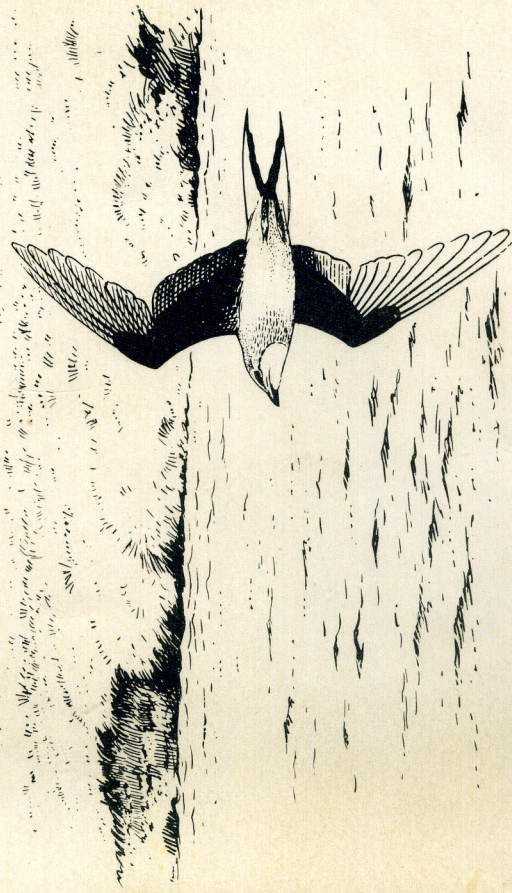


**The
Sussex
Bird Report**

1981



Published by

The Sussex

Ornithological Society

£2.00

Dr. John A. Newnham
Walton House
61 Grand Avenue
WORTHING
West Sussex
Home Tel: (0903) 47596

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THE SUSSEX BIRD REPORT

NUMBER THIRTY-FOUR, 1981

*Recorder: M. J. Rogers
Editor: M. Shrubbs*

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Cover drawing of Pratincole by John Reaney

Published September, 1982

by

THE SUSSEX ORNITHOLOGICAL SOCIETY

Price £2.00

CONTRIBUTORS AND ACKNOWLEDGEMENTS, 1981
We are grateful to the following observers for records, for the 1981 Sussex Bird Report.

Bird Report.

- D. Adams
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S. Allwood
P. J. Andrews
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A. G. Ashbee
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Society Breeding Surveys:

During 1981 the second and final year of the survey of breeding Snipe, Redshank and Yellow Wagtail was completed and the Society organised a Nighthjar survey as part of the national enquiry. Organisers were O. Mitchell for Snipe, Redshank and Yellow Wagtail and J. W. Houghton for Nighthjar. The organisers wish to thank the following observers for contributing records; (S = Snipe etc., N = Nighthjar, B = both surveys):

- S. Allwood (N), N. Argent (S), G. Aukett (N), D. H. Back (N), P. Baines (S), P. C. Bance (S), D. G. Barber (N), F. Barlow (N), R. Batchelor (B), B. J. Bateman (N), J. R. Batten (N), G. Beeson (N), A. Best (N), F. W. Blake (N), P. F. Bonham (S), Miss M. Bowley (S), M. Boxhill (N), R. G. Brickell (S), D. Bryson (S), K. F. Burn (N), G. Buzzard (N), L. G. Catlin (B), E. M. & H. A. R. Cawwell (S), R. A. Chapman (N), P. Clay (S), Dr. M. Clough (N), Mr. Clue (N), Mrs. J. H. Colebrook (N), C. B. Collins (N), Mrs. M. A. Collins (N), D. Cripps (S), P. D. Daughtrey (N), A. Dawney (S), M. N. Denness (N), G. des Forges (S), F. W. Dougharty (S), J. Dixon (N), R. D. M. Edgar (S), Mrs. J. H. M.

Edom (S), P. Elston (N), M. P. Erendes (B), B. F. & F. J. Forbes (S), P. Friston (N), C. G. Griffin (N), A. J. Guest (N), R. G. Harris (S), R. A. Hart (N), Haslemere NIS (N), M. J. W. Hay (S), P. J. Heath (N), M. J. Helps (S), M. S. Hitchens (S), R. N. Hobbs (N), G. J. Hollick (N), Dr. M. Hollings (S), M. J. Horsfall (N), D. J. Houghton (N), J. W. Houghton (B), S. W. M. Hughes (B), W. D. Hyde (S), R. J. Ives (S), C. R. Janman (S), Miss M. M. Jennings (B), R. Knight (S), D. C. Lang (N), M. P. LeGrys (N), R. Leverton (B), R. M. Lord (S), D. M. Love (N), Mrs. L. F. C. Love (N), G. H. Luck (B), P. J. Luffingham (B), Miss V. E. Lyon (S), H. D. Marcuse (S), B. A. E. Marr (S), G. T. J. Martin (N), J. N. McKelvie (S), R. P. Meadows (N), C. E. Messer (S), D. Mitchell (N), O. Mitchell (B), Mrs. F. E. Moore (N), Dr. J. A. Newtham (B), K. Noble (S), D. Pankhurst (S), D. A. & T. W. Parmenter (S), A. J. Prater (B), Dr. E. T. Roberts (N), Mr. Robinson (N), P. Rouse (S), B. Savage (N), Miss E. P. M. Scott (R), J. Senior (S), T. V. Sennitt (N), M. Shrubbs (B), A. & Mrs. L. Simpson (N), D. Sneller (S), Miss J. V. Stacey (S), G. W. Stallgrass (B), D. J. W. Smith (N), J. F. Smitherman (N), Mr. Stevens (N), W. C. Tame (S), G. E. Tomalin (N), F. B. Townsend (N), R. Tree (S), M. R. Wellfare (S), Mrs. F. E. M. Wells (B), D. J. Whaley (B), Mrs. J. A. Whaley (N), R. Williamson (S), J. Willsher (B), P. J. Wilson (S).

National Surveys

Winter Atlas: Very good coverage was obtained in Sussex for the first year of this major new survey, which will be an important topic at the Society's winter conference in 1983. The county organisers are R. M. Lord, 10 Horsefield Road, Selsey for West Sussex and M. I. Banks, 23 Saltings Way, Upper Beeding, Steyning for East Sussex.

Herony Census: This long-standing census in now organised by Dr. A. B. Watson, 83 Buckingham Road, Shoreham-by-Sea. The counts were made by the following observers:

E. M. Cawkell, H. A. R. Cawkell, C. H. Dean, L. Gover, C. F. Green, J. W. Houghton, A. Isted, R. M. Lord, Dr. E. T. Roberts, A. & Mrs. L. Simpson, G. E. Tomalin and Dr. A. B. Watson.

Wildfowl Counts: The counts in Sussex are organised by D. W. Codd, 12 Broome Close, Horsham, who has once again made the counts available to the Society for this Report. Counters and the areas covered were:

Adur Levels, P. J. Clay; Alexandra Park, Hastings, Miss C. A. Taylor; Amberley/Pulborough, A. Baker, Mrs. G. Marriott, P. Martin; Arun Valley, T. J. Wilson; Ardingly Res., N. Argent; Arlington Res., J. Willsher; Barcombe Mills Res., D. C. Lang; Bewl Bridge Res., P. C. Bance; Burton Ponds, J. N. McKelvie; Chichester GP, R. Holman; Chichester & Pagham Harbours, see under estuary counts; Cuckmere Haven and Seven Sisters, P. J. Luffingham; Darwell Res., R. Harris; Glynde Levels, D. R. Codd; Home Farm Pond, G. E. Tomalin; Knepp Lake, A. & Mrs. I. Simpson; Pett Level, P. Rouse; Petworth Park, D. Sneller; Pevensey Levels, see under estuary counts; Powder Mill Res., K. Blackman; Rye Harbour, R. C. Knight; Swanbourne Lake, D. R. Park; Warnham Mill Pond, D. W. Codd; Weir Wood Res., M. Horsfall; Wildfowl Trust, Arundel, A. Dawray.

Estuary Counts: A full national Estuaries Enquiry is to be repeated during the next 3 years, jointly financed by the BTO, RSPB and NCC. In 1981/82 these counts were organised in Sussex by A. J. Prater, 24 Pepperscombe Lane, Upper Beeding. Counters were:

P. Baines, F. Banks, R. Batchelor, D. Bates, K. F. Burn, P. Clement, R. D. M. Edgar, Mrs. J. H. M. Edom, B. F. & F. J. Forbes, B. Hadden, N. Hemsley, Mrs. S. P. Hitchens, D. Kindersley, A. R. Klison, R. Knight, O. Laugharne, J. P. McCartney, B. A. E. Marr, G. D. Marriott, P. Martin, C. & L. Mayhead, C. E. Messer, Mrs. M. H. Millner, K. Noble, D. Okines, D. A. & T. W. Parmenter, Mrs. N. Petrie-Hay, Miss A. de Potter, A. J. Prater, J. Reaney, R. J. Sandison, R. J. Senior, G. Smith, R. Williamson, P. J. Wilson.

Thanks are due to all the above observers and organisers, who have contributed to these national surveys in the county.

We are grateful for summaries of detailed observations at Selsey Bill from O. Mitchell and Rye Harbour LNR from R. C. Knight and also to R. Leverton for maintaining detailed records of ringing activities and records in the county. We must also thank Miss J. V. Stacey for her continued help in maintaining the Society's files. The Systematic List was compiled by M. J. Rogers with help from the following, to whom Michael's thanks:

F. A. Clements (Cuckoo, Wryneck, Black Redstart, Whinchat, Wheatear, Ring Ouzel, Firecrest, Pied Flycatcher, Twite, Snow Bunting); S. W. M. Hughes (Kingfisher, Woodpeckers, Grey Wagtail, Nuthatch, Rook, Reed Bunting); J. W. Houghton (Nighthawk, Tree Pipit, Redstart, Stonechat, Grasshopper Warbler, Wood Warbler, Redpoll); R. Leverton (Goldcrest, Long-tailed Tit, Marsh Tit, Willow Tit, Coal Tit, Blue Tit, Great Tit, Treecreeper); Dr. J. A. Newtham (Gulls, Nighthawk); R. J. Sandison (Barn Owl, Tawny Owl, Little Owl); M. Shrubbs (Raptors); G. E. Tomalin (Lesser

Whitethroat, Whitethroat, Garden Warbler, Blackcap); P. C. Turner (Chaffinch, Brambling, Greenfinch, Goldfinch, Siskin, Linnet, Bullfinch, Yellowhammer); Dr. A. B. Watson (Heron).

CLASSIFIED RECORDS FOR 1981

Records of birds ringed have not been cross-referenced to the summary of bird ringing. The report on wader and wildfowl counts (page 55) and the sea-watch tables (page 25) should be read in conjunction with the summaries for individual species in the following List.

The following abbreviations are used in the List as standard practice. E, W, N, S, etc., cardinal points of the compass; GP, gravel pits; LNR, Local Nature Reserve (usually one administered by a Local Authority); NR, Nature Reserve (usually one administered by a voluntary conservation body); NNR, National Nature Reserve (administered by the NCC); Res., Reservoir; SSSI, a declared site of Special Scientific Interest; SF, sewage farm or works; ha, hectares; Km, kilometres. References to standard accounts of Sussex birds are abbreviated as follows: Shrubbs 1979 (Shrubbs, M. 1979. *The birds of Sussex, their present status*. Phillimore, Chichester); des Forges & Harber 1963 (des Forges, G. & Harber, D. D. 1963. *A guide to the birds of Sussex*. Oliver and Boyd. London & Edinburgh); Walpole-Bond 1938 (Walpole-Bond, J. 1938. *A History of Sussex birds*. Witherby. London).

1. **RED-THROATED DIVER (*Gavia stellata*):**—Throughout Jan. far more widely reported than usual; records during 23-26th included up to 6 at Selsey Bill, 3 off Ferring, singles at Newhaven and Cuckmere Haven, 2 at Norman's Bay, 2 off Bexhill, up to 47 off Pett Level and, inland, one at Arlington Res. Fewer were seen in Feb, though individuals strayed inland to Weir Wood Res. on 7th and Chichester GP on 26-28th. Spring passage began in early Mar. (see Diver species).

After an early individual off Selsey Bill on 17 Sept. none was seen until 4 off Pett on 18 Oct. Thereafter widely reported but only in small numbers, mostly off Goring and Langney Point, but the end of Dec. brought reports of 7 E off Rock-a-Nore on 18th, 7 E at Newhaven on 30th and 20 off Pett on 31st. Probably much larger numbers were present (see Diver species).

2. **BLACK-THROATED DIVER (*G. arctica*):**—In Jan. one was identified off Pett Level on 21-25th and in Feb. up to 3 off Selsey Bill on 5-8th and one dead at Shoreham on 23rd. Inland one was at Arlington Res., 21 Feb-2 Mar. and an unusual series of records came from Bewl Bridge Res. where three remained from late Dec. 1980 (S:BR. 33: 8) to 20 Jan. and one to 24th followed by further individuals on 15 Mar. and 30 Mar.-6 Apr. For details of spring passage at sea see Diver species.

In autumn one was identified off Selsey Bill on 4 Oct. and subsequent reports suggested that up to 5 were present between there and Goring to the end of Dec. Two were seen at Norman's Bay on 24 Dec.

3. **GREAT NORTHERN DIVER (*G. immer*):**—In spring 1 W off Selsey Bill on 14 May (RGH, RML, OM), 1 E there on 18th (OM) and possibly the same off Worthing (RJS). One off Langney Point on 9 Oct. (RHC) may have been that on 15 Nov. (DC, JFC).

DIVER SPECIES (*Gavia sp.*):—Jan. observations at Selsey Bill on 9 dates totalled 48 E and 30 W with a max. of 19 E in 2 hours on 17th. Fewer were seen there in Feb. Spring passage began in early Mar.; totals at the 4 principal seawatching sites were:

	<i>G. stellata</i>	<i>G. arctica</i>	<i>G. immer</i>	<i>G. species</i>
Selsey Bill	18	37	1	230
Worthing	9	8	1	12
Brighton	—	—	—	104
Beachy Head	—	—	—	165

As in earlier years, observers commented upon the apparent preponderance of Black-throated Divers during May.

Unusual numbers, considered largely to be Red-throated Divers, were reported in late autumn, particularly in Dec. when 171 E and 216 W were logged at Worthing, including 74 W and 17 E in 3 hours on 30th. At Selsey Bill 85 W and 45 E were noted in Dec. with a max. of 42 W and 4 E on 19th. Less protracted observations elsewhere still suggested abnormal numbers (e.g. 42 E in 2 hours off Seaford on 30th). Large numbers were also seen

off Kent at this time, including an astonishing 2,579 E off Foreness Point on 30th. Populations of divers and auks in at least the eastern Channel seem to have undergone some radical change during the past 2 winters.

6. **LITTLE GREBE (*Tachybaptus ruficollis*)**:—In Jan. 173 were reported from 12 localities of which 130 were on the major rivers and coastal and inland waters. Max. counts at the principal localities included 32 in the Cuckmere, 21 at Bewl Bridge Res. and 18 off Thorney Island. In Feb. overall numbers decreased slightly to 165 although some local counts increased, e.g. 38 on the Cuckmere meanders and 34 at Chichester GP.

In spring there were still 25 present in the Cuckmere on 4 Apr. but only 15 by 8th and 6 on 9th. Elsewhere a distinct passage was noted at Pett Pools where numbers rose to 18 on 5 Apr. and 24 on 8th, and at Rye Harbour LNR where a party of 17 on 4 Apr. was additional to the local breeding population. Similarly numbers at Langney Point increased to 16 on 15 Apr.

During the breeding season 48-51 pairs were reported as follows:

Chidmere Pond	1	Burton Pond	1
Pagham Harbour	6	Swanbourne Lake*	1
Chichester GP*	11-12	Lakewood Pond, Warnham	1
Forest Mere*	4	Warnham Mill Pond*	1
Cook's Pond, Milland*	1	Weir Wood Res.*	2
Furnace Pond, Fernhurst	1	Bewl Bridge Res.	1
Steadham sandpit	1	Broomhill Level*	3
Chingford Pond	1	Rye Harbour LNR	12-14

Breeding success was apparently poor, 28-29 pairs at waters marked * raising only 17 young. However at Rye Harbour LNR only 2 young were reared from early broods but in July most pairs were seen with young and 5-6 pairs on the Ternery Pool alone raised c.21.

After the breeding season numbers at Bewl Bridge Res. increased to 13 by 18 Oct. Winterers had returned to the Cuckmere by 19 Sept. and increased steadily to 30 by 26 Oct. In Nov. and Dec. the overall counts were 232 and 221 respectively (at 21 and 13 localities) and included maxima of 80 in Chichester Harbour, 38 at Pagham Harbour, 29 in the Cuckmere and 20 at Widewater.

Those interested in this species are referred to an informative paper on breeding and wintering populations in *British Birds* 75: 204-218.

7. **GREAT CRESTED GREBE (*Podiceps cristatus*)**:—In Jan. and Feb. few were reported from the western harbours but up to 15 were at sea off West Worthing and another 19 along the remainder of the coast. Inland max. counts in Jan. and Feb. totalled 76 and 118 at 11 and 9 localities respectively, including 32 at Weir Wood Res. on 24 Jan. and 55 there on 21 Feb. In spring 12 E and 8 W were logged at Selsey Bill between 7 Mar. and 13 May and 7 E at Worthing during the first 10 days of Apr. One summered in Thorney Channel and up to 9 in Pagham Harbour.

During the breeding season 57-59 pairs were reported as follows:

Chichester GP**	8-9	Tilgate Pond*	1
Burton Pond*	1	Weir Wood Res.**	22-23
Petworth Park Lake*	1	Bewl Bridge Res.**	5
Petworth Park Pond*	1	Darwell Res.*	1
Lurgashall Mill Pond**	1	Langney Point**	1
Shillingtree Lake*	1	Pett Pools**	2
Warnham Mill Pond*	1	Rye Harbour LNR*	1
Knepp Lake	2	Rye Harbour SSSI*	3
Slougham Mill Pond	1	North Point, Rye*	3
Infield Mill Pond	1		

Breeding success was generally poor. At waters marked * it failed completely and at those marked ** the 16-17 pairs reared only 19 young. A remarkable increase at Weir Wood Res. resulted in colonial nesting and the 22-23 pairs (c.f. c.8 in 1980) raised at least 22 young. After the main breeding season there numbers, including birds of the year, increased to 94 by 24 Aug., before declining to c.60 by the end of Oct.

At Church Norton 4 were on the sea on 6 Aug. and increased to 24 in Sept. and remaining at c.30 until Nov. before dropping to 11 in Dec. Inland, max. counts in Nov. and

Dec. totalled 92 and 93 at 9 and 6 localities respectively and included 49 at Weir Wood Res. on 7 Nov. and 65 there on 5 Dec.

8. **RED-NECKED GREBE (*P. griseogenia*)**:—Unusual numbers were again recorded (c.f. *SxBR.* 33: 9-10). The year started with one off Church Norton on 1 Jan. (possibly that of Dec. 1980), 2 there on 24th and further singles on 20 Mar. and 5 Apr. One was off Shoreham on 16 Apr.

In autumn the first was a juvenile at Langney Point on 23 Aug. and one at Church Norton on 24th was joined by another on 6 Sept. On 19th three flew W at Langney Point and on 20th, two moving W at Shoreham apparently joined 5 already off Church Norton. The, or another, juvenile was at Langney Point from 26 Sept. to 4 Oct. Subsequent reports indicated that no fewer than 10 were feeding between Shoreham and Selsey Bill from 4 Oct. to at least 14 Nov., at least one remaining to the end of the year. Elsewhere another was seen off Langney Point on 19-26 Dec. and 2 off Newhaven on 22nd. Unusual numbers have also been noted in Kent, one got as far west as Scilly on 13 Oct. and, for the first time in Britain, nest-building took place in 1980.

9. **SLAVONIAN GREBE (*P. auritus*)**:—At Church Norton/Selsey Bill up to 6 were present during Jan. and Feb. but at least 12 on 7 Jan., the additional birds possibly moving on to Chichester Harbour where 5, possibly 8, were seen on 18th. In Mar. up to 9 were in the Selsey Bill area on 14-15th, 6 remaining on 20th and one on 31st. Another was off the Lancing coast from early Jan. to 15 Mar. At Beachy Head spring passage was indicated by 2 E on 29 Mar. and 2 more on 8 Apr. Ones and twos continued to be seen off the western coast until 28 Apr. Inland, one at Bewl Bridge Res. since late 1980 (*SxBR.* 33: 10) stayed until 18 Jan.

First in autumn was one at Church Norton on 27 Sept., with 4 there by 24 Oct. and at least 6 by 8 Nov. On 10 Nov. the largest gathering yet recorded in Sussex was seen off there, 43 off the harbour mouth and 8 further east (RAC, RML, RJS *et al.*), thus exceeding the 50 there on 11 Dec. 1971 (*SxBR.* 24: 10). On 14th, 30 were still present and at least 10 on 29th but only 6 by 5 Dec. Even so a total of 17 W off Selsey Bill on 14 Dec. suggested good numbers still in the area.

10. **BLACK-NECKED GREBE (*P. nigricollis*)**:—Again a good year with singles at Pagham Harbour on 1 Jan., North Point, Rye on 18 Mar., Brighton Marina on 4-8 Apr., Pett Pools on 10 Aug. to 5 Sept., Langney Point on 23-29 Aug., Arlington Res. on 27-28 Aug. and Weir Wood Res. on 20 Sept. (A record 34 were on the Staines Res., Middlesex, by 12 Sept.).

SLAVONIAN/BLACK-NECKED GREBE:—Recorded as follows: one off Ovingdean, 8 Apr.; one Beachy Head and 2 Seaford Head, 11 Apr.; one Seaford Head, 4 May; 2 E and 16 W, Selsey Bill, 7 Mar. to 5 Apr.; singles there 19 Sept. and in Oct., probably all Slavonian.

12. **FULMAR (*Fulmarus glacialis*)**:—Present along all cliffs in the early part of the year and the species was again proved to breed, young being seen at Newhaven in June and at Black Rock/Rottingdean. Most previously reported sites were occupied and numbers were similar to 1979-80. Another instance of apparent prospecting of unusual nest-sites involved one flying over the site of an old railway station flanked by chalk cliffs at Kemp Town, Brighton, ½-mile from the coast, on 20 Mar. (NAGL). During the spring 188 E and 542 W were logged at Selsey Bill between 1 Mar. and 31 May and at Worthing 355 E and 178 W between 1 Jan. and mid-May. These movements are of uncertain significance. The last summer records came from Newhaven on 3 Sept. and Brighton Marina on 6th but most sites were again occupied soon after 3 Dec.

17. **SOOTY SHEARWATER (*Puffinus griseus*)**:—One flew W at Langney Point on 24 Sept. (PJW).

18. **MANX SHEARWATER (*P. puffinus*)**:—A continued increase in records:—one W at

Worthing on 21 Mar.; singles W off Goring on 15 and 20 Apr., and 4 E there on 24th. In May, reports from 5 localities from Selsey Bill to Beachy Head totalled some 30 individuals (8 E, 22 W). In autumn the only records were of 3 E and 4 W at Selsey Bill between 17 Sept. and 3 Oct.

25. **GANNET** (*Sula bassana*):—Recorded in each month of the year. Selsey Bill data did not repeat the trend of 1980 (SxBR, 33: 11); the periodic counts were as follows:—

Passing E	Jan.	Feb.	Mar.-May	June-July	Aug.	Sept.	Oct.	Nov-Dec.
.....	2	175	2	29	6	20	14	
.....	11	6	372	9	21	41	33	22

On 13 Dec., 56 E in 4 hours were logged at Worthing and, on 27th, 100 E in 2 hours at Brighton Marina, both echoing diver movements during this period (q.v.). Oiled individuals were found at Newhaven on 2 and 7 June, and West Chidham on 5 Apr.; other fatalities were found at Newhaven on 20 Feb. and Rottingdean on 4 Apr.

26. **CORMORANT** (*Phalacrocorax carbo*):—On 14 Jan. a first-year bird, ringed at Herne Bay, Kent, was found dead at Herstmonceux. In the early months up to 12 were at Rye Harbour LNR and up to 14 in the Cuckmere. On 31 Mar. some 35 were seen off Bognor. On 25 Jan., 119 were noted flying to roost up the R. Arun and 130 were following the same course on 2 Dec. Many other inland sightings of interest were received and will be reviewed in a forthcoming paper.

On 16 Aug., 35 were in Chichester Harbour where numbers increased to a max. of 55 in Dec. In Pagham Harbour the Dec. max. was 18. On 22 Nov., 26 were seen off Newhaven. Westerly movements were noted during regular dawn observations at Hove in autumn and early winter and were presumably from a roost, possibly at Newhaven. Numbers were about 20 in Sept., a max. of 91 on 11 Nov. and 50-60 in Dec. At Rye the highest counts were in Oct., up to 46 being noted, but in Nov-Dec. 10-15 was more usual.

Five individuals resembling the southern race *P. c. sinensis* were seen, 3 in the Cuckmere on 22 Feb., one at Pett Pools on 8 Mar. and one flew W at Hove on 4 Apr.

27. **SHAG** (*P. aristotelis*):—Only about 21 were recorded, as follows:—

Jan.	Mar.	Apr.	May	June	Sept.	Nov.	Dec.
2	1	4	4	1	1	6	2

Following the Weir Wood Res. occurrences in 1980 (SxBR, 33: 12) it was of particular interest that several of the records included above came from Bewl Bridge Res. with an immature departing NE on 3 June, an adult on 5-17 Nov., possibly the same adult on 17-29 Dec. and 2-3 adults on 31 Dec. preceding 5 there in early 1982.

30. **BITTERN** (*Botaurus stellaris*):—The only records at the start of the year were of one at Arundel Wildfowl Refuge on 1 and 26 Jan.

At the same locality an unconfirmed sighting of one on 9 Nov. possibly related to one at Swanbourne Lake on 19th. The blizzards in Dec. produced a scatter of records in keeping with those in early 1979 (SxBR, 32: 13). See also *British Birds* 74: 1-10 and 10-16 for British and European background to those events. Records, all of singles in Dec., were as follows:—Sidesham Ferry, 10th; Arundel Wildfowl Refuge, 11th and 22-26th; Weir Wood Res., 16th; Chichester GP, 27th (perhaps since 18th); R. Arun at Broadbridge Heath, 26th (possibly same, White's Bridge, Horsham, 10 Jan. 1982); Pett Pools, 28-31st; and Darwell Res., 30th.

37. **LITTLE EGRET** (*Egretta garzetta*):—One in the Cuckmere on 27 May (LGC) was the 15th for the county and has been accepted by *British Birds*. Probably the same individual was seen at Lodmoor, Dorset, on 25th, Farlington Marshes, Hampshire on 26th and Eimley Marsh, Kent, on 30-31st!

39. **HERON** (*Ardea cinerea*):—All known heronries were counted and nests certainly and probably occupied totalled 220 (195 in 1980) as follows: Fishbourne 22 (ETR), Pagham 2 (RML), Parham 41 (AD), Henfield 14 (ABW), Firls 35 (ABW), Knepp 13

(A&IS), Bridge 16 (JWH), Priesthaves 3 (LG), Westham 2 (LG), Worting 14 (LG), Pevensey 3 (LG), Leasam 51 (EMC, HARC, CFG), Nuthurst 0 (GET), Bewl Bridge 0, new E Sussex site 4.

Single birds were seen to arrive from the sea on two April and one September dates and 14 flew SSW from Selsey Bill on 12 Sept. Herons moved past Beachy Head, Hove and Selsey Bill, out there during the autumn, all but one to the W. (max. together 6). Largest numbers seen together outside the breeding season were 30 at Weir Wood and 29 at Thorney Deepes.

40. **PURPLE HERON** (*A. purpurea*):—A probable adult at Church Norton on 4 Apr. (RML, RJS *et al.*) and an adult at Lancing on 28 May (BFF) constituted the 24th and 25th records for the county and have been accepted by *British Birds*.

42. **WHITE STORK** (*Ciconia ciconia*):—One flying N over Hastings on 6 Apr. (R. H. Waipole *et al.*) was the only record to be accepted by *British Birds*.

44. **SPOONBILL** (*Platalea leucorodia*):—Two records: an immature at Sidlesham Ferry on 17 Apr. (RML, BAEM) and 2 adults there on 24th (RML).

47. **BEWICK'S SWAN** (*Cygnus columbianus*):—Precise counts in the area of Amberley Wild Brooks were difficult to obtain as elements of the population moved from place to place. The Jan. max. at North Stoke was 62 on 25th but up to 66 spent most nights on Waltham Brooks NR until mid-Feb., 45 remaining on 15th and 21 on 6 Mar. Elsewhere 4 were seen at Camber on 1 Jan., 5 on Glynde Levels on 11 Jan. and 13 Feb. and 21 at Portman's Heath, on the Kent border, on 18 Jan.

First in autumn were 30 near Amberley on 19 Oct., 5 days earlier than at either Slimbridge or Welney (per RMB) and the first 7 at Waltham Brooks NR appeared on 7 Nov. to be joined by a further 37 at roost on 8th. By 17th the count there was 74 of which 17 were juveniles.

48. **WHOOPEE SWAN** (*C. cygnus*):—The cold weather in late Dec. brought unusual numbers to SE England, including Sussex. On 12th a party of 2 adults and 5 juveniles, plus a lone adult, were seen at Sidlesham Ferry (RJS) and on 15th, possibly another party of 2 adults and 2 juveniles over Selsey (BJ, CMJ, PJ *et al.*). On 20th 4 swans considered to be of this species flew N over East Grinstead (RFS) and on 27-28th two adults were seen on the Rother Levels on the Kent border (ATMR).

NOTE. GEESE & DUCKS. Readers are also referred to the estuary count tables on page 55. For an explanation of 3 year moving averages, see Note on page 17.

49. **BEAN GOOSE** (*Anser fabalis*):—Two reports came with the cold weather in Dec., a party of 7 on Pevensey Levels on 24th and a further 2 there on 26th (RDME) and one in the Cuckmere on 20th (LMC, MLC *et al.*). All apparently showed the characters of the race *A. f. rossicus*.

50. **PINK-FOOTED GOOSE** (*A. brachyrhynchus*):—A party of 3 was seen on Cobnor Marsh, Chichester Harbour, on 31 Dec. (AJP).

51. **WHITE-FRONTED GOOSE** (*A. albifrons*):—Above average numbers continued to visit Sussex; records were as follows:—in Jan., 2 on Pevensey Levels on 4th; 26 E at Rye and 7 NE at Arlington Res. on 11th; 55 SW near Rye on 18th; another in that area on 26th; and a possible escape at Bewl Bridge Res. from 21st until 13 Mar. In Feb., 66 E over Chichester Harbour on 21st; a probable escape at Brooklands Park, Worthing on 21-24th; and 5 arriving in the Cuckmere on 27th. In Mar., 5 W at Selsey and 5 at Hooe Level on 1st; and up to 17 at Pett Level on 4-8th.

Towards the end of the year none was seen until the onset of cold weather in mid-Dec. Records (including grey geese probably of this species) were as follows: 7 S at Horsham on 13th; 9 E at Peacehaven on 17th; 52 E at St. Leonard's, 35 N at Pett Level and 5 W at Goring on 18th; one in the Cuckmere, 18-20th; 2 feeding and 21 W at Pett Level and one at

Southeast on 19th; 8 at Sidlesham Ferry on 20-24th; 16 N at Shoreham on 23rd; 3 on Pevensey Levels on 24-26th with one to 30th; 58 S over Goring on 24th; 20 feeding at Ashcombe Farm, Lewes on 27th; 23 W at Fairlight on 28th; 35 E at Goring on 29th; and 34 (the same?) SE from the Cuckmere on 30th.

