

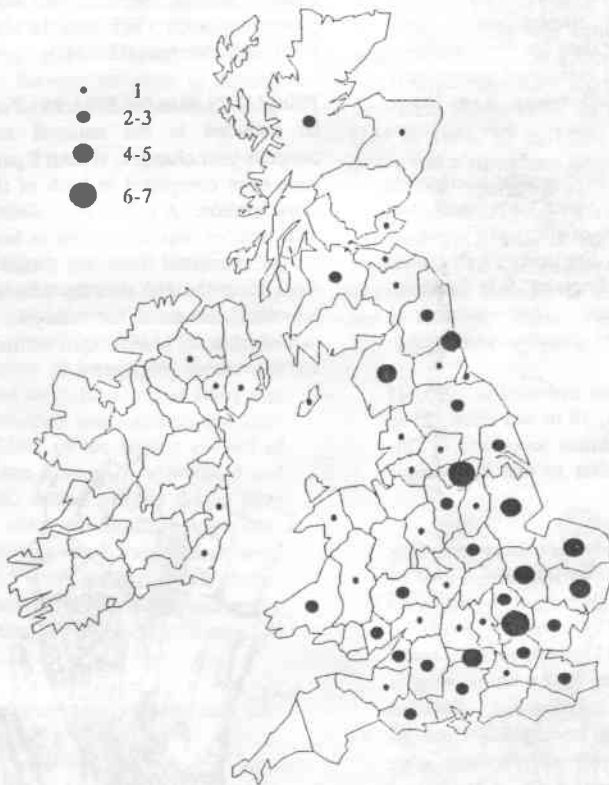
# CES News



Number Nine

April 1996

## Distribution of Constant Effort Sites in 1995



This map shows the distribution of Constant Effort Sites operated in 1995 on a county basis. As with many BTO schemes, there is a bias towards south-east England, reflecting the distribution of ringers. There are obvious gaps in Sussex, Northamptonshire and south-west England. For such a small county, Tyne & Wear is well represented with 4 sites. Small numbers of highly productive CES sites are being operated in Scotland, Wales and Ireland but new sites are still needed.

This is the ninth 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.

The CES Scheme aims to monitor changes in the populations and breeding performance of a range of common passerines. Each summer volunteer ringers make twelve visits to their site between May and August where a series of mist nets are erected in standard positions for a standardised period of time. By combining data from more than 100 sites, changes in the size of the adult catch are used as a measure of population changes whilst the percentage of young birds is used as an index of breeding success. When a site is operated for several years in succession then survival rates of adult birds can be estimated using between-year recaptures.

## CES RINGING IN 1995

**Number of sites** - Data were received from a total of 114 sites operated in 1995. All these have now been added to the CES database on the BTO computer and all CES ringers should have received printouts of their data for final checking. If you notice any errors or omissions, please mark these on the printout and return it to Dawn Balmer at BTO HQ.

**Regional Coverage** - In 1995 intensive effort (at least 9 of the 12 main visits completed) was achieved at 110 sites (96% of sites). Of these, 37 were located in southern England, 30 in central England, 26 in northern England, 9 in Scotland, 7 in Wales and 5 in Ireland. This represents an welcome increase in Wales, Scotland and Ireland.

**Habitats** - Of the 114 sites operated in 1995, 41 were located in dry scrub, 39 in wet scrub, 25 in reedbeds and 9 in deciduous woodland. This habitat breakdown is similar to that in previous years.

**Habitat Recording** - The new habitat recording forms were received from an impressive total of 79 sites. Many thanks to all those who completed this laborious task. If you were unable to complete the forms in 1995, please give it a try in 1996. The instructions may look a bit daunting at first, but they are really not that bad. Detailed habitat recording will not be required from all sites every year, but if you wish to have a go again this year, please contact Dawn Balmer at BTO HQ for further recording forms.

**B-RING** - 1995 showed another increase in the number of sites submitting CES data on disk using the B-RING software for ringers. Data from 70 sites (61% of all sites) were sent in on floppy

disk. This is a great help to us as it reduces the amount of staff time we spend processing the data. Advice on the use of B-RING for processing your CES data is always available from Will Peach at BTO HQ.

