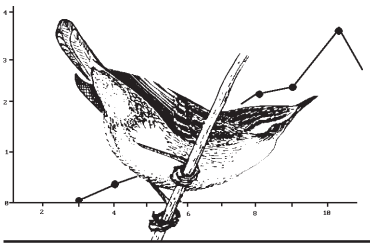
CES *News*



This is the nineteenth edition of the CES News*, the newsletter for the British Trust for Ornithology's Constant Effort Sites Scheme. If you require further copies, then please contact the CES organiser at The Nunnery.*

Number 19 March 2006

Long-term trends for Whitethroat and Lesser Whitethroat

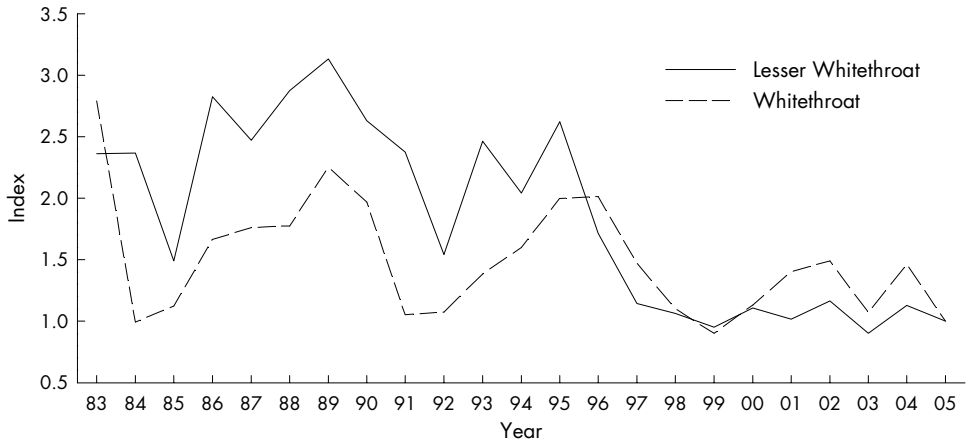


Figure 1. Long-term trends in adult abundance

Given that Lesser Whitethroat and Whitethroat winter in different parts of Africa, it is perhaps a little surprising that long-term trends in adult abundance on CE sites are so similar. Lesser Whitethroats are unique amongst our migrant warblers, in that they migrate southeast to winter in East Africa, mainly Chad, Sudan, Eritrea and central Ethiopia. To date, there are no recoveries of ringed birds from their wintering area – more expeditions needed! There is some evidence that in the spring, they migrate further to the east than they do in the autumn, suggesting a 'loop migration'. Whitethroats, on the other hand, winter in West Africa, south of the Sahel. A quick look at rainfall figures across the whole of the wintering area for both species shows no differences in the pattern of rainfall between years, although the west receives more rain than the east, and the central region the lowest amount. So, although these two species winter in geographically distinct areas, the pattern of rainfall is similar across the whole area. There have been significant droughts in Ethiopia in the winters of 1984/85, 1987/88, 1991/92, 1993/94 and 1999/2000 and the effect of these droughts can be seen on the number of birds, especially Lesser Whitethroats, returning to Britain in the spring.

CES in 2005

Coverage in 2005

By early February we had received CES data from 113 sites across Britain and Ireland. The habitats covered were similar to previous years with most sites in dry scrub 40% (45 sites) and wet scrub 27% (31 sites) and smaller numbers in reedbed 17% (19 sites) and woodland 16% (18 sites). As usual, most ringers managed to complete all 12 visits to their site (65%), with 15% completing 11 visits and 10% completing 10 visits. A further 10% managed fewer than 10 visits. Fig 2 shows the location of the 113 sites (grey circles = wet sites, black circles = dry sites).

The results we present in *CES News* come from catches at 104 sites that submitted data for 2005 by early January. As in previous years, the majority of sites were in England (81 sites) with smaller numbers in Scotland (14), Ireland (5) and Wales (4). Table 1 shows the changes on CE sites between 2004 and 2005.

New CE sites

We are very keen to recruit new sites for the 2006 season. Ideal sites are in scrub, woodland or reedbed. Sites can be run by individual ringers or by ringing groups. Sharing the visits between group members means that no one individual will need to be available for all 12 visits. This makes running a CES much more achievable for many ringers leading busy lives. CES ringing also provides an excellent training ground for new ringers, where they can see the breeding season through and gain a better understanding of moult. Remember that running a CES still allows you some flexibility on the site, with the use of additional nets on visits (perhaps when you have more people to help) and extra visits throughout the season. If you are interested in starting up a CES please contact the CES Organiser at BTO HQ.

