

CES News



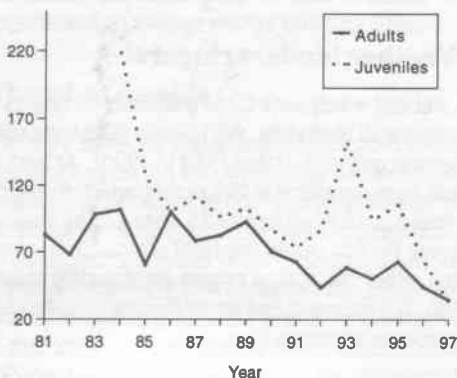
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JULY 1998

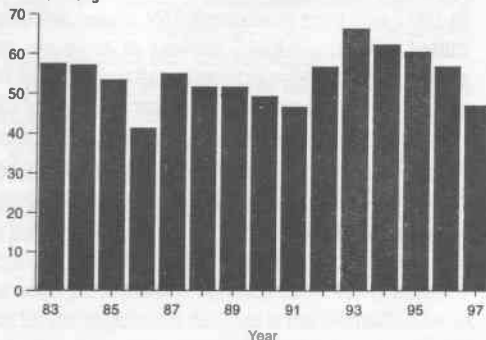
LESSER WHITETHROATS CONTINUE TO DECLINE

Catches of adults and juveniles are now at an all-time low. Numbers on Common Birds Census plots also plummeted between 1996-97, with a 45% decline in the number of territories recorded. Breeding success has remained fairly stable since the start of CES ringing. This suggests that the decline may be caused by problems outside the breeding season (eg. low survival of adults during the winter). Lesser Whitethroat is unusual in that it is our only common bird that migrates east of the Mediterranean and winters in East Africa, the majority in Ethiopia.

Abundance Index



% Young



Artwork by Bridget Griffin



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This is the eleventh edition of CES News, the newsletter for the British Trust for Ornithology's Constant Effort Sites Scheme. If you require further copies of this newsletter please contact Dawn Balmer at BTO HQ.

The CES Scheme uses bird-ringing as a tool to monitor the populations of some of our common breeding songbirds. At 120 sites spread throughout Britain and Ireland, licensed ringers erect a series of mist-nets in the same positions, and for the same length of time, during twelve visits between May and August. Year-to-year changes in the number of adults caught provide a measure of changing population size, and we use the proportion of young birds in the catch as an index of breeding success. Year-to-year recaptures of adult birds provide important information on annual survival rates.

CES RINGING IN 1997

Best year ever

Information from an impressive 131 sites operated in 1997 has been received. This makes 1997 the best ever in terms of coverage. Eighteen CES sites were operated for the first time in 1997, including four new sites in Scotland. Although most sites are located in England (80%), there are important contributions from Scotland (14 sites), Wales (6 sites), Ireland (5 sites) and the Isle of Man (1 site).

Weather hinders ringers

A wet and windy June made it difficult for ringers to complete all their visits. All 12 main visits were completed at only 40% of sites (58% in 1996). At least 10 visits were completed at 79% of sites, which represents a tremendous effort by all CES ringers. The weather during the first part of the 1998 season has not been kind either and several ringers are reporting missed visits. It is important that we try our best to make all 12 main visits where possible.

More B-RING users

In 1997 data from an amazing 75% of sites were submitted using the B-RING package of computer programs. This saves considerable staff time at BTO HQ and so a huge thank you to the vast majority of CES ringers who computerise their own data. The remainder of the data were cheerfully computerised by Sam Rider. *A Guide to using B-RING for CES ringers* is available upon request.

Habitat Recording

Many thanks to those of you who submitted habitat forms in 1997. Another batch of forms were sent out with the 1998 mailing, if you received one, please try hard to record the habitat this year.

