

## CES COMES OF AGE

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Despite Foot & Mouth disease, ringers were able to continue to monitor population changes on their Constant Effort Sites. Dawn Balmer of the BTO's Demography Unit and Linda Milne of the Ringing Unit report on the 21st year of CES.

### EL CES YA ES MAYOR DE EDAD

A pesar de la fiebre aftosa, los anilladores pudieron continuar el seguimiento de cambios poblacionales en su Sitios de Esfuerzo Constante (CES). Dawn Balmer, de la Unidad de Demografía del BTO, y Linda Milne de la Unidad de Anillamiento, informan sobre el vigésimo- primer año del CES.

CES ringers are a really dedicated bunch of people, up bright and early to set their nets and to catch birds. CES ringing involves making 12 visits to each site through the breeding season, spread evenly between late April and the end of August.

Given the standardised CES approach, we are able to use data from catches to monitor changes in the abundance and productivity of common breeding songbirds. Variations in the total number of adults caught indicate changes in population size, whilst the ratios of young birds to adults are used to monitor changes in breeding success. Annual survival rates can also be obtained from retraps of birds ringed in previous years. The CES Scheme is an essential arm of the BTO's Integrated Population Monitoring Programme. Results from CES, together with information from other long-running BTO schemes, can be found in the Wider Countryside Report on the BTO web site ([www.bto.org/birdtrends](http://www.bto.org/birdtrends)).

### IMPACTS OF FOOT & MOUTH — COVERAGE IN 2001

With so many BTO surveys quite badly curtailed by Foot & Mouth, it was with great

apprehension that we waited for CES annual returns to arrive at BTO HQ. How many would there be? Coverage was at an all-time high in 2000, with 147 sites operated. We are delighted that so many ringers were in fact able to carry out constant effort ringing in 2001 — 98 sites (with more sites yet to come in).

We checked for any regional effects of Foot & Mouth by comparing the number of sites operated in 2000 and 2001 in five broad regions across Britain and Ireland. For the purposes of this analysis, Wales has been included in the Central region. For Southern England, the Central region and Ireland, coverage in 2001 was only slightly down compared with 2000, and for Scotland coverage was actually better in 2001, with new recruits to the scheme. Only for Northern England was the difference in coverage notable (Figure 1). Devon was also badly affected by Foot & Mouth but the impact on CES was negligible, because there is currently only one CES site there. Thankfully, we have no reason to believe that Foot & Mouth has introduced much spatial bias into the CES results this year.

The results that follow come from the 98 sites that have submitted data for 2001 so far — 74

from England, 15 from Scotland, five from Wales and four from Ireland. Nine sites were operated for the first time in 2001. The habitats covered are comparable to previous years, (mostly in reedbed, wet and dry scrub and a small number in deciduous woodland).

### BUOYANT ADULT POPULATIONS

The run of mild winters, including 2000/2001, has been good news for populations of resident species, such as Robin, Chaffinch and Greenfinch. Table 1 shows the changes in captures on CES sites from 2000–2001. There were statistically significant increases in the number of adults caught for five resident species (Blackbird, Blue Tit, Great Tit, Chaffinch and

Greenfinch) and one migrant species (Whitethroat). Chaffinches and Greenfinches have been doing rather well over the last few years, their populations showing long-term increases on CES sites. Adult populations of Blue Tits and Great Tits fluctuate greatly over time and are particularly sensitive to cold winters. Blackbird is currently an amber-listed species (medium conservation concern) due to a moderate decline in UK breeding populations, so an increase of 18% on CES sites between 2000 and 2001 is welcome.

The number of adult Whitethroats caught on CES sites increased significantly between 2000 and 2001 and the long-term trend shows a fascinating cyclical pattern (Figure 2). Our Whitethroats winter in West Africa and it is

TABLE 1. Changes in captures on CES sites from 2000 to 2001.

