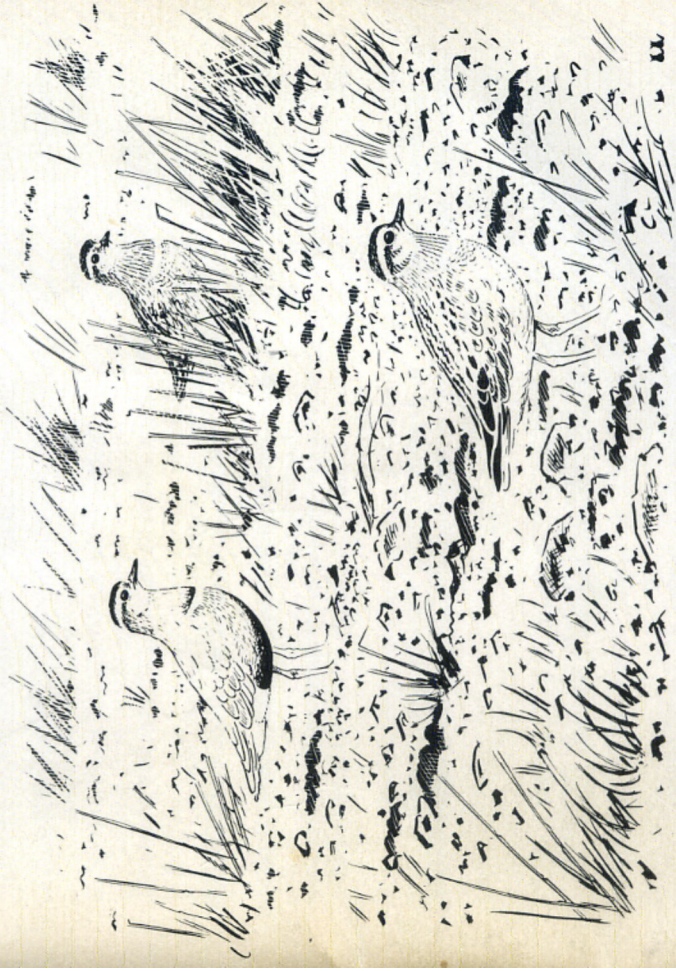


The Sussex Bird Report

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**THE SUSSEX BIRD REPORT
NUMBER THIRTY-EIGHT, 1985**

*Recorder: A. J. Prater
Editor: M. Shrubbs*

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Society Surveys:

During 1985 the Society continued its programme of the detailed documentation of birds on inland waters with a breeding census and autumn/winter counts of Little and Great Crested Grebes. The organiser was S. W. M. Hughes and a summary of the information is included in the Classified List; a full report will be produced at the completion of the programme. Many thanks go to the observers who are identified by an asterisk on pages 2-4.

National Surveys:

Heronry Census: This long-standing census is organised in Sussex by Dr. A. B. Watson, 83 Buckingham Road, Shoreham-by-Sea. All known heronries were visited and the observers are shown in the systematic list account.
Cormorant Survey: This BTO survey was organised by Miss J. Watson. It aimed at obtaining monthly counts of Cormorants on waters from September 1985-April 1986 and for roost counts in November 1985 and January and March 1986. The information will be published in the 1986 Sussex Bird Report. Thanks go to all who helped with the survey.

Estuary Counts: The BTO/RSPB/NCC 'Birds of Estuaries Enquiry' was carried out between September 1985 and March 1986. These counts were organised by A. J. Prater, 4 Church Street, Shoreham-by-Sea, West Sussex. Counters were:

J. Bacon, C. Barwood, D. Bates, K. Blackman, P. F. Bonham, K. F. Burn, P. Burns, Miss A. de Potter, R. D. M. Edgar, Mrs. J. H. M. Edom, F. J. Forbes, B. Haddon, M. P. Hall, S. G. Hamilton, C. R. Jannan, S. Keen, D. Kindersly, L. Lacey-Johnson, O. and P. Laugharne, R. M. Lord, C. Lowmass, Mrs. G. Marriott, C. Mayhead, L. Mayhead, J. P. McTeat, C. E. Messer, Mrs. M. Millner, K. Noble, D. Okines, D. A. Parmenter, T. W. Parmenter, P. Philpot, A. J. Prater, J. Reaney, R. J. Sandison, M. Shrubbs, G. Smith, Miss C. Taylor, C. Walker, J. Weston, R. Williamson, P. J. Wilson, B. J. Yates.

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 P. James, Beachy Head from R. D. M. Edgar and R. K. Haggard and Rye Harbour from B. Yates, and also to R. Leverton for his continued work in maintaining detailed records of ringing in the county. We are grateful to the Hants./Surrey Borders Bird Report for providing additional records. We must also thank Mrs. M. Millner for her continued and invaluable help in maintaining the Society's files.

The Systematic List was compiled by A. J. Prater with much help from the following, to whom go Tony's grateful thanks: R. D. M. Edgar (marshland birds, inland sawbills); R. J. Fairbank (divers, scarcer migrants); C. J. Fox (sea ducks); S. W. M. Hughes (inland wildfowl, woodpeckers); P. James (skuas, terns, gulls, sea-birds); R. Leverton (tits and *Sylvia* warblers); Dr. J. A. Newnham (gulls, Nightingale); K. Noble (wagtails, larks, buntings); R. J. Sandison (owls); M. Scott-Ham (heathland species); M. Shrubbs (raptors); P. C. Turner (finches); Dr. A. B. Watson (Heron). The list was typed by Mrs. M. Millner.

CLASSIFIED RECORDS FOR 1985

by A. J. Prater

This list covers all species in Categories A and C of the British Ornithologists' Union check list. Records of birds ringed have not been cross-referenced to the summary of bird-ringing. The breeding count tables (pages 46-47) should be read in conjunction with the summaries for individual species in the following list. Records of national rarities have only been included if the Society has been formally notified of their acceptance by *British Birds*, at the time of going to press.

The following abbreviations are used in the List as standard practice. E. W. N. S. etc., cardinal points of the compass; GP, gravel pits; GC, golf course; LNR, Local Nature Reserve; NR, Nature Reserve; NNR, National Nature Reserve; Res., Reservoir; SSSI, a declared Site of Special Scientific Interest; SF, sewage farm or works; WFT, Wildfowl Trust; Hbr., Harbour; ha, hectares; Km, kilometres. Amberley is used to cover the whole of Amberley Wild Brooks and Waltham Brooks. Bewl Bridge Reservoir has been renamed Bewl Water. The reference to the latest standard account of Sussex birds is abbreviated: Shrubbs 1979 (Shrubbs, M. 1979, *The Birds of Sussex, their present status*. Phillimore, Chichester).

The following species occurred commonly in Sussex during 1985 but the information has not been incorporated into the List:—Pheasant *Phasianus colchicus* and House Sparrow *Passer domesticus*. Details on these species are still required. **ESCAPES:**—The usual range of escapes was recorded. Full details of these are kept in the Society's files. Records are still required and will be summarised periodically in the Newsletter.

NOTE. SWANS, GEESE, DUCKS and WADERS. Readers should remember that the tables presented for all main species have been compiled from the monthly 'Wildfowl Counts' for the Wildfowl Trust and the 'Birds of Estuaries Enquiry' for the British Trust for Ornithology. The counts were made once per month and therefore the tables do not show the peak monthly figure but present a more meaningful co-ordinated count. The 'Birds of Estuaries Enquiry' counts were made on 19 Jan., 9 Feb., 9 Mar., 14 Sept., 12 Oct., 16 Nov., 14 Dec. 1985 and 11 Jan., 8 Feb., 8 Mar. 1986. The 'Wildfowl Counts' were made on 13 Jan., 17 Feb., 17 Mar., 15 Sept., 13 Oct., 17 Nov., 15 Dec. 1985 and 12 Jan., 16 Feb., 16 Mar. 1986.

1. RED-THROATED DIVER (*Gavia stellata*):—Recorded in exceptional numbers during the cold weather from mid-Jan., the approximate monthly totals, including sea passage (but see also diver sp.) being:

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
170	530	27	37	24	—	—	—	—	6	67	120

Off Pett, 66 on 23 Jan. rose to c.100 on 27th with a huge count of 423 there on 3 Feb., a county record, but only one report followed, of 5 on 6th. Elsewhere few were seen in early Jan. and most subsequent records were of singles and small parties along the coast: 8 around Langney Point on 26th had risen to 14 on 4 Feb. with 10 still present on 10th. In mid-Feb. several were reported away from the coast, 3 on Chichester GP and 1 at Barcombe Res. on 16th, with singles at Bewl Water on 17th, Weir Wood Res. on 18th and on R. Arun at Coldwaltham on 17-19th. At Weir Wood Res. another was present on 9 Mar. with 1 at Ashburnham Place on 20th. Ones and twos continued to be reported from along the coast into early May, while most passage birds identifiable as this species flew past Worthing (but see also diver sp.).

One at Brighton Marina on 24 May was the last, with none then being seen until singles off Pett and Bexhill on 13 Oct. and 1 past Worthing on 15th. On 16 Nov. 17 were off Church Norton and 3 at Langney Point, where 2-4 remained into 1986. Seven off Rye on 21 Nov. had increased to 12 on 14 Dec. with 52 off Bexhill on 29th and 10 off Pett on 30th.

2. BLACK-THROATED DIVER (*G. arctica*):—Recorded in good numbers, the approximate monthly totals, including sea passage (but see also diver sp.), being:

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
17	19	3	28	35	1	—	—	—	3	6	9

Singles were widely scattered during the cold weather in Jan. and Feb. Of note were singles at Bewl Water on 17, 18 and 28 Jan., Weir Wood Res. on 10-12 Feb., 3 at Langney Point on 2 Feb., 3 off Peacehaven on 14th and 4 off Saldean on 15th. Most subsequent records were from Worthing with the last there on 6 June. One was on Bewl Water from 5-11 May.

On 19 Oct. singles were seen off Pett and Pagham (where reported infrequently to 24 Nov.). Inland singles were at Powdermill Res. on 27 Nov., Barcombe Res. on 30 Nov-1 Dec., Weir Wood Res. on 29-30 Dec. and at Bewl Water from 30 Dec. into 1986. Other Nov-Dec records came from Bexhill on 9 Nov. (2), Langney Point on 22 Dec. and Worthing (5 in Dec.).

3. **GREAT NORTHERN DIVER** (*G. immer*):—An increase in records, more likely reflecting a relaxing of acceptance criteria on passage birds than a true change in status. The individual present on the Crumbles from 9 Dec. 1984 remained into 1985, but only just, being last seen on 1 Jan. Another was present there from 26 Jan-17 Feb. Single passage birds were reported passing E as follows: at Selsey Bill on 3, 13 (to W), 28 and 30 Apr.; at Rye Hbr. on 4 Apr., at Beachy Head on 7 and 19 Apr., 12 and 24 May and at Worthing on 26 May. In Nov. 2 were off Church Norton on 16th with one there and at Selsey on 17th and finally 1 was watched on the Crumbles on 24 Dec.

DIVER SPECIES (*Gavia sp.*):—Few were reported away from regular sea-watching sites, the totals at these from Mar. to early June (where *G. species* includes identified birds) being:

	Coverage	<i>G. stellata</i>	<i>G. arctica</i>	<i>G. immer</i>	<i>G. species</i>
Selsey Bill	232 hrs.	4	11	4	173
Worthing	483 hrs.	54	32	2	289
Brighton Marina	95 hrs.	2	11	—	86
Beachy Head	102 hrs.	5	6	4	182

Clearly the breakdown between species identified in the above table gives little indication of the total numbers of each species passing and only serves to reflect the varying degree of caution of observers in identifying passage divers at each site. It is highly probable that most "unidentified" birds are *G. stellata*, particularly those early in the season. From the limited numbers identified monthly totals (Mar. to June) at all sites were 16, 34, 15 and 0 for *G. stellata* and 2, 27, 30 and 1 for *G. arctica*.

One early diver was seen off Worthing on 14 Sept., 8 were recorded in Oct. and in Nov. and Dec. Worthing reported 41 E:74 W and 70 E:67 W respectively with smaller numbers at other sites.

6. **LITTLE GREBE** (*Tachybaptus ruficollis*):—Monthly maxima at the principal wintering sites were:

	Jan.	Feb.	Mar.	Sept.	Oct.	Nov.	Dec.
Chichester Hbr.	26	9	28	3	21	71	31
Lower Cuckmere	23	13	11	9	23	29	15
Pagham Hbr.	24	3	3	6	7	18	20
Rye Hbr.	12	7	5	20	17	15	10

The cold weather in early Jan. caused inland birds to seek open water on the larger reservoirs and the rivers or move to the coast. In the Lower Cuckmere numbers on the river had risen to 19 on 6 Jan., peaked at 23 on 7 Jan. and then declined to 12 by 8 Jan. On the R. Ouse there were c.21 between Glynde and Newhaven (including Tide Mills) on 9 Jan. and on the R. Adur c.14 between Cuckoo Corner and Shoreham on 20 Jan. Other counts included 16 on Thorney Deepes on 13 Jan., Jan-Feb. maxima of 8 at the Crumbles GP, 6 at Widewater, 4 at Weir Wood Res. and only 2 at Bewl Water. On 7 Mar. 8 remained on the R. Ouse between Rodmell and Lewes. In the spring 2 were still on the sea off Beachy Head on 7 Apr. and last seen in the Lower Cuckmere on 10 Apr.

A comprehensive survey of 153 waters in early June found only 40 pairs at 23 sites. This number was lower than expected presumably because of losses during the severe winter. At well documented sites, eg Rye Hbr., numbers were down by half and birds were absent from several traditional sites. As usual early breeding success was poor but by mid-Aug. 39 young had been found.

The first birds re-appeared in the Lower Cuckmere on 11 Aug. and the Crumbles GP on 14 Aug. At Chichester GP the maximum reported was 12 on 28 Oct. A winter survey of 104 sites on 16-17 Nov. produced a total of 190, comprising 19 on 11 inland waters, 44 on the lower reaches of the major rivers, drainage rives and canals and 127 on waters adjacent to the coast and in the western harbours.

7. **GREAT CRESTED GREBE** (*Podiceps cristatus*):—Monthly maxima at the principal wintering sites were:

	Jan.	Feb.	Mar.	Sept.	Oct.	Nov.	Dec.
Weir Wood Res.	—	8	36	81	80	60	50
Chichester Hbr.	16	7	3	14	17	24	75
Bewl Water	27	62	31	31	30	20	25
Pagham Hbr.	—	—	6	15	21	30	20
Darwell Res.	—	—	7	30	21	22	18
Chichester GP	12	16	15	18	19	5	22
Ardingly Res.	10	17	20	8	11	9	18

At the beginning of the year inland records were confined to large waters. There and in the western harbours numbers were greatly reduced. However, there were good numbers along the coast during Jan., eg 17 off Brighton Marina, 17 off Shoreham Beach and smaller numbers visiting the harbours at Shoreham and Newhaven. At Bexhill a sudden influx of c.50 occurred on 1 Feb.; none were there on 2 Feb., but 36 off Pett Levels increased to 68 on 3 Feb. On 3 Feb. a party of c.40 off West Kingston reduced to c.20 on 5 Feb. There were 28 off Peacehaven on 14 Feb. and small numbers were widespread along the entire coastline.

A comprehensive survey in early June found 185 birds (79 pairs plus 27 unpaired birds, 16 inland and 11 at the coast). This total was c.28% higher than the comparable figure for 1975. More details will be published in the future. Breeding success was very variable: of 14 pairs at Bewl Water only 8 nested, 3 pairs each hatched 1 young of which 2 survived; at Rye Hbr. 5 of 6 pairs failed and 1 reared 2 young; at Darwell Res. 10 pairs hatched 18 young, but fledging success unknown; at Chichester GP 8 pairs reared 5 young and of 15 pairs at Weir Wood Res. 10 hatched young of which a total of 21 fledged.

At the end of the year birds were widely scattered inland and at the coast with peaks off Church Norton of 35 in Oct. and 29 in Nov. and Dec. and 14 off Pett Levels on 30 Dec.

8. **RED-NECKED GREBE** (*P. grisegena*):—Recorded in good numbers during the early cold weather, later in the year numbers were unexceptional; the approximate monthly totals were:

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
8	23	3	1	—	—	—	—	—	5	5	3

Most winter records were of isolated birds seen briefly along the coast. But at least 1 bird was present at Brighton Marina between 9 Jan-11 Mar. and possibly 2 were involved, both being seen on 19 Jan. and 20 Feb., another was at Newhaven from 25 Feb-10 Mar. An unprecedented flock of at least 10 birds was reported off Bexhill on 1 Feb. Inland, 1 was on the R. Arun at Arundel on 20 Jan. and 14 Feb. brought individuals onto Prince's Park Lake in Eastbourne, the R. Ouse at Southsea and Bewl Water (to 17th). One was off Hove on 19 Apr.

First of the autumn was much later than in recent years, at Langney Point on 4-5 Oct. with single birds in the Pagham Hbr. area from 13 Oct-15 Nov., 3 there on 19 Oct. and 2 on 20 Nov. Elsewhere in a poor finish to the year singles were seen at Arlington Res. on 21 Oct. and 23 Nov., Langney Point from 16-24 Nov., North Point, Rye on 27 Nov-1 Dec., at Pilsea on 13 Dec. and Widewater on 20th.

9. **SLAVONIAN GREBE** (*P. auritus*):—Despite the early cold weather numbers were unexceptional, the approximate monthly totals being:

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
35	18	6	4	—	—	—	—	6	6	20	9

Most Jan. records were from Church Norton with a max. of 22 on 10th, elsewhere of note were singles at Brighton Marina from 10-20th and Langney Point from 12-27th, while 1 recovered from Billingshurst High Street during the month and taken into care must be the

most unusual record for many years. Feb. records were well scattered with 4 at Church Norton on 3rd and singles inland at Chichester GP on 5th and Weir Wood Res. on 12th. Three were off Church Norton in mid-Mar. and 2 on 3 Apr. with 1 at Rye Hbr. from 16-26 Apr. Both Selsey and Worthing reported 3 small grebes on passage between 24 Mar. and 17 Apr. which probably relate to this species and singles were off Beachy Head on 5 Apr. and Selsey on 25th.

Four off Church Norton on 12 Oct. had increased to 17 on 10 Nov. with a peak of 18 on 23rd when 1 appeared on Barcombe Res. staying until 30th. In Dec. 2 were in Chichester Hbr. all month while off Church Norton 3-5 were seen up to 14th and 1 was at Bewl Water on 30 Dec.

10. **BLACK-NECKED GREBE** (*P. nigricollis*):—The number of records over the last few years has been remarkably constant and 11 were seen this year. All relate to single birds, at Rye Hbr. from 23-30 Jan., Pagham Hbr. on 26 Jan., Langney Point on 28th, Cuckmere on 2 Feb., North Point, Rye on 5 Feb. and 2 Mar. In Nov. singles were seen at North Point, Rye and, nearby, at the Midrips on 3rd, off Church Norton on 15th and at Rye Hbr. and Widewater on 30th Nov.; the last was at Weir Wood Res. from 8th-end Dec.

12. **FULMAR** (*Fulmarus glacialis*):—Breeding season reports were as follows: Brighton Marina to Rottingdean, 3 pairs; Rottingdean to Saltdean 3 occupied sites; Peacehaven to Newhaven 12 occupied sites; Hastings to Cliff End 35 pairs. Young birds were seen at Hastings in Aug. and Newhaven in Sept. Observations at the main sea-watching localities were as follows:

Direction of movement	Jan-Feb.		Mar-May		June-July		Aug-Sept.	
	E	W	E	W	E	W	E	W
Selsey Bill	—	—	36	91	3	2	—	2
Worthing	—	—	165	274	47	43	9	51
Brighton Marina	22	—	171	25	42	17	2	—

The peak movement occurred on 11 Apr. when there were 4 E and 31 W at Worthing. Inland records were of single birds over Ditchling Beacon on 11 Apr. and at Mill Hill, Shoreham on 9 May.

15. **CORY'S SHEARWATER** (*Calonectris diomedea*):—During the vicious gales in early Aug. 3 were noted: one flew W at Selsey Bill on 2nd (RJW, KI, IL, CP) and 2 went W off Pett Level on 5th (RF, RF).

17. **SOOTY SHEARWATER** (*Puffinus griseus*):—Singles flew W at Selsey Bill on 11 Aug. (PJ) and E at Langney Point on 9 Nov. (RDME, TWP).

18. **MANX SHEARWATER** (*P. puffinus*):—A total of 33 was reported in spring between 7 Apr. and 21 June. Three E at Beachy Head on 3 May and 1 E past Portsade on 17th were the only records away from Worthing and Selsey Bill. At the former 1 E and 7 W were reported on 7 Apr., 2 E on 28th, 2 E on 24 May, 1 W on 25th, 2 E on 11 June and 1 E on 21st. At Selsey one passed W on 13 Apr. and 5 E on 9 May.

Autumn records from Worthing were 1 W on 30 July, 1 W on 2 Aug., 11 W on 11th, 1 E on 15th and 2 E on 4 Nov.; on 21 Sept. 2 flew W past Brighton Marina. Of these the 2 at Worthing on 28 Apr. and 1 on 2nd Aug. were considered to be *P. p. mauretanicus*.

25. **GANNET** (*Sula bassana*):—Recorded in every month of the year. Observations at Brighton Marina and Worthing were as follows:

Direction of movement	Jan-Feb.		Mar-May		June-July		Aug-Oct.		Nov-Dec.	
	E	W	E	W	E	W	E	W	E	W
Brighton Marina	1	—	198	30	32	36	—	7	—	—
Worthing	—	—	10	2	270	197	166	17	146	47
At Beachy Head, the Mar-May movements totalled 499 E and 43 W.										

26. **CORMORANT** (*Phalacrocorax carbo*):—Monthly maxima at known nocturnal roosting sites were as follows:

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Adur Levels	—	14	24	16	9	6	3	13	16	27	21	26
Chichester GP	—	—	15	—	—	—	—	—	—	—	—	25
Lewes Brooks	—	—	17	—	—	—	—	20	3	—	—	34
Pevensy Levels	11	—	12	4	—	1	—	—	—	5	13	4
South Stoke	141	50-60	63	—	—	—	—	—	—	—	106	181
Waltham Brooks	—	—	—	5	—	—	—	—	—	—	—	—

The pre-roost gathering at Bognor Pier peaked at 108 on 1 Jan. Roosting flights to and from the cliffs at Peacehaven were regularly noted at Brighton Marina with maximum counts of 101 W on 19 Jan. and 85 W on 3 Feb.

Birds were regularly recorded at inland reservoirs and included maxima of 22 at Ardingly, 2 at Arlington, 25 at Bewl Water, 18 at Barcombe and 8 at Darwell. On the coast, up to 43 were seen at Rye Hbr., 52 at Pagham Hbr. and 89 in Chichester Hbr.

A pair hatched 2 young on the cliffs at Fairlight (DB, IS), the first breeding record for the county since 1938 or earlier. Single birds showing the characteristics of the southern race *sizensis* were seen at Chichester Hbr. on 12 Jan. and at Arlington Res. on 15 Feb.

27. **SHAG** (*P. aristotelis*):—Another exceptional year. The approximate monthly totals were as follows:

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
24	3	1	3	5	—	—	2	2	2	13	4

Once again, the majority of records were from Brighton Marina with peaks of 16 on 16 Jan. and 7 on 30 Nov. Inland, a single bird was seen on the R. Ouse at Lewes on 29 Nov. At Bewl Water, there were 6 on 18 Jan. and 7 on 28 Jan.

30. **BITTERN** (*Botaurus stellaris*):—Although it is difficult to be certain about duplication of records, in Jan-Mar. at least 8 and possibly 10 individuals were present. They were seen at Arundel WFT (to 17 Mar.), Chingford/Burton Pond (16 Feb-7 Mar.), the Crumbles (12 Jan. and 3 Mar.), Westham 14 Jan., Barcombe Res. 11 Jan., Amberley Wildbrooks 13 Jan., at least 1 in Combe Haven 18 Jan., Ashington 24 Jan. (this was probably that seen at Storrington on 30th and eventually taken into care and released at Arundel WFT on 4 Feb.) and Charlestone on 12 Feb. Late in the year singles were at Arundel WFT from 20 Nov. and Warnham Mill Pond from 15 Dec.

37. **LITTLE EGRET** (*Egretta garzetta*):—1984:—A small white egret species not determined, flew past Brighton Marina on 25 Apr. (JPS); this has been accepted as egret sp. by *British Birds*.

1985:—One at Rye Hbr. on 18 Apr. (JP) has been accepted by *British Birds*.

38. **GREAT WHITE EGRET** (*E. alba*):—An adult with breeding plumes on Thorney Deeps on 15 June (CBC, MAC) was the first county record. It has been accepted by *British Birds*.

39. **HERON** (*Ardea cinerea*):—All known heronries were counted and nests certainly and probably occupied totalled 210 (212 in 1984) as follows: Fishbourne 16 (ETR), Pagham 3 (JET), Parham 28 (AI), Henfield 13 (ABW), Firlie 37 (ABW), Knepp 15 (A & IS), Eriddle 19 (MS-H), Priestthawes 2 (LG), Westham 2 (LG), Wartling 2 heronries 7 and 7 (LG), Pevensy one (LG), Pett Level 3 (KJB), Leasam 56 (CFG, EMC, HARC). In addition, 3 or 4 pairs may have bred at Wadhurst (MS-H), a new site. No nests reported from Bewl Water area.

Estuary count maxima were 42 at Chichester Hbr. and 11 at Pagham Hbr. in Oct., 38 at Rye Hbr. and 17 in the Cuckmere in Nov. There were 24 at Bewl Water in Oct. and 15 at Shoreham in Sept.

40. **PURPLE HERON** (*A. purpurea*):—1984:—An immature was near Bulverhythe on 30 Oct. (KMJ).

46. **MUTE SWAN** (*Cygnus olor*):—There was a welcome increase in information. At the beginning of the year there were 28 in the Cuckmere Valley, 55 at Rye Hbr. and 64 between

Lewes and Newhaven on 12 Jan.; 53 on the Adur Levels on 20 Jan., 84 on Pevensy Levels and 104 between Pulborough and Littlehampton on 27 Jan. At Widewater 15 wintered with the last 9 non-breeding birds leaving on 9 Apr.

In the breeding season 61 pairs were known to have nested, 6 failed completely and 55 pairs reared 218 to fledging (ie 3.57 per nesting pair). On 10 Apr. there were 152 in the valleys of the Arun and Western Rother, between Littlehampton and Fittleworth, and adjacent waters of which 87 were non-breeders. Other Apr. counts of non-breeding birds were: Adur Valley 30, Pevensy Levels 66, Cuckmere Valley 24, Ouse Valley (Lewes to Newhaven) 56 and Dell Quay 40. Post-breeding counts were: 67 between Lewes and Newhaven on 17 Aug.; 105 in Chichester Hbr. in Sept., including 60 on Thorney Deeps; and 54 at Chichester GP on 14 Oct. The family of 6 at Widewater was joined by 7 visitors on 6 Sept. and winter numbers increased to 19 in Nov. and 28 in Dec. The wintering population in Chichester Hbr. stabilised at c.90 in Oct. and remained at that level until the end of the year. On 17 Nov. there were 97 in the Arun Valley between Pulborough and Arundel.

47. **BEWICK'S SWAN** (*C. columbianus*):—An influx of birds occurred in early Jan. as the weather deteriorated. On 6 Jan. 5 flew low over Bewl Water at 08.45 hrs., on 7th 13 passed Church Norton and c.20 flew N over Ringmer and on 9th a further 15 went NW over Brighton. A herd of 25 based at Lewes Brooks, and occasionally visiting Barcombe Res., was first reported on 12 Jan. Numbers had increased to c.30 by 19 Jan., and remained at this level until last reported at Glynde on 25 Feb. Other reports in the east were of 4 at Arlington Res. on 22 Jan. and 4 on Horse Eye Levels on 27 Jan. In the west, the 108 in the Arun Valley at the turn of the year had increased to 137 by 31 Jan., usually feeding in 3 or 4 herds between Pulborough and Ford. At Arundel WFT, 5 flew in to roost for the first time ever on 25 Jan. and up to 31 roosted there until 28 Mar. Elsewhere, 3 in from the sea at Pagham on 19 Jan. stayed in the area until 26 Jan. and 10 visited Sidlesham Ferry on 9 Feb. In Mar. numbers declined steadily. In the Arun Valley 20 still remained on 23rd and 6 at Lewes on 17th. Other records included 5 at Langtye on 3rd, 10 at Sidlesham on 9th and 54 passing E over Earthing the same evening. The last was one over Arundel on 14 Apr.

In the autumn the first records were 5 at Amberley on 27 Oct. and 22 arriving at Waltham Brooks in fog on 29 Oct. Numbers in the Arun Valley had increased to 50+ on 25 Nov. and reached 83 by the end of the year. An adult plus 4 immatures flew into Arundel WFT to roost from 26-28 Dec. Elsewhere there were 2 E at Rye Hbr. on 3 Nov. and 6 on Lewes Brooks on 4 Nov.; 2 at Darwell Res. on 15 Dec. and 11 W over the upper Adur Levels on the same day. At the end of the year 9 flew WSW over Broomhill Level on 23 Dec., 4 were at Lewes on 27th, 4 went SW over Haywards Heath and 3 were at Rye Hbr. on 28th.

48. **WHOOPER SWAN** (*C. cygnus*):—The cold weather in Jan. and Feb. brought a typical influx involving about 36 birds. On 6 Jan. 16 flew W at Pagham Hbr. (CRJ) and from 16-20 Jan. 3 adults moved around between Thorney Deeps and Pagham Hbr. (BJ, CMJ, CBC, EDL). From 13 Jan. to 17 Feb. 3 adults and 2 immatures were on the Lewes Levels; on 25 Feb. they were on the Glynde Levels (RDME, JMD *et al*) and a small flock which flew over Ashcombe Farm on 2 Feb. (RL, LEL) were probably these birds. Finally on 21 Feb. 9 adults and 4 immatures were on Pevensy Levels (LGC).