Paired CE sites for 1996/97

The results we present here are based upon standardised catches at 82 sites which were operated in the same way in both 1996 and 1997, and for which at least eight visits were completed in both years. These results are based on CES datasets which had reached BTO HQ by early January. As in previous years, the majority of sites were operated in reedbed and wet scrub (59%), dry scrub (34%) and deciduous woodland (7%). The annual report on CES ringing for the 1996-97 season was published in the March-April edition of *BTO News* (Issue 215).



Artwork by Derek Robertson

CES RESULTS 1996-97

Adult catches down

A poor breeding season in 1996 coupled with some severe weather in January probably explain the low adult catches in 1997. For all but two (Blackcap and Redpoll) of the 24 species listed in Table 1, fewer adult birds were caught in 1997 than in 1996. There were eight statistically significant declines which affected four resident insectivores (Wren, Robin, Blackbird and Song Thrush), one resident seed-eater (Bullfinch) and three trans-Saharan migrants (Sedge Warbler, Reed Warbler and Whitethroat). Considering the 1997 adult catches in a longer-term perspective, we find that seven species are now at their lowest level since CES ringing began in 1983 (Blackbird, Song Thrush, Lesser Whitethroat, Chaffinch, Linnets, Bullfinch and Reed Bunting). The continuing declines of the four "red listed" species (Song Thrush, Linnets, Bullfinch and Reed Bunting) are particularly worrying. These long-term trends in numbers are of far greater significance than the short-term fluctuations in populations that are usually associated with weather patterns.

It is interesting to note that population changes of common migrants seem to depend more on conditions in the winter quarters than on the generally poor breeding season of 1996. The largest declines in migrant catches were for Sedge Warbler and Whitethroat, both of which are known to be sensitive to drought in their sub-Saharan wintering grounds. In contrast, catches of Blackcap and Chiffchaff changed little in 1997, suggesting that conditions in the Mediterranean winter quarters were more favourable than those further south.

A better breeding season

A mild March and a warm April ensured success for many early breeding residents. Unsettled weather during April in southern Europe meant that many of our summer visitors were late to arrive but the improved conditions in May helped most breeding birds to get off to a good start. By the time the cool and very wet weather of June arrived (rainfall was twice the long-term average!) most species had fledged young.

Most of the large increases in juvenile catches in 1997 (Table 1) reflect a return to more normal breeding success after the dismal season of 1996. Only one species suffered a notable decline in juvenile catch: Lesser Whitethroat, which went down by 49%. Young Chaffinches, Great Tits and Bullfinches were more abundant in 1997 than at any time since CES ringing began in 1983. For most species, breeding success was good to average in 1997. Several of the finches enjoyed a highly productive summer while the thrushes and most of the warblers and the resident insectivores experienced an average year for breeding (Table 2).

Thrushes tumble

Blackbird and Song Thrush both experienced average breeding success in 1996, so the large decline in 1997 is unlikely to be caused by poor breeding success. The decline of the Song Thrush has received much publicity and research in recent years. Catches of adult Song Thrushes declined by 24% between 1983-95 and juveniles by 46% during the same period. Less publicised to date is the long-term decline in Blackbird numbers. CES catches have declined by 20% for adults and by 15% for juveniles between 1983-95. Similar declines are evident in Common Birds Census data. Catches of adult Song Thrushes and Blackbirds are now at their lowest level since CES ringing began.

The long-term trends in the catches of these two thrushes are remarkably similar, although the decline in Song Thrushes is steeper. The severe winters of 1981/82, 1986/87 and 1990/91 affected numbers of both species. Breeding success has fluctuated over time for both species, but there is little evidence of any long-term decline which might account for the reduction in the adult populations. A much more likely explanation for the population declines is the intensification of agricultural practices which may affect the survival of young birds (see *BTO News* 213).



Artwork by Andy Wilson

Table 1. Changes in captures on CES sites from 1996 to 1997 (all 12 visits).

