

Treswell Wood

Nestbox Report - 1993

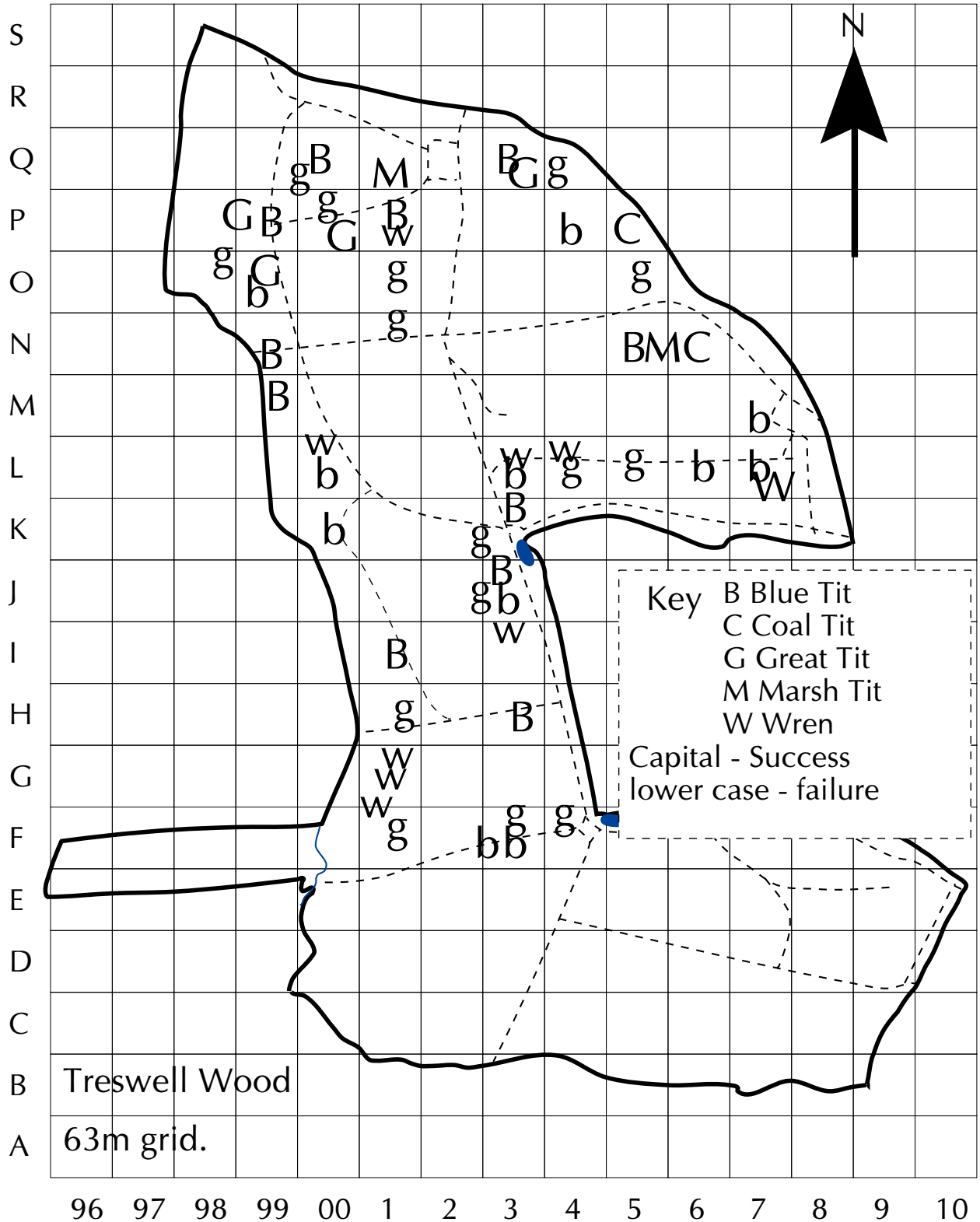


Figure 1 Nests in nestboxes, Treswell Wood 1993

Introduction

This report, the fifteenth, will be the last in the present format. Over the last few years we have allowed the sponsorships to die out, but it is intended to relaunch the sponsorship scheme next season with somewhat different reporting arrangements. If you would like to be one of the new sponsors, please return the slip enclosed. We will inform you, in due course, of the new arrangements. I have taken the opportunity to include, in this report, a review of some of the events over the past fifteen years.