**Paired CES sites for 1994/95** - For a CES site to be included in the national comparisons of between-year changes, at least 8 paired visits must have been completed in both of the years under consideration. A paired visit means that the same visit number was completed in both years. The results presented here are based upon catches from 86 of the 110 sites for which data had been submitted in time for analysis. The tables published in the March-April edition of *BTO News* are reproduced on pages 8-9.



*Tree Sparrow drawing by Hilary Burn*

## CES RESULTS 1994-95

### Adult catches remain high

A fourth successive mild winter boosted over-winter survival and resulted in good catches of resident species. Wren, Dunnock, Robin and Treecreeper were particularly abundant in 1995. Catches of Sedge Warbler, Whitethroat and Lesser Whitethroat all increased significantly (Table 1) suggesting favourable conditions in their African wintering grounds. Sedge Warblers were more abundant in 1995 than at any time since 1989.

Despite the favourable winter weather some species continued their long-term declines. Fewer adult Bullfinches and Linnets were caught in 1995 than in any year since the start of CES ringing in 1981, and breeding populations of Blackbird, Redpoll and Reed Bunting continue to decline. See pages 6-7 for further details of these long-term declines.

### Early broods do well

Warm spring conditions prompted early nesting amongst many resident passerines, and good early catches of Blue Tits and Great Tits made up for a dreadful breeding season in 1994. In southern Britain a combination of unseasonal frosts and rain during May and early June caused many nest failures amongst residents and warblers, but later nests did well. Some of the largest catches of young migrants came from sites in Scotland and Wales where warm, settled weather during May and June proved ideal for nesting passerines. Compared to previous years juvenile birds were abundant in 1995, with young Wrens, Sedge Warblers, Whitethroats, Chiffchaffs, Treecreepers and Chaffinches being particularly numerous.

### High Breeding Success for Whitethroats and finches

The warm, humid summer affected nesting success in various ways. Initially conditions helped many species rear successive broods, but later the heat and drought resulted in small late broods and increased nest loss to predators due to premature leaf-fall. For most CES species 1995 was a year of high or average breeding success.

Whitethroat and several of the finches enjoyed a highly productive summer while the thrushes and most of the warblers and the small resident insectivores experienced an average year for breeding (Table 2).

### Scarce CES Species

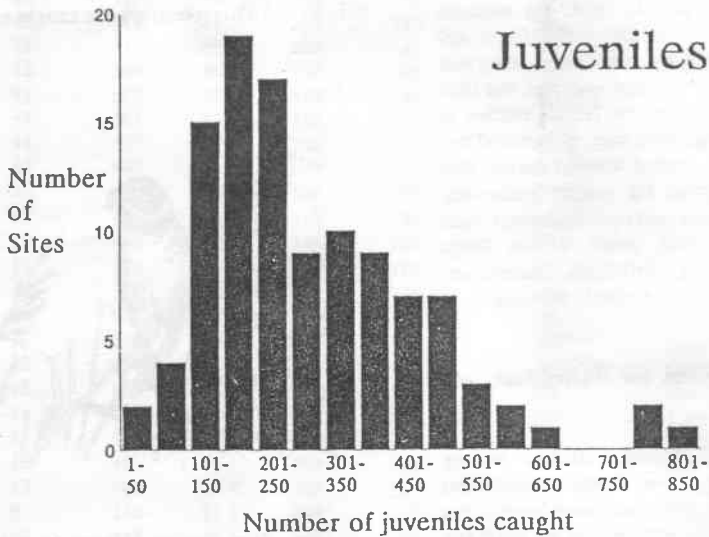
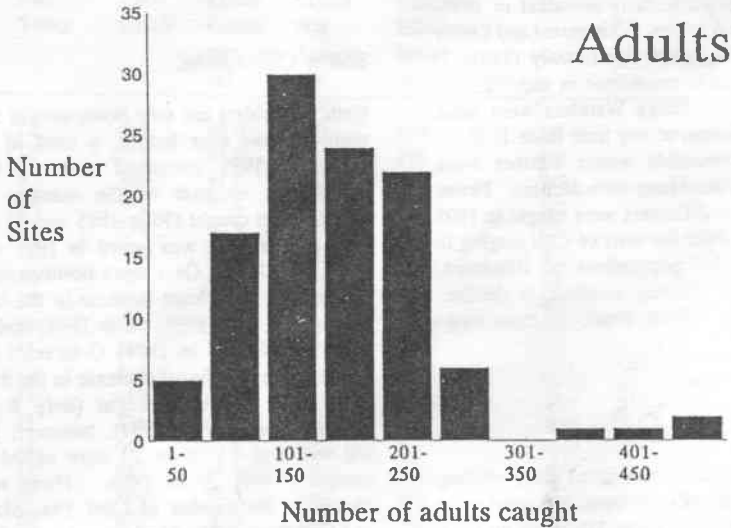
Cetti's Warblers are now being caught in greater numbers than ever before, a total of 56 were netted in 1995 compared with 23 in 1994. Despite an increase in the number of adult Nightingales caught (36 in 1995 and 27 in 1994), only one juvenile was netted in 1995 compared with 17 in 1994. On a more positive note, there was a large significant increase in the catches of both adult (55 in 1995, 28 in 1994) and juvenile (154 in 1995, 89 in 1994) Goldcrests in 1995. There was a significant decrease in the number of adult Tree Sparrows caught (only 6 in 1995 compared with 17 in 1994), however, juveniles did well and a total of 80 were netted in 1995 compared with 20 in 1994. There was little change in the number of Coal Tits, Marsh Tits and Grasshopper Warblers caught, a total of about 165, 80 and 45 respectively are caught each year.