<i>Species</i>	<i>ADULTS</i>				<i>JUVENILES</i>			
	<i>n</i>	<i>Total 1996</i>	<i>Total 1997</i>	<i>% Change</i>	<i>n</i>	<i>Total 1996</i>	<i>Total 1997</i>	<i>% Change</i>
Wren	81	484	406	-16*	81	915	1133	+24*
Dunnoch	80	543	501	-8	81	550	720	+31*
Robin	78	406	309	-24*	81	1011	1298	+28*
Blackbird	82	757	615	-19*	78	444	536	+21
Song Thrush	75	302	227	-25*	72	179	202	+13
Sedge Warbler	66	1486	1009	-32*	61	1391	1277	-8
Reed Warbler	55	1913	1682	-12*	53	1490	1278	-14
Lesser Whitethroat	43	122	95	-22	43	169	87	-49*
Whitethroat	69	542	382	-30*	70	575	548	-5
Garden Warbler	69	408	388	-5	67	349	365	+5
Blackcap	76	638	683	+7	78	776	1476	+90*
Chiffchaff	63	340	329	-3	74	661	1046	+58*
Willow Warbler	80	1463	1457	0	81	2051	2550	+24*
Spotted Flycatcher	20	27	13	-52*	12	12	6	-50
Long-tailed Tit	74	356	320	-10	73	430	737	+71*
Willow Tit	23	31	19	-39	32	71	78	+10
Blue Tit	81	610	583	-4	82	1486	2431	+64*
Great Tit	79	423	363	-14	80	733	1168	+59*
Treecreeper	38	74	60	-19	61	128	141	+10
Chaffinch	69	498	409	-18	56	192	288	+50*
Greenfinch	42	165	149	-10	29	97	75	-23
Goldfinch	38	68	65	-4	23	29	87	+200*
Linnet	24	61	47	-23	19	38	57	+50
Redpoll	18	68	76	+12	12	16	59	+269*
Bullfinch	74	590	503	-15*	64	281	379	+35*
Yellowhammer	25	44	35	-20	13	6	19	+217
Reed Bunting	59	330	292	-12	51	213	214	0

n = number of paired sites

Total = number of individuals captured at all paired sites

***** = significant change at the 5% level

Table 2. Changes in the percentage of juveniles caught at CES sites from 1996 to 1997.

<i>Species</i>	<i>n</i>	<i>PAIRED SITES 1996-1997</i>		<i>Diff in % juv</i>
		<i>% juv 1996</i>	<i>% juv 1997</i>	
Wren	80	65	73	+ 8 *
Dunnock	79	50	59	+ 9 *
Robin	80	71	81	+ 10 *
Blackbird	80	37	47	+ 10 *
Song Thrush	66	37	47	+ 10 *
Sedge Warbler	59	48	56	+ 8
Reed Warbler	50	44	43	- 1
Lesser Whitethroat	32	58	48	- 10
Whitethroat	62	52	59	+ 7
Garden Warbler	64	46	48	+ 2
Blackcap	75	55	68	+ 13 *
Chiffchaff	67	66	76	+ 10 *
Willow Warbler	79	58	63	+ 5
Spotted Flycatcher	6	31	32	+ 1
Long-tailed Tit	63	55	70	+ 15 *
Willow Tit	21	70	80	+ 10
Blue Tit	82	71	81	+ 10 *
Great Tit	79	63	76	+ 13 *
Treecreeper	45	63	70	+ 7
Chaffinch	64	28	41	+ 13 *
Greenfinch	29	37	33	- 4
Goldfinch	18	30	57	+ 27 *
Linnet	14	38	54	+ 16
Redpoll	10	19	44	+ 25 *
Bullfinch	63	32	43	+ 11 *
Yellowhammer	12	12	35	+23
Reed Bunting	52	39	42	+ 3

n = number of paired sites

% juv = percentage of captures which were juveniles in 1995

Diff in % juv = % juvenile in 1997 minus % juveniles in 1996

(* statistically significant change at 5% level)

SCARCE CES SPECIES

In recent years we have reported on the fortunes of 24 species in the CES article in *BTO News*, these are the species for which we feel the CES Scheme produces reliable results. We usually add a few more results to the tables we present in *CES News*, for species that are on the verge of becoming annual monitoring species. In the last couple of years Willow Tit, Spotted Flycatcher, Goldfinch and Yellowhammer have been included. You will see in Tables 1 and 2 that the number of paired sites contributing data for Linnet and Redpoll is low, we need to watch these species very carefully over the next few years to ensure we are still monitoring them adequately.