Late in the year 4 adults flew E at Beachy Head on the very early date of 26 Oct. (JFC, DC, TWP *et al*), single adults were on Hooe Levels, Pevensy on 23 Nov. (DJF) and Powdermill Res. (GB), and 2 adults plus an immature were in Combe Haven on 29 Dec. (KMJ).

49. **BEAN GOOSE** (*Anser fabalis*):—From 6-19 Jan. 1 was with White-fronted Geese at Pagham Hbr. (CRJ, OM *et al*), and 26 were feeding in a field behind Climping on 2 Feb. (PBB, APB). A flock of 34 large grey geese flying W over Bewl Water on 26 Jan. were probably of this species (AHL, JG).

50. **PINK-FOOTED GOOSE** (*A. brachyrhynchus*):—Birds of wild origin were 7 at Pagham Hbr. on 19 Jan. (BJ) and 32 going SE over Brighton on 10 Feb. (NAGL). A feral bird was at Bewl Water all year and at Weir Wood Res. on 24 May. The origin of one on Pevensy Levels on 19 Dec. (LGC) is unknown.

51. **WHITE-FRONTED GOOSE** (*A. albifrons*):—Between 5 Jan. and 4 Feb. substantial numbers appeared as a result of the Jan. cold spell. At Chichester Hbr. birds were seen between 11th and 28th, with a peak of 20 on 20th; they were mainly on Thorney Island. Present from 5th to 28th around Pagham Hbr., the peak was 90 fighting to roost there on 19th. The Amberley flock appeared rather later than the rest, from 20 Jan. to 4 Feb., with a peak of 63 on 2 Feb. On Newhaven Tidemills up to 18 were present between 12 and 19 Jan., at Arlington Res. up to 29 were present 19-20 Jan. and 54 which came in off the sea at Pett on 14th were presumably the 55 on the Brede Levels on 15th and at Rye Hbr. on 20th. Approximately 250 birds were therefore present in mid-Jan.

In addition, there was a large movement between 14-20 Jan., birds coming in off the sea and moving N. This influx involved 54 at Climping, 120 at Hove, 42 at Fairlight, 70 at the Cuckmere, 7 at the Crumbles and 11 at Rye Hbr. Few in Feb. except one or two at Pagham Hbr., Barcombe Res. and Pett/Rye Hbr., with 9 at the last site on 7th. An immature summered at Waltham Brooks, being seen to at least 15 July.

Late in the year there were two major movements. The first started with 6 W at Ford on 17 Nov. and 120, probably this species, S at West Dean on 18th. Between 22-24 Nov. there were 62 at Pagham Hbr., 4 at Pett and 2 NE at Beachy Head; on these dates about 20 also arrived at Thorney Deeps and 57 at Barcombe Res. which remained throughout Dec. and to 27 Dec. respectively. The next movement was on 28-30 Dec., when there were 13 at Amberley, 5 on the Lower Cuckmere, 35 W at Beachy Head, 3 at Arlington Res. and 24 at Scotney Court GP. A juvenile fed with Brent Geese at Pagham for much of Dec.

53. **GREYLAG GOOSE** (*A. anser*):—Numerous records were received of singles or small flocks of feral birds consorting with Canada Geese. Maximum counts at the principal localities were:

	Jan.	Feb.	Mar.	Aug.	Sept.	Oct.	Nov.	Dec.
Arun Valley	36	18	6	7	10	14	18	21
Weir Wood Res.	4	30	—	3	—	—	11	3
Scotney GP	—	12	—	40	—	72	55	—
Bewl Water	11	1	1	5	5	5	5	5

The resident flock of 12 in the Arun Valley at the beginning of the year was joined by a further 24 during the cold weather in mid-Jan. More unusual were 38 flying NE over the Witterings, 17 E at Pagham Hbr. and 34 E over Widewater on 9 Feb. and, possibly the same, 36 moving E over Lancing on 13 Feb. Elsewhere 2 were seen on several dates in Feb. in the Eastbourne area and 2 went W at Pett Level on 18 Mar.

In the breeding season 2-3 pairs were in Parham Park/Arun Valley and single pairs at Lurgashall and Lodsworth, but none bred successfully. In the east single pairs were reported from Groombridge and Hawkins Bridge and flocks of 6 at Buckhurst Park on 15 May and 11 at Hargate on 1 June. The only successful breeding was at Scotney GP where 9 adults and 12 pulli were seen on 15 May. At the end of the year there were 3 at Pagham Hbr. on 18 Nov. where 6 flew N on 19 Nov.

54. **SNOW GOOSE** (*A. caerulescens*):—A scattering of escapes were seen across the county. White phase individuals were noted at Scotney Court GP, in the Ouse Valley near Piddinghoe, Barcombe Res. and Waltham Brooks. Blue phase birds were at Barcombe and Arlington Res. and Bewl Water, and one flew W at Worthing Beach on 3 June.

55. **CANADA GOOSE** (*Branta canadensis*):—Monthly maxima at the principal autumn and winter sites were:

	Jan.	Feb.	Mar.	Aug.	Sept.	Oct.	Nov.	Dec.
Bewl Water	504	200	127	370	1150	1080	900	700
Arun Valley	1000	545	94	72	500+	600+	780+	—
Arlington Res.	400	263	—	200	—	—	—	—
Barcombe Res.	262	310	71	97	205	278	177	170
Weir Wood Res.	121	220	25	—	40	13	70	125
Rye Hbr.	82	72	57	48	51	94	2	36
Chichester GP	56	11	15	—	80	—	29	91

Numbers in the Lower Cuckmere increased throughout the year and reached 120 on 30 Dec. Elsewhere large flocks were: 540 at Lurgashall on 15 Sept., 216 at Scotney GP on 1st

and 164 at Darwell Res. on 15 Dec. In the breeding season 63 pairs reared 252 young and 20 other pairs failed. The most common brood size reported was 4 and overall breeding success was 3.0 young per nesting pair. A detailed paper on the status of this species can be found on pages 85-94.

56. BARNACLE GOOSE (*B. leucopsis*):—Flocks which probably comprised wild birds from the Netherlands were present in hard weather at both ends of the year. On 20 Jan. a flock of 26 was at Bosham and the next day on Thorney Airfield and Nutbourne; 8 remained on Thorney Deepes to 28 Jan. Also on 20 Jan. 9 nervous birds were on the fields just N of Pagham Hbr., 8 of these remained to 5 Mar. On 17-19 Feb. 56 were grazing near Camber Castle; on 20th 52 flew NE away from Rye Hbr. Late in the year the Nov. cold spell brought 22 to Rye Hbr. on 21st and 22nd.

The rest of the records were probably of escapes. Up to 10 early in the year and 9 late in the year were at Barcombe Res., up to 3 in the Arun Valley, 5 at Pett Levels, 4 at Bewl Water, 3 at Weir Wood Res. and singles at Ardingly Res., Cuckmere and Forest Mere. One flew E past Beachy Head on 17 May.

57. BRENT GOOSE (*B. bernicla*):—The estuary counts were:

County totals	1985			1986						
	Jan.	Feb.	Mar.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Chichester Hbr.	12961	12365	6956	18	497	9743	14972	12118	12917	11923
Pagham Hbr.	6669	8859	6565	18	379	8560	11764	10361	9966	8879
Bracklesham Bay ..	4219	1500	191	—	101	1172	3188	1735	2907	2797
	2000	2000	200	—	—	—	—	—	—	—

After 3 bad breeding seasons, 1985 was fairly successful and subsequent wintering flocks averaged about 30% young. The number of birds in the county late in the year increased slightly over the 1984-85 winter, but due to scaring activities at Bracklesham Bay, the flock that usually feeds there was not present during the coordinated counts. This meant that numbers at both Chichester and Pagham Hbrs. were consistently higher than last year. More birds went inland to feed on grass and cereals around these harbours and also penetrated further inland, for example nearly to Funtington and to South Mundham.

The severe weather in Jan. 1985 resulted in a wider distribution of flocks than usual, peaks were 126 at Pett Level, 101 at Ferring Rife, 93 at Arlington Res., 97 in the Cuckmere and 42 at Newhaven. At Worthing 207 flew W on 7 Jan.

Spring passage E along the coast was fair (total of 7,664) with 6,587 at Worthing, 4,349 at Brighton Marina, 964 at Beachy Head and 572 at Selsey. The reason for the low numbers at the last two was lack of cover on 21 Mar. when 3,785 flew past the Marina and 3,218 at Worthing Beach. The great majority (at least 80%) were seen 19-27 Mar. On 21st many flew over Seaford at night and one was at Arlington Res. on 3 Apr.

Up to 17 summered in Chichester Hbr. and one in Pagham Hbr. The first returning birds were 5 past Worthing on 27 Sept. and 25 W at Selsey Bill on 30th. Numbers built up rapidly so by 26 Oct. there were 2,000 in Chichester Hbr., but only a small movement was seen on the coast. Inland there were two passage periods, totalling 1,238 birds. Between 13-25 Oct. 3 flocks (60, 60, 90) flew SW over Bewl Water and 18 flew S down the Adur. Between 14-24 Nov. 5 flocks passed over Bewl Water (17, 150, 140, 17, 500) 2 down Combe Haven (60, 11), 2 flocks went SW over Ashcombe (again 60, 11) and 29 flew SW at Arlington Res. On 22 Dec. 15 went S over Chichester GP. Singles joined Canada Geese in Dec. at Arundel WFT and Weir Wood Res.

Birds of the pale-bellied race (*hrota*) were singles at Pagham Hbr. from 1 Jan. to 17 Mar. and again from 24-31 Dec. During the Jan. severe spell there was one with the dark-bellied flock at Arlington Res. and 10 flew W at Langney Point on 19th.

61. SHELDUCK (*Tadorna tadorna*):—The estuary counts were:

County totals	1985			1986						
	Jan.	Feb.	Mar.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Chichester Hbr.	3373	3879	3239	74	156	693	1843	3569	3061	3076
Pagham Hbr.	2391	3126	2555	54	128	529	1342	2556	2225	2489
Rye Hbr.	691	613	452	12	23	152	439	887	624	473
Newhaven	157	94	169	8	—	10	57	92	170	79
	66	30	21	—	1	1	2	12	31	3

During the severe weather in Jan. and Feb. 1985 several sites, not normally used, had exceptional numbers; an extraordinary party of 400 were in Newhaven Hbr. on 19 Jan. although 93 on the 20th was more typical. Elsewhere there were up to 207 on Northpoint GP, 28 on the Adur, 26 at Arundel WFT, 12 at Weir Wood Res. and 4 at Piddinghoe Pond and Barcombe Res. At Worthing 367 flew W during Jan., mostly (225) on 7th as the first cold spell started.

Spring migration was fairly small, just 207 E and 150 W at Worthing, 93 E at Selsey Bill and 34 E at Brighton Marina. The number of breeding pairs was, as always, very difficult to ascertain, especially where many birds are present in Apr. At Rye Hbr. 5 broods were seen but just 4 young fledged; counts of young on Sidlesham Ferry peaked at 67 (with 146 adults), on Thorney Deepes at 54 and in the Chidham area at 33. However, many young fail to survive eg at Hamsey 8 pulli decreased to one and at Newhaven 6 went down to one. At Waltham Brooks all 8 fledged and at Chichester GP 2 of 5 apparent pairs reared 8 young. Late in the year small numbers were seen at many sites and as a response to cold weather, 125 flew W at Worthing on 20 Nov. and 49 on 27 Dec.

63. MANDARIN (*Aix galericulata*):—At the beginning of the year reported from only 5 localities, the largest number being 8 pairs at Swanbourne Lake. In the breeding season present at 23 sites and of c.34 pairs, 10 were known to have bred. Eleven broods, totalling 57 young, were seen but fledging success was poor. More widespread at the end of the year with reports from 13 localities including c.30 at Blackboys and c.20 at Swanbourne Lake.

64. WIGEON (*Anas penelope*):—The monthly wildfowl and other counts at the principal localities were:

County totals	1985			1986						
	Jan.	Feb.	Mar.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Pagham Hbr.	14664	4235	699	72	328	1094	4241	5417	3108	2341
Arlington Res.	3447	684	15	—	7	14	449	1377	304	55
Rye Hbr.	3200	430	5	2	—	1	480	1000	150	—
Chichester Hbr.	2000	391	5	60	183	715	1197	1085	525	6
Cuckmere Haven	1687	466	217	60	8	95	193	255	600	489
Pevensy Levels	800	334	34	—	—	—	10	13	21	—
Bewl Water	800	600	24	—	—	—	165	269	272	339
Amberley	720	420	115	7	34	62	400+	532	500	400
Glynde Levels	200	500	117	—	—	—	6	62	400+	532
	500	—	120	NC	NC	NC	NC	NC	NC	NC

There was a massive influx in early Jan. 1985. At the Midrips c.350 passed W on 5th and at Worthing 735 flew W on 7th and 297 on 8th. By mid-Jan. numbers were four times higher than the average in recent years and included a peak count of 4,500 at Pagham Hbr. on 22 Jan. Many moved on in Feb. but numbers remained at about double normal levels. Reports of flocks of c.100-250 feeding at unusual sites in the river valleys were commonplace. Similarly, flocks were reported roosting on the sea from the Midrips to Climping with a few also using the less disturbed stretches of the main rivers. In the Arun Valley the highest count was c.1800 at Amberley on 26 Jan.; the Adur Valley count reached 950 on 20 Jan., of which c.400 were frequently present in the Shoreham area; c.250 were in the Ferring Rife area on 20 Jan. On 19 Jan. 1,000+ were reported off Newhaven and 700+ in the Ouse Valley near Lewes. Later 1,300+ were at Barcombe Res. on 18 Feb. and 650 at Glynde on 25 Feb. The highest counts in the Cuckmere Valley were at Arlington Res. but c.500 were S of Exceat on 22 Feb.; in the Pevensy area c.500 were present on the Crumbles GP and c.300 at sea on 7 Jan. On 30 Mar. 52 were present at Waltham Brooks, but only one remained on 10 Apr. Other late records were 20 at Seaford on 2 Apr., one at Rye Hbr. and a pair at Glynde on 10th and a drake at Swanbourne on 20 Apr.

During the breeding season the only records were of a drake at Rye Hbr. on 4 June and a female at South Heighton for much of June and July. Singles were seen at Weir Wood Res.

on 18 Aug. and Bewl Water on 25 Aug., thereafter return movement became apparent in early Sept. with one at Rye Hbr. increasing to 11 on 9th, 7 at Bewl Water on 5th and 5 at Church Norton and 3 at Arundel WFT on 14th. Further records came from the Cuckmere Valley at the end of Sept. and small numbers were well distributed by the end of Oct. At Bewl Water numbers rose to 360 on 2 Dec.

67. **GADWALL** (*A. strepera*):—The monthly wildfowl and other counts at the principal localities were:

County totals	1985			1986		
	Jan.	Feb.	Mar.	Jan.	Feb.	Mar.
Swanbourne Lake	214	182	53	217	208	138
Arundel WFT	107	93	2	19	5	3
Bewl Water	31	57	37	64	42	44
	48	20	1	30	26	40

The severe weather in Jan. 1985 resulted in the highest count for many years and birds were reported from 23 localities. Records included 23 off Widewater on 4 Jan.; 21 at the Crumblies GP from 5 Jan., decreasing to 8 on 17 Mar. with a peak of 26 on 27 Jan.; 15 at Chichester GP from 17 Jan. to 16 Feb.; 18 at Thorney Island on 1 Jan., 18 on R. Ouse at Southsea on 14 Feb., 13 at Aldsworth on 2 Feb. and 9 at Lurgashall on 9 Mar.

In the breeding season in the Arun Valley and north west Sussex, there were 2 pairs at Waltham Brooks and single pairs at Amberley, Petworth Park, Lurgashall, Burton Pond and Chingford Pond, where young were seen in July. Young broods were also seen at Swanbourne Lake and Arundel WFT (3). At Chichester GP 3 pairs were present on 20 Apr. and a pair with young on 3 June. Single pairs were reported at Angmering, Shoreham, Weir Wood Res., Bewl Water and Rye Hbr.

At Lurgashall 16 on 12 Oct. stayed until the weather worsened in Nov. Counts at the end of the year included 115 at Bewl Water on 2 Dec., 16 at Chichester GP on 24 Nov. increasing to 30 on 29 Dec., 25 on Thorney Island, 22 at the Crumblies GP on 8 Dec. and small numbers at Amberley, Petworth Park and Rye Hbr.

69. **TEAL** (*A. crecca*):—The monthly wildfowl and other counts at the principal localities were:

County totals	1985			1986		
	Jan.	Feb.	Mar.	Jan.	Feb.	Mar.
Chichester Hbr.	1100	1009	564	2116	2169	588
Pagham Hbr.	287	139	60	185	239	384
Glynde Levels	320	12	75	NC	NC	NC
Bewl Water	250	150	15	36	79	66
Amberley	25	70	71	40	168	500

The severe weather in early Jan. 1985 resulted in the lowest count for 5 years with most birds being concentrated at the coast. Other counts included 222 at Arundel WFT on 1 Jan. and 100 on Pett Level on 6th. Later in the month birds returned inland and on 31st there were 700 at Amberley and 100+ at Gatwick.

Successful breeding was reported from Oldhouse Warren and a recently constructed pond at Furners Green. A family of 8 fully fledged young at Minepit Copse on 18 Aug. may have bred elsewhere. Solitary ducks were reported from Litlington and Warnham and solitary drakes from Rye Hbr., Wallers Haven, Lurgashall and Pagham Hbr. At Thorney Island, 3 were present on 9 June and 8 on 13 July.

At the end of the year counts included 143 and 150 at Bewl Water on 30 Nov. and 20 Dec. respectively, 198 at Darwell Res., 166 at Arundel WFT and 128 at Cuckmere Haven on 15 Dec. and 700 at Amberley on 29th.

70. **MALLARD** (*A. platyrhynchos*):—The monthly wildfowl and other counts at the principal localities are shown on page 15.

The Jan. 1985 count was well above the average for recent years. On 16 Jan. there were c.200 at Glynde and 194 at Barcombe Res. and on 13 Feb. 365 at Hampden Park, 195 at Weir Wood Res. and 159 at Powdermill Res. Very little breeding information was received but c.30 pairs were estimated at Rye Hbr. Post-breeding counts were 129 at Angmering, 154

at Chichester GP and 200 at Amberley on 16 Sept., c.100 at Scotney GP on 21st, 95 at Small Dole on 1 Oct. and 120+ at Warnham on 13th. At the end of the year 175 were at Weir Wood Res. on 17 Nov. and 199 at Powdermill Res. and 394 at Darwell Res. on 15 Dec.

County totals	1985			1986		
	Jan.	Feb.	Mar.	Jan.	Feb.	Mar.
Arundel WFT	5120	4396	1614	3333	3152	4717
Bewl Water	1000	650	40	25	420	500
Chichester Hbr.	700	500	156	935	765	500
Arundel WFT	534	378	117	172	352	754
Rye Hbr.	407	176	66	124	139	304
Pagham Hbr.	265	372	278	362	273	343
Knepp Lake	361	177	166	196	278	313
Alexandra Park	277	125	32	298	40	32
Swanbourne Lake	262	238	89	140	130	NC
	239	249	107	92	72	67

72. **PINTAIL** (*A. acuta*):—The monthly wildfowl and other counts at the principal localities were:

County totals	1985			1986		
	Jan.	Feb.	Mar.	Jan.	Feb.	Mar.
Pagham Hbr.	421	230	113	46	158	779
Chichester Hbr.	294	120	13	6	49	690
Amberley	99	84	84	12	40	108
	12	1	16	—	1	16

The Jan. count was well above the average for recent years. Other counts at the beginning of the year included c.40 at Waltham Brooks on 26 Jan. with c.90 there on 2 Feb., and 50+ at Pagham on 5 Mar. Records, all for less than 10 birds, were also received from Chichester GP, Burton Pond, Pulborough, Adur Levels, Shoreham, Weir Wood Res., Barcombe Res., Arlington Res., Cuckmere Valley, Rotherfield, Fisham, Crumblies GP, Pevensey Levels, Pett Level, Alexandra Park and Rye Hbr. Spring records included 4 at Waltham Brooks on 5 Apr., 12 at Pagham Hbr. on 6th, one at Rye Hbr. on 12th, a pair at Sidlesham on 16th and 23rd. A feral bird hatched 4 young at Arundel WFT but none survived.

Two pairs returned to Rye Hbr. on 31 Aug., a duck was at Bewl Water on 9 Sept. and 17 at Thorney on 15th. At the end of the year small numbers were reported from Barcombe Res., Rye Hbr., Pett Level, Prince's Park, Eastbourne and Arlington Res.

73. **GARGANEY** (*A. querquedula*):—A very poor year with only 3 spring records; a pair at East Head on 8 Mar., solitary drakes at Rye Hbr. and Arundel WFT on 11 and 15 May respectively. Later in the year, at Rye Hbr. there was a drake on 27 July, one present from 3-26 Aug., 1 on 14 Sept. and 2 on 15th. Elsewhere a pair was at Balcombe Lake on 21 Aug. and a duck at Pett Pools from 28 Aug. to 1 Sept. The last was one at Rye Hbr. on 8 Oct.

75. **SHOVELER** (*A. clypeata*):—The monthly wildfowl and other counts at the principal localities were:

County totals	1985			1986		
	Jan.	Feb.	Mar.	Jan.	Feb.	Mar.
Chichester GP	94	52	67	35	167	96
Arundel WFT	20	26	1	3	30	16
Chichester Hbr.	15	20	14	5	10	31
Amberley	9	—	10	3	2	16
Barcombe Res.	4	—	8	3	12	23
Arlington Res.	10	—	—	—	11	23

The Jan. count was less than half that in Jan. 1984, which was the lowest for many years. This drop in numbers was in line with the national trend. However, exceptional counts were 132 at Scotney GP and 65 at the Crumblies GP in early Jan. Otherwise during the early months only small numbers (less than 10) were reported from 16 other sites.

Virtually no spring passage was reported at the coast and very few birds inland in Apr., the highest count being 13 at Waltham Brooks on 5 Apr. In May and June, a pair reared 5 young at Sidlesham, a brood of 5 was seen at Arundel WFT and a pair probably bred at Rye Hbr. Elsewhere pairs were reported from Broomhill Levels and Chidham. One was at the

Crumbles GP on 7 July, 2 at Chichester GP on 13 July, 3 at Waltham Brooks on 29 July, one at Weir Wood Res. on 11 Aug., 2 at Bewl Water on 26 Aug. and 2 at Burton Pond on 28 Aug. At the end of the year other reports included 47 at the Crumbles GP on 30 Nov. and small numbers elsewhere.

76. **RED-CRESTED POCHARD** (*Netta rufina*):—Males at Slaugham Furnace Pond from 25 Apr. to 1 June and at Rye Hbr. on 28-30 Apr. may have been escapes. The 2 males and 2 females at Arlington Res. on 15 Aug. and particularly the flock of 12 (5 males) at Bewl Water on 30 Dec. were more likely to have had a wild origin.

77. **POCHARD** (*Aythya ferina*):—The monthly wildfowl and other counts at the principal localities were:

County totals	1985					1986				
	Jan.	Feb.	Mar.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Arundel WFT	149	309	167	48	64	184	209	215	357	214
Rye Hbr.	107	204	102	70	160	166	186	190	181	116
Chichester GP	103	96	88	30	69	185	286	272	187	87
Bewl Water	138	42	3	2	37	73	131	66	88	32
Weir Wood Res.	—	33	25	—	9	30	30	83	50	32

The Jan. 1985 count was well below the average for recent years. However, this count did not include the Crumbles GP where 200 were present on 12 Jan. and 90 on 2 Feb. The severe weather in Jan. resulted in small parties scattered at a few unusual sites, eg 10 at Lower Cuckmere on 7 Jan., 8 at Brooklands on 12 Jan., 20 at Waltham Brooks on 26 Jan. and 9 at Widewater on 29 Jan. In Feb. distribution and numbers returned to near normal.

In the breeding season 4 broods totalling 27 young were seen at Arundel WFT in May and of these 4 or 5 fledged successfully. Elsewhere there were a drake and 2 ducks at Rye Hbr. and 6 birds at Chichester GP but no evidence of breeding. At the end of the year, other counts included 113 at the Crumbles on 26 Oct., 210 there on 23 Nov. and 150 on 1 Dec.; 170 at Bewl Water on 29 Oct. and 131 there on 15 Dec.; 309 at Chichester GP on 8 Dec.; c. 70 at Scotney GP and Weir Wood Res. on 22 Dec.

79. **FERRUGINOUS DUCK** (*A. nyroca*):—A female was at Weir Wood Res. from 3-13 Feb. (NGM).

80. **TUFTED DUCK** (*A. fuligula*):—The monthly wildfowl and other counts at the principal localities were:

County totals	1985					1986				
	Jan.	Feb.	Mar.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Arundel WFT	199	254	152	91	153	193	274	319	386	237
Chichester GP	125	244	193	156	306	371	379	238	237	212
Swanbourne	35	150	55	6	3	8	11	15	12	13
Pevensy/Crumbles	80	35	30	—	80	70	60	50	45	—
Chichester Hbr.	64	2	5	3	9	9	9	18	6	4
Rye Hbr.	60	72	52	13	23	35	78	104	82	80
Weir Wood Res.	—	113	100	25	28	30	25	31	122	48
Bewl Water	100	41	51	57	76	46	80	105	117	66
Barcombe Res.	69	99	28	1	5	11	42	74	66	13
Burton Ponds	35	44	45	46	35	3	39	30	39	29

The Jan. 1985 count was below average as inland birds left for the coast but numbers returned to near normal in Feb. Coastal movements were seen off Worthing between 7-20 Jan. with a peak of 103 W on 7 Jan. in 4½ hours; at Brighton Marina 45 flew in from E on 16 Jan. and 47 W off Bexhill on 19 Jan. Mid-Jan. coastal distribution was of particular interest with c. 20 at Jury's Gap, c. 170 at Crumbles, c. 20 at Cuckmere Haven, c. 40 at Newhaven Tide-mills and 16 at Widewater. Inland counts in Jan. included 108 at Barcombe Res., c. 30 in the Arun Valley and c. 20 in the upper Adur Valley. In the interior a few remained on frozen ponds, eg 4 at Maynards Green on 19 Jan., whilst others moved to small streams, eg 4 at Mannings Heath. In Feb. numbers at Barcombe Res. rose to 130 on 18 Feb. and there were 80 on the Crumbles GP on 16 Feb.

In the breeding season c. 126 pairs were reported from 41 sites in June and July and of

these 33 pairs were known to have bred at 19 sites. At the end of the year counts at the Crumbles were 110 on 26 Oct., 130+ on 23 Nov. and 120 on 1 Dec. In addition there were 130 at Bewl Water on 29 Dec., 348 at Chichester GP on 8 Dec. and c. 50 at Petworth Park on 17 Nov. and 15 Dec.

81. **SCAUP** (*A. marina*):—In the early months birds were more numerous at the coast than usual particularly after 19 Jan., when 19 were seen off Pett and 10 W at Bexhill. Later 20 were off Jury's Gap on 2 Feb. Approximate monthly maxima were:

Jan.	Feb.	Mar.	Apr.	May	Oct.	Nov.	Dec.
38	39	17	10	—	10	11	—

Throughout Jan.-Mar. varying numbers were at Pagham Hbr., Widewater, Crumbles GP and Rye Hbr. with occasional sightings at Emsworth, Chidham, Chichester Hbr., Bognor, Shoreham, Brighton Marina, Newhaven and Cuckmere Haven. Inland 3 were at Arlington Res. and 2 at Rotherfield on 19 Jan., 2 at Swanbourne Lake on 20th and 2 at Weir Wood Res. from 5 Jan. to 18 Apr. Elsewhere singles were at Amberley, Chichester GP and Arundel WFT. On 3 Apr. 15 arrived at Selsey Bill from W and later flew off E. At the end of the year the first was reported on 2 Nov. and all records were confined to the east of the county.

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

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
259	147	198	140	23	34	26	28	19	42	28	31

The regular winter flock off Selsey only numbered 3 in Jan. while in the east of the county 98 were reported from Langney Point and 41 from Hastings, both on 20 Jan. By 17 Mar. the Selsey flock had increased to 159. Spring coastal movements involved fewer birds than in 1984; at Worthing only 174 E were noted.

No individuals remained for the whole summer period this year though there were still 11 at Church Norton on 6 June and a single drake spent much of that month in Cuckmere Haven. At Selsey Bill 25 were offshore on 1-2 July. There were very few autumn or winter records, the most being 23 in Pagham Hbr. on 18 Aug. and 14 off Climping on 16 Oct.

86. **LONG-TAILED DUCK** (*Clangula hyemalis*):—Approximate monthly totals were:

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

The spring and summer records were remarkable and were of 2 birds: a female which stayed on the pits at Rye Hbr. from 27 May-16 Aug. and a very early returning male at the Crumbles on 23 Aug. There were no inland records.

87. **COMMON SCOTER** (*Melanitta nigra*):—Relatively few were seen early in the year apart from 100 off the Bexhill/Hastings coast in Jan. and 300 in Rye Bay on 17 Feb. Coastal movements were once again insignificant with the exception of 200 W and 40 E at Worthing on 22 Jan. Inland single drakes were recorded at Barcombe Res. on 10 Feb. and Bewl Water on 9 Apr.

Spring passage E at coastal stations was poor this year. There were only 918 at Selsey Bill, 2,225 at Worthing and 2,036 at Beachy Head. Summer records were unusually numerous: in July there were 160 in Rye Bay on 1st, 23 off Newhaven on 5th and 40 flew W at Worthing on 22nd. In contrast, few were noted in the autumn. Late in the year 84 were on the sea off Church Norton on 23 Nov. and in Dec., 90 were off Bexhill on 29th and 28 off Pett on 30th.

89. **VELVET SCOTER** (*M. fusca*):—The approximate monthly totals were:

Jan.	Feb.	Mar.	Apr.	May	Oct.	Nov.	Dec.
39	—	16	55	55	—	10	4

There were many more Jan. records than in recent years including 7 off Pett on 4th, 6 W at Worthing on 19th and 14 off Bexhill on 26th. Strangely there were no Feb. records. On 3 Mar. 6 were off Pett. Coastal stations reported a poor spring passage, a total of only 110 E being noted (cf. 313 E in 1984). The peak movement was on 13 May with 8 W at Worthing,

19 E at Brighton Marina and 40 E at Beachy Head. The first autumn record was one of Widewater on 5 Nov. Inland, Nov. brought a pair to Bewl Water on 18th and a female at Weir Wood Res. on 20th-22nd.