*Reed Bunting drawing by Hilary Burn*

## HOW GOOD IS YOUR SITE?

Here we show the distribution of catch sizes at CES sites operated in 1995. The top graph is for adult catches and shows that the majority of CES sites produce fewer than 250 individual adults. The average CES site produces between 151-200 adult birds.



The bottom graph shows that some CES sites produce more than 500 young birds. The average catch of young in 1995 was between 201-250 individuals.

## UNUSUAL CAPTURES IN 1995

Tufted Duck - Herts  
 Hobby - Herts  
 Rook - Wexford  
 Dipper - Northumberland

Whinchat - Berks  
 Hawfinch - Leics  
 Firecrest - Greater London  
 Aquatic Warbler - Dyfed

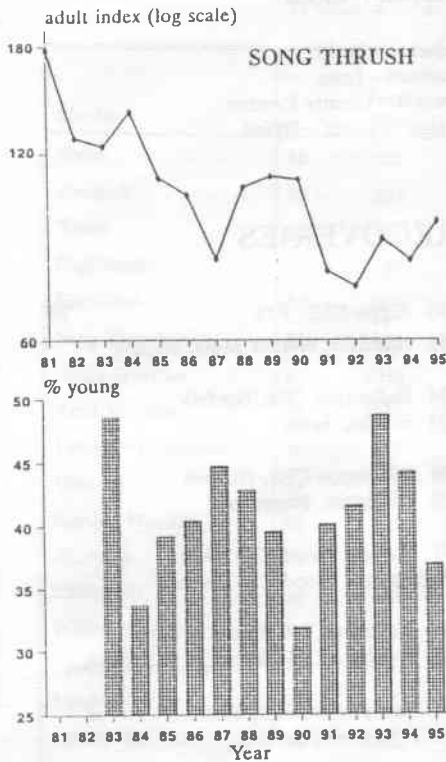
## SELECTED RETRAPS/RECOVERIES

★	K025841	Tree Pipit	4	21.05.95	Kippo CES, Fife	★
			Dead	29.05.95	Njardvik, Nordur Mula, Iceland	
	J480425	Blackcap	3J	25.07.94	Didlington CES, Norfolk	
			Control	08.10.94	Huelva, Spain	
	J480212	Blackcap	4	30.04.94	Didlington CES, Norfolk	
			Caught	23.02.95	Taountate, Morocco	
	E063781	Garden Warbler	4♀	14.06.87	Clanger Wood CES, Wilts	
			Retrap	18.06.95	Clanger Wood CES, Wilts	
	C213274	Reed Warbler	4♀	27.06.84	Westbere CES, Kent	
			Retrap	12.07.95	Westbere CES, Kent	
	J389904	Reed Warbler	3	10.08.94	Betley Mere CES, Staffs	
			Control	26.08.94	Felixstowe, Suffolk	
	0W3325	Willow Warbler	4♀	27.05.94	Didlington CES, Norfolk	
			Control	03.06.94	North Ronaldsay Bird Observatory	
	H529458	Whitethroat	4♀	27.05.93	Fagbury, Suffolk	
			Control	05.06.93	Rye Meads CES, Herts	

## CES MONITORING OF RED DATA SPECIES

The British Red Data Birds book (1990) listed 109 species which qualified on one or more quantitative criteria referring to rarity, localised distribution, decline in population and international importance. Since this book was published, much more data on bird population levels and trends in