It is vitally important that we continue to monitor and report on Redpoll, a species that is poorly monitored by other BTO schemes. The Common Birds Census has not published annual changes in population size for a couple of years because the number of CBC plots recording Redpoll territories are too few. For example, only nine plots contributed data for the 1996-97 analysis, recording 30 and 27 territories respectively.

We do keep an eye on other species and as the number of CE sites increases we can expect to add more species to the monitoring list. Here we present the 1996-97 catch totals for some of the less common species at paired sites (i.e. those worked in both years with at least 8 paired visits).

<i>Species</i>	<i>Adult Catches</i>			<i>Juvenile Catches</i>		
	<i>No. Sites</i>	<i>1996</i>	<i>1997</i>	<i>No. Sites</i>	<i>1996</i>	<i>1997</i>
Cetti's Warbler	9	13	14	6	14	28
Coal Tit	20	38	42	34	101	150
Goldcrest	25	42	65	37	54	223
Grasshopper Warbler	21	37	33	19	18	19
Great Spotted Woodpecker	30	24	31	27	21	34
Kingfisher	21	28	17	35	48	76
Marsh Tit	14	22	16	23	32	49
Nightingale	9	19	25	11	12	15

Looking at the figures above we can see that Coal Tit, Goldcrest, Great Spotted Woodpecker and Kingfisher are strong candidates for annual monitoring in the near future. It is doubtful that the CES Scheme will be able to successfully monitor Cetti's Warbler and Nightingale at their present catch levels.

One way we hope to monitor species not covered by the CES Scheme is through the new Retrapping Adults for Survival (RAS) Project. The project is designed to calculate annual survival rates for a wide range of species in a variety of habitats. Changes in annual survival rates can help to explain population trends. The analysis of survival rates using ringing data has become more productive in recent years as analytical techniques have improved by leaps and bounds, providing essential information for us to monitor the health of the populations.

The RAS Project has taken off very well, just over 100 projects have been registered involving nearly 45 species. The majority of these species are not covered well by the CES so we can look forward to some exciting results about the survival of these species over the next decade and beyond. If you would like further information about the RAS Project contact Dawn Balmer at The Nunnery.

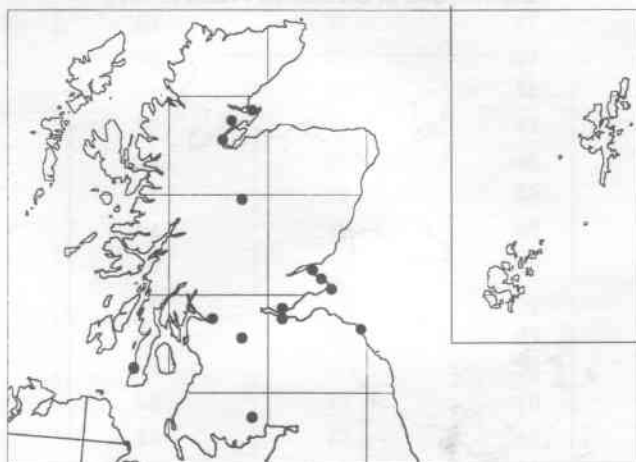


Artwork by Graham Giddens

FOCUS ON.....SCOTLAND

CES in Scotland is booming! With four new sites operating, a total of 14 sites were covered in 1997. This is the best coverage Scotland has had since the start of CES ringing. There are hot-spots in Highland and Fife Regions and a scattering of sites further south. We currently have no sites in Grampian, Tayside or Central regions where there are plenty of ringers, so any offers would be gratefully accepted! Mist-netting in Scotland can be tricky at the best of times and then there is the lure of seabirds, raptors and

Distribution of CE sites in Scotland in 1997



Many thanks to all CES ringers who contribute to the successful running of the sites listed below.