91. **GOLDENEYE (*Bucephala clangula*):**—Approximate monthly totals were:

County totals*	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Chichester Hbr.	209	133	110	8	—	1	1	1	—	6	32	42
Pagham Hbr.	116	52	56	2	—	1	1	1	—	—	17	27
Cuckmere	31	7	2	—	—	—	—	—	—	5	5	4
Crumbles	4	19	—	—	—	—	—	—	—	—	—	—
Weir Wood Res.	16	12	15	—	—	—	—	—	—	—	—	—
*these exclude birds seen migrating along the coast.	6	8	12	5	—	—	—	—	—	—	4	2

The severe weather in Jan. resulted in a doubling of numbers on the regular sites and birds appearing at many rarely used wetlands. Other counts included 9 on R. Adur/Widewater, 7 at Rye Hbr., 5 on Barcombe Res. and 12 on R. Arun at North Stoke. On 8 Jan. 30 flew W past West Kingston and 10 past Selsey Bill. Smaller numbers were seen migrating throughout Feb. and Mar.

One on Thorney Deepes from 9 June to 17 Aug. appeared to have a slightly damaged wing. At the end of the year numbers were relatively low after a rather late return.

93. **SMEW (*Mergus albellus*):**—The very cold weather produced an exceptional number of records and with so many waters freezing over, it is impossible to avoid duplication of records. The redhead from last winter remained at Pagham Lagoon, but no more appeared until 2 redheads at Pett Levels on 4 Jan. and Rye Hbr. on 5th. On 7th and 8th singles were seen moving W at Worthing and up to 5 (including a male) appeared at Northpoint GP, with a redhead at Selsey on 8th. Numbers slowly built up on 12th/13th when an additional 3 redheads appeared at the Crumbles and a male on Thorney Island. A further increase took place on 16th with now 6 at Northpoint GP, 5 at the Crumbles, 5 at Pagham, one on Thorney Island and one at Brighton which stayed for 5 days. A major increase occurred on 19th when there were 68 at the same 8 sites. Even more appeared the following day with the largest flock of the winter on the R. Adur near Henfield of 47 (13 males) and 25 at Northpoint GP (14 males), on which date a minimum total of 108 were in the county. The next day 8 (2 males) were on Combe Haven and flew off W. There was then a significant decrease in records with a single long-staying redhead at Widewater, 2 at Southwick, 15 at Washington and singles at Arlington Res. and Weir Wood Res. being new sites. Fuller counts were sent in for the 26th when 82 were found, the largest flock being 33 (14 males) at Northpoint GP. The following day this increased to 36 (16 males) but the other sites counted held about the same. The records then became much more sporadic and scattered with the largest numbers on the Crumbles with 22 (4 males) and 18 (3 males) on 30 Jan. and 2 Feb. and 29 at Northpoint GP on 2 Feb., 17 (3 males) on 16th, 20 (5 males) on 17th and 37 (8 males) on 20th. In Mar. only ones or twos were recorded at Pett Levels, the Crumbles, Northpoint GP and Darwell Res., the last of the winter being on 17th. The previous highest number was c. 100 in 1956 which was clearly eclipsed on 20 Jan. It would seem quite possible that from late Jan. and into Feb. possibly as many as 150 could have been in the county. Late in the year birds were only in the Rye Hbr./Northpoint GP area between 28-31 Dec. with a maximum of one adult male and 6 redheads.

94. **RED-BREADED MERGANSER (*M. serrator*):**—The estuary counts in Jan., Feb. and Mar. were 61, 40 and 44 respectively; the figures were two-thirds of those in 1983 and 1984, possibly as a result of the severe weather. Wintering flocks were recorded mainly off the West Sussex coast, peaking on 20 Feb. when 70 were recorded off West Worthing. There were more inland records than usual due to the severe weather, these involved singles on the Rivers Adur and Arun on 20 Jan. and in Feb., 2 at Arlington Res. on 3rd, 2 at Weir Wood Res. on 4th and 1 at Barcombe Res. on 18th.

The E spring movements at Selsey Bill (166) and Worthing (429) were very similar to the last four years. On 23 June 2 were in Chichester Hbr. The first autumn record involved 3 at Church Norton on 26 Aug. but it was not until Nov. that the wintering population started to return. On 14 Nov. 36 flew W past Selsey and 19 went W at Worthing. The estuary counts for

Nov. were 54 (34 in 1984) and in Dec. 108 (130 in 1984). Inland one was recorded at Amberley on 29 Dec.

95. **GOOSANDER (*M. merganser*):**—The first in the early part of the year were 7 males flying W at Widewater on 6 Jan. and the last, one male and 9 redheads at Arlington Res. on 26 Feb. and 3 redheads on 28th at Arundel. Between these dates, records were received from 15 main localities. Westerly movements were noticed throughout Jan. at a number of coastal localities and some very large flocks were found particularly on 19-20 Jan. with 15 (5 males) at Widewater, 33 on the R. Adur, 50 on the R. Arun, 55 (25 males) at Arlington Res. (on 20th, there had been 41 there on 19th) and 14 flew E at Weir Wood Res. Although some duplication is likely, the Arundel and Arlington Res. birds were probably different, but those from the R. Adur could be part of the R. Arun flock. Even accepting that, it is likely that 150 were in Sussex on that weekend, about the same as in 1962/63. Numbers rapidly declined with up to 3 redheads remaining at Northpoint GP to 18 Feb. and variable numbers at Arlington Res. including 24 on 23 Feb. and up to 5 at Bewl Water up to 24 Feb.

Later in the year the first was a redhead at West Kingston on 18 Oct. then single redheads at Bexhill on 9 Nov. and Weir Wood Res. on 11 Nov.; 3 were at Pagham Hbr. on 16 Nov. which increased to 10 by the 23rd. Five at Weir Wood Res. on 28 Nov. remained until 8 Dec. although 6 (including a male) were recorded on 29th. A single stayed on Pagham Lagoon to the end of the year and there was a male at Tilgate on 29th and 30th.

Cat. C. RUDDY DUCK (*Oxyura jamaicensis*):—As usual present throughout the year at Chichester GP and Arundel WFT. At Chichester GP the monthly maxima were:

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
20	17	9	2	3	2	2	3	2	—	—	—

Elsewhere in Jan. and Feb. up to 4 reported at the Crumbles GP and singles at Shoreham Hbr. on 18 Jan., Scotney Court GP on 27th and Emsworth on 5 Feb. Singles were also seen at Barcombe Res. on 3 dates in early Mar.

A pair held territory at Chichester GP in June, but there was no evidence of breeding. At Arundel WFT there were 3 broods totalling 8 young in June, but none fledged. In the autumn the first returned to the Crumbles GP on 4 Oct. and later up to 3 were seen there from 3 Nov. until the end of the year and also at Arundel WFT. Singles were reported from Barcombe Res. on 3 Nov., Brighton Marina on 25 Dec. and Arlington Res. on 28th.

103. **MARSH HARRIER (*Circus aeruginosus*):**—Fewer in spring than of recent years, with singles at Rye on 18 Apr., Thorney Island on the 28th, at Hastings on 7, 18 and 19 May, and Church Norton on 27th. In the autumn recorded from 14 July at Rye to 23 Sept., also at Rye; 4 or 5 individuals were involved in regular sightings there during that period. Monthly totals for the whole county were:

Apr.	May	July	Aug.	Sept.
2	4	1	4	6

104. **HEN HARRIER (*C. cyaneus*):**—Unusually high numbers recorded, with at least 50 different birds. Monthly totals were:

Jan.	Feb.	Mar.	Apr.	May	Sept.	Oct.	Nov.	Dec.
Adult males	8	9	4	1	0	3	3	6
Others	30	17	16	7	3	4	11	9

There was an influx in Jan. when the highest numbers were seen, including 5-8 hunting in the same area near Rye. Around the same time singles departed S at Littlehampton on the 13th and flew W at Goring on the 14th. Winter visitors had departed by 21 Apr. but migrants were noted at Selsey Bill on 3 May and Lewes on the 7th. A ringtail of this species or possibly *pygargus* arrived at Pagham on 7 Sept. Otherwise the first seen at the end of the year was a male near Midhurst on 5 Oct. About 12 were present at the year's end.

In the early months the main distribution remained very similar to that of recent years with totals as follows: Chichester Harbour, up to 5; Selsey Peninsula, up to 5; Midhurst area, up to 3 in Mar.; Arun Valley and nearby Downs, up to 3; Worthing Downs, up to 2; Shoreham Downs, up to 2; Lewes-Norhaven-Rottingdean, up to 4; Lullington-Cuckmere-Beachy Head, up to 3; Pett-Rye Harbour area, up to 9. Scattered records elsewhere may

refer to wide-ranging birds from these main areas or to other centres not yet well known. At the end of the year distribution was very similar but it is clearly better examined in the Jan-Mar. period than earlier in the winter.

105. **MONTAGU'S HARRIER** (*C. pygargus*):—A male at Stoughton Down on 21 Apr. (JM, TT), a female at Combe Haven on 18 May (SCR, KMJ) and a partially melanistic ringtail at Camber on 3 June (KMJ).

107. **GOSHAWK** (*Accipiter gentilis*):—An immature was seen on the Downs on 19 Jan. and an adult on 7 Sept.

108. **SPARROWHAWK** (*A. nisus*):—The species continues to be very widely reported. In the breeding season birds were recorded from 105 sites and the high proportion of previously reported ones involved suggests that the population is continuing to stabilise (see 5x. BR 36: 74-82). However only 8 pairs were proved to breed, rather lower than the average reported over the previous 5 years. Brood size was also low at a minimum of 1.5 young, and none of 3 or more young was reported. Note that the recent assessments of this species breeding have been based on the ordinary records we receive, not any systematic survey, so are comparable.

109. **BUZZARD** (*Buteo buteo*):—Continued evidence of a feral population in Sussex makes evaluating records very difficult. For what it is worth monthly totals were:

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
4	4	3	4	6	4	4	6	5	6	1	2

The records include a feral pair in Ashdown Forest which bred, rearing 2 young. Autumn records include 2 birds seen at several localities in Aug., Sept. and Oct. which seem to relate to the same birds (not the Ashdown Forest juveniles). Similarly records in Jan. may refer to only one bird in various localities, rather than the 4 shown. Little evidence of true passage was noted, in particular none was recorded at Beachy Head.

110. **ROUGH-LEGGED BUZZARD** (*B. lagopus*):—At least 3 were seen, a good year by recent standards. The first was at Birling Gap, Beachy Head on 19 Oct. (RJS, VJS) and this was probably the bird near Balsedean on 26th (GAS). On 14 Dec. an immature was at South Heighton (JC, DC) and an unaged bird at South Stoke (DIS).

113. **OSPREY** (*Pandion haliaetus*):—In spring there were singles at Bewl Water on 4 and 21 Apr. (AHL) and 1 came in at Birling Gap on 13 May (RDME, SL). Early autumn records are becoming more frequent, no doubt as the number of sub-adults increase in Scotland; this year singles were near Hastings on 5 July (JT), while on 13th birds were near Frant (MSH) and Petworth (AJG). Six more autumn birds were seen, at Climping on 13 Aug. (EJPS), at Bewl Water 16-18 Aug. (GH, PCB), at Arlington Res. on 17 Aug. (SL, PW) and in the Lower Cuckmere on 25 Aug. (GG); 1 flew out SSE from Beachy Head at 0800 hrs. on 1 Sept. (AJP, RDME, SPH) and the last was at Darwell Res. on 15 Sept. (RGH).

115. **KESTREL** (*Falco tinnunculus*):—Once again a very large volume of reports. These included 34 records of proved breeding, of which 24 pairs reared a minimum of 43 young. Thus it was a much poorer breeding season than any of the previous 3 years; 3 of the 24 pairs failed to rear young, a comparatively high percentage nowadays. This poor breeding may have been the result of the severe weather in Jan., which can affect the subsequent breeding condition of adults.

There was probably also a general reduction in the numbers breeding for the same reason. Declines were noted in the Midhurst area, at West Chilmington, on the Downs behind Worthing and at Sidlesham. In the latter area breeding density was 13% lower than in the early 1980s. Six pairs were again found in the urban area of Brighton and a pair also nested in the new grandstand on Goodwood Racecourse.

The largest autumn group recorded was of 10 on Newmarket Hill on 28 Aug.

118. **MERLIN** (*F. columbarius*):—Recorded until 14 Apr. and from 5 Sept. Monthly totals were:

Jan.	Feb.	Mar.	Apr.	Sept.	Oct.	Nov.	Dec.
10	4	3	2	8	10	8	8

There was clearly an influx with the cold weather of Jan., perhaps in pursuit of an influx of Skylarks, which Merlins were recorded hunting in several areas. Birds were then widely present on the Downs and coast but few apparently stayed into Feb. and the only sites which definitely held birds throughout the early months were around Chichester Hbr. and in and around Lewes Brooks.

Autumn passage was unremarkable and at the end of the year birds were apparently wintering around Chichester and Pagham Harbours, on the Downs between Brighton and Lewes and at Rye Hbr.

119. **HOBBY** (*F. subbuteo*):—Successful breeding was recorded at 5 sites, where at least 10 young were raised; breeding very probably occurred at another site.

First recorded on 21 Apr. at Beachy Head and last seen on 20 Oct. at Pett. Monthly totals of migrants were as follows:

Apr.	May	June	July	Aug.	Sept.	Oct.
4	16	2	2	5	14	5

123. **PEREGRINE** (*F. peregrinus*):—A host of sightings make a welcome change, but probably relate to 6-7 individuals. An adult was in the Beachy Head-Cuckmere-Ouse Valley from 1-19 Jan., 13 May and 8 Sept.; here an immature was seen on 25 Aug., 1 Sept. and 25 Nov. On 29 Aug. an adult was at Chanctonbury and another adult apparently ranged between Waltham Brooks and Pagham/Chichester Hbrs. from 12 Nov. to 31 Dec. An unaged bird was around Rye Hbr. from 19 Mar. to 3 Apr., at Pett Level on 29 Sept. and over Combe Haven on 14 Oct. and 21 Nov.

129. **RED-LEGGED PARTRIDGE** (*Alectoris rufa*):—Many are released annually but the largest coveys reported were 25 at Chanctonbury on 20 Oct. and 18 at Gossops Green on 13 Jan.

130. **GREY PARTRIDGE** (*Perdix perdix*):—In mid-Jan. 7 coveys at West Wittering totalled 49 birds while on the Downs at Brighton 3 coveys totalled 46. In Dec. the 4 coveys on Harbour Farm, Rye totalled 37 birds and 12 were out on Pilsey Island. One flew W along the beach at Worthing on 25 Mar. Interestingly, birds were noted at 3 sites where they have been absent for many years, *ie* at Hellingly on 26 May, at Hollingbury on 29 Aug. and Camp Hill, Ashdown on 15 Sept.

131. **QUAIL** (*Coturnix coturnix*):—Eight were calling on downland; at South Heighton on 19 May, Balsedean 1 June-9 Aug., 2 at Beachy Head 19 June-13 July, Castle Hill 15 July, Cissbury 16-18 July, Newmarket Hill 20-24 July and Falmer Bottom on 13 Aug. One was flushed at Coombes, Steyning on 4 July.

136. **WATER RAIL** (*Rallus aquaticus*):—Approximate totals of non-breeders were:

Jan.	Feb.	Mar.	Apr.	May	Sept.	Oct.	Nov.	Dec.
Number of sites	15	11	8	5	1	3	9	8
Number of birds	74	65	24	5	1	3	32	45

The severe weather early in the year brought fairly large numbers into the open but the only concentration of note was up to 50 in Combe Haven. In Apr. there were four singles up to 10th; thereafter the only non-breeders were on the upper Adur Levels on 30th and at Newhaven on 3 May.

Returning birds were at Arundel WFT on 14 Sept. and Rye Hbr. on 16th. Obvious migrants were 1 killed by a dog in Shoreham town centre on 20 Oct. and another on Beachy Head on 23rd. Late in the year up to 30 returned to Combe Haven.

In the breeding season birds were heard calling at 6 localities, with 2 at one site and 8 in the complex of 3 sites holding 9 last year.

137. **SPOTTED CRAKE** (*Porzana porzana*):—One was calling in Combe Haven on 30 Sept. (KMJ).

138. **SORA RAIL** (*P. carolinensis*):—An adult was seen at Pagham Lagoon from 26 Oct., possibly from 24th, to 24 Dec. (PWB, AF, EDL *et al.*). This bird which provided magnificent views to thousands of birdwatchers was the first for Sussex; it has been accepted by *British Birds*.

139. **LITTLE CRAKE** (*P. parva*):—A remarkably confiding female was in the Cuckmere Haven from 6-16 Mar. and had probably been present since 3rd (JC, BAG, JSL *et al.*). Although it was the 14th for Sussex, it was the first since 1968. It has been accepted by *British Birds*.

141. **CORNCRAKE** (*Crex crex*):—1983:—One was flushed at Hastings on 26 Aug. 1985;—Late Sept. brought two records, on the Downs at Lewes on 25th (RL) and at Pebsham on 28th (KMJ).

142. **MOORHEN** (*Gallinula chloropus*):—This widespread species was under-recorded. The largest numbers noted early in the year were 154 at Arundel WFT, 76 at Chichester Hbr., 66 at Rye Hbr., 48 at Pagham Hbr. and 37 at Brooklands. Only 53 breeding pairs were reported with 8 at Darwell Res. Nov/Dec. peak counts were 100 around Chichester Hbr., 73 at Rye Hbr. and 39 at Pagham Hbr.

145. **COOT** (*Fulica atra*):—Autumn and winter maximum counts at the principal localities were:

	Jan.	Feb.	Mar.	Sept.	Oct.	Nov.	Dec.
Rye Hbr.	1004	1500+	776	54	43	109	402
Chichester GP	769	495	302	528	756	1099	1426
Chichester Hbr.	667	460	132	4	3	113	257
Bewl Water	610	500	307	265	232	596	736
Crumbles GP	334	227	202	147	180	157	289
Arundel WFT	261	254	78	88	105	131	137
Pagham Hbr.	247	138	120	24	42	20	12
Ardingly Res.	100	173	81	19	45	120	160
Arlington Res.	31	133	—	—	—	—	10
Pett Level	100+	26	126	15	38	23	18
Weir Wood Res.	6	65	58	105	110	95	65

A movement to coastal waters and the river valleys took place in mid-Jan. when all but the largest inland waters froze over. At Brooklands numbers rose steadily from 29 on 7 Jan. to 95 on 27th and 75 still remained on 17 Feb. In the Adur Valley, on 18-20 Jan., there were 36 on Beeding Brooks, 63 on the river at Cuckoo's Corner and 40 at Shoreham, 10 at New Salts Farm and 13 at Widewater. In the Ouse Valley, there were 86 at Barcombe Res. on 25 Jan., 28 on the river between Lewes and Southsea on 12th rising to 47 on 16 Feb., and 29 in Newhaven Hbr. on 18 Jan. Other counts included c.200 at Jury's Gap on 15 Jan. and 240 on Thorney Great Deep on 20th. At the end of the year numbers at Brooklands had risen to 40 by 11 Dec. and there were 118 at Scotney GP on 7th.

146. **CRANE** (*Grus grus*):—1984:—An immature seen at Herstmonceux on 9 May (MJS) may have been the bird which left the Adur Levels that day. It has been accepted by *British Birds*.

151. **OYSTERCATCHER** (*Haematopus ostralegus*):—The estuary counts were:

	1985			1985			1986			
	Jan.	Feb.	Mar.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
County totals	1946	1729	1711	1876	2176	2269	1943	1888	1914	1429
Chichester Hbr.	808	728	557	1325	1348	1002	930	813	1132	703
Rye Hbr.	530	447	576	392	260	550	450	450	220	216
Pagham Hbr.	333	326	337	354	241	327	243	384	340	244
Climping	250	220	230	125	267	250	170	200	200	200
Pett Levels	—	—	7	—	28	119	91	41	—	47

The slight increase over the relatively poor numbers of 1984/85, was more typical of recent years. There was a further small, but noticeable increase in birds on beaches at Shoreham (up to 38 in spring and 30 in Nov.) and West Worthing (up to 35 in spring). Inland records included 4 at Bewl Water on 5 Jan. and 1 at Chichester GP on 5 Sept.

It is becoming clear that many of the birds observed moving E along the coast in spring are local and are undertaking feeding movements. Ironically, they seem to move E past Worthing, Widewater and Brighton Marina in the morning but evening observations usually show a return W movement.

At Rye Hbr. 24 pairs raised only 8 young, 9 pairs at Pagham Hbr. raised only 6 young, and 3 pairs on the Midrips/Wicks all failed. There were also 2 pairs on Broomhill Level and one on the Bosham peninsula. Non-breeding concentrations included 370 at Chichester Hbr., 160 at Rye Hbr. and 79 at Pagham Hbr.

153. **AVOCET** (*Recurvirostra avosetta*):—The monthly totals were:

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	4	3	5	7	11	13	—	13	15	2	3	2

Thorney Island and Pagham Hbr. each had 1-2 wintering birds. These left on 20 Apr. and 24 Apr. respectively. Other winter records were singles at Scotney Court GP on 4 Jan., at Northpoint GP on 3 Feb. and the Adur on 16 Feb. Spring passage spanned the very long period from 19 Mar. to 24 June. Unusually, the Rye/Midrips/Scotney Court GP area had a very sustained passage from 17 May to 6 June with peaks at Rye Hbr. of 3 on 17 May and 6 on 31 May and also 6 at Scotney on 5 June. This reflected an unusually late spring movement of many other species.

Autumn migration was unusual with all Aug. records from 17th-19th (a total of 9 on the Cuckmere, 3 at Pagham Hbr. and 1 at Norman's Bay) and all Sept. records on 28th and 29th (8 on Thorney Island and 7 at Sidlesham Ferry). After that odd birds remained at these 2 sites.

158. **LITTLE RINGED PLOVER** (*Charadrius dubius*):—An average year, the approximate monthly totals being:

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	—	—	1	11	15	4	10	28	2	—	—	—

The first of the year was in the Adur Valley on 21-22 Mar., none was then reported until mid-April with singles at Littlehampton on 15th and Sidlesham Ferry on 16th. Passage, mostly single birds, continued quietly to mid-May. From 20 Apr-6 May 2 were at Bewl Water, with 2 at Gatwick on 24 Apr., 2 at Ifield from 3-18 May and 2 at Langney Point on 5 May.

During the breeding season 9 pairs were reported from 6 sites, but nesting was only proved at two and only one young bird was seen.

Autumn passage was exceptional with 1-3 birds at several, mainly coastal, sites between 18 July at Sidlesham Ferry and 9 Sept. when the last was heard at Rye Hbr.

159. **RINGED PLOVER** (*C. hiaticula*):—The estuary counts were:

	1985			1985			1986			
	Jan.	Feb.	Mar.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
County totals	517	502	248	1220	1426	871	735	807	380	287
Chichester Hbr.	233	126	32	750	704	341	165	203	93	77
Pagham Hbr.	33	49	102	87	307	110	160	217	15	106
Adur	43	50	20	225	109	200	150	130	200	36
Goring	130	140	—	8	182	138	156	5	5	9
Rye Hbr.	3	55	53	56	86	14	29	56	2	30
Newhaven	30	15	4	42	15	1	52	35	6	—

Early in 1985 the very cold spells of Jan. and Feb. reduced numbers very sharply from 1,273 in Dec. 1984. Other counts revealed up to 200 at Goring on 24 Feb. and 74 on Shoreham Beach on 10 Jan. Very few were observed migrating in spring, but a flock of 54 migrants was in Chichester Hbr. on 1-2 June.

The 92 pairs reported were from sites where 86 were present in 1984, a 7% increase.

These were 3 at the Midrips, 51 at Rye Hbr., 2 each at the Crumbles, Cuckmere, Newhaven and Brighton Marina, 4 at Widewater and 26 at Pagham Hbr. Reasonable breeding success was noted at Rye and Pagham Hbrs. with 30-50 and 19 young fledging respectively.

Estuary counts did not coincide with the main autumn passage period. On 31 Aug/1 Sept. 1,100 were on Thorney Airfield, while 265 were on the Adur on 26 Aug. Few were seen inland, virtually all between 14 Aug. and 7 Sept.; maxima were 14 at Chichester GP on 17 Aug., when 11 were at Arlington Res. The only others were 3 at Waltham Brooks on 21 July.

161. **KENTISH PLOVER** (*C. alexandrinus*):—A male was in Pagham Hbr. on 27 Apr. (DPH, PAH).

163. **DOTTEREL** (*Eudromius morinellus*):—Although there were no spring records the autumn influx of 19 on the Downs was the best this century. The first was near Baisdean on 28 Aug., at least 9 were present on 30th-31st and 10 on 1 Sept.; numbers decreased to 6 on 2nd and the last left on 8th. All of these were juveniles (GAS, JR). At Beachy Head, 4 adults and 4 juveniles were present on 1 Sept. with just 2 the following day (TWP, SK *et al*). One was at Newmarket Hill, Brighton on 26 Sept. (NAGL).

165. **GOLDEN PLOVER** (*Pluvialis apricaria*):—The estuary counts were:

	1985			1986		
	Jan.	Feb.	Mar.	Jan.	Feb.	Mar.
Pevensey Levels	700	30	180	100	200	40
Chichester Hbr.	44	253	414	60	295	86
Pagham Hbr.	—	11	200	131	290	19
Rye Hbr.	—	—	—	23	239	—
						2
						38

After 400 at Pagham Hbr., 105 in Bracklesham Bay and 100 at Willington Levels up to 5 Jan. and a small movement W during the first week of Jan., there were exceedingly few birds left in the county during the very severe weather of early 1985. Some reappeared between 20 Jan. and 7 Feb., with 520 on Thorney Island, 100 at Pett and 76 at Barcombe Res.; in the Feb. severe spell, the majority left, a few returning from 28 Feb. During Mar. up to 460 were at Sidesham Ferry, 518 at West Wittering and 200 at Northpoint GP. Unusually, extremely few were seen in Apr.: up to 84 at Sidesham Ferry until 10th and 23 "northern" birds on Thorney on 24th being the only records.

The return movement was late with the first 6 being in Thorney Channel on 31 July, 1 at Pett on 1 Aug. and 40 SE over Woodingdean on 9 Aug. Thereafter numbers were small until 1,000 were at Bracklesham on 23 Nov., but most were seen in the last week of Dec. Then there were 150 at Willington Level, 500 at Pagham Hbr. and exceptional numbers in the far east: here, 1,000 were on East Guldeford Levels and flocks of 1,250 and 550 were on Broomhill Level.

166. **GREY PLOVER** (*P. squatarola*):—The estuary counts were:

	1985			1986		
	Jan.	Feb.	Mar.	Jan.	Feb.	Mar.
County totals	1836	1841	2008	2687	1781	2115
Chichester Hbr.	692	1078	986	2020	1108	807
Pagham Hbr.	890	412	949	560	644	418
Goring	183	192	—	2	92	158
Pett Levels	—	84	—	—	2	13
Climping	47	62	—	8	14	26
						20
						65
						16

The Jan. 1985 count, in severe weather, at Chichester Hbr. was 1,300 birds less than Dec. 1984. However, numbers elsewhere held up well through Jan. and Feb., with 28 on the Adur in Feb. exceptional. The early autumn numbers, especially at Chichester Hbr., were again large, but otherwise they were typical. Inland, singles were at Weir Wood Res. on 4 Jan. and Bewl Water on 17 Jan. In Oct. there were 3 at Waltham Brooks on 5th and singles at Bewl Water on 13th and 20th.

Spring migration was poor with only some 147 seen passing E. mostly at Worthing, where 47 were seen in Apr. and 88 in May. Spring passage ceased on 11 June. Only a few immatures appeared to remain through the summer, *ie* maxima of 66 in Chichester Hbr., 24 in Pagham Hbr. and 4 at Rye Hbr. The first returning bird was seen on 30 July.

167. **SOCIABLE PLOVER** (*Chettusia gregaria*):—A juvenile moulting into first winter plumage was first seen on the Steyning Downs on 31 Oct. before moving onto the lower Adur Levels/Shoreham Airport where it remained until 30 Dec. (CEM, JAN, CMJ, BJ *et al*). It has been accepted by *British Birds* and is the second for the county.

169. **LAPWING** (*Vanellus vanellus*):—Regular counts at the main sites were:

	Jan.	Feb.	Mar.	Sept.	Oct.	Nov.	Dec.
Pevensey Levels	400	100	800	700	1200	1700	2500
Chichester Hbr.	252	1709	842	536	698	404	3545
Adur	200	2000	20	20	—	200	800
Newhaven	6	24	200	200	350	150	1800
Pett Levels	NC	—	—	—	103	266	1340

Throughout the first week of Jan. there was a steady movement S and W, which peaked on 5th, before the snow, when 1,000+ passed over each of Bewl Water, Combe Haven and Storrington. The movement ceased by 13th, after which very few remained, mostly eking out a precarious existence on the beaches and estuaries. At least 9 dead birds were picked up on the Adur on 30 Jan., when a few had returned, but in the next severe spell large numbers moved S on 9-10 Feb. when 2,400 flew out to sea at Worthing and 1,000 at Pagham Hbr.

The winter mortality undoubtedly contributed to a further worrying decrease in breeding numbers. In the Cissbury area 28 pairs in 1984 dropped to 9, at Rye Hbr. 80 pairs in 1983 to 60 in 1985 and at Amberley Wildbrooks 38 pairs in 1984 to 25 pairs. In the whole of the Arun Valley from A27 to Pulborough, 148 pairs in 1982 had slumped to just 42 in 1985. Other major concentrations of pairs were 35 at Hooe Level, Pevensey and c.10 at Thorney Deepes, Gatwick Airport and Broomhill Level. Breeding success was generally considered as poor in the awful spring weather.

