of marked birds have shown that these geese return to the same areas (often the same parts of the same fields) in successive winters, which gives us some confidence that the regular resorts frequented by this subspecies (which we have located thanks to an army of enthusiastic folk looking for them) constitute their wintering range. With increasing numbers of enthusiastic and well-informed birdwatchers everywhere, we also receive many reports of vagrant Greenland White-fronted Geese from Europe, which confirm that there are not large numbers wintering outside of what we currently think of as their natural range about which we are unaware. This in turn means that if we can coordinate count efforts at all the known sites, we are likely to compile an inventory of numbers present that provides a realistic reflection of the true numbers in the population as a whole. Results from tracking devices

fitted to birds help confirm this, as well as revealing new (and sometimes unknown) feeding sites that help us build confidence in our knowledge of flock distribution and size, as well as contributing to local site safeguard.

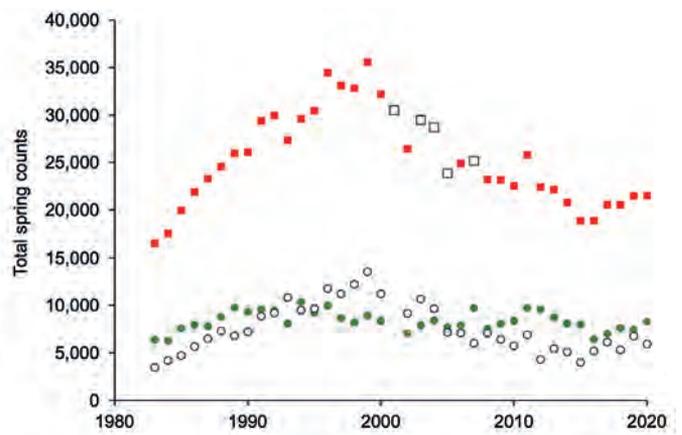
The spring 2020 census found 21,509 Greenland White-fronted Geese, almost identical to the total from the previous census total (21,466, an increase of 0.2%, Figure 1). This total comprised 10,418 in Ireland (including 8,312 at Wexford Slobs, where numbers increased by 12% on the previous year) and 11,091 in Britain (including 5,910 on Islay, where numbers fell back by 13% after the spectacular 27% increase between the springs of 2018 and 2019). The relative large changes in numbers counted at Wexford and Islay continue to challenge our general impression that these birds are highly site loyal, as differential reproductive success alone cannot explain these between-winter changes in abundance. Again, data coming in from the behaviour of tracked birds are also confirming that between-year changes in wintering sites although rare, are more common than we originally thought, based on previous human observations of marked individuals. Human resighting of marked birds are inevitably biased by observer effort, which in any case cannot provide the frequency and detail which loggers fitted to collars can supply to us (*i.e.* many positions every day through day and night).

The lack in overall change in abundance reflected a modest breeding season, which again was the result of mediocre productivity for flocks wintering in Ireland (where overall samples showed 12% young, 11% at Wexford) compared to a very reasonable percentage of young birds in flocks in Scotland (20%, including

21% on Islay sampled there by Dr Malcolm Ogilvie, Table 1). As we documented in *GooseNews* 19, it seems to be the case that birds breeding in the southern part of the breeding range (which ringing and tracking show tend to winter in the north of the wintering range, especially in Scotland) have been returning with greater proportions of young in the last ten years after a period in the doldrums during the 2000s. For the birds wintering in southern Ireland and especially at Wexford, which breed further north in Greenland, there has been less of a recovery, likely because of the difference in spring temperature between these two parts of the range. Spring conditions at Uummanaq towards the north of the goose range in west Greenland at 70°N (where mean May temperatures have been -1°C in the last five years) are likely to be much colder for the same time than at Kangerlussuag at 67°N (mean May temperatures above 3°C for the same years) where Scottish birds are known to breed. Sub-zero temperatures mean that geese cannot dig in the frozen Greenland soil on arrival for nutritious underground overwintering roots and rhizomes favoured in spring. Nor are temperatures high enough to start green growth of grasses and sedges for them to graze during this critical time for females to restore depleted stores of fat and protein after spring migration for investment in eggs and incubation. For the birds breeding further north, it is evident that the colder that the mean temperature is during the period when most Greenland White-fronted Geese arrive to the area (26 April–9 May, measured on Disko Island towards the north of the breeding range), the lower the percentage young which return to Wexford in the following autumn (see *GooseNews* 18: 18–19).

None of the perspective of the annual abundance and distribution of Greenland White-fronted Geese that we have enjoyed over the last 37 years would be possible without the selfless efforts of the counter network! We continue to be extremely grateful for the efforts of all those who go out to count, take age samples and report marked geese for us that enables us to understand a little about these remarkable birds and how we can better protect them for future generations, so a massive thank you again for your efforts in 2019/20!

*We thank the NPWS (throughout Ireland) and the GWGS in Britain for coordinating the annual survey of wintering Greenland White-fronted Geese each season since 1982/83. GWGS gratefully acknowledges financial support for this task from WWT under the GSMP, a partnership between WWT, JNCC and NatureScot. GWGS data from WeBS and BirdTrack were kindly provided by BTO. WeBS data were provided from the partnership jointly funded by the BTO, RSPB and JNCC, in association with WWT, with fieldwork conducted by volunteers. BirdTrack is organised by the BTO in a partnership with the RSPB, Birdwatch Ireland, the Scottish Ornithologists Club, Welsh Ornithological Society and BirdLife International.*



**Figure 1. Graph of annual spring estimates of the global population of Greenland White-fronted Geese wintering in Ireland and Britain (red filled squares, unfilled squares are years with missing counts where total numbers were inferred from counts in previous years). Annual spring counts from the two most numerically important winter resorts, Wexford Slobs (SE Ireland, green filled circles) and Islay, Inner Hebrides (SW Scotland, open circles).**