53. **GREYLAG GOOSE** (*A. anser*):—Recorded throughout the year and the county, most, if not all records apparently relating to the two main feral groups, at Amberley Wild Brooks (max. 8 in Mar., 16 in Aug.) and Weir Wood Res. (max. 14 in Mar., 8 in Nov.). A reportedly shy party of 10 on Lewes Levels on 25 Feb. and 13 NE over Hove on 7 May were possibly of more distant origins. Breeding took place at Parham Park (8 young) and Petworth Park (2 young).

55. **CANADA GOOSE** (*Branta canadensis*):—In Jan. and Feb. numbers were lower than in recent years. The autumn flocks of the main populations in East and West Sussex were also slightly smaller. However the Chichester flock increased a little and, at Bewl Bridge, a large increase took place with counts of at least 500 regularly during Aug-Oct. and an extraordinary 1,000+ at roost, counted in a full moon, on 23 Sept. The max. counts at the principal localities were:

	Jan.-Feb.	Aug.-Oct.	Nov.-Dec.
Chichester GP/Pagham Harbour	110	168	116
Arum Valley (Pulborough-Arundel)	125	179	105
Petworth Park	300	185	120
Knepp Lake	86	—	156
Warnham Mill Pond	63	80	75
Bewl Bridge Res.	230	1000	409
Weir Wood/Ardingly Resrs.	69	98	200
Arlington Res./Herstoncoex	184	329	300
Barcombe Mills Res.	79	—	190
Darwell Res.	85	17	96
Rye Harbour area	85	200	57

During the breeding season 43 young were reared at Chichester GP but only 14 at Petworth Park. Elsewhere, of 43 pairs present at 32 sites, 36 attempted to breed, 30 pairs successfully raising a total of 145 young (average brood size 4). Counts and details of brood size, culling, transportation of adults and young and any evidence of impact on the environment and other species are still required. See also the paper on page 72.

56. **BARNACLE GOOSE** (*B. leucopsis*):—Against the customary background of probable escapes seen throughout the year in all parts of the county, spells of cold weather again brought parties, doubtless from Holland, suggesting the return of birds which first familiarised themselves with Sussex early in 1979 (c.f. Red-necked Grebe). Such records were as follows, all falling in Feb.:—Pett Level, 15 arrived on 17th and a further 13 by 21st; only 4 on 22nd. Pevensey Levels, 35 on 19th; 68 on 20-28th. Cuckmere, 7 on 21-27th. Although coincident with the cold spell, groups of perhaps more questionable provenance appeared in Dec., 4 at Pett Level on 19th, 9 near Selsey on 19-31st and 13 at Chichester GP also on 19th.

57. **BRENT GOOSE** (*B. bernicla*):—See also *Sx.B.R.* 33: 63. The Jan. and Feb. counts for the combined Sussex and Hampshire Harbours amounted to 15,215 and 13,401 respectively compared with the respective 3-year moving averages of 16,032 and 13,246. Regular monitoring of feeding habits by JHME showed once again that hanging up blue plastic bags, if necessary backed up by driving off in the ordinary way, is sufficient to control cereal-grazing, especially if there is suitably grazed or mown grassland available within the flock area. Away from the western harbours there was a good scatter of records along the coast. Most visible spring migration was missed, only 1,821 W being logged at Worthing during Jan-May.

First in autumn was a party of 9 E at Selsey Bill on 17 Sept. and 2 W at Langney Point on 19th; the species was widely reported from mid-Oct. onwards. By Oct. the count in the two western harbours was 210 and the Nov. and Dec. totals were 6,471 and 10,495 respectively compared with 6,052 and 8,588 respectively in 1980.

Individuals showing the characters of the pale-breasted race *B.b. hrota* were identified at Bracklesham Bay on 25 Jan. and Pagham Harbour on 20 Jan. and 13-15 Feb.

61. **SHELDUCK** (*Tadorna tadorna*):—The Jan. and Feb. wildfowl counts produced totals of 3,450 and 3,505 respectively compared with the respective 3-year moving averages of 2,285 and 2,816. Several inland reports came from Bewl Bridge Res. with 6 N on 30 Jan., two on 1 Feb., 3 S on 9th and one there on 3 Mar. One visited Barcombe Mills Res. on 7 Mar. followed by one at Weir Wood Res. on 12th, 6 at Shillinglee Lake on 15th and 3 more at Weir Wood on 16 Apr.

Spring movements logged at Selsey Bill totalled 108 E and 58 W between 6 Mar. and the end of May with a max. of 48 E on 8 Apr., whilst at Worthing 190 E and 108 W were noted with a max. of 51 W on 6 May. To what extent these movements represent true passage remains obscure. Further inland records in May were of 2 at Weir Wood Res. on 3rd and 5 at Bewl Bridge Res. on 5th.

At known breeding localities the max. counts of young were as follows:

Chichester Harbour (incomplete)...	81	Newhaven	Nil
Chichester GP	4	Cuckmere	13
Pagham Harbour	51	Rye Harbour LNR	22
Waltham Brooks	8	Rye area	Not known

In addition a pair hatched 7 young on Glynde Levels. At Pett Level 2 pairs were present in June but with no evidence of breeding.

More autumn passage than usual, with heavy movements to the west, presumably from Holland, during the cold weather in Dec. At Worthing, 903 W and 11 E were logged in 141 hours during Oct-Dec., max. 518 W in 5 hours on 15 Dec. Totals for the two western harbours rose from 1,652 in Nov. to 2,743 in Dec., the latter somewhat above average.

63. **MANDARIN** (*Aix galericulata*):—During the year the species was reported from Forest Mere, Cook's Pond (Milland), Buchan Park, East Grinstead, Possingworth Park, Maynard's Green, Rookwood, Darwell Res., Swanbourne Lake and Rye Harbour LNR. Single pairs bred successfully at Weir Wood Res. and Wakehurst Place.

64. **WIGEON** (*Anas penelope*):—The Jan. and Feb. wildfowl counts produced approx. totals of 2,332 and 2,445 respectively compared with the respective 3-year moving averages of 2,284 and 1,835. At Arlington Res. 51 were still present on 5 Apr. and 2 pairs were still at Waltham Brooks NR on 7th. After a further scatter of Apr. records a pair was seen at Chichester GP on 4 May and 1-2, possibly pricked, remained in Chichester Harbour until at least 21 June.

First autumn birds were one at Pett Pools on 1 Aug. and 2 at Rye Harbour LNR from 10th with 6 there by 24th. A male was at Bewl Bridge Res. on 22nd. The first in Pagham Harbour were 3 on 5 Sept. and westward passage was noted at Selsey Bill and Shoreham from 17th onwards. The Nov. and Dec. wildfowl counts produced totals of 1,691 and 4,625 respectively, the latter well above average and comparing interestingly with the cold-weather counts of 4,872 and 5,101 in Jan. and Feb., 1979.

67. **GADWALL** (*A. strepera*):—The Jan. and Feb. wildfowl counts produced totals of 100 and 69 respectively, compared with the respective 3-year moving averages of 98 and 86; over 75% were in the Arundel area. There were still at least 63 birds in the county during Mar. Spring passage brought reports of singles E at Selsey Bill on 14 and 24 Apr., and, in May, 9 E off Hove and 4 E at Beachy Head on 7th and 2 E at the latter on 9th. On 31st two pairs were apparently holding territory on Amberley Wild Brooks and a pair was present at Rye Harbour LNR throughout June-Aug. without evidence of breeding.

At the end of the year the approx. Nov. total was an average 96 but numbers rose dramatically to 180 during the cold weather in Dec., 128 being at Swanbourne Lake.

69. **TEAL** (*A. crecca*):—The Jan. and Feb. wildfowl counts produced totals of 4,220 and 2,976 respectively, above normal compared with the respective 3-year moving averages of 2,688 and 2,196.

During May-July the species was seen at a wide scatter on inland localities but the only indications of breeding were a pair which hatched 8-9 young at Forest Mere in July and an agitated male on Amberley Wild Brooks in June.

At the end of the year the Nov. and Dec. wildfowl counts produced totals of 5,051 and 5,584 respectively, compared with the respective 3-year moving averages of 2,019 and 3,362.

70. **MALLARD** (*A. platyrhynchos*):—The wildfowl counts of Jan. and Feb. totalled 4,351 and 5,004 respectively, nonetheless above normal compared with the respective 3-year moving averages of 3,929 and 2,761. The wardens of both Rye Harbour and Pagham Harbour LNRs reported a poor breeding season.

At the end of the year the Nov. and Dec. counts totalled 3,885 and 5,754 respectively.

72. **PINTAIL** (*A. acuta*):—The wildfowl counts of Jan. and Feb. produced totals of 290 and 283 respectively, compared with the respective 3-year moving averages of 225 and 253. As usual the vast majority were in the western harbours.

Spring seawatches produced a total of 13 E on 4 dates. Summer records were of one in Chichester Harbour in July and 2 in Aug. and a single at Weir Wood Res. on 1 Aug.

Only singles were seen away from the western harbours during Sept-Oct. and in Chichester Harbour 80 were gathered by 17 Oct. The Nov. and Dec. counts for the county totalled 168 and 437 respectively, the latter well above average and reflecting the cold weather.

73. **GARGANEY** (*A. querquedula*):—First for the year was a party of 3 pairs at Barcombe Mills Res. on 29 Mar. followed by pairs at Pett Level on 5-11 Apr. and flying E at Selsey Bill on 14th and a drake at Weir Wood Res. on 16th. In May a drake flew E off Selsey Bill on 5th and one at Arundel Wildfowl Refuge arrived on 11th and settled with the resident females. In the east a female at Scotney Court GP on 16th and a drake at Rye Harbour LNR on 31st.

The first in autumn was also at Rye on 26-31 July but only 6 singles were subsequently seen in the county the last being one at Pett Pools on 6-8 Sept.

75. **SHOVELER** (*A. clypeata*):—The Jan. and Feb. wildfowl counts produced totals of 264 and 266 compared with the respective 3-year moving averages of 383 and 321. In Spring a total of 45 flew E on nine Apr. dates at Selsey Bill and 37 E at Goring during 9-10 May. (An unusual total of at least 50 moved E off Rock-a-Nore, Hastings, in one hour on 19 Mar. 1980 as part of a complex wildfowl movement also recorded at Dungeness).

At Sidlesham Ferry one pair bred successfully and the behaviour of a drake on Amberley Wild Brooks on 13 June suggested breeding. At Rye Harbour LNR a pair plus one drake were present throughout the season without evidence of nesting.

In Aug. 16 were at Weir Wood Res. by 15th and subsequently reported gatherings in Sept. included 23 at Chichester GP and up to 32 at Rye. The Nov. and Dec. counts for the county totalled 118 and 216 respectively, the former comparing with 185 in 1980, the latter with a moving average of 295.

76. **RED-CRESTED POCHARD** (*Netta rufina*):—A drake was present at Bewl Bridge Res. from 18 Jan. to 15 Mar. and possibly the same was at Scotney Court GP, Camber, during 8-20 Apr.

77. **POCHARD** (*Aythya ferina*):—The Jan. and Feb. wildfowl counts produced totals of 1,081 and 996 respectively, compared with the 3-year moving averages of 1,090 and 775. Seven flew E off Worthing on 7 May.

During the breeding season the species was seen at Chichester GP, Bewl Bridge Res. and Amberley Wild Brooks without evidence of nesting but at Rye Harbour LNR one pair successfully reared 6 young from a hatch of 7 and at Forest Mere a pair raised 5 young.

The max. count at Chichester GP in July was 96, increasing to 125 in Aug. and 139 in Sept. The total for the main sites in Oct. was 667 and the Nov. and Dec. wildfowl counts produced totals of 1,254 and 1,243 respectively, the latter well above the moving average of 970 presumably because of the cold spell.

79. **FERRUGINOUS DUCK** (*A. nyroca*):—An immature male was present at Scotney

Court GP, Camber, from 6 Mar. to 17 May and a male at Weir Wood Res. from 16 Oct. to 9 Nov.

80. **TUFTED DUCK** (*A. fuligula*):—The Jan and Feb. wildfowl counts produced totals of 1,089 and 1,176 respectively, compared with the 3-year moving averages of 1,028 and 1,099. During the breeding season the species was again under-reported from potential and known breeding sites; numbers of pairs recorded (with numbers of young in parentheses) were as follows:

Chichester GP	19? (101)	Forest Mere	3 (ca. 10)
Pett Pools	2 (3)	Cook's Pond	3
Terny Pool, Rye	11 (60)	Bewl Bridge Res.	2 (3)
Weir Wood Res.	1 (7)	Maresfield (TQ 478239)	1 (4)

The species was seen at 4 other localities during May-June but either did not stay or showed no signs of breeding. At Rye, breeding success amongst the 4-7 pairs away from the Terny Pool was poor and at Holme Farm Pond predation by mink was suspected.

At the end of the year the Nov. and Dec. wildfowl counts produced totals of 1,190 and 1,284 respectively; the stability of numbers wintering in the county is remarkable.

81. **SCAUP** (*A. marina*):—Approximate monthly totals were as follows:

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
3	2	2	1	2	—	—	—	—	2	7	11

A long-stay pair was in Pagham harbour in Jan-Feb. and 2 flew E off Beachy Head on 7 May. Pett Levels attracted 1-2 during Oct-Nov. and 2 moved around Barcombe Mills and Arlington Reservoirs and the Cuckmere during Nov. On 24 Dec., during the cold weather, a party of 5 drakes flew W off Worthing.

82. **EIDER** (*Somateria mollissima*):—Approximate monthly totals were as follows:

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
118	177	200	200	30	24	29	50	136	105	87	—

* Apr. and May totals could not be estimated—see below

At the start of the year unusual numbers gathered off Selsey Bill, up to 60 in Jan., 130 in Feb. and 180 by 21 Mar., dropping to only 40 by 7 Apr. Allowing for the presence of this flock, spring passage at this site was still logged at 354 E and 48 W up to the end of May. The species was much reported along the coast during this period and many records could have related to departing Selsey flocks.

There were again up to 98 off the Bill in Nov. but only 14 in Dec., although 60 W and 23 E logged at Worthing suggested more in the area. On 15 Dec. an albino was seen off Goring.

86. **LONG-TAILED DUCK** (*Clangula hyemalis*):—A female in Chichester Harbour until 26 Feb. was possibly that of Dec., 1980 (SxBR. 33: 17); in addition a drake was at West Chidham on 26-28 Feb. Another female at Chichester GP until 25 Apr. was also probably a 1980 individual (SxBR. 33: 17) but two were seen on 22 Feb. One flew W off Selsey Bill on 21 Mar. At Southwick two remained offshore from 4 Apr. to 3 May and 2 E off Hove on 7 May were possibly the same. A drake was at Scotney Court GP, Camber, during 16 Apr. to 7 May.

In autumn a drake flew E off Shoreham on 26 Oct. and one W was seen from Brighton Marina on 4 Nov.

87. **COMMON SCOTER** (*Melanitta nigra*):—During Jan. up to 115 were present off the Worthing-Bognor coast, 20 in Norman's Bay and 150 off Pett Level but in Feb. the max. at Pett was 800, considerably more than in recent years.

Spring passage at all four principal seawatch sites was mediocre, due largely to offshore winds, with totals of 3,001 at Selsey Bill, 2,691 at Worthing, 2,486 at Brighton Marina and 2,736 at Beachy Head, 7 May being the peak day at each (see tables on page 25/8 for details). Up to 50 remained in Rye Bay during June. Inland, 3 appeared at Bewl Bridge Res. on 2 Apr.

At Selsey Bill a total of 224 W and 12 E was logged during July-Aug. There was

generally little to be seen of later autumn passage and by Dec. there were probably about 250 off the western coast but only 6 in Rye Bay.

89. **VELVET SCOTER** (*M. fusca*):—During Jan. up to 9 were feeding off Shoreham and 2 off Pett Level; the Feb. max. at Pett was 6. Spring passage was good, totalling 97 E and 1 W at Selsey Bill, 99 E and (in one flock on 27 Apr.) 36 W at Worthing, 38 E at Brighton Marina and 33 E (in one flock on 12 May) at Bexhill (see tables on page 25/8 for details). A further 24 E were noted at Hove and Southwick on 4 dates.

At the end of the year, 2 E and 4 W were logged at Selsey Bill during Nov-Dec. and at least 7 appeared to be feeding off the Goring-Brighton coast. Two were off Pett Level in mid-Nov.

91. **GOLDENEYE** (*Bucephala clangula*):—The Jan. and Feb. wildfowl counts produced totals of 105 and 86 respectively, compared with the respective 3-year moving averages of 71 and 79. As usual the vast majority were in Chichester Harbour. (On 19 Mar. 1980 parties of 2 and 16 were seen moving E off Rock-a-Nore, Hastings as part of a complex wildfowl movement; 39 E were logged at Dungeness). The last winterers were seen at Chichester GP, Bewl Bridge Res. and Rye Harbour LNR during 6-9 Apr. but one was seen moving E off Brighton on 29th.

First in autumn were singles at Ardingly and Darwell Res. on 18 Oct. and records came from 6 further localities before the end of the month. Some 30 were in the county by late Nov. but possibly 90 were recorded in Dec. from a wide scatter of inland, river and coastal waters.

93. **SMEW** (*Mergus albellus*):—Bewl Bridge Res. showed signs of becoming a traditional site for this species following on from the series of records in 1980. Up to 2 drakes and 3 redheads were present on many dates up to 12 Mar. Elsewhere the 1980 redhead at Paghnam Harbour (SxBR. 33: 18) stayed until 12 Mar. and another appeared briefly at Knepp Lake on 18 Jan. and Weir Wood Res. on 21st.

The cold spell in Dec. was not as striking in its effect as in early 1979. At Bewl Bridge Res. up to 6 redheads and one drake were present from 20th onwards whilst at Paghnam Harbour 3 redheads appeared on 20th, two remaining until at least 27th; one at Chichester GP was probably connected. Elsewhere single redheads were seen in the Cuckmere on 19th and at Langney Point on 19-20th, and a drake was in Chichester Harbour on 26th.

94. **RED-BREADED MERGANSER** (*M. serrator*):—Counts from Ferring and Chichester and Paghnam Harbours on 24 Jan. totalled 118 and the Selsey Bill log of 95 W and 44 E during Feb. suggested a similar figure still in the western coastal area. The total for the Bill from 1 Mar. to 21 May was 665 E and 242 W whilst the other seawatch sites produced spring totals of 291 E at Worthing, 126 E at Brighton Marina and 73 E at Beachy Head (see tables on page 25/8 for details). Inland a redhead appeared at Darwell Res. on 18 Jan., a pair at Weir Wood Res. on 15 Feb. and a redhead at Bewl Bridge Res. from 27 Mar. to 5 Apr.

An unusual record was of one moving W at Selsey Bill on 10 July. The Bill also provided the first autumn records, 10 W on 25 Sept. and 4 W on 28th and, during Oct., there appears to have been up to 22 in that area. Casual counts for Nov. and Dec. totalled 150 each, the species being widely scattered during the cold spell in Dec. Inland, single redheads were seen at Bewl Bridge Res. on 25-31 Dec. and Arlington Res. on 31st.

95. **GOOSANDER** (*M. merganser*):—The drake at Barcombe Mills Res. in Dec., 1980 (SxBR. 33: 18) stayed until 4 Jan. and a redhead visited Pett Pools on 10th. Surprisingly, 3 drakes appeared at Ardingly Res. on 15 Feb. A drake and 3 redheads were on Bewl Bridge Res. on 2 Apr. On 7 May, two redheads were identified passing E off Brighton Marina.

In Nov. an early redhead was noted at Rye Harbour LNR on 12th and on 29th a drake off Goring coincided with a redhead at Weir Wood Res. which stayed until 5 Dec. The cold weather in late Dec. produced up to 2 drakes and 2 redheads at Bewl Bridge Res., a drake on Ermsworth Channel on 12th and (the same?) on the river at Cowdray on 13th. These were followed by single redheads at Paghnam Harbour on 17th, Langney Point on 19-20th and Rye Harbour LNR from 18th onwards. Another was found dead at Rye on 29th.

96. **RUDDY DUCK** (*Oxyura jamaicensis*):—The status in the county remained much the same. At Pett Pools a lone female lingered hopefully from 19 Apr. to 14 June, reappeared briefly in early Aug. but came back for the winter on 20 Sept. Possibly the same was on Scooney Court GP on 28 and 30 Dec. At Weir Wood Res. a pair remained until at least 14 Mar., a female returning on 11 Aug. followed by 1-2 there from 2 Oct. onwards. A female was at Langney Point on 25 Oct. and from 7 Nov. to the end of the year and another visited Bewl Bridge Res. on 28 Dec. In the west a drake was a Chichester GP until at least mid-Feb. and a pair was seen in May but with no evidence of breeding. A drake was in residence from 13 Aug. to at least 27 Nov. and a bird of uncertain gender joined it on 24 Oct. and 27 Nov.

97. **HONEY BUZZARD** (*Pernis apivorus*):—One arrived from the sea at Selsey Bill on 20 May (RML *et al.*). One flew NW over Brighton on 28 July (NAGL).

99. **RED KITE** (*Mitrus milvus*):—Single birds flying E. at Beachy Head on 27 May (RHC), at Kingley Vale on 30 May (MVS) and flying N at Sidlesham on 22 Oct. (MS).

103. **MARSH HARRIER** (*Circus aeruginosus*):—Another excellent year, with a total of 20 individuals reported between 5 Apr. and 30 Nov. Monthly totals were:

	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
Adult males	2	0	1	1	2	3	0	1
Others	1	3	0	0	5	6	0	0

Records included an adult male summering in the Selsey area from 21 June to end Aug. and 3 together in the Cissbury area on 4 Sept.

104. **HEN HARRIER** (*C. cyaneus*):—Recorded until 29 Apr. and from 26 Sept. and, as in 1978/79, a considerable influx with the hard weather at the end of the year. In the early months a total of 19 birds was seen, of which 2 males and 6 ring-tails definitely appeared to be wintering. At the end of the year only 8 were recorded before late November, after which a total of 10 males and 21 ring-tails was noted, making 39 birds altogether; 17 ring-tails and 3 males stayed for several weeks and probably wintered and 2 roosts of 5-6 birds were found. Monthly totals were:

	Jan.	Feb.	Mar.	Apr.	Sept.	Oct.	Nov.	Dec.
Adult males	2	1	2	0	0	0	2	8
Ring-tails	10	7	5	6	1	2	10	21

105. **MONTAGU'S HARRIER** (*C. pygargus*):—In Aug. single ring-tails at Beachy Head on the 12th (RHC) and Selsey Bill on the 20th (JH).

107. **GOSHAWK** (*Accipter gentilis*):—One flew N over Seaford on 6 Nov. (PJW).

108. **SPARROWHAWK** (*A. nisus*):—In the breeding season 42 occupied territories were reported (based on a minimum of 3 records during Mar-Aug.) and single birds were reported from a further 42 localities. Seventeen pairs were proved to breed, of which 14 were known to have reared 25 young, an average brood size of 1.8; of 5 nests included in that total, 2 failed and 3 produced 9 young, giving a similar figure. This represents a 16% decline in breeding success compared with 1980.

Breeding densities were estimated by the same method as in 1980 (*q.v.*), which gave a figure of 700 hectares per pair or a county population of c.570 pairs, not very different from that calculated in 1980. Once again it is worth stressing the need for some good density figures from defined areas for this species, to check these estimates which are constructed from many incidental observations.

In winter 46% of the breeding season localities were found occupied and individuals were noted at 30 other sites. There may be some duplication involved in these records as female Sparrowhawks probably range more widely over open country in winter than males do at any time.

Single migrants were noted flying N at Selsey Bill on 5 and 12 Apr., Pett on 29 Sept. and E at Selsey Bill on 11 Oct.

109. **BUZZARD** (*Buteo buteo*):—Once again a confusing picture, with possibly 25 birds seen in 18 localities although how much duplication owing to birds travelling is involved cannot be assessed. Monthly totals were:

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	0	0	3	1	0	2	3	10	7	1	4

There was no sign of any attempt at breeding and the majority of these records referred to either migrants or wandering birds. However singles were apparently resident in 3 areas for at least part of the year.

113. **OSPREY** (*Pandion haliaetus*):—In the spring single birds at Darwell Res. (MB) and flying N over Lullington Heath (RJE) on 17 Apr., at Pippingford Park on 1 May (CFT), Bewl Bridge Res. from 19-26 May (per PCB) and at Wickenden Farm on 20 May (HACTC).

In the autumn single birds around Pagham and Chichester Harbours from 31 Aug. to 29 Sept. (many obs.), Hadlow Down from 1-6 Sept. (RAH), Shoreham from 20-26 Sept. (many obs.), the Crumbles on 27 Sept. (JFC, DC) and Bewl Bridge Res./Burwash from 16 Oct. to 4 Nov. (many obs.).

115. **KESTREL** (*Falco tinnunculus*):—In the breeding season 66 occupied territories (based on a minimum of 3 records during Apr-Aug.) were recorded and there were reports from 50 more areas. Once again the records were plotted on maps and the average density of 303 hectares per pair indicated a population of 1,080 pairs, between the 2 estimates calculated in 1980. But this estimate is probably a little high, as MJR, in the course of detailed counts in NW Sussex, found the species rather scarce. Breeding success was better than for the previous 2 years, 15 pairs being known to raise 36+ young, an average brood size of 2.4+ and an increase of 33% compared with 1980; one pair is known to have failed.

Of the breeding season sites 40% were also found occupied in winter, when birds were seen in another 36 localities. Very few migrants were reported from the coast, with singles arriving at Selsey Bill on 4 and 19 Apr. and 11 Oct. only. Nine together at Cissbury on 7 Oct. was the largest autumn party noted.

118. **MERLIN** (*F. columbarius*):—One came in at Selsey Bill on 7 May (MJ, RML, MS), an unusually late date. Otherwise recorded until 26 Mar. and from 13 Sept., with a total of 15 birds during the year. Monthly totals were:

Jan.	Feb.	Mar.	Apr.	May	Sept.	Oct.	Nov.	Dec.
1	3	2	0	1	3	6	4	4

119. **HOBBY** (*F. subbuteo*):—Nine pairs were proved to breed, of which 5 raised 11 young and 2 failed. The average brood size of 1.37 represents a 20% decline compared with 1980, perhaps a reflection on the cold summer. Migrants at the coast were recorded as follows:

Apr.	May	June	July	Aug.	Sept.	Oct.
2	11	2	2	6	6	5

123. **PEREGRINE** (*F. peregrinus*):—Single birds at Udimore on 4 Jan. (DH, RGH), Beachy Head on 3 Nov. (RHC) and Seaford on the 8th (PJW) were the only acceptable records.

131. **QUAIL** (*Coturnix coturnix*):—Reported from one Downland locality from 22-25 June and from another on 24th but with no evidence of breeding; the species was also heard at Beachy Head on 2 July and in the Telscombe area on 19th and 24th.

136. **WATER RAIL** (*Rallus aquaticus*):—Reported from 21 coastal and inland localities during Jan-Mar., the species was apparently more widespread than usual though 3-4 on Brede Levels and up to 5 at Arundel Wildfowl Refuge were the largest number at any one site. On Pett Level 9 were estimated to have been present on passage during 5-6 Apr. (two were caught by cats) and the species was seen at 6 other localities during the month. Breeding season reports came from Strivens Reedbed where up to 4 were present during the

spring, and at Arundel Wildfowl Refuge where at least one remained until June. Two pairs were noted on Brede Levels throughout the summer but breeding was not proved, whilst on Glynde Levels one was seen on 1 June. The species was also recorded near St. Leonard's.

In Sept. reported from 5th onwards with a least 3 at Arundel Wildfowl Refuge, 4 in one Pett Level reed-bed and several at Runcion cross-beds. Slightly more widespread during Oct. to mid-Dec., the species was very much in evidence during the subsequent cold weather being reported from 18 localities. At Arundel Wildfowl Refuge 15-20 were estimated, including 6 caught, happily unharmed, in their mink-traps, and one confiding individual which frequented the main road in search of elderberries.

137. **SPOTTED CRAKE** (*Porzana porzana*):—An interesting group of records: one at Waltham Brooks NR on 13-16 Sept. (PJM, AS, IMS *et al.*), one at Arundel Wildfowl Refuge from 1st to at least 15th and 2 on 12th (RMB *et al.*).

141. **CORNCRAKE** (*Crex crex*):—One was seen near Vines Cross on 1 Sept. (NAD).

142. **MOORHEN** (*Gallinula chloropus*):—At Pagham Harbour breeding success was considered reduced by 30% on 1980 but at Rye Harbour LNR 5-6 pairs on the Ternery Pool bred 'with good success'. On Brede Levels the reported decline in 1980 continued and only 15 pairs could be found at the end of May, compared with 66 in 1979 (SxBR. 32: 26). At Higham 7 pairs laid over 80 eggs but heavy predation by *corvidae* left only 30 surviving young.

145. **COOT** (*Fulica atra*):—Max. counts reported were:

	Jan-Mar.	Oct-Dec.	Jan-Mar.	Oct-Dec.
Chichester GP	781	1332	Arlington Res.	91
Chichester Harbour	104	135	Bewl Bridge Res.	1406
Sidlesham Ferry	—	65	Barcombe Mills Res.	1515
Pagham Harbour	—	—	Weir Wood Res.	51
Arundel Wildfowl Refuge	—	—	Darwell Res.	53
/Swanbourne Lake	117	197	Langney Point	51
Burton/Chingford Ponds	31	—	Rye Harbour LNR	924
Knepp Lake	30	18	Pett Pools	450
Warnham Mill Pond	—	—		c.300

Breeding season counts included c.15 pairs on Chichester Canal, 8-10 pairs at Rye Harbour LNR, 28 pairs at Weir Wood Res. and c.36 pairs at Bewl Bridge Res. At Chichester GP there were 498 adults and 52 young on 18 July, a total of 827 by the end of Sept. and 1,051 during Oct. and Nov. During the hard weather in Dec. the count there rose to 1,332, and, unusually, small parties were found on at least three stretches of the R. Arun.

NOTE. WADERS. Readers are also referred to the estuary count tables on page 55. In the following notes the statistical device of moving averages is again used to demonstrate longer term trends, which may otherwise be obscured by short-term fluctuations. A 3-year period has been selected for this analysis and the moving average for 1972, for example, is obtained by adding the totals for 1971, 1972 and 1973 and dividing by 3.

151. **OYSTERCATCHER** (*Haematopus ostralegus*):—The Jan. and Feb. coastline wader counts produced totals of 2,125 and 1,815 respectively, compared with the respective 3-year moving averages of 1,922 and 1,743. Seawatchers at Worthing logged 401 E during Jan-May (189 in Apr. and 198 in May), an unusually high figure of uncertain significance.

At Rye Harbour LNR 11 pairs nested within the SSSI (9 within the fenced reserve) rearing 10 young to flying stage. At nearby North Point and Rye Marsh, 5 pairs bred but perhaps only 2 young reached maturity. A pair again took up temporary territory at Pett Level. Fourteen pairs nested at Pagham Harbour but predation was heavy (possibly by foxes) and only 8 young were reared. At two Chichester Harbour sites 3-5 pairs attempted nesting but 5 clutches were lost to flooding; another pair in a field also failed.

Summer counts of non-breeding birds at Rye reached 118 in June, 148 by 30 July and 450 by the end of Sept. The Oct-Dec. level of 500-520 showed some increase on 1980. In Chichester Harbour at least 300 summered. In the two western harbours the combined Oct-

Dec. totals were 1,574, 1,374 and 1,182 respectively and the coastline totals for the same period were 2,259, 1,919 and 1,878.

Away from the coast the only records were from Arlington Res. on 20 Mar. and Waltham Brooks NR on 31 July.