Relatively few were seen until Nov. when 1,000 were present on Horse Eye Level, Cuckmere and Pulborough Brooks. In mid-Dec. 2,000 were on the lower Adur Levels. The leucistic individual on Thorney Deepes in 1984 remained until 9 Feb.

170. **KNOT** (*Calidris canutus*):—The estuary counts were:

	1985			1986		
	Jan.	Feb.	Mar.	Sept.	Oct.	Nov.
County totals	796	756	8	105	50	318
Chichester Hbr.	633	650	7	76	25	310
Pagham Hbr.	161	105	1	15	24	8
						7
						16
						55
						40

The Chichester Hbr. flock continues to decrease although the species was much more regular than usual in Pagham Hbr., where the numbers in cold weather were unusually high. Typically, very small numbers were seen elsewhere. The E spring passage was very poor with only 87 E at Worthing, 40 on 23 May. Very few summered.

In autumn not noted until 1 Aug. but a remarkable sight at Worthing was 200 SW in two flocks on 13 Aug. Small numbers were seen thereafter with maxima of 18 at Pett Pools on 29 Aug., 15 at Rye Hbr. on 10 Sept. and 14 on the Adur on 9 Sept.

The only inland record was an adult at Barcombe Res. on 13 May.

171. **SANDERLING** (*C. alba*):—The estuary counts were:

	1985			1986		
	Jan.	Feb.	Mar.	Sept.	Oct.	Nov.
County totals	426	691	329	239	253	415
Chichester Hbr.	3	25	600	320	127	162
Rye Hbr.	290	197	90	9	16	50
Climping	50	145	—	—	34	140
Goring	80	60	—	—	3	89
						150
						70
						30

Only very small numbers were seen elsewhere in winter, but at Goring there were 255 on 24 Mar.; these may have been early migrants, but observed passage otherwise spanned 4 Apr. to 31 May. Passage was fair with 559 E at Worthing (peaks of 62 on 4 Apr., 49 on 3 May and 40 on 23 May) and 90 at Selsey Bill, with 32 on 6 May. Apparently one summered at Chichester Hbr. Inland, one was at Waltham Brooks on 21 May.

The return passage was seen from 10 July, by 21st there were 80 on Pilsley Island and on 29th 50 at Rye Hbr.

175. **LITTLE STINT** (*C. minuta*):—The approximate monthly totals were:

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	—	—	—	1	—	1	9	38	28	3	—

One at Pett Pools to 12 Jan. had been present from 23 Dec. 1984. Spring passage was almost non-existent with one at Rye Hbr. on 13 May the sole record. First of the autumn was also at Rye Hbr., on 27 July with another there and one on Sidlesham Ferry from 1-6 Aug. Few were then seen until early Sept. with up to 3 at Sidlesham Ferry throughout the month. Two at Pett Pools increased to 11 on 23 Sept., with 9 on 1 Oct., 15 on 12th, but only 2 subsequently to 2 Nov. Elsewhere 1-2 were recorded at several localities, the last being at Sidlesham Ferry to 8 Nov.

180. **PECTORAL SANDPIPER** (*C. melanotos*):—One was at Pett Pools on 9 Sept. (TPD, IJB).

182. **CURLEW SANDPIPER** (*C. ferruginea*):—A very good year with large movements noted in mid-Aug. and mid-Sept., the approximate monthly totals being:

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
—	—	—	1	1	—	1	92	105	6	—	—

One was seen at Rye Hbr. on 18 May, the only spring record. First of the autumn was also at Rye Hbr. from 26-28 July with one at the Cuckmere on 6 Aug. and another at Rye Hbr. on 11th. On 14 Aug. a flock of 56 adults roosted at Rye Hbr. during a heavy rainstorm while 10 were reported at the Cuckmere and 10 at Chichester GP the same day. In the first half of Sept. 4-9 were recorded from Pett Pools, the Cuckmere, Chichester GP and Sidlesham Ferry with peaks mid-month of 19 at Rye Hbr. and 9 at Pilesey on 14th and 16 at Sidlesham Ferry and 19 at Pilesey on 22nd. At Rye Hbr. 8 on 23rd dropped to 1 overnight and few were reported in the county subsequently, the last also being at Rye Hbr. from 9-13 Oct.

183. **PURPLE SANDPIPER** (*C. maritima*):—The monthly peak counts were:

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
County totals	65	54	80	64	7	7	10	44	76	—	—	—
Glyne Gap	32	31	44	42	—	—	—	—	33	41	—	—
Newhaven	23	13	25	20	—	—	6	NC	26	—	—	—
Littlehampton	7	7	10	—	—	—	—	—	7	7	—	—
Brighton Marina	2	2	1	1	—	—	—	—	2	2	—	—
Other sites	—	—	—	—	—	—	—	—	—	—	2	—

For the first time the numbers at Glyne Gap regularly exceeded the Newhaven flock. As a result, the county totals reached new heights in Mar. and Dec. The Newhaven flock is now less regular on the eastern harbour arm than it used to be. Departing birds were last seen at Glyne Gap on 14 Apr. and at Brighton Marina on 23rd.

Singles flew W at Worthing on 20 Aug. and 4 Sept., while at each of Glyne Gap, Newhaven and Littlehampton the first returned on 27 Oct. In mid-Nov. singles were in Chichester and Pagham Hbrs.

184. **DUNLIN** (*C. alpina*):—The estuary counts were:

	1985			1986		
	Jan.	Feb.	Mar.	Jan.	Feb.	Mar.
County totals	24628	25200	13308	1110	4278	14140
Chichester Hbr.	17726	21102	9782	460	3252	10800
Pagham Hbr.	3823	2316	3270	561	950	2384
Rye Hbr.	1500	600	106	18	22	260
Adur	1030	500	70	30	20	520
Goring	350	300	30	2	12	120

The severe weather early in 1985 brought more birds than usual to Rye Hbr. and Newhaven, but otherwise numbers were fairly typical. Inland they were well distributed, on the Adur Levels (55), Barcombe Res. (1), Bewl Water (4), Chichester GP (2), Lewes Brooks (59), Horse Eye Level, Pevensey (5), Waltham Brooks (8) and Weir Wood Res. (2).

Spring passage is always difficult to detect except at inland and smaller coastal sites. It certainly spanned 30 Mar. to 7 June and up to 2 birds were seen at Arlington Res., Arundel WFT, Barcombe Res. and Waltham Brooks. Summering birds were at Pagham Hbr. (max.

26), Chichester Hbr. (max. 8) and Rye Hbr. (2). The first returning bird was at Worthing beach on 28 June and by 3 July 4 adults were back at Pagham Hbr.; these increased to 60 by 7th and 130 by 11th. Most sites noted the first returning birds by 11-17 July. The first juveniles were at Rye Hbr. on 20 July and Widewater on 23rd. Thereafter there was a wide scattering of coastal and inland migrants, but numbers at the main sites remained low to the end of the year.

An albino was on Thorney on 9 Feb. and 23 Mar., and on East Head on 9 Mar.

188. **RUFF** (*Philomachus pugnax*):—The approximate monthly totals were:

County totals	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Pagham/Bracklesham	144	90	83	26	4	3	19	32	40	41	99	91
Amberley complex	70	60	74	20	1	—	14	19	24	37	99	90
Rye Hbr.	44	16	4	1	1	—	—	—	—	—	—	—
	—	—	5	3	1	3	5	2	5	4	—	—

The total numbers present in all months were relatively low. During the severe weather in Jan. birds were seen in all sorts of unusual places including a house roof at Ferring (waiting for food!) and in gardens at Runcton. The Levels attracted good numbers with 44 at Amberley, 11 on Pevensey, 10 on the Upper Adur and 6 on the Lewes Levels. As always, Pagham/Bracklesham Bay had most of the birds, usually roosting at Sidlesham Ferry.

189. **JACK SNIFE** (*Limnocryptes minimus*):—The severe weather, especially in Jan., resulted in more birds being seen in more sites than usual; only at Combe Haven (10), Lewes (4) and Ferring Rife (3) were more than 2 birds seen at any site. There was an early departure with the last being seen at Lewes on 4 Apr., Gatwick on 5th, Arundel WFT on 25th and Combe Haven on 28th.

Returning birds were few and very late with the first at Combe Haven on 28th Oct., Gatwick on 10 Nov., Rye Hbr. and Thorney on 17th and Pevensey Levels on 19th. There were 5 in Combe Haven and 3 at Gatwick in Dec. but few elsewhere.

190. **SNIPE** (*Gallinago gallinago*):—During the severe weather few flocks exceeded 100; these were 1,200 on Pevensey Levels, 'hundreds' at Ferring Rife, 435 between Pulborough and Amberley, 250 on the Lewes Brooks and 160 on the Adur Levels. Many departed when the freeze set in in Jan., eg at Hassocks 56 dropped to 5 and at Thorney 183 slumped to 45. Even on the Pevensey Levels there was a tenfold decrease during Jan. to just 130. For much of this cold spell, scattered birds were seen feeding in gardens, roadsides and even the beach at Brighton; quite a few were found dead. A small return movement occurred in mid-Mar. to early Apr., when up to 140 were at Gatwick.

Very few breeding birds were noted, ie 3 in Combe Haven, 2 on Pulborough Brooks and 1 at Arlington Res. It is not known if this is due to lack of observations, high winter mortality or the appalling spring weather discouraging display. Breeding records are urgently required. Late in the year only small numbers were present with maxima of 350 on Amberley Wildbrooks, 197 at Chichester Hbr., 130 in Combe Haven and 110 near Midhurst.

194. **WOODCOCK** (*Scolopax rusticola*):—This species appears to have been extensively displaced from its normal wintering areas by the severe weather, especially in Jan. when at least 128 birds were reported. They were scattered throughout the county but especially along the coastal strip, including the estuaries. Birds were seen feeding in gardens in Shoreham and Worthing, and there were 20 on Angmering GC, 9 on Lychpole Hill, 8 at Bewl Water and Moulsecomb, 7 at Rye Hbr. and 5 in Friston Forest. One flew W along Worthing beach on 7 Jan. and 3 W at Brighton beach on 15th. In Feb. a total of 36 included 6 at South Stoke and 5 in Littleton redbed.

A total of 64 roding birds were reported; with the largest numbers being 9 at Eberme Common and 4 at each of Ambersham Common, Chailey Common and Vert Wood. The first bird to return to the normal wintering area of Ashcombe was seen on 31 Oct., thereafter up to 5 wintered nearby.

DOWITCHER sp. (*Limnodromus* sp.):—One, probably a Long-billed Dowitcher *L. scolopaceus*, was seen on Willingdon Levels, Eastbourne on 28 Dec. (JHM); it has been accepted by *British Birds*.

195. **BLACK-TAILED GODWIT** (*Limosa limosa*):—The estuary counts were:

	1985			1986		
	Jan.	Feb.	Mar.	Jan.	Feb.	Mar.
County totals	468	462	353	577	1006	467
Chichester Hbr.	392	395	353	527	960	467
Pagham Hbr.	76	67	—	50	46	—

Apart from occasional sightings at other coastal sites, almost all were in the two western harbours. The estuary counts were generally low, apart from the Oct. influx, and the Dec. count was exceptionally so. However, numbers do vary: there were 710 on Thorney on 28 Jan. Apparently 65 summered at Pagham Hbr. The late summer build-up reached 158 at Sidlesham Ferry on 7 July and 155 on Thorney on 31 July.

Inland there was 1 at Waltham Brooks on 3 Mar., 2 there on 23 Mar. and 9 on 3 Aug., singles were at Bewl Water on 20 Apr., at Pevensey Levels on 2 May and Chichester GP on 21 July and 5 at Combe Haven on 17 May. Few are seen passing along the coast; this year there were 5 E at Worthing on 4 June, at Ferring 2 W on 21 Sept. and 4 W on 27 Sept. and 3 E at Littlehampton on 7 Sept.



196. **BAR-TAILED GODWIT** (*L. lapponica*):—The estuary counts were:

	1985			1986		
	Jan.	Feb.	Mar.	Jan.	Feb.	Mar.
County totals	976	805	433	820	1072	995
Chichester Hbr.	881	791	427	810	790	1064
Pagham Hbr.	87	5	—	6	17	5

During the severe weather early in Jan. 1985, small numbers were seen at several other coastal sites, including up to 14 at Goring and 10 at Rye Hbr. Spring passage was very poor, only at Worthing were moderate numbers seen; here 2,336 passed E with almost half on 29 Apr. (597) and 24 Apr. (533). The 29 Apr. was the peak day all along the coast.

Summering birds were 5 at Pagham Hbr. and 26 in Chichester Hbr. where numbers increased to 95 by 31 July. Unusually, autumn passage was seen at Worthing where 100 flew W on 9 Aug. and 160 SW on 13 Aug. By 18 Aug. there were 200 on Pilsley Island. Present on the Adur in Sept. and Oct. with a peak of 20 on 6 Sept.

Single males were in the full red summer plumage in Jan. and Dec. but this is rather fewer than in recent years.

198. **WHIMBREL** (*Numenius phaeopus*):—A wintering individual was in Pagham Hbr. on 26 Jan. The first passage birds flew E at Worthing on 26 Mar., with the next at Rye Hbr. on 3 Apr. and 7th at Hove. A widespread movement was noted 13-20 Apr., including 195 E at Worthing on 16th. Here 403 flew E in Apr. and 331 in May and the total (741) for the spring passage was moderate; elsewhere it was poor. The Rye Hbr. nocturnal roost increased from 2 on 20 Apr. to 120+ on 22nd and 308 on 26th; the peak of 319 on 27 Apr. was the highest yet recorded there. Numbers remained high to 2 May but rapidly declined thereafter to 154 on 5th, 75 on 8th and 21 on 10th. At high tide on 4 May, 117 were roosting at three sites on the Chidham peninsula. Smaller numbers (up to 18) were seen on the Levels at Amberley, Pevensey, Combe Haven and Lewes.

Returning birds were noted at Pagham Hbr. on 23 June, Chichester Hbr. on 27 June and Rye Hbr. on 1 July. Few were seen in autumn with peak counts of 25 in Pagham Hbr. on 17 Aug., 24 at Rye Hbr. on 21 July and 12 at Amberley Wildbrooks and Chichester Hbr. One remained at Pagham Hbr. to 14 Nov. and another was feeding on Beachy Head on 17th.

199. **CURLEW** (*N. arquata*):—The estuary counts were:

	1985			1986		
	Jan.	Feb.	Mar.	Jan.	Feb.	Mar.
County totals	1734	712	1597	2060	1975	1280
Chichester Hbr.	816	356	990	1702	1698	868
Pagham Hbr.	236	311	437	357	159	231
Pett Levels	NC	30	38	—	76	88
Rye Hbr.*	435	773	338	500	239	200

*Nocturnal roost which includes birds from Pett Level and Romney Marsh, excluded from County totals. During the severe weather in Jan. and Feb. 1985 numbers were low in the estuaries but small flocks were widespread inland. The peak counts included 90 at North Stoke, 60 on Lewes Levels, 61 in Combe Haven, 14 on the Adur and 25 over Barcombe Res. on 7 Jan. and 30 at Bewl Water on 16 Jan. On 7-8 Jan. 76 flew W past Worthing beach.

On Ashdown Forest 1-2 pairs were present during the breeding season, but breeding was not proven. The June return was first seen at Worthing on 2nd and was very distinct, eg on Thorney/Chidham there were 620 on 23rd which had built up to 975 by 6 July. At Rye Hbr. the build-up was later, increasing steadily from 59 on 28 June to 500 by 30 July. Late in the year relatively few birds were present, except for a remarkably high count in Chichester Hbr. in Dec., when 40 on East Guldeford Levels was also unusually high; other inland flocks were very small.

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

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
County totals	5	5	3	9	7	4	5	4	17	6	4	3
Chichester Hbr.	4	4	2	—	—	—	2	2	4	1	3	2
Pagham Hbr.	—	1	1	3	—	2	1	1	3	5	1	1
Rye Hbr.	—	—	—	5	1	1	2	—	7	—	—	—

Apart from 1 at Weir Wood Res. on 20 Jan. all wintering records were from the western harbours; Rye Hbr. appears much more attractive to passage birds. In spring the latest records were on 26 Apr. at Pagham Hbr., and at Rye Hbr. 4 on 25th and 1 adult on 3 May. The early return in June was seen with summer plumaged individuals at Rye Hbr. on 16th, Pagham Hbr. on 17th and the Cuckmere on 20th.

202. **REDSHANK** (*T. totanus*):—The estuary counts were:

	1985			1986		
	Jan.	Feb.	Mar.	Jan.	Feb.	Mar.
County totals	1905	1693	2063	1875	2376	2249
Chichester Hbr.	1031	1116	1317	1282	1833	1871
Pagham Hbr.	426	367	469	348	220	145
Rye Hbr.	304	70	165	99	167	100
Adur	110	70	60	80	46	72

The numbers were slightly lower than recent years; counts at other coastal sites included peaks of 59 at both Newhaven and Pett Levels in Oct. and Dec. respectively. The severe weather of Jan. 1985 had a substantial impact on numbers and distribution with up to 50 on Lewes Brooks and 42 flying W past Worthing on 7-8 Jan. As so often happens, Redshank

were particularly susceptible to high mortality in the very cold conditions; over 70 were found dead at Pagham Hbr. and 5 on the Adur.

A total of approximately 60 pairs was reported during the breeding season. A direct comparison is possible between the number of pairs breeding in 1984 and 1985 for most major sites; there was a decrease in 1985 of about 17%, the figures are:

	1984	1985
Pulborough Brooks	4-5	2
Ambertey SSSI	12	28
Arundel WFT	4	7-8
Total	20	57-59

A very distinctive pale creamy individual was on the Adur from 28 Aug. to the end of the year.

203. **MARSH SANDPIPER** (*T. stagnatilis*):—1984:—A summer-plumage bird at Walkham Brooks on 8-11 July (JD, MEK, AJP *et al*) was the fifth for Sussex; the last was in 1951. It has been accepted by *British Birds*.

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

County totals	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Chichester Hbr.	1	2	6	15	28	2	82	174	158	84	9	3
Rye Hbr.	1	1	3	1	8	8	8	63	121	76	8	3
Pagham Hbr.	—	—	—	—	1	4	2	50	8	4	3	—
Pett Levels	—	—	—	3	1	—	8	4	15	4	1	—

A fairly typical year with wintering birds mainly in Chichester Hbr., where there is a large autumn flock especially on Thorney Deep. Return passage was first seen at Pagham Hbr. on 3 July but elsewhere it started 13-20 July. Some unusually large flocks were in the east of the county with 38 at Rye Hbr. on 27 July and a remarkable 70 flew W/SW at Pett on 30 Aug., including a flock of 40 SW out to sea.

206. **LESSER YELLOWLEGS** (*T. flavipes*):—1983:—The bird on the Eastbourne Levels remained until 9 Apr.

208. **GREEN SANDPIPER** (*T. ochropus*):—Recorded in somewhat lower numbers than in recent years with July-Oct. and annual totals of 110 and 200 respectively; the approximate monthly totals were:

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
20	16	7	15	3	3	56	47	26	24	9	12	—

In the early part of the year 2 were regularly at Combe Haven and Chichester GP with widespread singles elsewhere; there were also 2 at Polegate on 8 Jan., 3 at Ferring Rife on 11th, 3 at Waltham Brooks on 10 Feb. and 3 at nearby Barlington on 22nd. Spring passage was exceptional, 3 at Gatwick on 24 Apr. and singles there on 5 May and at Sidlesham Ferry and Upper Beeding on 17-18th being most notable. The first returning bird was at Barcombe Res. on 10 June with one at Gatwick from 14th. Autumn peaks were 11 at Waltham Brooks on 25 July, 9 at Newhaven on 31st and 8 at Chichester GP on 13 Aug. rising to 12 on 27th. On 6 Oct. 6 were seen at Darwell Res. and 2 at Bewl Water with one flying W at Beachy Head on 7th. At the end of the year, up to 4 were present at Gatwick in Nov. and 3 each at Chichester GP and Darwell Res. in Dec.

209. **WOOD SANDPIPER** (*T. glareola*):—Fewer than usual, monthly totals being:

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
—	—	—	—	3	—	2	12	1	—	—	—	—

One was seen at Arundel WFT on 12 May, with one on a small pool between Bepton and Midhurst on 15th and one in the Cuckmere from 18-21st. Autumn records were 2 at Waltham Brooks on 28 July, singles at Rye on 2nd and 11 Aug., in the Cuckmere from 10-13th, at Combe Haven on 11th and 17-18th, at Chichester GP from 13-15th, with up to 3 there from 17-26th, one at Pett Pools on 20th, at Arundel WFT on 10 Sept. and finally one in the Rye area between 8-20 Oct.

211. **COMMON SANDPIPER** (*Actitis hypoleucos*):—Unusually large numbers were recorded in July and Aug. The approximate monthly totals were:

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
5	3	1	41	95	14	215	200	40	8	4	2	—

Wintering individuals were recorded at Bewl Water into early Jan., at Littleton on 6th, 1-2 on the River Ouse/Newhaven between 9 Jan-18 Feb. and 2 at Combe Haven on 22 Feb. One at Thorney on 24 Mar. was probably the first migrant but few were seen until the second half of Apr. Of note were 3 at Brighton Marina on 10 Apr. with 6 there on 29th and 4 on Pevensey Levels on 22nd. The species was widespread in early May with a peak of 11 at Barcombe Res. and 5 at Widewater on 1st. In early June 4 at Shillinglee on 2nd and 3 at Rye on 3rd but none were reported until the first returning bird, at Sidlesham Ferry on 18th.

During a very good autumn passage in which the species was recorded throughout the county, the main counts were 12 at Bewl Water and 20 at Thorney on 21 July; 27 on the Cuckmere, 11 at Barcombe Res., 12 at Newhaven and 18 at Chichester GP/Sidlesham Ferry on 31st; 30 at Langney Point on 3 Aug.; 17 on River Ouse on 6th; 8 at Bewl Water on 5 Sept. and 7 at Rye Hbr. on 15th. All Nov. records were on 17th, 2 at Darwell Res. and singles on R. Ouse and at Thorney; the latter was seen again on 13 Dec. and one in the Cuckmere on 24 Dec.

213. **TURNSTONE** (*Arenaria interpres*):—The estuary counts were:

	1985			1986						
County totals	Jan.	Feb.	Mar.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Pagham Hbr.	329	373	341	228	310	213	200	348	269	323
Glyne Gap	138	276	90	123	151	186	333	244	335	140
Chichester Hbr.	104	57	9	179	258	237	74	101	74	—
Rye Hbr.	4	8	215	5	—	—	—	50	93	126
Normans Bay	—	—	53	123	140	39	46	53	29	24
Pett Levels	—	—	18	2	—	—	—	46	53	24

The counts confirmed that the Glyne Gap flock is important; here, outside the estuary counts, 148 were still present on 14 Apr., 191 were seen in Aug. and on 29 Dec. 435 were along the beach. At Rye Hbr. the estuary counts did not pick up the flock which roosted there from 10 Mar. (max. 240) to 22 May (max. 470 on 10th) and again from late July (max. 205 on 30th), through Aug. (max. 350 on 11th) to early Sept. (max. 150).

Spring passage E along the coast was sparse with 129 at Worthing and virtually none elsewhere, except for a remarkable flock of 70 flying N up Combe Haven on 15 May; passage ceased on 26 May. Summering immatures included 65 in Chichester Hbr. and 16 at Rye Hbr. By 18 July summer plumage adults were back in Chichester Hbr. and at Rye a large increase had taken place by 27 July. Late in the year up to 19 fed along Shoreham Beach, an area where they used to be very scarce.

The only inland records were of 2 at Arlington Res. on 29 Apr. and 1 at Bewl Water on 30 July.

214. **WILSON'S PHALAROPE** (*Phalaropus tricolor*):—For the second consecutive year, one, this time an immature, on 9 Oct., was seen at Rye Hbr. (BJY *et al*). It has been accepted by *British Birds*.

216. **GREY PHALAROPE** (*P. fulicarius*):—A juvenile moulting into immature plumage was at Selsey Bill on 5-7 Sept. (PJ *et al*) and a winter plumage bird was at Barcombe Res. on 23-24 Nov. (RDME, SPH *et al*).

217. **POMARINE SKUA** (*Stercorarius pomarinus*):—The first record was one E at Worthing on 26 Apr. Spring passage totals at the main sea-watching localities were: Selsey Bill 22 E, 16 W; Worthing 27 E, 31 W and Beachy Head 24 E. Analysis of the data indicates that a minimum total of 80 E, 32 W was involved, of which 4 E were in Apr. and 75 E, 32 W in May. The peak movement occurred on 16 May when there were 5 E at Selsey Bill, 7 E at Worthing and 25 E at Seaford. One off Worthing on 6 June (RJS) was the latest county date for spring passage.

On 4 Nov. off Fairlight, 2 flew E (PFB) while later that day 1 went E past Brighton Marina (NAGL). A dark individual flew by Selsey Bill on 21 Dec. (EDL) and was seen 30 minutes later at Worthing (JAN). These early winter records were part of the exceptional numbers in the North Sea during the winter.

218. **ARCTIC SKUA** (*S. parasiticus*):—An immature at Rye Hbr. on 15 Jan. (BJY) was possibly the same bird as that found injured at Eastbourne on 17th (RKH). Spring passage occurred from 3 Apr. with birds recorded flying E as follows: Selsey Bill 83, Worthing 145, Brighton Marina 37 and Beachy Head 94. Analysis of these records indicates that a minimum of 270 birds was involved. Of these 47 were in Apr., 213 in May and 10 in June. The peak movement occurred on 5 May when at least 48 were recorded.

Autumn passage was poor with some 50 birds seen at coastal localities between 4 Aug. and 23 Nov. In Dec., a total of 7 was recorded at Worthing between 21-24th (MPH, JAN, RJS) and there was 1 W at Langney Point on 25th (DC, JFC).

219. **LONG-TAILED SKUA** (*S. longicauda*):—For the second consecutive year an adult was seen, this time passing Selsey Bill on 8 May (MJ).

220. **GREAT SKUA** (*S. skua*):—One flew E at Worthing on 27 Jan. Spring passage occurred between 24 Mar. and 25 May with birds recorded flying E as follows: Selsey Bill 7, Worthing 10, Brighton Marina 2, Beachy Head 15 and Langney Point 1. Analysis of these records indicates that a minimum of 31 birds was involved, of which 2 were in Mar., 15 in Apr. and 14 in May.

In the autumn a total of 17 was reported from the coast between 11 Aug. and 22 Dec. A single bird was seen at Weir Wood Res. on 21 Oct. (RGS).

222. **MEDITERRANEAN GULL** (*Larus melanocephalus*):—Although fewer were noted than the past two years it was another good year with 37 individuals reported. These comprised 27 adults, 6 sub-adults and 5 first year birds and the minimum monthly totals were:

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
11	4	7	10	8	2	1	2	1	3	2	3

The lower total was mainly due to smaller numbers noted passing the coast during the spring. As in the past few years only a few stayed in one site for more than a few days; an adult at Pett Level between 4 Jan. and 9 Mar., a sub-adult in the Selsey and Pagham area between 14 Jan. and 26 Feb. and an adult in the same area from 7 Sept. to the end of the year are the only possible examples.

Three pairs were noted during the breeding season but none stayed for more than a day or two.

Records away from the coast increased with an adult at Weir Wood Res. on 3 Jan., a second year there on 4 Jan., an adult on Lewes Brooks on 22 Jan., an adult at Tilgate Lake, Crawley on 27 Jan., a sub-adult at Small Dole on 14 Feb. and a first year at Arundel on 3 Apr.

225. **LITTLE GULL** (*L. minutus*):—An adult at Chichester Hbr. and 3 at Bexhill on 1 Jan. and an immature at Langney Point on 10 Feb. were the only records before the first spring bird was seen at Widewater, Lancing on 31 Mar. All the regular sea-watching stations noted a small passage between 3 Apr. and 25 May involving a total of 72 birds. The only spring observation away from the coast was an adult at Chichester GP on 7 and 8 Apr. Immatures were seen during the summer at Newhaven, the Crumbles and at Rye where up to 9 were present until 17 June.

Autumn coastal records occurred between 28 July and 1 Dec. and the peak, a mere 7 at Langney Point on 22 Sept., showed no large movements were involved. Similarly only small numbers were noted inland with up to 2 immatures at Arlington Res. on 5 dates between 6

Sept. and 7 Oct., 2 immatures at Chichester GP on 21-22 Sept., an immature at Ardingly Res. on 7 Oct. and at Weir Wood Res. 2 adults on 14 Nov. and an immature between 25 Nov. and 6 Dec. The last was an adult noted at Brighton on 31 Dec.

The minimum monthly totals were:

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
4	1	1	31	54	10	2	8	23	5	6	3

228. **BLACK-HEADED GULL** (*L. ridibundus*):—There was no coordinated winter roost count but 10,000 roosted at Rye during the winter, 8,000 roosted at Bewl Water on 4 Jan. and over 2,000 were noted in a flock at Bexhill on 1 Jan. The roost at Rye still held 4,000 on 14 Apr. Spring coastal movements were seen at Worthing between 19 Mar. and 7 June but the total of 3,330 E and the peak of 276 E on 18 May were lower than usual. At Rye LNR there was a marked increase in the size of the breeding colony where more than 500 pairs nested and 260 large chicks were visible on 21 June. This increase may be partly due to the desertion of the nearby colony at Scotney Court GP. At Stakes Island in Chichester Hbr. 891 pairs raised 350 chicks. The first adults were noted back at Worthing on 23 June. Large numbers were seen feeding on flying ants on 24-25 July when 1,000 noted at Patcham and 3,000 at Poling. The only other counts were from downland sites; 2,500 near Cissbury on 9 Sept. and 2,000 at Kingley Vale on 28 Sept.

232. **RING-BILLED GULL** (*L. delawarensis*):—1984:—An adult was at Weir Wood Res. on 10-20 Dec. (MRH, DS). This is the first to be recorded in Sussex.

1985:—A first winter was on R. Adur at Shoreham on 11th and 22 Jan. (KN, AJP *et al*) and a second winter at the Crumbles on 15-25 Dec. (JFC, DC, RKH *et al*). All have been accepted by *British Birds*.