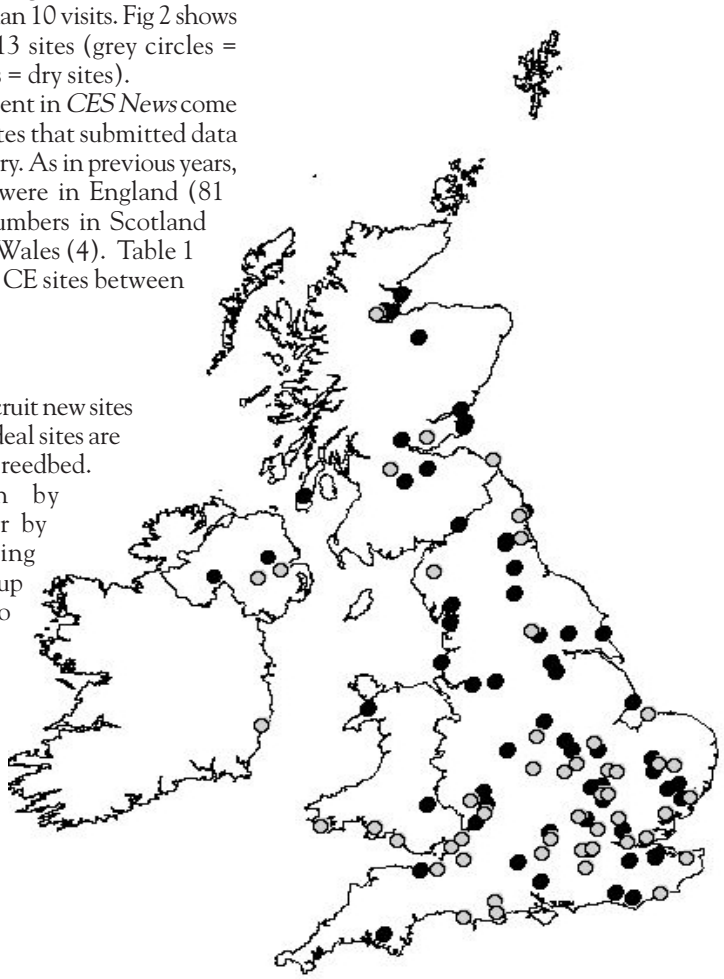


Figure 2. Distribution of CE sites in Britain & Ireland

Table 1. Changes in captures on CES sites from 2004 to 2005

Species	n 2005 Ads	Juvs	Adult % change vs 2004	Trend	Productivity % change vs 2004	vs 83-04 ave	Trend
Wren *Troglodytes troglodytes*	99	98	+11 *	↑	- 2	+ 1	→
Dunnock *Prunella modularis*	98	97	+ 5	→	+11	+ 2	→
Robin *Erithacus rubecula*	94	99	+16 *	↑	- 10	- 2	↓
Blackbird *Turdus merula*	100	94	+ 3	↓	- 3	+ 3	↓
Song Thrush *Turdus philomelos*	88	81	+ 4	↓	- 11	+26	↓
Cetti's Warbler *Cettia cetti*	8	10	- 4	↑	- 31	+55	↓
Sedge Warbler *Acro. schoenobaenus*	64	62	- 23 *	→	- 14	- 2	↓
Reed Warbler *Acro. scirpaceus*	53	60	- 16 *	↓	- 16	+ 7	→
Lesser Whitethroat *Sylvia curruca*	28	47	- 11	↓	+24	- 21	→
Whitethroat *Sylvia communis*	58	57	- 32 *	↓	- 24 *	+11	↓
Garden Warbler *Sylvia borin*	59	63	+14	↓	- 9	+ 2	↓
Blackcap *Sylvia atricapilla*	95	95	+13 *	↑	- 12 *	+ 8	→
Chiffchaff *Phylloscopus collybita*	83	89	- 28 *	↑	- 5	+ 5	→
Willow Warbler *Phylloscopus trochilus*	78	83	- 5	↓	+ 1	- 12	↓
Long-tailed Tit *Aegithalos caudatus*	88	74	- 2	↑	- 18 *	- 1	→
Willow Tit *Parus montanus*	8	12	- 64 *	↓	+127	- 49	→
Blue Tit *Parus caeruleus*	99	97	+23 *	→	- 46 *	+23	↓
Great Tit *Parus major*	97	97	+29 *	→	- 35 *	+27	↓
Treecreeper *Certhia familiaris*	38	57	+ 5	→	- 45 *	+30	→
Chaffinch *Fringilla coelebs*	88	74	+28 *	→	- 16 *	+40	→
Greenfinch *Carduelis chloris*	54	44	- 6	↑	+37 *	- 3	↓
Goldfinch *Carduelis carduelis*	44	27	0	→	- 17	- 28	→
Linnet *Carduelis cannabina*	18	17	- 11	↓	+98 *	- 56	↓
Bullfinch *Pyrrhula pyrrhula*	81	67	+ 4	↓	+10	- 3	→
Reed Bunting *Emberiza schoeniclus*	62	45	- 2	↓	- 30 *	- 5	↓