**Table 1. Annual percentage of first winter Greenland White-fronted Geese among samples taken from Islay, Inner Hebrides, SW Scotland (data courtesy of Malcolm Ogilvie) and Wexford Slobs, SE Ireland (data courtesy Alyn Walsh).**

Breeding season	% young Islay	% young Wexford
2010	22.9	14.7
2011	9.9	7.1
2012	11.1	5.0
2013	17.0	6.8
2014	14.7	5.8
2015	16.1	5.8
2016	18.4	12.2
2017	9.2	5.3
2018	12.3	7.0
2019	20.7	10.8



Photo: David Coombes



Photo: John Whitting

# Good breeding year for European White-fronted Geese in 2020

## Kees Koffijberg & Kane Brides

The 2020/21 season's age-ratio counts in European White-fronted Geese saw the highest proportion of young (first-year) birds since 2005. Based on a sample of more than 300,000 individuals, collected in the UK, Belgium, The Netherlands and Germany, 20.7% of the geese aged were first-year birds (Table. 1). Due to the Covid-19 pandemic, age assessments were only made at one site in the UK, WWT Slimbridge (Gloucestershire), but the results from this location fit well with the overall pattern. Usually, the south-western end of the range tends to see more successful families wintering there, as can be noted from the high proportion of first-year birds seen in Belgium (Flanders) in 2020/21 (Table 1).

In 2020, the mass arrival of geese in Germany and The Netherlands was reported rather early in October, whilst previous years have experienced significant later arrivals in late October or November. Fewer broods were detected among the earliest arrivals, and during most of the winter the percentage of young remained at a similar level. Usually, all flocks of migratory European White-fronted Geese have

departed from Western Europe by the end of March. However, in 2021, birds were still present in wintering areas during the last days of March and into April, the majority of which were juveniles. As was observed in the 1990s, in years with high productivity more birds tend to remain at the end of the season suggesting that (first-year) birds delay their departure back to the breeding grounds.

In a sample of 4,152 broods assessed in Germany, average brood size was 1.86 young per successful pair, which is higher than usual. Amazingly broods of up to ten young were observed (likely consisting of goslings from more than one pair) and broods of 6–8 young were not uncommon. In the small sample checked at WWT Slimbridge, the mean brood size was 1.54 young per successful pair for the 24 broods recorded.

Compared to the long-term data series from The Netherlands, the proportion of young birds in 2020/21 was the highest since 2005/2006. Until well into the 1990s, juvenile proportions exceeding 20% represent average breeding years; but in the new millennium, this has become extremely rare with around 12% first-year birds usually being recorded. With such a high proportion of first-year birds recorded in 2020/21, it is likely that the population total was higher than usual. Indeed, preliminary census data from The Netherlands indicate that in most months during the winter, numbers were slightly above average; however, final collation of these data is still in progress.

**Table 1. Summary of age-ratio counts of European White-fronted Geese from October 2020 to February 2021 (i.e. breeding year 2020). Data are preliminary, as not all counts had been received at the time of writing.**

Country	Number of birds aged	Number of young birds	Percentage (%) young
UK	161	37	23.0
Belgium	2,456	736	30.0
The Netherlands	77,654	16,370	21.0
Germany	231,897	47,479	20.5
<b>Total</b>	<b>312,168</b>	<b>64,622</b>	<b>20.7</b>

# Svalbard Barnacle Geese in 2020/21

**Larry Griffin**

It was with some relief that we welcomed back a bumper crop of young Svalbard Barnacle Geese in October 2020 to the Solway Estuary. After many years of the population having stalled and levelled out and even showing signs of decline, it was soon apparent that spring 2020 had been much kinder to these birds in the increasingly volatile High Arctic of Svalbard at sites suffering from unfolding and amplified climatic change and increasingly desperate polar bears. What remarkably tough and adaptable little geese they are. Even with strong head winds during much of the migratory period from the UK or from Norway in May, and despite late snows in Vesterålen as they tried to find food to fatten up, they still managed to produce a decent crop of young; just over 13%, the second highest percentage of young in the population for the past decade and well above average for that period, and contributing to the increase in the size of the Solway population from 36,000 in 2019/20 to 39,700 in 2020/21.

While a cause for some celebration in some quarters, such improved levels of reproduction can also give us pause for thought. What does the figure of 13% actually mean? Of course once it has been quoted in *e.g.* *GooseNews* or official documents, going forwards it looks more and more solid, more factual, but often it needs to be remembered that such figures are based on rather uneven foundations and it can be interesting to examine those from time to time.

The figure of 13% is an average, of course, and not every flock on similar looking pastures will have this same percentage and it can vary from place to place and day to day. For example, a small flock of 300 birds in a fresh stubble at the start of the season near the edge of the typical winter range might have 70% young whereas later in the season a flock of 300 on a well-nibbled pasture at the centre of the Caerlaverock reserve might have no young. So what we do know is that the number of juveniles varies with flock size, date (in relation to whether or not autumn migration has been completed by the majority of birds – *in extremis* short-stopping, *e.g.* at Budle Bay, can probably have an impact too with families seemingly hanging on there and thus boosting percentage young in such flocks), location (as the wintering geese have home ranges and so you need to move far enough away from the location of your last sample to try and avoid resampling the same birds) and also habitat type, the latter being very important. It also depends whether the observer can

scan the whole flock or part of it (due to terrain, wind, direction of sun, disturbance *etc*) and understands what to do if only scanning parts of the flock to allow for the uneven distribution of young within it (the young tend to feed at the edges of a flock, especially at the front). It is a real can of worms, with confidence in the final figure also depending on the size of the population versus the number of individual birds actually sampled to a statistical extent.