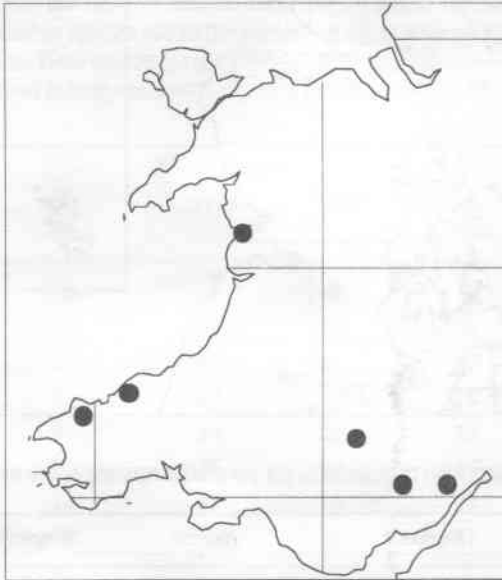
<i>Site No.</i>	<i>Year Started</i>	<i>Region</i>	<i>Habitat</i>	<i>Ringer(s)</i>
215	1987	Fife	DS	Jim Cobb
273	1991	Lothian	DS	Alan Hilton
300	1993	Highland	DS	David Grieve
326	1993	Highland	WS	Michael Thompson
337	1994	Highland	WD	Bob Swann & Ivan Brockway
339	1994	Borders	WS	Alan Kerr
345	1994	Strathclyde	WS	John Conner
354	1995	Strathclyde	WS	Iain Livingstone
359	1996	Fife	RB	Derek Robertson (Tay RG)
365	1996	Highland	WD	Pat French
377	1997	Strathclyde	DS	Neil Brown & Rod Angus
380	1997	Dumfries & Galloway	RB	Ken Bruce & David Patterson
381	1997	Fife	DS	Jim Cobb
384	1997	Fife	DS	Les Hatton & Shirley Millar (Tay RG)

Note: DS - dry scrub, WS - wet scrub, WD - woodland, RB - reedbed

FOCUS ON.....WALES

CES ringing in Wales has remained at a fairly constant level for the past five years, fluctuating between four and seven sites operating in each year. Wales, like Scotland and Ireland suffers from a shortage of ringers and many of the best sites tend to be near the coast. No new sites have started in Wales since 1994, so Wales is now a priority for new sites. A few more sites in Wales and Ireland would allow us to check how populations here are doing compared to elsewhere in Britain. A larger sample size (more sites) allows us to measure changes in populations more precisely. So come on Wales!

Distribution of CE sites in Wales in 1997



Many thanks to all CES ringers who help out at the sites listed below.

<i>Site No.</i>	<i>Year Started</i>	<i>Region</i>	<i>Habitat</i>	<i>Ringer(s)</i>
10	1981	Powys	DS	Jerry Lewis & Tony Balshaw (Llangorse RG)
271	1990	Gwynedd	WS	Adrienne Stratford
291	1992	Gwent	DS	Stephanie Tyler
329	1993	Gwent	WS	Richard Poole
342	1994	Dyfed	WS	Bob Haycock & Annie Poole
344	1994	Dyfed	RB	Mark Wilson

Note: DS - dry scrub, WS - wet scrub, RB - reedbed

Next year.....Ireland and England

UNUSUAL CATCHES IN 1997

Long-eared Owl - Notts
 Red-backed Shrike - Northumbs
 Common Sandpiper - Herts
 Water Rail - Greater Manchester
 Rook - Wexford
 Tufted Duck - Herts

Dipper - Northumbs
 Hawfinch - Cumbria
 Redwing - Highland
 Firecrest - Cambs
 Grey Partridge - Kent
 Shelduck - Glos