153. **AVOCET** (*Recurvirostra avosetta*):—In the Pagham Harbour area up to 3 were present through much of the year. In Apr. one E at Selsey Bill, and a party of 8 seen successively at Brighton Marina, Seaford Head and Beachy Head on 4th were apparently travelling at 62.5 kph (c.39 mph). Meanwhile a gathering of 11 at Sidlesham Ferry on 4-5th may have involved only 8 fresh birds and 9 were still there on 7th, when 4 flew E at Rye Harbour LNR. Later there were 2 E off Worthing on 22nd, one in the Cuckmere on 23rd, 4 briefly at Pett Level on 7 May and another E at Beachy Head on 8 May. In June 2 at Rye on 2nd, another E there on 3rd and one on 29th; by late June about 5 were present in the Pagham Harbour area.

In the autumn one at the Cuckmere on 5 July, one at Pett Level on 27th and 3 there on 3 Sept. There were no Oct. sightings but 3 were in Chichester Harbour on 8 Nov.—perhaps the Pagham birds—and 2 flew E at Goring on 21st. A single favoured the Cuckmere scrape during 14-17 Dec. but an unhappy note was sounded at Sidlesham, where one was found dead, suspectedly of a lung infection. All-in-all another interesting year.

154. **STONE CURLEW** (*Burhinus oedinenus*):—An early migrant passed NE over Selsey Bill on 4 Apr. One was heard at night passing over Rye Harbour on 15 June and one was noted at a western Downland locality on 19th. Also in the west a pair was present in the same area as 1980 (SxBR. 33: 22) but breeding was not proven.

156. **BLACK-WINGED PRATINCOLE** (*Glareola nordmanni*):—One at Sidlesham Ferry on 14 Oct. (RML, MS) was the second for Sussex and has been accepted by *British Birds*.

158. **LITTLE RINGED PLOVER** (*Charadrius dubius*):—First recorded in the Cuckmere on 3-4 Apr. and between then and 8 May, 17 were seen, at Bewl Bridge Res., Pett Level, Cissbury Ring (1 E), Sidlesham Ferry, Bognor, the Adur Levels (a pair), Arlington Res., Beachy Head (total 4), Goring and Chichester GP. There were no summer records.

Return passage was noted from 15 July to 25 Sept., involving 32-37 individuals at the coast, c.10 at Waltham Brooks NR and 3 at Arlington Res. Most movement occurred in July when not less than 22 were seen.

159. **RINGED PLOVER** (*C. hiaticula*):—The Jan. and Feb. coastline wader counts produced totals of 901 and 638 respectively, compared with the respective 3-year moving averages of 666 and 447. The high current counts are of uncertain significance.

During the breeding season some 81 pairs were reported. At Rye Harbour LNR the first young hatched on 19 May and 35 pairs were present by early June but subsequent cold weather reduced food supplies causing many losses amongst young, only about 30 being reared to flying stage. At Pagham Harbour first hatching came on 9 May and 37 young were reared by up to 35 pairs, from 42 nests, despite the attentions of local crows. At traditional sites elsewhere, 3-4 pairs took up territories at Newhaven (with unknown results), at least one pair bred (laying 4 eggs) in the Cuckmere and 2 pairs were present with no proof of breeding at Langney Point. At North Point, Rye, 3 pairs bred, 2 hatching 3 young each whilst at the new site at Brighton Marina a persistent pair lost 2 clutches of four but eventually hatched 2 young by 1 Aug. This year pairs were also located at Widewater and Patching. In Chichester Harbour, one pair at North Stakes Island lost 2 clutches, one of them to high tides, and gave up, whilst another pair attempted to breed in a spring wheat crop at South Chidham and was also unsuccessful.

Towards the end of the year the total counts for Ferring-Shoreham during Sept-Dec. were 166, 133, 149 and 139 respectively whilst the approximate respective counts for the whole coastline were 595, 395, 670 and 564. The Nov. and Dec. totals in the 2 western harbours were 439 and 292 compared with 206 and 275 in 1980.

161. **KENTISH PLOVER** (*C. alexandrinus*):—The only spring record was of one at Rye Harbour LNR on 23 Apr. (R. A. Kempster). One in the Shoreham/Goring area from 24

Oct. to early 1982 (JAN *et al.*) appears to be the first definite wintering record for the county although there are 2 records for Nov. (1947, 1949), one (of 2 birds) for Dec. (1963) and one for Jan. (1894).

163. **DOTTEREL** (*C. morinellus*):—One flew over Beachy Head on 17 Aug. (RHC) and singles were seen on the Downs at Steyning on 17 Sept. (CJF, MPH, ARK) and near Balsdean on 10 Oct. (GAS).

165. **GOLDEN PLOVER** (*Pluvialis apricaria*):—The Jan. and Feb. coastline wader counts produced totals of 3,139 and 774 respectively, compared with the respective 3-year moving averages of 1,545 and 1,458. Independent observations tended to confirm that some early departures had in fact taken place although at least 1,100 were still present at coastal localities in mid-Mar. At Selsey West Fields counts showed the timing of departures, 800 on 14 Mar., 250 on 28th and 120 by 4 Apr. The last spring reports were of singles at Pagham Harbour on 21 Apr. and off Worthing on 8 May.

More than usual appeared in Aug. After 2 at Pett Pools on 15th, 48 were found on Horse Eye Level and about 50 in Pagham Harbour on 22nd and 90 at the latter by 31st. On 31 Oct. the count at Selsey West Fields had risen to 300 but at least 1,000 were noted on Pevensey Levels. Some 1,500 were reported along the coast in Nov., but the Dec. situation was confused by emigration during the cold weather (e.g. 5 parties totalling 309 moving S over Upper Beeding in 21 minutes on 12th).

166. **GREY PLOVER** (*P. squatarola*):—The Jan. and Feb. coastline wader counts produced totals of 1,623 and 1,483 respectively, compared with the respective 3-year moving averages of 1,259 and 1,068.

More than usual were seen on spring passage at the usual coastal sites, particularly on 7 May; see tables on page 25/8 for full details. The only June reports this year were of singles at Rye Harbour LNR on 3rd and 28-30th.

In Aug. the high-tide roost at West Chidham consisted of 23, all adults, on 2nd, 724 adults and one other on 16th and 951, at least 90% adults, by 29th. At Pett Level the Nov. Nov. count was 40 and that in Dec. 50, whilst at Goring a max. of 105 was noted in Nov. and 140 on 25 Dec. In the 2 western harbours the combined totals for Oct-Dec. were 1,563, 2,093 and 1,971 respectively, compared with 2,130, 916 and 1,217 in 1980. Inland, 3 flew W over Buchan Park on 13 Dec.

169. **LAPWING** (*Vanellus vanellus*):—The Jan. and Feb. coastline wader counts produced totals of 12,448 and 2,963 respectively. The Jan. counts from 5 other sites totalled c.2,000.

Breeding season data received were as follows: Rye Harbour LNR, 30-35 pairs within the SSSI of 725 ha., results considered better than for the past 6 years and an unusual brood of 5 seen on 23 Apr.; Pett Level, 6-10 pairs on 260 ha.; Arundel Wildfowl Refuge, 5 broods hatched but few fledged; Brede Levels, 20 pairs on 875 ha. compared with 34 in 1980; continued drainage was considered the cause of this decline.

By 1 June at least 100 were gathered on Glynde Levels and 30 at Rye on 8th had increased to 150 by 28th, whilst, on Horse Eye Level, 100 on 10th had doubled by 27th. On 20th 300 were noted in the Cuckmere. The Nov. coastline wader count which excluded Pevensey Levels, where c.5,000 might be expected, totalled 6,174 and that in Dec. 6,412. Predictably some W weather movement occurred in the cold weather of late Dec.

170. **KNOT** (*Calidris canutus*):—The Jan. and Feb. coastline wader counts produced totals of 387 and 879 respectively, compared with the respective 3-year moving averages of 1,059 and 410 (see SxBR. 33: 64 for full Hampshire/Sussex harbours data which serve to explain the variations).

As with Grey Plover, visible spring passage was again more obvious than usual. Although the Selsey Bill total was only 42 E (max. 25 on 7 May), that at Worthing was 275 E (max. 257 on 7 May). At Brighton Marina the only record was of 10 E on 10 May (also seen at Southwick) but at Beachy Head 104 E were logged on 7 May. Some discrepancies are doubtless explained by the uncertainties involved in identifying high-flying flocks of this species.

At Rye Harbour LNR, where 3-4 were present through much of June, an individual with a damaged left wing, first noted in June 1980, remained until at least Aug. and was possibly that at Shoreham on 27 Aug. Small numbers were present in the Rye-Pett area throughout July and Aug., whilst at Pagham Harbour 3 were noted in June, 5 in July and 12 by 8 Aug. Elsewhere one appeared in the Cuckmere on 22 Aug., 9 at Shoreham on 23rd

and 2 at Chichester GP on 29th. Scattered records along the coast ensued during Sept-Nov. and 2 were seen at Bewl Bridge Res. on 18 Oct. The Nov. and Dec. counts in the two western harbours totalled 368 and 500 respectively.

171. **SANDERLING** (*C. alba*):—The Jan. and Feb. coastline wader counts produced totals of 480 and 487 respectively, compared with the respective 3-year moving averages of 420 and 401. The Ferring roost contained 130 on 23 Jan. and there were still 120 on 6 Mar. The Jan. count at Rye was usually 120.

Visible spring passage was, like the preceding species, more obvious than usual. At Selsey Bill, 393 E and 29 W were logged between 17 Mar. and 30 May and at Worthing 565 E were noted over a similar period. The peak movement occurred on 7 May. See also tables on page 25/8. On 28 Apr., 78 were seen at the high-tide roost at East Head.

During the summer the only records were of 5 in Pagham Harbour on 11 June and 4 increasing to 20 at Rye Harbour LNR from 18 July onwards. As in 1980 a rapid build-up in numbers took place at Rye during Aug., from 50 on 4th to 74 by 9th and 190 by 10th, but dropping back to 150 by 27th and only 50 by 5 Sept. with none by the end of the month. In the west at least 70 were at roost in Chichester Harbour on 18 Aug. and 174 by Oct. Coastline counts for Nov. and Dec. totalled 823 and 521 respectively.

175. **LITTLE STINT** (*C. minuta*):—An average year for the species with approximate monthly totals as follows:

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
—	2	—	—	3	—	5	14	46	11	2	4

The 2 in Feb. were in Chichester Harbour on 21st and the May records were of singles at Rye Harbour LNR on 7th, Newhaven on 8th and Sidlesham Ferry on 20th.

Autumn passage started with records from Waltham Brooks NR on 24 July, Sidlesham on 25th and 3 at Pett Pools on 27th. The season's total at the latter was about 19 and that at Sidlesham Ferry about 14 whilst up to 12 were present at Chichester GP during 15-28 Sept. Other records came from Widewater (2), Cuckmere (3), Chichester Harbour (2), Arundel Wildfowl Refuge (1) and Langney Point (1). The Dec. records were of 2 at North Point, Rye, on 13th and singles in Chichester Harbour on 12th and at Widewater on 28th.

176. **TEMMINCK'S STINT** (*C. temminckii*):—A party of 7 was seen at Sidlesham Ferry on 7 May (RML, NP-H, JVS) and although most extraordinary, such an occurrence appears not unprecedented (e.g. 7 at Halifax, Yorkshire, 1 June, 1939 and 8 on the Thames Marshes, Kent, 7 Aug., 1938). Three at Chichester GP on 9 May (MJH) may have been additional.

In autumn, two records came from Pett Pools, one on 23 Aug. (PFB) and a juvenile from 1-11 Sept. (PJG *et al.*)

178. **WHITE-RUMPED SANDPIPER** (*C. fuscollis*):—An adult at Sidlesham Ferry on 1-15 Aug. (MJWH, CRI, OM *et al.*) was the 7th for the county and has been accepted by *British Birds*. The last was in 1979.

179. **BAIRD'S SANDPIPER** (*C. bairdii*):—An adult at Widewater, Shoreham, on 18-19 Aug. (CJF, ARK, JAN *et al.*) was the 5th for the county and has been accepted by *British Birds*. The last was in 1978.

182. **CURLEW SANDPIPER** (*C. ferruginea*):—Approx. monthly totals were:

May	June	July	Aug.	Sept.	Oct.
2	1	6	61	38	4

On spring passage singles were seen at Rye Harbour LNR on 5 and 9 May and at Pett Level on 29 June.

Autumn passage came in two phases with a small flurry in late July (including 3 at Pett Pools on 29th-30th, up to 6 at Sidlesham Ferry by 1 Aug. and 2 at Waltham Brooks NR on 31 July to 2 Aug.). This was followed by a larger than average movement starting on 24 Aug. with up to 26 at Pett Pools by 28th, but 40 on the morning of 26th (RKH) and 7 at Sidlesham by 2 Sept. Remaining records came from the Cuckmere, Newhaven, Shoreham and Waltham Brooks.

183. **PURPLE SANDPIPER** (*C. maritima*):—The Jan. and Feb. coastline wader counts produced totals of 39 and 47 respectively, about average. The majority were, as usual at Newhaven where 33 were present from 23 Feb. to 5 Apr. Spring departures from that site spanned some 4 weeks, 24 on 6 May dwindling to 9 by 12th and the last 2 on 24th. On 7 May one passed E at Selsey Bill.

One was seen at Brighton Marina on 30 July (TJW), the county's first for that month though one was seen at Selsey Bill on 5 Aug. 1973 (*SxBR*. 26: 22).

First in autumn proper was one at Selsey Bill on 17 Sept. to be joined by another on 22nd whilst at Newhaven the first 2 were noted on 25 Oct. Arrivals there continued throughout Nov. with 26 by 15th and 28 by 6 Dec. There were again 33 by 27 Dec. and counts from elsewhere (10 at Selsey Bill, 3 at Goring/Shoreham, 5 at Brighton Marina and 2 at Langney Point) suggested a coastline total of 53.

184. **DUNLIN** (*C. alpina*):—The Jan. and Feb. coastline wader counts produced totals of 18,261 and 24,227 respectively compared with the respective 3-year moving averages of 21,741 and 15,992. A low Jan. count was registered in Chichester Harbour but the all-harbours total of 49,206 was well up to average (*SxBR*. 32: 67; 33: 64).

Although local movements tend to obscure evidence of coastal migration, 7 May provided unusual totals of 60 E at Selsey Bill and 147 E at Worthing. Gatherings of returning migrants were noted at the end of July with 40 in the Cuckmere by 28th and 36 at Pett Pools on 29th rising to 102 by 7 Aug. and 145 by 9th.

By Oct. the total in the two western harbours was 4,272, followed by Nov. and Dec. counts of 14,579 and 26,003, about average despite evidence of considerable coastal movements from the east between mid-Oct. and mid-Nov.

188. **RUFF** (*Philomachus pugnax*):—The highest count at Sidlesham Ferry during Jan. was of at least 200 on 20th but 350 were estimated on 25 Feb. and at least 250 still on 7 Mar. Only 90 were to be counted on 15 Mar. A party of 20 flying inland over Littlehampton on 27 Mar. may have also departed from Sidlesham. Approx. monthly totals for the year were:

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Birds.....	200	350	250	10	6	1	75	165	98	99	81
Localities.....	1	2	2	4	2	1	3	5	4	2	5

During the spring a pair loitered on the levels at Henfield on 15-21 Apr. and a full-plumaged male stayed at Sidlesham Ferry from early May to the end of June.

At Pett Level the species was present from 23 July to 5 Oct., with up to 36 in the area from 10 Aug. to 12 Sept. In the meanwhile 70 had arrived at Sidlesham Ferry by 14 July, the count remaining the same to the end of the year.

189. **JACK SNIFE** (*Lymnocyrtus minimus*):—Records were received from 12 coastal localities and Glynde Levels. The minimum monthly totals were:

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
7	8	12	5	4	6	10					

Although mostly found in ones and twos, up to 9 were present in the Cuckmere during Jan-Apr. and 5 again in Dec., unusually large numbers for this locality.

190. **SNIFE** (*Gallinago gallinago*):—The Jan. and Feb. coastline wader counts produced totals of 1,827 and 368 respectively compared with the respective 3-year moving averages of 824 and 1,164. Among occasional counts elsewhere up to 100 were present at Arundel Wildfowl Refuge during Jan-Mar., about 250 at Greatham Bridge in Feb. and, on Brede Levels, 80 in Jan., suddenly increasing to 300 in early Mar. A large increase in Mar. was also noted at Pett Levels as the count rose from 100 to 220, probably due to passage migrants.

The 2 years of the Society's breeding survey revealed a total of about 86 pairs or territories. A full report appears on page 65.

In autumn at least 300 were present on Manxey Level by the end of Oct. and 200 were noted on the levels at Upper Beeding in Oct. The Nov. count on Pett Level was 250. In Dec.

figures from 13 mainly coastal localities totalled 2,082 possibly reflecting the effect of the cold weather.

194. **WOODCOCK** (*Scolopax rusticola*):—A note on the present breeding distribution, together with an up-dated map, appears on page 82.

195. **BLACK-TAILED GODWIT** (*Limosa limosa*):—The Jan. and Feb. coastline wader counts produced totals of 898 and 361 respectively compared with the respective 3-year moving averages of 366 and 365. The high Jan. count was due to the presence in Chichester Harbour of much of the Langstone Harbour population (see *SxBR*, 33: 64). Elsewhere the only winter records were of singles at Amberley Wild Brooks on 17 Mar. and Pett Level on 18th.

Spring passage was indicated by a party of 8 W at Worthing on 1 Apr., 7 on Amberley Wild Brooks on 27 May and 5 E at Rye Harbour LNR on 10th. At Sidesham Ferry 25 in Apr. dwindled to 7 in May but returned to 15 by 16 June and 80 by 1 July.

About 140 roosted at West Chidham throughout Aug. and 104 were noted at Sidesham on 1 Aug. Up to 5 frequented Pett Level during the month and until 19 Sept. with up to 3 at Waltham Brooks NR and one in the Cuckmere. At Chichester GP 15-21 were present during 13-15 Sept. The Sept. count in Chichester Harbour was 500 and the combined Oct-Dec. counts for the two western harbours totalled 849, 476 and 426 respectively, compared with 1,234, 812 and 400 in 1980.

196. **BAR-TAILED GODWIT** (*L. lapponicus*):—The Jan. and Feb. coastline wader counts produced totals of 540 and 706 respectively compared with the respective 3-year moving averages of 919 and 745. As usual the vast majority were in Chichester Harbour.

Visible spring passage was well below average with totals of only 1,829 E at Worthing and 1,110 E at Brighton Marina (see tables on page 25/8 for full details). Inland a party of 8 flew E over West Chiltington on 7 May.

During the summer months 1-2 were present at Rye Harbour LNR and one in Pagham Harbour. The Sept. count in Chichester Harbour stood at only 185 compared with 826 in 1980 and the Oct-Dec. counts for the two western harbours were also rather low at 453, 169 and 552 respectively.

198. **WHIMBREL** (*Numenius phaeopus*):—First for the year were one in Pagham Harbour on 21 Feb. and 2 in the Cuckmere on 23rd, an interesting coincidence as Shrubbs (1979) could quote only 3 earlier (wintering) records. More typical were migrants at Worthing on 28 Mar. and Selsey Bill on 30th, after which passage continued generally uneventfully (see tables on page 25/8 for full details).

During the summer months, 7-9 were present in Chichester Harbour. Two were in Pagham Harbour on 19 June, 2 flew SW over Bewl Bridge Res. on 22nd and singles visited Rye Harbour LNR on 7th and 22nd. The species was widely noted in small numbers on return passage throughout July, parties of 11 calling in at Amberley Wild Brooks on 11th and Pett Level on 24th. Larger groups noted in Aug. included 44 in Pagham Harbour on 1st, 25 there on 4th, 15 S near Tunbridge Wells on 9th, 19 SW over Chichester Harbour on 15th, 23 at roost at West Chidham on 18th and 15 on Amberley Wild Brooks on 26th. Sept. brought 11 records of 1-4 birds including one lingering at Newhaven from 12th to 29th. The last for the year were in Pagham Harbour on 11 Oct. and 2 there on 18 Nov.

199. **CURLEW** (*N. arquata*):—The Jan. and Feb. coastline wader counts produced totals of 2,530 and 1,536 respectively, compared with the 3-year moving averages of 1,129 and 1,637. The high Jan. count was due to 1,810 in Chichester Harbour, which had *not* shifted from Hampshire (see *SxBR*, 33: 64). The Chichester/Pagham Harbours total of 2,001 exceeded the previous highest Jan. figure by c.500. In spring a gathering of 274 at West Chidham on 9 Apr. had all moved on by the 19th. The Apr. max. at Pett Level was 300, dropping to 50 in June.

Two pairs held territory in the county during the breeding season, one in the Chapel Common area and one on Ashdown Forest. Neither was proved to breed. There were 2 records of downland feeding, one near Lewes on 27 June and 7 below Lychpole Hill on 30 Aug.

The Stakes Island roost in Chichester Harbour stood at 170 by 21 June, rising to 450 by 7 July, 800 by 17th and 865 by 16 Aug. The roost within the beach reserve at Rye Harbour increased to a max. of 300-500 by 15 July but the Pett Level count remained at 100-150 until Aug. By Sept. 2,119 were gathered in Chichester Harbour and the Oct.-Dec. coastline counts totalled 1,913, 1,777 and 1,859 respectively, considerably higher than in 1980.

201. **SPOTTED REDSHANK** (*Tringa erythropus*):—The approximate monthly totals were:

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
4	3	3	7	—	3	11	71	15	10	11	4

Three were in the western harbours during Jan-Mar. and another wandered the east of the county during Jan. Apr. migrants included 2 on the levels at Henfield on 15th, one at Greatham Bridge on 17th and one at Weir Wood Res. on 29th. The Aug. total included 55 in Chichester Harbour on 15th and one at Bewl Bridge Res. on 19-22nd. Up to 4 appeared at Pett Pools during the month and one was at Weir Wood Res. on 31st. The Sept. count in Chichester Harbour was only 7 but 10 were found there in Nov.

202. **REDSHANK** (*T. totanus*):—The Jan. and Feb. coastline wader counts produced totals of 2,305 and 1,683 respectively, compared with the respective 3-year moving averages of 1,525 and 1,714.

In the 2 years of the Society's survey, 212 pairs were found breeding in the county. See page 65 for a full report.

Autumn counts revealed 2,076 in Chichester Harbour and 474 in Pagham Harbour in Sept.; the Oct.-Dec. totals for both harbours were 2,046, 2,605 and 1,518 respectively, all well above average. At Rye Harbour LNR the autumn max. was 163 in Nov.

204. **GREENSHANK** (*T. nebularia*):—The approximate monthly totals were:

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
4	4	2	22	13	5	59	200	169	62	17	5

All Jan-Mar. records were from the western harbours. On 30 Apr. a party of 9 was seen departing N from the Cuckmere. The July total included up to 30 in Chichester Harbour, 7 in Pagham Harbour and 4 in the Cuckmere. One was seen at Langton Green SF on 14-15th. The Aug. total, which included 143 in Chichester Harbour on 15th (the highest count ever) was in itself unprecedented and good numbers were reported from all parts of the county. There were still 115 in Chichester Harbour in Sept., 36 in Oct. and 16 in Nov. It might be speculated whether the high numbers reflected a national situation—or merely good feeding in Sussex!

208. **GREEN SANDPIPER** (*T. ochropus*):—Reported throughout the county in slightly lower numbers than in 1980, with the following monthly totals:

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
9	8	8	11	2	10	35	75	23	8	8	10

The July-Oct. total of 141 and the annual total of 207 put the respective 1980 moving averages at 160 and 232.

209. **WOOD SANDPIPER** (*T. glareola*):—The approximate monthly totals were:

Apr.	May	June	July	Aug.	Sept.	Oct.
—	—	—	4	19	4	—

Return passage started early with singles at Greatham Bridge on 1 July (and possibly the same in that area until 16th) and at Sidesham Ferry on 8th. In Aug. 3-4 were in the Selsey/Sidlesham area, up to 3 at Waltham Brooks NR and similar numbers at Pett Pools where 2 were still to be seen on 16 Sept. The last was at Waltham Brooks on 20 Sept.

211. **COMMON SANDPIPER** (*Actitis hypoleucos*):—The approximate monthly totals were as follows:

Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct. Nov. Dec.
 1 1 2 20 65 3 64 152 44 13 3 2

Overwintering individuals were seen at Piddinghoe Lake in Jan., Rye in Feb. and the Cuckmere and Littlehampton in early Mar. The first spring migrants were 2 at Bewl Bridge Res. and one at Pett Pools on 8 Apr. but passage thereafter was generally thin, the only features being 7 at Barcombe Mills Res. on 4 May, at least 5 at Buchan Park and 7 in the Cuckmere on 7th and 8 on Pevensey Levels on 13th. The June records were of a single at Rye Harbour LNR on 3rd and 2 in the Cuckmere on 27th.

In July there were 9 in Pagham Harbour and 13 in the Cuckmere by 13th and 14 at the latter on 26th. Aug. maxima were of 8 at Arlington Res., 12 at Langney Point, up to 20 in Chichester Harbour, 13 at Chichester GP, 15 at Pett Pools and, at Rye Harbour LNR, a splendid flock of 29 on 15th. Sept. was generally featureless but for a count of 9 along the lower Ouse on 9th and 7 at Chichester GP on 20th, at least 4 remaining to 27th. Oct. records came from 6 localities and included an unexpected 7 in the Cuckmere on 2nd. Two on the Rother at Rye on 14-15 Nov. were unusual and one at Piddinghoe on 23rd was doubtless thinking of wintering. The Dec. records were from Nutbourne on 24th and Widewater from 27th onwards.

213. **TURNSTONE** (*Arenaria interpres*):—The Jan. and Feb. coastline wader counts produced totals of 410 and 484 respectively, compared with the respective 3-year moving averages of 547 and 539, thus rather low but similar to 1978. At Pett Level, where the Jan. and Feb. figures were 200 and 220, the Mar. count rose to 300 but dropped back to 100 in Apr. Visible spring migration was insignificant this year.

In June up to 8 were present at Rye Harbour LNR, and the count had increased to 35 by 23 July after which the birds moved, as usual, to Pett Level. There the Aug-Oct. counts were 70, 91 and 100 respectively whilst the Sept. count in Pagham Harbour was 353. Approximate coastline totals for Oct-Dec. were 404, 649 and 736 including 231, 324 and 419 in the two western harbours.

215. **RED-NECKED PHALAROPE** (*Phalaropus lobatus*):—A juvenile at Pett Pools from 27 Sept. to 3 Oct. (AJG, PWR *et al.*).

216. **GREY PHALAROPE** (*P. fulicarius*):—Autumn brought an unusual flush of records following a quirk of North Atlantic weather which, at the outset, brought 200 to the Isles of Scilly by 23 Sept.—but one to Shoreham Harbour the day before! At least 6 were in Sussex by 27th and 12 were found on 10 Oct. The last was at Shoreham on 17th. Records were as follows, all single birds unless otherwise stated. Rye Harbour LNR, 26 Sept. to 11 Oct., 2 on 4-8 Oct.; Pett Pools, 29 Sept. and 4-7 Oct.; Langney Point, 27-29 Sept., 3-4 Oct. with 2 on 3rd, and 9-10 Oct., possibly only 2 birds involved; Cuckmere, 27 Sept., 3 on 10 Oct. and 2 on 11th; Shoreham, 22 Sept., possibly others on 30th, 10 and 17 Oct.; Worthing 10 Oct. (2); Pagham Harbour, 27 Sept., 5 Oct., 10 Oct., possibly 3 birds; Selsey Bill, 24 Sept., 2 on 27th, another on 4 Oct. and 3 on 10-11th; Bracklesham Bay, 4 Oct., Chichester Channel, 5 Oct. About 28 individuals may have been involved, the largest influx into Sussex since 1960, when c.60 occurred.

217. **POMARINE SKUA** (*Stercorarius pomarinus*):—As in 1980, weather conditions brought unusual numbers within sight of the Sussex coast, where a total of c.163 flew E during 3-15 May. There was a major movement on 7 May when, at Beachy Head, 102 were recorded in flocks of 7, 6, 12, 36, 11, 14 and 16. A flock of 44 loitering off Hove during the early morning apparently broke up, elements thereof spending much of the day resting at various points along the coast, so that, of a further 21 sightings, only 5 NE and 2 E at Brighton, 7 E at Hove and 10 E at Selsey Bill appear, from the times noted, to be additional to the Beachy Head count, making a total of 126 for the day. See the tables on page 25/8 for details. Sea-watchers are also referred to a paper on the spring migration of this species in *Irish Birds* 2; 73-79 (1981).

218. **ARCTIC SKUA** (*S. parasiticus*):—First recorded at Selsey Bill and Worthing on 10 Apr. There were many observations along the coast but collation is impossible. However the

SELECTED SEA WATCH DETAILS, SELSEY BILL, SPRING 1981

Date	Hours Watching	Wind	Divers (all)	Eider	Common Scoter	Velvet Scoter	R. B. Merganser	Grey Plover	Sanderling	Bar-tailed Godwit	Whimbrel	Pomarine Skua	Arctic Skua	Little Gull	Sandwich Tern	Common/Arctic Tern	Little Tern	Black Tern	Auk sp.	
APRIL 7	8½	NE SW	2	8	27	104	1	29	1	1	1	1	1	1	1	1	1	1	1	1
12	10	NE SW	3	15	6	13	19	68	1	12	4	1	1	1	63	2	1	1	1	1
18	8½	NE SE	4	6	2	54	1	1	1	14	1	1	1	1	121	42	10	1	1	1
24	8	SE	6	13	2	5	1	1	1	1	1	1	1	3	316	12	13	1	1	1
25	9½	E	4	55	5	10	21	55	15	1	1	1	1	1	99	147	20	1	1	1
26	8½	NE	4	5	9	5	1	1	1	1	1	1	1	1	26	14	1	1	1	1
28	3½	NW	2	3	1	2	1	1	1	1	1	1	1	1	92	1	3	1	1	1
29	4½	NW	3	10	37	12	3	11	7	1	1	1	1	1	42	8	8	110	7	1
MAY 2	8	E	4	4	66	11	3	4	6	1	1	1	2	1	60	8	8	1	1	1
3	8	W	5	10	1	3	4	4	6	2	1	1	2	1	80	31	9	1	1	1
4	11½	NW	4	1	4	2	9	190	2	5	1	1	8	4	17	1	47	1	1	1
5	10	E	3	6	2	3	9	16	2	169	5	6	6	1	86	205	86	42	2	1
7	15	E	4	16	630	22	11	3	3	24	8	3	20	9	205	75	1035	74	1	1
8	15	S	3	17	142	28	5	3	3	18	1	3	12	10	188	1035	220	36	1	1
9	15	E	3	5	246	6	5	1	5	14	1	1	6	7	94	241	43	18	2	1
10	12	S	2	6	25	6	1	1	1	14	1	1	1	1	94	241	43	4	1	1
11	11	N	3	1	44	1	2	1	1	12	30	1	1	2	105	226	39	44	6	1
12	12½	E SW	5	14	2	6	1	1	1	12	1	1	1	1	69	226	39	44	6	1
13	9½	E SW	5	9	31	6	1	1	1	14	1	1	1	1	43	103	28	44	4	1
16	8	S	6	8	29	6	1	1	1	2	1	1	1	1	74	84	18	44	4	1
17	7	S	6	3	68	6	1	1	1	1	1	1	1	1	90	59	63	44	4	1
18	8	SE	6	8	1	68	1	1	1	2	1	1	1	1	90	59	63	44	4	1

17 adults and 2-3 juveniles on 10th and 48 adults and 25 juveniles by 16th. The intentions of 2 flying N up the Cuckmere on 24 Aug. remain obscure. On 9 Sept. one flew S over Bewl Bridge Res. and 60 W in one hour were noted at Shoreham. The Selsey Bill total for Aug-Oct. was 111 E and 476 W with a max. of 105 W on 21 Sept. Half of 12 records in Oct. fell on 17-19th and the last for the year were in fact 2 at Worthing on 19th.