The way I have tried to deal with these elements of variability is to sample as many birds as possible in as many different situations as possible in as many parts of the winter range as possible. Imperfect, I'm sure, but it "feels" like it gives a decent estimate of the young present by the end of the season if you are constantly in contact with the geese and see the flocks day to day and have experience of past years.

As the birds return, most of what remains of the old guard at WWT Caerlaverock (on the Solway Estuary) would know if it had been a poor, average or decent breeding season and that would be resolved over a cup of tea. Beyond that three-point scale, it might be wishful thinking to claim we are being that much more accurate with our final average percentages but hopefully, in terms of the usefulness of such data, it at least provides an index with a sort of semi-standardised error as long as the observer remains the same or can pass on their knowledge of the sampling needs as faithfully as possible.

It always strikes me as somewhat non-21st century that assessing numbers of juveniles in a population can be just as tricky when there are only 300 birds as when there are 40,000. Often due to the vagaries of landscape, weather, disturbance, the birds themselves or random factors like losing one's car keys, it can be just as much of a trial trying to pin down something that seems as elementally simple as a final population figure; just counting what is there.

During a season of many counts and much effort, you might end up with one or two totals that you feel "happy" with; though oddly sometimes a team can feel that a count went well and yet it seems to be missing a fair chunk of the birds that were expected without apparent explanation. Again it's not really something for which there is statistical advice or a model to follow while doing a census and often a person or team has to adapt to the situations they encounter along their route, though of course the statistics can come in afterwards to smooth things out a bit over time and make the trends more apparent and solidify them.

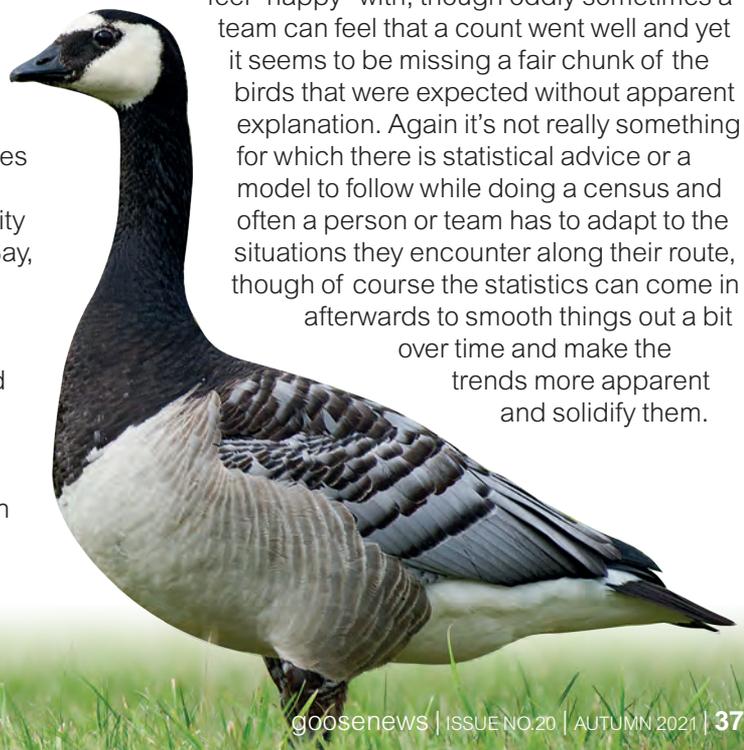


Photo: Johnathan Bull

Observers become familiar with their routes and know the nooks and crannies and the places to get the best views from, even if it's using a scope across miles to get a better view into a field. I find it fascinating that I can still discover new little sweet spots to observe and count from even after 20 years of driving the same roads – one must always stay observant and fresh and expect the unexpected. Individual observer/route familiarity knowledge is difficult to summarise and pass on, hence stability in counter networks and their continued participation is crucial to data continuity and one cannot thank such dedicated counters enough. Of course, if you parachuted a whole new group of people in they might come up with a whole new way of monitoring things that is more efficient, more accurate and less costly...but I doubt it!

After the Covid-19 issues of spring 2020 and lockdown happening the day the geese walked past my cannon-net thus preventing deployment of Global Positioning System (GPS) collar tags I was finally able to catch and tag a cohort of Barnacle Geese in December 2020 as the final part of the three (which became four) year Beck Burn wind farm project (see *GooseNews* 19: 22–23). A great relief, I thought, to finally have 11 new tags on the birds ready for the anticipated migration in May 2021. However, by the next day I was already concerned. Even though there had been a flock of 400–500 birds on the field that day and I had nearly 40,000 geese on the Solway as a whole to choose from, all was not as it seemed.

Usually when catching on the Caerlaverock reserve and fitting tags, or at least what has been the case since 2006, the birds caught always start going their own way the next day. If three tags got fitted, one might go back to the catch field to feed with a flock, the other might head up the River Nith to feed near Dumfries and the other might head to Mersehead or the south side and Cumbria to feed; a variety of responses, and

if it was ten tags the same sort of variety would be seen. At different times during the winter you might note two had come back together within the same flock briefly but by and large they did their own thing.

The surprise of this latest catch was that all 11 birds behaved as one. I had not seen this before, completely overlapping GPS fixes and tracks. It was intriguing and straight away it starts the cogs whirring.

The fields of the reserve had been in the poorest condition I had seen since the Foot-and-Mouth (FMD) year in 2001; the reserve manager had not been able to secure the use of outside stock due to Covid-19 restrictions and so the fields and menses had gone completely ungrazed in 2020 and, although cut to an extent, did not look glossy green. Unlike in the FMD year, where everyone in the parish was kind of in the same boat and all fields looked roughly the same, this year we were the odd ones out as other farms had their own stock and carried on as usual. Therefore, the geese had a choice, and it was understandable that numbers on the reserve massively declined compared to past winters. However it didn't seem wholly out of place that a flock of up to 500 had been about on most days grazing the pastures and indeed it was some of these that were caught in December 2020 and fitted with the GPS collar tags.