Artwork by
 Mike Toms

SELECTED RETRAPS/RECOVERIES

5W7152	Willow Warbler	3J	03.07.94	Rutland Water CES, Leics
		4	06.05.96	Waterloo Thorns CES, Beds
3T7206	Willow Warbler	4M	27.04.91	Finningley Park CES, South Yorks
		4M	06.08.93	"
		4M	23.04.95	"
		4M	27.04.97	"
3G2515	Willow Warbler	3	29.06.96	Eilean Na Ciunaich, Highland
		3	16.08.96	Meijendel, Zuid-Holland, Netherlands
K980600	Reed Warbler	4	05.07.97	Weston Fen CES, Suffolk
		4	27.07.97	Wilstone Reservoir, Herts
N042886	Reed Warbler	4	24.05.97	Buckden GP CES, Cambs
		4	31.05.97	Wilstone Reservoir CES, Herts
4883184	Whitethroat	3	15.09.94	Zwin, West-Vlaanderen, Belgium
		4	28.04.96	Breaston NR CES, Derbys
K685831	Redstart	3J	19.07.97	Castlandhill CES, Fife
		3M	23.10.97	Madiyana Ringing Camp, Ginak, Gambia

INTEGRATED POPULATION MONITORING SITES

We recently awarded three IPM Site grants of £1000 from the Bob Spencer Memorial Fund. The objective of the IPM Sites scheme is to integrate all components of monitoring (censusing, ringing, and nest-recording) at individual sites and to build up a detailed picture of the survival and breeding activities of the same individual birds throughout their lives at individual sites. It will be possible to track local fluctuations in abundance and to understand them in terms of changes in demographic processes (adult survival, first year survival, clutch size, hatching success, fledging success, and the number of breeding attempts made by individual birds in a season). One of the requirements of an IPM site is long-term standardised ringing such as CES ringing.

Congratulations go to Chew Valley Ringing Station, Lower Test Ringing Group and Rutland Water Ringing Group who successfully applied for the grants. All three groups have been operating a CES since the mid 1980s. We look forward to seeing some exciting results in the future.

There is still one grant available for an IPM Site, further details of how to apply will be published in *Ringers Bulletin*. In the meantime, if you have any queries about IPM Sites please contact Chris Wernham or Jacque Clark.

A FOND FAREWELL

After nearly 10 years of running and overseeing the CES Scheme, Will Peach has moved on to a new job in the RSPB research department in Sandy. Here Will looks back over his time with the CES project.

"I took on the job of CES coordinator back in August 1988. Fresh out of university and with little experience of general mist-netting I had much to learn. A fairly limited ability to program a computer must have been my only real qualification for the job. And just as well, because as I soon found out that handling and analyzing the growing mountain of CES data was going to be quite a task.

And things trundled along nicely in those early months. Stephen Baillie taught me how to program a computer, Kevin Baker how to age phylloscops in autumn and Chris Mead how to coerce minions into putting up 50 mist-nets on cold, frosty mornings while he tucked in to hot coffee and cornflakes. But the tranquillity and calm of Tring and those early halcyon days was about to be shattered. Without a word of warning my baptism of fire was upon me: Braemar 1988, Skits and Pals and the Scottish Ringers' Conference. Survive that as a English member of BTO staff, and you can survive anything.

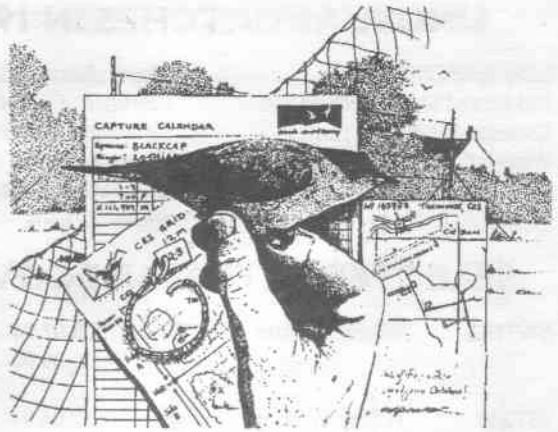
The main challenge of the last 10 years has been to answer the sceptics and put the CES firmly on the map. This I believe we have done. Many said that too few ringers would take part and that sites would not last, but you proved them wrong. Others claimed the data would not be reliable, but again we proved them wrong by collecting, analysing and publishing the results in respected journals as well as in more popular outlets. The scheme is now safe and well in the capable hands of Dawn. So please continue to support the CES project. In my opinion it is THE most important aspect of the entire ringing scheme, and this is a view echoed by many conservationists and statutory agency staff. So if you are struggling to complete all the visits then get some help; if you lose the site then find another.