n 2005 = number of sites operated in 2005 at which the species was captured

vs 2004 = percentage change between 2004 and 2005

vs 1983-2004 = % change with respect to 1983-2004 average

* = significance (at the 5% level) of increase/decrease with respect to previous year only

Long-term trend = long-term trend during the period of CES ringing. See Wider Countryside Report on the BTO website for further details (www.bto.org/birdtrends)

↑ = long-term trend shows an increase

↓ = long-term trend shows a decline

→ = long-term trend shows stability

Mixed success for adults

There were statistically significant increases in the number of adults caught between 2004 and 2005 for six species: Wren, Robin, Blackcap, Blue Tit, Great Tit and Chaffinch. All of these species had successful breeding seasons in 2004 (see *CES News* 18) and should have had good over-winter survival, aided by relatively mild winter weather. The long-term trend in adult numbers for these species also shows an increase although there are some interesting patterns. Wren and Robin show a pattern of large ups and down, very much related to winter weather conditions. Both Blackcap and Great Tit show a sustained long-term increase in numbers caught. Blue Tit shows a cyclical pattern between the start of CES in 1983 and 2000 and since then numbers have stabilised.

Five species showed a statistically significant decrease in the numbers of adults caught between 2004 and 2005: Sedge Warbler, Reed Warbler, Whitethroat, Chiffchaff and Willow Tit. Reed Warblers declined steadily to a low point in 1991 and then increased to 2000. Since then numbers have tailed off again. Sedge Warbler numbers have fluctuated, but since 1996 have declined steadily. Sedge Warblers winter in West Africa, primarily Senegal, Mali and Ghana and it is known that rainfall in the Sahel is closely related to the survival of adults (at least) in this species. The exact wintering area of Reed Warblers is hard to determine as there are so few records of ringed birds found in Africa during the winter, although ringing recoveries so far suggest Ghana, Senegal, Gambia and Guinea-Bissau are likely destinations. Knowing the wintering areas of our migrants is important if we are to understand how differences in conditions there might affect over-winter survival.

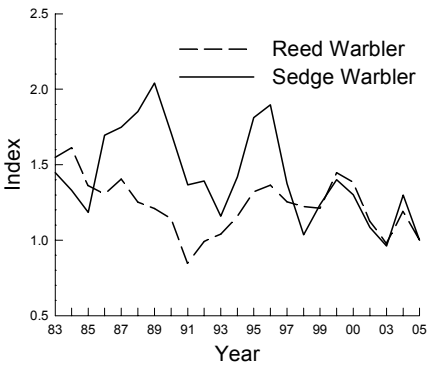


Figure 3. Long-term trends in adult abundance for Reed Warbler and Sedge Warbler

Sean Gray www.grayimages.co.uk

You might remember the unusual weather conditions last spring that lead to the late arrival of many of our migrants. Their arrival patterns are monitored by the internet project, BirdTrack (www.birdtrack.net) and updated daily on the website. North Africa and southern Spain had cold weather and even snow in early spring, which held up migrants such as Swallows and Sand Martin. The results from BirdTrack, based on the presence of species on each birdwatchers lists, showed that the numbers of Chiffchaff and Whitethroat were also down (about 15% for Chiffchaff and 10% for Whitethroat) which corresponds well with the declines picked up by these CES results. In the long-term, Chiffchaffs have been doing very well, with adult numbers up by 201% between 1984 and 2003 (see www.bto.org/birdtrends). It is likely that the decline noted in 2005 is related to poor weather conditions on migration and that numbers will bounce back in due course.

Poor breeding season for many species

When breeding success in 2005 (ratio of young birds to adults) is compared to that of 2004, eight species showed a statistically significantly decline: Whitethroat, Blackcap, Long-tailed Tit, Blue Tit, Great Tit, Treecreeper, Chaffinch and Reed Bunting. Table 1 also presents a measure of how good or bad the breeding season was in 2005 compared to the average in previous years (1983-2004), and shows that, compared to the long-term average, breeding success was mixed.

