

# WWT/JNCC/SNH Goose & Swan Monitoring Programme

## survey results 2005/06

### Bewick's Swan *Cygnus columbianus bewickii*

## 1. Abundance

The sixth international coordinated census of Bewick's Swans was undertaken in January 2005. In Britain and Ireland, an extensive network of mainly volunteer observers aimed to cover all known and potential Bewick's Swan sites. Counts were organised for 15/16 January 2005, the dates being chosen to coincide with WeBS counts in Britain and Northern Ireland, I-WeBS counts in the Republic of Ireland, and the annual International Waterbird Census throughout Europe. Counts were coordinated locally to minimise double-counting and ensure maximum coverage of Bewick's Swan sites.

Coverage was similar to previous censuses with no major omissions of known sites of importance for Bewick's Swans. A total of 87% of sites were visited during the period one day either side of the census weekend and all but one count was carried out within a two week period, one week preceding and one week following the census weekend.

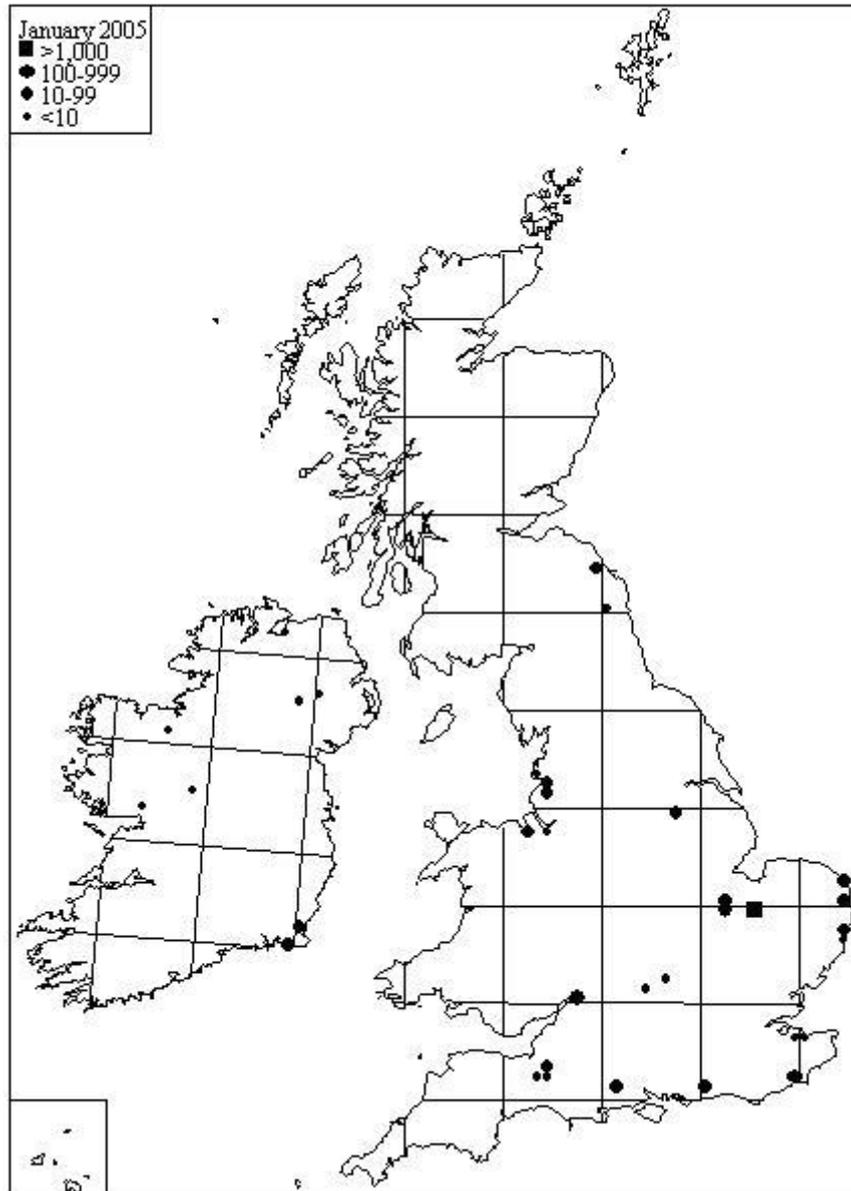
A total of 7,216 Bewick's Swans was counted in January 2005, representing a 5.0% decline in numbers between 2000 and 2005 and a 4.6% decline between 1995 and 2005. Although the number of birds in Britain and Ireland has declined by less than 5% between 1995 and 2005, the number of flocks recorded has decreased by almost 48%.

Numbers of Bewick's Swans counted in Britain and Ireland in January 2005.