Over the weeks before and after Christmas, occasional observation of the flock revealed a hybrid Snow x Barnacle Goose among them and always a considerable number of the 21 birds newly marked with orange leg-rings, including the 11 fitted with GPS tags. I knew from the GPS tags that these geese did occasionally visit other farms and presumably mix with thousands of other birds on such occasions; but I knew from the GPS fixes that the tagged birds were always together too, *i.e.* they must be maintaining their identity as a unit, as a social grouping. It was not at all clear why they would do that as I knew that although



Barnacle Geese usually only maintain family bonds across the first winter, they very rarely maintain bonds with young beyond that first winter/spring period, *i.e.* they are not like Greenland White-fronted Geese that can maintain family group contacts for more like ten years and thus build up a considerable clan of adult-looking birds with groups of 10–20 marked birds from a catch feeding closely together not being uncommon.

The hybrid Snow Goose was kind of key. At the back of my mind I remember seeing one in a picture on the web some years back on a post that had been highlighting some Barnacle Geese with leg-rings passing through Loch Leven in autumn. Suddenly a couple of the odd looking “moulty” birds in this flock of 500 made sense and my realisation was that these were likely to be some sort of feral or naturalised birds possibly from Loch Leven. And so that became my prediction, that they were Loch Leven birds and would migrate there directly from Caerlaverock in March and thus miss the wind farm as they would not be staging at Rockcliffe Marsh in May. Nothing to be done about it, and sure enough, but earlier than expected, the birds headed nearly due north on 21 February 2021 direct from Caerlaverock to Loch Leven and its environs as a tight group.

Although it would have been easy to feel despondent and disappointed at having had such bad luck in catching these non-Svalbard birds, after so much effort and anticipation, it actually felt like more of an opportunity to understand the UK feral/naturalised birds better and also develop a greater understanding of their post-breeding movements, as Carl Mitchell had shown for the Highland Wildlife Park (HWP, Inverness-shire) Barnacle Goose flock a few years earlier through his colour-ringing efforts; those birds turned up in Norway and Iceland and so there might be a variety of strategies at play. The interesting

difference was that the HWP birds are often observed in pairs or small family groups spread across all of the traditional sites around the Solway used by the Svalbard birds, yet these Loch Leven birds seemed to maintain a single social group identity within a flock of about 500 that more than accounts for the 100 birds seen to be breeding on St Serf’s Island, Loch Leven, in May 2021 (LRG pers. obs.). What are the other 400 birds? None were likely to be HWP birds as no blue leg-rings were seen. And why and how do the Loch Leven birds maintain their tight social cohort within the huge flocks of Svalbard birds on the Solway? Is it through calls or subtle plumage differences or is it through such things in combination with “character”? How is this different social structure, not seen in Svalbard birds, useful to them and how does it occur in terms of genetic versus environmental response?

This unlucky/lucky fluke of catching has also opened up an opportunity to better understand the annual hormone cycles of this species through collaborative work with a parallel tracking study using the same technology on Ny Aalesund birds in Svalbard, with the Loch Leven birds acting as a sort of temperate control group whose droppings are now collected each month for analysis. It is interesting too that these feral birds seemed to choose or perhaps be “displaced” onto the poorer quality forage fields of the reserve this winter suggesting they might be lower quality birds. As always though when following these birds and their personal biographies through the tags they often throw up more questions than answers.

*Our thanks to the Solway census, ring-reading and catch teams for their sterling efforts again this winter, and to Derek Forshaw for observations from Budle Bay. Arcus Consultancy Services Ltd facilitated the tracking work which was appreciated.*



Photo: Adam Freeman/WWT

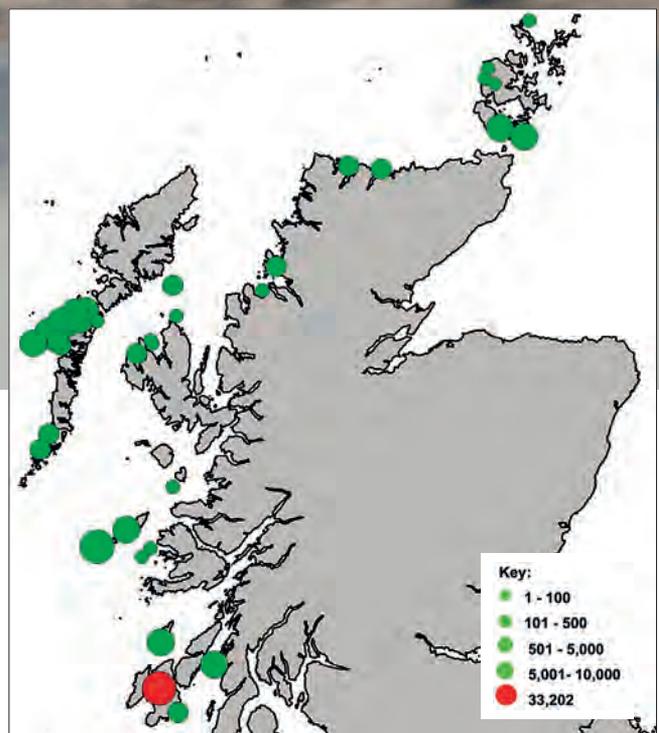


# Greenland Barnacle Goose Census, March 2020

**Carl Mitchell**

In mid-March 2020, the most recent flyway-wide census of Greenland Barnacle Geese took place in Scotland and Ireland, including those parts of the winter range that need to be checked using a light aircraft. Overall, a total of 73,391 birds was counted, a 1.7% increase on the last complete census conducted in 2018 (72,162).