The CES has been a big part of my life for the last 10 years and I shall miss both you the ringers and news of the sites. I have also come to know many of you as friends and I hope that will continue. I would particularly like to thank Mike Boddy, John McMeeking, Chris du Feu, Robin Cole, Tom Kittle, Rupert Wilson, Jan Pritchard, Rab Morton, John Walder, Dave Francis, Jim Cobb and Stuart Britton for their untiring support over the last 10 years. And many thanks to all CES ringers for their time and enthusiasm over the years".

INTRODUCING CHRIS AND STEPHEN

Will's jovial personality and sound scientific knowledge is sorely missed at The Nunnery but Will continues to work closely with the BTO on farmland bird issues. Will is pestered from time-to-time for advice so is kept up-to-date with the comings and goings in the scheme. Chris Wernham has been appointed to oversee the running of the scheme and will continue her work on the Migration Atlas. Chris has been employed at the BTO for two and a half years and has worked on the population dynamics of Canada Geese, Guillemots and Cormorants (but is better known for her staying power at the bar in Braemar!). The recent appointment of Stephen Freeman, as our ecological statistician is good news for the CES Scheme. Stephen's first job is to develop analytical techniques to calculate long-term trends in productivity (see page 12). Stephen previously worked at the University of Kent where he was involved in the estimation of survival rates from marked animal populations (including bird ringing data). More recently he was employed to predict the occurrence of droughts for the Institute of Hydrology. Welcome to Chris and Stephen.

Artwork by Derek Robertson



NEWS ITEMS

CES Refunds

There has been a slight change in the way refunds for CES ringing will be issued. Enclosed with this mailing is a short form asking for the number of birds newly ringed on your CES in 1998. Please return this form with your CES data and Summary Sheet as soon as possible after the end of the CES season. All claims for CES ringing should arrive at BTO HQ before the end of February. From 1999 onwards the number of newly ringed birds should be entered on the modified Summary Sheet and refunds will be issued automatically.

CES News

Many thanks to those of you who sent in interesting recoveries/retraps and artwork for *CES News*; this is very much appreciated. Contributions (articles or artwork) are always welcome. Please send all items to Dawn Balmer.

Bye to Sites 28, 70 and 92

1997 was to be the last year that the long-running sites at Threestoneburn, Northumberland (28), and Theddlethorpe Dunes, Lincolnshire (70 & 92) were operated as CES sites. Sandy Bankier ran Threestoneburn from 1982-95 but sadly died in February 1996. Michael Holmes and the Northumbria RG kindly manned the site in 1996 and 1997. The two sites at Theddlethorpe were operated by the CES pioneer Mike Boddy and his wife Frances. Mike and Frances have decided to hang up their ringing pliers after more than 15 years of CES ringing. We would like to thank Mike, Frances and Northumbria RG for their enthusiasm and commitment over the years.

Ringling & Migration Conference 1998

Yet again CES ringing featured in several of the talks given at the R & M Conference in January. Rhys Green talked about the value of long-term ringing and praised the efforts of CES ringers. Anne Brenchley talked about the conservation value of ringing on SSSIs and used CE sites as an example. CES ringer Jim Cobb gave a superb talk on the Willow Warblers at Kippo, a CE site he has been running since 1987.