246. **ROSEATE TERN** (*S. dougallii*):—On 7 May 2 E were seen at Hove and 1 E at Worthing, followed by one at Widewater on 11th, another 2 E off Hove on 16th and one off Eastbourne on 22nd. At Rye Harbour LNR, 2 adults were noted on 7 May, an adult on 7 July and an adult and a juvenile on 8th.

247. **COMMON TERN** (*S. hirundo*):—At Chichester GP the first birds appeared on 15 Apr. and a survey of the Society's rafts on 5 July revealed the presence of 11-13 pairs, 18 live young, 3 dead young, and 5 clutches of 3 eggs still to hatch, plus 3 "odd" eggs; on 18th, 28 adults and 12 young were present. In Chichester Harbour it was 28 Apr. before the first 3 pairs arrived and at one of the 2 neighbouring sites 13 nests containing 21 eggs on 21 May were washed out by tides on 2-6 June. On 18 June a further count showed one nest containing one egg at this site together with 65 nests containing 152 eggs and 22 young at the other. In all it was estimated that 100 young fledged.

At Rye Harbour LNR the first birds appeared on 12 Apr. and 14 were present by 26th. On 30th May some 70 pairs were present, including 62 incubating and by the end of June 90-95 pairs were nesting. Eventually some 70-80 young were fledged. On 27 June a pair was found holding territory at Scotney Court GP on the Kent boundary.

248. **ARCTIC TERN** (*S. paradisaea*):—As usual few identifications were made in the spring. On 6 Aug. an adult appeared in Newhaven Harbour after strong winds and on 9-10th an adult and a juvenile were noted at Littlehampton. A juvenile was seen at Rye Harbour LNR on 5 Sept. and in Oct. 2 were in Emsworth Channel on 1st, one at Shoreham on 4th and one at Tarring Neville, near Newhaven, on 6th.

247/248. **COMMON/ARCTIC TERN** (*S. hirundo/paradisaea*):—The first for the year were singles at Beachy Head on 21 Mar., Brighton on 29th and Chichester GP on 30th. At Selsey Bill the first migrants noted were 2 E on 11 Apr. and the spring total there was 8,328 E and 44 W, of which 6,713 passed between 7-12 May. Numbers elsewhere were lower. The main movements are detailed in the tables on page 25/8.

On 11 June 75 were noted feeding off Selsey Bill and on 14th 2 appeared 6 miles inland on Brede Levels. Autumn passage was generally uneventful. There were only 7 records in October, the last for year being 2 at West Chidham and one off East Head on 18-19th.

251. **LITTLE TERN** (*S. albigrons*):—First in spring were singles at Rye Harbour LNR on 4 Apr. and off Seaford Head on 8th. At Selsey Bill a very high figure of 971 E was logged between 12 Apr. and 31 May, peak 220 E on 9 May. The possibility that locally feeding birds were involved, despite careful observation, cannot be excluded as the season's totals elsewhere were Worthing 404 E, Brighton Marina 71 E and Beachy Head 101 E. For full details see tables on page 25/8.

At Rye Harbour LNR it was a successful breeding season and 59 pairs reared 45 young to flying stage. An interesting behavioural aspect was that the mates of night incubating birds roosted up to 0.75 Km away from their nests perhaps with the intended effect of reducing activity within the colony which might attract the attention of predators. In the west of the county 2-3 pairs in June and up to 6 in July showed signs of nesting at any of 3 sites in Chichester Harbour but in the end none did. In Aug., 145 appeared in the Harbour (10% juveniles) possibly on dispersal from the Langstone Harbour colony. A total of 68+ pairs at Paghams Harbour had a disastrous year due to predation, only 10 young being known to have been raised.

Autumn passage was uneventful but for one inland at Bewl Bridge Res. on 26 Sept. The last for the year were 2 in Paghams Harbour on 4-7 Oct. and 3 there on 12th.

253. **BLACK TERN** (*Chlidonias niger*):—The first for the year was a very early record at Bewl Bridge Res. on 8 Apr., the next being at Goring on 18th. The main spring passage occurred between 7 and 20 May, see the tables on pages 25/8 for details. The only inland records were of 2 at Weir Wood Res. on 7th and 3 on 9th.

June records were of 2 at Rye Harbour LNR on 15th, 3 there on 25th and 2 on 27th, when there was also one at Sidlesham Ferry. In July single birds at Rye on 11th and 18th, Shoreham on 18th and 8 at Weir Wood Res. on 31st. During Aug. some 24 were reported, mainly between 8-14th and 26-31st, whilst in Sept. the total was about 38 from 12th onwards. After 6 at Paghams Harbour on 1 Oct. and 2 at Ardingly Res. on 2nd the last for the year were singles at Darwell Res. on 7th and in the Cuckmere during 6-12th, which may have been at Langney Point on 1-5th.

254. **WHITE-WINGED BLACK TERN** (*C. leucopterus*):—Two records of summer-plumage individuals, at Bewl Bridge Res. on 3 May (AL) and Rye Harbour LNR on 15, 20 and 21 June (LMC, MLC, WBM *et al.*) constituted the 29th and 30th records for the county and have been accepted by *British Birds*.

255. **GUILLEMOT** (*Uria aalge*):—Reported from various coastal localities as follows:

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Dead	1	—	—	—	—	—	—	—	—	—	—
Oiled	12	5	—	—	—	—	—	—	1	—	8
Dead & Oiled	24	8	4	—	1	—	—	—	—	—	1
Others	33	5	5	4	9	1	—	—	—	6	6

See also Auk Species.

257. **RAZORBILL** (*Alca torda*):—Reported from various coastal localities as follows:

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Dead	—	—	—	1	—	—	—	—	—	—	—
Oiled	—	—	—	—	—	—	—	—	—	—	2
Dead & Oiled	—	—	—	—	—	—	—	—	—	—	1
Others	3	3	3	—	19	2	—	1	1	39	26

See also Auk Species.

260. **LITTLE AUKE** (*Alle alle*):—All of 3 records came from Selsey Bill, singles on 25 Oct. (DS, JH), 29 Nov. (RML) and 13 Dec. (CRJ).

261. **PUFFIN** (*Fratercula arctica*):—One flew E at Beachy Head on 17 May (DC, JFC).

AUK SPECIES:—Spring movements at Selsey Bill totalled 18 E and 33 W during Apr-May whilst at Worthing 8 were noted in Apr. and 26 in May. At Brighton Marina 36 E were logged during 29 Mar-19 May and at Beachy Head the total was 187 E (see tables on page 25/8 for details).

Towards the end of the year good numbers were again present off the Worthing coast, 21 being recorded in Oct., 81 in Nov. and 167 in Dec. Actual numbers may have been lower as parties of birds pursued shoals of sprats up and down the coast. Even so some movement to E took place in late Dec. with 32 E at Worthing on 20th, and 44 E in 2 hours off Brighton Marina on 28th (*c.f.* Diver species, Gannet, Kittiwake).

For the second year running the breakdown in the figures for the 2 main species suggested an apparent avoidance of the oil hazard by Razorbills in comparison with Guillemots. It should be added that the month-by-month totals of "others" in no way represents the true status of auks off the coast at the time as the spring sea-watch totals clearly demonstrate.

264. **STOCK DOVE** (*Columba oenas*):—Winter and other flocks reported included 70 at Kithurst Hill, 20 at South Heighton and 32 near Lewes in Jan., 45-50 at Rye Harbour LNR in Feb. and 30 at Shillingale, 37 on Lullington Heath and 50 near Cissbury Ring in Mar. On Brede Levels a gathering of 102 in early Jan. later increased to 180, fell back to 106 by 8

Feb. and 46 by 22 Mar.; none was found in Apr. At the end of the year a flock of some 400 was seen near Glynde. Regular observations by DEM during the breeding season also showed the species to be particularly common in that area. For breeding season data from defined areas see tables on page 42.

266. **COLLARED DOVE** (*Streptopelia decaocto*):—At Rye Harbour LNR the gathering at the Harbour Farm grain store reached no more than 15-20 during the winter months and the only other significant parties reported were of 55 near Loxwood in Jan., 120 near Barcombe Mills Res. in Nov. and 30 near Lurgashall in Oct.

267. **TURTLE DOVE** (*S. turtur*):—First in spring was an early arrival at Church Norton on 2 Apr. followed by further singles at Beachy Head on 12th and near Lewes and Litlington (2) on 15th. One was in territory at Milland by 22nd and the species was generally widespread by 27-28th. Unusually marked immigration was noted at Pett Level during 8-10 May with a peak of 46 E in $\frac{1}{2}$ -hour on 10th.

Breeding season counts of pairs or singing males in defined areas appear in the tables on page 42. Elsewhere the species was commented upon as particularly scarce in the NW, pairs being found only at Milland, Northchapel and Rogate.

During Aug. parties of 40 and 35 were present at Chichester GP and Selsey respectively, 3 remaining at the latter until 13 Sept. Apart from one at Shoreham on 12 Oct. all other reports came from Beachy Head with 7 on 21 Sept. and singles on 9 Oct. and 8 Nov.

271. **CUCKOO** (*Cuculus canorus*):—First recorded in spring from Fernhurst and Bewl Bridge Res. on 9 Apr., swiftly followed by singles at Bexleyhill and Henley on 10th, Beachy Head and near Horsham on 11th and at Rye Harbour LNR on 12th. The species was widely reported by 20th and arrivals were still taking place at the end of the month—notably one seen arriving from the sea at Selsey Bill on 29th.

Records of territories held during the breeding season were well down on 1980 figures, with specific reports of lower numbers around Lewes and only 2 males at Buchan Park, Crawley. Eggs and a juvenile were found in Linnet and Dunnock nests respectively and the first flying juvenile reported was at South Chidham on 9 July. Autumn migrants were reported throughout Aug. and early Sept., the emphasis latterly shifting to coastal localities, the last being seen in Chichester Harbour on 20 Sept.

274. **BARN OWL** (*Tyto alba*):—The figures of 18 proven and 4 probable breeding pairs compared favourably with 1980 (14 and 18 respectively). There was a marked increase in breeding season singles from 23 to 31, whilst 18 young fledged as against 16 in 1980. Isolated winter records increased from 10 to 17. It seems evident that the commoner owl species are still under-recorded and it is to be hoped that the article on the Barn Owl published in the 1980 Sussex Bird Report will encourage more observation on these species. The Bosham nest-box pair was again successful and only one road fatality was reported.

279. **LITTLE OWL** (*Athene noctua*):—A slight but encouraging increase to 41 known and 17 probable breeding pairs, raising 23 young from 11 sites. On the debit side however, 4-5 pairs at Rye LNR were held responsible for the demise of 20 adult Little Terns. There were 37 singles recorded elsewhere in the breeding season and 14 casual winter records, both figures almost identical with 1980. Coverage was again extensive.

280. **TAWNY OWL** (*Strix aluco*):—75 pairs or calling birds were reported from 55 localities in the breeding season, a slight but not significant decrease from the previous year's 89 pairs. Known breeding success however was halved, 11 pairs raising 21 young as against 22 pairs with 34 young in 1980. Fourteen singles were reported from other areas during the breeding season and a further 14 were noted in 9 areas in winter. Coverage was widespread across the county.

281. **LONG-EARED OWL** (*Astio otus*):—A bad year for the species. In Jan-Mar. only 1-2 were found at each of two traditional Downland roosting sites and in Nov-Dec. again 1-2 at

one of these and one other. Otherwise the only reports were of singles at two eastern localities in June, Sept., and Nov.

282. **SHORT-EARED OWL** (*A. flammeus*):—Approximate monthly totals were:

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
5	9	11	6	2	—	—	1	3	11	10	17

The low figures at the start of the year continued those of 1980 (S&BR, 33: 41). The Jan-Mar. totals included up to 5 at Rye Harbour LNR. Two were at a western site in Apr. with further sightings there in May and Aug. though only of one bird. The cold weather in Dec. doubtless brought some more into the county and up to 5 were again seen at Rye.

284. **NIGHTJAR** (*Caprimulgus europaeus*):—First recorded at Stanstead Forest on 26 May and last seen on 20 Oct., when one was killed by a cat near Friston. The species was the subject of a national breeding census in 1981 and full details for Sussex appear on page 75.

289. **SWIFT** (*Apus apus*):—First recorded in spring at Selsey Bill on 26 Apr., Horsham on 30th and Brighton Marina on 1 May. Scattered arrivals followed up to 6 May but that night and throughout 7th a huge arrival took place, apparently consisting of most of the breeding population (as it did at least as far north as Lancashire) though further arrivals continued to at least 9th.

The breeding season was apparently uneventful. However, at Rye Harbour LNR, RCK noted with interest the night roosting habit of the species, flying out to sea at dusk and returning at dawn, involving some 200-300 in late May and 500-800 in late July. On 6 June some 2,500 were noted feeding over the pits there.

At Selsey Bill the first emigrants were reported on 11 July and by 28th the last had left Crowhurst and the last left the Storrington colony on the night of 30th. By 5 Aug. 500 were gathered at Pagham Harbour and the last was seen at Bewl Bridge Res. on 10th. In Sept. only 9 reports ensued, with singles at Pett Level and Langney Point on 13th and East Grimstead on 21st. Two flew south over Buchan Park on 3 Oct. and the last were coincidental reports of possibly the same individual consorting with House Martins at roost at an Eastbourne hotel on 23rd and over Bexhill on 24th.

291. **ALPINE SWIFT** (*A. melba*):—One at Portobello on 9 May (MJH, ARK, SCJ) was possibly that at Beachy Head on 8th (MJH). Another at Beachy Head on 25 May (MEC, RHC). All three records have been accepted by *British Birds*, making at least 16 records for the county.

293. **KINGFISHER** (*Alcedo atthis*):—In Jan. and Feb. about 27 were reported from 5 coastal and 19 inland localities. During the breeding season the species was present at 32 known or potential breeding sites although breeding was proven at only 6. At the end of the year 53 birds were reported from 13 coastal and 25 inland localities.

All records, at any season, are still required.

295. **BEE-EATER** (*Merops apiaster*):—A widespread incursion into Britain in late May brought two to Sussex, one at Winchelsea Beach on 25 May (R.D. & Mrs S. Cumming and family) and one at Beachy Head the following day (MEC, RHC). Both records have been accepted by *British Birds* and constitute the 10th and 11th for the county (apart from the breeding records in 1955). The last record was in 1969.

297. **HOPOE** (*Upupa epops*):—Five records all fell in Apr., singles at Selsey Bill and near Laughton Place, Ripe on 9th; at Beachy Head on 12-14th; Church Norton on 17-21st and in Dover Woods, Poling, on 26-27th.

298. **WRYNECK** (*Jynx torquilla*):—A good autumn, the total of 24 being well above recent showings. The first was at Pease Pottage on 25 Aug. followed by singles at Beachy Head and Goring on 29th, the latter being killed by a cat. One at Rye Harbour LNR and one trapped at Beachy Head on 30th preceded a small surge of reports in early Sept.

Beachy Head saw another on 4th and singles appeared at Pett Level on 5-8th. Fairlight on 5-18th, Seaford Head on 5th, Birling Gap on 5-7th, Winchelsea on 8th; Rye Harbour LNR on 5th and 10th, Hollingbury on 8th and 2 at Slinfold on 5th. Inland gardens often seem favoured by this species in autumn and birds at Infield, Hassocks and East Preston all remained a few days. Later in the month one was at Church Norton on 15th and 22nd, another at Rye on 22nd and others at West Beach, Littlehampton and Beachy Head on 29th. Oct. reports involved another dead bird, this time in the Cuckmere on 5th, a healthier creature being seen feeding on Wood Ants at Buchan Park also that day. Finally the Beachy Head individual was last seen on 11th.

300. GREEN WOODPECKER (*Picus viridis*):—On 23 Apr. one arrived from the south at Brighton Marina and landed on the cliff-top.

Records received for the year suggested that the species was widely scattered throughout the county but it remains difficult to make any assessment of status or population trends. Thus, counts are required for large, defined areas at any season.

Perhaps rather unusually, one of a pair feeding on a lawn at Heath Common was attacked by a Sparrowhawk but eluded capture.

302. GREAT SPOTTED WOODPECKER (*Dendrocopus major*):—Records received confirmed that the species remains widespread throughout the county and often visits suburban gardens, particularly during the winter months. Reports from localities previously studied in 1980, including Fore Wood NR, West Chillington, Heath Common, Buchan Park and Horam suggested a possible 20% decrease in populations. In the autumn possible migrants were seen at Beachy Head on 20 Sept. and 11 Oct.

303. LESSER SPOTTED WOODPECKER (*D. minor*):—There were noticeably fewer reports than in recent years. During the breeding season the species was reported from only 22 localities but at other seasons from a further 25, many of which would have been suitable breeding areas.

310. WOODLARK (*Lullula arborea*):—The species was present at only one traditional site where 2 males were in song on 24 Jan. and one on 22 June, but with no proof of breeding. Single migrants appeared at Arundel Wildfowl Refuge on 13-14 Apr., Cissbury Ring on 4 Nov. and Goring Beach on 26 Dec.

311. SKYLARK (*Alauda arvensis*):—Details of breeding season counts from defined areas appear in tables on page 42.

In Dec. large numbers entered or passed through the county during the blizzards. No evolutionary conclusions should thus be drawn from the presence of a pure albino at Rye on 6 Dec.!

313. SAND MARTIN (*Riparia riparia*):—First reported in spring were one at Peacehaven and 2 at Darwell Res. on 15 Mar. and 2 in Hastings on 16th. Ten at Chichester GP on 25th increased to 40 by 30th and 70 by 1 Apr.

The species was reported from 6 sites during the breeding season as follows: North Point, Rye—about 70 pairs but holes destroyed by youths and only 6-7 reared young; East Guldeford (Union Canal), about 15 pairs; Rye Harbour LNR, one pair in artificial nestbank successfully reared 2-3 young; Stedham Common, present but status not known; West Heath Common, possibly 25 pairs; Street sandpit, present 29 Mar. to 13 Sept., numbers not known.

As in 1980 (S&BR. 33: 43) pre-migratory gatherings seemed to come in 2 phases, 1,000-3,000 being present at Rye by the end of July and 800-1,000 there again on 5 Sept. On 13 Sept., 1,500 were noted at Langney Point and on 25th, 400 at Bewl Bridge Res. On 29th, 300-400 passed SW over Arundel Wildfowl Refuge. The species remained well in evidence during Oct. including 12 at Forest Row on 11th, 10 at Bewl Bridge Res. on 15th, 25 in the Cuckmere on 17th and 5 at Pagham Harbour on 25th. The last for the year were singles there on 29th, Beachy Head on 31st and in the Pett Level/Rye Harbour area on 6-9 Nov.

314. SWALLOW (*Hirundo rustica*):—First recorded in spring were 2 at Weir Wood Res. on 22 Mar. followed by singles at Alexandra Park, Hastings and Pett Level on 23rd and 25th respectively. By 31st there were 10 at Chichester GP and by 13 Apr. the species had been widely seen throughout the county.

The breeding season was uneventful and the main exodus started about 5 Sept. On 13th, over 1,000 were noted at Langney Point. Departures continued throughout Oct. and there were 11 records up to 15 Nov. The last for the year were singles at Pett Level and Beachy Head on 22nd, Pett again on 5 Dec. and, somewhat pathetically, one flying N in snow at Marley Common on 15th.

316. HOUSE MARTIN (*Delichon urbica*):—First for the year were one at East Grinstead on 29 Mar. and two at Goring on 2 Apr. but only a handful were seen between then and 14th when a more general arrival took place.

There were indications of a good breeding season: at a Maynard's Green colony, 41 nests were successful, 12 out of 24 being double-brooded. A 1975 colony on factories on the Hollingbury Estate, Brighton, was reported now to involve 20 nests despite the lack of nearby moist ground for building materials.

Autumn gatherings were normal and peak emigration took place during late Sept. and early Oct. There were many Nov. reports, mainly prior to 20th and in Dec., after one at Selsey Bill on 2nd, up to 5 remained in Worthing until 8th—roosting at the Eardley Hotel. One was found freshly dead in a bedroom at the Beach Hotel on 10th.

320. TREE PIPIT (*Anthus trivialis*):—Although there were early arrivals at Littleington on 28 Mar. and Littlehampton on 30th, passage was again thin with no more than 23 further records from the coast up to early May.

During the breeding season, widespread random reports suggested the presence of up to 118 pairs or singing males (109 in 1980).

Autumn passage, first noted on 5 Aug. was also thin with only 139 recorded (at least 500 in 1980), the majority of records coming from Cissbury (75). A flock of 30 was seen on the Downs near Lewes on 2 Sept. The last sighting was on 23 Sept.

322. MEADOW PIPIT (*A. pratensis*):—Several observers commented upon the winter status of the species which remains of interest. During Jan-Feb. there were just 3 reports of singles and 3 parties of 6, 27 and 40 respectively, the latter at Chichester GP. The species was described as rare or very scarce in winter at Rye Harbour LNR and absent from the Slinfold area on the Weald and the Falmer area on the Downs. In Dec., AJC found parties of 3, 4, 5 and 6 on the central coastal Downs but PCT found only 5 singles and a party of 4 in the Maynard's Green/Horam/Hellingly area of the Weald. The only other reports were of 20 at Chichester GP, 19 at Rudgwick, 30 at Goring and 3 each at East Grinstead and Horsham. The cold weather in late Dec. may have brought unusual numbers into the county, including a gathering of 250 on arable land at Cissbury on 16 Dec.

Details of breeding season data received appear in the tables on page 42.

324. ROCK PIPIT (*A. spinoletta*):—Reports from 9 coastal localities totalled 35 individuals in Jan-Mar. and 48 in Nov-Dec.—all apparently of the British race *A. s. petrosus*. One of this race also appeared inland at Bewl Bridge Res. on 1 Apr.

Individuals considered as showing the characters of the nominate race *A. s. spinoletta* (Water Pipit) were identified at Sidlesham Ferry on 30 Mar., 1 Nov. and 17 Dec., Widewater on 17 Mar., Pett Pools on 19 Apr. (2), and Rottingdean on 2 Nov.

325. YELLOW WAGTAIL (*Motacilla flava*):—First in spring were singles at Pett Level on 26 Mar., Burnt Lodge on 27th, Claphatch on 29th and Church Norton on 30th. Immigration continued steadily with reports from 9 localities by 12 Apr.

During the 2 years of the Society's survey, 432 pairs were found breeding or in territory. See page 65 for a full report.

The bulk of autumn passage apparently occurred between 22 Aug. (27 at Cissbury, 50 at Langney Point and 30 in the Selsey area) and 17 Sept. (30 at Cissbury, 24 at Selsey). Oct. records were of 2 in Stanmer Park on 2nd, 13 at 5 localities on 3rd, 2 SW at Bewl Bridge Res. on 4th and finally one at Pett Level on 10th.

Individuals considered as showing the characters of the nominate race *M. f. flava* (Blue-headed Wagtail) were identified as follows: Sidlesham Ferry, 8th and 20-26 Apr.; Selsey Bill, 11 Apr. and 26 Sept.; Pett Level, 29 Apr. and 4 May (the last a female). A male was noted defending territory on Broomhill Level, Camber, on 27 June.

327. GREY WAGTAIL (*M. cinerea*):—In Jan. and Feb. reported from 5 coastal and 16 inland localities. In spring one at Rye Harbour LNR on 20 Mar. was the only coastal record suggesting passage. One flying S from Selsey Bill on 15 May was rather unusual.

In the breeding season pairs were reported from 42 sites, at least 3 of which had not been reported on in recent years. There were no reports of the species being absent from any traditional sites—but many were not visited.

Post-breeding dispersal was noted at Norman's Bay on 18 Aug., at Cissbury on 22nd and Pett Pools on 23rd. Coasting movements were first noted at Selsey Bill on 30-31st. At Rye at least 12 moved W on 5-6 Sept. and 6 were at Langney Point on 6th. At Selsey Bill 10 E and 20 W were logged on 11 dates in Sept. with a max. of 7 W on 14th whilst at Littlehampton, 2 W were seen on 25th and 5 W plus 1 NE on 28th. In Nov. and Dec. the species was reported from 10 coastal and 27 inland localities.

328. PIED WAGTAIL (*M. alba*):—Monthly minimum counts at a roost in waterside vegetation at Horam (*q.v.* *SxBR.* 33: 45) were: Jan.—25; Feb.—11; Mar.—40; Oct.—40; Nov.—60; and Dec.—63 (but only 22 after the arrival of the snow). Other roosts reported were: Arundel Wildfowl Refuge, 120 (Feb.); Adur Levels, 25 (Dec.); and East Grinstead, 60 (Sept.). At the last, 16 out of 19 birds trapped were juveniles.

Individuals considered as showing the characters of the nominate race *M. a. alba* (White Wagtail) were identified as follows: Selsey Bill, 14-15 and 28-29 Mar.; Sidlesham Ferry, 27 Apr., 7-9 May, 16 May; Arlington Res., 20 Mar.; Chichester Harbour and Cuckmere, 4 Apr.

331. WREN (*Troglodytes troglodytes*):—Observers noted a continuing satisfactory increase in numbers since the 1979 winter (albeit without prior knowledge of what was to come in Dec.) and ringers at Ashcombe Bottom near Lewes trapped 42 compared with 27 in 1980 and only 6 in 1979. For breeding season counts from defined areas see tables on page 42.

333. DUNNOCK (*Prunella modularis*):—For breeding season counts from defined areas see tables on page 42.

336. ROBIN (*Erithacus rubecula*):—For breeding season counts from defined areas see tables on page 42.

338. NIGHTINGALE (*Luscinia megarhynchos*):—An earlier than usual spring arrival was suggested by records of males in song at Ifield Mill Pond on 5 Apr., Lullington Heath on 8th and 3 further sites by 9th.

Breeding season records totalled only 121 singing males from 44 tetrads within 23 different 10 Km squares. It was notable that only 40 were reported from West Sussex. However, no conclusions may be drawn from such incomplete data.

During the autumn this elusive species was found at coastal localities on 13 occasions between 14 July and 5 Sept.

342. BLACK REDSTART (*Phoenicurus ochruros*):—Eight wintering individuals were reported during Jan-Feb., including those previously reported at Littlehampton, Brighton, Shoreham Harbour and Widewater area (*SxBR.* 33: 46), together with further singles at Worthing, Roedean, Selsey Bill and Newhaven.

Over 40 individuals were noted during the spring, the first migrant being at Chichester on 8 Mar. Six more were seen by 19th but the main influx came at the end of Mar. and in early Apr. There were 2 rather late birds at Beachy Head on 12 May.

During the breeding season a pair was again present at a site in the east (*SxBR.* 32: 48, 33: 46); another was in the Brighton area, at least for the start of the season.

After an early migrant at Church Norton on 6 Sept. the species was not recorded on passage until mid-Oct. when a small arrival took place, the first being 2 at Cissbury on 13th and singles at Rye Harbour LNR on 17th, Cuckmere on 18th and Seaford on 19th. A further 13 came during late Oct. including, rather unusually, 3 together near Lewes. Nov. reports involved max. of 4 at Widewater, 3 at Selsey Bill and 4 at Brighton. During Dec. about 10 individuals remained and seemed set to winter at coastal localities from Littlehampton eastwards to Newhaven.

343. REDSTART (*P. phoenicurus*):—First reported in spring at Beachy Head on 8 Apr.; by mid-May 35 had been seen at coastal localities.

In the breeding season 26 pairs or singing males were found on the sandstone ridge in East Sussex, fewer than the 34 of 1980 but the prevailing bad weather may have led to under-recording. A county breeding survey is to be conducted in 1982.

Autumn numbers were down—only 174 compared with 350 in 1980. The last for the year was on the Downs on 4 Nov.

344. WHINCHAT (*Saxicola rubetra*):—First recorded in spring in the Cuckmere on 8 Apr. and a further 17 were reported to the end of the month. In May passage was sparse with peaks of only 6 at Selsey and 5 at Sidlesham on 2nd, and 4 at Beachy Head on 9th.

During the summer there was no evidence of breeding in the county although there were very early migrants on 29 June, at Arlington Res. and Sidlesham, and 3 in the Brighton area in early July. The main passage started on 22 Aug. with 9 at Selsey Bill, then 6 at Beachy Head on 23rd and a peak count of 47 on the Downs at Cissbury on 24th. At Rye Harbour LNR, 15 on 26th were presumably part of this arrival. At the end of Aug. further passage brought 32 to Brighton, 12 at Beachy Head and 5 at Hastings on 30th followed by 10 at Climping and 9 at Pagham on 31st. Another influx on 4 Sept. produced 22 at Selsey Bill and 60 at Cissbury and widespread reports elsewhere, e.g. 5 at Horsham. The last peak came on 20 Sept. when 12 were counted at West Beach, Littlehampton, 14 at Pagham Harbour and 8 at a Chichester Harbour site. Totals for Aug. and Sept. were 179 and 196 respectively, small by comparison with 1980.

A further 26 were reported during Oct. and, unusually there were 3 Nov. records—singles at Pagham Harbour on 2nd, Castle Hill NNR on 5th and Sidlesham on 15th. Finally a very late individual was seen at Shoreham on 2 Dec. and in this respect members are reminded that the eastern races of Stonechat, *maura/stejnegeri*, can resemble Whinchats and may appear in Britain in late autumn.

345. STONECHAT (*S. torquata*):—Apart from a single male on Ashdown Forest, records in the early months were from the coast, the levels and the Downs—38 in Jan., 26 in Feb. and 21 in Mar. Random breeding season records were as follows (* indicates number of young):

Selsey Peninsula	1	Newhaven Tidemills	1 (*2)
Weavers Down	1 (*3)	Newhaven cliffs	1 (*2)
Iping Common	2 (*3)	Cissbury Ring	1
Ambersham Common	1 (*1+)	Downs east of Cuckmere	7
Chailley Common	1	Cuckmere Valley	1 (*2)
Ashdown Forest	10 (*9)	Hampden Park, Eastbourne	1
		St. Leonard's Forest	1

The total of 29 pairs compares with 32 reported in 1980.

Autumn dispersal or possible migration was noted as early as July at Pagham Harbour and Selsey Bill; there followed 14 reports in Sept. and 51 in Oct. from coastal and downland areas, but including one inland at Bewl Bridge Res. In Nov. and Dec. 32 and 31 were reported from much the same areas with one on Ashdown Forest in Nov.

346. WHEATEAR (*Oenanthe oenanthe*):—First recorded in spring at Seaford and Widewater on 11 Mar. closely followed by 3 at Selsey Bill and 3 at Pagham Harbour on 12th. A further 60 scattered reports were received for the rest of the month including 8 at Newhaven on 28th and a build-up to 20 at Selsey Bill by 31st. In early Apr. an influx came on 6-7th with 30 at Selsey Bill, 33 at Goring, 23 at Hove, 24 at Brighton and 11 arriving

from the sea at Worthing. The following day saw 5 at Cissbury, 6 in the Cuckmere and 10 at Beachy Head. Thereafter few were seen.

During the breeding season 10-12 pairs at Rye Harbour LNR reared 20 young, mainly in nest-boxes, and a pair bred as usual at Langney Point. In addition a nest was found at Pett Level where breeding has previously been suspected and early juveniles were seen at Church Norton on 13 July and Selsey Bill on 29th.

Autumn passage began in early Aug. with singles at Eastbourne and Selsey Bill on 3rd. Small numbers were noted throughout the month, including 12 at Church Norton on 9th, 12 at Widewater on 13th, 7 near Lewes on 17th and 28 at Selsey Bill on 22nd. There was a slow increase towards the end of Aug. when 35 were counted at West Beach, Littlehampton on 27th and 16 at Pagham Harbour on 31st. The start of Sept. was notable only for small numbers in the east of the county, and 48 on the Downs at Cissbury on 5th, 150 being reported there over the whole period. In Oct. most records concerned singles in mid-month and stragglers remaining in Chichester Harbour until 27th and an injured individual at Pett Level until 31st.

