Treswell Wood Nestbox Report - 1989

Introduction

After another mild winter it was to be expected that resident bird populations would be high. In Treswell Wood there have been very large numbers of attempted tit nests in boxes. One affect of a large number of nesting birds is that territories are small and unable to support as large broods as in years of low populations. Thus the average number of young fledged per nest will be low although the total number of tits fledged may be high. The total numbers of nests recorded in Treswell Wood is given in Table 1. In Gamston Wood the boxes have been used but detailed records of their usage have not been made. Clarborough nestboxes have not been attended to for some time and there is now an urgent need for volunteers for the exciting and rewarding job of nestbox inspectors in this part of the county - more on this later.

Table 1 Nests recorded, Treswell Wood 1989

Species	Failed Nests	Successful Nests	Young Fledged	Recaptured
Woodpigeon *	2	1	2	0
Tawny Owl	2	0	0	·
Wren	4	2	11	0
Robin *	0	1	7	3
Blackbird *	3	0	0	·
Song Thrush *	5	1	3	0
Spotted Flycatcher	2	0	0	·
Marsh Tit	1	0	0	·
Willow Tit *	0	1	6	0
Blue Tit	10	33	258	34
Great Tit	8	18	126	11
Tree Sparrow	0	1	1	0

Note: * includes nests not in nest boxes; recaptures correct to 22.10.89

Depredation of nests in Treswell Wood followed a completely different pattern from last year. Most tit nests were left alone touched by neither mice nor weasels *Mustela nivalis* even though depredation of open nesting birds such as Song Thrush was very high. The safety of nestboxes does not completely explain the low of depredation in tit boxes because Wrens which nested in boxes were badly depredated. Table 2 gives comparisons of depredation rates of some nests.

Table 2 Nest failure rates, Treswell Wood 1989

Species	1979	1983	1985	1988	1989	Nests in boxes?
Wren	-	50%	80%	60%	89%	some
Blackbird	55%	-	-	80%	100%	none
Song Thrush	50%	-	-	75%	84%	none
Blue Tit	20%	59%	29%	68%	23%	all
Great Tit	30%	71%	38%	56%	31%	all

Details of all Treswell Wood nests are, as always, recorded on the British Trust for Ornithology (BTO) nest record cards and submitted to them. This year, a new design of card is being tested. It has been designed to give more precise information about nests and habitats than the previous design. The back of the card can also be

computerised automatically. Both of these developments allow data from cards to be entered more quickly onto computer files making data more readily available to ornithologists for analysis. The Nest Record Scheme welcomes cards from anyone interested - further details can be obtained from the BTO. This year's cover shows the two sides of one Treswell Wood card.

Table 3 gives the totals of Treswell Wood nestling Blue and Great Tits ringed and found again since 1979.

Table 3 Numbers of nestlings ringed in boxes then recaptured, Treswell Wood 1979 - 1989

	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Blue Tit											(to 30/09)
N	101	240	231	171	117	155	189	233	272	103	258
R	63	91	81	56	29	45	50	51	67	30	34
P	62%	38%	35%	33%	25%	29%	26%	22%	25%	29%	30%
E	0	0	0	0	0	0	0	0	4	22	·
Great Tit											
N	65	53	56	50	48	61	104	126	133	77	126
R	34	10	10	10	13	19	18	9	43	8	11
P	52%	19%	18%	20%	27%	31%	17%	7%	32%	10%	9%
E	0	0	0	0	0	0	0	0	0	2	·

Note: N nestlings ringed and fledged
R recaptured and/or recovered
P recaptured and/or recovered as % of total
E first recaptured during the last year.

Species Notes

Tawny Owl

Two nests were started in Treswell Wood. The first was deserted before incubation began. In the second all three eggs hatched. One chick died within ten days of hatching and was eaten by its elder siblings. This is normal for owls - in cases of food shortage the smallest birds will be cannibalised in order to increase the chance of, at least, some birds fledging. Here however, both the other nestlings stopped putting on weight after two weeks and eventually died. Lack of food is not the full answer for there were some half-eaten prey remains in the nest. Unfortunately by the time the last dead owl reached the MAFF laboratory it was too decomposed for a post-mortem to be carried out.

Spotted Flycatcher

Arrival in this area was late this year and numbers were lower than usual. Two local places, for instance, where Spotted Flycatchers have nested every year recently had none. For birds that arrived conditions were very good, the hot weather ensuring a good supply of insect food. The only limit on breeding success for birds here was, as usual, depredation. Both Treswell Wood box nests were depredated - one during incubation and the second almost at fledging time.

