

WWT/JNCC/SNH Goose & Swan Monitoring Programme

survey results 2009/10

*Bewick's Swan *Cygnus columbianus bewickii**

1. Abundance

The seventh International Census of Bewick's Swans took place in January 2010. Results from the census will be posted here when they are available.

The sixth internationally coordinated census of Bewick's Swans was undertaken in January 2005. The results of this census have been previously reported here in greater detail (see 2005/06), and are now available in Worden *et al.* (2006).

2. Breeding success

Bewick's Swan age counts were conducted at three major wintering sites for the species in the UK during winter 2009/10, namely WWT Slimbridge (Southwest England), WWT Martin Mere/Ribble Estuary (Northwest England) and the Ouse Washes (East Central England). A total of 5,561 Bewick's Swans was aged. Data from Martin Mere/Ribble Estuary and the Ouse Washes were collected in January 2010; early arrivals (i.e. those present in October and November) tend to be non/failed breeders, whereas age assessments made in January can be taken as being more representative of the population as a whole. Age counts at Slimbridge, where individual swans are identified daily by their natural bill markings, are for all swans recorded there during the winter season (November to March). Brood sizes were recorded for 326 families: 301 on the Ouse Washes, 22 at Slimbridge and three at Martin Mere/Ribble Estuary, with the low brood count at Martin Mere/Ribble Estuary reflecting the relatively few Bewick's Swans now wintering in this part of the country.

With the exception of Slimbridge, the percentage of juveniles and mean brood size was derived from age counts conducted on just one day, in an effort to avoid any bias that would arise from repeated observations of the same families at certain sites. Age counts were conducted on 17 January at Martin Mere/Ribble Estuary (as part of the International Swan Census) and on 20 January on the Ouse Washes. Regional variation in the percentage of juveniles was assessed in order to determine any differences in the geographical distribution of family parties.

Overall, Bewick's Swan flocks contained 9.1% cygnets, and the mean brood size of pairs with young was 1.5 cygnets. The percentage young remained lower than the 10-year mean of 11.6% (± 1.5 SE, 1999/2000-2008/09), though was a second improvement in breeding success since the exceptionally poor breeding season in 2007 (4.7%). There was variation in the proportion of cygnets recorded in different parts of the UK, with the percentage of young ranging from 6.1% at Martin Mere/Ribble Estuary to 11.7% at Slimbridge.

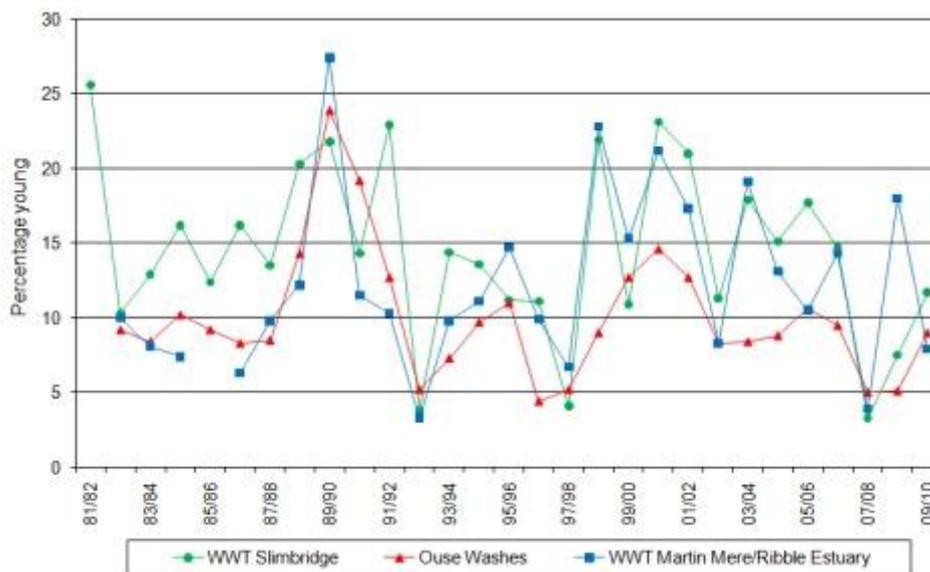
The proportion of young and mean brood size for Bewick's Swans at three UK regions during the 2009/10 winter.

Region	Total aged (no. of young)	% young	No. of broods (no. of young)	Mean brood size
WWT Martin Mere/Ribble Estuary (Northwest England)	98 (6)	6.1	3 (6)	Limited data
Ouse Washes* (East central England)	5,077 (455)	9.0	301 (449)	1.5
WWT Slimbridge (Southwest England)	386 (45)	11.7	22 (45)	2.0
Overall	5,561 (506)	9.1	326 (500)	1.5

* Brood sizes were not recorded for all flocks aged. The total number of cygnets used for the % young and the mean brood size estimates therefore differ.

Regional variation in brood size could not be assessed accurately in 2009/10 because very few broods were

recorded at Martin Mere/Ribble Estuary. However, the overall mean brood size for all regions (1.5 cygnets per family) fell marginally below the average recorded for the previous five years ($1.8 \text{ cygnets} \pm 0.15 \text{ SE}$).



The annual average percentage of young Bewick's Swans in WWT Slimbridge, Ouse Washes and WWT Martin Mere/Ribble Estuary, 1982/83 to 2009/10.

3. Discussion

These data indicate that Bewick's Swans continued to experience relatively poor breeding success in 2009. Although annual breeding success has gradually improved since the particularly poor 2007 breeding season, this is the sixth consecutive year that breeding success has been below the 10-year mean and follows successive poor breeding seasons since 2002 since when the percentage of young in UK wintering flocks has remained less than 19.0%.

Poor breeding success was also found on the continent, with only 6.5% young (from a sample of 4,614 birds) in the Netherlands, Germany and Denmark in November. A coordinated age count of 7,472 birds at sites in the UK and on the continent between 8 and 13 December 2009 found 7.0% young, thus confirming that 2009 was a poor breeding year for the Northwest European population (W. Tijsen pers. comm.). Given that Europe suffered its coldest winter for 50 years, it seems likely that age counts conducted in the UK, the Netherlands and Germany would have provided a fair representation of breeding success for the population as a whole, with families less likely to short-stop further east than in previous milder winters.

Conditions on the breeding grounds are important in determining the population's breeding success; in particular, weather conditions during the short Arctic breeding season. A late spring thaw (16 June) reported in the Pechora Delta region of the Russian arctic in 2009 (A. Glotov pers. comm.) is likely to have impacted on the breeding season of swans at least in that part of the breeding range.

4. References

Worden, J, PA Cranswick, O Crowe, G McElwaine & EC Rees. 2006. Numbers and distribution of Bewick's Swan *Cygnus columbianus bewickii* wintering in Britain and Ireland: results of the International Censuses, January 1995, 2000 and 2005. *Wildfowl* 56: 3-22.

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Goose & Swan Monitoring