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 1). The total was 58,135 birds, an increase of 4.0% since March 2018. Islay was the most important site with 33,202 birds counted, 4.4% lower than the number recorded there two years previously (see *GooseNews*



**Figure 1. The distribution of Greenland Barnacle Geese in Scotland recorded during the mid-March 2020 international census.**

17: 20–21). However, overall numbers elsewhere in Scotland increased 17.7% between 2018 and 2020.

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.

Barnacle geese now breed in southeast Iceland, in an area where birds from the Greenland flyway are



Photo: Sacha Dench/WWT

## Greenland Barnacle Geese wintering in Scotland in 2020/21

**Carl Mitchell**

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 in 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 south into Ireland. 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). 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 (see also *GooseNews* 14:10–11). In winter 2020/21 a further 805 Greenland Barnacle Geese were shot on Islay.

Away from Islay, notable counts included 7,416 birds on Tiree & Coll in March, 2,753 on Oronsay/Colonsay in December and 700 on Danna in March.

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 and showed that 9.6% were young with a mean brood size of 2.05 young per successful pair. The proportion of young recorded on Islay has been over 10% in only three of the last ten years. On Tiree, a sample of 600 birds held 43 young (7.2%) with a mean brood size of 1.4 young per successful pair.

The marking of Barnacle Geese in this population continued in 2020 with over 400 newly ringed birds in southern Iceland (see *GooseNews* 18: 20). With so many birds now colour-ringed, it is well worth checking flocks for marked birds.

*Thanks go to Malcolm Ogilvie and John Bowler for providing age counts and to NatureScot for providing counts from Islay.*

known to stage on autumn passage. In 2009, about 40 Barnacle Geese were known to nest in the area. Fieldwork in the summer of 2014 revealed at least 509 nests, an increase of over 1,200% in five years, and by 2017, the number of nests had increased to nearly 2,000, each comprising two adults. In addition, the summering population will include many hundreds of non-breeding geese and failed breeders, as well as the goslings produced from each successful nest. In total, 941 birds have been caught and ringed there during their annual wing moult in July and sightings of the marked geese indicate that the Iceland-breeding birds winter throughout the range of the Greenland population. Thus, there is compelling evidence to consider the two breeding areas comprise birds of one Greenland/Iceland Barnacle Goose population.

*Thanks go to Alyn Walsh and David Tierney for providing census count data from Ireland. Special thanks are also extended to all those who helped with ground counts during the census and to Colette Hall for assistance with the aerial surveys.*

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



Photo: Ernest Duscher

## Results of the 2020 International Swan Census

### Kane Brides

January 2020 saw the 9th International Swan Census (ISC) take place, with submitted counts contributing to the revision of the Iceland Whooper Swan and the Northwest European Bewick's Swan population estimates. The census also aims to provide up to date information on the swans' distribution, breeding success and habitat choice.

During the coordinated count weekend, counters were out in force across Britain and Ireland checking wetlands, agricultural land and other habitats for the two migratory swan species. Similarly, our colleagues in Iceland undertook ground and aerial counts to assess the number of Whooper Swans still in the country during the census. All the counts from Britain, Ireland and Iceland have been collated and outcomes highlight very different fortunes for the two species.

As per each census since 1995, results from 2020 show that the Iceland Whooper Swan population has continued to increase, with numbers rising by 27.2% from 34,004 birds in 2015 to 43,255 in January 2020 (Brides *et al.* In press). The population now stands at almost three times what it was in 1995, when the lowest estimate (15,842 individuals) was recorded. During the 2020 census, England and the Republic of Ireland held the highest percentages of the population (36.8% and 33.4%, respectively), with a lower percentage recorded in Scotland (11.7%), Northern Ireland (10.7%), Iceland (6.8%), and Wales/Isle of Man/Channel Islands (<1.0% combined). Despite numbers generally rising in most countries, censuses have indicated a south-easterly shift in the mid-winter distribution of the population with

an increasing proportion seen in England during each census.

Troublingly, for Bewick's Swans wintering in Britain and Ireland, the 2020 census results paint a very different picture. Counts received from 22 sites across the two countries yielded totals of just 1,278 birds in Britain and 12 in Ireland. Combined, this represents a decline of 70.6% compared with the total recorded in 2015 and represents, by far, the lowest census total to date. In Britain, the majority of the birds (79.8%) were recorded at two sites: The Ouse Washes in Norfolk/Cambridgeshire (873 birds), and the Nene Washes, Cambridgeshire (147), whilst all other sites each held less than 90 birds. Just two sites in the Republic of Ireland held the 12 birds between them, and it is clear from the ever decreasing numbers that the Bewick's



Photo: Jonathan Bull



## Whooper & Bewick's Swan breeding success, 2020/21

Swan is becoming an increasingly scarce bird in Ireland.

The low number of Bewick's Swans recorded during the 2020 census is likely due to the contributing factors of an overall population decline twinned with the so called 'short-stopping' phenomenon, whereby the birds winter further east within Europe than they once used to. At the time of writing, results from elsewhere along the flyway of the Northwest European population are still being collated. Given the low numbers recorded in Britain and Ireland, it will be interesting to see how the results from there compare with the bigger picture.

The swan census takes place every five years and the mammoth task of ensuring good coverage across the whole flyway falls to the incredible teams of organisers and counters. Over the years we have been rewarded with a much better insight in to the ongoing rise and fall of our wintering swan populations, with all the data collected contributing to updating the species' population statuses and future conservation action.