359. **RING OUZEL** (*Turdus torquatus*):—First recorded in spring at Cissbury on 1 and 8 Apr. followed by singles in the Cuckmere on 13th and 20th and 2 at Sidlesham on 11th. Further reports came from Littlehampton on 14th, Runciton on 17th, Castle Hill NNR on 18-30th and Buchan Park on 29th. Groups of 3 together were seen at Church Norton on 17-18th, near Newhaven on 27th, whilst at Beachy Head the max. was 8 on 26th. A further 8 scattered reports came in May, the latest being 2 at Steyning on 19th.

Autumn passage was poor in comparison with recent years and reports away from Beachy Head were scarce. The first was one at Arundel Wildfowl Refuge on 15 Sept. followed by one at Beachy Head on 29th. In Oct. the species was noted at Beachy Head on 14 dates with a max. of 8 on 10th. The only other report of numbers was of 7 at Perching Manor, in the Downs, on 8th. Singles during Oct. were seen at Rye Harbour LNR on 18th, Cissbury on 19th and Selsey Bill on 31st. The only Nov. report was of one at Beachy Head on 7th, but, for reasons best known to itself, one remained in Parham Gardens until 4 Dec.!

360. **BLACKBIRD** (*T. merula*):—Winter reports mentioned gatherings of 30 feeding on orchard windfalls at Bewl Bridge Res. and 25 at Snaitham, both in Feb., and also a possible increase in numbers at Fore Wood NR during the month. At Ashcombe Farm, Lewes, only 7 were ringed, compared with a Jan-Feb. average of 31 during 1975-80.

Details of breeding season counts from defined areas appear in the tables on page 42. In the Ashcombe/Housedean area of downland west of Lewes, 31, of 45 nests found, failed 29 of them through predation or desertion and one from human disturbance; 13 produced 47 young. At Darwell Res., Feb., Mar., Oct. and Nov. counts of 27, 29, 26 and 36 respectively suggested a generally static population but an increase was noted at Fore Wood NR during the cold weather in Dec. At Ashcombe, 192 were ringed during Oct-Dec. (89 in Nov.); 27 were adult males, 43 adult females, 65 first-year males and 57 first-year females.

364. **FIELDFARE** (*T. pilaris*):—Apart from an unusually large gathering of some 2,000 moving N over Laughton on 20 Jan., numbers reported during Jan-Mar. were normal and the last winter birds were noted at Cissbury Ring (2) on 16 Apr. and Beachy Head on 25th.

Once again early arrivals appeared in autumn, singles at Hampden Park, Eastbourne on 5 Sept. and West Hove on 15th. The main arrival started on 19 Oct. and by 31st, 70 were to be seen on the Adur Levels. Nov. was average, 350 on Pevensey Levels being the same as a Feb. count. The onset of cold weather in mid-Dec. brought large numbers into the county from the east and across the Channel from the SE. Many moved on through but good numbers remained to feed where possible in the snow.

365. **SONG THRUSH** (*T. philomelos*):—Night migrants were heard amongst Redwings passing over Ashcombe, near Lewes, on 3 and 11 Mar. In the same area only 8 nests were found during the breeding season, compared with 45 of Blackbird, a ratio which may now be normal away from suburban areas. For details of counts from defined areas see tables on page 42.

Still in the Ashcombe area, numbers noticeably increased with the arrival of the snow in Dec., parties of 10-15 frequently being noted. In the Cuckmere Haven area an unusual 50 or more were regularly seen and, on 23rd, 20 were counted along Shoreham Beach.

366. **REDWING** (*T. iliacus*):—During the early part of the year no unusual numbers were reported and, after heavy night movements during 8-11 Mar., the last seen were 3 each at Runciton and Darwell Res. on 5 Apr. and one at Beachy Head on 16th.

First in autumn was a flock of 300 flying up the Ouse Valley from Newhaven on 12 Oct. Numbers remained normal until the Dec. snows when many thousands entered the county and many were also seen departing the coast to SW.

367. **MISTLE THRUSH** (*T. viscivorus*):—Reports of post-breeding or winter flocks included parties of 22 on 16 June, 21 on 6 July, 24 on 4 Aug. and 19 on 19 Oct., a wide range of dates. A further study of available data on such flocks and how they may represent local population levels might prove rewarding. Details of breeding season counts from defined areas are given in the tables on page 42.

369. **CETTIPS WARBLER** (*Cettia cetti*):—The overwintering individual at Arundel Wildfowl Refuge (SxBR. 33: 49) remained until at least 6 Mar. and it, or another, reappeared on 30 Sept. to be joined by 2 more on 29 Oct. until the end of the year (RWB *et al.*). At Pett Pools the individual present since late 1980 (SxBR. 33: 49) remained to 3 Mar. (CHD) and possibly the same was again present from 13 Oct. to the end of the year. At Rye Harbour LNR an unmated male was in song from 9 May until at least 12 June (MSH, RCK *et al.*). The species was present at one other site during the breeding season. A male was trapped at Weir Wood Res. on 21 Nov. (JESC, RFS).

373. **GRASSHOPPER WARBLER** (*Locustella naevia*):—First birds in spring were heard at Selsey Bill, Littlehampton and Lullington Heath on 9 Apr. and by mid-May the species had been reported from 29 localities (17 in 1980). Breeding records showed a welcome increase, up to 22 being reported throughout the county. At least 10 were seen during the autumn at coastal or downland localities, the last being at Langney Point on 3 Oct. See also paper on page 79.

377. **AQUATIC WARBLER** (*Acrocephalus paludicola*):—One at Climping on 10 Aug. (OM) and another in Chichester Harbour on 12 Sept. (PC) constituted the 24th and 25th in the county since 1962 and have been accepted by *British Birds*.

378. **SEDGE WARBLER** (*A. schoenobaenus*):—Early spring arrivals involved singles at Chichester GP on 29 Mar., Sidlesham on 30th and Church Norton on 31st. Immigration apparently continued steadily after 3 Apr.

During the breeding season only 13 pairs were found on the 875 ha. of the Brede Levels (25 in 1980) but numbers at Rye Harbour LNR were considered normal. On 55 ha. of the Adur Levels 22 pairs bred compared with 15 in 1980.

There was very little evidence of autumn passage and the last record was of one at Sidlesham on 10 Oct. and possibly the same at Church Norton on 11-13th.

381. **MARSH WARBLER** (*A. palustris*):—One was in song at a site in the east of the county during 6-30 June.

382. **REED WARBLER** (*A. scirpaceus*):—First in spring were reported from Southeast on 17 Apr., Church Norton on 22nd and Hermonceux Castle on 23rd; birds became more widespread during the first week of May and about 40 were in song at Arundel Wildfowl Refuge by 11th.

Breeding season counts from defined areas were of 28 pairs along the Chichester Canal (19 between the Donnington and Birdham roads), 26 on 55 ha. of the Adur Levels, and 63 on the 875 ha. of the Brede Levels. On 27-28 June, CHD located no fewer than 92 singing males on Pett Level and the Marsham Valley, a very high density.

In early Oct. singles were still inland at Darwell Res. on 7th and Weir Wood Res. on 10th but there were only 4 coastal records, including the last for the year, singles at Chichester GP on 23rd and Pett Level on 25th.

388. **MELODIOUS WARBLER** (*Hippolais polyglotta*):—Singles at Beachy Head on 10 May (JFC, MEN, AQ *et al.*) and 19-21 Sept. (DC, JFC, DAP *et al.*).

389. **DARTFORD WARBLER** (*Sylvia undata*):—At the same site as that in 1980 (SxBR. 33: 50) 2 pairs were present in Apr-May and 3 in June, one of which certainly hatched 4 young. Another was seen feeding young. One was seen at a nearby site on 31 Dec. A female was seen at Beachy Head on 9 Apr.

397. **LESSER WHITETHROAT** (*S. curruca*):—First for the year were singles at Chichester Harbour on 15 Apr. and Pett Level on 16th followed by scattered records from 17th to 20th. There were indications of a more general arrival during the last week of Apr. and the first week of May.

Breeding season reports, consisting mainly of 1-2 pairs, came from some 30 localities, the species being notably scarce in the north of the county. Details of counts from defined areas appear in the tables on page 42.

Autumn passage at Cissbury between early Aug. and late Sept. produced a max. count of 92 on 30 Aug. Other downland areas featured a normal passage whilst, on the coast, the peak at Rye Harbour LNR was 30 on 27 Aug. and at Seaford Head, 5 on 12 Sept. A single Oct. straggler was reported from Ashcombe, near Lewes, on 4th.

398. **WHITETHROAT** (*S. communis*):—First recorded in spring at Beachy Head on 9 Apr., Highdown and Selsey Bill on 11th and Pett Level on 14th.

During the breeding season the species was very widely reported throughout the county although some observers in the east expressed conflicting views, e.g. numbers considerably "down" at Rye and Bexhill but "back to normal for the first year since 1976" on Brede Levels. On the Downs west of Lewes only 17 juveniles were ringed to the end of July (*c.f.* 54 in 1980 and 47 in 1979) but possibly because of different habitat use. Details of counts from defined areas appear in tables on page 42.

Autumn passage from late July to mid-Sept. at Cissbury produced maxima of 25 or more on 4 dates between 11 and 22 Aug., 80 on 30th, 46 on 5 Sept. and 41 on 12th. The max. of 15 at Selsey Bill fell on 29 Aug. and smaller peaks from Rye Harbour LNR, Seaford Head and Bewl Bridge Res. were recorded between mid-Aug. and mid-Sept. Further inland, in a Slinfold garden, passage was noted from 27 July to 20 Aug., peaking between 11-13 Aug. The last for the year were singles at Cissbury on 3 Oct. and 2 in a Woodingdean garden on 14 Oct.

399. **GARDEN WARBLER** (*S. borin*):—First in spring were very early individuals at Rogate and Ifield on 5 Apr.; the next were at South Malling, Charleston reedbed and Pagham Harbour on 19-23rd. The main arrivals were apparently during the first half of May.

Breeding season reports of 1-8 pairs came from some 40 localities throughout the county, several observers noting good breeding success; a possible exception was at Ashcombe, west of Lewes, where no birds were ringed (*c.f.* 19 adults, 8 juveniles, 1979/80). Details of counts from defined areas appear in the tables on page 42.

Return passage at Rye Harbour LNR, Fairlight, Ashcombe, Cissbury and Runcton was noted from mid-Aug. to mid-Sept. but never more than 1-4 at a time. At Littlehampton 5 were seen on 22 Sept. and the last for the year were singles at Rye, Beachy Head and Ashcombe on 18 Oct.

400. **BLACKCAP** (*S. atricapilla*):—Between Jan. and mid-Mar. 17 overwintering birds were reported from 5 coastal and 4 inland localities. The first apparent migrants arrived in the third week of Mar. and by mid-Apr. the species was widespread.

In the breeding season it was very widely reported from mainly inland localities throughout the county. Details of counts from defined areas appear in the tables on page 42. Observers in the Lewes area found the species scarce and at Ashcombe only 10 juveniles were trapped compared with 30 in 1980 and 29 in 1979.

Autumn passage from 25 July produced peaks of 5 at Strivens Reedbed on 8 Aug., 76 on the Downs at Cissbury on 16 Sept., 30 at Lychpole Hill and 10 at Littlehampton on 22 Sept., and 15 at Rye Harbour LNR and 7 at Church Norton in the first week of Oct. Singles appeared at many coastal sites until the end of Oct.

A total of 15 probable wintering individuals was reported from 8 Nov. onwards from 7 coastal and 3 inland localities. Several in gardens were seen to be feeding on honeysuckle berries, old blackberries and crab apples and 2 females in a Brighton garden amicably shared both territory and food.

401. **GREENISH WARBLER** (*Phylloscopus trochiloides*):—One in song was found at Belle Tout, Beachy Head on 19 May (CFW *et al.*). Accepted by *British Birds* this was the 14th of 15 spring records in Britain and stands at present as the 5th record for Sussex although some past autumn records are under review.

403. **PALLAS'S WARBLER** (*P. proregulus*):—One was present at Hodcombe, Beachy Head, on 19-20 Nov. (MEC, RHC). This record, which has been accepted by *British Birds*, was one of at least 28 in Britain during the autumn and was the 11th to be recorded in Sussex.

404. **YELLOW-BROWED WARBLER** (*P. inornatus*):—Singles at Beachy Head on 11 Oct. (AJP *et al.*) and 8 Nov. (many observers) constituted only the 18th and 19th for the county. Why so few should be found in Sussex, especially when compared with the previous species, remains puzzling. The last were singles in 1976 and 1979.

408. **WOOD WARBLER** (*P. sibilatrix*):—The first records in spring were at Beachy Head on 11 Apr. followed by 13 reports of migrants at coastal and downland localities up to mid-May.

During the breeding season 25 males (18 in E. Sussex) were found in territory, mostly on the sandstone ridge. However, observations suggested that the majority were unmated and the breeding status of this vocal species appears to be precarious. It is the subject of a full county survey in 1982.

In autumn no more than a dozen records were received, all from the south and none later than 24 Aug.

409. **CHIFFCHAFF** (*P. collybita*):—During Jan-Feb. no fewer than 17 were reported (*c.f.* Blackcap), 12 in coastal towns, 3 elsewhere along the coast and others no further inland than Cissbury and Lewes. First apparent spring arrivals were 2 at Pagham on 1 Mar. and others at Arundel Wildfowl Refuge and Eastbourne on 9th. The species was widespread inland by 15th. Details of breeding season counts from defined areas appear in the tables on page 42.

The presence of autumn migrants was noted in a Slinfold garden during 7-17 Sept. whilst at Ashcombe, near Lewes, 19 ringed were mostly between 13-16th (albeit a low figure compared with 43 in 1980). On the Downs at Cissbury peak counts were of 150 on 5th and 204 on 16th; Oct. was relatively uneventful and 10 Nov. records were spread throughout the month. Grey individuals, possibly of one of the northern races, were seen at Shoreham Sanctuary on 4 Nov., Beachy Head on 5th and 2 at Chichester GP on 29th. There were 5 records during 3-8 Dec. after which none was seen until singles at Langney, Eastbourne, on 22nd and Harting Pond on 30th.

410. **WILLOW WARBLER** (*P. trochilus*):—First in spring were one at Runcton on 22 Mar. and 2 at the nearby Chichester GP on 26th. The species was reported from 10 localities during 27-29th, several well inland on the Weald. Further arrivals came on the nights of 7 and 22 Apr. and 1 May. On 8 May a grey individual, perhaps a northern form, was seen at Beachy Head.

Details of breeding season counts from defined areas appear in the tables on page 42. At Ashcombe, near Lewes, where 11 out of 39 breeding adults trapped had been ringed below in 1979 and 1980, a total of 29 juveniles were trapped up to the end of July, still well below the 123 of 1979 but possibly a result of changing habitat use.

Passage through a Slinfold garden was noted during 21 July to 14 Sept. with most between 1-10 Aug., whilst at Climping (including Littlehampton West Beach) there were 45-80 during 9-11 Aug. On the Downs at Cissbury max. counts fell on 12th, 17th, 25-26th and 30th and at Rye Harbour LNR on 19th and 28th. Few were identified during Sept. but the last at Buchan Park was on 27th. There were only 2 Oct. reports—at Sidlesham on 10th and Bishopstone on 18th.

411. GOLDCREST (*Regulus regulus*):—A count of 30 at Arundel Wildfowl Refuge on 16 Jan. suggested the possibility of immigration but the next highest count for the month was of but 4 at Darwell Res. However, linear counts covering 57.5 Km in the NW of the county by MJR on 7 dates between 5 Jan. and 8 Feb. produced a total of 78 birds.

One was in song at Sullington Warren as early as 30 Jan. and the 6 pairs that later bred there doubled the 1980 total. Likewise, 10 pairs at Fore Wood NR was the most in 5 years of recording at that site. See tables on page 42 for details of counts from defined areas.

No autumn passage reports were received from Beachy Head and the highest counts were of 50 on the Downs at Cissbury on 17th Oct. and 50 counted in one hour in St. Leonard's Forest on 29 Nov. Subsequently several observers commented upon the apparent presence of large numbers in woodlands on at least the Weald during the cold weather in Dec. (and Jan., 1982) but whether this reflected an unusual breeding season or immigration remains to be seen.

412. FIRECREST (*R. ignicapillus*):—Wintering individuals were present at Church Norton and Fairlight during Jan. and Feb. and other singles were at Arundel Wildfowl Refuge on 17 Jan. and Chichester GP on 15 Feb. Spring passage was good with a minimum of 51 individuals reported during Mar-Apr. The first were 2 in the Cuckmere on 14 Mar., rising to 5 on 15th, and 2 at Beachy Head on 14th. One at Pett Level on 21st preceded an arrival later in the month and birds were seen almost daily in the county from 25th to 11 Apr. The maxima were 9 at Beachy Head and 4 at West Beach, Littlehampton on 29 Mar. and 3 each in the Cuckmere on 4 Apr. and at Church Norton on 9th; singles appeared at 9 other localities. Stragglers included one on Ashdown Forest on 18 Apr. and singles at Rye Harbour LNR on 13 May and Beachy Head on 15th.

During the breeding season singing males were reported from 2 localities, display between 2 birds taking place at one where song was heard throughout late May and June. It is highly likely that breeding took place in at least one Sussex woodland.

After a good start to the year, autumn records were very scarce. Only 10 individuals were reported between Aug. and the end of Nov., the first of which was at Balsdean on 24 Aug. The only Sept. record was of one trapped at Marley Common on 2nd. Apart from one in Stanmer Wood on 5 Nov. all records were from the coast. Two wintering individuals were seen in Dec., in Stanstead Forest on 5th and at Church Norton on 27th.

413. SPOTTED FLYCATCHER (*Muscicapa sstrata*):—After a very early individual in the Cuckmere on 11 Apr. the next were singles at Stanmer Wood on 7 May and Beachy Head and Crowhurst on 8th. Arrivals continued steadily thereafter.

Breeding season counts from defined areas appear in the tables on page 42. In all, 56 pairs were reported from 27 Wealden, 12 downland and 2 eastern coastal localities and fledging success was apparently excellent. Although well reported annually this species' true status and distribution in the county remains somewhat obscure and all breeding season records are welcome.

Good numbers were again seen during post-breeding dispersal and autumn passage, particularly along the northern edge of the Downs where a max. of 48 was noted at Cissbury on 26 Aug., about 50 at Downer's Vineyard, near Fulking, on 27th and 40 at Ashcombe, near Lewes, on 3 Sept. By the end of Sept. most had left the county but 7 in Oct. included one still well inland at Fore Wood NR on 7th, one at Beachy Head until 8th and one in central Brighton, also on 8th.

416. PIED FLYCATCHER (*Ficedula hypoleuca*):—First in spring were singles at Rookwood on 11 Apr., Beachy Head and Rye Harbour LNR on 12th, Sidlesham on 13th and Newhaven on 13-14th. There were 6 further scattered reports, the last being from Beachy Head where 2 were seen on 9 May.

Autumn passage began with one at Rye on 11-13 Aug. but only 7 singles along the coast during the rest of the month. During Sept. some 26 were reported from 20 widespread localities with 2 at Hastings on 9th, 2 at Pagham Harbour on 12th and a max. of 4 at Beachy Head on 5th, the remainder being singles. One was trapped near Lewes on 26th and the last for the year was one at Church Norton on 4 Oct.

417. BEARDED TIT (*Panurus biarmicus*):—Of the 4 at Pett Level at the end of 1980 (*SxBR* 33: 54) 1-2 remained until 5 Apr. whilst, at Pagham Harbour, 1-2 were present until at least 4 Mar. and in Chichester Harbour at least 4 until 21 Feb. On 31 Mar. 2 males and 4 females appeared at the Severals at Church Norton. Six wintered at another site in the county where at least two pairs were present during the breeding season.

On 2 July, two flew SW over Rye Harbour LNR and singles appeared at Pett Pools on 7 and 30 Aug. all perhaps coming from Kent. Up to 10 were present on Pett Level on 18 Oct. and 4 from late Nov. until the end of the year whilst, at Pagham Harbour, 5 were seen on 14 Oct. and 4 from 10 Dec. onwards. In Chichester Harbour 2-3 were at one site from 17 Oct. onwards. Elsewhere, Oct. migrants reported were 2 at Tarring Neville, near Newhaven on 6th, 3 flying NE over Widewater on 22nd and 2 at Charleston Reedbed on 23rd. At least 10 were present at one other site during Dec.

418. LONG-TAILED TIT (*Aegithalos caudatus*):—Spring movement at the coast was suggested by records of 4 flying E. at Selsey Bill on 28 Mar. and 2 flying N at Birling Gap, Beachy Head, on 29th.

Breeding season counts from defined areas appear in the tables on page 42. Other reports indicated some increase in the SE of the county throughout the year. Most records, however, related to winter flocks of 6-16 birds; several late Dec. reports suggested that survival of the first period of severe weather had been good.

419. MARSH TIT (*Parus palustris*):—A monthly analysis and comparison of reports of this and the next species, excluding dependent broods and duplicates, was as follows:

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Marsh Tit ...	17	12	21	41	32	28	9	15	12	12	9	31	239
Willow Tit ...	18	8	10	31	26	30	10	13	8	6	8	16	184

Additional linear counts over 57.5 Km. in the NW of the county during Jan-Feb. produced 60 Marsh Tits to only 9 Willow Tits and Apr-May counts over a further 36 Km. there, produced 10 pairs of Marsh Tits to 2 pairs of Willow Tits. At Buchan Park RAC considered Marsh Tit commoner than Willow Tit in winter.

Six observers noted Marsh Tits coming to bird tables in winter but there were no such reports for Willow Tit. Amongst breeding records, 3 of the 6 pairs of Marsh Tits at Fore Wood NR were in nestboxes; all other nesting records referred to natural holes. For details of breeding season counts from defined areas see the tables on page 42.

420. WILLOW TIT (*P. montanus*):—The usual wide scatter of records was received, mainly of isolated pairs, 3 on Cattlestone Farm, West Chilmington, being the highest density reported; see also the table under Marsh Tit.

The evidence suggests that Willow Tits belong to woodland edge and scrub, not necessarily damp, rather than true woodland, and the marked change in distribution since the 1960's, referred to by Shrubb (1979), would relate well to the invasion of chalk downland by scrub, following reduced grazing pressure by rabbits after myxomatosis and the decline in sheep farming. With its ability to excavate its own nesting holes, the species would be well placed to colonise this new habitat, when other *parus* species require natural holes characteristic of mature or decaying timber. Though probably still marginally the least common of Sussex tits, it can no longer be described as scarce; in fact the County ringing totals for 1979-81 had it slightly ahead of Marsh Tit by 83 to 79.

422. **COAL TIT** (*P. ater*):—Breeding season counts of pairs or singing males in defined areas were of 7 on the 55 ha. of Fore Wood NR, one on the 26 ha. of Alexandra Park, Hastings and 11-13 on the largely coniferous 70 ha. of Buchan Park. On 16 ha. of conifer plantation at Possingworth Park, 4 pairs in nestboxes successfully fledged all young from 32 eggs.

423. **BLUE TIT** (*P. caeruleus*):—Details of breeding season counts from defined areas appear in the tables on page 42.

424. **GREAT TIT** (*P. major*):—Details of breeding season counts from defined areas appear in the tables on page 42. The 65 territories at Fore Wood NR was the highest number for 5 years. Poor breeding results were noted at Possingworth Park where 8 out of 19 nestboxes on 42 ha. failed to fledge any young.

Otherwise the most interesting reports were behavioural. One bird at Darwell on 15 Mar. caught a bumble bee in flight, carried it to a perch and attempted to eat it. In late Dec., AFS saw one taking grass into a nestbox used for roosting, contrary to all statements in the literature that tits never build winter nests although it might seem advantageous for them to do so. Perhaps the weather in Dec. prompted this exception.

425. **NUTHATCH** (*Sitta europea*):—One at Whitbread Hollow, Beachy Head, on 14 Apr. was unusual. Breeding season counts in 4 areas also counted in 1980, suggested a 20% decrease in population. Other records confirmed the relative scarcity on the coastal plain in the west and the woodlands of central East Sussex. Counts would be welcomed for tetraids or other defined areas in any part of the county.

427. **TREECREEPER** (*Certhia familiaris*):—Details of breeding season counts from defined areas appear in the tables on page 42. In all, 32 pairs were reported from 17 widely scattered localities and the count at Stanmer Park provided more evidence that it may be quite common in downland woods. The Fore Wood NR figure was the lowest for 5 years but in the Pett Level area the species was thought to be slowly increasing. One at Mill Hill, Shoreham on 4 Mar. was the first there in 7 years.

430. **GOLDEN ORIOLE** (*Oriolus oriolus*):—One was heard calling persistently during 30-31 May at a site in the east of the county.

432. **RED-BACKED SHRIKE** (*Lanius collurio*):—Males were seen in the Cuckmere on 17 May and at Rye Harbour LNR on 23rd. On 12 June two birds were seen at Heathfield but not subsequently. Two records in autumn, a female or juvenile at Selsey Bill on 31 Aug. to 4 Sept., and a juvenile at Church Norton on 26-28 Sept.

434. **GREAT GREY SHRIKE** (*L. excubitor*):—The Horse-Eye Level individual seen in Dec. 1980 (SxBR, 33: 56) was still present on 25 Jan., one was seen on Ashdown Forest on 1 Feb. and another was found near St. Leonard's on 15th. The Horse-Eye bird had returned by 6 Dec., the only record for the latter end of the year.

435. **WOODCHAT SHRIKE** (*L. senator*):—One at Birling Gap, Beachy Head, on 21 May (CFW) and one near Hove on 10-13 June (J. C. Mallam, R. L. Rowland); both have been accepted by *British Birds*; 26 have now been noted in Sussex.

436. **JAY** (*Garrulus glandarius*):—Details of breeding season counts from defined areas appear in the tables on page 42.

Autumn immigration was well marked with 5 high over Fairlight on 30 Sept., 6 over Findon Valley on 2 Oct. and, on 3rd, 50 N over Friston Forest (in 10 minutes), 4 W at Runcton, 9 W at Horsham, 6 over Wild Park, Brighton, and 38 W or S at Cissbury including one flock of 29. On 4th it was noted as common in the Pett Level area, on 10th, 20 were seen near Berwick and on 11th a flock of 45 was found in Whitbread Hollow, Beachy Head and 5 flew E at Langney Point. At Cissbury Ring again, 10 SW were seen on 12th and 13 on 13th and at Seaford, 3 N on 14th. Subsequently the species was noted as

commoner than usual in many areas along the coast and inland. Individuals apparently showing the characters of the Continental race *glandarius* were seen at Crowborough on 14 Oct. and 28 Nov.

437. **MAGPIE** (*Pica pica*):—Details of breeding season counts from defined areas appear in the tables on page 42. Unusual gatherings reported included 51 at Washington gravel pits on 27 Dec. and a rather late party of 11 at Bewl Bridge Res. on 13 Mar.

441. **ROOK** (*Corvus frugilegus*):—A survey of 10 Km squares TQ 70 and 71 produced 298 nests at 11 rookeries. Details of the establishment or loss of rookeries are always welcome and should be accompanied by 6-figure map references.

442b. **HOODED CROW** (*Corvus corone cornix*):—The only record was of one in the Cuckmere on 16 Feb.

446. **HOUSE SPARROW** (*Passer domesticus*):—Numbers were reported to be much reduced in the Lodsworth area where villagers found a quantity dead in an area where slug bait had been used on farmland.

448. **TREE SPARROW** (*P. montanus*):—The species was well reported during Jan-Mar. with a total of 831 at 16 localities including 250 at Bewl Bridge Res. in Jan. and 210 at Mill Hill, Shoreham in Mar.; large gatherings on the Downs at Cissbury have apparently ceased. A comparison of 6 years' figures is of interest even though only random observations are involved:—

1976	77	78	79	80	81	Ave.
700+	957	850	929	711	831	820

At Selsey Bill there was some evidence of spring movement with 7 on 5 May, 12 on 9th and 20 on 11th.

Breeding season reports were widely scattered. Items of interest included the loss of a colony of 8 pairs at Udimore when an old orchard was uprooted whilst at Great sand pit 3 pairs were found nesting in holes around the periphery of the Sand Martin colony. The only count from a defined area was of 9 pairs on 30 ha. of farmland at West Chillington.

There was little evidence of autumn passage apart from 23 S at Selsey Bill on 24 Oct.

451. **CHAFFINCH** (*Fringilla coelebs*):—In Jan. feeding flocks totalling some 1,400 were reported from 6 localities including 350 on Ashdown Forest, 250 at Jevington, 100 at Cissbury, 100 on Iping Common, and 515 in the Horam-Hellingly-Chiddingly-Waldron area (cf. 600 in Dec. 1980). The Mar. total was 610 but possibly included migrants. Details of breeding season counts from defined areas appear in the tables on page 42. Oct. passage was recorded at Cissbury with 60 W on 3rd, 540 NW on 19th and 76 W on 21st.

452. **BRAMBLING** (*F. montifringilla*):—Following the species' apparent absence in Dec. 1980 only 7 were recorded in Jan., none in Feb. and only 22 (at 11 localities) during 14 Mar. to 8 Apr., these doubtless being passage migrants. In autumn a single at Cissbury on 11 Oct. was followed by 3 at Pett Level on 30th. A Nov. total of 41 included 20 at Parham Park on 3rd and 15 N at Langney Point on 29th. In Dec. 61 were found at 12 localities including about 40 at Cripps Corner on 31st.

453. **SERIN** (*Serinus serinus*):—Singles were seen at Beachy Head on 27 May and 3 June, the latter a male (RHC). Both records have been accepted by *British Birds*.

455. **GREENFINCH** (*Carduelis chloris*):—During Jan., Feb. and Mar. monthly recorded totals were 200, 390 and 260 respectively, with parties of up to 50 at Bewl Bridge Res., Buchan Park, Rye Harbour LNR and Stanmer Park. At West Durrington 150 were noted on 17 Feb. and up to 150 were feeding amongst apple waste at Horam from Jan. to mid Apr. Details of breeding season counts from defined areas appear in the tables on page 42.

During Oct., 2,250 were recorded including 800 at Rye Harbour LNR and 600 at Selsey. A total of 561 passed W at Bracklesham Bay on 29 Nov. and the Rye flock reduced to some 450 during the month and only 300 by 5 Dec., dispersing entirely by the month's end. The only other Dec. records were of 60 in the Cuckmere and 70 at Horam.

At East Grinstead no fewer than 806 were ringed during the year, perhaps an example of the now highly suburban distribution of this species.

456. **GOLDFINCH** (*C. carduelis*):—During Jan. only 25 were reported (4 localities) and in Feb. only 10 (2 localities). At the end of the year the Nov. and Dec. totals were 84 and 100 respectively. Otherwise the species was generally reported.

457. **SISKIN** (*C. spinus*):—Following the Dec. 1980 total of 115, the Jan. and Feb. totals were relatively stable at 142 and 94 respectively. Max. flocks were 30 at Wiston Pond, 20 at Knepp Lake, 19 at Fore Wood NR and 15 at Buchan Park. The Mar. total dropped to 41 until 31st when at least 66 were seen at Buchan Park. During Apr. the 72 reported included 45 at Buchan Park on 7th and a single at Stanmer on 15th was the last.

One at Bewl Bridge Res. on 22 Sept. and 18 W over Cissbury on 23rd were the first autumn records. Parties of up to 20 were seen moving E at Pett Level from 27th onward. The county total for Oct. was only about 50 but during Nov. 447 in 20 flocks ranging from 3 to 80 were seen whilst in Dec. 393 were reported in 22 flocks of 2-60.

