

# WWT/JNCC/SNH Goose & Swan Monitoring Programme

## survey results 2013/14

### Whooper Swan *Cygnus cygnus*

#### 1. Abundance

##### WeBS/I-WeBS

The abundance of Whooper Swans in the UK and the Republic of Ireland in 2013/14 was monitored through the Wetland Bird Survey (WeBS) and the Irish Wetland Bird Survey (I-WeBS), respectively. Results from these schemes are presented in survey reports which are available to download from the schemes' websites.

##### International Swan Census

The 6th international census of Whooper Swans (International Swan Census) was undertaken in January 2010, covering Britain, Ireland and Iceland: this census is carried out every five years. A total of 29,232 Whooper Swans was recorded, representing an increase of 10.9% since the previous census in 2005 (Figure 1). The results from this census have been presented in Hall *et al.* (2012).

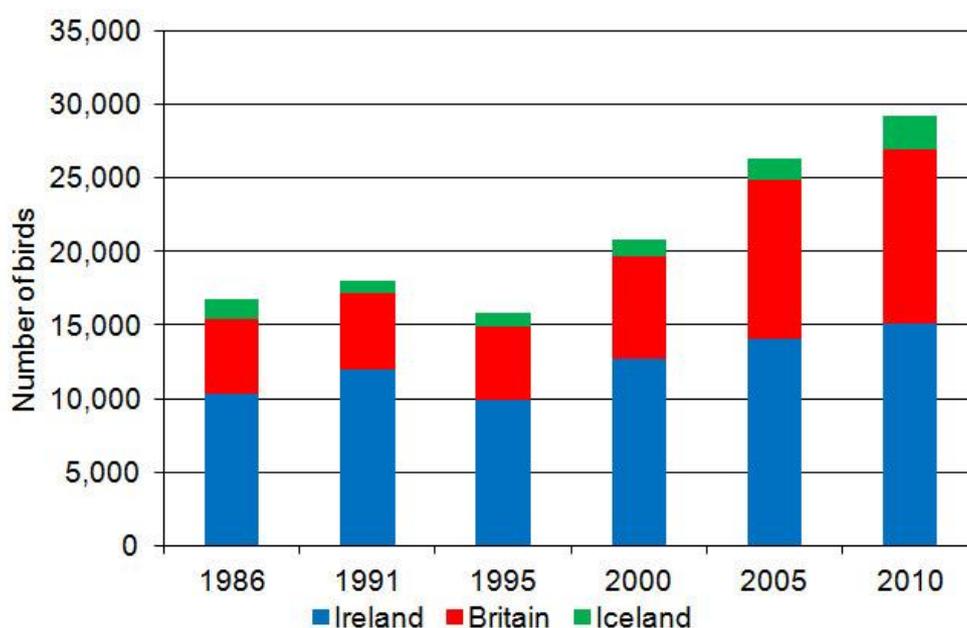


Figure 1. Number of Whooper Swans recorded in Britain, Ireland and Iceland during the International Swan Census, 1984 – 2010.

#### 2. Breeding success

Whooper Swan age assessments were conducted in seven regions across Britain and Ireland during winter 2013/14 (Table 1). Age assessments were made in all regions (except for east central England) in mid-winter (between 7 and 29 January 2014), when the majority of families were likely to have arrived from Iceland to wintering sites in Britain and Ireland. In east central England (WWT Welney and the Ouse Washes/Nene Washes), age assessments were undertaken on 9 December 2013 as it was not possible to conduct a comprehensive count in January. Regional variation in the percentage of young and mean brood size was assessed to determine any bias in the geographical distribution of family parties.

A total of 13,438 Whooper Swans was aged (just under 50% of the total population; 29,232 Hall *et al.* 2012) (Table 1). Overall, 14.5% of birds were cygnets and the mean brood size for pairs with young was 1.9 cygnets.

Table 1. The percentage of young (%) and mean brood size of Whooper Swans during the 2013/14 winter (regions defined below).