The year began well, as so often. Both Blue and Great Tits began to build nests somewhat earlier than average but, alas, disaster struck. There was depredation of nests, largely during laying or incubation, on a massive scale. Only half the Blue Tit and a quarter of the Great Tit nests in which eggs were laid produced fledged young. In addition, several nests were abandoned before eggs were laid. It is not always clear which predator is responsible for destroying a nest but it seemed that most nests were destroyed by mice which ate the eggs. Some early nests were commandeered by bumble bees but only one late nest appeared to be attacked by a weasel *Mustela nivalis*. There were no Tawny Owls nesting in our boxes this year. Tawny Owls and weasels both eat large numbers of mice. It appears that numbers of these two predators are much lower than usual in the wood and this has allowed the mouse population to increase to the point at which it can inflict such heavy damage on nesting tits and other birds too. We found almost no nests of other species this year apart from Wrens. Even here, however, although we found several Wren nests, success was lower than usual with only one of the nests producing fledged young. The bird ringers in Treswell Wood have had a very thin time, too, with very low captures in the Constant Effort Sites operation.

Table 1 Summary of events in Treswell Wood nestboxes, 1993

Species	Numbers of:					Percentage of:	
	nests found	successful nests	eggs laid	nestlings fledged	nestlings recaptured	eggs to fledging	successful nests
Wren	(5) 9	1	29	7	1	24	(20) 11
Song Thrush	1	0	4	0	-	0	0
Marsh Tit	2	2	19	16	1	84	100
Coal Tit	2	2	20	20	1	100	100
Blue Tit	22	11	194	85	4	44	50
Great Tit	21	5	128	30	0	23	24

Note: Numbers in brackets refer to Wren nests known to have been used for nesting.

Species Notes

Tawny Owl

Regrettably we have had no nesting owls in boxes this year. There were plenty of Tawny Owls heard early in the year, but through the spring they seemed to disappear for no apparent reason. Tawny Owls are sedentary birds so their disappearance may well be as a result of death rather than emigration. We will have to wait to for recolonisation of the wood by young birds from elsewhere.

Wren

Wrens have been relatively numerous this year as shown by the CES captures. However, success in those nests found has been fairly low, largely because of depredation. Four of the Wren nests were in boxes, the others in the open. Wrens have a long nesting season with two or three successive broods. Their nests are often fairly obvious and prone to predation. The bracketed figures in Table 1 refer to Wren nests which are known to have been used. The other four were probably 'cock-nests' which the male builds but the female may not use for nesting. One such cock-nest was made in April in box 4 and not used by the female until July. In spite of all this depredation, Wrens managed to produce large numbers of fledged young overall as shown by the large numbers in the CES catches. Wrens are multiple-brooded and may have three broods of six or seven young in a single season. Unlike most tits which are single brooded, a nest failure for a Wren does not necessarily mean a complete season's failure.

Three years ago we produced data for tits showing a relationship between numbers ringed in boxes and numbers of juveniles captured in CES nets. This result was of interest to the BTO as it was the first published evidence of the reliability of CES methodology. Our Wrens now provide more evidence for the reliability of CES. Figure 2 presents our adult captures in constant effort mist nets plotted against the numbers of nests found in boxes and

illustrates the clear correlation between these two variables.

