

produced a corresponding gap in the appearance of first eggs. The picture is less clear in 1962 when there was a very gradual start of laying with the first seven nests appearing over a fortnight compared with under a week in the other two seasons. Temperatures were below average throughout February and most of March, 1962, though with few extremes recorded. Eygenraam (1957) gives hatching dates in Holland for the years 1950-54, and laying dates estimated from his results indicate that nesting was nearly a fortnight later than average in 1954, when there was a cold spell over much of Europe in February. The normal appearance of nests in Holland

is in the last week of February and the first of March; a fairly close parallel with Slimbridge. Eygenraam's material was gathered from populations in town parks as well as from more natural areas. He concludes that there is little difference between the two.

In England there is a need for further work concerning the variation in different years of the onset of laying and into the factors which govern it. A closer understanding is required of the relationship of the nesting bird to its environment.

I wish to thank Dr. Janet Kear and Miss Susan Loader for ensuring continuity in the nest-records during my brief absences from Slimbridge in each of the three seasons.

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## Birds at Borough Fen Decoy in 1963

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In the Fourteenth Annual Report (at pp. 150-152) an account was given of the habitats provided by Borough Fen Decoy and of the birds other than ducks which occur there. The progress of ringing in 1960-62 was also described. Counting and ringing was continued in 1963. Though these activities remain secondary to the main activity of the decoy, which is to catch ducks, they provide information which is of general interest, particularly in respect of the effects of the cold winter of 1962-63 on the small birds of the area.

Seven new species were recorded for the first time in 1963: Bewick's Swan<sup>1</sup> (an adult,

2nd-3rd April); Common Sandpiper and Greenshank (both irregularly during August); Nightjar (10th-18th September); Icterine Warbler (trapped and ringed 10th July); Siskin (trapped and ringed 19th October); and a Little Bunting, seen 4th-5th April.

### The cold spell

The pond was frozen from 18th December, 1962, and most of the duck had left by 22nd, though two Teal appeared on 27th and flocks of 4 to 10 flew over the pond up to 8th January. The Wash area was more fortunate than most of the rest of the country in that there was little snow. At no time during the winter was the top of the stubble covered in the fields surrounding the Decoy. The

<sup>1</sup> scientific names of species mentioned are listed at the end of the paper.

lowest temperature recorded was 7°F (-13.9°C) on the night of 22nd-23rd January, 1963.

The frosty weather ended on 22nd February and 11 Teal returned on 6th March, 15 the following day with 5 Mallard. There was at this time a few inches of water on the ice, which finally thawed by 19th March. The highest number of ducks recorded from 6th March to the end of the catching season in mid-April was 40 Mallard and 28 Teal.

Moorhen counts remained constant at about 40 until mid-January when the population had fallen below 30. Only 12 were seen on 21st and 5 on 31st; there was an average of 5 in February. Five dead Moorhens were picked up in February, two of them ringed. As the pond opened, the population built up to 20, remaining constant through the breeding season. December 1963 counts vary from 37 to 42 birds.

Woodpeckers disappeared on 21st December. A Green Woodpecker was found dead at Deeping on 22nd. This may have been too early for the weather to have been responsible. A Greater Spotted Woodpecker returned on 16th February and one or more has been present since: an adult female ringed 28th September, 1962, has been re-trapped twice in the autumn of 1963.

Tits fed regularly in the area near the trap and were frequently re-trapped. Detailed records were not kept as I handled birds as little as possible, and any carrying rings were allowed to fly out of the door. Fat and nuts were also provided, no doubt ensuring their survival.