Region	Total aged	Percentage of young (%)	Number of broods	Mean brood size
Northwest England	1,067	17.7	90	1.7
East Central England	5,829	12.8	378	2.0
Southwest Scotland	361	10.5	22	1.7
West Scotland	75	16.0	5	2.4
North Scotland	176	13.6	11	2.2
Northern Ireland	2,160	18.9	167	1.9
Republic of Ireland	3,770	14.1	259	1.9
<b>Overall</b>	<b>13,438</b>	<b>14.5</b>	<b>932</b>	<b>1.9</b>

Regions (counties from which data were received in 2013/14):

Northwest England: Cumbria , Lancashire (WWT Martin Mere/Ribble Estuary)

East central England: Cambridgeshire, Norfolk (WWT Welney/Ouse Washes/Nene Washes)

Southwest Scotland: Dumfriesshire (WWT Caerlaverock)

West Scotland: Argyll &amp; Bute

North Scotland: Aberdeenshire

Northern Ireland: Co. Antrim, Co. Armagh, Co. Down, Co. Fermanagh, Co. Londonderry, Co. Tyrone,

Republic of Ireland: Co. Cavan, Co. Clare, Co. Cork, Co. Donegal, Co. Galway, Co. Kerry, Co. Leitrim, Co. Limerick, Co. Mayo, Co. Meath, Co. Monaghan, Co. Roscommon, Co. Sligo, Co. Tipperary, Co. Waterford, Co. Westmeath, Co. Wexford, Co. Wicklow

There was evidence of variation in the distribution of families between regions ( $X^2_6 = 61.0$ ,  $P < 0.01$ ). Highest breeding success was found for birds which subsequently wintered in Northern Ireland (18.9%), northwest England (17.7%) and west Scotland (16.0%) although the flock size of swans aged in west Scotland was low in comparison with the other regions surveyed (Table 1).

However, higher breeding success was found in northern regions (Scotland and Northern Ireland) compared to southern regions (England and the Republic of Ireland) (17.4%,  $n = 2,772$  and 13.8%,  $n = 10,666$ , respectively;  $X^2_1 = 23.173$ ,  $P < 0.01$ ), which may reflect a general preference for Whooper Swan families to select wintering sites closest to their Icelandic breeding grounds (Rees *et al.* 1997). Regional variation in brood size was also evident, ranging from 1.7 cygnets per family in southwest Scotland and northwest England to 2.4 cygnets per family in west Scotland.

The mean percentage of young in flocks at and around WWT centres (*i.e.* WWT Martin Mere/Ribble Estuary, WWT Welney/Ouse Washes/Nene Washes and WWT Caerlaverock), where data are collected annually, was 13.3% ( $n = 7,080$ ), which was slightly lower than the previous ten-year mean (2003/04–2012/13; 13.9%  $\pm$  0.9 SE) (Figures 2 & 3). The mean brood size for these three regions was 1.9 cygnets per family, also below the ten-year average (2003/04–2012/13; 2.3  $\pm$  0.09) (Figure 2).



Figure 2: The percentage of young (blue circles), with the rolling five-year mean of % young (red line), and mean brood size (red triangles) of Whooper Swans recorded at WWT Welney/Ouse and Nene Washes, WWT Caerlaverock and WWT Martin Mere/Ribble Estuary, 1994/95–2013/2014. Five-year mean values for the percentage of young were calculated for the five years preceding the year in question.

