

KEEPING IT CONSTANT TO MEASURE THE CHANGES

MARK GRANTHAM AND ROB ROBINSON

*British Trust for Ornithology
The National Centre for Ornithology
The Nunnery, Thetford
Norfolk, IP24 2PU, United Kingdom*

Mark Grantham and Rob Robinson report on the results from the Constant Effort Sites ringing scheme in 2006, highlighting changes in the fortunes of our common songbirds.

MANTENER LA CONSTANCIA PARA MEDIR LOS CAMBIOS

Mark Grantham y Rob Robinson informan sobre los resultados del programa Sitios de Esfuerzo Constante en 2006, resaltando cambios en la suerte de nuestras aves comunes.

The Constant Effort Sites (CES) concept is a simple one really, and is all about the C: Constant. Every breeding season, ringers at over 120 sites in Britain and Ireland set nets in the same places over the same times on 12 occasions through the summer. By standardising capture effort like this, we can analyse the ringing and recapture information from these visits to assess three key measures of the performance of our commonest songbirds:

- **Adult abundance** — We can compare the actual number of adults caught at all the sites and measure changes in numbers over time. This does not tell us the size of the population, but gives changes or trends in numbers over time, which is what we are really interested in.
- **Productivity** — By comparing the number of juveniles caught relative to the number of adults, we can get a handle on how well the breeding season has gone.
- **Adult survival** — By looking to see which individuals are recaptured between years, we can work out what proportion of adult birds survive each year. We are in the final stages of developing methods for this, so next year we should be able to present, for the first time, trends in national survival rates.

THE 2006 SEASON

For many CES ringers, 2006 was a season of dodging rain showers and windy days. It can be difficult to fit in standard visits when the weather is so uncooperative and, as ever, we must say a big thank you to all of our dedicated CES ringers for their hard work during the year. As we go to press, we have received results from 103 sites all over Britain and Ireland. It has been good to have more sites registering in Ireland (now five), and we also have 80 sites in England, 14 in Scotland and four in Wales.

ABUNDANCE CHANGES

Six species showed significant changes in adult numbers in 2006, though all were reversals of changes seen in 2005 (Table 1). Five species showed a decrease (Robin, Blackcap, Blue Tit, Great Tit, Bullfinch), with only Whitethroat showing an increase. Many factors will affect this index — for migrants such as Whitethroat, conditions in the wintering areas and along migration routes may play a very large part in determining the survival rate of adult birds.

One species of concern, though, is Bullfinch. With adult numbers down 16% on 2005, the

TABLE 1. CES trends in 2006.

	Adult numbers		Productivity		
	% change vs 2005	Long-term trend	% change vs 2005	% change vs 1983–2005	Long-term trend
Wren	-10	↑	-28	-28	↔
Dunnock	+3	↔	-32	-23	↓
Robin	-14	↑	+16	+2	↓
Blackbird	-7	↓	+22	+27	↓
Song Thrush	-3	↓	-19	-11	↑
Cetti's Warbler	+27	↑	-62	-63	↔
Sedge Warbler	+1	↓	+22	-2	↔
Reed Warbler	+1	↓	+27	+14	↔
Lesser Whitethroat	+14	↓	-13	-15	↔
Whitethroat	+58	↓	+15	-5	↔
Garden Warbler	-4	↓	+4	-4	↓
Blackcap	-10	↑	+11	+4	↔
Chiffchaff	-8	↑	-21	-22	↓
Willow Warbler	-5	↓	+9	-5	↓
Long-tailed Tit	-7	↑	+2	-12	↔
Willow Tit	+31	↓	+22	-8	↔
Blue Tit	-25	↔	+67	+7	↔
Great Tit	-15	↑	+32	+7	↓
Treecreeper	+16	↔	+5	24	↔
Chaffinch	-6	↔	-3	+9	↑
Greenfinch	+9	↔	+8	+45	↔
Goldfinch	-28	↔	+44	-2	↔
Linnet	-10	↓	+42	+40	↓
Bullfinch	-16	↓	-10	-6	↔
Reed Bunting	-8	↓	+7	-28	↓

The results above show how the top 25 CES species fared in 2006, compared to 2005 and also compared to the average since the scheme began. Changes in **bold** show statistically significant declines, and changes in *italic* show significant improvements.

downward trend for this species continues. CES results are one part of the jigsaw that, when fitted together, can tell us a lot about bird populations. The numbers of Bullfinches have halved since the 1970s and there have not been any signs of real recovery. Bullfinch was recently added to the Nest Record Scheme Concern List due to increased failure rates of eggs and chicks, and this was also reflected in a 10% drop in productivity compared to 2005.

AN UNPRODUCTIVE BREEDING SEASON

For an idea of how the breeding season has gone, we can look at changes in productivity. This is a measure of the number of juveniles

produced by each breeding pair. In 2006, there were some very big changes but, as for adult numbers, some of these were due to a reversal of fortunes in 2005. Of the significant changes, the increases seen in Sedge Warbler, Reed Warbler, Blue Tit and Great Tit were all reversals of poor seasons in 2005. The only other significant increase was for Blackbird, and this may have been due to a mild winter and spring. In fact, nationally, 2006 was the warmest on record in most parts of the UK.