At East Grinstead, 88 were ringed during 1 Jan-11 Apr. There were 12 reports of birds feeding on peanuts.

458. **LINNET** (*C. cannabina*):—During Jan. and Feb. wintering parties at Bewl Bridge Res., Brede Level, Cuckmere Haven, Rye Harbour LNR and West Durrington totalled 750. At the other end of the year 120 were seen at Rottingdean on 1 Dec. and 400 at Goring on 13th. Scattered breeding season data were received.

459. **TWITE** (*C. flavirostris*):—At the start of the year records were of 2 at Rye Harbour LNR on 25 Jan., 6 at Rottingdean on 4 Feb., and 4 at Selsey Bill, up to 25 in the Cuckmere and 10 at Shoreham during the period. First in autumn were 4 in the Cuckmere on 26 Oct., up to 6 being seen there until the end of the year. Elsewhere numbers reflected the cold weather with 3-5 at Rye Harbour from Nov. 14th but about 50 on the Rother saltings on 21st, 16 in Chichester Harbour on 12 Dec. and a max of 17 at Shoreham on 20th. Most unusually one was seen inland, at Bewl Bridge Res., on 18 Jan.

460. **REDPOLL** (*C. flammea*):—Very few reports were received for the early months, the max. being 30-40 at Pett Level during 11 Jan-1 Mar. and 30 at Buchan Park during a similar period. Elsewhere up to 15 were seen at Ifield Mill Pond from 24 Jan. and 12 at Horsham in Jan. but only a handful were found in the NE of the county. The only spring movement of note was 22 at Beachy Head on 9 May.

During the breeding season 47 random reports of pairs or displaying males came from sites mainly in the NE but it is thought that the species was under-recorded.

There were no reports of large coastal movements in autumn but in early winter there were 30 at Arundel in mid-Oct., 50 at Crowborough on 9 Oct. and 40+ at Tilgate Park on 28 Dec. few being seen elsewhere.

463. **CROSSBILL** (*Loxia curvirostra*):—A quiet year for the species, the only records being of a juvenile found dead in Storrington on 27 June (skin now at the Booth Museum), a party of 10 E near Weir Wood Res. on 28th, a similar number at Lodsworth on 10 July, 8 SW over Steyning on 25th and one in Haywards Heath on 22 Aug.

469. **BULLFINCH** (*Pyrrhula pyrrhula*):—For details of breeding season counts from defined areas see tables on page 42.

470. **HAWFINCH** (*Coccothraustes coccothraustes*):—During Jan-Feb. a feeding party of 12-15 was present in the Cowfold area and up to 6 were visiting a Fontwell garden until Mar. when there were also 2 pairs in the Lodsworth area. One pair bred successfully at a

previously recorded site; a singleton was in the Slinfold area during Apr-June. At the end of the year the only records were of up to 4 in West Chilton on 2-5 Sept., 3 in Burgess Hill on 29th and 2 at Fernhurst on 14 Dec.

493. **LAPLAND BUNTING** (*Calcarius lapponicus*):—Three were seen on the Rother saltings at Rye on 15 Nov. (PFB) and one flew W at Seaford on 29 Dec. (PJW).

494. **SNOW BUNTING** (*Plectrophenax nivalis*):—The only record at the beginning of the year was of 2 at Rye Harbour LNR on 10 Jan. The first of the autumn were 2 at Langney Point on 17 Oct. with 3 there on 24th, one remaining into Nov. Other Nov. records were of one at Chichester Harbour on 14th, and 3 at Balsdean on 8th, one being seen there in Dec. At Rye 2 were present in Nov. and 10 during 5-13 Dec. Also in Dec. singles appeared at Shoreham on 23rd, Cuckmere on 19th and West Wittering on 27th. Finally, 2 were seen at Pagharn Harbour on 30th.

496. **YELLOWHAMMER** (*Emberiza citrinella*):—The Jan-Apr. totals reported were 47, 113, 91 and 172 respectively with an average flock size of 31. At the other end of the year, Nov. records included 170 at Cissbury on 14th and 60 in that area on 25th. During Dec. the only records received were of 45 at Selsey, 40 at Waldron, 15+ at Woolbeding and one only at Weir Wood Res.

Details of breeding season counts from defined areas appear in the tables on page 42. Other counts received were of 20 males on Iping Common (5 in 1980) and 7 at Verdley Wood, Fernhurst.

497. **GIRL BUNTING** (*E. citrillus*):—During the breeding season a male was present at one traditional locality and may well have been mated and bred but a female in another traditional area was not found again. At shoreline localities on the Selsey peninsula a male was reported on 31 Mar., a female and possibly a male on 24 Aug. and a female on 25 Nov. A male was seen on the western Downs on 26 Oct.

499. **ORTOLAN BUNTING** (*E. hortulana*):—One was seen near Selsey on 15 Aug. (MJWH, CRJ, OM) and one at Beachy Head on 27th (RHC).

506. **REED BUNTING** (*E. schoeniclus*):—At the beginning of the year there was the usual flock on Ashdown Forest and a flock of c.125 at Chailey Common, the latter slowly dwindling to 10 by 8 Mar. The only evidence of spring migration was a party of 20 at Langney Point on 29 Mar.

Breeding season counts included 20 singing males on the Brede Levels (875 ha.), 20 on 55 ha. of the Adur Levels, 47 on Pett Level, 20-30 at Rye Harbour LNR on the SSSI and 21 along 2 Km of the R. Adur above Shoreham. At the reservoirs there were 21 singing males at Bewl Bridge, 10-12 at Weir Wood, 5 at Arlington and 3 at Barcombe Mills. Elsewhere there were 8 on Iping Common and many singles at small waters and in some woodlands.

At both ends of the year several single birds were seen at 3 downland localities where they were not normally known. Garden records were fewer than usual but 6-8 were seen at 3 places to the N, S and W of Horsham. In Dec. there were 10-15 on the saltings at Rye and about 20 on the Isle of Thorns.

510. **CORN BUNTING** (*Miliaria calandra*):—An unusually large gathering of 550 was counted leaving stubble at Upper Beeding on 8 Sept.

ESCAPES AND Ferals

The following exotic species, as singles unless otherwise stated and regarded as escapes, were recorded in Sussex during the year.

Marabou/Greater Adjutant Stork *Leptotilix sp.*; Greater Flamingo *Phoenicopterus ruber*, singles of 2 races; Black Swan *Cygnus atratus*, up to 6; Black-necked Swan *C. melancoryphus*; Snow Goose *Anser caerulescens*, 4; Egyptian Goose *Alopochen aegyptiacus*; Bar-headed Goose *A. indicus*; Cape Shelduck *Tadorna cana*; Ringed Teal *Anas leucophris*; Spotbill *A. poecilorhynchos*; Carolina Duck *Aix sponsa*, 5 at Swanbourne Lake; Cootatlet *Nymphicus hollandicus*, 1 or 2; Ring-necked Parakeet *Psittacula krameri*, groups of up to 6 in the Brighton area and 3 in the Selsey area. Records of this species are required as there is some evidence that it may colonise, an event to be deplored. Green Macaw *Ara ambigua*; Black-winged Red Bishop *Euplectes hordeaceus*.

Further details are available from the county files. Note that 52% of the species and c.54% of the individuals were wildfowl. It should also be noted that, as a general zoological principle, the encouragement or introduction of such exotic species is an unsound, if not actively foolish, practice.

MS

ADDITIONS AND CORRECTIONS

1979 Report

12. **FULMAR**. In May one was apparently prospecting the front of a large building facing the beach at Littlehampton (AH).
95. **GOOSANDER**. One flew E off Brighton on 10 May.
153. **AVOCET**. A party of 26 flew W off Lancing on 13 Mar.
298. **WRYNACK**. Two at Beachy Head on 24 Oct.
388. **MELODIOUS WARBLER**. One at Beachy Head on 1 Sept. (CFW).

1980 Report

6. **LITTLE GREBE**. Possibly only one pair bred at Weir Wood Res., not 3-4 as stated.
 7. **GREAT CRESTED GREBE**. At least one pair bred at Darwell Res. and probably 13, not 9 as stated, were reared at Weir Wood Res.
 55. **CANADA GOOSE**. The Nov.-Dec. max. at Weir Wood Res. was 60, not 25.
 76. **RED-CRESTED POCHARD**. The bird at Darwell Res. on 6 Jan. was a female.
 80. **TUFTED DUCK**. The unnamed water near Rake was at SU 804267.
 86. **LONG-TAILED DUCK**. A second bird was at Chichester GP on 14 Dec.
 163. **DOTTEREL**. The May pair near Steyning was seen until 17th.
 183. **JACK SNIFE**. Three on Glynde Levels on 23 Nov.
 199. **CURLEW**. The max. count of birds feeding on downland at Cissbury was 53 on 16 Oct.
 209. **WOOD SANDPIPER**. One in the Cuckmere on 26 Apr.
 228. **BLACK-HEADED GULL**. At Weir Wood Res., 1,000 on 9 Nov. and 2,000 on 30th.
 235. **HERRING GULL**. Did not nest at the Cuckmere as stated.
 289. **SWIFT**. One at Keymer on 27 and 29 Sept.
 297. **HOPOE**. One at Hamsey on 15 Apr. (M. Gillies).
 342. **BLACK REDSTART**. Five at Cissbury on 16. Oct., not 3.
- GARDEN WARBLER, BLACKCAP & TREE CREEPER**. The area counted for breeding birds at Maynard's Green was of 400 ha. not 100.
467. **SCARLET ROSEFINCH** (*Carpodacus erythrinus*):—One trapped at Beachy Head on 24 Sept. (RDME, SPH, DEL) was the 4th for the county and has been accepted by *British Birds*.

RINGING IN SUSSEX IN 1981

by R. Leverton

Key to symbols and terms

- | | | | | | |
|---|---|-----|----|--|--------------------|
| 1 | Pullus (nestling or chick not yet flying). | Age | x | Found dead or dying. | Manner of recovery |
| 2 | Full-grown, but year of hatching quite unknown. | | + | Shot or killed by man. | |
| 3 | Definitely hatched in current calendar year. | | v | Controlled: caught and released by another ringer. | |
| 4 | Hatched before current calendar year, but exact year unknown. | | vv | Ring number read in the field. | |
| 5 | Definitely hatched last calendar year. | | ♂ | ♂ = male | ♀ = female |
| 6 | Hatched before last calendar year but exact year unknown. | | | | |

Details were received of 18,640 birds of 93 species ringed in Sussex in 1981. Black-headed Gull with exactly 3,000 again topped the list, making up the bulk of the Gull Study Group's 1.56 tonnes of new birds (not a frivolous statistic but a reflection of the huge biomass of gulls our seas can still support, with help from refuse tips). Totals of most resident passerines remained at a high level, but among the migrants fewer Whitethroats than Lesser Whitethroats were ringed, probably unprecedented and suggesting another slump. Even more ominously, only one Stonechat was ringed in Sussex, when up to 1978 Beachy Head alone averaged 19 a year. Is this yet another of the southern heathland species to find itself in difficulties, even before one of the coldest Decembers on record? In contrast, Sparrowhawks, with six netted, are thriving. They may now be commoner (if less often seen) than Kestrels in some areas.

But ringing results showed how hard life is for raptors too, especially young birds trying to establish themselves:

Sparrowhawk (hit window)	3 ♀	05.09.81	Church Norton (GCE)
Kestrel (road casualty)	x	22.09.81	Birdham 7km NW Woodingdean, Brighton (AJP)
	1	03.07.81	Wimborne, Dorset 132km W
	x	31.08.81	

The recoveries reflect the hazards of each species' methods of hunting. Roadside verges may be the only permanent grassland in arable areas, and note how widely young Kestrels often disperse, before becoming resident territory-holders like the next:

Kestrel	6 ♂	10.04.76	Plumpton (RJL)
	x	19.10.81	Plumpton

Gull Study Group data continues to mount, and will be published in due course. Among a further 70 foreign movements, landlocked Czechoslovakia featured for the first time:

Black-headed Gull	6	01.03.80	Sompting Tip (GSG)
	x	16.09.81	Sukorachy, Hraclec 1129km E Kralove, Czechoslovakia

However, some important records came from non-ringers. Nifty work with a telescope revealed a Norwegian bird wintering in the same area of Sussex for two consecutive years; as yet the Study Group has few such positive instances:

Black-headed Gull	1	17.06.78	Langskjaer, Ostfold, Norway
	vv	26.01.80	Weir Wood Reservoir (ND) 1129km SW
	vv	01.02.81	Weir Wood Reservoir (ND)

While it is obvious that gulls must leave the Baltic before it freezes, these birds may arrive in Sussex as early as July. Indeed, there is some evidence that young birds may never return to the Baltic in their first summer. Pending further recoveries, either explanation could fit the following bird:

Black-headed Gull	1	30.06.80	Tammela, Hame, Finland
	x	15.07.81	Rottingdean (AC) 1838km SW

The larger gulls may make long movements within Britain:

Greater Black-backed Gull	1	26.06.71	Hoy, Orkney
	x	05.01.81	Rye Harbour (RK) 920km SSE

An inherent defect of ringing reports is that they dwell too much on the spectacular, and therefore perhaps atypical, movements. Yet many members will have an interest in the following much-watched bird, its age, and its local ranging:

Great Spotted Woodpecker 4 ♂ 27.03.75 Strivens Redbed (SRG)
(breeding) v 28.06.81 Woods Mill, Henfield (LM) 4km ENE

By contrast, spectacular movements are simply the norm for some species:

Swallow (cold weather) 1 02.07.79 Barcombe, Lewes (RDME)
x 25.01.81 Beaufort West, Cape Province, South Africa
9519km SSE

We tend to take it for granted, but every Swallow we see in the spring has made this journey successfully, and the harder return trip against headwinds over the Sahara. How birds navigate is still not fully understood—and sometimes migrants do appear to make mistakes. The two birds listed below apparently went the wrong way:

House Martin 3 28.09.81 Shoreham (JAN)
v 04.10.81 Rye Meads, Herts 106km NNE
Sedge Warbler 3 12.08.81 Church Norton (CRG)
v 15.08.81 Copmere, Ecclestone, Staffs 258km NNW

Even the normal migrating habits of some birds are a mystery. Why are so few Wood Warblers ever seen on passage, even when bad weather grounds large numbers of other species? Just one was netted in Sussex, but that was already ringed:

Wood Warbler 1 28.05.81 New Forest, Hants (AJP)
v 27.07.81 Partridge Green (ML) 97km ESE

Once they reach Africa, ringed warblers are seldom found. Two recoveries of Blackcaps on their wintering grounds were quite exceptional, even though Beachy Head is the foremost ringing station in Britain for this species:

Blackcap 2 ♀ 04.10.80 Beachy Head (BHRS)
+ 06.02.81 Souk el Khemis, Alger, Algeria 1617km SSE
3 ♀ 01.09.79 Ashcombe, Lewes (RL)
v 05.01.81 Settat, Morocco 2079km SSW

Whereas the warblers are obvious migrants, only ringing can reveal the foreign visitors hidden among our resident Robins and thrushes. There must have been a fall of Danish Robins on the Sussex coast in autumn 1979, providing a recovery very similar to one listed last year:

Robin 3 03.10.79 Shoreham (JAN)
v 31.10.79 Shoreham
x 01.05.81 Olsykke, Sjaelland, Denmark 992km E

Not least of interest is the four weeks (minimum) it stayed at Shoreham. The spring return of these continental Robins often goes unnoticed, but a good indication of its timing is given by the next fairly quick recovery:

Robin 4 20.03.81 Ashcombe, Lewes (RL)
x c.30.03.81 Landrecies, Nord, France 277km ESE

What more familiar species than Blackbird; nearly one million ringed and can there be anything left to find out about them? In fact the next recovery was not only a new one for Sussex, but a national first:

Blackbird 6 ♂ 18.01.80 Ashcombe, Lewes (RL)
x 07.07.81 Kraslice, Karlovy Vary, Czechoslovakia
887km E

Gull and waterfowl movements between Britain and Czechoslovakia are numerous, but only two other ringed passerines (one Starling and one Brambling) are known to have made the journey. Apparently it is not a regular migration route for small birds.

Thanks to foreign "sportsmen", we know the route and the destination of the large-scale October Song Thrush passage through Sussex; many are going to Iberia, where they will be shot (though it is true they are pests in olive groves):

Song Thrush 3 03.10.79 Ashcombe, Lewes (RL)
+ 06.01.80 Ribera del Fresno, Badajoz, Spain 1452km SSW
3 21.10.78 Ashcombe, Lewes (RL)
+ 15.02.81 Olivais, Beira Litoral, Portugal 1411km SW

Far less clear is the origin of these migrants, because of the virtual absence of breeding season recoveries either in Britain or on the Continent.

The cardueline finches also showed characteristic movements. Nearly all Goldfinches emigrate in winter:

Goldfinch 3 ♀ 23.09.80 Beachy Head (BHRS)
v 05.11.81 Cap Breton, Landes, France 799km S

whereas the larger Greenfinch moves south and westwards within Britain:

Greenfinch 5 ♂ 12.04.80 Crowborough (AP)
x 16.06.81 Bunwell, Norwich, Norfolk 173km NNE

The loss of stackyards, and fewer weed seeds through tidier farming, must have affected this finch badly, but the exotic peanut has provided a new food source. Indeed, the Greenfinch may be highly dependent on gardens with well-stocked birdtables in winter (SxBR. 33: 57), commuting regularly between alternative sites, as this same-day control suggests:

Greenfinch 5 ♂ 01.01.81 Crowborough (AP)
v 01.01.81 Groombridge 6km N

Siskins bestow their patronage more capriciously, tending to use gardens at the end of the winter when natural foods are exhausted:

Siskin v 05.03.81 Weybridge, Surrey
04.04.81 East Grimstead (RFS) 40km SE

Finally, lest all should seem too clear-cut, a species in a state of flux which defies analysis. Sussex Canada Geese seemed to be establishing an annual moult migration to the Beachy Firth, but none has been found there since 1978. The Warwickshire gosling at Petworth in 1979 went back north and was shot:

Canada Goose 1 04.07.78 Kingsbury, Warks.
v 21.06.79 Petworth Park (ABW) 190km SSE
+ 01.09.81 Tamworth, Staffs. 210km NNW

Three geese from Petworth were found in Berkshire in 1981, and others in Hampshire. Are such movements of a formerly sedentary species connected with local over-population? Whatever the cause, the prophetic forecasts of Hughes (SxBR. 25: 65) have proved remarkably accurate.

ESTUARY AND COASTLINE COUNTS 1981/82

by A. J. Praier

For the 19th consecutive year the estuary and coastline counters turned out to document another fascinating winter for birds. The recurrent cold spells throughout late December and January may have been the reason for some dramatic changes in numbers. Tables I-IV present the basic data.

The large western harbours of Pagham and Chichester dominate numbers as Tables I and II show. The Brent Goose, despite another breeding failure and lower world numbers, climbed by 24% at Pagham and 22% at Chichester; they were still far below the 1979/80 numbers and fortunately there was very little grazing on winter cereals. The grassland refuges seem to have carried most inland feeders. The winter drove wildfowl into the harbours with record Shelduck and Teal numbers, up by about 50%; Wigeon doubled, Pintail increased by 25% and Great Crested Grebes were up by two-thirds. In contrast, waders mostly hovered around the 'normal' levels, with all of the important species maintaining numbers. The main exception was Black-tailed Godwit, a species which usually decreases significantly in severe weather.

TABLE I. WILDFOWL COUNTS IN PAGHAM, CHICHESTER, LANGSTONE AND PORTSMOUTH HARBOURS 1981/82

	1981				1982			
	Sept. 12th*	Oct. 17th	Nov. 14th	Dec. 12th	Jan. 23rd	Feb. 13th**	Mar. 13th***	
Little Grebe								
Pagham	4	27	38	28	17	9	8	
Chichester	3	20	80	70	35	34	38	
Langstone	—	4	7	27	5	2	4	
Portsmouth	14	—	—	1	9	1	22	
Great Crested Grebe								
Pagham	24	26	29	17	7	—	5	
Chichester	—	10	31	11	22	11	9	
Langstone	4	4	36	30	20	10	6	
Portsmouth	—	1	—	—	5	—	—	
Slavonian Grebe								
Pagham	2	—	32	13	—	—	3	
Chichester	—	—	5	2	12	4	—	
Langstone	—	—	—	—	2	—	—	
Portsmouth	—	—	—	—	2	—	—	
Black-necked Grebe								
Pagham	—	—	—	—	—	—	—	
Chichester	—	—	—	—	—	—	—	
Langstone	—	—	—	—	—	—	—	
Portsmouth	—	—	—	—	—	—	—	
Canada Goose								
Pagham	13	24	12	24	4	17	17	
Chichester	42	45	50	108	55	39	32	
Langstone	—	—	—	—	—	—	—	
Portsmouth	30	34	46	55	17	4	11	
Brent Goose								
Pagham	—	6	382	1863	1800	773	5	
Chichester	—	204	6089	8632	8571	4682	2431	
Langstone	8	1400	5175	6185	5700	4716	2360	
Portsmouth	—	597†	2017††	2273†††	506	87	—	
Shelduck								
Pagham	76	467	1342	2093	4552	3788	2401	
Chichester	66	78	349	400	1751	2432	920	
Langstone	—	—	10	4	412	31	31	
Portsmouth	—	—	—	—	—	—	—	
Wigeon								
Pagham	9	345	585	1166	774	281	144	
Chichester	174	700	1018	1600	2000	200	70	
Langstone	—	—	—	—	92	6	—	
Portsmouth	—	—	—	—	—	—	—	
Teal								
Pagham	23	56	854	806	188	303	48	
Chichester	517	1424	3015	3253	1709	135	265	
Langstone	1254	900	1000	376	425	200	50	
Portsmouth	50	22	35	34	145	38	30	
Mallard								
Pagham	29	101	170	359	93	72	67	
Chichester	378	235	620	591	543	346	235	
Langstone	93	89	100	201	153	60	20	
Portsmouth	250	232	244	194	34	88	48	
Pintail								
Pagham	—	5	21	224	300	2	—	
Chichester	14	40	89	91	210	157	4	
Langstone	—	3	4	2	30	15	—	
Portsmouth	—	—	—	—	—	—	—	
Shoveler								
Pagham	—	1	2	12	15	13	3	
Chichester	6	35	13	13	3	14	7	
Langstone	61	68	93	213	174	55	30	
Portsmouth	1	23	8	19	19	26	3	
Eider								
Pagham	12	2	18	1	1	9	4	
Chichester	—	—	—	—	—	—	—	
Langstone	—	—	—	—	—	—	—	
Portsmouth	—	—	—	—	—	—	—	

Notes: Also counted but not included in Table: Black-throated Diver, Bittern, Barnacle Goose, Cormorant, Heron, Gadwall, Garganey, Tufted Duck, Scaup, Long-tailed Duck, Smew, Goosander, Moorhen, Coot, Water Rail.
 * Portsmouth count 13 Sept.
 ** Langstone and Portsmouth counts 27 Feb.
 *** Langstone and Portsmouth counts 27 Mar.
 † count 25 Oct.
 †† count 8 Nov.
 ††† count 29 Nov.

TABLE II. WADER COUNTS IN PAGHAM, CHICHESTER, LANGSTONE AND PORTSMOUTH HARBOURS 1981/82

	1981				1982			
	Sept. 12th*	Oct. 17th	Nov. 14th	Dec. 12th	Jan. 23rd	Feb. 13th**	Mar. 13th***	
Oystercatcher								
Pagham	180	160	191	109	303	147	236	
Chichester	1	1414	1183	1073	1544	850	650	
Langstone	710	1500	1600	1000	1013	899	655	
Portsmouth	145	423	594	528	245	340	185	
Ringed Plover								
Pagham	308	40	14	77	53	175	58	
Chichester	19	177	425	215	207	197	61	
Langstone	214	48	380	531	547	48	12	
Portsmouth	170	53	81	14	9	15	10	
Golden Plover								
Pagham	12	463	162	116	1	54	43	
Chichester	130	161	556	485	763	605	130	
Langstone	1	6	—	4	—	—	—	
Portsmouth	—	—	—	—	—	—	—	
Grey Plover								
Pagham	630	231	502	461	643	588	720	
Chichester	1320	1332	1591	1510	1716	1666	1359	
Langstone	730	1063	1016	486	367	406	522	
Portsmouth	—	45	135	187	250	418	13	
Lapwing								
Pagham	49	406	1144	1000	272	2698	62	
Chichester	526	926	1849	3037	2032	2792	262	
Langstone	444	400	735	512	500	783	50	
Portsmouth	117	15	—	424	75	225	1	
Knot								
Pagham	8	—	2	—	—	—	—	
Chichester	—	—	—	500	27	410	6	
Langstone	15	267	935	373	945	324	100	
Portsmouth	—	10	820	771	520	398	21	
Sanderling								
Pagham	—	174	559	1	109	9	204	
Chichester	—	—	—	—	—	—	—	
Langstone	—	—	—	—	—	—	—	
Portsmouth	—	—	—	—	—	—	—	
Dunlin								
Pagham	1024	500	1704	2200	2911	1075	1710	
Chichester	94	3872	12875	23803	14892	12264	3309	
Langstone	1150	15000	29000	19400	18000	21000	1950	
Portsmouth	220	1160	6670	10620	6070	8000	551	
Ruff								
Pagham	9	60	25	16	16	114	1	
Chichester	14	1	3	3	7	7	30	
Langstone	1	1	—	—	—	—	—	
Portsmouth	2	—	—	—	—	—	—	

TABLE III. COUNTS OF SELECTED SPECIES OF WILDFOWL AND WADERS AT RYE HARBOUR & PETT LEVEL, SEPTEMBER 1981-MARCH 1982
(Co-ordinated by R. C. Knight and P. N. Rouse)

	1981			1982			
	Sept. 12th*	Oct. 17th	Nov. 14th	Dec. 12th	Jan. 23rd	Feb. 13th**	Mar. 13th***
Snipe							
Pagham	5	9	28	140	43	87	35
Chichester	69	137	242	127	295	148	60
Langstone	7	70	50	50	50	120	45
Portsmouth	18	7	10	6	11	9	5
Black-tailed Godwit							
Pagham	37	100	43	35	240	234	546
Chichester	500	749	433	391	266	229	201
Langstone	1045	325	545	98	343	247	100
Portsmouth	35	231		2			
Bar-tailed Godwit							
Pagham	13	14	5	10	20	3	10
Chichester	185	439	164	542	732	219	100
Langstone	215	412	600	504	364	842	300
Portsmouth			3			3	
Whimbrel	7						
Pagham	5						
Chichester	3						
Langstone							
Portsmouth							
Curlew							
Pagham	172	245	255	192	265	503	391
Chichester	2119	1418	1214	1294	921	1207	1078
Langstone	1855	970	981	410	761	628	392
Portsmouth	359	410	500	550	220	330	229
Spotted Redshank							
Pagham	7	2	1		1		1
Chichester	8	7	10	2	3		
Langstone	45	2	2	1			
Portsmouth		1					
Redshank							
Pagham	474	183	445	370	318	250	389
Chichester	2076	1863	2160	1148	1399	1645	1595
Langstone	2135	596	949	407	417	445	127
Portsmouth	950	731	720	120	27	150	184
Greenshank							
Pagham	30	14				1	
Chichester	115	36	16	5	2	6	6
Langstone	181	6	2	2		1	2
Portsmouth	17			1			1
Turnstone							
Pagham	353	183	210	81	253	448	475
Chichester	16	48	114	84	21	135	36
Langstone	104	128	305	105	50	229	164
Portsmouth		1	2	10	44	45	23

Notes: * Also counted but not included in Table: Avocet, Stone Curlew, Little Ringed Plover, Little Stint, Purple Sandpiper, Jack Snipe, Green Sandpiper, Common Sandpiper.
* Portsmouth count 13 Sept.
** Langstone and Portsmouth counts 27 Feb.
*** Langstone and Portsmouth counts 27 Mar.

TABLE IV. WADER COUNTS SUSSEX COAST BASED ON COUNTS AT PEVENSEY, CUCKMERE, NEWHAVEN TIDE MILLS, ADUR SALTINGS, GORING-FERRING, ARUN-CLIMPING-MIDDLETON, 1981/82

	1981			1982			
	Sept.*	Oct.*	Nov.	Dec.	Jan.	Feb.	Mar.*
Oystercatcher	1	71	200	232	160	220	150
Ringed Plover	223	159	97	257	351	135	69
Kentish Plover						1	
Golden Plover	80	130	100	276	500	560	1200
Grey Plover		10	125	157	210	8	
Lapwing	800	3076	3940	2845	1767	8562	3042
Knot	20						8
Sanderling	45		181	392	289	276	281
Purple Sandpiper	167	131	654	1475	2535	1569	867
Dunlin		7					49
Ruff							
Jack Snipe		1	6	4	2	1	9
Snipe	38	179	463	722	681	477	276
Bar-tailed Godwit	4						
Curlew	14	16	14	34	30	15	
Spotted Redshank	4						
Redshank	136	80	265	159	298	190	99
Turnstone	60	140	158	122	110	61	190

Notes: *no counts done at Arun-Climping-Middleton (Sept.), Newhaven Tide Mills (Oct. and Mar.).

At Rye Harbour and Pett Level, Table III, the high numbers and excellent diversity were maintained. One change in the counts this year has been the regular (September to March) counts at all coastal sites. As a result, much more data on the interesting, and often important, coastal sites have been obtained. However, space precludes a full summary of individual sites, so they have been amalgamated into Table IV. I hope observers will appreciate the reason for this. In general, numbers were similar to previous years with significant numbers of Ringed Plovers on the Adur and at Ferring, Grey Plovers at Ferring, Sanderling at Climping and Ferring and Redshank in the Adur. Pevensey's specialities of Lapwing, Golden Plover and Snipe were again abundant, while the Cuckmere also had up to 300 of the last species. Finally, Newhaven's 37 Purple Sandpipers in February were joined by 14 at Pevensey, 10 at Climping and 2 on the Adur to make a record count from these sites.

THE BIRDS OF BRINSBURY ESTATE, WEST SUSSEX

by A. J. Prater

The Sussex Farming and Wildlife Advisory Group was set up in December 1975 and has as one of its main aims the provision of management advice to farmers. It became obvious that inadequate wildlife data were available for typical farmland in the county and, when the West Sussex College of Agriculture at Brinsbury, near Pulborough, invited the Sussex FWAG to carry out an integrated wildlife survey, this was readily accepted. The survey included studies of birds, plants, insects and mammals, plus information on the changing nature of the framework of this estate. A report on the survey has been published by the West Sussex County Council in 1981.

Studies of the bird communities of farmland in Sussex are few, yet this habitat is extensive and makes an important contribution to the numbers of birds breeding in the county. This paper describes the results of the survey of the bird populations breeding on the Brinsbury Estate.

METHODS

The areas surveyed

The 227 ha. estate, owned by West Sussex County Council, lies on heavy clay. It operates a mixed cereal (107 ha.) and grazing (59 ha.) regime, and has four copses (total area 10.0 ha.), a wet valley and a fairly extensive boundary hedge system. Many internal hedges had been severely managed or replaced by wire. A map of the estate is shown in Figure 1. It lies at 10-30 metres above sea level. An area of 18.3 ha. of woodland managed by the Forestry Commission separating two parts of the farm was also included in the survey. These woods are mainly a mixture of oak and conifers, the latter being Redwood, Douglas Fir and Japanese Larch, but as they were only established in the late 1950s they are still fairly young and dense. As the farm's purpose is to teach, it includes small enterprises likely to be excluded from similar strictly commercial farms. Otherwise it is typical of the Sussex Weald.