Our sincere thanks go to the many volunteers who have taken part in the ISC: including those of the GSMP, the Wetland Bird Survey, the Irish Wetland Bird Survey and the Irish Whooper Swan Study Group. We really could not do this without you! Our thanks also go to all our colleagues across the flyway who have contributed to the census across the years.

The results of the Icelandic Whooper Swan census will be published later in 2021 in *Brides et al.* (In press), whilst overall results for the Northwest European Bewick's Swan population will be published in due course by the IUCN SSC Swan Specialist Group.

### Reference

Brides, K., K.A. Wood, C. Hall, B. Burke, G. McElwaine, Ó. Einarsson, N. Calbrade, Ó. Hill, & E. Rees. In Press (2021). The Icelandic Whooper Swan *Cygnus cygnus* population: current status and long-term (1986–2020) trends in its numbers and distribution. *Wildfowl* 71: 000–000.

### Kane Brides

As a result of the travel restrictions in place due to the Covid-19 pandemic, fewer over-wintering swans were aged in Britain during the 2020/21 season. Staff at WWT reserves Caerlaverock (Dumfries & Galloway), Martin Mere (Lancashire) and Welney (Cambridgeshire/Norfolk) and RSPB staff on the Nene and Ouse Washes (Cambridgeshire/Norfolk) managed to undertake some counts, along with a few counters in Scotland who carried out surveys as part of their permitted daily exercise. No surveys were undertaken in Ireland.

A total of 4,327 Whooper Swans was aged (10% of the total population, 43,255): 3,810 birds in England and 517 in Scotland. Overall, 11.8% of birds were cygnets, this being lower than the previous ten-year mean (16.0%, 2010/11–2019/20). The mean brood size for pairs with young was 2.11, which was higher than the previous ten-year mean (2.01, 2010/11–2019/20).

During January 2021, 547 Bewick's Swans were aged across three regions in Britain with flocks containing 8.8% cygnets, which is notably lower than the previous ten-year mean (11.9%, 2010/11–2019/20) suggesting another poor breeding season. The mean brood size of 1.95 young per successful pair was slightly higher than the previous ten-year mean (1.69, 2010/11–2019/20). At the time of writing, age assessment results for the NW European Bewick's Swan population from elsewhere across the flyway are not yet available, so it is unclear how representative the results from Britain are of the population as a whole.

*Our continued thanks goes to everyone who helps with these age assessments.*

# Conservation and research news

## Whooper Swan productivity in a changing world

**Oisín Hill, Kane Brides & Kevin Wood**

The international census of the Iceland Whooper Swan population in Britain, Ireland, Iceland, the Isle of Man and the Channel Islands, has been conducted at roughly five-yearly intervals for the past 40 years in order to monitor swan population, distribution and breeding success. The most recent census was undertaken in January 2020 and the results report a 27.2% increase in the population since the previous census in 2015 (see page 42). This increase is notable as it contrasts with the overall decline of other migratory wildfowl populations, including the Bewick's Swan; a close relative with which Whooper Swans share wintering grounds.

To date, however, the demographic and environmental causes of the increase in population size have received little attention. Previous research has found that there is very little interchange between the Iceland Whooper Swan population and other populations (Brides *et al.* In press), thus the increase in Iceland Whooper Swan numbers must be due to an increased survival rate, an increase in productivity, *i.e.*

breeding success, or both. To better explain this change we must analyse the environmental factors that might increase Whooper Swan productivity.

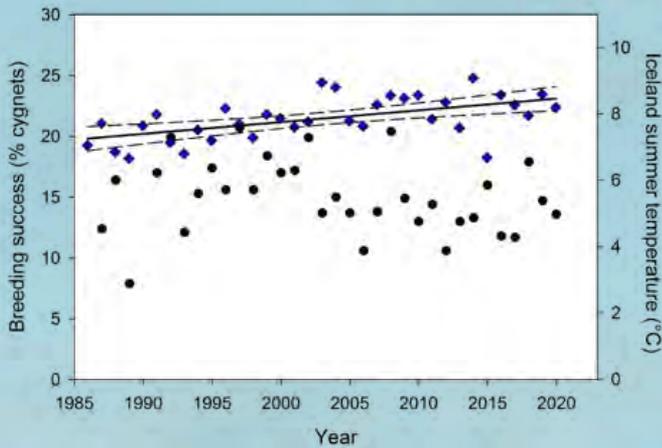
Productivity in Bewick's Swans was shown to be sensitive to changes in temperature on the breeding grounds (Wood *et al.* 2016), but no such study had yet been conducted for Whooper Swans. To address this knowledge gap, we recently analysed the data on Whooper Swan breeding success, collected at sites across Britain over the past several decades. We assessed whether variation in breeding success could be explained by variation in temperature and, if so, determine how strong any such effect has been on the Iceland Whooper Swan population. The information gained will aid in explaining the increase in the population and improve our understanding of how demographic rates may respond to environmental changes in the future, aiding ongoing conservation efforts.

To carry out this analysis we used the annual average estimates of the percentage of cygnets recorded during age assessments carried out at and around three WWT sites in the UK: Martin Mere and the Ribble Estuary (Lancashire), Welney and the Ouse Washes (Norfolk/Cambridgeshire) and Caerlaverock (Dumfries & Galloway). Whooper Swans exhibit prolonged parental care and cygnets migrate with their parents during their first winter. The juveniles are easily identifiable in their grey, downy feathers; this enables assessments of breeding success to be made when the birds are concentrated on the winter grounds. We used the breeding success figures from these three sites because age assessments are carried out there annually, rather than just every five

Photo: Brian Burke

years for the international census, allowing greater statistical power in our tests and hence greater confidence in our results.