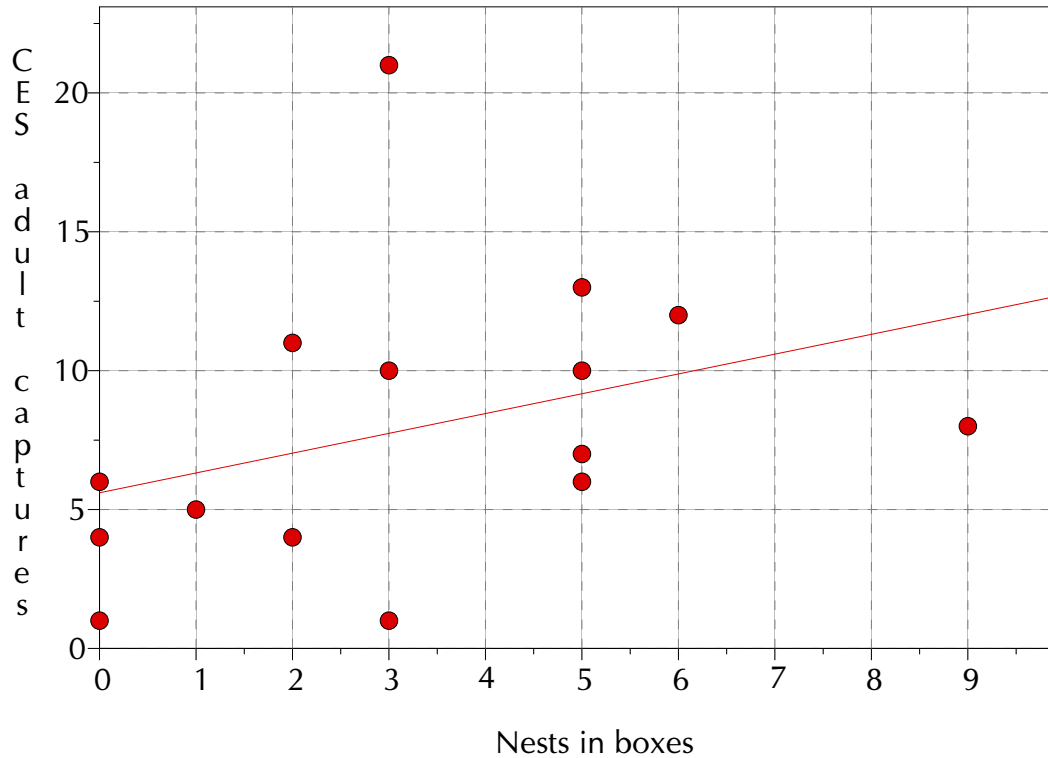


Figure 2 Wrens 1979 - 1993 Treswell Wood

Song Thrush

Only one nest found this year, and that one was depredated. It is interesting that for the second year running we have found more Song Thrush than Blackbird nests - even though it is by a margin of only one failed nest. Blackbirds, which were formerly much more common than Song Thrushes seem to be decreasing too - the CES capture table gives recent numbers.

Table 2 First egg dates, Treswell Wood 1979 - 1993

	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Blue Tit															
Earliest	17 Apr	15 Apr	14 Apr	20 Apr	25 Apr	27 Apr	22 Apr	4 May	20 Apr	20 Apr	16 Apr	5 Apr	16 Apr	19 Apr	13 Apr
Median	29 Apr	23 Apr	20 Apr	24 Apr	6 May	2 May	30 Apr	8 May	24 Apr	25 Apr	27 Apr	21 Apr	1 May	24 Apr	21 Apr
Great Tit															
Earliest	2 May	20 Apr	21 Apr	24 Apr	28 Apr	30 Apr	25 Apr	6 May	22 Apr	20 Apr	19 Apr	12 Apr	27 Apr	15 Apr	22 Apr
Median	7 May	3 May	4 May	27 Apr	5 May	5 May	4 May	12 May	26 Apr	30 Apr	5 May	27 Apr	30 Apr	24 Apr	25 Apr
Marsh Tit (Earliest)									19 Apr		4 May			19 Apr	13 Apr
Coal Tit (Earliest)				22 Apr	28 Apr	22 Apr	29 Apr			5 Apr				12 Apr	6 Apr

Marsh Tit

Two successful nests this year, doubling last year's performance. Details of the females nesting are given in the list of interesting captures. The success of both Marsh and Coal Tits may be assisted by the relatively low numbers of the more dominant Blue and Great Tits at present. It is interesting that in the early 1980s both Coal and Marsh Tits did not generally lay as much earlier than Blue Tits as they do now.

Coal Tit

For the first time ever we have two broods in one year, and both of them successful. It may be that they escaped predation by being earlier than both Blue and Great Tits. Predators take time to learn the nestbox habit and this may have spared these, and the Marsh Tits.

Blue Tit

Last year experienced breeding birds performed much better than young birds, but this year disasters have fallen equally on birds of all ages. Although experienced birds may be better at incubating eggs and finding food for the young, their nests in boxes did not seem to be any more secure than those of younger birds.

Table 2 gives a fifteen year summary of dates of laying of first eggs. It shows that this year has been generally early, and also shows the recent earlier nesting of Marsh and Coal Tits. It is also interesting to compare the start of the Blue Tit season with that of the Great Tit season which is typically a week or so later.