Wren

Several nests were started in Treswell Wood, but only six were used for nesting. This is quite normal with Wrens where the male builds a number of nests, the female selects one for nesting in. The other nests may be used later for another brood or abandoned. Nests were started in boxes intended for Wrens, Spotted Flycatchers, tits, Treecreepers and woodpeckers. The last nest, which was depredated, was made in a box stuffed with polystyrene foam for woodpeckers to excavate. In fact, tits had excavated a small cavity in it for roosting and the Wrens made their nest in this small space. Two boxes both held two successive nests of Wrens.

Marsh Tit

One pair nested in Treswell Wood boxes - the second pair ever in these boxes. Unfortunately the nest was deserted.

Willow Tit

This is not strictly a 'nest box' story - Treswell Wood Willow Tits have not yet learnt to use the special foam filled boxes in which to excavate a nest hole (although some Blue and Great Tits have). Typically they excavate a nest in a rotting birch stump. This year a pair used an old fence post. I was able to follow the progress of the nest from excavation through to fledging, inspection mostly done using a torch and dentist's mirror. It was a good find - the whole BTO nest record card collection for Willow Tits stood at 362 at the end of 1988 with an annual intake of only 10 - 20 cards. Each year in all the UK only one or two broods of these birds are ringed because of the difficult access to the nests even when they are found. When the Treswell Wood young were a week old, disaster almost struck. A Great Spotted Woodpecker attacked the nest, hacking through the wood, opening a gaping hole in the side of the post. Woodpeckers are predators of young birds and have, in the past, broken into nest boxes in this way. This bird however must have been disturbed for when I arrived on the scene it had left. I thought at first the young were all dead and the parents had deserted them as there were no adult alarm calls to be heard. In the nest were six unfeathered young, one with a little blood on the head, all of them as warm as a chicken in a fridge and as active as lethargic slugs - on death's door if not beyond. I patched up the hole and reinforced it with woodpecker-proof plastic while my son Richard cupped the cold nestlings in his hands, warming them by breathing gently on them. We replaced them in the repaired nest, in hope rather than expectation of their survival. Imagine our surprise five days later to find six healthy feathered young Willow Tits, now ready to be ringed. Access to the nest made possible courtesy of the woodpecker 'doorway'. Exit six ringed young Willow Tits.

Blue Tit

1989 was quite unlike any previous year in Treswell Wood boxes. Egg laying began fairly early (Table 4) but after a few days there was a spell of cold, wet weather. This prevented tits which were about to lay from doing so until the weather improved. Some birds which had started nesting abandoned their nests. As a result the nests came in two distinct batches (Fig. 1) - the small early peak, followed by a gap then a large second batch. A very few nests were begun in the wet week, but most of these failed. In a typical year the bulk of nestling ringing has to be done in the spring bank holiday week. This year only three nests needed young ringed this week, all the other nests were ready either before or after.