The weather during the breeding season in 2005 (*British Wildlife* 2005) can be best described as unsettled. Nest recorders and nest-box ringers will recall the small brood sizes and poor fledging success for Blue Tits and Great Tits in 2005. Localised heavy rain and chilly nights may have contributed to the poor breeding success for these species. Long-tailed Tits show fluctuating breeding success over time, most likely related to local weather conditions. Blackcap, Whitethroat, Chaffinch and Treecreeper have all shown increasing productivity in recent years, and the breeding success in 2005, when compared to the previous season (2004, which was very good), shows a decline, though when compared to the 1983-2004 average, is up.

It is long-term trends of declining productivity that are most worrying. Reed Bunting falls into this category (Fig 4).

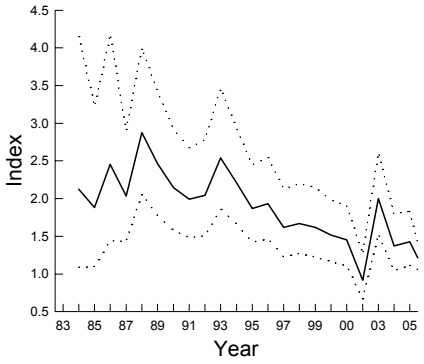
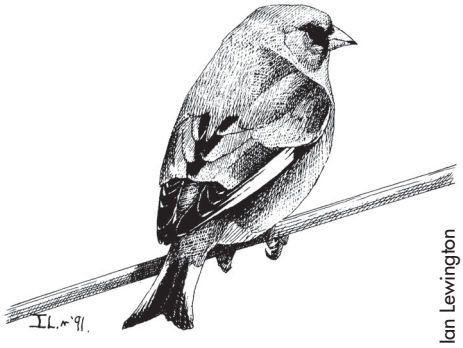


Figure 4. Long-term trends in productivity for Reed Bunting

Between 1984 and 2003, breeding success has declined by 50%. Perhaps because of this, the numbers of adults caught on CES over the same period has also declined by 47%. Numbers of Reed Buntings in the UK fell dramatically in the early 1970s through to the mid 1980s, so when CES started in 1983, numbers were already low. Changes in survival and increasing nest failure rates have also been shown to have a role in the decline and to have prevented any subsequent recovery.



Ian Lewington

Only Greenfinch and Linnet showed a statistically significant increase in breeding success between 2004 and 2005. Both species are multi-brooded and managed to fledge broods during the rather unsettled summer weather. Greenfinch productivity increased in the late 1980s and then dropped in the early 1990s. Since then it has been fairly stable until the last five or six years when productivity has again increased. There were two early reports of fledglings on CES sites in early May, suggesting a hatching date of mid-April and information from nest recorders showed that one nest had four eggs on 23 March! Is this earlier breeding related to climatic change or a greater reliance on supplementary food bringing birds into breeding condition earlier? For Linnet, productivity declined in the mid 1980s and has been relatively stable until 2001, since when it has declined.

Interesting controls and retraps

K240447	Dunnock	4M	06.05.1998	Priory Country Park, Beds
		4M	01.05.2005	Priory Country Park, Beds

Just under seven years. The longevity record for Dunnock is 11 years and 3 months.

RK32957	Blackbird	6F	01.05.1999	Priory Country Park, Beds
		6F	19.07.2003	Priory Country Park, Beds
		6F	11.06.2005	Priory Country Park, Beds

It would be interesting to know where this Blackbird goes between captures!

K702016	Reed Warbler	4M	21.07.1996	Carlton Marsh CES, S. Yorks
		4M	15.05.2005	Carlton Marsh CES, S. Yorks

Recaptured nine times during period. 8 years 248 days.

APL212	Chiffchaff	1	21.05.2004	Plumpton, Sussex
		4F	04.05.2005	Brock's Wood CES, Sussex

Ringed as a pullus and found breeding on the CES site half a mile away the following summer.

K621711	Marsh Tit	3	20.07.1997	Little Wittenham, Oxon
			16.09.2005	Little Wittenham, Oxon

Ringed in 1997 and retrapped in 1998, 1999, 2000, 2002 and 2005.