the United Kingdom and Europe have become available. This has allowed the criteria to be refined and improved and has resulted in the production of a new list, soon to be published in the RSPB's *Conservation Review*. Entitled *Bird Species of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man*, the new list has been prioritised into species of high (red) and medium (amber) conservation concern; all other species are of a lower (green) concern. Red-listed species (36 species) are globally threatened or in rapid decline in the UK currently or historically. Of those red-listed birds, four are monitored by the CES scheme: Song Thrush, Linnet, Bullfinch and Reed Bunting. Overleaf we present long-term trends in the CES catches of these species. The CES scheme plays a valuable part in the long-term monitoring of these species, and as the scheme expands and improves, so our data become more useful.

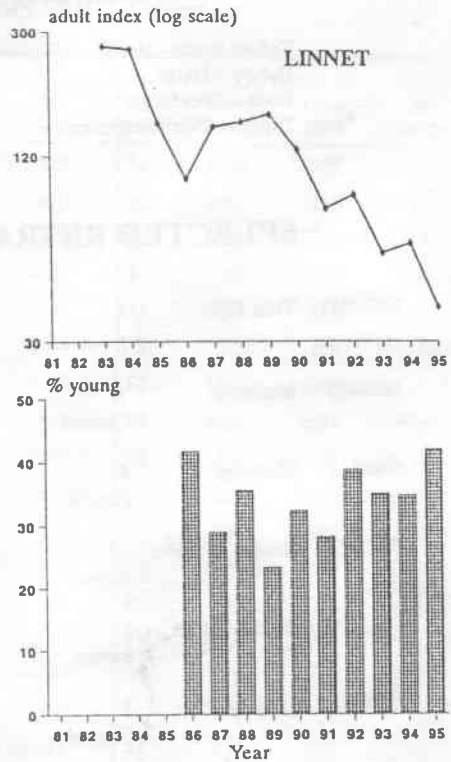
## CES RED DATA SPECIES



SONG THRUSH

The adult breeding population has declined dramatically since the early 1980s and despite a recent recovery, numbers remain at a low level (top graph). The decline in adult Song Thrushes has been mirrored by a similar decline in the abundance of young thrushes. The percentage of young thrushes in the total catch (a measure of annual breeding success) has fluctuated (bottom graph) but there is little evidence of any overall decline in breeding success which might explain the population decline.

Cold winters undoubtedly affect Song Thrush numbers (note the smaller catches following the severe winter of 1990/91) but the long-term decline has probably been caused by environmental changes in the wider countryside. The message from CES ringing is that the decline in the British Song Thrush population has probably not been caused by any reduction in breeding success.