	Number of flocks	Number of swans	% change 1995-2005
Northern Ireland	3	13	-91.0
Republic of Ireland	5	211	-51.5
<b>All Ireland</b>	<b>8</b>	<b>224</b>	<b>-61.4</b>
East central England	12	6,362	6.9
Rest of Britain	23	630	-38.9
<b>All Britain</b>	<b>35</b>	<b>6,992</b>	<b>0.1</b>
<b>Total</b>	<b>43</b>	<b>7,216</b>	<b>-4.6</b>

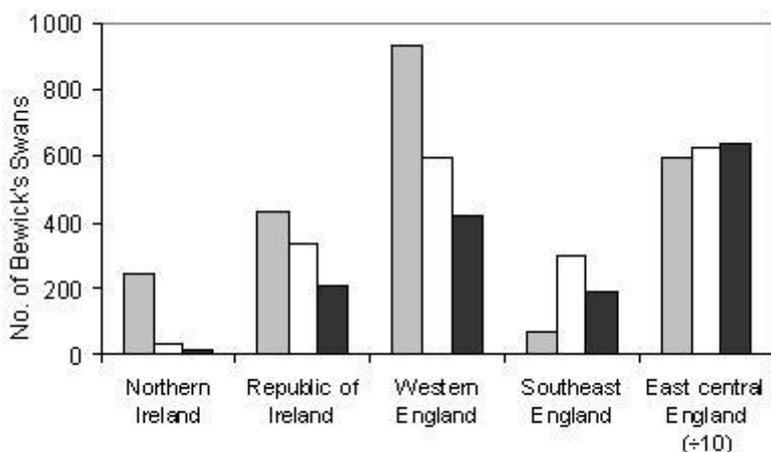
The proportion of Bewick's Swans wintering in Ireland has declined considerably, with only 3% of the British and Irish census total present in Ireland in January 2005 (compared with 8% in 1995). The decline was evident in both Northern Ireland and the Republic of Ireland, and there was a corresponding decline in the number of flocks recorded. Flock numbers also declined in Britain, with 51 recorded in 1995, 40 in 2000 and 35 in 2005.

Most regions in Britain have seen a downturn in numbers between 1995 and 2005, with the only consistent increase occurring in East central England. This region holds the greatest concentration of Bewick's Swans (with most birds frequenting the Ouse Washes), with 77% of all Bewick's Swans recorded in Britain and Ireland during the January 2005 census. Although annual fluctuations at the Ouse Washes occur, numbers have continued to rise, with a 7% increase between January 1995 and January 2005. This contrasts to the rest of Britain where the combined counts fell by 39%.



Distribution of Bewick's Swans in Britain and Ireland in January 2005.

Overall, 33 sites were found to hold Bewick's Swans in 2005, 26 in Britain and only seven in Ireland. This represents a 40% decrease in sites supporting Bewick's Swans since 1995, when swans were recorded at 36 sites in Britain and 19 in Ireland. Of all the Bewick's Swan sites surveyed in Britain and Ireland in January 2005, only the Ouse Washes held numbers exceeding 1% of the flyway population. Ten sites (nine in Britain and one in Ireland) held numbers exceeding 1% of the British and All-Ireland population.



Regional changes in Bewick's Swan numbers 1995-2005: 1995 (grey bar); 2000 (white bar); 2005 (black bar). Note that owing to large numbers in East central England, the totals for this region are divided by 10 for illustration.

## 2. Breeding success

Bewick's Swan age counts were conducted at three major wintering sites in the UK during the 2005/06 winter: Slimbridge (Southwest England), Martin Mere/Ribble Estuary/Greater Manchester (Northwest England) and the Ouse Washes (East central England). A total of 9,058 Bewick's Swans was aged in December 2005 and January 2006, and brood sizes were recorded for 132 families. Overall, flocks contained 10.9% young – this figure was below the mean of the preceding five years (14.7%). The mean brood size of successful pairs was 2.2 cygnets, slightly higher than the preceding two winters when counts recorded means of 2.1 and 2.0 cygnets, respectively.

Sites were grouped into regions in order to assess differences in the geographical distribution of families. Additional age count data were recorded in October, November and February at the regularly monitored sites of Slimbridge, Martin Mere and the Ouse Washes to determine within-winter changes in the percentage of young Bewick's Swans recorded at the UK sites.

The percentage of young and mean brood size of Bewick's Swans in Northwest, East central and Southwest England in December 2005 and January 2006.

Region	Total aged	% young	No. of broods	Mean brood size
Northwest England	1,347	10.5	61	2.3
East central England	7,411	10.6	47	2.1
Southwest England	300	17.7	24	2.2
<b>Total</b>	<b>9,058<sup>1</sup></b>	<b>10.9<sup>1</sup></b>	<b>132</b>	<b>2.2</b>

<sup>1</sup> The total aged exceeded the maximum number of swans recorded for these areas (150 for Northwest England and 5,503 for East central England). This was because birds at major sites were counted at least twice during December and January. The total percentage young therefore is weighted to the maximum counts in these three areas.