Unusual captures

Teal – Pitsford Res, Northants
Teal – Slimbridge, Gloucestershire
Gadwall – Lackford Pits, Suffolk
Grey Partridge (2) – Hauxley Reserve, Northumberland
Buzzard (adult) – Kilpaison Marsh, Dyfed
Coot – Abbotsbury, Dorset
Little Owl – Alton Water, Suffolk
Nightjar – Brandon, Norfolk
Nightjar – Icklesham, Sussex
Swift (2) – Williamthorpe, Derbyshire
Swift (3) – Gosforth Park, Tyne & Wear
Wheatear – Formby, Merseyside
Wheatear – Watercombe, Devon
Redwing – St Abbs Head, Borders
Redwing – Llangorse Lake, Powys
Paddyfield Warbler – Llangorse Lake, Powys. Caught in a CES net in early September (just after last CES visit) and is the first record for Wales!
Brambling (2) – Catterick, North Yorks

R A Hume

CES - Focus of a new PhD

Early last October I made the "epic" journey from Dunedin, New Zealand, to England to start my PhD in Statistical Ecology at the University of Cambridge. This wonderful opportunity will see me engrossed in the intriguing analysis of CES data for the next three … or four years.

Previously I worked for 18 months as a Statistical Consultant at AgResearch, a NZ Government funded agricultural research institute. My interest in Statistical Ecology was fuelled during my undergraduate studies at Otago University during which I undertook a 4th year research project that investigated the population dynamics of Hector's Dolphins, the world's smallest dolphin, endemic to NZ waters and listed as "endangered" by the World Conservation Union. The project aimed at improving the precision of population growth rate (or in this case decline) estimates, and culminated in a recommendation to focus attention on collecting data on adult survival in order to achieve greater precision. This experience should prove useful in looking at changes in bird populations using ringing data.

This latest endeavour, provisionally titled 'Integrated Modelling of Bird Populations', aims to develop statistical methodology to underpin, and improve, advice given to Government, and other interested parties, on the state of the UK's bird populations. As such it will involve developing a comprehensive analytical structure that combines all sources of relevant data to describe the complex population dynamics and the interaction of birds with humans and the environment. Essential to this project is the CES dataset. It is a great pleasure to be working with such a vast array of high quality data, and I look forward to visiting the Nunnery Lakes CES site in the summer to see mist-netting in operation first hand, although I'm not so keen on the early start! I'm very lucky to be supervised by Dr Steve Freeman at the BTO and Prof Steve Brooks at Cambridge.

At this early stage I've concentrated on the CES data for just one species, the Sedge Warbler. To date I've looked at trends in abundance and productivity using both existing approaches and my 'new' approach. One of the interesting nuances in the CES data is the presence of incomplete datasets in certain years. That is when all 12 visits to a site are not completed for one reason or another. Obviously these annual site catches will be less than if the site has been visited on all 12 visits, but these reduced catches still provide very useful information and need to be incorporated in the analyses. Previous analyses have 'corrected' the catch for the missed visits. Currently I'm examining a different approach that incorporates, and models, this missing data directly.

This research promises to be very challenging, but wonderfully interesting and extremely rewarding. To all the mist-netters: thanks for providing me with such a fantastic dataset!

Vanessa Cave
University of Cambridge/National Centre for Statistical Ecology


Dawn Balmer

Brood patch codes

For the last couple of years we have been asking ringers to record routinely the presence and stage of brood patches of birds caught on CE sites. Certainly on our ringing sites the brood patch codes have caused some debate as they are rather subjective and there are differences between species. However, scoring brood patches is valuable as it can give us an idea of the timing of breeding.

The codes were used in the original BBC B-RING manual of January 1986 (per Chris du Feu) and according to the late Chris Mead, the codes were constructed around that time, possibly based on some alphabetical codes that a ringing group was using.

The brood patch codes are:

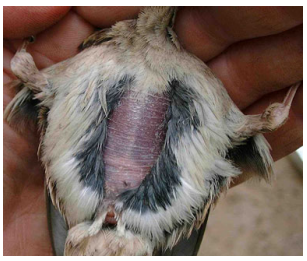
0 **Absent**.
1 **Starting.**
2 **Well defined**. Breast muscle and gut still visible through the skin
3 **Veined and red**. The skin of the belly is opaque, thickened or engorged, veined and red with broad, undulating wrinkles
4 **Wrinkled**. The skin of belly has thin wrinkles, engorgement of the skin has gone, but the skin is still stretched, and the breast muscle and gut are visible again through the skin. Going over.
5 **Feathering over.**
P **Present.**

Dave Leech (Nest Records Unit) will be using brood patch codes as part of some work investigating the length of the breeding season and to get some idea of the number of breeding attempts made by species. Dave is concentrating on Greenfinch, Great Tit and Robin in this study and will be looking at the ratio of juveniles in ringing data and brood patch codes (mostly collected by CE ringers).

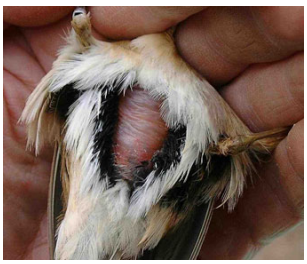
As an example of brood patch codes, below are five photographs of Reed Warbler brood patches. *CES News* will be available in colour on the BTO website.