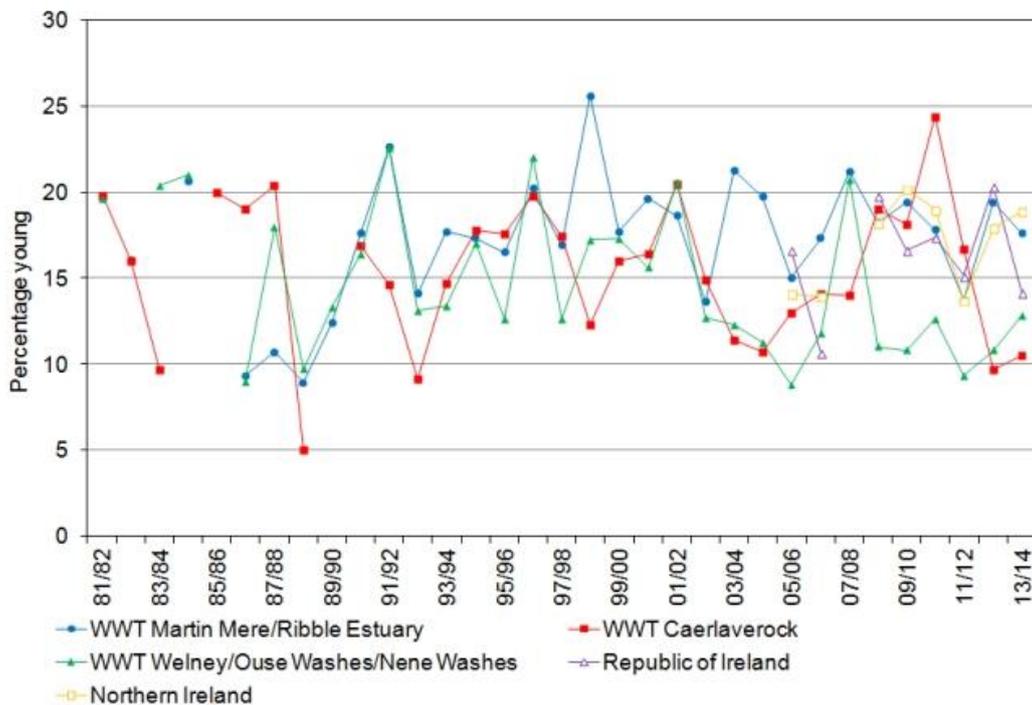


Figure 3: The percentage of young Whooper Swans recorded at WWT Welney/Ouse Washes/Nene Washes, WWT Caerlaverock, WWT Martin Mere/Ribble Estuary, Northern Ireland and the Republic of Ireland, 1994/95–2013/14.

### 3. Discussion

In 2013, Icelandic Whooper Swans experienced an average breeding season, with the percentage of young wintering at and around WWT centres (13.3%) slightly lower than the average recorded at these sites over the previous ten years (13.9%). Icelandic colleagues reported that the spring had

been cold in Suður-Pingeyjarsýsla and a late spring thaw caused the flooding of some nests during snow melt. Low temperatures and heavy rain persisted during the summer (S. Thorstensen pers. comm.). This would have almost certainly impacted on birds breeding in this region.

#### 4. Acknowledgements

C. Liggett for information from the Ribble Estuary, WWT and RSPB staff and volunteers at Caerlaverock (J. Bilous, L. Griffin, M. Youdale, R. Hesketh), Welney/Ouse and Nene Washes (S. Wiltshire, L. Marshall, P. Harrington, M. Burdekin, A. Maddams, D. Fotherby, C. Kitchin and Steve Flint) and Martin Mere (T. Clare and K. Brides); to the Irish Whooper Swan Study Group in Ireland, B. McPolin, C. Clotworthy, D. Cotton, D. Coombes, D. Kennedy, D. Nixon, D. Reid, D. Suddaby, G. Coughlin, G. Henderson, G. Murphy, I. Manning, J. Devlin, J. Dunleavy, J. O'Boyle, J. Reid, J. Small, K. Hunter, K. Mackie, K. Partridge, L. Kane, M. Bell, M. Enright, M. Manning, M. Quinn, N. Ireland, N. McCullough, N. Raftery, P. Watson, R. Glynn, R. Watson, S. Newton, T. Hunter, T. Murray and U. Manning; and the following individuals in Scotland; J. Bowler, M. Smith and V. Anderson; and to B. Jay and C. Liggett in Northern England. We are especially grateful to Graham McElwaine for co-ordinating and conducting age counts in Ireland.

#### 5. References

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This report should be cited as:

WWT. 2014. *Goose & Swan Monitoring Programme: survey results 2013/14 Whooper Swan* *Cygnus cygnus*. WWT/JNCC/SNH, Slimbridge.

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This report was produced under the Goose & Swan Monitoring Programme (GSMP). This programme monitors numbers and breeding success of geese and swans in the UK during the non-breeding season. GSMP is organised by the Wildfowl & Wetlands Trust in partnership with the Joint Nature Conservation Committee (on behalf of Natural Resources Wales, Natural England and the Council for Nature Conservation and the Countryside) and Scottish Natural Heritage.



## Goose & Swan Monitoring