Great Tit

Great Tits are our most consistent nestbox-predator victims. This year has surpassed all others with only 30 birds fledging. Great Tits are more prone to depredation than the other tits, for three reasons. They need larger hole entrances making access for predators easier. They are noisier at the nest, making nests more obvious to predators. They are later than the other tits in nesting, allowing predators time to learn all about nestboxes in time to reap maximum benefit from the Great Tit harvest.

There were several late attempts to nest - presumably replacement clutches. However, in all cases but one, these resulted in nests built of moss but not lined with feathers and with only one egg laid and hidden in the moss. Great Tits often lay one or more eggs before completing the nest as this shortens the effective egg laying time, allowing more rapid progress through the nesting cycle. This acceleration of the nesting process becomes increasingly important as the season progresses. Why these replacement nests were abandoned, I do not know.

Table 3 Numbers of nestlings ringed in boxes and later recaptured, Treswell Wood 1979 - 1993

	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Blue Tit															
N	101	240	231	171	117	155	189	233	272	103	258	174	120	120	85
R	63	91	81	56	29	45	50	51	69	32	60	21	8	8	7
P	62%	38%	35%	33%	25%	29%	26%	22%	25%	31%	23%	12%	7%	7%	8%
E	0	0	0	0	0	0	0	0	0	0	0	0	0	4	.
Great Tit															
N	65	53	56	50	48	61	104	126	133	77	126	38	38	65	30
R	34	10	10	10	13	19	18	9	43	8	13	1	10	14	1
P	52%	19%	18%	20%	27%	31%	17%	7%	32%	10%	10%	3%	26%	22%	3%
E	0	0	0	0	0	0	0	0	0	0	0	0	0	4	.

Note: N nestlings ringed and fledged
 R found ('found' means retrapped in the wood or elsewhere, or found dead)
 P found as % of total
 E first found since 30 September 1992, data are correct to 30th September 1993

Recapture Histories

Normally several of our ex-nestbox birds provide us with interesting recaptures, but this year we have not had any reports of our tits travelling away from Treswell Wood. The histories below are a selection from birds involved with boxes - mostly females captured at boxes over several seasons. In the list, the bracketed codes refer to the capture positions on the grid shown in Figure 1. It is remarkable how little the birds move considering their powers of flight. The biggest recorded movements of tits are often between the winter feeding station at Q 2 and their chosen nesting sites.

Species and Ring number	Ringling Date	Recapture Dates	Notes
Woodcock			
ER76935	03 05 92	28 12 92	Ringed (G 4) as a nestling found whilst I was on the nestbox rounds. Shot at Wellow, 15km SW from Treswell Wood.

Wren

3T5918	23 05 92	27 06 93	Ringed as a nestling box 58 (N 6); our only 1992 nestling - ringed Wren to be recaptured so far (E 1).
Marsh Tit			
H229133	08 12 91		Captured as adult (N 0). Recaptured three more times over the winter.
		03 05 92	Nesting in box 27 (L 4).
		02 05 93	Nesting in box 90 (N 5). A very pleasing pair of captures - we have so few Marsh Tits nesting, it is certainly a bonus to find one nesting successfully in two successive years.
H623795	04 10 92	02 05 93	Ringed as free flying bird (N 1), recaptured nesting in box 9 (Q 1).
Coal Tit			
H229135	08 12 91		First capture at feeding station (Q 2). Recaptured at same place 8 times over this and the next winter.
		02 05 93	Nesting in box 59 (N 6).
J033036	29 11 92		First capture at feeding station (Q 2). Recaptured 5 times over the winter.
		09 05 93	Nesting in box 88 (P 5).
Blue Tit			
E893728	13 11 88	25 02 89	Two captures (Q 2) at feeding station.
		18 05 91	Nesting in box 96 (P 2). No other captures since 1989.
		03 05 92	Nesting in box 98 (Q 3).
		09 05 93	Nesting in box 98 again (Q 3). Quite an aged bird now, and one of this year's few successful breeders.
F253007	10 04 90	11 05 91	Ringed as free-flying adult (L 1), first recaptured nesting in box 14 (N99).
		03 05 92	Nesting in box 37 (L 0).
		09 05 93	Nesting in box 97 (K 0).
F253437	24 02 91	11 05 91	Ringed (Q 2). Recaptured nesting in box 88 (N 3).
		03 05 92	Nesting in box 49 (L 3).
		09 05 93	Nesting in box 49 (L 3) again.
		16 05 93	Recaptured as free flying adult, head and wings having lost several feathers, presumably when nest was attacked by predator some time after 09 05 93.