Request for photographs

We would like to build up a collection of brood patch photos that we hope will be a useful resource for ringers. We can put these on the BTO website. When possible, please take photographs of brood patches during the season, making a note of the species and date. Please send the photos to ringing@bto.org



Brood Patch 1 (Graham Austin)



Brood Patch 2 (Graham Austin)

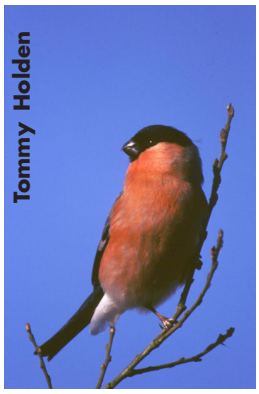
Brood Patch 3 (Jez Blackburn)

Brood Patch 4 (Graham Austin)

Brood Patch 5 (Graham Austin)

Survival rates of adult Bullfinches

In *CES News* 18 we showed how we have been using information from CE ringing to calculate adult survival rates for Reed Warbler. We aim to combine information from a large number of CES sites (some of which catch relatively few birds) to produce routine estimates of survival. Development work so far has focused on Reed Warbler and Bullfinch. CE sites tend to catch large numbers of Reed Warblers on relatively few sites but a smaller number of Bullfinches spread across a greater number of sites. For example in 2005, 1,528 Reed Warblers were caught on 53 sites but just 538 Bullfinch were caught on 81 sites. This makes for very challenging programming!



Traditionally, we have only produced survival estimates for species as part of a special project eg Sedge Warbler. This new approach, based on the assumption that the number of birds recaptured is related to the length of mist-net used, will allow us to produce regular estimates of adult survival. Further development work in the near future will help refine these methods. Figure 5 is the first long-term trend in adult survival rates for Bullfinch in Britain and Ireland. The confidence limits (dotted lines) are more widely spaced than in Reed Warbler suggesting greater uncertainty in the estimates. The graph suggests a slow decline in adult survival rates between 1983 and 2003. Previous estimates of adult survival have been based on recoveries and give estimates of 44.4% and 39.8%.

Bullfinch numbers have been declining on CES and the Common Birds Census/ Breeding Bird Survey. There is some evidence from CES that productivity is increasing, however, information from the Nest Records Scheme shows that nest failures at the egg stage have risen through the 1990s.