Our analysis compared swan breeding success to summer temperature in Iceland during the breeding season, and in the previous winter in Britain. However, we found no evidence to support the hypothesis that fluctuations in the temperatures experienced by the swans in either Britain or Iceland have had any significant effect on Whooper Swan breeding success



**Figure 1. The inter-annual variation in Whooper Swan breeding success measured each winter (black circles), as well as the mean temperature in Iceland during the preceding summer (blue diamonds). The solid and dashed lines indicate the mean and 95% confidence intervals of the Icelandic temperature data, respectively, based on a linear regression.**

(Figure 1). This result was unexpected, especially as summer temperatures in Iceland have risen since the 1980s (Figure 1). The study more broadly also demonstrates that there has been no major increase in breeding success across the whole Iceland population, suggesting that the increase in the population can likely be explained by an increased survival rate, with fewer swans dying each year, rather than more cygnets being produced and recruited into the population.

These results contrast with previous analyses of similar migratory wildfowl, such as the aforementioned Bewick’s Swan, which showed higher breeding success in years of higher temperatures on the breeding grounds. This could be partially due to Bewick’s Swans breeding at a more northerly, Arctic latitude with a lower mean temperature than the Sub-Arctic breeding grounds of the Whooper Swans.

As mentioned before, the most likely explanation for the population increase is an increased survival rate of one or more age classes of Whooper Swans. However, more research is necessary to confirm this and to ascertain the causes of any such increase in survival. Plausible explanations could include greater protection of key sites across the flyway, and milder weather conditions on wintering grounds and during migration.

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# Tagging Greylag Geese in Iceland

Simon Cohen



Photo: Brian Burke

The majority of Iceland Greylag Geese winter in the UK, particularly in Scotland, with smaller numbers in Iceland, Ireland and Southwest Norway. Having peaked at 111,500 birds in 2011, the population has been steadily declining with the 2020 estimate being of only 60,061 birds. In recent years, the distribution of birds wintering in the UK has also moved northwards with over 70% now found in North Scotland, primarily on Orkney.

The Greylag Goose is also Britain's only native breeding goose but, due to hunting and persecution, was reduced by the early 1900s to a small remnant population in the far northwest of Scotland. Between the 1930s and 1960s, birds derived from eggs taken from this population were released in their former range in the UK. Both the remnant Northwest Scotland population and the re-established population have increased in numbers and range to a point where they have overlapped and it is now impossible to treat them as separate populations. As a result, since 2010, all Greylag Geese breeding in Britain have been recognised as a single non-migratory British Greylag Goose population (see Mitchell *et al.* 2008).

The expansion of the British Greylag Goose population means there is now considerable overlap in the distribution of wintering Iceland Greylag Geese and resident British Greylags. As the two populations are indistinguishable in the field, producing a separate count of the Icelandic birds has become increasingly difficult. Orkney, now the main wintering site for Iceland Greylags, has a resident population of approximately 20,000 British Greylags. Here, the number of Icelandic birds is estimated by counting all Greylags on the islands and then deducting the number of birds counted during the most recent late summer survey (which take place before the Icelandic birds arrive), while taking into account an estimate of the number of British Greylags shot between the autumn surveys and the proceeding summer. The difficulty in separating the two populations has also resulted in a decision, based on ring re-sighting data and by comparing limited summer and winter counts, to treat all Greylag Geese counted south of a line running from Bute in the southwest of Scotland to Aberdeen in the northeast as being from the British population. This may mean the number of Icelandic birds is being underestimated if there are still significant numbers wintering south of this line and mixing with the British residents. Furthermore, the ability to make age assessments and derive productivity figures for the Icelandic birds while they are in the UK is now almost impossible because of the overlap in range with the British birds, which are likely to have very different productivity rates.

The expansion of the British Greylag Goose population has brought them into conflict with agricultural economic interests, primarily in the Outer Hebrides and Orkney. As a result there have been goose management schemes established in these island groups aimed at trying to reduce agricultural damage by reducing the local Greylag Goose populations. Greylag Goose was also added to General Licence 02 (GL02) in Scotland that allows certain bird species to be killed to prevent serious damage to crops. The control period for Greylag Geese under GL02 has recently been extended and now overlaps with the late winter period when Iceland Greylag Geese are present in Scotland, which was previously in the close season for goose shooting. The overall effect of the demographic and range changes in the two populations means that the hunting of resident British Greylags may be having an adverse impact on the declining Iceland population. It also adds to the increasing difficulty of making accurate population and productivity estimates for Icelandic birds in Britain.

To try and answer some of the questions about the winter distribution of Iceland Greylag Geese and how they mix with the British population in Scotland, NatureScot and the Icelandic Institute of Natural History (IINH) have formed a partnership to attach Global Positioning System (GPS) collars to 33 Greylag Geese in Iceland in summer 2021. By using telemetry data, the aim is to identify how the two populations mix in Britain during the winter, allow age estimates to be undertaken in Iceland when the birds are being marked, and potentially in Britain if there are marked birds in family groups, and track in-winter movements of birds.

The telemetry collars are grey and there will also be an orange leg ring on GPS-tagged birds. A small number of Greylag Geese may also be marked with orange leg-rings and orange, non-telemetry, plastic neck-collars during the project. NatureScot and the IINH are hoping that goose counters across the UK will report any sightings of marked Greylag Geese that they see to **GREYLAG@nature.scot**.

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# In memoriam: Julian Taylor (1929–2021)

Tony Fox & John Turner



Julian in Iceland, 1952.