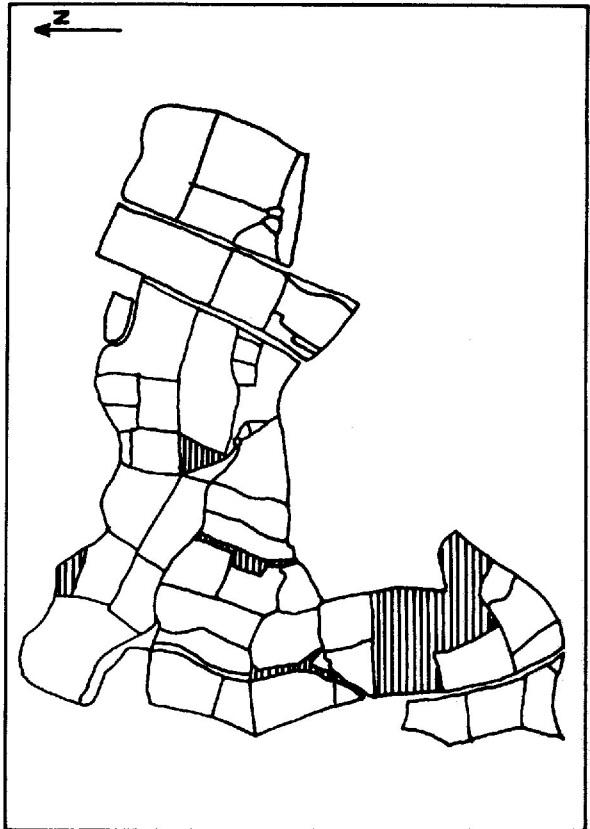


Figure 1. Map of the Brinsbury Estate and Forest Commission woodland showing field boundaries with woods and copses hatched

The survey methods

The bird survey was carried out between early April and early July 1980 following the rules of the International Bird Census Committee (1969). The farm was divided into four separate Common Bird Census plots which were covered by three teams of two observers and the other by a single observer. The registrations of birds were plotted on 1:2500 maps in the field and composite species maps were produced subsequently. These were analysed using Standard CBC Rules of Analysis (I.B.C.C. 1969).

RESULTS

Total bird community

A total of 764 territories of 59 species were determined on the Brinsbury Estate. A further ten species were recorded and may have been breeding in very small numbers on, or immediately adjacent to, the Estate. Thus 69 species were present. In addition 283 territories of 34 species, plus three species seen only on a single visit, were recorded from the Forestry Commission woodland. No species was found breeding exclusively in these woodlands, although the only sighting of a Woodcock was made there.

A detailed summary of the numbers of territories in these two areas is presented in Table I. Of note is the dearth of finches, a feature no doubt due to virtual absence of rough field corners. There were, however, some surprises, the

TABLE I. THE BIRD COMMUNITY OF THE BRINSBURY ESTATE AND FORESTRY COMMISSION WOODLAND IN 1980

	Brinsbury	Density (prs./km ²) on farmland	F. Commission	Total
Chaffinch	94	41	15	109
Wren	59	26	29	98
Blackbird	56	25	31	87
Robin	49	21	28	77
Blue Tit	45	20	11	56
Wood Pigeon	9	4	44	53
Duncock	44	19	5	49
House Sparrow	48	21	—	48
Great Tit	34	15	8	42
Starling	30	13	5	35
Song Thrush	14	6	12	26
Go.crest	4	2	19	23
Blackcap	11	5	8	19
House Martin	19	8	—	19
Rook	18	8	—	18
Whitethroat	18	8	—	18
Skylark	17	7	—	17
Magpie	13	6	2	15
Chiffchaff	4	2	10	14
Jackdaw	11	5	2	13
Yellowhammer	13	6	—	13
Jay	7	3	5	12
Nightingale	4	2	7	11
Willow Warbler	6	3	5	11
Turtle Dove	6	3	4	10

Less frequent species: only species with 10 or more territories are tabulated. All others present are summarised below as total numbers on the census area.
 9—Carrion Crow, Long-tailed Tit, Treecreeper; 8—Mallard; 7—Coal Tit, Cuckoo, Great Spotted Woodpecker, Tree Sparrow; 6—Moorhen; 5—Bullfinch, Mistle Thrush; 4—Goldfinch, Nuthatch, Pheasant, Pied Wagtail, Reed Bunting, Stock Dove; 3—Grey Partridge, Willow Tit; 2—Collared Dove, Greenfinch, Green Woodpecker, Kestrel, Red-legged Partridge, Sparrowhawk, Tawny Owl; 1—Coot, Lapwing, Lesser Spotted Woodpecker, Lesser Whitethroat, Linnet, Marsh Tit, Swallow, Yellow Wagtail.

most significant being the presence of 11 pairs of Nightingales. They were found in dense boundary hedges and in the woodland. This number was over 1% of the total recorded in Sussex during the Nightingale survey of 1980 (Newnham 1981).

In terms of overall density of birds, Table II shows that the farm held 337 pairs/km². This is probably close to the national mean for farmland which may vary from 700 prs/km² (Benson & Williamson 1972) to 123 prs/km² (Wyllie 1976). There were tremendous variations within the different habitats in the farm with copses and the farm building complex having about five times the density of birds that was found on the farmland. Densities were even higher in the Forestry Commission woodland.

TABLE II. DENSITY OF BIRDS ON THE BRINSBURY ESTATE AND FORESTRY COMMISSION WOODLAND IN 1980

	Area (ha.)	Number Pairs	Density Pairs/km ²	Total no. of species	No. species forming 75% of community
Farmland	208.0	524	252	55	13
Farm copses	10.0	127	1270	34	13
Main farm buildings	9.0	113	1256	23	7
Whole farm	227.0	764	337	59	16
F.C. Woodland	18.3	283	1546	37	12

Note: F.C. = Forestry Commission.

Birds and hedgerows

Botanists examined all hedgerows which were then classified according to structure and number of plant species present per unit length. Table III shows the effect of the structure of hedgerows on the total bird density which used them. Clearly dense hedges are the best, but there was little difference between low trimmed hedgerows or field boundaries where wire, some scrub along the fence, and standard trees were found. Both were very second-rate. As soon as wire was the only field boundary, no territories were present although occasionally fence posts would be used as song perches.

TABLE III. THE FREQUENCY OF THE MAIN FARMLAND BIRD SPECIES IN DIFFERENT HEDGEROW TYPES AT BRINSBURY

	Length in kilometres	Number of territories	Density of territories per Km.
Dense, high hedges	9.3	210	22.6
Low hedges	1.025	8	7.8
Wire + standard trees	4.075	24	6.4
Wire	2.65	0	0

Finally, the density of birds is related to the botanical (and probably therefore entomological) richness even of the dense hedgerows. Figure 2 plots the number of species of hedgerow plant against the number of bird territories per km². The relationship is moderately distinct ($r = 0.488$, $P < 0.05$), the lack of clear significance is probably due to the multiplicity of management techniques used in the past. Also clear from Figure 2 is that botanically and ornithologically richer hedgerows are boundary hedges. Similar structured internal hedges are less good.

DISCUSSION

The Weald of Sussex and Kent is an extensive geological area where the land use is primarily mixed farmland and woodland. The survey results give a good indication of the birds which can be found on typical wealden farmland, although

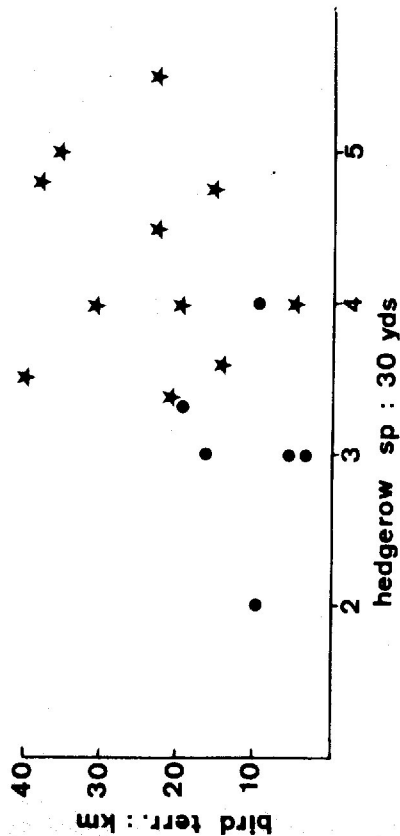


Figure 2. Relationship between bird territories and plant species richness in dense hedgerows at Brinsbury. Boundary hedgerows are starred and internal hedgerows dotted

the data were obtained in a single year and bird populations fluctuate considerably between years due to a multiplicity of factors. Perhaps the most potent is the severity of the winter. Fortunately for this survey the 1979/80 winter was not particularly cold and no great bird losses occurred. The previous winter resulted in a high mortality of resident birds (Cawthorne and Marchant 1980) with the result that many populations were depressed during summer 1979. Most species had substantially recovered by summer 1980 (Marchant and Taylor 1981) so the numbers recorded by the survey are unlikely to have been influenced greatly by this factor.

It must be expected that densities of birds on open farmland, even if interspersed with hedgerows, would be much lower than in the areas of copse, woodland or scrub. This survey highlights the value of these areas and, perhaps more surprisingly, indicates that even the farm building complex holds many birds. A careful examination of the community structure of each main habitat division shows that although birds are numerous around farmyards there is a poor species diversity. Here it was dominated by House Sparrows, House Martins, Wrens and Chaffinches which alone comprised 60% of the community. As a habitat, buildings were the only places where the first two species, plus Swallow, nested.

Several of the scarcer species (e.g. Lesser Spotted Woodpecker, Green Woodpecker, Willow Tit, Tawny Owl, Sparrowhawk) were associated with the main copses. In addition many of the territories of commoner hedgerow birds extended just into copses. There is no doubt that they form an important habitat which adds to the diversity and abundance of birds on farmland.

The Forestry Commission woodland may not be typical of Wealden woods for it lacked large stands of deciduous trees, nor did it contain more mature conifers. However, it is clearly an interesting and varied habitat supporting the densest population of birds. The influence of the conifers can be seen in the many Goldcrests, but from a farming point of view the 44 pairs of Wood Pigeons may be potentially less desirable. One could argue that this indicates that planting small deciduous woods rather than coniferous may have additional side benefits!

Despite surveying over 17 km. of hedgerows on this farm, we still do not have enough data to look at all of the variables of structure and management and see how they affect bird populations. From the results it emerges that the dense hedgerows are the best for birds, and additionally the more floristically rich they are (usually the old boundary hedges) then the more birds they will support.

Internal hedges tend to be more influenced, directly and indirectly, by agricultural practices and so are less good. There is little doubt that adding diversity when planting hedges and by careful control of spraying or ploughing up to and trimming hedges, may be beneficial to birds on the farm.

ACKNOWLEDGEMENTS

I would particularly like to thank the observers who provided all the data; they were M. Banks, R. Chapman, Mr. & Mrs. F. W. Dougherty, S. W. M. Hughes, R. J. Sandison and Mr. & Mrs. A. Simpson. Thanks also go to the late Mr. C. Todd, the Principal of Brinsbury College, and Mr. D. Fisher, the Farm Manager, and their staff for help throughout the survey; and to Mr. P. Brown and Miss A. Griffiths who, on behalf of the West Sussex County Council, gave advice and practical help. Mrs. M. Millner helped prepare the data and this paper.

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THE BREEDING STATUS AND DISTRIBUTION OF SNIPE, REDSHANK AND YELLOW WAGTAIL IN SUSSEX

by Owen Mitchell

During 1980 and 1981 the Sussex Ornithological Society surveyed the populations of Snipe (*Gallinago gallinago*), Redshank (*Tringa totanus*) and Yellow Wagtail (*Motacilla flava flavissima*), breeding in Sussex. This followed concern that the present county populations might be seriously declining because of continued drainage of wetland areas, bringing the land into more intensive agricultural use. These 3 species were last seriously studied during 1965 to 1967 (Shrubb 1967). In the following text that survey is called the 1967 survey, the results of which showed that all 3 species had declined as breeding birds in the county since 1938 and this decline had continued through the 1950s. It is against this background of decline that this paper sets out and discusses the results found in the present survey. Comparisons can be made with the 1967 survey, as the results are set out in a broadly similar format to that adopted in Shrubb (*op. cit.*).

METHOD AND COVERAGE

It was intended to survey as thoroughly as possible all the major levels and other principal sites, including any missed in the 1967 survey, notably the Brede valley. Efforts were made to fully cover those sites where coverage had previously been incomplete, for example the Rother Levels and East Guldeford Level. This is difficult to achieve and a certain amount of determination is required from those observers participating. The majority of the terrain is seamed with deep ditches and dykes and much back-tracking is inevitably involved. On larger areas records were plotted on maps, and at some, for example Pevensy Levels, small teams of observers were used, each member being asked to fully search a nominated section of the main area, from which the final results could be collated.

A survey of this type is best done in the last 10 days of May and the first 14 of June, in order to avoid recording migrants, or missing birds dispersing early to the coast. Snipe and Redshank are often in their breeding areas well before that and assessments can be attempted from March onwards, but a count in the May/June period should always be done.

Observers participating in the survey were asked to visit a nominated site on as many occasions as possible during the breeding season, and count birds of each survey species present, bearing in mind that the welfare of the birds must be the first priority. Absolute breeding proof was not required and rarely obtained but, if breeding was confirmed, most observers commented thereon. Observers were asked to record circumstances suggesting breeding, such as display or 'drumming', alarm calls or distraction displays. Comment was also sought on any factors considered relevant to breeding success, for example drainage, disturbance or crop spraying.

RESULTS

The results are set out in Tables I and II and are discussed more fully under specific headings below. Table I details all the sites or areas surveyed and the numbers of pairs of the survey species located, together with brief comments on the status of the site and a comparison with the 1967 survey.

Generally, breeding densities of all 3 species are variable and sometimes confusing. Some specific densities are mentioned for some of the more important sites and Table II covers the high densities of Yellow Wagtails breeding in the extreme east of the county in the Rye/Rother Levels area, their stronghold in Sussex, where perhaps the species approaches maximum density.

Most observers were able to provide an accurate assessment of breeding pairs for each species. Where a range of figures for the year was given, the mean has

TABLE I. LOCALITIES SURVEYED AND BREEDING NUMBERS OF SNIPE, REDSHANK AND YELLOW WAGTAILS RECORDED IN SUSSEX IN 1980 & 1981

Locality	Number of pairs			Remarks
	Snipe	Redshank	Yellow Wagtail	
River Rother (West Sussex)	8	9	0	No comparative data.
Lickfold	1	0	0	No comparative data.
Lavant	0	c.3	0	Little change; interesting chalk stream site.
Chichester GP	0	1	0	As 1967 survey. Unlikely to survive long due to disturbance.
Chichester Harbour (Thorney Island (part), East Head to Fishbourne, Bosham, Chidham)	0	20	4	Increase of Redshank at Chidham, decline at Bosham since 1967, otherwise little change.
Selsey-Sidlesham-Bracklesham	1	23	0	Small increase since 1967.
Pagham Harbour (including marshes over north sea-wall)	0	20	0	Redshank have doubled since 1967, with improved wardening of LNR. Noted on cereal fields.
Amberley-Pulborough marshes (including Bury)	28	46	40	Stable or perhaps small increase in both waders since 1967.
Lower Arun Valley (Houghton Bridge to Littlehampton)	4	23	c.4	Fairly stable; increase in Redshank since 1967 possible. No Yellow Wagtails below Lyminster.
Adur Valley	2	10	c.4	Marked decline since 1967 especially of Yellow Wagtail; all species now absent below Steyning.
Ouse Valley	1	16	19	Main site Lewes Brooks. Snipe probably declined since 1967, other species stable.
Barcombe Reservoir	1	1	2	Slight decline since 1967.
Glynde Levels	5	2	10	Fairly stable; perhaps small decline in Redshank; increase in Snipe since 1967.
Cuckmere Valley	0	2	2	Gradual decline in Redshank since 1967.
Pevensy Levels (including Horse-Eye to Wallers Haven)	3	9	54	Catastrophic decline in Snipe from 21 pairs in 1967; other species fairly stable.
Rother Levels (East Sussex. East Guldeford - Tillingham - Walland - Wittersham area)	0	c.7	222	The Sussex stronghold for Yellow Wagtail with dramatic increase since 1967. Decline in Snipe
Pett Levels	0	0	11	Increase in Yellow Wagtail since 1967.
Rye Harbour and marshes	0	12	26	Redshank fluctuate; increase in Yellow Wagtail since 1967.
Midrips/Wicks	0	5	0	Decline for both Redshank and Yellow Wagtail since 1967 due to drainage.
Brede Levels	2	3	28	No comparative data.
Filsham/Crowhurst	3	0	2	No comparative data.
Arlington Reservoir	1	0	4	Recently colonised with the maturity of the reservoir.
Horsted Keynes	c.2	0	0	No comparative data.
Ashdown Forest/Crowborough Bog. Five sites in all	7	0	0	No comparative data. Crowborough Bog drained in 1981.
Robertsbridge	c.5	0	0	No comparative data.
TOTALS	74	212	432	

Note: Nil returns were received from Harting (4-6 pairs Redshank in 1967), Darwell Res. (where both Snipe and Yellow Wagtail bred in 1967), Weir Wood Res., Bewl Bridge Res. and Ardingly Res.

been taken. Although a few pairs may have been overlooked, or some over-estimate made in this way, the overall effect seems negligible.

Most field-work was done in 1980, with some further monitoring in 1981 on the larger sites such as Amberley Wild Brooks and the Rother Levels. Inevitably, where sites were surveyed in both years, some variations in totals were obtained. These were generally rather slight and the higher figures have been used, as these are deemed to be the most accurate, bearing in mind variations in observer coverage and varying site accessibility.

Snipe

This is a notoriously difficult species to survey and, inevitably, some pairs may have been overlooked, particularly isolated pairs in some parts of the interior. Repeated visits to sites often recorded varying results and observers commented on several factors. Highest counts of drumming birds were made on calm, dry evenings or dull and drizzly days, apparently contrasting conditions; nor do Snipe always drum or display at times convenient to the observer! Odd pairs also breed in apparently unlikely small damp patches. Thus records of pairs breeding in the interior were researched from the county files for 1971 to 1978 and these records were taken into account in estimating the population; where possible these sites were visited.

The records suggest that this species is only very thinly scattered throughout the county, although more widely dispersed in the interior than either Redshank or Yellow Wagtail. Densities are very low everywhere and no attempt has been made to assess them for this species. The total number of pairs located during the survey was 74 and, allowing for about 12 pairs from 8-10 sites drawn from the county files as noted above, a fairly accurate population of 86 pairs can be calculated.

The 1967 survey recorded a total of c.50 pairs but coverage was incomplete and Shrubbs (1967) estimated a county population of c.100 pairs. The results of this recent survey suggest some population decline since 1967 but this does not appear to be as serious as anticipated. However there is no room for complacency and Snipe are probably gradually declining as a result of continued drainage of marshland, placing a great importance on those areas where regular breeding occurs. Examples of such drainage were obvious to many observers and can be highlighted by Crowborough Bog, a declared site of special scientific interest (SSSI). This site was a regular breeding area for Snipe and, in 1980, 3 pairs were present in the area of wet sphagnum bog, their traditional spot. The species was present again in early spring in 1981 but by early June, after a change of ownership, the site was drained to become grazing land for cattle (J. W. Houghton *in lit.*). Its wildlife interest is now largely destroyed and Snipe no longer breed there.

Unlike Redshank, Snipe favour sites away from the coast and, with the exception of Pevensy Levels and one pair at Ham marsh, Sidlesham, are virtually absent therefrom. On the evidence of this survey there is a West Sussex bias in the distribution of the species, with 53 pairs, 61.6% of the total breeding, there and only 33 pairs, 38.4% in East Sussex. The important site of the Pevensy Levels held a population of only 3 pairs, compared to c.21 pairs in the 1967 survey, a decline of c.86%. Whilst some pairs may have been overlooked, the overall picture at this site is one of massive decline in Snipe. The reasons for this are not clear, as both Redshank and Yellow Wagtail have remained fairly stable compared with 1967, and Pevensy Levels, like some of the other large marshland areas, still support large wintering populations of Snipe.

The Arun valley is quite clearly the species' breeding stronghold in Sussex. The Amberley/Pulborough concentration of 28 pairs, the lower Arun valley total of 4 pairs and the upper Arun/River Rother total of 8 pairs accounts for 46.5% of the county population; any adverse land use here, such as increased drainage for pasture improvement or cereal crops, would pose a major question mark over the continued status of Snipe as a breeding bird in West Sussex, and perhaps the whole county.

Redshank

This is a noisy and obvious bird on its breeding grounds and it is likely that most, if not all, of the breeding sites in the county are known. Coverage was good and it is therefore likely that the figures for this species are the most complete. An overall total of 212 pairs was located but a few pairs were probably missed at Thorney Island, where coverage was incomplete.

Redshank pairs are capable of breeding in reasonably close proximity to each other but, even on the larger sites, seem to favour some parts more than others. Thus densities were found to be very variable, with the main concentrations at the western end of the county. The Chichester and Pagham Harbours complex accounts for 29.7% (63 pairs) of the total population and still holds the highest density, with 9.7 pairs per Km^2 . As noted by Shrubbs (1967) this might be expected in view of the habitat.

Away from the coast the species breeds mainly on the larger brooks and levels but there are also a number of minor sites holding one or more pairs, for example Barcombe Reservoir and Lavant. The Arun valley holds the highest inland density. This site (including the upper Arun/River Rother area) held a total of 78 pairs, representing 36.8% of the county population. The species is most numerous in the Amberley to Littlehampton section, which holds about 64 pairs, a density of c.4.5 pairs per Km^2 .

In East Sussex Redshank are much more thinly spread, with a total of only 57 pairs, just 26.9% of the total county population. The main concentrations are in the Ouse valley (16 pairs) and at Rye Harbour (12 pairs), the latter being under persistent human recreational pressure, including a proposed marina. These 2 sites hold 13.2% of the total county population but about 50% of the East Sussex total.

Some variation in distribution was apparent, perhaps due to changing land use and drainage. Several observers commented that Redshank bred in relatively dry locations and in some cases actually within cereal fields. However drainage and pasture improvements have succeeded in causing local reductions in breeding Redshank in many areas. An example is the lower Adur valley, which has suffered particularly badly. Formerly Redshank bred as far down as the wet meadows just above Shoreham airfield but apparently they do not now breed south of Steyning; neither do the other 2 survey species. Several factors have affected this area considerably, including increased disturbance (e.g. from boating and hang-gliding), new road schemes (the Shoreham fly-over and the Steyning by-pass) and land drainage, allowing much greater areas to be ploughed for cereal crops. Whilst all these factors have assisted in making the lower Adur so sterile, persistent drainage over the years can be cited as the major cause, a fact that holds true for many other areas.

However, despite the contraction of breeding sites, and continual pressure thereon, it is pleasing to record that the species' breeding population seems to be fairly stable; a few local increases may have occurred. The 1967 survey located c.151 pairs and Shrubbs (1967) estimated the county population as c.250 pairs but it is possible that the true figure fell between the two. Observer coverage during the present survey was probably more thorough and consistent, so the total of 212 breeding pairs today seems quite accurate. Clearly, with many of the small peripheral sites being made unsuitable, the importance of the larger brooks and levels increases, which increases the vulnerability of the species, for it holds its status by concentrating in favoured areas. Three sites only, the Chichester/Pagham area, the Arun valley and the Lewes/Ouse area, now hold between them 74% of the population, whereas in 1967 the figure was 42%. Over some other parts of the county the species has declined.

Yellow Wagtail

Coverage of the main levels was excellent and the records suggest that this species has increased since the 1967 survey. At that time c.151 pairs were located (peak figure, 1965) and the total county population was estimated at between 150-

TABLE II. BREEDING SEASON DISTRIBUTION AND DENSITY OF YELLOW WAGTAILS IN (EXTREME) EAST SUSSEX STRONGHOLDS

General Area	Section	Year of Observation	Area in Km^2	No. of Pairs	Density Pairs/ Km^2
Walland Marsh	Broomhill Level (E. of Camber)	1981	6.7	52	7.8
	East Guldeford Level	1980	13.4	102	7.6
	Iden Lock Levels/area	1981	3.6	23	6.4
Rother Levels	Wittersham Levels (Sussex part)	1981	2.8	17	6.1
	Wet Level (Sussex part)	1981	1.9	11	5.8
Tillingham Brede Levels	Tillingham Valley	1980	1.5	6	4.0
	Winchelsea Marsh (between Rye/Winchelsea)	1981	2.5	11	4.4
Rye	Rede Valley	1980	7.1	28	3.9
	Rye Harbour SSSI	1980	6.5	26	4.0
	Pett Level	1980	4.0	11	2.8
TOTAL			50	287	5.7

270 pairs; the true figure probably lay between the two. The present survey located a total of 432 breeding pairs, and it seems reasonable to assume that this increase is genuine. This increase must be put into perspective, as it could be local. Whilst some sites show a large increase, others show a decrease, e.g. the Adur Levels held only c.4 pairs during 1980, compared with the 1967 survey total of c.20 pairs, a decline of 80%. Considerable annual fluctuations occur with such a migratory species as this, and numbers at individual sites can vary widely. Thus Pevensey Levels held c.100 pairs in 1949, c.70 pairs in 1965-67, 166 pairs in 1976 and only 54 pairs in 1980-81. Pett Levels held 1-2 pairs in 1965-67 but 11 pairs in the present survey.

In contrast to both Snipe and Redshank, East Sussex is the most important area for Yellow Wagtails. All the major breeding sites for this species were situated therein, with the important exception of the Amberley/Pulborough marshes (where they are very scarce below Houghton, despite much apparently suitable habitat). The major stronghold for the Yellow Wagtail in Sussex is the extensive area of wet grass levels in the extreme east, in the Rye/River Rother area out to the county border. Table II sets out full details of the breeding densities in this area, which ranged from 2.8 to 7.8 pairs per Km^2 and averaged 5.7 pairs per Km^2 . The population here is remarkable and accounts for two-thirds of the entire county population. The reasons for this concentration are not fully understood. The area consists mainly of sheep-grazed pastures, which are very closely cropped and the species seems less tolerant of longer grass or brackish conditions than Redshank. However the Yellow Wagtails actually nest in the longer ungrazed vegetation along the banks of streams and ditches throughout the areas, or often in the grassy tussocks around old fence posts. Generally breeding pairs seem to be very selective in their choice of nest site and can be described as loosely colonial. It is possible to search long stretches of apparently suitable habitat without any success and then find 3 or 4 pairs in very close proximity.

There was one record of the Blue-headed race *M.f.flava* at Pett Level in 1980. Interestingly up to 1938 this race bred much more commonly (Walpole-Bond, 1938), forming up to 3.3% (1 in 30) of the Yellow Wagtail population but, by 1948, there were no breeding records (Shrubbs, 1979). It seems probable that since 1948, this race has bred only very rarely.

DISCUSSION

Despite all the pressures that exist, the populations of these species are rather better than expected; Redshank numbers are roughly comparable with the 1967

totals (although they maintain their status only by concentrating at favoured sites), Yellow Wagtails appear to have increased and only the Snipe shows any real evidence of a decline. However analysis of the figures shows that the 3 species are polarising, the waders concentrating in the west, the wagtail in the east, as shown in Table III.

TABLE III. CHANGING DISTRIBUTION OF BREEDING SNIPe, REDSHANK AND YELLOW WAGTAIL IN SUSSEX

Species	% nesting in West Sussex		% nesting in East Sussex	
	1965-1967	1980-1981	1965-1967	1980-1981
Snipe	49	62	51	38
Redshank	58	73	42	27
Yellow Wagtail	35	12	66	88

This situation leaves no room for complacency and several threats to wetland breeding habitats remain present, particularly with widespread drainage continuing at an alarming rate. This and more intensive agricultural methods are surely the greatest threat to the maintenance of our present breeding populations. Many marginal wetland sites have been drained and ploughed for cereal cultivation or improved grazing, and crop spraying sometimes causes concern, e.g. spraying was done in the nesting area of Yellow Wagtails in the Cuckmere valley at the height of the breeding season in 1980. The trend away from hay-making to silage-making may also be significant, as mowing takes place up to a month earlier, in the height of the nesting season.

Other drainage for road schemes or building land has played its part in the habitat decline to a lesser extent. But continual human recreational pressure is a major factor, particularly near the coast. Apart from land directly swallowed up to cater for the holiday trades, e.g. for caravan sites, or for marina complexes, many activities can threaten these birds when breeding. Such activities include boating, wind-surfing, angling and casual holiday encroachment. Finally there are the natural hazards of tides, weather or predators.

Whilst all these factors should be closely monitored in the future, to prevent, where possible, any further habitat loss, there is perhaps some room for cautious optimism. The figures speak for themselves and it is interesting to note that Redshank have apparently tried to adapt to changing conditions, with odd pairs nesting in or around cereal crops and drier localities. Of the 3 species, Snipe have suffered most and that situation is unlikely to change. The Arun valley, particularly Amberley Wild Brooks, remains the single most important area for all 3 species as nowhere else in the county do so many of each occur together.

SUMMARY

A breeding survey of the Snipe, Redshank and Yellow Wagtail carried out in Sussex during 1980 and 1981 found total populations of Snipe, 86 pairs (including an estimate of 12 pairs using minor sites researched from past breeding records in the county files), Redshank, 212 pairs and Yellow Wagtail, 432 pairs. Comparison with a similar survey concluded in 1967 indicates that only the Snipe showed any real evidence of decline. Redshank numbers had declined slightly but were roughly comparable and Yellow Wagtails had increased considerably, mainly in the extreme east of the county. Analysis of the records shows that Snipe and Redshank populations are concentrating in West Sussex, while Yellow Wagtails are concentrating in the east. These populations are discussed in relation to changes in land-use and threats to breeding habitats. Continued drainage of wetland, improvement of agricultural land and human disturbance are cited as the major threats to these species.

ACKNOWLEDGEMENTS

I am most grateful to all observers who participated in the survey and provided so much useful information; a list appears on page 3. Special thanks are due to Bernard Forbes for his help with Amberley Wild Brooks, Pat Bonham for his help with the Rother Levels and the breeding densities of Yellow Wagtails, and Stuart Hughes for his assistance in providing previous Snipe records. Finally thanks are due to Iris Simpson for secretarial help.

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THE BREEDING SUCCESS OF CANADA GEESE IN PETWORTH PARK

by S. W. M. Hughes and M. A. Hughes

The history and development of the flock of Canada Geese (*Branta canadensis*) based at Petworth Park has been described previously (Hughes, 1972). In September 1968 the autumn flock in the Park increased to over 200 for the first time and began to conflict with local agricultural interests. Breeding controls were introduced in 1969, so that 10 pairs raised only 10 young. Normal breeding was allowed in 1970, 1971 and 1972 and c.30, c.40 and 52 young were reared respectively, contributing to a further substantial increase in the West Sussex population.

Observations in 1974 and 1975 suggested that the colonially nesting pairs in Petworth Park, comprising c.40% of the breeding population known in West Sussex, had a much higher breeding success than solitary pairs nesting elsewhere in the county. With the size of the total population causing concern in several parts of the county, it seemed timely to ascertain the facts concerning breeding success, as these might have an important bearing on any future control measures.

METHOD

The study was planned to continue over 5 breeding seasons, from 1976 to 1980, but was concluded in 1979, when it was learned that breeding in Petworth Park was likely to be controlled in 1980. At Petworth the progress of individual nests was monitored from a distance and counts of young were made at least every 7-10 days between mid-April and the end of July. During the main hatching period more frequent visits were made to obtain information on brood size immediately after hatching and before brood amalgamation. No attempt was made to obtain data on clutch size, as regular access to the nesting islands on the main lake was impossible.