Other Species

We have recorded an unusual new species on the nestboxes this year. It is a snake-fly *Raphidia xanthostigma*. Two species of snake-fly occur in the area, this is the least uncommon of the two. It is only the second time it has been found in Treswell Wood. Like many species recorded, its presence at a nest box is probably only a matter of chance - nest boxes with their flat faces make ideal places for insects to warm in the sunshine.

Other interesting records are of sexton beetles *Silphidae*. We see these in several boxes in most years. They are attracted by the smell of dead nestlings in boxes and come to bury them. Eggs are laid in the buried carcasses and the hatching beetle larvae are assured of adequate food. Sometimes several of these attractive orange-striped black beetles are found in one box. However this year 10 were found in the same box and, more surprisingly, it was a box from which the used nest and contents had been removed previously.

Tree slugs *Lehmannia marginata* continue to use boxes for roosting. (Is roost the correct word for slugs?) These attractive creatures are scarce in the East Midlands, although they can be (as in Treswell Wood) abundant in suitable habitats. They can be quite difficult to find in natural roosting sites which may be deep in cracks or hollows in trees, or under stones or wood in leaf litter. I have also found these slugs using nestboxes in a garden in Jersey so I believe that nestboxes do provide very desirable roosting sites for them. I suspect that they may be more common than records would suggest simply because of under-recording. So, if your nestboxes are anywhere near deciduous woodland, or even near hedgerows with mature deciduous trees, why not have a look for these slugs? They are extremely easy to identify with two parallel dark stripes along the sides of the mantle. Their overall colouring is a light fawn and they tend to have a more liquid mucus layer than other slugs. Good hunting.

15 Year Review

Table 4 gives a summary of the total numbers of nests recorded and nestlings ringed in these boxes over the fifteen years. In addition to these nests, about 250 more nests have been found not in boxes and recorded, with about 320 nestling being ringed in them. All the nest histories have been submitted to the BTO Nest Records Scheme. The other nests are mainly of Song Thrush and Blackbird, but also include Woodcock, Woodpigeon, Dunnock, Blackcap, Willow Tit and several others.

There have been many interesting features of this study. For example, the proportions of Blue Tits and Great Tits recaptured after fledging has dropped from the early very high values to the present values of anywhere from 5% to 30%. This is probably a result of lower populations at first which allowed more native Treswell Wood nestlings to find a territory in the wood. Now, with higher populations (which the artificially increased number of nesting holes allows), young birds find it harder to secure a territory in the wood and so move on elsewhere. It must be noted that, although tit populations are allowed to increase because of the introduction of these artificial nest sites, the wood would be unnaturally short of nesting holes without them because the removal of old timber as part of the coppicing program. The 'unnatural' coppicing program is carried out in order to maintain the diversity of habitats within the wood on which so many of the plant and animal species depend.

Table 4 Nests recorded, Treswell Wood 1979 - 1993

Species	Nests	Birds Fledged	Fledged birds recaptured/found	Birds fledged per nest	Percentage of birds recaptured/found
Stock Dove	5	3	0	0.60	0.0
Tawny Owl	17	13	1	0.76	7.7
Wren	49	148	21	3.02	13.5
Robin	35	37	4	1.06	10.8
Spotted Flycatcher	35	36	2	1.03	5.6
Marsh Tit	5	32	4	6.40	12.5
Coal Tit	10	70	8	7.00	11.4
Blue Tit	460	2569	668	5.58	26.0
Great Tit	264	1047	212	3.97	20.2
Starling	12	10	0	0.83	0.0
House Sparrow	6	20	0	3.33	0.0
Tree Sparrow	165	465	31	2.82	6.7
Non-nestbox birds	(250)	(320)	---	---	---

Note: Data are correct to 30th September 1993

Wrens began as infrequent box users. The 1979 Wren population was extremely low because of the severe 1978/79 winter. Over the next years, numbers using boxes increased until 1983 when another severe winter reduced the population again.

Tree Sparrows were our most abundant box users for a short time, but alas their population has dwindled to nothing. The species has suffered a national decline, probably caused by changes in agricultural methods. Our experience is the same as for many workers - Tree Sparrows rapidly colonise nest boxes, but after a few years they vanish, often to return after a few years. With the national decline in numbers, I am not optimistic that they

will return here in the near future.