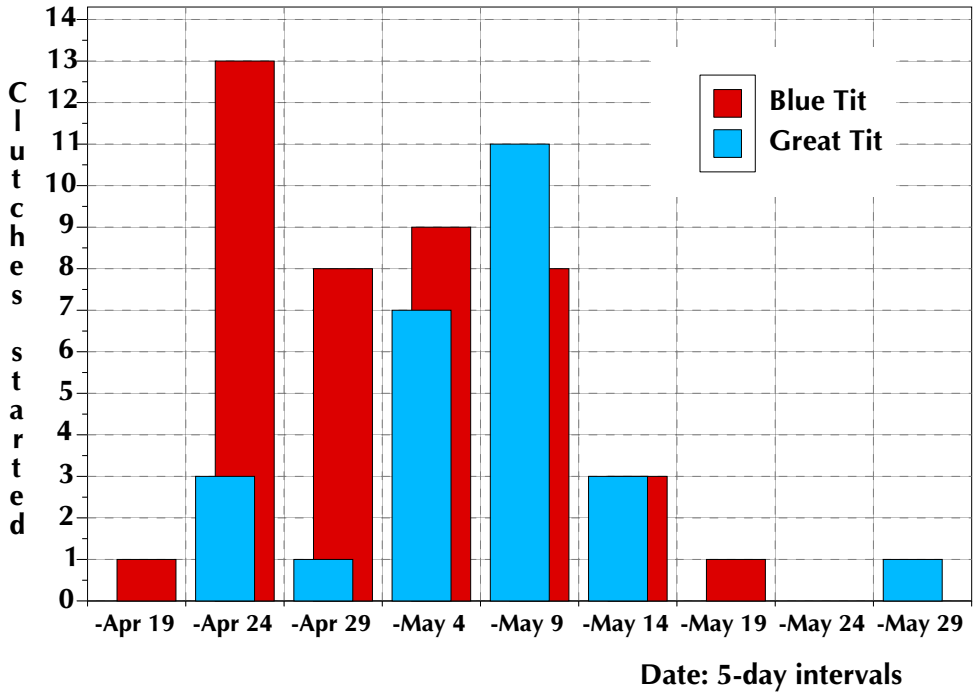

Figure 1 First egg dates, Treswell Wood 1989

In Treswell Wood there was a higher number of Blue Tit nesting attempts than ever recorded before, and the total number of young fledged was only slightly lower than the record year of 1987. Because of the large number of nests, the average number of young produced per nest was low. Fig. 2 shows the distribution of clutch sizes of Blue Tits. There were some very small clutches - ten or twelve is common in woodland, the maximum recorded in Treswell Wood laid by one bird is 15 (in 1979 when the populations were relatively low).

Table 4 First egg dates, Treswell Wood, 1979 - 1989

Year	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
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.
Median	29 Apr.	23 Apr.	20 Apr.	24 Apr.	6 May	2 May	30 Apr.	8 May	24 Apr.	25 Apr.	27 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.
Median	7 May	3 May	4 May	27 Apr.	5 May	5 May	4 May	12 May	26 Apr.	30 Apr.	5 May

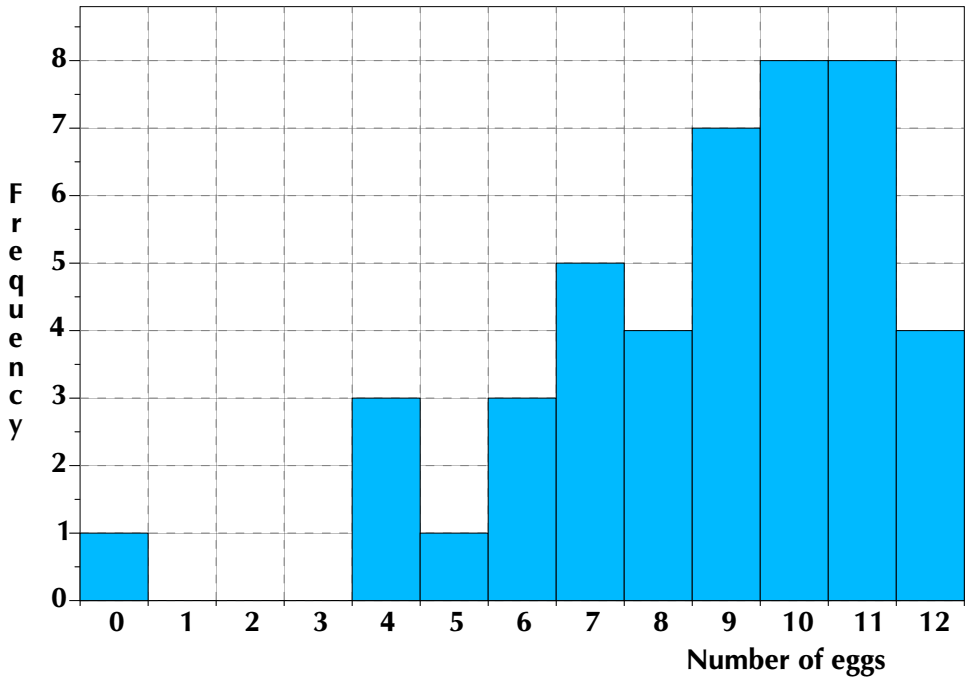

Figure 2 Blue Tit clutch sizes, Treswell Wood 1989

Great Tit

The pattern here was much the same as for Blue Tits with a gap in the egg laying process. The number of nestlings fledged was the second highest ever, well over double the number fledged before the dramatic increase of 1985. The number of nesting attempts was also greater than ever before. However the average number fledged per successful nest was again very low (Table 5).

Table 5 Great Tits nests and nestlings, Treswell Wood 1979 - 1989

Year	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Nesting attempts	10	8	16	6	24	14	24	18	20	25	26
Young Fledged	65	53	56	50	48	61	104	126	133	77	126
Mean young/successful nest	9.3	7.6	8.0	10.0	6.9	7.6	6.9	8.9	8.9	7.0	7.0

One female great tit has nested in the same box, 18, for four successive years. Table 6 shows details of these nests. The bird, C570354 has been captured by the ringers 18 times in over the past four years, each capture has been within a area 180 m square.