Blue Tits numbered between 5 and 10 from mid-December to March, increasing to 15 in April. Great Tits completely disappeared between 20th January and 17th February, having declined from 10+ to 3 or 4. A Coal Tit appeared on the fat on 17th February but was not seen again; two were again recorded in the Decoy on 11th October. Two Willow Tits fed regularly until 22nd March. No more were seen until a juvenile appeared in a mist net on 10th July. Two were seen the next day, including the ringed one. One or two were present until 2nd August, when 8 appeared for one day only. Since that date the population has been constant at 2 or 3. Long-tailed Tits used to breed and winter in the Decoy wood but a flock of nine disappeared at the end of October, 1962 and this species has been unrecorded since.

Wrens on the other hand were present right through the hard weather. There is no doubt they declined more than any other species. There were 10 probable breeding pairs in 1962, but only 2 nests were found in 1963 and no other Wrens could be seen so

it is more than likely that only these 2 pairs survived.

Through December, 1962, about 25 Blackbirds could be seen feeding daily and a mixed Turdidae roost in a Sloe thicket held 250-300 birds. By the end of January only 6 Blackbirds could be seen feeding and these were all in the trap area. The roost had diminished to about 40, half the birds being Fieldfares. Several dead Blackbirds were picked up towards the middle of February. By the end of February, 10 were feeding regularly, increasing to 25 by 6th March. Song Thrushes left early in the winter: 7 on 22nd December decreased to 4 on 28th, 2 on 31st, and the last one on 1st January. The first to re-appear after the hard spell was on 6th March, two more on 7th, building up to 8 by 31st. Although none of the thrushes ringed in the Decoy in summer was recovered in this period, two Song Thrushes and a Blackbird ringed locally were recovered in Devon, Cornwall and the Cherbourg Peninsula respectively. This indicates a general SW movement and is rather ironic, as had they stayed in this area they would have probably survived the winter.

Robins appeared to hold their own, counts varying between 3 and 6. The normal Decoy population of 20 Dunnocks rose suddenly to 42 on 26th November, receding to 18-20 by 17th December, 7 on 9th January and 6 on 30th. The lowest recorded number was 4 from 4th to 25th February. They increased to a peak of 30 on 19th March, then dwindled to about a dozen which remained through the breeding season.

Most of the finches and buntings increased at the onset of the cold spell, Greenfinches going up from 4 on 4th December to a peak of 35 during the last week in January. Goldfinches were up and down between 5 and 30 but disappeared altogether from 13th January until 3 returned on 13th March. Linnets behaved similarly, the effective dates being 9th January and 27th March. In the latter species the breeding population was the highest since records were started in 1961. Bullfinches were absent from 1st February (1 female), to 26th (2 females). Chaffinch numbers fluctuated between 8 and 50, their appearance or non-appearance probably depending on where the flock first found food. Bramblings also fluctuated, but their changes did not coincide. No Yellowhammers were observed in the Decoy or the surrounding fields from 27th December until 27th February. Reed Buntings were seen throughout the cold period, nearly all the birds present being males. The ubiquitous House Sparrows were present all the

time in their impudent hundreds, many drawn from the farm by the scattered tail corn. Tree Sparrows are the most difficult species to count at any time and are usually shown on the daily census sheet by a tick only. Some were present all through the winter but the ringing totals of one each in January and February, with none in March suggest there were fewer than usual. They were certainly more abundant in April, when they topped the ringing totals.

Reviewing the situation in December, 1963, it appears that only two species were seriously affected by the winter of 1962-63, Long-tailed Tits and Wrens. The tits had left the wood before the frosts started, but I have no doubt that the continued low temperatures caused their demise. 5 or 6 Wrens are being regularly seen now, this being about half of the 1962 population.

Whilst clearing debris from fallen trees on 14th May, a Starling's foot was observed protruding from a hole, 8 cm. in diameter and 20 cm. deep, in the main trunk of a fallen Poplar. Closer examination showed the hole to be full of bodies. There were 7 birds and 5 Field Mice (*Apodemus sylvaticus*). The birds were 1 Starling, 1 Song Thrush, 2 Blackbirds, 1 Chaffinch, 1 Tree

Sparrow and a ringed Willow Tit. The bodies were completely dried out and there was no sign of any of them having been eaten. Could these birds have been roosting in the hole, and succumbed to the extreme cold or had they sought the sanctuary of this hole in order to die? Wrens and Tits are known to roost in crevices and holes such as nest boxes, but this is such an odd mixture that I doubt if any two of them were alive at the same time. The mammals could have joined the corpses in this sepulchre at a later date.