Julian Taylor was born in Quetta (formerly in India, now in Pakistan), where his father was a doctor, but growing up in a Lakeland cottage between Bowness and Kendal instilled in Julian an early love for nature. Peter Scott's books, *Morning Flight* and *Wild Chorus* opened his eyes to the magical world of wild geese, so while a pupil at Oundle School, Julian wrote to Peter (a previous pupil at the school) who came and gave the boys a talk, inviting Julian personally to visit the fledgling Severn Wildfowl Trust reserve at Slimbridge. Julian saw his first Red-breasted and two Lesser White-fronted Geese from the concrete pillbox on the saltmarsh during that first visit, enrolling as an early Trust member. His passion for geese and wild places grew, joining Trust surveys to count geese on the Wash, and rocket-netting geese with Hugh Boyd in Lincolnshire and on the Solway, where he formed a lifelong relationship with the Caerlaverock reserve from its instigation. In 1952, Julian explored interior north-central Iceland with two friends, who were the first to observe and describe the moult migration of non-breeding Pink-footed Geese flying strongly north-westwards from there to East Greenland. He spent subsequent years searching for breeding Lesser White-fronted Geese in Lapland, Barnacle Geese in Svalbard and wintering Red-breasted Geese in Romania.

Julian gained a first in zoology from Trinity College Cambridge and joined the British Antarctic Survey for three years "down south", where he enjoyed legendary respect for his work to improve the diet, treatment, breeding and care of the working sledge dogs that were so fundamental to Antarctic research in those days. Always an aspiring sailor, he joined the Blue Funnel Shipping Line in Liverpool on his return, rapidly rising through its ranks to become Technical

Director. Julian became an energetic and accomplished businessman with a strong sense of community service, serving as Chairman of the Manchester Ship Canal Company, the Groundwork Trust, Harwich Haven Authority and on the National Rivers Authority, lifetime professional achievements that make his contributions to goose and wetland conservation all the more remarkable.

Julian loved the Ribble Estuary, where he had lived in a remote cottage, and was a life-long avid goose counter and fan of the Trust. Hence, it was only natural that he supported Peter Gladstone during the initial development of the new Martin Mere WWT reserve, subsequently giving inspirational support to Janet Kear as Curator at the site, when the reserve and the numbers of Pink-footed Geese blossomed. He also was a great fan of John Doherty and Richard Hesketh and supported them during their time at WWT Caerlaverock. In later life, Julian was a truly devoted full-time carer to his beloved wife Jackie, after she developed Alzheimer's in the last ten years of her life. Passionate about nature conservation, Julian was careful to promote conservation success stories in a world where it is all too easy to be overwhelmed and depressed by the apparent hopelessness of the pressures on our natural world. While we will personally greatly miss his love of music, poetry and gardening, as well as his enthusiastic handwritten letters and breathless telephone conversation on all aspects of ecology, nature conservation and the protection of the natural world, the world is much the poorer for the departure of this energetic, engaging and remarkable man.

*Julian shared a few of his goose related memories in his article 'Wild geese in my life', published in GooseNews 17: 6.*

# The GSMP partnership

The Goose & Swan Monitoring Programme (GSMP) monitors the abundance and breeding success of the UK's native geese and migratory swans during the non-breeding season. The GSMP is organised by the Wildfowl & Wetlands Trust (WWT) in partnership with the Joint Nature Conservation Committee (JNCC) and NatureScot.

The members of the GSMP Steering Group in 2020/21 were Colette Hall (WWT), Geoff Hilton (WWT), Kirsi Peck (JNCC), Anna Robinson (JNCC) and Simon Cohen (NatureScot).

## Contributors

**Brian Burke** is a scientific officer for the Irish Wetland Bird Survey, in the Surveys and Monitoring department at BirdWatch Ireland, Republic of Ireland.

**Simon Cohen** is a Policy & Advice Officer (Ornithology) at NatureScot, UK.

**Tony Fox** is Professor of Wetland Ecology in the Department of Bioscience, Aarhus University, Kalø, Denmark.

**Ian Francis** is an area manager for RSPB in Scotland and also helps coordinate counts for the Greenland White-fronted Goose Study in the UK.

**Larry Griffin** is the Director & Chief Scientist of ECO-LG Ltd, UK.

**Oisín Hill** is a reserve placement student at WWT Martin Mere, Lancashire, UK.

**Kees Koffijberg** is a coordinator of the Waterbird Monitoring Unit at SOVON (Dutch Centre for Field Ornithology), The Netherlands.

**Carl Mitchell** is a freelance ecologist, UK.

**Simon Richie** is a Reserve Officer at NatureScot's Loch Leven National Nature Reserve in Scotland, UK

**Angus Maciver** is a Bean Goose Monitoring Officer at the Slamannan Plateau, Scotland, UK.

**David Norriss** is a count coordinator for the Greenland White-fronted Goose counts in Ireland.

**Eileen Rees** is the Chair of the IUCN SSC Swan Specialist Group, UK.

**John Turner** is a long-standing goose enthusiast, having lived at WWT Martin Mere and initiated the marking of Pink-footed Geese there, as well as following them to breeding areas in Iceland and NE Greenland.

**Alyn Walsh** is a Conservation Officer in the Research Branch of the Birds Unit at the National Parks and Wildlife Service, Ireland.

**Kevin Wood** is a Principal Research Officer in the Conservation Evidence Department at WWT Slimbridge, UK.

## The GSMP team at WWT

**Colette Hall** (Senior Research Officer, Conservation Evidence Department) GSMP Project Manager  
([colette.hall@wwt.org.uk](mailto:colette.hall@wwt.org.uk))

**Kane Brides** (Research Officer, Conservation Evidence Department) GSMP Network Coordinator  
([kane.brides@wwt.org.uk](mailto:kane.brides@wwt.org.uk))

For general enquires please contact the team at  
[monitoring@wwt.org.uk](mailto:monitoring@wwt.org.uk)

WWT, Slimbridge, Gloucestershire GL2 7BT, UK  
T: 01453 891900



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## Goose & Swan Monitoring