Table 6 Nesting attempts of Great Tit C570354 in box 18, Treswell Wood

Year	Eggs laid	Young	Ring Nos.	Recapture details
1986	10	10	VA30237 - 246	None
1987	12	12	VA30351 - 362	'353 Apr. 88, '354 Jan 88, '360 Jan 89
1988	10	0	depredated	
1989	11	9	VE62014 - 022	'016 Jul. 89

Mixed Species

Two boxes were used by both Great and Blue Tits. Both of these were nests started and abandoned by one bird after laying some eggs, then taken over by a second bird after the weather improved. This has not been seen before in Treswell Wood but is not uncommon elsewhere when laying is interrupted. One nest (Blue/Great Tit) failed possibly through depredation. The other succeeded, producing two Great and five Blue Tit young, all reared by the Blue tits. None of the fledgelings have yet been recaptured.

In mixed nests, eggs laid by the first bird have a lower probability of hatching as they will have been longer in the nest before incubation starts and they may have been subjected to worse weather. If, as did not happen here, the first bird had started incubation before abandoning the nest the part developed embryo would have died when the first bird abandoned the nest.

Tree Sparrow

The Treswell Wood colony has been extinct for a few years, but one nest box at the adjacent farm holds a pair each year.

Nest box schemes in the north of the county.

There are now openings for nest box inspectors in Gamston and Clarborough reserves. The work is fascinating, arduous and is entirely without pay. Training can be given and (nearly) all equipment will be provided. A BTO bird ringing permit is a bonus but by no means essential. Nest boxes for NWT reserves come out of the pile built by Gordon Davenport from wood provided by E.C. Walton of Sutton-on-Trent. The duties are these:

January A quiet month.

February Check boxes late in the month to ensure all ready for the breeding season. Tawny Owls may have already begun nesting.

March Follow progress of any owl nests. Check boxes late in the month for early tits.

April Inspect boxes every two weeks until tits begin nests, thereafter weekly visits to occupied boxes. Aim to visit each box once during egg laying so that the date of first egg laying may be calculated.

May Weekly inspection of boxes, except when birds are incubating eggs when one week's visit is missed. Aim to know the clutch size for each nest. Visit nests after hatching to record the number of nestlings. If ringing young, extra time will be needed for this. Ringing must be done after the legs are nearly full size, but before the birds are big enough to leave the nest - about days 9 - 14 depending on the season.

June Inspect weekly until after fledging to record number fledged and date of fledging. Clean out used tit nests immediately after fledging.

July Check boxes once in unlikely case of second broods of tits, continue fortnightly inspections of boxes where birds nest later in the season - Wrens, Robins, Spotted Flycatchers and Tree Sparrows.

August take a holiday unless the Wrens and Spotted Flycatchers are still in action.

September Clean all boxes, repair or replace damaged boxes, resite any boxes if needed. Complete paperwork and submit nest record cards to BTO.

October **November** and **December**. Do September's jobs. Otherwise a quiet time, unless you inspect boxes monthly by night for roosting birds.

Applicants for the work should contact me, or any NWT officer.

Fleas

Karin Renton of Nottingham University, who took last year's nests, has produced a study 'Flea infestation of Blue Tit and Great Tit nests and the effect on reproductive success' as part of her undergraduate work. The following notes are taken from her study.

A new species of flea for the wood has been recorded - *Ceratophyllus fringillae* the House Sparrow flea. About 5% of the 2500 fleas found were of this species. This is widely distributed throughout Britain but has not been recorded frequently. This is probably because of the difficulty of identifying the species and because of the lack

of flea recorders in the country.

Karin looked at the nest composition in more detail than I ever have. She identified dog, cat and horse hair. Blue Tit nests included lining of Chicken, Pheasant and Blue Tit feathers. Some nests had twig and bark. (I have also noted in the past lining including fur from rabbits *Oryctolagus cuniculus*, Starling feathers, furniture stuffing and Brillo pad.) The nests which ad been excavated by Great Tits in polystyrene filled boxes did not have any other nesting material.

In conclusion the fleas did not seem to have a significant effect on the success of tit nesting. This makes sense - if such parasites seriously affected their hosts, they would soon be out of business. However, there is a clear dependence by fleas on successful nests. Those nests which failed at an early stage contained few or no fleas.

(The full text of Karin's paper is now on the TWIG CD-ROM.)

Acknowledgements

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This edition has been produced from the original Inter-Word computer files using Techwriter on the Acorn RISC PC. The figures, originally produced using Inter-Chart on the BBC microcomputer, have been redrawn using Chartwell and Draw+ on the RISC PC.

Chris du Feu, December 2000