To obtain comparative data on fledging success observations were also made each year at other waters throughout West Sussex. No attempt was made to determine brood size at hatching for these 'control' pairs, as it was impossible for

us to sustain the required frequency of observation. At only 2 waters were more than one pair present and hence the possibility of brood amalgamation. Extra care was taken at both sites to ensure the accuracy of the data.

RESULTS

The size distribution of 60 newly hatched broods from 60 nests at Petworth is shown in Figure 1. Brood size varied from 1 to 11, the most commonly recorded sizes being 6 and 7.

Details of the number of pairs nesting, failed clutches, total young hatched, young lost and fledged in Petworth Park each year are given in Table IA, with comparative fledging data for 79 nests at a total of 18 other waters over the same period in Table IB. In each year, despite considerable variations in mortality, the fledging success of the birds in Petworth Park was higher than that for the other waters in West Sussex combined.

TABLE I. THE BREEDING SUCCESS OF CANADA GEESE IN WEST SUSSEX

A. PETWORTH PARK	1976	1977	1978	1979	Total
No. of pairs nesting	14	15	14	17	60
No. of clutches failing	0	0	0	0	0
Total young hatched	76	82	88	99	345
Total young lost	15	6	7	19	47
Total young fledged	61	76	81	80	298
Average brood size on hatching	5.4	5.5	6.3	5.8	5.75
Fledging success per nesting pair	4.4	5.1	5.8	4.7	5.00
B. 18 OTHER WATERS IN WEST SUSSEX					
No. of pairs nesting	10	12	28	29	79
No. of clutches failing	1	1	0	0	2
No. of young fledged	43	56	116	130	345
Fledging success per nesting pair	4.3	4.7	4.1	4.5	4.4

DISCUSSION

Broods of 11 goslings, as seen at Petworth in May 1976 and 1978, are exceptional. The range quoted for clutch size in this species by Cramp & Simmons (1977) is 3-11 but in M. A. Ogilvie's data on 75 clutches in this work, the largest clutch recorded was 10. It is also noteworthy that the most commonly recorded brood sizes at Petworth were 6 and 7, compared with 5 and 6 which were the most common clutch sizes recorded in Ogilvie's data. Whether these differences are real cannot be known and the results of another much larger study, in progress in Oxfordshire, is awaited with interest.

Gosling mortality at Petworth varied from 7% (1977) to 20% (1976). In 1976 5 well grown young were found dead on different occasions, without obvious cause, and another was found 600 metres from the lake badly mauled, suggesting that it had been taken by a dog. In 1979 high mortality (19%) was largely due to torrential rain-storms on 3 successive days when many goslings were 8-10 days old. In these 2 years of high mortality the final fledging success at Petworth was still slightly higher than that for the other waters in West Sussex.

When comparing fledging success in Table I it should be noted that 2 clutches studied failed completely at other waters; at one a fox killed the sitting bird. Foxes were also said to have taken young at 3 other sites, a specific danger not shared by the geese at Petworth. Notwithstanding the lack of some mammalian predators at Petworth, the difference in breeding success is more likely to be related to food availability and the lack of disturbance. Despite the ease of public access, goslings enjoy relatively undisturbed grazing on permanent pastures for at least 5 days in most weeks, and they have easy access to a large water for refuge should the need arise. In comparison the habitat at most other sites in West Sussex is poor.

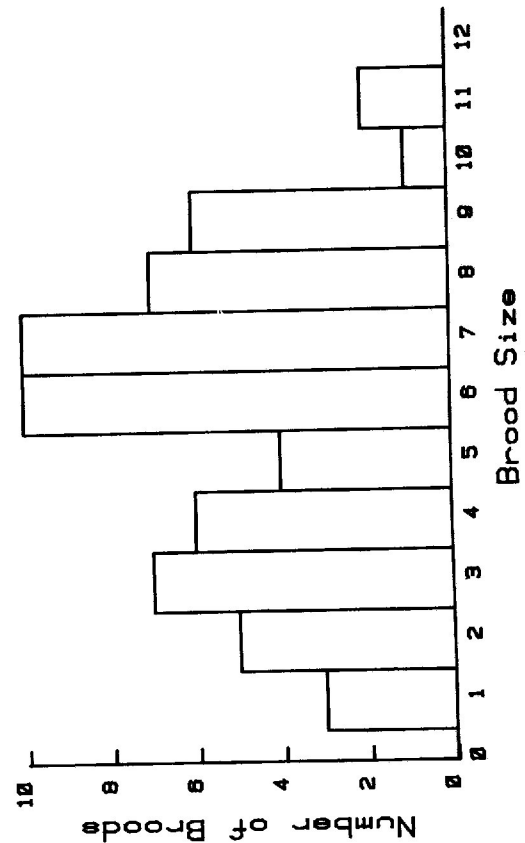


Figure 1: Size distribution of 60 broods of Canada Geese at Petworth Park

At Petworth most young usually combine into 1 or 2 creches, each under the supervision of 2-4 adults. What advantage this confers on gosling survival is unclear but it certainly releases many other parents to provide an excellent early warning system, which is particularly effective in combating marauding dogs and youths.

Although breeding success at Petworth Park was found to be higher than elsewhere, it was not as high as expected. In retrospect it appears that previous breeding observations at Petworth were confined almost entirely to newly hatched broods and no account was taken of subsequent mortality, whereas most information available for the other sites in West Sussex has related to fledged or nearly fledged young.

SUMMARY

The breeding success of Canada Geese in Petworth Park was studied over 4 years (1976-1979). The annual fledging success per nesting pair varied from 4.4 to 5.8 (average for 60 nests over 4 years = 5.0). These figures compared with 4.1 to 4.7 per nesting pair (average 4.4) at 18 other waters in West Sussex over the same period.

ACKNOWLEDGEMENTS

We wish to acknowledge the interest and valuable assistance of Michael Rudd, Head Keeper of Smith Gores, Petworth, without whom this study would not have been possible. We also wish to thank Miss D. du Boisson, M.B.E. for secretarial help.

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A FURTHER REPORT ON THE BREEDING DISTRIBUTION AND STATUS OF THE NIGHTJAR IN SUSSEX

by J. W. Houghton

A full county survey of the breeding status of Nightjars (*Caprimulgus europaeus*) was undertaken in 1977 (Hughes, Houghton and Blake 1977). During that survey 190 churring males or pairs were reported, 154 in West Sussex and 36 in East Sussex. Further limited surveys at important sites were continued during 1979 and 1980 (Houghton 1979, SOS Newsletter No. 77, 1981). As a result of fragmented fieldwork in southern and eastern England and similar surveys to that in Sussex, which all indicated a continuing decline of this species, the British Trust for Ornithology (BTO) decided to organise a national survey in summer 1981.

METHOD AND COVERAGE

The survey was conducted from mid May to mid August and the object was to define all territory-holding Nightjars by counting churring males and recording any females seen. Virtually all suitable sites in Sussex had been identified during the 4 previous years and observers were allocated to visit all likely habitats or places where the species had been encountered. In order to obtain the fullest cover possible, articles were placed in local newspapers and farmer's periodicals and announcements were made on local radio. These resulted in several records of single Nightjars from marginal habitats which otherwise would have been overlooked. As in previous surveys, the term occupied territory, defined by the presence of a pair, churring male, nest, display or young, is used as the basic unit of population; active searching for nests was discouraged.

Cold late springs followed by wet summers have been a feature of the county's Nightjar work and the trend continued during 1981 with little settled weather until late July and early August. The BTO were seeking at least two visits a site, a fortnight apart, and in the majority of cases this was achieved. Reports were received from 86 observers relating to 198 sites (60 and 130 in West and 26 and 38 in East Sussex) and it is considered that apart from one area in West Sussex involving possibly up to 3 pairs, coverage was virtually complete.

RESULTS

A total of 155 occupied territories were determined (122 in West Sussex and 33 in East Sussex) and the general location and habitats together with comparisons with the 1977 results are set out in Figure 1 and Table I respectively. The results indicated a further decline since 1977 of 18.5% (21% in West and 8.5% in East Sussex). The East Sussex figures for 1977 were considered unduly low due to the small population of Ashdown Forest, the predominant site in the whole county for the species, because of the temporary destruction by fire of the prime habitat during the two preceding very hot summers. The Ashdown Forest figures for 1977, '78, '79, '80, '81 were 13, 16, 22, 23, 23 respectively, so it is not unreasonable to suggest that a more appropriate total for East Sussex in 1977 would have been approximately 50 pairs and the 1981 total compared with this projection would have indicated a drop of 34% rather than the 8.5% given above.

Distribution

The results when compared with the 1977 figures show a contraction of the species in North Sussex on the forest ridges and further serious decline in East Sussex, where apart from Ashdown Forest, only a handful are now found between Heathfield and Battle, and singles at odd sites elsewhere including one territory on the Downs and two between there and the coast.

The stronghold of the species in West Sussex continues to be the conifer plantations on the chalk west of the River Arun, the woodlands, heaths and commons on the greensand in the North West and the decline (17%) in this general

TABLE I. THE BREEDING HABITAT OF NIGHTJARS IN EAST AND WEST SUSSEX

Habitat	Number of occupied territories, 1981 (1977)		
	West	East	Total
Conifer plantations	43 (57)	10 (13)	53 (70)
Open Heath/Common with scattered trees	32 (35)	21 (11)	53 (46)
Chestnut coppice	17 (13)	0 (5)	17 (18)
Deciduous and open woodland and woodland edge	10 (6)	1 (4)	11 (10)
Felled areas	9 (20)	0 (1)	9 (21)
Miscellaneous/unidentified	11 (23)	1 (2)	12 (25)
TOTAL	122 (154)	33 (36)	155 (190)

area compared with 1977 was less than elsewhere. Continuing survey work has shown that decline is more marked when a local population becomes fragmented than in areas where they are locally common. The species was found in only 13 new sites all but 2 in West Sussex.

Habitat

Whereas in 1977 the most favoured habitat was conifer plantation, this is now equal with heathland and commons (34%) but a decline in the importance of the former was forecast in the 1977 report as plantations grow to middle age and maturity and become unsuitable for the species. Fewer birds were found in recently cleared areas (6%) whilst more were reported from coppiced sweet chestnut (11%) but there is nothing to suggest that this was other than the availability of habitat which is suitable for only a relatively short period. Only 7% of records came from open deciduous woodlands, a favoured habitat earlier in the century.

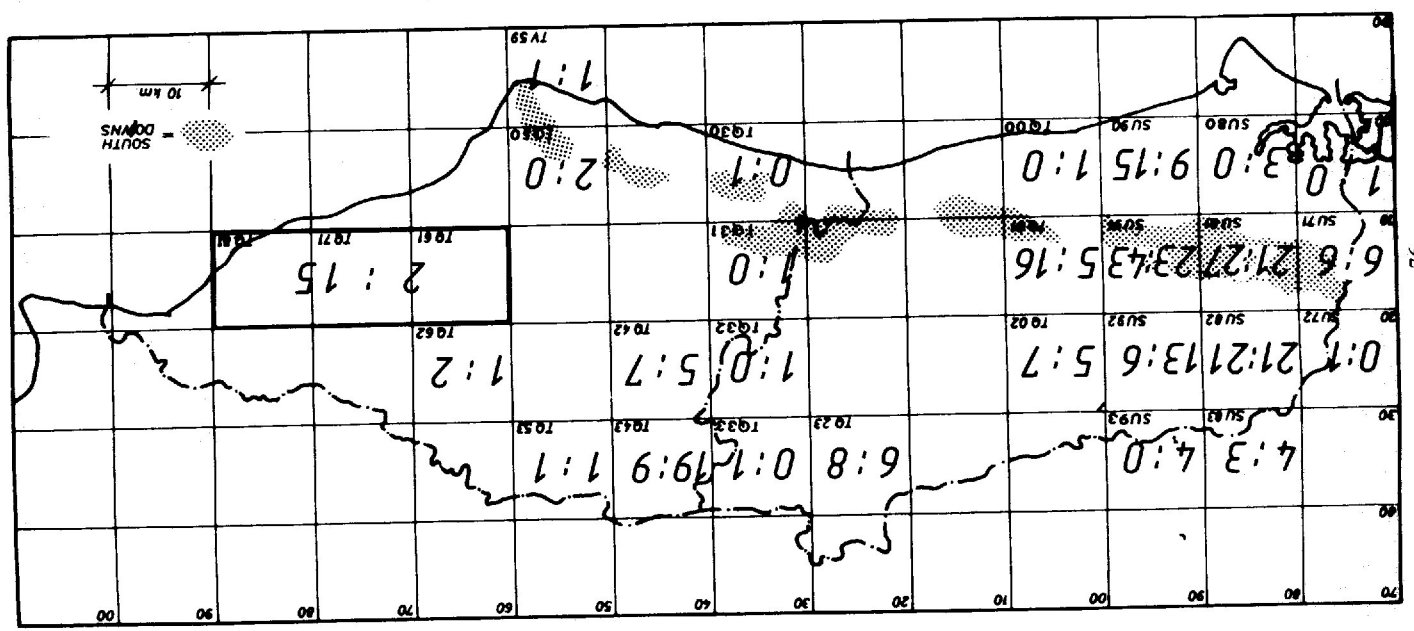
DISCUSSION

The 1977 county survey considered that there had been a decline in Nightjar numbers since the 1930's, particularly in East Sussex and the 1981 figures confirm the trend. Both survey years and the partial surveys in 1979 and 1980 were conducted in very poor summers and as Nightjar numbers can fluctuate widely from year to year, it is likely, given a spell of mild springs and warm summers, that a temporary increase could be seen in the future. As an indication of the overall decline during the past 40-50 years local research in tetrad SU 81, undertaken by Mr. G. G. Buzzard, who sought out local land owners and game keepers, indicates that there were probably up to 100 pairs in 1946, 35 in 1970 but only 23 in 1981.

The Society has very little data about the status of Nightjars prior to the 1950s but there is a tantalising glimpse in a record by 3 observers in the Handcross district in 1947, referring to up to 10 males being audible at once in some areas. This suggests that Buzzard's figures for SU 81 were probably typical of the population in other suitable tetrads. If this was so in, say, 10 tetrads, the county population in 1946 would have been 1,000 pairs but should this have been the case in 20 tetrads, fewer than the total still occupied today, then the population would have been 2,000 pairs. If this latter supposition is correct, the immediate post-war population of Nightjars in Sussex was in line with the present total of the United Kingdom, where the national survey figures indicate a total in the region of some 2,000 occupied territories. The Sussex population is still a significant proportion of the national total, with nearly 10% of all occupied territories recorded.

Until recently there was little to explain the decline. Although habitat changes have occurred, Nightjars are opportunists, taking advantage of new environment such as conifer plantations, coppicing and cleared areas as these occur, and no shortage of breeding areas has been detected. The only clear reason for the decline has been advanced by Berry and Bibby (1981), whose studies at Minsmere in 1978

Figure 1. The distribution of breeding Nightjars in Sussex. The numbers of pairs shown are for 1980: 1977 respectively. Numbers in TQ61, TQ71, TQ81 are combined



and 1979 revealed that only 25% of pairs raised 2 broods, as the present pattern of late and cold springs delayed the return of the females and subsequently the start of nesting. It had previously been assumed that Nightjars were double-brooded and Walpole-Bond (1938) is quite certain on the point. In recent years there is little evidence in the Sussex records that Nightjars still raise 2 broods and, if Berry and Bibby's findings are mirrored in the county, it is likely that Nightjars are not reproducing enough to maintain their numbers, let alone colonise new areas. It seems a distinct possibility, given the present weather trends, that the Nightjar is destined to follow the Red-backed Shrike (*Lanius collurio*) and Wryneck (*Jynx torquilla*) into virtual oblivion as a breeding species in Britain. Its continuing decline nationally argues strongly for its reclassification as a Schedule I species.

SUMMARY

The results of the census of the Nightjar in Sussex in 1981, part of the national census organised by the BTO, are presented and discussed, and compared with the 1977 survey. A total of 155 territories were found occupied, 122 in West Sussex and 33 in East Sussex, 18.5% less than in 1977. The most important habitats were conifer plantations, 34%, and heathland, 34%, followed by 11% in chestnut coppice and 7% in open deciduous woodland, once the most favoured habitat, and 6% in recently felled woodland. The results confirm the continuing decline of the species, as do national figures, but Sussex still remains one of the most important counties for Nightjars, with nearly 10% of the national population. The reason for the decline is thought to be a decline in the species' productivity, as a result of cold springs and late summers, which allow only single broods to be raised.

ACKNOWLEDGEMENTS

I thank sincerely all those observers, listed on page 3, who took part in the survey and particularly Mr. F. W. Blake who, for several years, has covered many sites in West Sussex. I also have to thank Mr. G. G. Buzzard for detailed research into the species' previous status in SU 81. T. W. Parmenter drew the map.

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THE GRASSHOPPER WARBLER IN SUSSEX: THE RESULTS OF A BREEDING SURVEY DURING 1977-1980

by T. W. Parmenter

Due to a general belief that the Grasshopper Warbler (*Locustella naevia*) was declining steadily in Sussex, it was decided, in 1976, that a breeding survey should be carried out. As breeding numbers fluctuate a period of 4 years was selected, to allow for such variations and show any arise or decline in population.

The species is widely distributed throughout Britain, having been recorded increasingly in recent years in the northern part of the Scottish mainland, and is spreading westwards in Ireland (BOU 1971). Parslow (1973) noted that habitat destruction has caused a decline in south-east England but, where habitat remained undisturbed, no change was apparent. Sharrock (1976) recorded Grasshopper Warblers in all 10 *Km* in Sussex, though some were only recorded as breeding possible or probable rather than confirmed.

METHOD

The presence of a singing male was taken to indicate a breeding pair. The object of the survey was to prepare a map showing the distribution of singing males and to estimate the numbers breeding. Observers were asked to supply the following information:

Date of Visits; the period chosen for the census was mid May to the end of July, as it was important to eliminate passing migrants from the results.

Habitat; as Walpole-Bond (1938) listed 5 breeding habitats one object was to compare our results with his to see if habitat preferences remained the same or if the species was adjusting to young forestry plantations, as suggested by Parslow (1973) and Shrubbs (1979).

The number of singing males present and a six figure map reference.

Problems discussed by Howard (1907), whose observations are still unchallenged, stress that the Grasshopper Warbler is extremely skulking and, that once nesting has commenced, partial or complete cessation of song ensues. However during the 4 years of this survey studies were also carried out of the Nightingale (*Luscinia megarhynchos*), Nightjar (*Caprimulgus europaeus*) and Redpoll (*Carduelis flammaea*), which should have ensured that any Grasshopper Warblers singing at dusk (when Redpolls sing), or at night (Nightingale and Nightingale) in what are often suitable habitats, would have been noted by

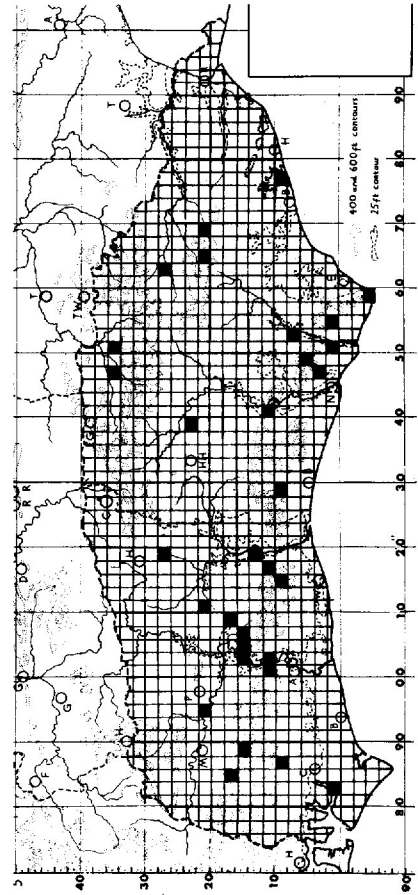


Figure 1. The breeding distribution of Grasshopper Warblers in Sussex during 1977-80. Occupied tetrads are shown as solid squares.

observers involved. Unfortunately few Grasshopper Warblers were found in this way and this, together with a high proportion of nil returns, led to an understandable decrease in the enthusiasm and number of all but a dedicated few of the observers involved.

RESULTS

The first year of the survey started well, with 32-35 pairs in 15 tetrads (2x2 Km squares), a healthy increase compared with 1976. However in 1978 numbers fell quite dramatically to only 17-18 pairs, rising again in 1979 and 1980 to 20-22 and 24-26 pairs respectively. Adding the highest figure for each occupied tetrad over the 4 years produces a minimum total of 54 pairs. These figures, shown on a tetrad basis, are listed in Table I.

TABLE I. NUMBER OF BREEDING GRASSHOPPER WARBLERS FOUND IN SUSSEX DURING 1977-1980, BY TETRADS

Tetrad	1977	1978	1979	1980
SU 8200	1			
8416		1		
8608				1
8814	2		2	1
9420		10	3	6
TQ 0010	1			
0210	1			
0214				2
0414			1	1
0614				1
0816		1		
1020			1	
1408		1		
1610	1-2	1		1
1814			1	
1826	4	1	4-6	2-3
2808	4-5			
3824	1			
4010	1			
4602				1
4634			1	1
4804		1	1	2
5000	1			
5036	1			
5206				1
5400		2	3	2
6228		1		1
6420				
6820			1	
7608			1	
5896		1-2	1-2	1-2
TOTAL	32-35	17-18	20-22	24-26

Figure 1 shows the breeding distribution recorded, also on a tetrad basis. The Downs, where quite extensive areas of scrub habitats still exist, accounted for 42% of the breeding sites. Otherwise the species was found to be very thinly scattered throughout the county.

DISCUSSION

Walpole-Bond (1938) listed 5 main habitats for the Grasshopper Warbler, shown in Table II in descending order of importance; a sixth habitat is added for

the 1977-80 survey, the results of which show a change of emphasis in the species' main habitat to young forestry plantations. However the 42% found in Downland scrub still compares well with Walpole-Bond's account. Table III shows the number of breeding pairs recorded in Sussex for the years 1966-1976, extracted from the Sussex Bird Reports. These figures show a steady increase in numbers, peaking in 1970, with an enviable 150 pairs, followed by a dramatic decline in the next 6 years.

TABLE II. HABITATS USED BY BREEDING GRASSHOPPER WARBLERS IN SUSSEX

Habitat	Recorded by Walpole-Bond (1938)	% recorded in breeding survey 1977-80
Downland scrub	5	42
Osier beds and rough marshland	4	4
Woodland edge	3	0
Overgrown hedges and ditches	2	0
Gorse commons and heathland	1	6
Young plantations (mainly conifer)	not recorded	45

Note: The figures given under Walpole-Bond indicate only the order of importance in which he placed the habitats.

TABLE III. NUMBER OF GRASSHOPPER WARBLERS RECORDED BREEDING IN SUSSEX DURING 1966-1976.

Year	Number of pairs	Year	Number of pairs
1966	49	1971	84
1967	56	1972	49
1968	72	1973	39
1969	98	1974	23
1970	150	1975	26
		1976	25

Table II confirms the change to young forestry plantations noted by Shrubbs (1973), who stated that these were the main breeding habitat with densities of up to 300 pairs per 2,500 acres (10 Km²) and that the species may now be more numerous than in Walpole-Bond's day. I have, unfortunately, found no evidence to support these figures during the survey. Probably not every pair was found but the very low numbers and the high proportion of nil returns recorded confirms that a steep decline has occurred since 1970. Possibly this is because the plantations referred to are now more than 10 years old; it seems likely that they are only suitable for Grasshopper Warblers for about a decade after planting.

I feel that, with such low numbers of the species breeding in Sussex, it is essential for observers to continue to send in records and that, in the near future, a repeat survey be carried out to check the numbers of this difficult but beautiful warbler.

SUMMARY

A survey of breeding Grasshopper Warblers in Sussex was conducted from 1977-1980. Breeding was presumed at least once in 31 tetrads (2x2 Km squares), 42% of which were on the Downs. The total population recorded was about 54 pairs and a very steep decline has occurred since 1970. The reasons for this decline are discussed.

ACKNOWLEDGEMENTS

I am indebted to the dedicated band of observers who supplied myself, and the Society, with the records without which this short paper would have been impossible. I would also like to thank M. Shrubbs for his comments on the first draft.

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A NOTE ON THE BREEDING DISTRIBUTION OF WOODCOCK IN SUSSEX

by G. des Forges

Hughes (1975) summarised Sussex records between 1966 and 1975 indicative of breeding and showed on a map the tetrads concerned. Records of roding rather than the direct evidence of finding nests or young was mainly relied on. Since 1975 roding records have been sent in annually for the Sussex Bird Report and a further 21 new tetrads can be added to the map referred to. In addition many records have been received which relate to tetrads already shown on the map and others are not capable of being accurately assigned on the information supplied.

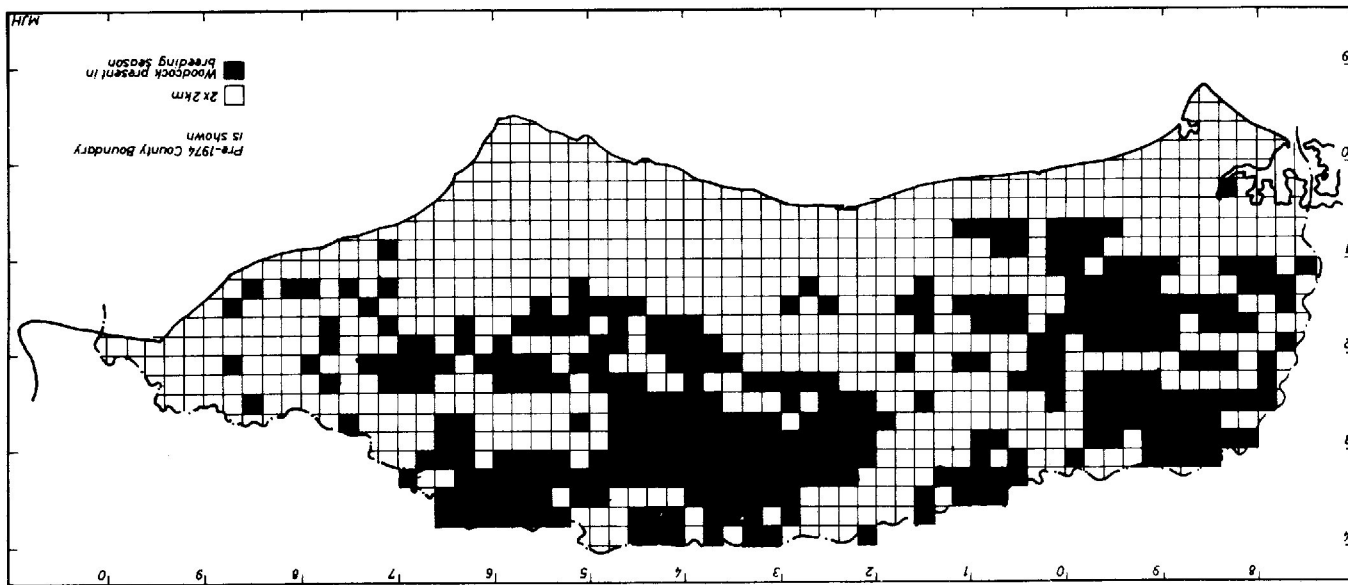
The map is now republished, Figure 1, with the new 21 tetrads added so that recorders can more readily help to fill remaining gaps, which must surely exist, as well as forebearing to send casual roding records for tetrads shown on the map. It is essential to give the map reference (6 figures), the 1 Km² grid square or the 2 Km² tetrad if the records are to be utilised.

It may be worth noting that recent work on breeding woodcock using telemetric devices does not invalidate the basic proposition that roding indicates breeding. On the other hand it has shown that no close correlation can be established between the number of breeding females and the number of contacts an observer makes with roding males: furthermore the roding male may be observed a considerable distance from any breeding female, for some males have been shown to rode over farmland or small copses which did not harbour females (Hirons 1981). In this connection it is interesting to see that roding has been noted over Oldpark Wood in tetrad 8202 in a number of years, although it is quite isolated.

REFERENCES

- Hirons, G. 1981. Sex and discrimination in the Woodcock. *Game Conservancy Annual Report 1980*. Fordingbridge.
- Hughes, S. W. M. 1975. The Woodcock in Sussex. *Sussex Bird Report*, 28: 66-79.

Figure 1. The breeding distribution of Woodcock in Sussex by tetrads, 1966 to 1981.



A FURTHER ASSESSMENT OF THE STATUS OF THE MANDARIN IN SUSSEX

by S. W. M. Hughes and D. Codd

Following the publication of our paper on the Mandarin (*Aix galericulata*) in Sussex (SxBR. 32: 72), new information has become available permitting an updated assessment of the species' status.

It is now clear that the population in central East Sussex is larger than we had imagined. Although widespread and difficult to locate during the breeding season, at other times of the year this population flocks at the wildfowl collection of Dower House Farm, Blackboys, where c.45 were present at the end of 1980 and c.60 in December 1981. We had speculated that this population might, in future, join up with that in the area of St. Leonard's Forest as a result of the establishment of a third population in the Cophorne-East Grinstead area. We now have information for nearby Hedgecourt Lake, Surrey, where up to 21 Mandarins were seen regularly during the 1980/81 winter. Such numbers, and the fact that successful breeding occurred at Weir Wood and Wakehurst Place in 1981, suggests that the foreseen development of one large population cannot be too distant.

The miscellaneous records for Lurgashall, Shillinglee and smaller waters in the north west have been explained by the accidental loss of birds from a wildfowl collection in the hamlet of River. These birds are now free winged and following successful breeding in the wild, e.g. at Petworth Park in 1980, there now exists in the area a flock of c.40 birds which must constitute a fourth population. In the south of the county the number of free winged birds at Swanbourne Lake reached a maximum of 12 in late 1981 and these could possibly form the nucleus of yet another local population.

On the basis of these observations and a new estimate of c.30 for the St. Leonard's Forest area the county population of Mandarins is probably in excess of 150 and may be as high as 175 birds.

We are indebted to D. Gunner, P. Heath, A. J. Prater, C. Savage and P. C. Turner for supplying us with additional information.

UNUSUAL RECORDS

All records of unusual species are considered by the Records Committee and it may be assumed that those published have been fully authenticated. Such reports should be submitted on separate sheets or on special forms available from the Recorder. Reports on rarities as defined by *British Birds* should be submitted on, or in the same format as, the forms obtainable from the Secretary to the Rarities Committee. The following list embodies those unusual species in Sussex for which descriptions are normally required. The Recorder may seek supportive evidence in the case of other species occurring under unusual circumstances. This list is not exclusive and any observer in doubt or needing advice on any species should send details accordingly:

Divers (except Red- and Black-throated on the coast)	Temminck's Stint
Grebes (other than Great Crested and Little)	Pectoral Sandpiper
Shearwaters	Phalaropes
Storm and Leach's Petrels	Pomarine Skua
Shag	Mediterranean and Sabine's Gulls
Bittern	Iceland and Glaucous Gulls
Spoonbill	Roseate Tern
Bewick's Swan (other than at Amberley Wild Brooks)	Black Guillemot
Whooper Swan	Little Auk
Bean and Pink-footed Geese	Puffin
Red-crested Pochard	Woodlark and Shore Lark
Long-tailed Duck	Waxwing
Honey Buzzard	Dipper
Red Kite	Bluethroat
Marsh and Montagu's Harriers	Warblers: Cetti's, Marsh, Icterine, Melodious,
Goshawk	Barred, Yellow-browed
Rough-legged Buzzard	Red-breasted Flycatcher
Osprey	Golden Oriole
Peregrine	Red-backed Shrike
Quail	Raven
Spotted Crane	Crossbill
Cormorant	Lapland and Orotlan Buntings
Stone Curlew	
Kentish Plover	
Dotterel	

In addition: all unusual races of Yellow Wagtail and Rock Pipit