### Ringing

1,229 birds of 42 species, including 221 pulli, were ringed in or near the Decoy in 1963 (Table I), making the total of small birds ringed since 1960 3,895. Three new species for the Decoy ringing totals were Swifts, Siskin and Corn Bunting. Over 800 retrap records have accumulated since 1960, some birds having been caught as many as 15 times. Ten ringed birds were picked up dead either in the cold period or found decomposed after the thaw: 2 Moorhen, 2 Blackbirds, 2 Song Thrushes, a Willow Tit, 2 Robins and a Wren.

Table I. Birds other than Anatidae ringed at Borough Fen Decoy in 1963

species	month												total
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	
Moorhen	3	1	5	3		1	1	8		10	5	5	42
Wood Pigeon	59	16		1				3		3			82
Swallow					2	10	10	5	2				29
Great Tit		1		3		7		1	1	5		4	22
Blue Tit	6					3	1	6	3	9	4	6	38
Song Thrush				18	6	1	9	1	1	2	4		42
Blackbird	10		2	17	29	8	3	8	3	33	8	7	128
Robin	1	2		2	6	3	1	3		5			23
Whitethroat					2	12	1	1					16
Spotted Flycatcher					3	8	1	1					13
Duncock	5	3	1	9	6	1	1	5		4	1	4	40
Starling	36			15						1		2	54
Greenfinch	45	24		14	1	3		2	1	6	3		99
Goldfinch				7	2	2	8	7	2	4	3		35
Linnet	2			4	19	17	4	6	1	2	7	9	70
Bullfinch			1	3	1	4		6	3	15	6	5	44
Chaffinch	13	7		8	1	5	2		3	6		6	51
Brambling	45	74		1						1			121
Yellowhammer			1	12	1			1	1	5			21
Reed Bunting		2		6						2	2		12
House Sparrow							50			10	8		68
Tree Sparrow	1	1		30	2			10	3	40	24	16	137
others	2	1		4	2	14	17	5	1	4		2	52
total	228	132	10	157	83	99	109	79	25	167	75	65	1,229

species of which fewer than 10 were ringed: Heron (1), Water Rail (1), Turtle Dove (2), Cuckoo (2), Swift (2), Great Spotted Woodpecker (2), Willow Tit (3), Tree-creeper (3), Wren (1), Mistle Thrush (4), Fieldfare (2), Redwing (1), Reed Warbler (4), Sedge Warbler (9), Icterine Warbler (1), Blackcap (5), Garden Warbler (2), Lesser Whitethroat (5), Siskin (1), Corn Bunting (1).

Two migrants ringed in 1961 were re-trapped in 1963: a Spotted Flycatcher ringed as an adult on 30th May 1961, trapped on 23rd April and an adult female Whitethroat ringed on 13th May 1961, re-trapped on 3rd June.

Trapping was done in mist-nets and a crow-trap, except in January and February, when mist-nets were not used.

Most of the April catch was taken in mist-nets at Easter. The July total was boosted by the sample of 50 juvenile House Sparrows that are taken annually. This species is providing some interesting recoveries (see below), and a similar sample will be ringed in 1964.

The Swallow total is low and includes 17 pulli ringed in farm buildings 200 yards outside the Decoy. In 1963 the roost in the reed bed was established too late for exploitation, when in accordance with a tradition handed down from the days when the Decoy was a commercial undertaking the pond area was kept quiet.