There were also significant declines in productivity though. The most affected birds were some of our resident insectivores, with Wren, Dunnock, Cetti's Warbler and Chiffchaff, all suffering. This may well be due to very poor spring weather washing out or chilling breeding

attempts. Despite a generally warm year, the March temperature was actually a degree lower than average and rainfall was also 30–40% up on average. For many early-nesting and ground-nesting species, this would spell disaster for first broods. Unfortunately, as later clutches were laid or chicks were being reared, May was also wet, with most areas seeing over 50% more than normal rainfall.

To put these declines into context, we can look at how productivity in 2006 compared to the long-term average. The most significant changes were for three species where productivity was up (Blackbird, Reed Warbler, Greenfinch) and five species where it declined (Wren, Dunnock, Cetti's Warbler, Chiffchaff, Reed Bunting). These latter decreases are mostly explained above, but it is interesting to note that even though Reed Bunting productivity increased slightly on the 2005 figure, it was still 28% below the long-term average. This poor productivity may be contributing to the lack of recovery in Reed Bunting numbers.

For more details about how CES fits into the big picture of BTO surveys, check out the UK bird trends on the BTO website at www.bto.org/birdtrends

WANT TO GET INVOLVED?

CES is an integral part of the Ringing Scheme: to find out more about ringing and how to become a ringer, visit www.bto.org/ringing or contact the Ringing Unit at BTO Thetford HQ. The CES Scheme does rely on new sites coming into the scheme each year to keep the level of

monitoring sufficiently high. For further details contact Mark Grantham or Rob Robinson or email us at ces@bto.org

LAST BUT NOT LEAST

The CES scheme relies on the dedication and hard work of a large number of ringers, and we'd like to thank everyone who has put up a CES net, ringed a CES bird or made a CES cup of tea in 2006. We cannot name everyone here, but worthy of mention are some notable site birthdays in 2006:

25 years (including pilot years) — Treswell Wood (Treswell Wood IPM Group); Llangorse Lake (Llangorse Ringing Group).

20 years — Kippo (Jim Cobb).

15 years — Turnhouse (Lothian Ringing Group); Bainton (Chris Hughes); Lackford Pits (Lackford Ringing Group).

10 years — Stockbury (Rod Smith); Levington (Paul Newton); Little Crossthwaite (Peter Davies); Braes (Jim Cobb); Arley Hall (Mark Woodhead).

5 years — Gosforth Park (Natural History Society of Northumbria).

We would also like to thank all the ringers who set up new sites in 2006 — Waterhay (Cotswold Waterpark Ringing Group); Longstock (Martin de Retuerto); Pensthorpe (Holme Bird Observatory); Ashton's Callow (Alex Copland); Thurles (Alex Copland).

The Constant Effort Sites Scheme was undertaken within the partnership between the BTO and JNCC as part of its programme of research into nature conservation.

A TALE OF TWO WARBLERS: THE UPS AND DOWNS OF OUR BREEDING 'PHYLLOSCS'

Willow Warbler and Chiffchaff, the two common *Phylloscopus* warblers in the UK, have suffered very different fates in recent years. Their scientific name *Phylloscopus* (loosely translated as leaf gleaner) describes their behaviour aptly, as they flit about in the tree canopy searching for small insects.

Here the similarity ends though, as these two species have very different lives. The longer-winged Willow Warbler is a long-distance migrant, spending winters south of the Sahara. Most birds return in early April with first breeding on average in mid May. In contrast, the shorter-winged Chiffchaff makes

a much shorter winter migration to the near Continent. Hence they can arrive back on territory earlier (in mid March) and many will be laying clutches in late April. It is clear then that these two closely related species may be affected by different factors. Understanding these differences in ecology can help us gain insights into the reasons underlying population changes.

Between 1967 and 2004, Willow Warblers in England suffered a 61% drop in the number of breeding pairs, and they are currently Red-listed as a species of UK conservation concern. This decline was most evident from the mid 1980s and the numbers of adults caught on CES showed a similar decline of 69% between 1984 and 2006. The decline also seems to have been greatest in the south, and in the last 11 years, whilst the English population has dropped by 29% the Scottish population has increased by 40%. CES results also reflect this change and many Scottish sites reported good years for Willow Warblers in 2005 and 2006.

Conversely, since CES began in the mid 1980s, Chiffchaffs have been doing very well in the UK, probably because of warmer winters in Europe. Since 1979 the population has seen a 130% increase in numbers, with the greatest increase being in the mid 1980s. Again, CES results show a similar trend, with a 64% increase since 1983.

However, the last two years have seen some quite drastic changes in catches of Chiffchaffs by CES ringers, with the species disappearing completely from some catch totals. So whilst this is bad news for Chiffchaffs, there does seem to have been a concurrent upturn in the fortunes of Willow Warblers. So as weather patterns continue to change, CES is well placed to monitor future changes in the populations of these species, so watch this space for news in the coming years.