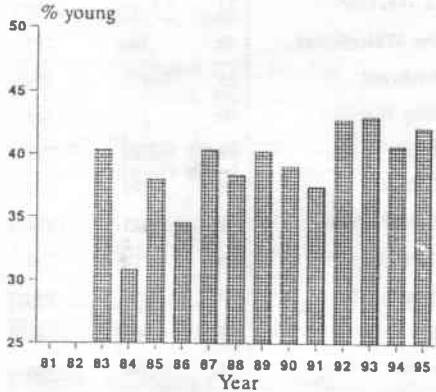
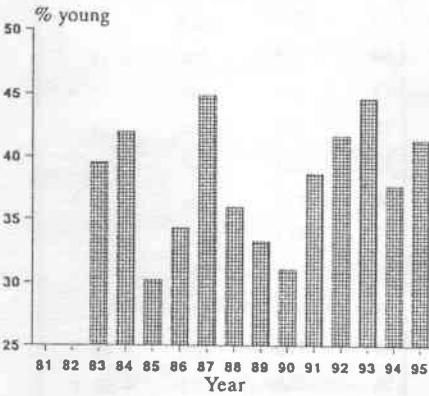
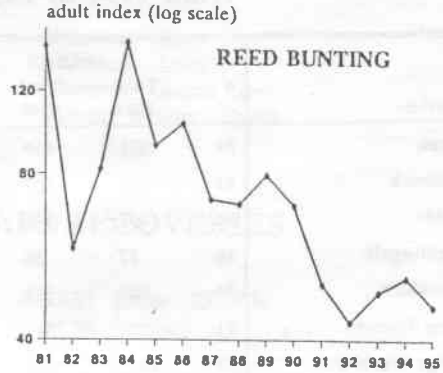
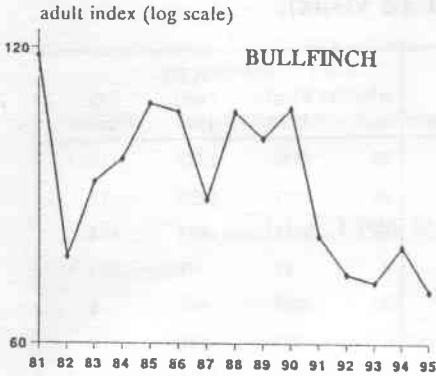


LINNET

The UK Linnet population has been in steep decline since the start of the CES (top graph) and the Common Birds Census (CBC) shows that the breeding population has been declining since 1977. Nest record cards show that Linnets have suffered reduced breeding success since the mid-1960s. CES data (bottom graph) suggest that breeding success has been relatively stable during the last 10 years.

A likely explanation of the Linnet decline is the intensification of agriculture, particularly the chemical control of weeds. The relative scarcity of important arable weeds such as fat hen and chickweed, both during the breeding season and the winter, may have increased mortality through starvation. More recently, oil-seed rape has helped to compensate for losses to traditional foods.

# CES RED DATA SPECIES



## BULLFINCH

Bullfinches probably increased in numbers during the 1940s and 1950s, and spread into more open farmland, this may have been facilitated by the large decline of the Sparrowhawk population. The CBC identified a decline in the breeding population beginning in the mid-1970s, and the CES data suggests a further decline during the 1990s (top graph). Breeding success (bottom graph) has fluctuated, although it is interesting to note that in years when the adult index is low, breeding success is much higher.

The decline of the Bullfinch has been linked with the extensive hedgerow destruction on farmland. Intensive farming, particularly in arable areas, provides poor habitat for Bullfinches. Fluctuations in seed crops of preferred tree species may account for small changes in abundance, particularly at a local scale.

## REED BUNTING

The adult breeding population index (top graph) shows a steep decline since CES monitoring began, with a slight upturn in fortunes in recent years. The juvenile index (not illustrated) shows a steep decline throughout the whole period. Breeding success (bottom graph) has remained fairly stable, with perhaps a slight increase in the last four years.

A run of mild winters in the 1950s allowed the Reed Bunting population to increase and spread into drier habitats, including farmland. The shallow decline of the mid-1970s steepened after a series of cold winters in the late-1970s and early-1980s. Changes in agricultural practices also came into play during this period, and as a result the population retracted back to wetter habitats.

Table 1. Changes in captures on CES sites from 1994 to 1995 (all 12 visits).