Blackbird, Bullfinch and Tree Sparrow furnished over half the October catch. The two latter are the most incomprehensible of all birds recorded and ringed in the Decoy. 139 Bullfinches ringed since 1960 have provided only 1 local recovery, and retraps are confined to less than 10 individuals. Tree Sparrows have produced 1 recovery from 434 ringed.

Table II records the more interesting recoveries reported during 1963.

#### Breeding birds and nests in 1963

Nests were recorded for the third consecutive year, 106 British Trust for Ornithology

cards being completed. Of the nests studied 31 were completely successful and 23 partly so, the remaining 52 failing for various reasons (see Table III). Defining a successful nest raised a problem as the nests were only visited every third or fourth day.

A decision had to be made regarding nests in thick undergrowth, nettle-beds or reed-beds, where a trail to a nest would probably destroy other potential sites. Time was also limited and only nests found within three feet of an established path were visited regularly. A number of territories revealed by displaying males were not followed up as it was felt that an unrecorded success was preferable to a recorded failure. Note was made of singing males and of food carrying and faeces removal, in an attempt to estimate the number of birds breeding in the Decoy in 1963. The figure finally arrived at was 300 pairs, though this is little more than a wild guess. For example, 20 male Linnets appeared to have established definite territories, and I was quite proud of the fact that I had found fifteen nests of this species. However, when the leaves fell in October at least another 37 Linnet-type nests were exposed, mostly on the outer branches of hazel. Allowing for nests that had disintegrated, or are still unfound, for a few that may be wrongly identified and for second broods, the number of breeding Linnets must have been at least 30 and was probably nearer 40.

The land area in the Decoy is shown as fourteen and a half acres. With half an acre for the reed-bed, making 15 acres of suitable breeding habitat, this gives a density of

Table II. Recoveries in 1963 at more than 5 miles of birds ringed at Borough Fen Decoy

ring no.	age	date ringed	where found	date recovered	movement
<b>Snipe</b>					
40976 S	FG	20.12.61	Par, St. Austell, Cornwall	0.1.63	245m. SW
<b>Wood Pigeon</b>					
3080606	FG	13.11.63	Burwell, Cambs.	19.1.63	35m. SE
3080674	FG	22.1.63	Ryhall, Rutland	5.3.63	8m. W
3092545	FG	25.2.63	Swaffam Prior, Cambs.	28.9.63	36m. SE
<b>Swallow</b>					
AE 51057	Ad.	6.9.62	Douglas, Cape Province, South Africa (killed in a thunderstorm)	4.2.63	
<b>Song Thrush</b>					
59084 R	FG	21.10.62	La Rochelle, (Charente Maritime) France	31.1.63	
<b>Blackbird</b>					
28194 S	Ad. ♂	24.5.61	Blatherwycke, Northants.	25.7.63	14m. WSW
<b>Greenfinch</b>					
47752 S	Ad. ♀	2.1.62	Gainsborough, Lincs.	14.2.63	55m. NW
<b>House Sparrow</b>					
AA 30060	Pull.1	3.6.60	Swineshead, Boston, Lincs.	23.2.63	23m. N
AA 67413	FG	2.2.61	Whittlesey, Cambs.	24.4.63	8m. SE
<b>Tree Sparrow</b>					
AK 21428	FG	4.4.63	Saffron Walden, Essex	27.10.63	47m. SE

Table III. Nests found in use in Borough Fen Decoy, 1963

species	number of nests found	unsuccessful nests			successful nests	
		deserted	eggs lost	young lost or died	some reared	complete success
Mallard	1				1	
Moorhen	15		11			4
Wood Pigeon	6	2	4			
Turtle Dove	7	2	3			2
Great Tit	1				1	
Wren	2				2	
Song Thrush	9	1	2	1	2	3
Blackbird	24	1	9	3	3	8
Robin	1					1
Reed Warbler	3				1	2 <sup>a</sup>
Sedge Warbler	2				2	
Whitethroat	3				2	1
Lesser Whitethroat	1					1
Spotted Flycatcher	2		1			1
Dunnock	5	1	1		3	
Greenfinch	1	1				
Goldfinch	2				1	1
Linnets	15	2	4		3	6
Bullfinch	3			1	1	1
Chaffinch	1				1	
Yellowhammer	1			1		
Tree Sparrow	1	1				
Total	106	11	35	6	23	31

<sup>a</sup> 2 Reed Warblers successfully reared Cuckoos

20 nests (or should it be breeding pairs?) an acre. No doubt this high density is due to the lack of suitable habitat in the fens, with an unlimited amount of food available.