233. **COMMON GULL** (*L. canus*):—An estimated 10,000 roosted at Rye during the winter and 450 at Bewl Water on 24 Feb. was the only other roost count. Small gatherings were noted in late winter and spring; 300 at Castle Hill on 25 Feb., 350 at Beachy Head on 10 Mar. and 200 at Pett Level on 13 Apr. Spring coastal movements involved small numbers with only 527 E at Worthing and 246 E at Brighton Marina. The first autumn adults were noted at Worthing on 24 June and the largest count thereafter was 1,200 flying to roost at Birling Gap.

234. **LESSER BLACK-BACKED GULL** (*L. fuscus*):—Recorded in small numbers throughout the year. The largest counts were 45 near Faygate on 23 Feb., 40 at Chichester GP on 27 Mar., and at Rye where 30, mainly Scandinavian (*L. f. fuscus*), were noted in late March and 50 there in late June. A pair was courting and nest building at Rye but no incubation was seen. At the end of the year the only groups recorded were 19 at Darwell Res. on 17 Nov. and 13 at Shoreham on 1 Dec.

235. **HERRING GULL** (*L. argentatus*):—There was no coordinated roost count but there were notes of 500 at Bexhill in Jan. and Dec., 500 roosting in the winter at Rye and 350 at Brighton Marina in July. At Rye 13 pairs nested and 7 pairs nested at Scotney Court GP.

Records of the yellow-legged race (*L. a. michahellis*) were again concentrated on the Selsey peninsula and in the Adur Valley. Fewer were noted this year and the largest count of 40 was at Shoreham on 29 Aug. The minimum monthly totals were:

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	2	1	—	—	7	24	48	16	17	4	5

236. **ICELAND GULL** (*L. glaucooides*):—A good year with 5 records; they were a third winter at Bulverhythe on 10 Feb. (KMJ, SCR), an adult at Selsey Bill on 3 Apr. (BJ, CMJ), a first summer at Rye Hbr. on 8 Apr. (IS, BJY), a third summer at Rye Hbr. on 4 May (BJY, PR, CHD) and another third summer at Pagham Hbr. on the unusually late date of 5 July (EDL).

237. **GLAUCOUS GULL** (*L. hyperboreus*):—Another good year was recorded, the notes suggesting at least 13 and probably 16 individuals were involved. The table of minimum monthly totals clearly shows that most records were early in the year.

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
5	4	6	3	—	—	—	—	—	—	—	—

Between 4 Jan. and 10 Mar. 2 second year birds were seen in the Selsey/Chichester area and a third year was seen there between 25 Jan. and 22 Feb. Near Eastbourne a first year was seen on 12 and 20 Jan. and an adult noted between 12 Jan. and 16 Feb.

Spring records involved mainly first year birds; at Chichester GP on 15 Mar., at Worthing on 18 Apr., at Lewes on 14 Apr. and at Rye between 27 Mar. and 14 Apr. with 3 individuals seen on 30 Mar. The only spring adult was also at Rye between 20 and 28 Mar. It is unclear whether the 5 individuals seen around Pebsham between 2 Feb. and 1 Apr. and those at Rye and the Crumbles involve duplications.

The only record at the end of the year was an adult on the Selsey peninsula between 21 Aug. and Dec.

238. **GREAT BLACK-BACKED GULL** (*L. marinus*):—The largest concentrations in the first part of the year were, as usual, at Shoreham where 330 gathered on 30 Jan. and at Rye where 120 roosted. The numbers at Rye increased to 150-300 immatures throughout the summer. Early autumn counts included 175 at Chichester Hbr. on 6 July, 50 at Bulverhythe on 4 Aug. increasing to 250 there by 15 Sept. and 70 at Shoreham on 12 Aug. From late Nov. counts at the traditional sites were 200 at Langney Point on 24 Nov., 500 at Thorney Island on 1 Dec., 420 at Shoreham on 23 Dec. and 210 at Bexhill on 29 Dec.

240. **KITTIWAKE** (*Rissa tridactyla*):—At Pett 88 flew W in just 30 minutes on 2 Feb. and on the following day the Rye log stated "large passage noted at sea". Only small numbers were seen off the West Sussex coast during the winter despite regular sea-watching. The spring sea-watching logs showed peak movements of 3 E and 69 W at Selsey on 3 Mar., 81 E at Brighton on 18 Apr., 47 E at Worthing on 5 May and 76 E at Selsey on 13 May.

A count at the Newhaven colony on 29 June revealed 689 nests. Throughout the year birds rested at Brighton Marina, most were seen in early autumn with a max. of 120 on 21 Sept. The only significant autumn movement was noted on 4 Nov. with 505 E at Worthing, 259 E at Brighton and 23 E at Fairlight.

245. **SANDWICH TERN** (*Sterna sandvicensis*):—One at Shoreham on 18 and 26 Feb. was the sixth county record for the month. Easterly spring passage occurred from 22 Mar. and involved a minimum county total of 3,535 birds, of which 27 were in Mar., 1,689 in Apr., 1,725 in May and 94 in June. The peak movement occurred on 7 Apr. when there were 330 E at Worthing. At Chichester Hbr. there was a further decrease and only 15 pairs bred, raising 10 young to the flying stage. There was no evidence of nesting at Rye Hbr.

Coastal passage in autumn was light, Worthing recording a total of 558 W between 1 July and 12 Oct. The last recorded was at Rye Hbr. and Pett Level on 19 Oct.

246. **ROSEATE TERN** (*S. dougallii*):—One went E at Birling Gap on 5 May (NEW) and one flew W at Worthing on 23rd (DIS). At Rye Hbr. single birds were seen on 18-19th and 26 May. In June there were 2 on 7th and singles on 8th, 18th and 25th. A juvenile was seen on 18 Aug. (PP, IS, BJY).

247. **COMMON TERN** (*S. hirundo*):—In Chichester Hbr. 63 pairs nested, raising 55 young to the flying stage. At Rye Hbr. where the first birds were seen on 9 Apr., at least 60 pairs nested. Breeding success was considered moderate and was estimated to be one chick per pair. At least 30 young were raised at Chichester GP.

248. **ARCTIC TERN** (*S. paradisaea*):—As usual few positive identifications were made in spring. In autumn, up to 5 birds were seen at Rye Hbr. There were 2 at Brighton Marina on 4-6 Oct. and one at Selsey Bill on 6th.

247/248. **COMMON/ARCTIC TERN** (*S. hirundo/paradisaea*):—First recorded on 30 Mar. at Selsey Bill. Easterly passage totals at the main localities were: Selsey Bill 1,775 (peak 593 on 4 May), Worthing 7,968 (peak 1,338 on 15 May), Brighton Marina 2,123 (peak 532 on 16 May) and Beachy Head 4,218 (peak 1,042 on 15 May). Analysis of these records indicates that a minimum of 8,611 birds was involved, of which 385 were in Apr., 8,079 in May and 147 in June.

Autumn passage was again very light. At Worthing a total of 427 W were recorded between 1 July and 19 Oct. (peak 74 on 14 Aug).

251. **LITTLE TERN** (*S. albigrons*):—First recorded on 3 Apr. at Worthing, the earliest county record. Easterly passage totals at the main localities were: Selsey Bill 194, Worthing 485, Brighton Marina 55 and Beachy Head 62. Analysis of these records indicates that a minimum of 512 birds was involved.

At Pagham Hbr. 8 pairs were present in May-June but no young were raised. At Rye Hbr. 76 pairs nested but only 10-15 chicks were fledged. In Chichester Hbr. 30 pairs nested but after the July very high tides only 3 young fledged.

The number of birds seen on autumn passage was small. One was recorded at Bewl Water on 27 July. The last of the year were 2 at Shoreham on 1 Oct.

252. **WHISKERED TERN** (*Chlidonias hybridus*):—One in summer plumage flew past Worthing on 25 May (JAN, DIS); it has been accepted by *British Birds*.

253. **BLACK TERN** (*C. niger*):—First recorded in spring on 20 Apr. at Rye Hbr. Easterly passage totals at the main coastal localities were: Selsey Bill 22, Worthing 60, Brighton Marina 8 and Beachy Head 45. Analysis of these records indicates a minimum total of 94 birds, all of which were in May. The peak movement occurred on 15th when there were 31 at Beachy Head and 13 at Worthing. June records were of singles at Pagham Hbr. on 12th and at Rye Hbr. on 17th. There were 2 E at Worthing on 21st.

Return passage commenced in Aug. when at least 203 were reported, this included at least 150 at Arlington Res. on 30th. The Sept. total was about 18. In Oct., 3 were seen at Arlington Res. on 7th and 1 at Pagham Hbr. between 5th-9th.

254. **WHITE-WINGED BLACK TERN** (*C. leucopterus*):—1984:—A juvenile on Chichester GP from 3-10 Oct. (KN, KS) was the third for that year. It has been accepted by *British Birds*.

255. **GUILLEMOT** (*Uria aalge*):—It was more numerous than Razorbill and was reported from various coastal localities as follows:

Dead	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Oiled	2	14	—	2	—	—	—	—	—	—	—	3
Dead & oiled	5	13	1	—	1	—	—	—	—	—	—	5
Others	9	20	2	2	4	1	1	2	5	14	187	13

On 4 Nov. 151 flew E at Brighton Marina and 81 went E at Worthing (see Auk species).

257. **RAZORBILL** (*Alca torda*):—Another poor year; reported from various coastal localities as follows:

Dead	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Oiled	—	—	—	—	—	—	—	—	—	—	—	—
Dead & oiled	1	1	—	—	—	—	—	—	—	—	—	—
Others	5	14	—	4	4	—	2	3	2	3	5	1

259. **BLACK GUILLEMOT** (*Cepphus grylle*):—A first winter bird was off East Head on 26 Oct. (AJG, DC).

260. **LITTLE AUK** (*Alle alle*):—The strong north-east winds in the first week of Nov. brought at least 5 to the county. On 2nd there were 2 off Pett Level (DWF, BHF) and 1 at

Pagham Hbr. (MJWH, KWM *et al*), on the 4th 1 flew W past Worthing (JAN) and about this time 1 was found dying inland at Sedgwick.

AUK SPECIES:—Observations at the main sea-watching localities were as follows:

Direction of movement	Jan-Feb.		Mar-May		June-July		Aug-Oct.		Nov-Dec.	
	E	W	E	W	E	W	E	W	E	W
Selsey Bill	—	8	17	2	—	—	2	—	—	—
Worthing	29	19	63	34	3	1	4	1	621	51
Brighton Marina	33	544	32	5	—	—	3	—	17	2
Beachy Head	8	—	124	—	—	—	—	—	—	—

The peak movements occurred on 26 Jan. when 544 flew W and 12 E at Brighton Marina and on 2 Feb. when there were 600 W at Langney Point. On 4 Nov. 540 flew E at Worthing and 70 E at Fairlight.

Cat. C. RING-NECKED PARAKEET (*Psittacula krameri*):—The regular flock in Sussex is based on Hollingbury Woods, Brighton. It comprised 8 individuals throughout the year, possibly one at Preston Park in Sept. came from there. Elsewhere single birds were seen occasionally at Hassocks/Keymer/Pyecombe, at Lancing in mid-Mar., at Littlehampton on 9 Apr. and Rye Hbr. on 26 Aug. and 13 Oct. Three were at Birdham on 18 Nov.

264. STOCK DOVE (*Columba oenas*):—The only large flocks early in the year were 60 at Park Wood, Burwash and 100 at Thorney Island and at Ashcombe Bottom, the last on the late date of 28 Apr. During the breeding season 16 pairs were noted in the parks around Brighton, including 8 in Moulsecomb Wild Park. There were 4 pairs in 60 ha at West Chilmington. The only concentrations of 50 or more at the end of the year were 300 on Thorney Island, 70 at Cissbury, 55 at Rye and 50+ at Lavant.

265. WOOD PIGEON (*C. palumbus*):—The cold weather in Feb. resulted in substantial mortality with at least 12 very thin birds found dying at Ashcombe alone. Throughout the year only small numbers were recorded, the largest flocks being 1,000 at Street Hill Farm in Jan. and, in late Dec., 1,000 on Thorney Island and 2,000 at Pyecombe.

266. COLLARED DOVE (*Streptopelia decacota*):—Few reports were received for the early part of the year or the breeding season. At Brighton Marina 5 flew N on 17 Apr. and 5 went N on 19 and 22 Nov.; 32 S at Hurst Green on 19 Oct. and 5 over Bewl Water on 29 Oct. were the only other migrants noted. During the autumn 75 were at Upper Beeding and 50 at the Slimfold village roost. In Nov. and Dec. up to 200 were at Rye Hbr., 180 at the grain stores on Southwick beach, 108 on stubble at Moulsecomb Wild Park and 57 at West Wittering.

267. TURTLE DOVE (*S. turtur*):—A very early individual was at Littlehampton West Beach on 5 Apr., the next were not until the late dates of 29th at Barcombe and 30th on the Advur Levels and at Ethingam. The very late arrival took place mainly on 10-25 May, but even on 3 June, 14 flew N past St. Leonards. Few were seen breeding but included 5 pairs at Rye Hbr. SSSI and 2 pairs in 60 ha at West Chilmington. The post-breeding concentrations of 23 at Tortington on 27 July and 10 at Rye Hbr. were noteworthy. Otherwise autumn passage was minimal for the third consecutive year. Late birds were at Newhaven on 12 Oct., at Rye Hbr. on 12 and 19 Oct. and the Crumbles on 3 Nov. See also Tables pages 46-47.

271. CUCKOO (*Cuculus canorus*):—The first, near Knepp on 6 Apr., was well ahead of singles at three sites on 16th, after which a few arrivals were noted daily, with a small peak at the weekend 20-21st at 9 sites, including 4 birds at Church Norton. There were 6 at Thorney Island on 28th and at Cissbury on 5 May. Arrivals continued into mid-May. The species was widespread during the summer, but only 10 juveniles were reported, the last at Rye Hbr. on 25 Sept.

274. BARN OWL (*Tyto alba*):—Records for this species are tabulated as follows:

Year	Known pairs		Breeding Season Probable pairs		Breeding Season Birds present		Breeding Success Young raised		Breeding Success No. of pairs successful		Winter birds	
	1984	1985	9	8	18	19	24	11	9	5	16	21
			45	36	45	36	24	11	9	5	16	21

Not since 1978, when only 34 breeding season sites and 4 young were recorded, has this species reached such a low level despite good observer coverage. The failure of 2 regularly successful nest box sites and the reported deaths of 5 birds, apparently by starvation, implicate the early cold spell to a degree. Two dead birds were sent for analysis. There were 2 road fatalities and 2 reports of birds regularly frequenting rubbish tips. A very approachable bird present in a copse for 5 days was considered to have been released there, but another individual was seen by a member to be under observation by a Panda patrol car near Horsham at 0130!

279. LITTLE OWL (*Athene noctua*):—Records are tabulated as follows:

Year	Known pairs		Breeding Season Probable pairs		Breeding Season Birds present		Breeding Success Young raised		Breeding Success No. of pairs successful		Winter birds	
	1984	1985	20	14	40	37	25	12	12	5	21	33
			103	82	103	82	25	12	12	5	21	33

A disappointing year. In view of the recent upward trend this is difficult to account for, as coverage was good and records widespread across the county. Particularly successful areas were around Ashcombe, Findon, Rye, Bewl Water, Slinfold, Nuthurst, and West Chilmington where 3 pairs were present on 60 ha. One nest was found beneath the roots of an oak tree, a cliff site was reported from Newhaven and a bird seen on the beach near Climping. Three were discovered dead in a hedgerow together with 2 Barn Owls near Lewes.

280. TAWNY OWL (*Strix aluco*):—Records are tabulated as follows:

Year	Known pairs		Breeding Season Probable pairs		Breeding Season Birds present		Breeding Success Young raised		Breeding Success No. of pairs successful		Winter birds	
	1984	1985	19	29	35	32	27	24	12	12	22	20
			87	80	87	80	27	24	12	12	22	20

Although the total of breeding season sites remained static, reports of known pairs declined sharply. Coverage was again good but follow-up visits to localities known to contain birds might establish breeding success more positively. Five nest boxes were productive: 3 at Bosham raising 7 young, whilst 6 pairs were also successful in completely new areas. At West Chilmington 4 pairs were present on 60 ha. Records were widespread across the county, with 8 sites situated in urban centres.

281. LONG-EARED OWL (*Asio otus*):—In the first 3 months of the year up to 9 birds were reported from 4 sites (3 downland, one coastal) with a maximum of 5 in Jan. at a downland site. Again there was no suggestion of breeding, one bird present at Beachy Head from 28 Apr. to 23 May was most likely a late migrant as was one at Combe Haven on 18 Apr. In Nov. and Dec. only 4 birds were found at 4 sites (2 downland, 2 coastal) although 2 unidentified owls were flushed from an ivy-clad tree in a coastal locality which had been occupied in Feb. One downland site was reported as being affected by scrambling motorbikes in Dec., a regrettably frequent activity.

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

Jan.	Feb.	Mar.	Apr.	May	Sept.	Oct.	Nov.	Dec.
19	23	21	6	3	3	8	22	18

These are fairly typical numbers for recent years and the cold weather early in the year had little influence. As with last year, the highest numbers were at Thorney Island with 8 in Feb. and 6 in Dec. Singles were found dead at Pett Level in Oct. and Nov., at least one a road casualty. The May records were from Rye Hbr. and Thorney Island on 11th. Somewhat unusual were 2 at Gatwick Airport floating around the aircraft only 100 metres away!

284. **NIGHTJAR** (*Caprimulgus europaeus*):—First recorded on 19 May near Heathfield but there were very few noted until June. During the breeding season 62 territories were located in the county including 41 in West Sussex (38 in 1984) and 21 in East Sussex (24 in 1984) of which 13 were on Ashdown Forest. Last churring was heard on 19 July. The only migrants seen were flushed at Cissbury on 12 Sept. and feeding along a hedge at Combe Haven on 16 Oct.

289. **SWIFT** (*Apus apus*):—On 20 Apr. there were 5 at Chichester GP and one at Pett, followed on 21st at Hastings and 22nd at Bewl Water. Also on 22nd an early bird was visiting a colony at Balcombe. Many sites had small numbers between 28 Apr. and 5 May, when 450 were at Weir Wood Res.; very few were otherwise seen in May. The main spring movement was very late, particularly on 6-14 June, when up to 750 were at Barcombe Res., 500 at Rye, 317 at Worthing and 200 at Beachy Head.

Apart from the Balcombe bird, the earliest at a colony was at Brighton on 3 May, but generally the arrival was 15-24 May. The last birds left very late indeed, 15 Aug. at Lewes and 23 and 25 Aug. at two Brighton colonies.

Some large autumn movements were observed with 3,000 at Rye on 30 July and 9 Aug., 10,000 S at Beachy Head on 10 Aug., 1,715 at Combe Haven on 11th and 1,375 S at Cissbury on 15th. Most birds had left by 22nd, but on 29th there were 300 over East Brighton GC and 75 over Worthing. Movement was seen at 12 sites in the first ten days of Sept. and 5 sites from 11-14th; the last were at Crawley on 20th, Littlehampton on 24th and Selsey on 6 Oct.

291. **ALPINE SWIFT** (*A. melba*):—1984:—One over Beachy Head on 26 Apr. (MLC, NJC *et al*) has been accepted by *British Birds*.

293. **KINGFISHER** (*Alcedo atthis*):—In Jan. approximately 9 birds were present at 7 coastal sites, but in Feb. this declined to 3 at only 3 of these. Inland in Jan., 8 birds were at 5 sites but in Feb. singles were at only three of these. The low numbers reflected the very cold weather and survival was probably poor since in Mar. only 7 birds were reported at 3 coastal and 3 inland sites. Particularly unusual was 1 on 24 Apr. flying along the cliff edge at Beachy Head.

In the breeding season only 5 pairs certainly attempted to breed, with birds being present at perhaps another 6 or so sites. Eight observers reported low numbers or total absence of birds. In the last 2 months of the year up to 14 birds were present at 7 coastal sites and 12 at a maximum of 11 inland sites. This suggests that the few survivors of the cold winter did not breed very successfully.

295. **BEE-EATER** (*Merops apiaster*):—1984:—One at Sidlesham Ferry on 19 Aug. (IRW *et al*) has been accepted by *British Birds*.

297. **HOOPOE** (*Upupa epops*):—A bad year with just 4 recorded; near Cissbury on 6 Apr. (REC, CC), Petworth on 4 May (MN, SJN) and at Combe Haven on 15 May (KMJ) and 16 Oct. (SCR).

298. **WRYNECK** (*Jynx torquilla*):—One at Church Norton on 8 Apr. (RGH, CRJ) was our earliest ever record and was followed by 2 in a garden at Rudgwick on 24-26 Apr. A poor autumn brought just 5 singles: at Rodmell on 24 Aug., at Combe Haven on 29 Aug., in Brighton during the second week of Sept. killed by a cat, at St. Leonards on 24 Sept. and at East Head on 5 Oct.

300. **GREEN WOODPECKER** (*Picus viridis*):—In the breeding season 3-4 pairs in the Cissbury area, 4-5 pairs along the Bluebell Railway (8 Km) and 3 pairs on 60 ha at West Chilmington. Elsewhere 148 pairs, or territorial males, were widely scattered throughout the county.

302. **GREAT SPOTTED WOODPECKER** (*Dendrocopos major*):—Breeding season counts included 3-4 pairs along the Bluebell Railway (8 Km), 4 pairs on 8 Km in the

Ardingly-Balcombe estate area, 3 pairs on 60 ha at West Chilmington, 3 pairs on the Isle of Thorns and 7 pairs on Coates Common. An immature was at Birling Gap on 7 Sept. and single adults were at Rye Hbr. on 8 Sept. and 10 Oct. and at Northpoint on 14 Dec. Elsewhere a single flew W over the sea at Seafham Head on 25 Oct., 1 was flushed from bushes at the Crumbles on 26th and 1 was at Pagham Lagoon on 30th. At Whitbread Hollow the species was seen on only 4 dates in the autumn.

The extent to which this species exploits bird tables is not clear but birds were reported feeding from nut baskets at Ansty, Sharpthorne and Salvington in every month except May and June.

303. **LESSER SPOTTED WOODPECKER** (*D. minor*):—In the breeding season recorded in 46 widely scattered localities. At other times of the year seen in a further 20 localities.

310. **WOODLARK** (*Lullula arborea*):—On 12 June in East Sussex an agitated bird was seen at the same site as in the previous summer (MND). There were 2 at Littlehampton West Beach on 14 Oct. (RK) and one flew S over Arundel WFT on 6 Dec. (SJH, RK, SCR).

311. **SKYLARK** (*Alauda arvensis*):—Cold weather movements in Jan. included 300 W per hour in the morning and 50 per hour by mid-afternoon at Saltdean on 7th and 997 W in 2 hours at Brighton on 15th. Around this time there were flocks of up to 800, particularly in fields of rape. Several casualties of the cold were found at Ashcombe near Lewes, up to 30 took seed on a Seaford lawn and there were up to 4 in other gardens, even in towns. By Feb., reports were few, perhaps most had moved out. Details of breeding season counts from defined areas appear on pages 46-47.

Autumn movement was hardly noted; flocks from 29 Sept. were fewer than 100 apart from 350 around Cissbury on 12 Nov.

312. **SHORELARK** (*Eremophila alpestris*):—In freezing weather and snow, 2 were at Bexhill on 19 Jan. (IS).

313. **SAND MARTIN** (*Riparia riparia*):—The only Mar. record was of 5 at Chichester GP on 31st. Very small numbers were then seen between 2 and 22 Apr., the highest Apr. count being 45 at Waltham Brooks on 27th. In May they were still very scarce, highlights being 30 at Barcombe Res. on 5th and 10th. Another very late arrival in minute numbers.

A survey was made of all potential breeding sites in the county and just 125-150 pairs were located, some birds apparently not arriving until late June.

Autumn concentrations were, not surprisingly, very small although 500 were at Rye Hbr. on 1 and 29 Aug. Elsewhere maxima were 60 at the Crumbles on 10 Aug. and 1 Sept., 50 at Thorney on 31 Aug., 70 at Sidlesham Ferry on 20th and 100 at Chichester GP on 25th. Singles at Beachy Head on 5 Oct. and at Rye Hbr. on 12th rounded off the worst year on record for the species.

314. **SWALLOW** (*Hirundo rustica*):—The first appeared at Arlington Res. on 25 Mar. and at Fittle the next day. Between 1 and 6 Apr. small numbers were seen throughout the county. The main movements were on 20 Apr. (160 at Barcombe Res.), 27 Apr. (300 at Arlington Res.) and then 1-9 May when up to 650 were at Weir Wood Res. and over 100 moved N at Beachy Head on at least two days. Very little information on breeding numbers was received, but the impression of all but one observer, was that they were well down.

The only roost counts were on Thorney Deepes of 4,000 on 28 Aug. and 3,000 on 11 Sept., while at Combe Haven the peak in Sept. was also 3,000. Small numbers, between 300 and 500, were seen moving at several coastal sites between 7 Sept. and 18 Oct.; the only large number counted was 2,000 over Beachy Head on 8 Sept., but "very many" were present there on 11th. In the first half of Nov. at least 66 birds were seen at 18 sites. After that small movements took place along the coast on 17th, with 12 birds at six sites, and 18th with 4 birds at three sites. Snow and frost then put paid to more records, but singles were seen at Selsey, Sidlesham and Hampden Park, Eastbourne on 7, 8 and 14 Dec. respectively.

315. **RED-RUMPED SWALLOW** (*H. daurica*):—One was at Church Norton on 29 May (JDW), it has been accepted by *British Birds*.

Mar., Pagham Hbr. on 13 Mar. (2) and 30 Dec. In Combe Haven the maximum count early in the year was 24, with the last leaving on 21 Apr., while the first returned on 2 Sept., a very early date, and the late peak was 13. A bird at Bewl Water on 28 Apr. was probably of this race.

325. YELLOW WAGTAIL (*Motacilla flava*):—The first were at Pebsham on 1 Apr. and at Rye Hbr. on 3rd, with about 8 at five sites by 5th. Most spring reports were of one or two birds only, the largest counts being 11 at Horse Eye Level on 9 Apr., 12 at Barcombe Res. on 20th, 15 N at Selsey Bill on 27th and 16 at Bewl Water on 28th.

The only breeding records were of 16 pairs (15 in 1984) at Rye Hbr. with apparently poor success: 15-20 territories on Broomhill Level (at the same density as in the 1981 survey); about 4 pairs on Pevensey/Horse Eye Levels and apparently normal numbers on East Guldeford Level. However, for the first time none bred in Combe Haven and they were virtually absent from Amberley Wildbrooks.

Migrant numbers in Aug. were small until 25th when 110 were at the Crumbles; at the end of the month there were c.80 there and about 100 at Beachy Head and 70 roosting on Thorney Island. Peaks at the most favoured sites in Sept. were 250 at Rye Hbr. on 7th, 80 at Beachy Head on 11th, 150 by the Cuckmere on 13th, 80 at Shoreham on 18th, 60 at Combe Haven on 6th and 55 along the lower Ouse on 22nd. In the next few days there were some counts of over 20, after which the maximum was 3, with the last singles at Pagham Hbr. on 29-30 Oct., Climping on 31st and a very late bird at Church Norton on 16 Nov.

Birds showing the characteristics of the Blue-headed race *M.f. flava* were a male at Sidlesham Ferry from 3-18 May with 2 females on the first date, perhaps the same bird at Pagham North Wall on 6th, and 2 at Barcombe Res. on 18th; in Aug. 2 were at the Crumbles on 17th and one at Widewater next day.

327. GREY WAGTAIL (*M. cinerea*):—Reported from 9 coastal and 22 inland sites in Jan. and Feb. Spring passage at the coast was almost non-existent with only 6 records between 9-24 Mar. In the breeding season reported from only 34 sites. This low figure was undoubtedly due to lack of coverage rather than a drastic decline in numbers, although birds were definitely absent from 2 traditional sites.

In the autumn, coastal movements and inland dispersal were reported between early Sept. and mid-Oct. At Whitbread Hollow, 26 were recorded between 1 Sept. and 6 Oct. with a maximum of 8 on 14 Sept. The only other numbers of note were 11 at Thorney Deeps on 6 Sept. and a total of 10 W at Rye on 13th. At the end of the year recorded at 8 inland and 13 coastal sites during Nov. and Dec.

328. PIED WAGTAIL (*M. alba*):—No large roosts were noted early in the year but on Mar. evenings up to 150 gathered in the Adur Valley before leaving S towards Shoreham and 70 were in Combe Haven. The highest count on beaches was 32 from Widewater to Brooklands on 2 Feb.; 42 were at Weir Wood Res. on 7 Mar.

Autumn passage was more marked than usual, especially along the coast in the third and fourth weeks of Oct. Reports included 125 E at Beachy Head on 13th and a continual passage of flocks of 2-20+ at Rye Hbr. from at least 12-17th. At West Worthing 374 moved E, 6 W during the autumn, most in settled weather with E winds, and peak counts, each for about 30 minutes, were 84 on 14 Oct., 77 on 15th, 45 on 20th and 26 on 26th. Some of the flocks at Rye Hbr. roosted in reeds, as did 200-300 from mid-Aug. near Shoreham, shifting by mid-Oct. to a Broadwater rooftop. Dusk movements to this site included 229 over Goring on 14 Oct., 119 over Durrington on 18th and 90 from Shoreham on 19th. A rooftop at Burgess Hill held about 300 birds and attracted a Sparrowhawk. Up to 150 roosted at Combe Haven in Nov.

Birds showing the characteristics of the White Wagtail (*M.a. alba*) were rather few: in Mar. singles at Widewater on 12th, St. Leonards 26-28th and Rye Hbr. on 25th and 29th; 2 at Pett Level on 20 Apr.; and singles at Rye Hbr. on 3 and 9 May and from the sea at Beachy Head on 16th and 17th. One was at Beachy Head on 15 Sept.