Species	n	ADULTS			n	JUVENILES		
		Total 1994	Total 1995	% Change		Total 1994	Total 1995	% Change
Wren	84	622	659	+ 6	86	1539	1757	+ 14 *
Dunnoek	85	597	607	+ 2	86	1017	1136	+ 12
Robin	84	492	536	+ 9	85	1548	1674	+ 8
Nightingale	16	27	36	+ 33	8	17	1	- 94 *
Blackbird	84	904	817	- 10	83	691	634	- 8
Song Thrush	81	273	312	+ 14	77	215	196	- 9
Sedge Warbler	67	1040	1326	+ 28 *	63	1547	1964	+ 27 *
Reed Warbler	53	1510	1649	+ 9	58	1536	1628	+ 6
Lesser Whitethroat	46	169	212	+ 25 *	60	275	308	+ 12
Whitethroat	65	436	509	+ 17 *	73	664	1148	+ 73 *
Garden Warbler	66	385	344	- 11	72	509	496	- 3
Blackcap	78	727	738	+ 2	82	1553	1610	+ 4
Chiffchaff	68	289	303	+ 5	80	940	1206	+ 28 *
Willow Warbler	84	1521	1445	- 5	83	2623	3002	+ 14
Spotted Flycatcher	16	16	19	+ 19	16	13	29	+ 123
Long-tailed Tit	79	433	460	+ 6	78	968	1130	+ 17
Willow Tit	30	56	44	- 21	43	118	165	+ 40 *
Blue Tit	86	549	556	+ 1	86	1866	2453	+ 31 *
Great Tit	83	405	352	- 13	86	837	1273	+ 52 *
Treecreeper	44	59	75	+ 27	71	190	221	+ 16
Chaffinch	79	567	580	+ 2	71	433	545	+ 26 *
Greenfinch	51	246	231	- 6	30	87	116	+ 33
Goldfinch	46	121	107	- 12	28	69	121	+ 75
Linnet	32	93	58	- 38	17	40	38	- 5
Redpoll	18	73	69	- 5	14	42	67	+ 60
Bullfinch	81	547	495	- 10	69	289	349	+ 21
Yellowhammer	26	56	70	+ 25	14	40	59	+ 48
Reed Bunting	60	397	351	- 12	52	325	252	- 22

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 1994 to 1995.

PAIRED SITES 1994-1995				
Species	n	% juv 1994	% juv 1995	Diff in % juv
Wren	84	71	72	+ 1
Duncock	84	63	65	+ 2
Nightingale	7	38	3	- 35 *
Robin	85	76	76	0
Blackbird	84	43	43	0
Song Thrush	75	43	38	- 5
Sedge Warbler	61	60	60	0
Reed Warbler	50	50	49	- 1
Lesser Whitethroat	46	61	58	- 3
Whitethroat	57	60	69	+ 9 *
Garden Warbler	67	57	59	+ 2
Blackcap	76	68	68	0
Chiffchaff	73	77	80	+ 3
Willow Warbler	83	63	67	+ 4
Spotted Flycatcher	13	35	64	+ 29
Long-tailed Tit	78	69	71	+ 2
Willow Tit	30	67	78	+ 11 *
Blue Tit	85	77	81	+ 4 *
Great Tit	82	67	78	+ 11 *
Treecreeper	57	75	74	- 1
Chaffinch	69	44	49	+ 5
Greenfinch	29	27	35	+ 8
Goldfinch	26	43	54	+ 11
Linnet	14	34	38	+ 4
Redpoll	11	40	48	+ 8
Bullfinch	72	35	42	+ 7
Yellowhammer	16	45	44	- 1
Reed Bunting	54	45	42	- 3

n = number of paired sites

% juv = percentage of captures which were juveniles in 1994

Diff in % juv = % juvenile in 1995 minus % juveniles in 1994

(\* statistically significant change at 5% level)

## SITE EFFICIENCY

This table lists the 40 most efficient CES sites in 1995. Catching efficiency is the mean catch per main visit divided by the length of standard netting used. Sites where fewer than 9 visits were completed are excluded.