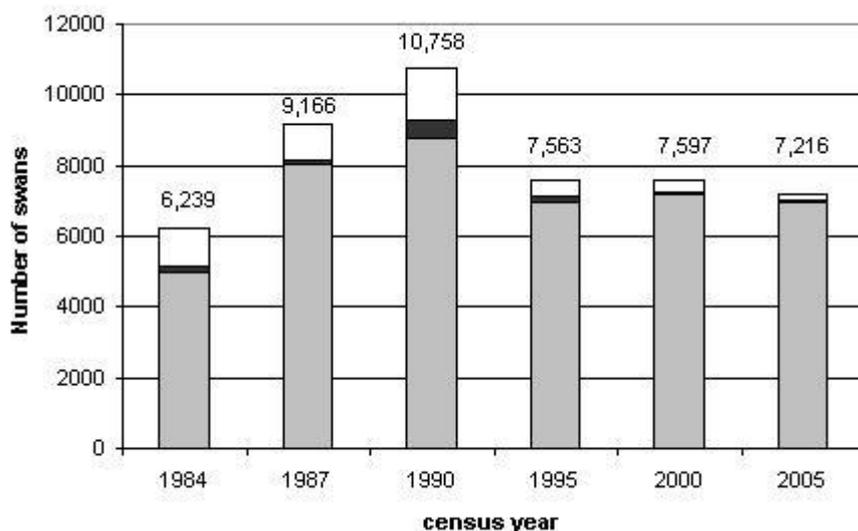
With the exception of Southwest England, where 17.7 % young were recorded, Bewick's Swan breeding success was relatively low in all regions. Counters in the Netherlands recorded 14.5 % young in 4,000 Bewick's Swans aged during the last week of November (W. Tijsen pers. comm.). This was the highest proportion of juveniles in the Netherlands since winter 2001/02, when 14.6 % young were recorded.

Again, except for the high proportion of cygnets recorded in Southwest England at Slimbridge, there was little evidence for regional variation in productivity. As the winter progressed, the percentage of juveniles recorded in

Southwest and East central England increased steadily before peaking in February (at 19.9 % and 11.8 %, respectively). Although initially increasing during October, the percentage young in the Northwest declined until January, after which numbers rose to the maximum in February (15.2 %). There was little regional variation between the largest mean brood size (2.3 cygnets in flocks wintering in Northwest England) and the smallest (2.1 cygnets in east central England).

### 3. Discussion

The total of 7,216 Bewick's Swans counted in Britain and Ireland during January 2005 represents an increase of 16% on the 6,239 recorded in these countries during the first international Bewick's Swan census in 1984. Numbers are, however, lower than those found during the 1995 and 2000 censuses, with a 5% decline since January 2000. Numbers in both Northern Ireland and the Republic of Ireland have decreased dramatically from 1,244 birds in 1984, to just 224 birds in January 2005. Declines have also occurred in many western regions of Britain. Two areas which have seen increases, however, are East Anglia and Southeast England, which suggests a possible eastward contraction of the wintering range.



Numbers of Bewick's Swans counted during international censuses in Northern Ireland (black bar), the Republic of Ireland (white bar) and England, Scotland and Wales (grey bar) 1984-2005. Census totals for Britain and Ireland are shown above the columns (census totals for 1984, 1987 and 1990 are taken from Beekman *et al.* 1985, Dirksen & Beekman 1991 and Beekman 1997, respectively).

Age counts during winter 2005/06 indicate below average breeding success in the 2005 breeding season. Overall, wintering flocks contained 10.9 % young, which is well below the five year mean (14.7 %).

Despite cold weather on the continent, which may have resulted in a movement of families to Britain during the winter, greater breeding success was recorded in swans wintering in the Netherlands. Nevertheless, the mean percentage of young for both countries combined (12.7 %), still indicates a relatively poor breeding success for the Northwest European population as a whole in 2005.

There was some regional variation in the percentage of young recorded in different parts of England, with the highest found in the Southwest. Although conditions on the breeding grounds are likely to be important in determining the population's breeding success, high productivity of swans wintering at Slimbridge may perhaps be partly attributable to the regular supplies of grain received by the birds, and the relative protection from disturbance at the site (Rees *et al.* 1997b). However, research has shown that smaller flocks, such as those recorded at Slimbridge, comprise higher proportions of juveniles than do larger flocks, which may also explain this observation (Rees *et al.* 1997b).

## 4. References

Beekman, JH, S Dirksen & TH Slagboom. 1985. Population size and breeding success of Bewick's Swans wintering in Europe in 1983-4. *Wildfowl* 36: 5-12.

Beekman, JH. 1997. Censuses of NW European Bewick's Swan population January 1990 and 1995. *Swan Specialist Group Newsletter* 6: 7-9.

Rees, EC, JS Kirby & A Gilburn. 1997b. Site selection by swans wintering in Britain; the importance of habitat and geographic location. *Ibis* 139: 337-352.

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# Goose & Swan Monitoring