329. WAXWING (*Bombycilla garrulus*):—One was feeding on haws at Easebourne on 24 Nov. (AD).

316. HOUSE MARTIN (*Delichon urbica*):—An exceptionally early bird was at Cliff End, Pett on 13 Mar., equal to the earliest date. The next were not until 4 Apr. at Arundel WFT and 6th at Petworth and Barcombe Res. At many sites they arrived 11-20 Apr. In Apr. peaks were 60 at Barcombe Res. on 21st and 40 at Waltham Brooks on 28th. A steady arrival took place during 1-9 May with up to 1,200 at Weir Wood Res. on 5th, but bad weather in early June appeared to bring down very late migrants, including 1,500 at Barcombe Res. on 8th and 200 at Rye Hbr. on 7th.

Most colonies appeared to be down in numbers, eg at Bignor 11 pairs fell to 3 and at a Forest Row site none appeared. In East Grinstead there were very few second broods while at Maynards Green there were 31 first and just 9 second broods (cf 32 and 18 respectively in 1984).

Autumn passage was moderate and concentrated into three main phases. The first between 8-14 Sept. was widespread but fairly light with a peak of 2,000 at Beachy Head on 8th. The next was along the coast on 22-27 Sept. with 7,000 on 25th and 2,000 on 23rd at Beachy Head and 1,000 at W. Kingston on 27th. The last was also coastal on 15-20 Oct. with a peak of 2,000 at Seaford on 20th. In Nov., up to 12th, at least 95 birds were seen at 14 sites; after that the only records were at Portslade on 16th and 3 at Pagham Hbr. on 29th.

317. RICHARD'S PIPIT (*Arthropus novaeseelandiae*):—Presumably the same individual was seen on 4 and 7 Oct. at Hastings (KMJ).

318. TAWNY PIPIT (*A. campestris*):—1984:—Two near Pebsham on 4 Sept. (SCR).

1985:—A remarkable autumn movement brought 14 to the county, all but one in East Sussex. There were 2 main influxes — on 30 Aug-2 Sept. and 25-28 Sept. On 30 Aug. 2 were at Beachy Head (RHC) and one was at Ovingdean (NAGL); on 31st 2 were on the Crumbles (JFC, DC *et al*) and they remained to 1 Sept. when another flew W at Beachy Head (AJP *et al*); at Hastings one was present on 1-2nd (KMJ, SCR). On 25 and 28 Sept. one was at Beachy Head (AQ, JFC), 3 flew E at Castle Hill on 27th (R/JF) and one was at Littlehampton on 28th (RG). The last was an immature at Beachy Head on 5 Oct. (GG, TWP, SK).

320. TREE PIPIT (*A. trivialis*):—First recorded on 5 Apr. at Ambersham Common. Only 24 migrants were noted at the coast in spring. During the breeding season 111 singing males were located in East Sussex, 71 being on Ashdown Forest. A further 59 were noted in West Sussex including one singing male in a small area of woodland surrounded by the Pease Potage roundabout.

Autumn migration was first recorded at Cissbury on 10 Aug. A further 279 birds were noted in the county with 66 at Cissbury (max. 35 on 17 Aug.) and 159 at Beachy Head (max. 30 on 31 Aug.). The last bird for the year flew over Arundel WFT on 13 Oct.

322. MEADOW PIPIT (*A. pratensis*):—In Jan. the largest flock was of over 300 at Ferring but the only other flock over 100 was at Gatwick. Two birds frequented gardens at Hove and Crawley in that month. Spring arrivals were low and the largest number reported was 347 N on 28 Mar. at Worthing beach. Breeding records received were from Woolbeding and Iping Commons and Lavant, and the upper Adur Levels and Combe Haven where decreases were noted. See also Tables pages 46-47.

Late Sept. movements included 500 at Beachy Head on 25th and 29th with 400 there on 26th and 200 at Crawley on the same date. On 24th there were "thousands" at East Brighton, while on 27 Oct. 1,000 passed over Bexhill. A semi-albino was reported at Brighton GC, Brighton seafront and the Marina in Nov. and Dec.

324. ROCK PIPIT (*A. spinoletta*):—The maximum numbers were at Rye Hbr., with 20 at either end of the year, and 15 in Dec. at Cuckmere Haven. The only breeding season records received were of single pairs at Fairlight and Cuckmere Haven. The first returned to the wintering area at Rye Hbr. on 31 Aug. while at Brighton Marina, West Worthing and West Kingston beaches the return was not until Oct.

Records of birds of the Continental races *spinoletta* (Water Pipit) or *litoralis* (Scandinavian Rock Pipit) were fewer than last year. One at Rye Hbr. on 18 Oct. was not differentiated, but those most closely resembling *spinoletta* were at Dell Quay on 9-10 and 24

331. **WREN** (*Troglodytes troglodytes*):—Counts of breeding birds in defined areas are shown on pages 46-47. Small decreases occurred at most sites, but at Lullington the severe winter reduced numbers from 28 to 12 pairs. Winter counts in Jan. at Old Lodge, Ashdown Forest revealed just 8 compared with 39 in 1984. Communal roosting in nest boxes is well-known; in Jan./Feb. at Hurst Green 3 roosted in a House Martin's nest while 3 were used at Bignor, with a maximum of 27 birds in 1 nest.

332. **DUNNOCK** (*Prunella modularis*):—Counts of breeding birds in defined areas are shown on pages 46-47. A striking decrease was noted after the severe winter; in the 4 CBC sites covered in both 1984 and 1985 this averaged 44%.

336. **ROBIN** (*Erithacus rubecula*):—Counts of breeding birds in defined areas are shown on pages 46-47. There was a slight decrease in numbers in most lowland sites following the severe winter but at Lullington, on the exposed Downs, they crashed from 16 to just 2 pairs.

338. **NIGHTINGALE** (*Luscinia megarhynchos*):—First recorded in spring at Combe Haven on 8 Apr., the next were on 14th at Lullington, Beachy Head and Ashcombe Bottom, near Lewes, and at Ditchling Common on 16th. Apparently later arriving in West Sussex where not recorded until 18 Apr. During the breeding season 106 singing males were recorded in 51 different and well scattered tetrads.

A single on Thorney Island and 2 at Hastings on 10 Aug. were the first autumn passage records and the only ones noted away from Beachy Head. Records from Beachy Head occurred between 13 Aug. and 7 Oct. with the maximum of 7 on 13 Aug. and 5 on 19 Aug. An unusual melanistic individual was trapped in Whitbread Hollow on 21 Sept.

340. **BLUETHROAT** (*L. svecica*):—Males of the red-spotted race were at Woodingdean on 17 May (RM), sadly being killed when it flew into a window, and at Beachy Head on 18th (DC JFC *et al.*). These were part of a major influx, mainly seen on the east coast from East Anglia northwards.

342. **BLACK REDSTART** (*Phoenicurus ochturos*):—Slightly more were recorded during the spring than autumn, the approximate monthly totals being:

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
19	7	29	46	8	4	4	2	1	53	4	5

All wintering individuals were reported from coastal areas, several staying well into Mar. and so confusing the arrival of early migrants. At Church Norton 4 on 25 Mar. were certainly migrants and the species was widely reported in ones and twos, mainly along the coast, until late Apr., with 4 at West Kingston on 31 Mar.; 1-2 were seen at Beachy Head between 9-13 May while singles were present at the Midrips, Combe Haven, Widewater and Pagham Hbr. during 14-16th. An isolated male was at Beachy Head from 4-6 June. Singing birds were heard at 2 sites in the Brighton area during June and July and pairs were present at 2 sites in the east of the county; one failed but a juvenile near the other in Aug. suggested success.

An early individual at Castle Hill on 29 Sept. was the first autumn migrant with singles at Beachy Head on 6 Oct. and at Pagham Hbr. on 12th. Beachy Head recorded most in autumn, 4 arrived on 13 Oct., rising to 6 on 17th and 7 on 19th, but only 2 were present after 20th, one remaining from 31 Oct.-3 Nov. One juvenile trapped at Beachy Head on 17 Oct. was found dead on St. Marys, Isles of Scilly eight days later. In mid-Nov. singles were recorded at Brighton Marina, Steyning and Church Norton with wintering birds at Rye Hbr., Bexhill, the Cuckmere, Brighton Marina and Runcton during Dec.

343. **REDSTART** (*P. phoenicurus*):—A single at Shoreham on 3 Apr. was the first recorded. A further 76 birds were seen on passage, the last being on 18 May at Beachy Head and on 3 June in Combe Haven. The maximum noted was 15 at Whitbread Hollow on 27 Apr. Breeding records received included a total of only 7 in the west and 23 in the east of the county. At one site 3 pairs bred successfully in nest boxes. At another an increase from one to 5 singing males was recorded.

Autumn passage commenced on 15 Aug. at Woodingdean and a further 232 were then recorded, with the best day being on 11 Sept. with 12 at both Beachy Head and Cissbury. Several observers commented on the scarcity of this species in the autumn. The last recorded were 2 at Ashcombe, near Lewes, on 9 Oct.

344. **WHINCHAT** (*Saxicola rubetra*):—A good spring but numbers well below average in autumn, the approximate monthly totals being:

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
—	—	—	1	34	42	1	120	220	21	—	—

One at Crowhurst on 28 Mar. was very early, the next not being until 20 Apr. in the Cuckmere, a more typical date. On 27 Apr. 8 were seen at N. Gatwick, 3 at Beachy Head and 2 at both Amberley and Ferring, with 7 at Beachy Head and 4 on East Brighton GC on 10 May the only other notable arrival. In late spring 4 were present at Cissbury and one at Combe Haven on 25 May, 2 at East Brighton GC on 26th and one at Standen on 9 June.

First in the autumn were 2 at the Cuckmere on 6 Aug. and a poor return passage was heaviest in late Aug. and early Sept. Peak counts were of 14 at the Cuckmere, 20 on East Brighton GC and 7 at Sidlesham Ferry on 31 Aug. with 30 at Rye Hbr. and 9 at Beachy Head on 1 Sept. The highest count at Beachy Head was a mere 21 on 11 Sept. Most had left by the first week of Oct. with 2 at Amberley and one at Prinsted on 12th and singles at Beachy Head on 18th and Northpoint, Rye on 19th, an early departure.



345. **STONECHAT** (*S. torquata*):—A poor year for the species. During Jan. a total of 46 was recorded but this declined to only 10 in Feb. following the cold spell. A slight increase to 16 occurred in Mar.

A dreadful breeding season was indicated by the presence of only 23 pairs in the county. A mere 5 pairs were present on Ashdown Forest and 7 at Beachy Head and Seven Sisters. No breeding was recorded on Iping Common for the first time since 1962 (apart from 1977).

A few more were noted in the autumn with maxima of 16 at Bexhill on 13 Oct., 13 at Beachy Head on 23rd and 12 in Combe Haven on 28 Sept. Monthly totals were: Oct. 65, Nov. 56, Dec. 39. All records of this species are urgently required.

346. **WHEATEAR** (*Oenanthe oenanthe*):—First recorded at Thorney on 17 Mar. and one at Newhaven on 24th heralded a fall along the coast on 25th. This involved at least 68 individuals including 8 at Newhaven, 6 at Brighton Marina, 7 at Worthing, 13 at Church Norton and 12 at Selsey Bill, with 23 at the latter site on 27th. Other peak spring counts were of 23 at Newhaven Tidemills on 29 Mar., 38 at Combe Haven on 1 Apr. and 40 at Beachy Head and 21 at N. Gatwick on 27 April. Few were seen in May with the last migrant at Pagham Hbr. on 28 May.

During the breeding season only 6-7 pairs bred at Rye Hbr. LNR, but each raised at least 4 young. Single, unsuccessful pairs were present at Pett Level and Langney Point.

Autumn passage was very thin, the first were 2 at S. Heighton on 31 July and 2 at Shoreham Airport on 2 Aug. Highest counts were 32 at Beachy Head, 50 on East Brighton GC and 15 at Thorney on 22 Aug., 60 at Steyning Round Hill on 26th and 50 at Beachy Head on 29th. In Sept. 60 were at Combe Haven on 2nd with 20 at Littlehampton on 6th and 20 near Rackham Hill on 7th, but numbers soon dwindled. Four were still on East Brighton GC on 25 Oct. with one at Climping on 28th and the last at Pett on 13 Nov.

359. **RING OUZEL** (*Turdus torquatus*):—First recorded in spring at Littlehampton GC on 1 Apr., a further 11 were seen between 13 Apr-4 May, with 2 at Cissbury on 17 and 26 Apr., another at Littlehampton, 3 at Beachy Head, 1 at Deep Dene, 1 at Pagham Hbr. and the last at Selsey Bill.

Another poor autumn followed with about 61 individuals being reported. Passage was recorded at Beachy Head from 29 Aug-10 Nov., with most other sightings coming from the Downs between Brighton and Lewes. Peak counts were 7 at Beachy Head on 21-22 Sept., 5 at Castle Hill and 4 at Ashcombe on 27th with 4 at Beachy Head on 10 and 27 Oct. Up to 2 were reported from Combe Haven between 23 Sept. and 25 Oct. and 2 were present at Newhaven Fort from 31 Oct-8 Nov.

360. **BLACKBIRD** (*T. merula*):—The severe weather in Jan. brought up to 30 in a small garden at Ashcombe; while on 10 Feb. 100 were feeding on the shoreline of Thorney Island. Counts of breeding birds in defined areas are shown on pages 46-47. The severe winter had little impact on numbers except at Lullington where they decreased by a third. There was little evidence of a late autumn influx.

364. **FIELDFARE** (*T. pilaris*):—The very cold spells in Jan. and Feb. concentrated the relatively small numbers into river valleys, coastal areas and gardens. Crab apples and fallen apples proved very attractive in mid-Jan., with 200 at S. Chidham, 100 in Lancing, 62 in Bognor, 50 at Durrington and E. Preston and 45 at Marley Common being attracted into gardens. The only other large flock early in Jan. was 300 SW at Maynards Green on 12th. Then there was a movement around 25-27 Jan. with 1,500 at Horse Eye Level, 500 at S. Chidham and 500 at Nutbourne. On 9-10 Feb., 700 were in Combe Haven, 500 were at Church Norton, 200 at Selsey and on the shoreline at Thorney, 210 at West Wittering and 300 at Partridge Green, 185 flew out to sea at Worthing on 10th. Thereafter numbers tailed away with peak counts being 200 at Crowhurst on 22 Feb., 500 at Selmeiston on 3 Mar. and 250 at Wisborough Green on 28th. The last spring birds were seen at Upper Beeding on 13 Apr. and at West Chilmington on 19th.

One was at E. Hoathly on 23 Sept. and at Combe Haven on 30th, but the next were at Arundel WFT on 16 Oct., at Beachy Head on 17th and Climping on 18th. Small numbers arrived between 20 Oct. and 5 Nov., they were then very scarce until 10 Dec. with 250 at Old

Lodge on 21 Nov. being the only count above 200. By mid-Dec. moderate concentrations were present with 9 flocks above that number, the highest being 600 at Ashcombe on 24th and Thorney Deep on 30th, and 500 at Waltham Brooks on 10th, N. Stoke on 14th, Hazelhurst on 15th and Horse Eye Level on 28th.

365. **SONG THRUSH** (*T. philomenos*):—On the morning of 7 Jan. up to 200 an hour were flying W at Saltdean. At Brighton Marina 59 flew W on 10 Feb.; on this day 100 were feeding on the shoreline of Thorney Island. Counts of breeding birds in defined areas are shown on pages 46-47. Most sites had similar numbers to 1984 but on the downland a decrease was noted at Ashcombe while at Lullington none bred. A small autumn passage was noted at Ashcombe (up to 30) and Rye Harbour (up to 100).

366. **REDWING** (*T. musicus*):—During mid-Jan. Redwings were under great stress; small numbers were in very many gardens with up to 50 in one at Mannings Heath where crab apples, apples and *Cotoneaster* berries were life-savers. In Lewes numbers doubled from about 200 on 6th to 400 in mid-month. At East Grinstead birds trapped were extremely light and several were found dead on the beach at Brighton. The largest flocks were of 300, on 5th at Pebsham and on 13th at Stanmer. Even fewer remained in Feb. although 500 were on the Thorney shoreline on 9-10th. A rapid exodus took place at S. Chidham on 22 Feb. In Mar. the only large flocks were 200 at Ifield on 3rd and 270 at Maynards Green on 10th. Occasional snatches of song were heard from 9 Mar. and the last records were at Withdean and Cuckmere on 2 Apr., and a late bird at Combe Haven on 10 May.

There was an early autumn arrival with 2 in Woodingdean on 18 Sept., 2 at Parham Park on 20th and 1 at Ashcombe on 30th. Between 7-18 Oct. they were seen at many sites but numbers throughout Oct. and Nov. were low. In Dec. 10 flocks of 100+ were noted, but the only large concentrations were 300 at Littleworth on 30th, 500 at Bewl Water on 15th and 500 at Ashcombe on 24th which increased to 1,000 by 31st.

367. **MISTLE THRUSH** (*T. viscivorus*):—Up to 8 fed on fallen apples at Ashcombe Farm in the cold weather of mid-Jan. The earliest breeding bird was sitting on 4 eggs during a snow storm on 17 Mar. Small numbers were seen in many areas with flocks of 20-40 being seen between 12 July and 8 Sept., at Runcton, Hurst Green, East Dean, Boxgrove and Ashcombe. See also Tables pages 46-47.

369. **CETTI'S WARBLER** (*Cettia cetti*):—This species resolutely refuses to colonise the county although some individuals remain for a long time. In the early part of the year single birds were present at three sites and up to 4 at another. Singles were present until 20 Apr. and 22nd at two sites, having survived the very cold weather. A site was reoccupied on 15 July and presumably the same bird was seen on and off until 13 Nov. At the other site regularly occupied in the early part of the year, at least 2 were recorded from 7 Oct. to the year's end.

373. **GRASSHOPPER WARBLER** (*Locustella naevia*):—First recorded on 15 Apr. at Littlehampton GC and in the Cuckmere Valley. A further 9 had arrived by the end of the month.

Breeding season records numbered 27 and were spread throughout the county, the last reeling bird being heard on 27 July. A pair successfully reared 6 young at Ditchling Beacon.

A total of 20 birds were seen on autumn passage between 26 Aug. and 10 Oct., the latter being trapped at Ashcombe, near Lewes. There were three other records for Oct.

377. **AQUATIC WARBLER** (*Acrocephalus paludicola*):—1984:—In addition to the 2 ringed at a site in East Sussex, see the 1984 SxBR, that locality had a further 4 sight records; these were 2 on 17 Aug., 1 on 26 Aug. and 1 on 17 Sept.

378. **SEDGE WARBLER** (*A. schoenobaenus*):—First recorded on 5 Apr. at Arundel WFT with other sites recording arrivals from 15th onwards. Few records were received and this reflected the serious decline in numbers. Only 2 males were recorded in 2.25 Km² of the Broomhill Level and on a CBC on the upper Adur Levels there were only 6 pairs (cf 12 in 1984, 17 in 1983 and 27 in 1982). Breeding counts of defined areas appear on pages 46-47.

Three ringing sites recorded tiny autumn numbers with only 2 trapped at Shoreham Sanctuary and 17 at Beachy Head. The only Oct. record was on 12th at Rye Hbr.

381. **MARSH WARBLER** (*A. palustris*):—Single singing birds were at two sites, in West Sussex on 30 June and in East Sussex on 8-30 June.

382. **REED WARBLER** (*A. scirpaceus*):—First recorded on 17 Apr. at Rye Hbr. with other sites receiving their first on 20 Apr., particularly in May. One, no doubt hard-working, observer caught one inside the bar at Birling Gap Hotel on 16 May! Migration at Beachy Head continued until 14 June and at Seaford until 16 June. Breeding season counts of defined areas appear on pages 46-47 and include 12 singing males on 5 Km of the R. Ouse at Lewes and 4 pairs on the Pells, Lewes.

Comments on numbers include a decline from 5 pairs three years ago at West Harting Pond to 2 pairs and a decline in numbers trapped in autumn at the Shoreham Sanctuary. On the other hand, at Ashcombe Bottom, the autumn numbers were the highest ever and at Beachy Head 75 were trapped which is slightly more than in 1984. The last of the year were on 20 Oct. at Charleston Reed Bed and Beachy Head.

387. **ICTERINE WARBLER** (*Hippolais icterina*):—One was near Hastings on 28 Sept. (KMJ, SCR).

388. **MELODIUS WARBLER** (*H. polyglotta*):—On 25 Sept. one was trapped at Beachy Head (RDME) and the next day 1 was at Church Norton (RJW, JL, KI).

389. **DARTFORD WARBLER** (*Sylvia undata*):—Wintering individuals were at 2 inland sites but disappeared on 5 Jan. and 3 Feb. respectively; at Pagham Hbr. one remained to 2 Feb. (JRH). The autumn brought a remarkable crop of records on the coast, with up to 2 at Beachy Head from 1 Oct. to mid-Dec. (SJH, RHC *et al*) and singles at Littlehampton GC on 12 Oct-8 Dec., Selsey Bill on 19 Oct. (OM, RJS, BS), Widewater on 27 Oct. (RHE-W), Steyning Downs on 2 Nov. (RAI, RJS *et al*) and Mill Hill, Shoreham on 3 Nov. (PA). Singles were on 2 inland heathlands from 26 Nov-29 Dec. and 7-12 Dec. respectively.

397. **LESSER WHITETHROAT** (*S. curruca*):—Spring arrival was slightly late: after 2 at Church Norton on 20 Apr. few were seen until the end of the month. Concentrations rarely occur on spring passage, and a fall of 30 at Church Norton on 10 May was unusual.

Densities in the breeding season were highest on the Downs. At Beachy Head, increasing scrub now supports breeding populations of this and other warblers which may be difficult to distinguish from passage migrants. This may explain counts of 17 on 1, 9 and 16 May. North of the Downs, most records were of single pairs. See also Tables pages 46-47.

Autumn passage was only moderate, with 20 at Cissbury on 17 Aug. and a peak of 80 at Beachy Head on 18th, where 75 were counted on 8 and 16 Sept. dropping to 4 by 19th. Thereafter few were seen in the county, the last being one at Church Norton on 8 Oct.

398. **WHITETHROAT** (*S. communis*):—First seen near Lewes on 16 Apr., with reports from a further 19 localities by the end of the month. The main arrival was in early May, with 16 at Beachy Head on 1st rising to 38 on 9th, and 11 singing males at Cissbury on 5th, while 20 birds arrived in a fall at Church Norton on 10th.

Breeding season reports suggested some improvement. At Moulsecomb, 12 pairs doubled the 1984 total, and other useful counts included 21 pairs in 250 ha at Harting Down, 20 pairs at Verdley near Fernhurst, and 7 pairs in 4 Km at Rotherbridge. See also Tables pages 46-47.

This species is known to have been affected since 1968 by drought in its winter quarters in the Sahel, but stressing this convenient explanation may have stifled thought about other adverse factors perhaps preventing the Whitethroat from regaining its former abundance. For instance, this is the only warbler which regularly breeds in small neglected areas of nettles and brambles, and is widespread and common in hedgerows surrounding arable fields. Increasing tidiness in agriculture has reduced the number of such potential territories since the 1960s, while modern herbicides can almost eliminate weeds and their associated

insect life from cereal crops. It may be significant that in 1985, when wet weather in June reduced the effectiveness of herbicides so that many cereal fields on the Downs near Ashcombe were yellow with sow-thistle *Sonchus*, up to 8 Whitethroats were regularly seen leaving scrub and brambles to feed in these weedy patches 30m or more out into the barley fields. Breeding success was excellent, and 105 Whitethroats were ringed there compared with 46 in 1984.

Autumn passage was steady rather than spectacular, with 35 on 17 Aug. being the highest count at Cissbury, and maxima of only 60 on 25 and 27 Aug. at Beachy Head, while the highest for Sept. was 31 at Bexhill on 15th. Only 2 were reported in Oct., at East Chilington on 9th and at Beachy Head on 13th.

399. **GARDEN WARBLER** (*S. borin*):—The earliest reports were from Bewl Water and Arundel on 14 Apr., but only 4 others were seen in that month. The main arrival began in early May, and the highest numbers were on the 10th, with 12 at Beachy Head and 20 in a fall with other *Sylvias* at Church Norton.

Apart from 10 singing males in 250 ha at Harting Down, and 6 in 6 Km at Patcham, the highest counts of breeding pairs came from the Weald, with 11 in 4 Km at Coates Common, 11 in 8 Km between Ardingly and Balcombe, and 12 pairs at Darwell Res. See also Tables pages 46-47.

Surprisingly inconspicuous on autumn passage except at Beachy Head, where the maxima were 60 on 25 Aug. and 70 on 31st. Otherwise 10 in Alexandra Park, Hastings on 18 Aug., and a day-long passage of up to 4 at a time through a garden at Runciton on 21 Aug. were the only significant numbers reported. Very few were seen after mid-Sept., but there were 7 records in Oct., the last at Rye Hbr. on 20th.

400. **BLACKCAP** (*S. atricapilla*):—At least 29 overwintering birds were seen in Jan., with a further 14 apparently new birds in Feb. and 5 more in the first half of Mar., to give a total of at least 48. This is easily the highest number yet recorded for the early months. As usual, nearly all were in gardens, mainly near the coast. More than one bird was seen at a third of the sites, with 3 together at Upper Beeding, Shoreham and Lewes. Many birds stayed for several weeks.

Favourable weather at the beginning of Apr. led to a substantial early arrival, especially on 4th and 8/9th, with reports from 13 localities by this time. The main influx took place in the second half of Apr., but as usual numbers seen at passage sites were low, with 5 the highest count at Beachy Head.

Breeding season reports included 19 singing males in 7 Km at Coates Common, 16 in 8 Km between Ardingly and Balcombe, and 9 in 1 Km² at Ifieldwood. At Ashcombe, breeding success in downland scrub was good, with more second broods than usual; 197 birds were ringed, double the usual total. See also Tables pages 46-47.

Good weather in Sept. facilitated emigration and numbers at passage sites were unexceptional, especially at Beachy Head where peak counts totalled no more than 300 in late Sept. Few were seen in Oct., and the only reports for Nov. were of singles at Littlehampton and Climping, but 7 wintering birds were reported in Dec.

401. **GREENISH WARBLER** (*Phylloscopus trochiloides*):—Correction:—Following a full review of all past British records of this species (*British Birds* (1985) 78: 437-451), 4 old sightings from Sussex have been found to be unacceptable. These are at Eastbourne on 10 Sept. 1959, 19 Oct. 1962 and 17 Sept. 1965, and at Selsey Bill on 27 Sept. 1962. This leaves the bird at Beachy Head on 19 May 1981 as the only Sussex record.

404. **YELLOW-BROWED WARBLER** (*P. inornatus*):—1984:—One was at Bulverhythe on 29 Sept. (KMJ, SCR).

1985:—A record year with a minimum of 8 present during 10-19 Oct. There were 5 singles at Beachy Head on 10th (GLC, MLC), 12th, 16-17th and 18th (RHC, MEC) and 19th (SPH, RDME, AJP). At Rye Hbr. one in the Wood on 15th (NJB), and one at Shoreham 16-19 Oct. (*JAN et al*) with a second in the 'Sanctuary' on 19th (JAN).

408. **WOOD WARBLER** (*P. sibilatrix*):—An early individual was at Wiggonholt Common on 7 Apr. A further 13 were reported on spring passage up to 10 May.

Very low numbers were recorded in the breeding season with only 10 singing males located. In the NE of the County where there were 6 present in 1984, only 1 was heard on a single date in July. Other known localities were searched without any success. Only 2 were noted on autumn passage, at Church Norton on 22 Aug. and in Michelgrove Woods on 28th.

409. **CHIFFCHAFF** (*P. collybita*):—About 18 birds wintered early in the year at 13 sites with 14 seen in Jan. and 5 in Feb. At Paghams Hbr. 5 were present in Jan.; one succumbed to the severe weather in Worthing on 20 Jan. Most wintered in the coastal strip but singles at Plumpton, Wakehurst and Weir Wood Res. were well inland. As usual it is difficult to be sure about the first arrivals, but several appeared on 6-18 Mar. and many between 31 Mar. and 6 Apr. Spring passage was poor with maxima of 10 at Paghams Hbr. on 9 Apr., 11 at Bewl Water on 11th and 7 at Beachy Head on 17th.

Although widespread many observers felt that breeding birds were scarce; at West Chilton only 4 pairs were present *cf* 7 in 1984. Surprisingly in view of this, there were record autumn numbers passing through Ashcombe Bottom and Beachy Head, where 835 were ringed. Passage was unusually early with peaks of 900 on 14 Sept. and 1,000 on 16 Sept. at Beachy Head. At Ashcombe peaks were on the 15th, 18th and 24th; over 50 were at Newtimber on 8th and Cissbury on 11th. Very few were seen in Oct. but birds showing the characteristics of the northern race *abeitimus* were on Castle Hill on 29 Sept., Paghams Lagoon on 30 Oct. and Beachy Head on 22 Nov. In Dec. 10 birds were wintering at 9 sites, including 2 at Chichester GP and singles at Pulborough and Bewl Water.

410. **WILLOW WARBLER** (*P. trochilus*):—The first was at Bognor on 25 Mar. and was followed between 31 Mar. and 5 Apr. with a widespread arrival. Spring passage peaks in Apr. included 20 at Gatwick on 5th, 60 at Bewl Water on 11th, 52 at Cissbury on 18th, 90 at Paghams on 20th and 175 at Beachy Head on 27th. The well scattered arrival dates continued into May with 70 on 4th and 40 on 10th at Beachy Head. Breeding season counts from defined areas are on pages 46-47. Other large concentrations included 48 males at Chailley Common, 46 at Harting Down, 38 at Piltown and 30 at Coates Common.

Autumn passage was concentrated into Aug. with peaks at Beachy Head of 600 on 4th, 1,000 on 7th and 600 on 18th. At Ashcombe the largest number of 200 was on 8th. The weekend of 17-18th saw a widespread movement, which included 250 at Cissbury and 72 at Newtimber. The numbers passing through Ashcombe were a record (258 ringed *cf* 118 in 1984), while it was the second best year since 1960 at Beachy Head (1,168 ringed *cf* 748 in 1984). Passage halted abruptly in early Sept. but there was an unusual number of Oct. records; between 5th and 14th 10 were seen. The last were at Rye Hbr. on 20th, one singing at Nuthurst on 26th and a remarkably late bird at Pebsham on 3 Nov.