Species	2000		2001		Adult Abundance		Productivity (juvs per adult)	
	Sites	Total	Sites	Total	% change	trend	% change	trend
Wren	87	619	87	1207	-10	→	-11	→
Dunnock	87	606	85	728	+9	→	-24*	→
Robin	87	517	87	1452	+8	↑	-15*	↓
Blackbird	90	1030	78	629	+18*	↓	-32*	→
Song Thrush	75	276	60	202	-1	↓	-6	→
Sedge Warbler	57	983	55	875	-5	→	-32*	↓
Reed Warbler	40	1651	46	1340	-3	↓	-23*	→
Lesser Whitethroat	21	72	27	133	-9	↓	-20	→
Whitethroat	55	383	56	538	+37*	→	-18	↓
Garden Warbler	59	293	53	251	-1	→	0	↓
Blackcap	82	815	80	1150	+1	↑	-30*	→
Chiffchaff	60	339	71	958	+12	↑	-24*	↓
Willow Warbler	79	1109	80	1467	-9*	↓	-4	↓
Long-tailed Tit	71	413	64	646	-1	→	-39*	→
Willow Tit	7	14	11	30	-5	→	-49	→
Blue Tit	89	685	88	1252	+28*	→	-43*	↓
Great Tit	85	470	85	1152	+17*	→	-15	↓
Treecreeper	40	77	54	143	-2	→	-13	→
Chaffinch	30	680	58	442	+13*	→	-1	↓
Greenfinch	38	287	30	124	+35*	↑	-34*	↓
Goldfinch	32	87	14	50	-7	→	+6	↓
Linnet	8	25	13	22	+2	↓	-6	↓
Bullfinch	69	365	51	230	-12	↓	-11	→
Reed Bunting	51	332	37	136	+14	↓	-33*	↓

Total = total number of individuals captured on sites

% change = percentage change in numbers of birds caught between 2000 and 2001

\* = significant change at the 5% level

trend = long-term trend during the period of CES ringing.

↑ = long-term trend shows an increase

↓ = long-term trend shows a decline

→ = long-term trend shows stability

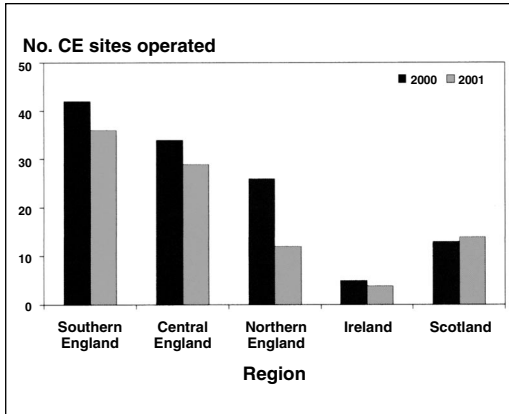


FIGURE 1. CES coverage in Britain and Ireland in 2000 and 2001.

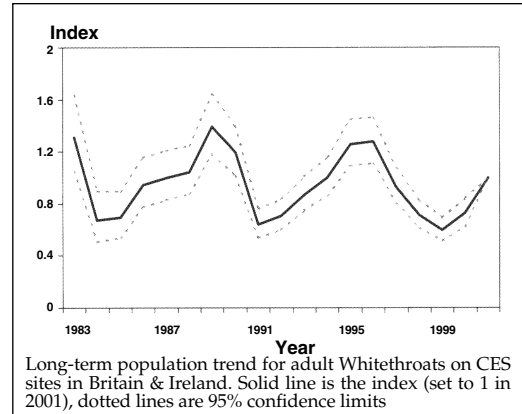


FIGURE 2. Long-term population trend for adult Whitethroats.

widely acknowledged that drought in the Sahel region correlates with reduced catches of Whitethroats. Drought conditions must have been severe in 1984, 1985 and 1991 and the effect of these years can be seen in Figure 2. The steady drop in numbers of adults caught between 1997 and 1999 is a little anomalous. Previous declines have occurred when conditions in the wintering grounds were unfavourable. The upturn in fortune since 1999 is promising, and it will be interesting to see how the pattern continues over the next ten years. It would be nice to have a closer look at the factors influencing the population changes of this species.

Willow Warbler was the only species to show a statistically significant decrease in adult numbers between 2000 and 2001, a continuation of the worrying long-term decline of this species on CES sites (see *BTO News* 233 p11 for more information).

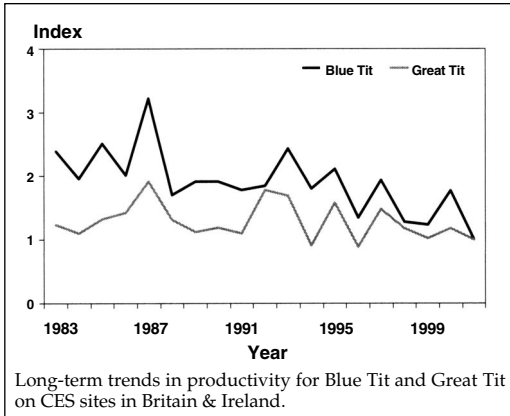
### POOR BREEDING SUCCESSES

Telephone calls and e-mails from CES ringers, anxious to find out how other sites across the country were faring, were a prominent feature of mid-summer. Many ringers were reporting low catches of juveniles, particularly for Blue Tits, Long-tailed Tits and Sedge Warblers, and wanted to know what was happening elsewhere — was it a late breeding season or a local phenomenon? The results (Table 1) show that breeding success in 2001 was poor for

many species: 11 of the 24 species monitored showed a statistically significant decline in productivity, including both residents (Dunnock, Blackbird, Robin, Long-tailed Tit, Blue Tit, Greenfinch and Reed Bunting) and migrants (Sedge Warbler, Reed Warbler, Blackcap and Chiffchaff). The declines also encompass species that breed early (e.g. Robin) and late (e.g. Reed Warbler). For some of these species, the long-term pattern shows increasing or stable productivity, so that the declines this year may just be short-term 'blips'. For those species showing long-term declines in productivity (e.g. Reed Bunting), the trend is of more concern.