Site No.	No. Visits	Total Catch	Mean Catch per visit (x)	Stand. Net Length (y)	Catching Efficiency Index = (x/y)*1000	Habitat	County
28	12	468	39.0	160	243	DS	Northumberland
244	12	213	57.4	240	239	DS	South Yorks
309	9	386	42.9	200	214	WS	Derbyshire
215	12	571	47.6	215	198	DS	Fife
220	12	753	62.8	320	196	DS	Lincolnshire
148	12	335	27.9	150	186	WS	South Yorks
300	12	707	58.9	336	175	DS	Highland
105	12	563	46.9	270	173	WS	South Yorks
271	12	447	37.2	220	169	WS	Gwynedd
177	11	369	33.5	200	167	DS	Berkshire
135	12	597	49.7	300	165	RB	Hampshire
313	11	687	62.5	380	164	DS	Tyne & Wear
273	11	436	39.6	242	163	DS	Lothian
266	12	643	53.6	340	157	WS	South Yorks
150	12	889	74.1	480	154	RB	Leicestershire
234	12	1069	89.1	600	148	DS	West Yorks
337	12	675	56.3	380	148	WD	Highland
276	12	1223	101.9	700	145	WS	Cambridgeshire
123	12	518	43.2	300	143	WS	Cumbria
344	12	712	59.3	420	141	RB	Dyfed
321	12	559	46.6	330	141	WS	Hertfordshire
351	11	647	58.8	420	140	RB	Dorset
347	11	582	52.9	380	139	WS	Norfolk
34	11	435	39.5	290	136	RB	Hertfordshire
293	12	642	53.5	400	133	DS	Suffolk
356	12	609	50.8	380	133	DS	Suffolk
301	12	474	39.5	310	127	WS	Cumbria
295	12	494	41.2	340	121	DS	Suffolk
226	12	577	48.1	400	120	WS	Cambridgeshire
82	10	332	33.2	280	118	RB	Kent
310	11	650	59.1	500	118	DS	South Yorks
4	12	834	69.5	600	115	WS	Berkshire
20	12	291	24.3	210	115	WD	Cumbria
154	12	623	51.9	450	115	RB	Hertfordshire
25	11	579	52.6	460	114	WS	Hertfordshire
336	12	573	47.8	420	113	WS	Tyrone
243	12	483	40.3	360	111	DS	North Yorks
358	12	401	33.4	300	111	DS	Hereford & Worcs
253	9	336	37.3	340	109	WD	Grampian
232	12	447	37.3	340	109	RB	Warwickshire

HABITAT: WS wet scrub; DS dry scrub; RB reedbed; WD woodland.

## NEWS ITEMS

### CES - A SHINING EXAMPLE OF RINGING FOR CONSERVATION

The CES Scheme came in for considerable praise at the recent JNCC/BTO workshop on the conservation uses of ringing data. The British and Irish Ringing Scheme makes a major contribution to conservation science in two main areas of interest: (1) population monitoring and understanding why bird populations may be changing, and (2) studies of movements and migration. The main contribution of the CES Scheme is to population monitoring and the measurement of breeding success and survival rates. Recoveries of birds ringed on CES sites also contribute to our knowledge on movements and migration, and because most CES birds are ringed during the breeding season we can relate movements of such birds directly to particular breeding populations.

The CES Scheme was praised at the workshop for achieving a reasonable balance between standardisation on the one hand and practicality and enjoyment on the other. Catching effort must be standardised in order to generate reliable information about bird populations, but if the methods are overly restrictive or demanding then ringers will be reluctant to get involved. Views differ as to exactly where the line between standardisation and flexibility should be drawn (witness the passionate debates at some of the recent CES Meetings at the Swanwick Ringers' Conference), but the success of the scheme is reflected in the large numbers of sites now contributing and the increasing numbers of publications based upon CES data. The large number of foreign CES Schemes now being set up is further testament to the success of the BTO project.

There were calls by workshop delegates for an extension of the CES philosophy to other bird groups and to other habitats. The basic idea would be to collect long-term ringing and recapture data for a range of species at particular study sites. This might include long-term ringing studies of nest-box species (tits, flycatchers and some raptors) and colonial nesting hirundines during the breeding season, and long-term studies of waders and possibly farmland passerines during winter.

The ringing workshop was held at the University of East Anglia and attended by 45 conservationists, bird ecologists and ringers and a set of proceedings will be published later this year in the JNCC's UK Nature Conservation series. Summary conclusions will be published in *Ringers' Bulletin*.