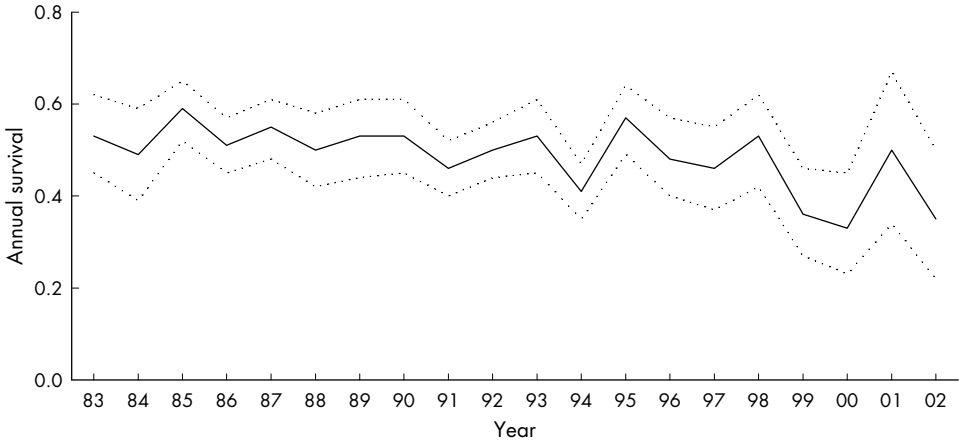
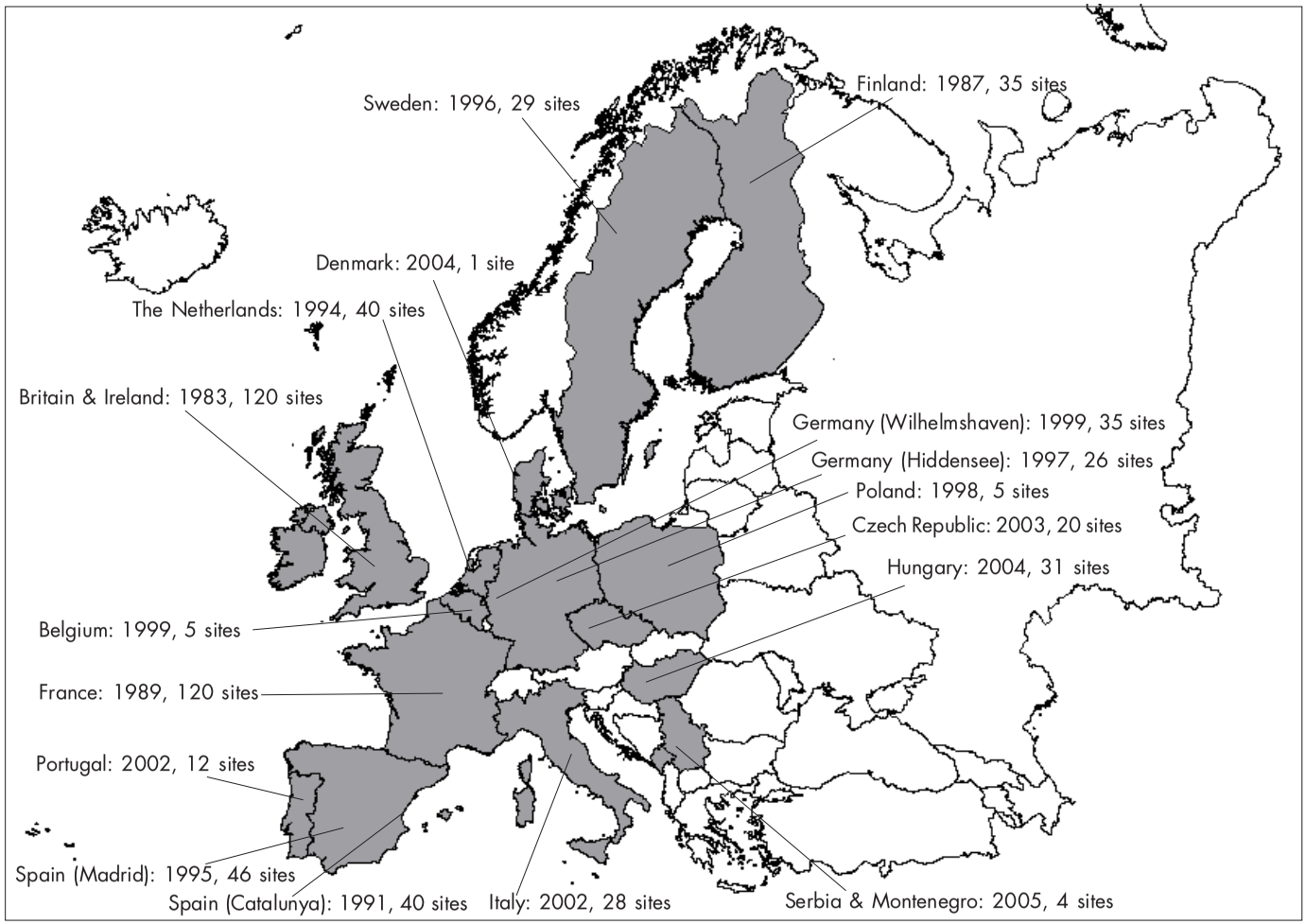


Figure 5. Long-term trends in adult survival rate for Bullfinch


Sweden: 1996, 29 sites
Finland: 1987, 35 sites
Denmark: 2004, 1 site
The Netherlands: 1994, 40 sites
Britain & Ireland: 1983, 120 sites
Germany (Wilhelmshaven): 1999, 35 sites
Germany (Hiddensee): 1997, 26 sites
Poland: 1998, 5 sites
Czech Republic: 2003, 20 sites
Hungary: 2004, 31 sites
Belgium: 1999, 5 sites
France: 1989, 120 sites
Portugal: 2002, 12 sites
Spain (Madrid): 1995, 46 sites
Spain (Catalunya): 1991, 40 sites
Italy: 2002, 28 sites
Serbia & Montenegro: 2005, 4 sites

CES in Europe

On page 10 is a map showing the countries running CES schemes in Europe, together with the year started and the number of sites operated. There are now over 600 sites run across Europe.

How does your site compare?

Do you wonder how your site compares with other CE sites? Based on catches in 2005 (not the greatest of years at many sites!) and not taking into account the number of visits completed at sites (though 90% of sites do manage 10 or more visits), or the length of time sites are operated for, we have calculated the average catch of adult and juveniles birds at sites, split by net length and habitat type. These numbers are also 'New For Year' birds so a bird is only counted once, regardless of the number of times it is retrapped within a season.