During the winter a further dozen nest boxes have been placed in the Decoy, in the hope of recording more of the tit's nests. At the present they mostly breed in hollow elder stumps and are in too deep to see eggs or young.

**Scientific names of birds mentioned in the text**

Heron *Ardea cinerea* L.  
 Bewick's Swan *Cygnus columbianus bewickii* Yarrell  
 Teal *Anas crecca* L.  
 Mallard *Anas platyrhynchos* L.  
 Water-Rail *Rallus aquaticus* L.  
 Moorhen *Gallinula chloropus* (L.)  
 Snipe *Capella gallinago* (L.)  
 Common Sandpiper *Tringa hypoleucos* L.  
 Greenshank *Tringa nebularia* (Gunnerus)  
 Wood Pigeon *Columba palumbus* L.  
 Turtle Dove *Streptopelia turtur* (L.)  
 Cuckoo *Cuculus canorus* L.  
 Tawny Owl *Strix aluco* L.  
 Nightjar *Caprimulgus europaeus* L.  
 Swift *Apus apus* (L.)  
 Green Woodpecker *Picus viridis* L.  
 Greater Spotted Woodpecker *Dendrocopos major* (L.)  
 Swallow *Hirundo rustica* L.

Great Tit *Parus major* L.  
 Blue Tit *Parus caeruleus* L.  
 Coal Tit *Parus ater* L.  
 Willow Tit *Parus atricapillus* L.  
 Long tailed Tit *Aegithalos caudatus* (L.)  
 Tree-creeper *Certhia familiaris* L.  
 Wren *Troglodytes troglodytes* (L.)  
 Mistle Thrush *Turdus viscivorus* L.  
 Fieldfare *Turdus pilaris* L.  
 Song Thrush *Turdus ericetorum* Turton  
 Redwing *Turdus musicus* L.  
 Blackbird *Turdus merula* L.  
 Robin *Erithacus rubecula* (L.)  
 Reed Warbler *Acrocephalus scirpaceus* (Hermann)  
 Sedge Warbler *Acrocephalus schoenobaenus* (L.)  
 Icterine Warbler *Hippolais icterina* (Vieillot)  
 Blackcap *Sylvia atricapilla* (L.)  
 Garden Warbler *Sylvia borin* (Boddaert)  
 Whitethroat *Sylvia communis* Latham  
 Lesser Whitethroat *Sylvia curruca* (L.)  
 Spotted Flycatcher *Muscicapa striata* (Pallas)  
 Dunnock *Prunella modularis* (L.)  
 Starling *Sturnus vulgaris* L.  
 Greenfinch *Chloris chloris* (L.)  
 Goldfinch *Carduelis carduelis* (L.)  
 Siskin *Carduelis spinus* (L.)  
 Linnets *Carduelis cannabina* (L.)  
 Bullfinch *Pyrrhula pyrrhula* (L.)  
 Chaffinch *Fringilla coelebs* L.  
 Brambling *Fringilla montifringilla* L.  
 Yellowhammer *Emberiza citrinella* L.  
 Corn Bunting *Emberiza calandra* L.  
 Little Bunting *Emberiza pusilla* Pallas  
 Reed Bunting *Emberiza schoeniclus* (L.)  
 House Sparrow *Passer domesticus* (L.)  
 Tree Sparrow *Passer montanus* (L.)