A comparison of the long-term trends in productivity for Blue Tit and Great Tit (Fig 3) reveals some interesting patterns. Breeding success has declined significantly for both species, but more markedly for Blue Tit. The between-year changes have been remarkably similar through time, suggesting that environmental variables play a similar role in affecting reproductive output. Recent analyses using CES data have shown that productivity is negatively correlated with temperature and rainfall for both Blue Tit and Great Tit.

As ever, new CES sites are welcomed, particularly from southwest England, Wales, Ireland and Scotland. Please contact Dawn Balmer at BTO Thetford HQ for further information. If you are interested in finding out more about ringing in general, then please contact the Ringing Unit at BTO Thetford HQ.



Long-term trends in productivity for Blue Tit and Great Tit on CES sites in Britain & Ireland.

FIGURE 3. Blue Tit and Great Tit productivity trends.

### THANK YOU

As with all ongoing BTO projects, the success of the CES Scheme depends entirely on the dedication, enthusiasm and skill of its volunteers. We are grateful to all the ringers and helpers who participated in the scheme in 2001.

Whilst space prevents us from acknowledging all CES ringers, we would like to thank the following ringers and groups for their continued support: G E Austin, Aylesbury Vales RG, Barnsley RG, S Bodnar, A W Bowles, Brandon RG, H Brazier, I K Brockway, Chew Valley RS, Clyde RG, J L S Cobb, Dartford RG, C Donald, Durham Dales RG, East Yorkshire RG, I Grier, S Hales, A G Harbott, K J Herber, C

### CONSTANT EFFORT RINGING ON A EUROPEAN SCALE

Following a meeting of representatives from ringing schemes across Europe in 1999, on Helgoland, a formal project has been set up, led by the BTO and endorsed by the European Union for Bird Ringing (EURING). There are three main aims: (i) to assess the current activities and methods of CES schemes in Europe; (ii) to develop guidelines for CES fieldwork methodology that are suitable for the particular conditions in each country, and for data exchange and analysis; (iii) to assess the potential for producing comparative and perhaps combined trends for a common suite of species across Europe.

Besides Britain and Ireland, seven countries are now operating CES-style schemes: Finland, France, The Netherlands, Spain, Germany, Sweden and Poland. Over the last year, we have been working closely with our European colleagues, particularly those in France, The Netherlands and Finland, who have the longest running schemes, to investigate ways of comparing trends between countries. So far, we have been able to look at adult numbers for a suite of species that are commonly caught.

The trends for Willow Warbler adult abundance are shown in Fig 4. A decline has occurred in all four countries with a particularly steep decline in France, where the Willow Warbler is on the southern edge of its range.

Over the coming months we will be continuing this very exciting work, and we will report in full in a future edition of *BTO News*.

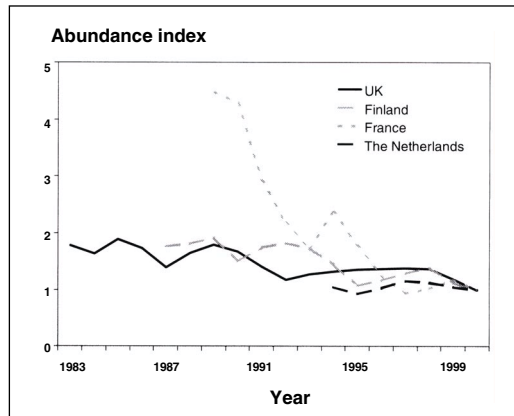


FIGURE 4. Willow Warbler adult abundance across Europe.

G Hughes, T Kittle, Maple Cross RG, S J Martin, C M & J Murray, North Down RG, P Newton, A N Poole, Runnymede RG, Rutland Water RG, B Shaw, W F Simcox, Sorby Breck RG, R L Swann, N & J Tardivel, Tay RG, Tring RG, R Ward-Smith, W J Webber, H A Williams, M A Wilson, M A Woodhead, M Wright, Wychavon RG (BO= Bird Observatory, RG= Ringing Group, RS= Ringing Station).

We would like to acknowledge the support and commitment of the late Alan Hilton and the late Mike King to the CES Scheme; their enthusiasm and dedication will be sadly missed.

## ACKNOWLEDGEMENTS

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