House Sparrows, Spotted Flycatchers and Starlings have also stopped nesting in boxes. In earlier years they nested regularly in small numbers. It is possible that House Sparrows and Starlings have declined in line with the national decline in their numbers - although they are still overall abundant. Their decrease is again probably associated with agricultural changes. Spotted Flycatchers, on the other hand, have probably declined because of the changes in conditions in their winter quarters.

Spotted Flycatchers seem to have suffered high depredation because they nest in open boxes which have a good view of the surrounding area (and are therefore fairly easily seen by predators). Surprisingly, therefore, their nest success rate (nestlings fledged per nest found) is comparable with species such as Blackbird and Song Thrush. (Table 4, col. 4). Perusal of this column will show the benefits that hole nesting species enjoy through their use of relatively inaccessible nest sites. The only anomaly appears to be Starling with a very low nesting success. There are two factors here. First, only a few nests have been recorded so the overall total is greatly influenced by several failures in a single year. These were caused by very dry weather making the clay soil in surrounding fields too hard for the birds to find adequate food for the young. Second, Starlings often nest in holes large enough for grey squirrels *Sciurus carolinensis* to enter.

Populations in Treswell Wood

In the last two or three reports, we have outlined the constant effort bird ringing operation we run in the wood. Because we use the same amount of mist netting for the same time in the same places each year, our captures reflect, as well as we can manage, the bird populations. The table of captures of common species presented last year is extended in order to compare these last three poor years (Table 5). The numbers of adults captured in March - May were slightly up, with no real difference in the numbers of juveniles in May - August. Of the adult captures, only those of Long-tailed Tit were very much up on the other years. The last two totals of all juvenile captures conceal the fact that Robin and Wren have performed really well with several other species down considerably. It may be that predators have taken their toll on all species, not just the tits that nest so conveniently in our boxes. Robins and Wrens may have succeeded partly because they are multiple brooded (see the notes on Wrens) but also because they have a long breeding season - starting before the migrants arrive and carrying on late into the summer. At both ends of the season when there are fewer nestlings available, predators may turn to other sources of food which are easier to find.

Table 5 Captures of adults and juveniles of common species in constant effort nets

Species	Adult captures, Interval 2, Mar - May				Juvenile captures, Interval 3, May - Aug			
Wren	10.6	5	10	7	10.0	3	13	17
Dunnock	15.1	4	3	4	6.2	3	0	2
Robin	13.4	7	7	8	19.5	8	7	17
Blackbird	14.8	7	6	7	5.8	0	0	1
Song Thrush	9.7	2	0	0	2.1	0	4	0
Blackcap	6.4	2	6	7	3.5	0	1	3
Willow Warbler	5.7	1	2	1	0.8	0	0	0
Long-tailed Tit	3.2	5	4	10	1.2	0	2	0
Blue Tit	15.8	6	6	7	17.0	1	0	1
Great Tit	10.4	3	4	6	7.0	4	10	0
Treecreeper	5.6	7	5	5	1.4	0	6	0
Chaffinch	5.5	3	2	1	0.0	1	0	2
Bullfinch	6.2	0	0	2	1.6	0	0	0
All species	92.9	65	64	70	83.3	25	45	46

As ever, with woodland birds which have fairly short lives, a bad season does not necessarily auger badly for the future. The most important factor for our resident birds is likely to be winter weather. For the migrants it may well be conditions in their wintering grounds or on migration routes.

After the meagre catches of the spring and summer, after the last visit of the BTO Constant Effort Sites operation and in the first mist netting visit of the autumn, we had a very large catch of assorted woodland birds. If

Murphy's Law does not govern bird populations, it certainly seems to be the prime mover of ornithological survey work.

Acknowledgements

E.C. Walton & Co. of Sutton-on-Trent for materials, Gordon Davenport for making nestboxes.

This was originally published in October 1993 for the Nottinghamshire Wildlife Trust as the ***Treswell Wood Nestbox Report 1993***. It was distributed to nestbox sponsors, ringers and CBC workers in Treswell Wood and various NWT officials. The sponsored nestbox scheme has not been continued in Treswell Wood.

It was produced on the Acorn A3000 computer using Impression. The front cover contained the map of the tit nest sites. This, and Figure 2 were produced using Draw+ and Chartwell. This edition has been produced from the original Impression computer files using Techwriter on the Acorn RISC PC.

Chris du Feu, December 2000