411. **GOLDCREST** (*Regulus regulus*):—Counts of breeding birds in defined areas are shown on pages 46-47. The severe winter appeared to have little effect on numbers. The late autumn passage was very light with maxima of only 100 at Beachy Head on 5, 6 and 19 Oct.

412. **FIRECREST** (*R. ignicapillus*):—An exceptionally poor year for this species, the monthly totals being:

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
7	1	7	8	—	—	—	—	4	10	5	7

Jan. singles were recorded from S. Heighton, Rackham, Stanmer Park, Moulsecomb, Combe Haven (2) and Fairlight, with one seen at Arundel WFT on two dates in Feb. March produced very few sightings, singles at Church Norton on 3rd, 15-16th and 25-28th. Pett on 9th, Beachy Head on 17th, Hastings on 22nd and the Cuckmere on 31st being the only records. April was hardly any better with singles at Littlehampton GC on 2-5th, at Pett on 3rd, Church Norton from 5-8th, Whitehawk Hill on 6th and Cold Coombes, Lewes on 9th, while 1-2 were seen at Beachy Head between 4-8th. The worst spring passage for many years ended with one at Church Norton on 16-17 Apr. It is perhaps not surprising that there were none reported during the breeding season.

In autumn, 2 were seen in Ashdown Forest on 11 Sept., one was reported from Old House Warren on 16 Sept. with singles at Beachy Head on 22 and 29 Sept. Five individuals were seen at Beachy Head between 5-21 Oct., with singles at Rye on 19th, at Combe Haven on 20th and 25th, trapped at Ashcombe on 26th and 1-2 at Church Norton from 27-29 Oct. During Nov. singles were recorded at Paghams Lagoon on 2nd, Beachy Head and Shoreham on 16th, Church Norton on 23rd and Combe Haven on 24th. December individuals were reported from Arundel WFT (2), Church Norton, Climping, the Cuckmere, Earnley and Lullington Heath.

413. **SPOTTED FLYCATCHER** (*Muscicapa sstrata*):—The first of the year were 2 at Ferring and one at Sidlesham Ferry on 27 Apr., none was then reported until one at Runciton on 8 May. Spring passage was inconspicuous with 3 at Ovingdean and 3 at Beachy Head on 10 May and 5 at Weir Wood Res. on 23rd being the highest counts. Breeding season counts from defined areas appear in the tables on pages 46-47. Away from the defined areas 27 pairs were reported, 8 of which were seen with a total of 25 young (average 3.1).

Autumn passage was noted from mid-Aug. with peak counts of 21 at Church Norton on 26 Aug. and 63 at Beachy Head, 14 in Hollingbury and 30 at Cissbury on 11 Sept. The last of the year were 2 in Brighton Cemetery on 2 Oct., one at Rye Hbr. on 4th and one in E. Brighton on 9th.

416. **PIED FLYCATCHER** (*Ficedula hypoleuca*):—Recorded in exceptionally good numbers in spring, the approximate monthly totals being:

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
—	—	—	21	10	—	1	21	26	2	—	—

First recorded on 20 Apr. with one at Sidlesham Ferry (to 21st) and 2 at Beachy Head. A further 27 individuals were recorded from 19 localities between 22 Apr. and 9 May including at least another 5 at Beachy Head, but all records referred to single birds. One was seen at Weir Wood Res. on 27 May and most surprising was an immature found dead at Southover, Lewes on 23 July.

A quiet autumn passage was noted from 11 Aug. at Beachy Head where a further 13 were seen up to 7 Oct., with a maximum of 3 on 6 Sept. Elsewhere records came from 21 scattered localities, all involving 1 or 2 birds with the last at Sidlesham Ferry on 20 Oct.

417. **BEARDED TIT** (*Parurus biarmicus*):—In Jan. 5 coastal localities held a maximum of only 23 birds. At one of these up to 3 were present in June and July including an adult pair, but breeding is not known to have taken place; birds persisted here until Nov. In autumn 8 redbeds in 6 localities held birds with a maximum of 8 at one and up to 40 in late Oct. in another. At this latter site 25 wintered but elsewhere only 2 birds remained in one area.

418. **LONG-TAILED TIT** (*Aegithalos caudatus*):—The number ringed in the county reached a new peak at 234, having increased steadily from 103 in 1979, and many observers confirmed that numbers were high. Winter flocks broke up early, with 4 pairs at Devil's Dyke by 6 Feb. and 5 pairs at Moulsecomb by 23 Feb., where eventually 7 pairs bred compared with 4 in 1984. See also Tables pages 46-47.

As noted in 1983, a high population seems to increase the number of flocks in an area rather than increase their size. Except for a party of 45 at West Chilton in Dec., 34 post-breeding flocks averaged only 9 birds each and the highest was 20, but most observers reported several parties in the same area.

419. **MARSH TIT** (*Parus palustris*):—Widely reported, especially from the Downs, the commons and around the reservoirs, where locally some high numbers were found outside the breeding season. In Jan., 20 were seen in 6 Km in the Greatham area, while August counts included 16 at Harting Down, and 16 in 4 Km between Ardingly and Balcombe. In Nov., 21 were found between Balcombe and Brantridge, with 10 at Coates Common in Dec. There was only one report, at Mannings Heath, of a bird visiting Pebsham. See also Tables pages 46-47.

420. **WILLOW TIT** (*P. montanus*):—There were fewer records than in recent years, though the pattern was similar, most sightings being of widely scattered single birds or pairs. Exceptions included 5 birds in Dover Woods in Mar. (unusually in a mixed tit flock), 2-3 pairs in Horsebridge Wood, Wakehurst, and 3 birds feeding on alder cones near South Ambersham in Dec.

422. **COAL TIT** (*P. ater*):—Numbers on the commons and in Ashdown Forest were fairly average, but several observers reported birds from coastal locations where their presence was deemed unusual. One was at Church Norton in Mar. and Apr., but most activity was in the autumn. In late Sept. and during Oct. sightings (mostly of 2 together) came from Beachy Head, Birling Gap, Shoreham Sanctuary, Church Norton, Bognor Regis, Runciton and Chichester, while 5 ringed at Ashcombe were the first in autumn since 1978. However, there were no suggestions that birds of the Continental race were involved, and relatively local dispersion perhaps after a good breeding season is more likely.

423. **BLUE TIT** (*P. caeruleus*):—Several observers reported breeding failures due to desertion or predation by weasels and squirrels, but this may disproportionately affect nest-boxes. However, autumn counts in areas as widely separated as Hastings, Moulsecomb and East Grinstead all suggested lower than usual numbers, although ringing totals for the county were above average especially for nestlings. See also Tables pages 46-47.

424. **GREAT TIT** (*P. major*):—As with the previous species, ringing totals for the county were normal, but observers considered that numbers were unexceptional or low, especially at the end of the year. Lack of beech mast may have prevented large (and therefore conspicuous) flocks from forming, or may have caused higher than usual mortality. In Nov. and Dec. the highest count was only 40 in Stanmer Great Wood, less than a third of the 1984 total, while in Alexandra Park, Hastings no more than 11 were seen in Dec. even though 13 pairs had bred there. See also Tables pages 46-47.

425. **NUTHATCH** (*Sitta europea*):—Throughout the year small numbers were reported from many woodland areas. The largest breeding concentrations noted were 6-9 pairs (including 4 in nest-boxes) along 8 Km of the Bluebell Railway, 5 pairs in 60 ha at West Chilmington and 4 pairs (2 in nest-boxes) in 100 ha at Maynards Green. Presumed migrants were at Cissbury on 17 Aug. and Beachy Head on 11 Sept.

427. **TRECREPER** (*Certhia familiaris*):—Widely reported from woodlands throughout the county. As the scrub turns to woodland on Beachy Head and Cissbury, so the species becomes more regular. Even so, singles at Belle Tout Wood on 8 Apr., Mays Corner at Selmeiston on 6 Jan., the Midrips on 18 Sept. and one pair breeding in a shed at Rye Hbr., were unusual. The severe weather did not appear to have greatly increased mortality as similar numbers to 1984 bred on Cattlestone Farm, West Chilmington, and along the Bluebell Railway they increased from 2 to 5 pairs. See also Tables pages 46-47.

430. **GOLDEN ORIOLE** (*Oriolus oriolus*):—Males were seen near Hastings on 10 May and at an inland West Sussex site on 28 June.

432. **RED-BACKED SHRIKE** (*Lanius collurio*):—1984:—A female was at Church Norton on 26-27 May (SK, AG).
1985:—The 2 records were both in Whitbread Hollow, Beachy Head—a male on 27 May (AHD) and a female/immature on 14-15 Sept. (JFC, DC, MK *et al.*)

436. **JAY** (*Garrulus glandarius*):—No special concentrations were noted this year. The only presumed migrants were singles at Seaford on 31 Mar. and Brighton on 1 May, and 4 E at Brighton on 8 June. Breeding season counts from defined areas are shown on pages 46-47.

437. **MAGPIE** (*Pica pica*):—The regular roost at Moulsecomb held up to 64 early and 54 late in the year; at Whitbread Hollow, Beachy Head up to 60 roosted in late Nov. while at

Mill Hill, Shoreham there were 35 at that time. Counts of breeding birds in defined areas are shown on pages 46-47.

438. **JACKDAW** (*Corvus monedula*):—At the West Chilmington roost up to 2,500 were present throughout the winter periods. Elsewhere 1,000+ roosted with Rooks at both Gatwick cargo terminal in July/Aug. and Abbots Wood, Arlington in Oct. More information is needed on the location and sizes of corvid roosts.

441. **ROOK** (*C. frugilegus*):—There were no records submitted of large numbers except for the West Chilmington roost where 2,000 were present in Jan. and 1,000 in Dec. Breeding numbers appeared to be much as 1984.

442. **CARRION CROW** (*C. corone*):—Autumn and winter concentrations included 84 at Shoreham Airport, 50 at Rye Hbr. and 35 at Amberley Wildbrooks.

442b. **HOODED CROW** (*C. c. cornix*):—Singles were seen at Clay Hill, Ringmer on 16 Feb. and at Hastings the next day. One flew over Beachy Head on 26 Oct.

444. **STARLING** (*Sturnus vulgaris*):—Roost counts included 50,000+ at Easthill Park, Portslade on 13 Jan., and 10,000+ at both the Steyne, Brighton and East Seaford late in the year. The build-up after the breeding season was shown clearly at the reedbed roost at Rye Hbr.; here there were 2,000 on 2 May, 4,000 by 26th, 6,000 on 30 July and 8,000 on 9 Oct. Such reedbed roosts are usually occupied by recently fledged juveniles, but the dates show that many adults must have been involved. An all-white bird at East Guldeford, first seen in 1983 was still present in Nov.

448. **TREE SPARROW** (*Passer montanus*):—This species seems to be in a continuing decline with very few large flocks appearing in winter and few breeding records. Perhaps weed-free agriculture and the virtual absence of winter stubbles have removed their food sources.

Early in the year the largest flock was 78 at Gatwick in mid-Jan., slowly declining to 20-25 during Apr. and May. Elsewhere flocks of 50-60 were at Winterbourne Wood Lewes, Rye Hbr., West Wittering and Seaford; unusually the last flock fed in a garden. During Oct-Dec. only 4 flocks of more than 20 birds were seen, *ie* 150+ at Rye Hbr., 50+ in the Cuckmere and 40+ at Shoreham and at Combe Haven.

451. **CHAFFINCH** (*Fringilla coelebs*):—Totals recorded in Jan., Feb. and Mar. were c. 500, 900 and 400 from 9, 10 and 8 scattered localities respectively; the largest flocks were 500 at Ebernoe on 11 Feb., 200+ at Moulsecomb on 23 Feb. and 158, mostly males, at Darwell Res. on 17 Mar. Breeding season counts from defined areas are shown on pages 46-47.

The total of 580 in Oct. came from 11 localities, including 120 E/NE at Climping on the 18th and 60 males at Bewl Water on the 29th. The Nov. and Dec. totals recorded were 515 and 865 from 9 and 14 scattered localities respectively, with flocks of 150 at Ashcombe during both months and 130 at Waltham Brooks on 30 Dec.

452. **BRAMBLING** (*F. montifringilla*):—Apart from c. 60 at Turners Hill on 7-8 Jan. and 15-20 at Higher Bevendean from 30 Mar. to 2 Apr., the Jan., Feb., Mar. and Apr. totals were only 20, 13, 9 and 2.

The first autumn record was a single at Beachy Head on 29 Sept.; thereafter during Oct., passage between 13th and 27th totalled 23 at Beachy Head; at Combe Haven 55 went over between 8 Oct. and 1 Dec. Nov. and Dec. totals of 48 and 61 included 30 at Parham Park on 8 Nov., and 50 at Coldean Woods on 29 Dec. which remained into 1986.

453. **SERIN** (*Serinus serinus*):—The 6 records were males at Selsey Bill on 21 Apr. (BJ, EDL, OM *et al.*) and 1 May (MFD), Eastbourne on 24 May (PJM) and at Beachy Head on 16 May and 3 June, where an unsexed bird was present on 6 May (RHC).

455. **GREENFINCH** (*Carduelis chloris*):—In Jan., Feb. and Mar. only about 145 were recorded in each month, mainly in the Brighton area. Apart from the counts from defined areas on pages 46-47, very few breeding season counts were undertaken.

Excluding Rye Hbr., the Oct., Nov. and Dec. totals were only 170, 230 and 140 respectively, again mainly in the Brighton area. However, at Rye Hbr. numbers in Aug. increased from 15 on the 4th to 80+ on the 30th and in Sept. there were 200+ on the 20th. During Oct., Nov. and Dec. 200-300 were recorded each month, peak 400 in early Nov.

456. **GOLDFINCH** (*C. carduelis*):—In Jan., Feb. and Mar. only 119, 112 and 43 were recorded from 16, 11 and 4 localities respectively. Little spring passage was again detected, totalling 132 N and E at Beachy Head, and a peak of 38 N at Worthing on 1 May. It is a very difficult species to census in the breeding season, so few reports were received.

Aug. and Sept. totals were 270 and 735 from 6 and 9 localities. In Oct. the recorded total of c.3,800 included 1,000 E on 12th, 400 E on 13th and 300 E on 18th at Beachy Head, 220 E at Climping on 18th and 169 E at West Worthing beach on 20th. During Nov. and Dec. 197 and 176 were recorded from 6 and 9 localities respectively.

457. **SISKIN** (*C. spinus*):—Apart from two flocks totalling c.600 at Midhurst on 24 Feb., the Jan., Feb. and Mar. totals were 24, 81 and 21. The last Apr. record was of 2 singing males plus 3 females at Worth Abbey on the 15th and 1 over Combe Haven on 27th.

There was an unusual series of records, including pairs, between 3 June and 12 July in conifer woodland which would be suitable breeding habitat. These were from Ashdown Forest, Tilgate Park, Verdley Wood and Marley Common; one flew over Arundel WFT and 15 over Combe Haven on 21 July. These reports suggest the long-anticipated colonisation of the county is close.

The first autumn records were 7 S over Forest Row on 31 Aug. and one W at Cissbury on 2 Sept. Thereafter there was sustained and obvious passage throughout Sept. and Oct. Sept.'s recorded total from the 8th onwards was c.1,900 from all parts of the county, with peak passage as follows:—114 E at Pett on 13th; 111 at Combe Haven on 16th; 260 W at Beachy Head and 117 W at Cissbury on 20th; there were 100 at Beachy Head on 25th. The total of c.1,850 in Oct. included c.100 E at Beachy Head between 12th and 18th, and 260 E/NE at Climping on 18th.

During Nov. and Dec. totals remained stable at 485 and 465 from 14 and 19 localities respectively, with flocks of 60 at Ifield, 50 at Selham, 150 at Iping, 75 at Ardingly Res., 101 at Alexandra Park, Hastings, 116 at Gravetye and 50 at Midhurst.

458. **LINNET** (*C. cannabina*):—In Jan., Feb. and Mar. 187, 135 and 45 were recorded from 5, 3 and 2 localities respectively. The Jan. total included 100 at Newhaven Tidemills. The total of c.680 in Apr. included 104 N on 17th. Breeding season counts from defined areas are shown on pages 46-47. Other breeding counts included 23 pairs on Chailey Common, 15 pairs on Patcham Downs and 13 at Waterhall.

During the summer months up to 500 were feeding on oilseed rape at Rye Hbr., 400 were in Combe Haven and 100 were at Cissbury Ring on 15 Aug. After Sept.'s total of 710 in 6 flocks, Oct.'s total of c.5,600 included a strong easterly coastal passage involving c.4,350 between 5th and 17th, with a maximum of 2,000 at Beachy Head on the 12th. In Nov. and Dec. 310 and 100 were recorded from just 5 and 4 localities.

459. **TWITE** (*C. flavirostris*):—Up to 7 were seen sporadically on the R. Adur in Jan. and early Feb. with 9 reported there on 30 Mar.; 24 were seen at Sidlesham Ferry on 2 Jan. with 12 there on 21st and 9-10 between 9-13 Mar. Elsewhere 1-6 were reported around Rye Hbr. on 4 dates up to 16 Feb., 2 were seen at the Cuckmere on 16 Jan. and 42 at Chichester GP on 6 Feb.

At the end of the year a small flock of up to 8 was recorded at Rye Hbr. on 4 dates from 19 Oct., while 7 were watched at Sidlesham Ferry on 10 Nov. and 4 in Pagham Hbr. on 17th.

460. **REDPOLL** (*C. flammea*):—Numbers at the beginning of the year were very low with only 100 in Jan. and fewer than 40 in Feb. More appeared in Mar. producing a monthly total of 570, this included a flock of 200 on Ashdown Forest. In Apr. 14 were recorded at Ifield.

Breeding season reports numbered 42 but this clearly does not reflect the size of the population.

Apart from one over Combe Haven on 18 Aug., the first autumn passage was noted on 16 Sept. at Beachy Head. There were several reports for this month with a further 100 at Beachy Head on 25th and 60 on 29th, although there was no definite direction of movement. A flock of 350 was reported from Crowborough on 29th and 136 flew over Combe Haven on 23rd. The best month by far was Oct. with approximately 2,200 birds reported, including movements of 150 E and 100 E on 12th and 13th respectively at Beachy Head, and a flock of over 200 at Old Lodge, Ashdown Forest. At Combe Haven migrating flocks included 154 on 21st and 120 on 25th. Numbers dwindled to 220 in Nov. but had increased to more than 600 again in Dec. The largest flocks at the end of the year were 120 at Old Lodge and 100 at Forest Mere.

463. **CROSSBILL** (*Loxia curvirostra*):—The only records early in the year were 3 at Easebourne on 12 Feb. and a male singing at Balcombe on 10 Mar. No breeding was suspected. A substantial movement took place from 14-16 June through to mid-Aug. and a smaller influx between 11 Oct. and 14 Nov. A summary of distribution is shown by half-months below:

	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	1-15	16-31	1-15	16-31	1-15	16-31	1-15
Friston area	7	38	20	8	1	—	—
Ashdown	2	49	—	—	—	2	—
N. central	2	—	3	5	—	—	—
S. central	—	—	12	5	1	—	8
North-west	—	—	15	3	17	8	2
Total	11	87	50	13	25	10	1
						5	28
						4	3
						4	8

The early birds were mainly in the east, some moving over Beachy Head and Seafood; many of the slightly later birds were seen moving over Cissbury, Arundel and Duncton, while the later birds were nearly all within 5 miles of Midhurst.

467. **SCARLET ROSEFINCH** (*Carpodacus erythrinus*):—An immature was at Beachy Head on 13 Oct. (AQ); they are becoming more regular now, this being the third in the last 5 years.

470. **HAWFINCH** (*Coccothraustes coccothraustes*):—1-2 were seen at Wakehurst Place in early Jan. with one at nearby Ardingly on 6th. Between mid-April and mid-May 1-3 were again recorded at Wakehurst Place with singles over Combe Haven on 30 Apr., near Arundel on 13 May and at Forewood on 18th.

In Aug. singles were seen at Slinfold on 15th and in Ashdown Forest on 22nd. Finally in Dec. one was reported from West Chilmington on 2nd with 2 at Wakehurst Place on 27th.

493. **LAPLAND BUNTING** (*Calcarus lapponicus*):—1982:—One was in Combe Haven on 31 Jan. (SCR).

1984:—On 16 Sept. one was near Pebbsham (KMJ).

1985:—One was in the Cuckmere on 18 Jan. (PJJW). Cold weather in late Nov. brought the largest influx to Sussex since 1979, even though it was only a shadow of the numbers on the east coast. At Goring a male was present 19-22 Nov., with a female there on 21st (DIS, RJS, BFF); on Pett Levels up to 5 were located on 23-26th (CHD, PFB, RG) and on 6-7 Dec. one was at Rye Hbr. (BJY). Finally, one was at the Crumbles on 28 Dec. (NEW, TJJW).

494. **SNOW BUNTING** (*Plectrophenax nivalis*):—One in Combe Haven on 6 Jan. was the only record during the severe weather early in the year. In late autumn only 9 or 10 birds were reported. Records were as follows: 2 flew E past Worthing on 12 Oct., one was at Pagham Hbr. on 2 Nov. with 3 there on 25th and 2 on 30th, 2 were present at Galley Hill, Bexhill from 1-9 Dec. and finally Rye Hbr. recorded a female on 29-30 Dec. and a male on 31st.

496. **YELLOWHAMMER** (*Emberiza citrinella*):—In Jan., Feb. and Mar., flocks were only seen in 5 localities and totalled 190, 117 and 178 respectively. Breeding season counts

and it is to be hoped that Spain's accession to the EEC will reduce the shooting of this less-than-common species.

Some recoveries stand out because, by reinforcing earlier ones, they begin to suggest a definite pattern. Several long-distance movements of Pied Wagtails caught at Sussex autumn roosts have been given in earlier reports — one to Kinross in 1975, and others from Tyne & Wear and W. Yorks. in 1982. Now follow two more:

<i>Pied Wagtail</i>	4♂	11.10.83	Southeast, Lewes (MIB)
	x	21.04.85	Garth, Fortingali, Tayside 696km NNW
<i>Pied Wagtail</i>	4♀	11.10.84	Shoreham by Sea (ABW)
	v	17.05.85	Carlisle, Cumbria 490km NNW

In this period, no movements intermediate between these and the many short-distance ones within Sussex have been reported, except one of 43km to Hants.; an illustration of how Pied Wagtails in the north of Britain are more migratory than those further south.

Two Sedge Warblers from central Scotland at Church Norton on the same day in 1983 might have been coincidence, but two more from Tayside at another small coastal reedbed show how important these are as staging posts and fattening areas:

<i>Sedge Warbler</i>	3	15.08.84	Errol, Tayside
	v	17.08.85	Charleston Reedbed, Litlington (CRG) 661km SSE
<i>Sedge Warbler</i>	3	04.08.85	Powgault, Tayside
	v	11.08.85	Charleston Reedbed (CRG) 662km SSE

Other small migrants are less frequent in Sussex — Pied Flycatchers are relatively scarce, but because so many are ringed in nestbox studies controls do occur:

<i>Pied Flycatcher</i>	1	19.06.85	Cockermouth, Cumbria
	v	19.08.85	Standean, Brighton (RH) 469km SW

August is the month when most British Pied Flycatchers leave; later birds are thought to be mainly from Scandinavia. In 1978 a concerted effort was requested from ringers to find the origin of Blackcaps wintering in Britain. Already much evidence that these are Continental birds has been amassed, and controls such as the next show that individuals may winter in Britain in successive years:

<i>Blackcap</i>	3♂	27.12.83	East Cosham, Hants.
	v	04.02.85	Patcham, Brighton (RH) 63km E
<i>Blackcap</i>	6♂	18.01.84	Patcham (RH)
	r	03.03.86	Patcham

With other species, where a resident population is augmented in winter, the difficulty lies in deciding what proportion of the birds are immigrants. Foreign Chaffinches (mainly females) certainly occur in Sussex:

<i>Chaffinch</i>	4♀	14.03.85	Marley (PGD)
	v	17.04.85	Mandal, Norway 937km NE

However, considering the number of Chaffinches ringed in Sussex in winter foreign recoveries are few, and it is likely that immigrants are much in the minority.

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THE ORIGIN AND MOVEMENTS OF BLACK-HEADED GULLS WHICH HAVE WINTERED IN SUSSEX

by J. A. Newnham

INTRODUCTION

The Black-headed Gull (*Larus ridibundus*) is a successful species whose numbers have been increasing throughout most of Europe during the past century. Both counts at breeding colonies and mid-winter counts at preferred roost sites have confirmed the continued expansion in Great Britain (Bowes *et al.* 1984). In Sussex too, the wintering population of 130,000 in 1983 showed a 27% rise in only 5 years (Newnham 1983). Although there has been a steady growth in the breeding colonies in the county (Prater 1985) the numbers remain small compared to those wintering. Previous national studies have shown that a large proportion of the wintering Black-headed Gulls on the east coast are of Scandinavian or Continental origin whereas those wintering further west were of British origin. A more recent analysis of the winter distribution of foreign ringed Black-headed Gulls revealed most recoveries in Southern England coming from the Low Countries, Baltic States and Fennoscandia (Horton *et al.* 1984).

This paper describes some of the results and the recoveries from a ringing study of Black-headed Gulls near Worthing and shows the origin and migration of gulls wintering in Sussex.

METHOD

Between 1975 and 1985 Black-headed Gulls were caught using a cannon net; the birds were aged, measured and ringed prior to release. Initially the trapping was conducted on the beaches between Ferring and Hove where the gulls were lured into the 'catching area' by baiting with bread. After January 1980 the main trapping site was Sompington refuse tip and by February 1981 catching on the beaches had ceased. Two other refuse tips were also used and on two occasions the net was set to catch gulls feeding behind a plough.

RESULTS AND DISCUSSION

Table I shows the number of trapping sessions and the total number of Black-headed Gulls caught. This clearly shows the most productive site to be Sompington refuse tip, a site where large numbers of gulls feed on pulverised domestic refuse.

TABLE I. THE NUMBER OF TRAPPING SESSIONS AND THE TOTAL NUMBER OF BLACK-HEADED GULLS CAUGHT AT EACH SITE BETWEEN 1975 AND 1985.

No. of ringing sessions	Beach			TOTAL
	(Ferring-Hove)	Small Dole	Chichester	
Total number of Black-headed Gulls caught	48	62	1	119
	3,541	11,565	436	15,711

The ringing effort changed from one year to the next; this variation is demonstrated in Table II which highlights 1980 and 1981 as the most active years. Black-headed Gulls which have been ringed locally are frequently retrapped and this table shows these totals separately from the unringed birds. Here it is interesting to note, as years pass, the increasing proportion of retrapped birds, which not only suggests considerable site fidelity from one winter to the next but also shows that a large fraction of the population of gulls wintering in the Worthing area now bear rings.

Although catching has occurred between 8th August and 24th March, Table III shows that most effort has been in the mid-winter and early spring. Cold, calm weather conditions have proved to be the most suitable for catching; indeed the

TABLE II. THE ANNUAL TOTALS OF BLACK-HEADED GULLS RINGED AND RETRAPPED IN SUSSEX.

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
No. of unringed birds	151	0	262	599	1109	2878	3021	1484	1454	1581	1165
No. of retrapped birds	0	0	2	2	10	228	381	355	380	435	214
% of retraps	0	0	0.8	0.3	0.9	7.3	11.2	19.3	20.7	21.6	15.5

largest single catch of 687 gulls (628 Black-headed Gulls) was during severe frosty conditions on 9th January, 1985. The same table reveals some marked variation in the percentage of retrapped birds occurring in each month; the most obvious is the low number of retraps in September but the most significant finding is the decline in the retrapped individuals during January.

TABLE III. THE MONTHLY TOTALS OF BLACK-HEADED GULLS RINGED AND RETRAPPED IN SUSSEX BETWEEN 1975 AND 1985.

	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
No. of ringing sessions	2	5	10	13	15	22	21	16
No. of unringed birds	178	173	639	1301	1905	4017	2986	2405
No. of retrapped birds	68	7	71	205	301	409	544	402
% of retraps	27.6	3.9	10.0	13.6	13.6	9.2	15.4	14.3

Ringed Black-headed Gulls are regularly found and reported to the British Trust for Ornithology and from these reports the Trust quote a recovery rate between 4.5% and 5% for this species. Therefore from the ringing up to 1985 one would expect about 650 recoveries; indeed by late 1985 649 had been reported and details were known of 167 birds which were ringed elsewhere and subsequently trapped in Sussex. The recoveries of the adult Black-headed Gulls are summarised in Table IV.

TABLE IV. THE NUMBER OF RECOVERIES IN EACH SEASON AND IN 4 AREAS OF ADULT BLACK-HEADED GULLS RINGED IN SUSSEX 1975-1985.

Area of recovery	Breeding Season (April-mid July)		Early Autumn (mid July-Sept.)		Late Autumn (Oct.-Nov.)		Winter (Dec.-Feb.)		Early Spring (March)		Total
	25	86	27	99	29	80	8	26	31		
Great Britain	25	86	27	99	29	80	8	26	31	259	
Low Countries	64	64	6	6	1	1	1	1	1	171	
Baltic States	96	96	11	11	—	—	—	—	—	108	
Fennoscandia	271	271	143	143	49	88	88	59	59	610	

Previous studies have shown adult mortality to be at its greatest during the breeding season (Flegg and Cox 1972). If recoveries are a reflection of mortality, this is confirmed by this study when 271 (44%) recoveries were reported between April and mid July. The distribution of these recoveries of adult Black-headed Gulls is shown on Figure 1 and it is immediately clear that most are in the Low Countries, Baltic States and Fennoscandia. A closer study shows that only 9.2% occur in Great Britain at this time and they are strictly limited to south-east England with none being recovered in the extensive colonies in northern and western England nor from Scotland. Most of these British recoveries relate to birds found on the beaches in early July, probably post-breeding, and only two originate from breeding colonies in Sussex.

A similar picture is seen by plotting the 100 birds ringed as nestlings and subsequently controlled in Sussex. By combining these two plots it can be shown that 51% originate from east of longitude 15 deg. E. and 43% from north of latitude 55 deg. N.