Looking at information for the 109 sites available at the time, the average net length across all sites was 424 ft and the average catch of adults and juveniles was 144 and 217 respectively. The graph (Fig 6) show the range of catches across CE sites with varying net length. The line through the data points is the 'line of best fit', which shows the average catch for a given net length. There is relatively little difference in catch size between the habitats (Table 2), although woodland sites tend to catch fewer birds.

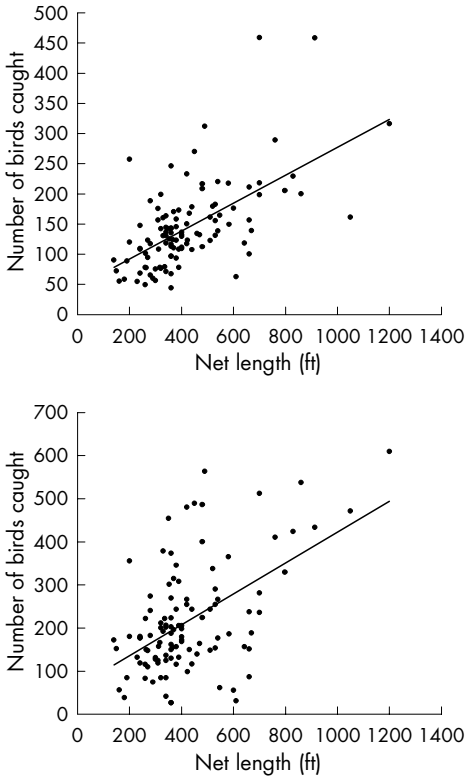
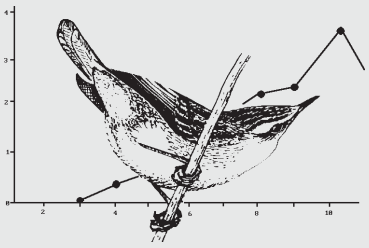


Figure 6. Average catch of adults (top) and juveniles (lower) at CE sites by net length.

Table 2. Average catch of adults and juveniles by habitat type.

Habitat type	Average no adults	Average no juveniles
Wet scrub	157 (46-459)	262 (74-609)
Reedbed	150 (68-270)	247 (126-489)
Dry scrub	142 (48-458)	202 (28-433)
Woodland	122 (34-312)	144 (16-563)



BTO
The Nunnery
Thetford
Norfolk
IP24 2PU
Tel: 01842 750050
Fax: 01842 750030
Email: ces@bto.org
Web: www.bto.org

Editors
Dawn Balmer & Rob Robinson

Desk Top Publishing
Jane Waters

Illustrations + Photographs
Graham Austin
DawnBalmer
Jez Blackburn
Tommy Holden
Rob Hume
Ian Lewington

The Constant Effort Sites Scheme is supported by the BTO and the JNCC Partnership and is also part of the BTO Ringing Scheme which is funded by a partnership of the British Trust for Ornithology, the Joint Nature Conservation Committee (on behalf of English Nature, Scottish Natural Heritage and the Countryside Council for Wales, and also on behalf of the Environment and Heritage Service in Northern Ireland), The National Parks and Wildlife Service (Ireland) and the ringers themselves.

News Items

CES Email Forum

The CES email forum proved to be a great success last summer. Just under 140 ringers subscribe to the forum. Many CES ringers find it interesting to know how others were getting on across Britain and Ireland. The number of emails range from 12-17 per month during the summer months.

To subscribe to the CES Forum please send a blank email to:
btocesforum-subscribe@yahoogroups.co.uk

If you want to be able to change the way you receive messages (daily summary, one message at a time) or view previous messages on the web then you will need to become a member of Yahoo Groups. To join Yahoo Groups visit the website http://uk.groups.yahoo.com and click on the links to register.

CES developments in IPMR

IPMR v2.2 will be released later this year. This will allow cloud cover to be recorded for the first and second half of the visit. The recording system is based on oktas, so you have to estimate how many eighths of the sky are covered by cloud. The scores are listed below:

0 Clear (<1 okta)
1 Scattered cloud (1-4 oktas)
2 Broken cloud (5-7 oktas)
3 Overcast (>7 oktas)

The new version will also send all three files (s***-06.ces, s***-06.h and s***-06.rtf, where *** is your site number eg s474-06.ces) together in a zip file called s***-06.zip. This will mean that the CES Organiser won't have to chase you for missing files! We encourage you to upgrade as soon as the new version is released. We will put a message on the Ringers' Forum when the new version is realeased. You will be able to download it from www.bto.org/ringing/ringsoft/ipmr or request a CD from BTO HQ. We thank Mark Cubitt for his hard work making improvements to IPMR.