There was an excellent turnout for the CES meeting on the Saturday evening and it was good to see a few new faces. The provisional 1996-97 results were presented and an interesting discussion followed. This year two CES ringers took the stand and gave entertaining talks about the habitat and the birds on their sites. Stuart Britton spoke about his scrub site in Lincolnshire and Peter Holmes explained about his scrub site in Hereford & Worcester. Peter coped very well considering several over-head projectors broke down during his presentation! Many thanks to Stuart and Peter for stepping in at such short notice. The evening finished with Will and Dawn showing a few slides of the Nunnery CES and some amusing slides of CES ringers.

So we are looking for volunteers for next year. If you would like to give a short presentation (10 minutes) about your site, show a few slides and present any interesting results (or just make us laugh!) then please get in touch with Dawn.

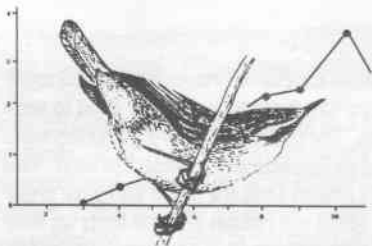
Peter Prince

It was with great sadness that the Ringing Unit heard of the sudden death of Peter Prince in February. Pete started a CES at Cow Lane Gravel Pits in Cambridgeshire in 1989, together with Mick Whitehouse and Nancy Harrison. Pete and his team successfully managed to juggle CES ringing with frequent visits to Antarctica - a very dedicated bunch! We are delighted that Mick and Nancy are continuing the CES, now in its tenth year.

RESEARCH

Long-term trends in abundance

In the last issue of *CES News* (No. 10) we presented graphs showing long-term trends in catches of Chiffchaff, Willow Warbler, Blackcap and Garden Warbler for both adults and juveniles. These long-term trends are the result of new analytical techniques developed by Will Peach and Stephen Baillie. Previously we have calculated between-year changes in abundance through changes in catch sizes across paired CE sites (known as a Chain Index). The new method for calculating abundance makes much better use of CES data and allows sites with missing information to be included.

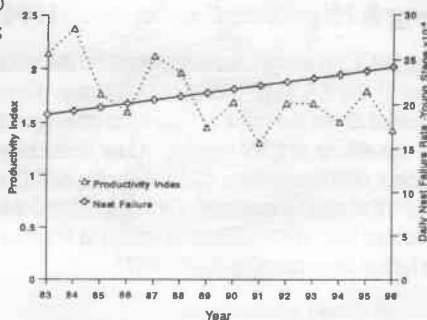


RESEARCH (continued)

Missing values arise because of site turnover (old sites dropping out and new sites starting) and missed visits due to poor weather etc. At sites at which fewer than 12 main visits were completed in a particular year we are now able to "correct" catches by estimating the number of additional individual birds that would have been expected, based on experience during years with complete coverage (all 12 main visits completed). These new methods do not mean you can miss visits in the future, always aim to complete all 12 main visits. Unfortunately statistical tricks can never be so good as to eliminate the need for us to get out of bed early! Changes in abundance are now calculated through the application of loglinear poisson regression models - much more sophisticated! Further details of the methodology and the results can be found in a paper that we have written: Peach, W.J., Baillie, S.R. & D.E. Balmer. Long-term changes in the abundance of small passerines in Britain and Ireland as measured by Constant Effort mist-netting. *Bird Study*. In press.

New productivity trends

In addition to estimating survival and producing indices of abundance, CES provides information on breeding success. The BTO uses the numbers of juvenile birds caught, relative to the total catch for the species, as an indicator of productivity for the season. This information has regularly appeared in *CES News* and *BTO News* and now we are developing rigorous statistical methods for the calculation of long-term trends in productivity. The results of a preliminary analysis, for Willow Warbler, show a steady decline since the establishment of the CES scheme. The figure shows that this decline coincides with an increasing rate of nest failure, calculated from the BTO Nest Record Scheme. These results are of great interest in view of the unprecedented decline in Willow Warbler numbers since 1989. Similar analyses for other species are under way. However, for the future we need to make further checks of the way in which productivity from CES and measures of breeding success from the Nest Record Scheme are related. The establishment of IPM sites where CES, Common Birds Census and nest recording are carried out simultaneously will help us in this validation process.



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