*Treecreeper drawing by D A Thelwell*

### NEW HABITAT RECORDING AT CES SITES

Thanks to all those CES ringers who completed the new habitat recording in 1995. Completed forms were received from 79 of the 114 sites operated in 1995. This information will be used to categorise CES sites into broad habitat groups, and to monitor the effects of increasing scrub height and density around CES mist-nets. An initial breakdown of the 79 habitat forms completed in 1995 indicates that most CES nets are located in scrub (61%) and semi-natural grassland and marsh (20%) habitats. Only 13% of nets were located in woodland and only 1% on farmland.

If you operated one of the 35 sites at which habitat was not recorded in 1995, then **PLEASE TRY TO RECORD THE HABITAT IN 1996.**

Without this habitat information we may be forced to exclude your site from future analyses of the national CES data. If you recorded the habitat in 1995 and wish to do so again in 1996 then please do so! Habitat forms and instructions are available from Dawn Balmer at BTO HQ.

The Tees RG have been commissioned to use CES methods to monitor the bird populations of reedbeds whose primary purpose is the treatment of chemical effluents. The artificial reedbeds are located at the ICI works in Billingham, and under the terms of the planning permission, ICI are required to monitor and enhance the wildlife of the site.

CES-style ringing has been carried out for three years to monitor the bird populations of the reedbed. In addition to bird ringing, a CBC and a study of the invertebrate population of both the reedbed and the surrounding wasteground were undertaken by others.

The results show that the number of birds caught over the three-year period has almost trebled (90 in 1993, 101 in 1994 and 247 in 1995). Sedge Warblers and Reed Buntings were caught in good numbers throughout the period. Reed Warblers were caught in very small numbers in 1993, but increased to a total of 47 in 1995.

This study is believed to be the first of its kind on man-made treatment reedbeds in the British Isles. They would be interested to hear of any similar projects.

#### CES NEWS

We are keen to receive short articles about your CES ringing, interesting retraps or controls, and artwork for inclusion in future editions of *CES News*. Please send all items to Dawn Balmer.

#### CES REFUNDS

A reminder that all claims for CES ringing should arrive at BTO HQ before the end of February. Claims should be submitted on the Refund Claims Form sent out with the December mailing. If the CES is operated through a ringing group, then the claim should be made by the secretary of the group.

Mike Netherwood and Mick Cook turned up for their first CES visit of 1995 only to be targeted by a gang who had been camping illegally overnight at the ringing site. The gang chased the CES ringers, shooting at them with air rifles and pistols. Fortunately they emerged unscathed and called the police who turned up with an armed response unit and arrested members of the gang. What lengths some CES ringers will go to avoid a CES visit!

#### CES STAFF

The staffing of the CES Scheme at BTO HQ has changed slightly during the last few months. Dawn Balmer has been appointed Research Officer within the Populations Research Department and will be spending several months of each year helping with the organisation of the scheme, maintenance of the database and analysis of the data. Dawn has previously worked in the BTO's Census and Wetland & Coastal Ecology Units. Will Peach continues to oversee the running of the CES Scheme. Both Dawn and Will can be contacted by phone or by post at BTO HQ.

#### SANDY BANKIER

It was with great sadness that the Ringing Office heard of the recent death of Sandy Bankier of the Northumbria Ringing Group. Sandy was well-known in English and Scottish ringing circles and was a regular (and colourful) figure at the annual ringing conferences in both Braemar and Swanwick. Sandy was an ardent supporter of CES ringing from the very early days of the project and operated his Threestoneburn site (site number 28 -the most efficient CES in 1995; see page 10) in every year between 1982 and 1995. Sandy's enthusiasm for, and great knowledge of, birds and ringing will be sadly missed, as will his presence at the annual gatherings of ringers.

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*The BTO's Constant Effort Sites Scheme is carried out under contract from the JNCC on behalf of English Nature, Scottish Natural Heritage and the Countryside Council for Wales, under a contract from the Department of the Environment for Northern Ireland.*