By early autumn many adults have left their breeding colonies and Figure 2 plots the recoveries reported between mid July and September. Although there are

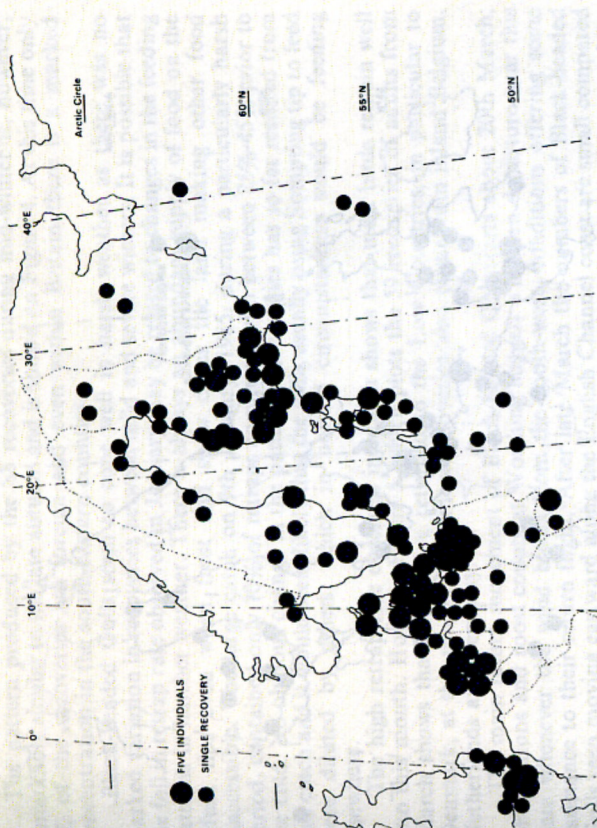


Figure 1. Recoveries during the breeding season (April-mid July) of adult Black-headed Gulls ringed in Sussex 1975-1985.

still several reported from Scandinavia and the Baltic States the proportion of recoveries from east of 15 deg. E has fallen to 12% and only 10% are north of 55 deg. N. It is interesting that 69% of the 143 recoveries are from Britain and many of these from the beaches in Sussex; however, there are scattered recoveries in the Midlands and Cheshire possibly suggesting that some of the wintering birds arrive in Britain across the North Sea before moving into the south-east.

Observations at roost sites in Sussex during the past few years have noted a marked increase in the numbers of Black-headed Gulls from mid July onwards: counts of 2,000 at Rye and 5,000 at Worthing in mid July followed by 10,000 in late July suggest these are not solely birds dispersing from nearby breeding colonies. The recoveries show these are part of the wintering population; an observation which was confirmed by a catch at Sompting on 8th August, 1984, where 30% of the total of 226 Black-headed Gulls had previously been ringed in the Worthing area during winter months and two individuals were ringed whilst breeding in Finland or Belgium.

The recovery rate at this time of year, although less than during the breeding season, was considerably higher than the later autumn, winter or early spring and many of the recoveries suggest adult birds are particularly vulnerable at this period, perhaps exhausting themselves by a long post-breeding migration, followed immediately by a full plumage moult.

The recovery rates are at their lowest in late autumn and Figure 3 shows only 49 recoveries of adults in October and November. By this time there has been a complete exodus from the Baltic States and Scandinavia and even the recoveries in the Low Countries are from coastal sites. The British recoveries show a similar pattern to those in the early autumn but additionally two individuals have strayed further south into France and one bird was found in the Irish Republic. Undoubtedly considerable migration is continuing into October as observations have shown considerable movements, an example being the record of 30,000 seen moving westward at Goring in 2 hours on 14th October, 1982.

The pattern produced by the 88 recoveries during mid-winter is, however, remarkably similar to the late autumn and is shown on Figure 4. At this time only 9% of the recoveries are foreign and even within Britain there is a marked concentration in the south-eastern counties.

Black-headed Gulls seem to cope well in harsh weather as there was no marked variation in recoveries between mild and severe winters. It is possible that the fall in retrap rate observed in January may be related to changes in the feeding patterns in harsher weather. There is always an abundant supply of food on the refuse tips even when frost and snow cover the land making other food inaccessible. The large catch on 9th January, 1985, during a particularly harsh period, contained only 10% of retraps compared with between 25%-45% prior to the cold. No obvious change in the pattern of recoveries has so far resulted from this catch and it would seem likely that the gulls usually using Sumping tip to feed were diluted by others, which in normal circumstances, would be feeding elsewhere.

The high retrap rate observed in March shows that most birds remain well into this month. However Figure 5, which plots the 59 recoveries of adults from March shows that some have returned to the Low Countries, in particular to Denmark, at this time. Furthermore recoveries also occur from inland Belgium, Netherlands and Germany.

The main return movement of Black-headed Gull starts about 20th March; observations and roost counts at Worthing suggest a sudden departure near this date whenever the wind blows from the south-west, conditions offering some assistance to their return flight. After late March the numbers of Black-headed Gulls seen moving eastward along the English Channel coast are small compared with the wintering numbers. Typically the totals seen from the main seawatching stations during April and May fall between 3,000 and 6,000 per season and many of the flocks comprise of mainly immature birds.

The ringing study has only gathered 22 recoveries of immature birds from which it is impossible to draw any accurate conclusions. However, 4 from the 12

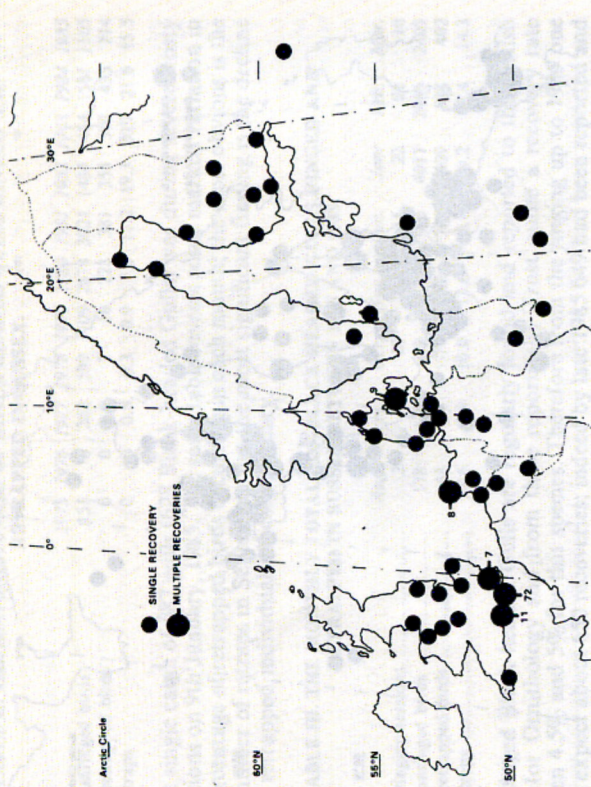


Figure 2. Recoveries between mid July and September of adult Black-headed Gulls ringed in Sussex 1975-1985.

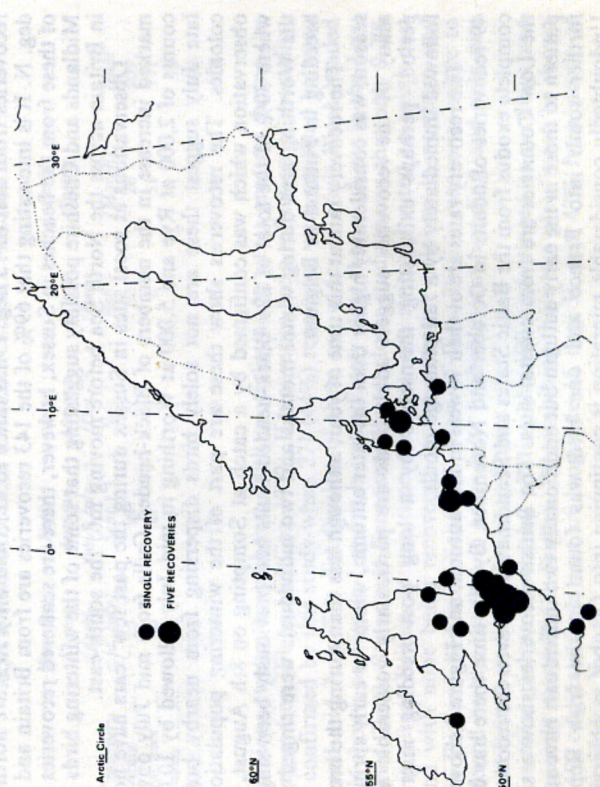


Figure 3. Recoveries during October and November of adult Black-headed Gulls ringed in Sussex 1975-1985.

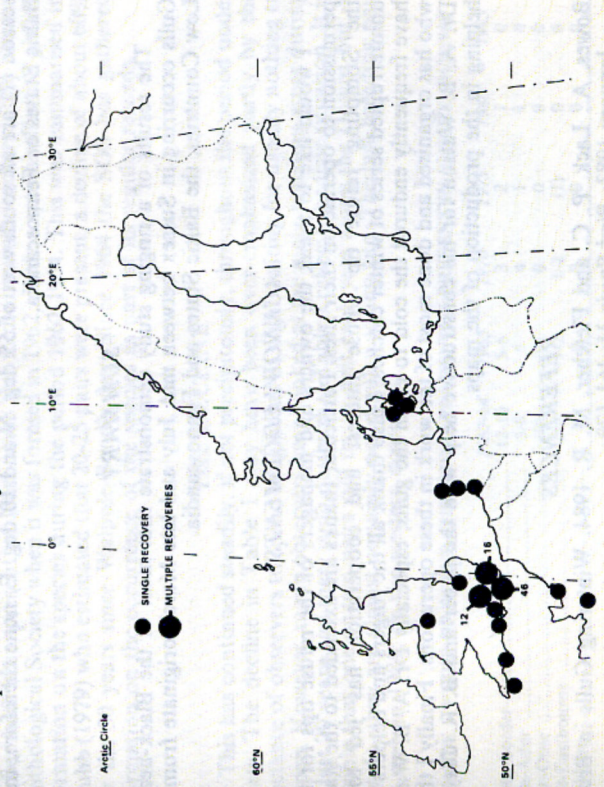


Figure 4. Recoveries between December and February of adult Black-headed Gulls ringed in Sussex 1975-1985.

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THE DECLINE TO EXTINCTION OF THE STONE CURLEW IN SUSSEX

by A. J. Prater

INTRODUCTION

The Stone Curlew was a typical, though scarce, breeding bird of downland from Sussex, through Hampshire into Berkshire, Dorset and Wiltshire. In Sussex, Walpole-Bond (1938) estimated that about 60 pairs bred and that about this number had been present at least since the mid-nineteenth century. The Sussex Ornithological Society when it was formed in 1962, made a special effort to gather information on the species during the period 1962-1964. This was summarised in Shrubb (1979) who estimated that 20-25 pairs were present, a decline of about 60% over the 30 years since Walpole-Bond's day. Since 1964 the SOS has gathered information on the occurrence of the species as part of its regular records.

THE DECLINE

This has continued steadily, if not precipitously, throughout the period under review. The decline in Table I may have been over-emphasized partly by the reluctance of observers to spend long hours at night waiting for usually nothing to happen. However, many observers have looked at the main breeding areas during the last 20 years and there is no doubt that Table I reflects the true situation. It is possible that one or two pairs still try to nest each year along the Downs but, if they do, they are almost certainly not regular at any site. The last breeding pair was seen in 1981, on the western downland.

TABLE I. PAIRS OF STONE CURLEWS APPARENTLY PRESENT IN SUSSEX 1962-1985

	1962-64	1965	1970	1975	1980	1985
Hants. border-Arun	12-15	5-6	3	2	1	0
Arun-Adur	6-8	5	4	1	1	0
Adur-Ouse	(0)	(0)	0	0	0	0
Ouse-Eastbourne	3-4	1-2	1-2	(1)	0	0
Elsewhere	1	0	0	0	0	0
	22-28	11-13	8-9	4	2	0

Note: () occasional individuals also noted which might represent pairs.

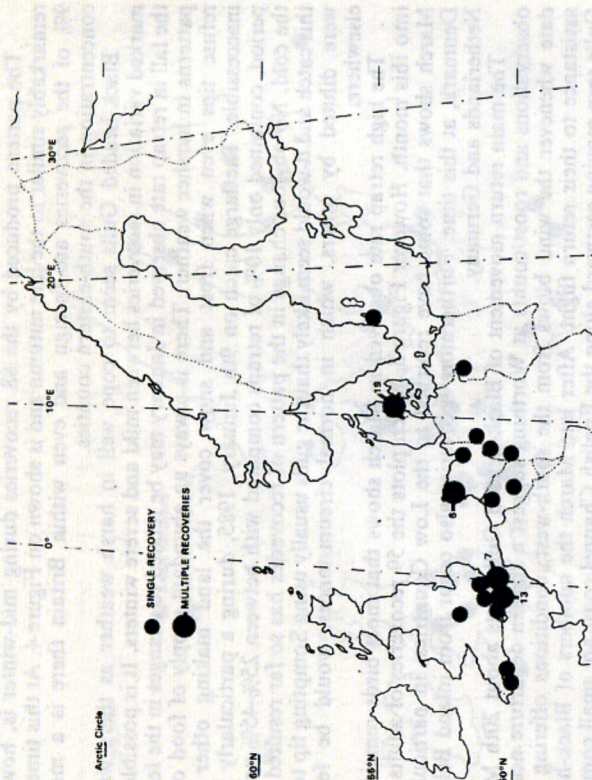


Figure 5. Recoveries in March of adult Black-headed Gulls ringed in Sussex 1975-1985.

occurring in winter are from coastal France and recoveries during the breeding season (7) are all south-west of 55 deg. N and 10 deg. E, none therefore, in the Baltic States or Fennoscandia.

SUMMARY

The results of a ringing study demonstrate that most of the Black-headed Gulls occurring in Sussex between mid July and late March originate from the Low Countries, the Baltic States and Fennoscandia.

ACKNOWLEDGEMENTS

I would like to thank the owners and managers of the refuse tips for their permission to operate on their sites. Particular thanks are extended to the staff at the Sumping refuse tip whose interest and cooperation has led to an uninterrupted series of winter catches. I also thank all the ringers and helpers who have frequently endured the cold to catch the gulls, especially Dr. A. B. Watson who has organised and done most of the work in these operations. Finally I thank Dr. A. B. Watson for his constructive help with the paper and B. R. Clay for helping in the production of the maps.

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DISCUSSION

Stone Curlews have never been documented as nesting on the steep north scarp of the South Downs. They were typical of the more rolling central areas or even the dip slope. Their preference for this part of the downland complex is probably the main reason they have decreased so steadily. It was here that the sheep-walk, with its turf kept short by grazing and the many rabbit warrens, provided an excellent feeding and nesting habitat. However it is also the ground most easily brought into productive arable cropping. From figures supplied by M. Shrubbs, the total area under plough in West Sussex increased by 30% to 130,641 acres between 1963 and 1974; this increase has continued to the present day but more slowly. The area in East Sussex fluctuated but showed little increase. These changes are only the later part of a much more extensive switch from grass to tilled land in Sussex since 1947, which particularly affected the Downs, where the recent agricultural trend has been, therefore, to decrease the area of sheep-grazed grassland. The presence of sheep may have additional significance in that research on the feeding behaviour of Stone Curlews by the RSPB shows that they feed on many beetles and other invertebrates associated with animal faeces.

Over the same period (1963-1974), the actual acreage of spring cereals and spring-cultivated root crops decreased by 6% in West Sussex and by 10% in East Sussex but, since 1974, these crops have virtually halved in area and there has been a corresponding increase in winter cereals. Stone Curlews require open areas on which to nest so, in the absence of sheep-grazed turf (except on very steep slopes or where there is massive public access), they have little option but to turn to areas of spring tillage, where they can be quite successful, particularly if fallowed ground is included. Even here the impression is that growth of plants, especially cereals, is so rapid with modern agrochemicals, that they become unsuitable long before late or repeat clutches can be laid. Nevertheless the switch to winter cereals has probably been the final cause of the species' extinction in the county.

While there are possibilities that agricultural price support pressures may encourage the reduction in cereal and an increase in grassland acreage, it would seem as though Stone Curlews are in such a precarious position in southern Britain that a large scale return to Sussex would be a near miracle.

ACKNOWLEDGEMENTS

I would like to thank all those observers who helped by sending in records over the years; several of whom provided me with additional data. M. Shrubbs also provided invaluable information on farming and interpretation of trends.

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PASSAGE AND WINTERING THRUSHES AT A DOWNLAND SITE

by R. Leverton

All the common British species of *Turdus* occur regularly on the Sussex Downs in the autumn or winter. This study is based on almost daily observations between 1972 and 1985, and over 500 ringing sessions since late 1974, in the Ashcombe area near Lewes. The site consists of about 800 ha of downland comprising Ashcombe and Kingston Farms, Housedean Farm, Balmer Down and Ashcombe Bottom. It ranges in altitude from 30m to almost 200m, and is mainly very open farmland with no public access except along bridleways. About 70% of the area is sown with barley or wheat, with occasional breaks of ley, turnips and winter rape.

Fields are large, up to 30 ha, and separated by wire fences rather than hedges. On the lower ground near the farmsteads are smaller fields and paddocks totalling about 25 ha of improved permanent grassland, while deciduous woodland planted as shelterbelt and a source of fenceposts accounts for 18 ha. Unimproved downland pasture survives only on slopes too steep to be ploughed, or remote from the farmsteads. Such areas are grazed sporadically by cattle or sheep, and in many cases scrub has grown up, especially in the last 20 years. These scrubby areas are small, except for Ashcombe Bottom itself, where scrub of varied age covers about 70 ha, but although they only account for perhaps 10% of the land area they are far and away the best parts of it for birds.

Hawthorn is the dominant and most important species in the scrub, followed by elder, with more locally gorse, briar, sloe, privet, wayfaring tree, dogwood, buckthorn and spindle. Creepers such as Black Bryony, White Bryony, *Clematis* and Woody Nighthshade entwine the older bushes, while bramble is ubiquitous. It is no coincidence that most of these produce berries with a fleshy pulp attractive to birds, while germination of the enclosed seed is improved by passage through the bird's digestive system. By this symbiotic arrangement the thrushes are able to create new habitats and food sources, if not for themselves then for their progeny, on a scale unparalleled by other groups. It is likely that most of the scrub at Ashcombe was originally bird-sown.

The ringing effort aimed at representative coverage of the main habitats used by birds in the course of the year. Mist-nets catch only a sample of the birds present, but taken over the 11 years of the study period it is considered that any

biases due to helpful or adverse weather, minor fluctuations in effort, or sheer chance will be evened out, to give a fair picture of an average year. Accordingly, data from ringing is used as an index of the number of birds using the site on passage or for wintering, and to provide age and sex ratios where appropriate. Habitat use and behaviour are also outlined. These results are discussed under species headings.

RESULTS

Mistle Thrush

Mistle Thrushes are partial migrants: some of the British population emigrate in autumn and a few foreign birds may winter here. However, in the 11 years of the study period no sign of passage or immigration was ever witnessed or even suspected at Ashcombe. The few widely scattered pairs remained on or near their territories around the woodlands and farmsteads throughout the autumn and winter, except that in severe weather small numbers congregated at fallen apples or in other emergency feeding areas.

Ring Ouzel

The migration of this distinctive species through Sussex was discovered in 1770 by Gilbert White, who wrote of finding them "in little parties in the autumn cantoned all along the Sussex-downs, wherever there were shrubs and bushes, from Chichester to Lewes." In the past decade numbers seen in the County have been low, but some occurred at Ashcombe in every year of the study. The first birds normally appear in late September, but October is the peak month, and passage may continue into November. Two populations are thought to be involved: British birds moving through first, followed by Scandinavian ones, but usually there is so much overlap that the two waves are not distinguishable.

Ring Ouzels often appear singly at Ashcombe, or in small parties of up to four; a flock of 9 in September 1980 was unusual. Though sometimes conspicuous and noisy, they can be very secretive. Habitat requirements even on passage seem to be precise. Steep coombes with not too much scrub, on north-facing scarp slopes which rise to 180m or more, are preferred; these are also remote and free from disturbance. Only rarely are birds seen on land below 100m, or on gentler slopes, and then they never stay for long. In the favoured coombes the Ring Ouzels feed chiefly on elderberries, choosing bushes which about a tall dense hawthorn into which they can slip silently if danger threatens. Certain key bushes are selected year after year. When newly arrived, birds spend much time sleeping in these hawthorns, though roosting at night is in gorse.

While Ring Ouzels are shy, they are naive, and 45 have been netted in autumn at Ashcombe from perhaps 100 seen. Of those caught, 78% were first year birds, and there was a slight preponderance (56%) of males. Retraps showed that birds commonly stayed for about three days in good weather, and for a week or more if the weather was poor. Weights at first capture ranged from 89-128gm, with a high average of 113gm. Although Ring Ouzels are scarce migrants to Ashcombe they regularly arrive in ideal weather conditions when few other migrants are grounded, and often stay for several days though the weather is good and their weights are high. Presumably they are stopping because they choose rather than because they must, the Downs being used as a staging-post in autumn by part of the population. The origin of one male was known: it was ringed as a nestling in Gwent in May 1980 and caught at Ashcombe on 20th September the same year.

Spring passage is minimal: less than one bird a year on average. These feed on the ground or unimproved grassland slopes rather than among scrub, and move through very quickly, being present sometimes for only a few minutes.

Song Thrush

Some British Song Thrushes are wholly resident, but some migrate south in autumn as far as Iberia. Others temporize, moving south and west only in direct response to severe weather. Northern and Eastern European Song Thrushes nearly

all migrate, many passing through Britain and some staying to winter here. These different strategies are reflected in the ringing totals at Ashcombe (see Fig. 1). These show a large movement each autumn, beginning on average in late September and peaking in late October. Numbers tail off during November, but rise to marked secondary peaks in early and late December, which may denote birds moving at the onset of colder weather, perhaps from different populations. Thereafter, numbers staying to overwinter through January and February are relatively small.

Autumn migrants at Ashcombe occur in loose parties or associations rather than well-defined flocks, generally of 10-30 birds but very occasionally up to 100. As with all the thrush genus, elderberries and, later, haws are the main attraction, but Song Thrushes also make much use of low gorse admixed with bramble, and this is preferred for roosting. Migrants are noticeably shyer than the local birds, and tend to favour remote and isolated patches of scrub often high on the Downs, avoiding the farmsteads. If disturbed, they may leave the area completely, often gaining considerable height and circling before flying off, usually south-westwards.

The Continental race of Song Thrush *T. p. philomelos* differs from the British race *clarkii*. Typically British birds are warmly coloured brown and buff, while Continental ones have colder grey-green tones to their upperparts and the buff areas are paler. But the two races intergrade climally and, at Ashcombe, every gradation between the two extremes was observed, suggesting that migrants originated from a wide area of Europe as well as from Britain. Birds caught from the same party tended to be similar in appearance. Those considered to be Continental on plumage averaged fractionally shorter in wing-length, and at afternoon weights generally of around 72-75gms were up to 10gms lighter than presumed British birds caught on the same day. They rarely appeared before mid-October, but from then until early December they comprised about half the Song Thrushes caught. After this, birds were predominantly of the British type, especially those overwintering in January and February.

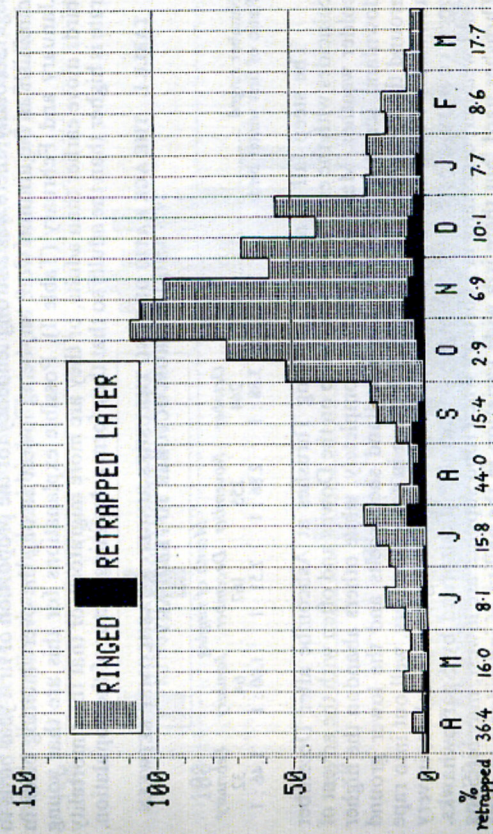


Figure 1. Song Thrushes ringed at Ashcombe from 1975 to 1985 and the proportion subsequently retrapped. Retrap percentages are correct up to 15/5/86. Note: In Figures 1-4 where the period 21st to end month is not 10 days a correction factor is applied.

Observation alone might underestimate the scale of the autumn Song Thrush passage. Counts at Ashcombe often showed rather similar numbers present each day, but ringing revealed a rapid turnover with very few being retrapped, especially from those caught in October and November. This was in contrast to the high retrap rate of autumn Blackbirds at the same site (see Figs. 1 & 2). Recoveries confirmed the impression that most Song Thrushes were in transit. Of 16 recoveries of birds ringed between October and December, none was local (defined as within 5 Km of the place of ringing), and 9 were overseas. These included three first year birds found later the same winter: one was shot in Spain, while two ringed in November 1978 joined a large cold-weather movement in the severe conditions of early 1979, one being found dead in NW France and the other in Guernsey during January. Others were found abroad in subsequent winters, showing that the migratory urge had not been lost with age: two were shot in Portugal, another in Spain, and one in the Gironde, France. Birds of both British and Continental appearance featured in these movements, but even nationally there are few recoveries to show the origins of foreign birds passing through Britain. This may be due to the tendency of the shy Continental Song Thrushes to avoid human habitation, so that ringed birds are seldom found. So a bird ringed at Ashcombe as late as 21st December and found dead near the northern tip of Denmark in April was noteworthy, as was another carrying an Estonian ring caught twice at Ashcombe in February. Another December bird was found in Belgium in October three years later. The 7 recoveries within England included 4 shortish movements of 9-25 Km, one of 68 Km to Kent in spring, and mid-winter cold weather movements of 171 Km and 255 Km W to Avon and Devon. By contrast, the two recoveries of overwintering birds ringed in January were both local, as were four from Song Thrushes ringed in the breeding season.

In the hand, nearly all Song Thrushes can be aged (Svensson 1975). Annual variations in the extent of autumn passage at Ashcombe seemed to depend on the number of first year birds involved. For example in 1980 and 1985, when numbers were high, 86% and 87% respectively of those ringed were young birds, while in the poor year of 1982 these comprised only 42%. But the number of adults was relatively constant.

Secondly, there was a strong tendency for the proportion of first year birds to diminish as the autumn wore on, being lowest among the overwintering birds in January and February (Table 1). Possible explanations for this are that young birds move earlier than adults, or they are more migratory, or that their mortality rate is higher than the adults so that they form a declining sector of the population.

TABLE 1. THE AGE RATIO OF SONG THRUSHES RINGED AT ASHCOMBE BETWEEN 1975 AND 1985 FROM OCTOBER TO FEBRUARY

	October	November	December	January	February
Number ringed	244	255	167	64	32
Ratio of first winter birds	3.88 : 1	2.86 : 1	2.51 : 1	1.00 : 1	1.46 : 1

The steep fall in numbers of Song Thrushes at Ashcombe after December coincides with the end of the berry crop on the Downs and often with the advent of colder weather. Many leave the site completely, while others abandon the higher downland scrub in favour of the woodland shelterbelts and the lower ground around the farmsteads. They also feed, often in some numbers, well out into rape and turnip fields, and in the narrow rough field edges along wire fences in very open country, where they are highly vulnerable if surprised by Sparrowhawks. Cold weather, especially in February when food supplies are lowest, may hit Song Thrushes hard, but there is a wide variation in the ability of individuals to cope with prolonged frost and snow judging by the weights of those caught. Some, mainly adults, actually increase in weight to 100gms or more, while others decline: birds caught on the same day (12.1.82) ranged from 90gms to 54gms, while in early 1985 two first winter birds were found dead weighing only 48gms and 49gms.

Spring passage is too small to be reflected in the ringing totals. Night migrants are sometimes heard in early March, and occasionally birds of the Continental type are caught in the scrub. Probably most returning Song Thrushes overfly Ashcombe, the Downs being bleak and inhospitable in early spring and lacking in food sources comparable with the berry crop of autumn.

Blackbird

The Blackbird is one of the commonest breeding species at Ashcombe, in the woodlands, around the farmsteads, and in the mixed scrub on the Downs. Breeding adults and their progeny are regularly netted throughout the summer, and a high proportion of the local individuals carry rings. However, each autumn there is an influx of unringed birds, especially to the downland scrub, paralleling the similar increase in Song Thrushes though beginning slightly later.

The influx is unobtrusive. Occasionally, most often after SE winds, abnormal numbers of Blackbirds are observed in unlikely places high on open downland which by their nervous and uncertain behaviour resemble newly-arrived immigrants. Otherwise, the species' habit of taking cover in thick scrub when alarmed makes counting difficult, and ringing totals are a much better guide to the pattern involved (see Fig. 2). These show that after a steep rise during October the population remains high almost to the end of December, instead of declining after reaching a peak as with Song Thrush. This suggests that the autumn increase in Blackbirds at Ashcombe is due to the steady arrival of birds which will stay for some time, rather than the through passage of migrants. Further evidence for this is provided by the retrap rates of birds ringed during this period (see Figs. 1 and 2). Whereas the percentage of Song Thrushes later recaptured drops markedly at the time of greatest numbers, that of Blackbirds remains consistently high, showing that birds are not moving on.

The origins of the influx were hard to determine. Ringing recoveries showed some immigration from the Continent, but even in the hand no other way was found of distinguishing the birds involved in the influx from those known to be of the local breeding stock. Colouration, wing-length and weight proved to be of no help: contrary to the belief of many ringers that Continental Blackbirds are larger, those ringed at Ashcombe and subsequently recovered abroad averaged marginally smaller than the local birds. There were 9 of these, ringed in 7 different

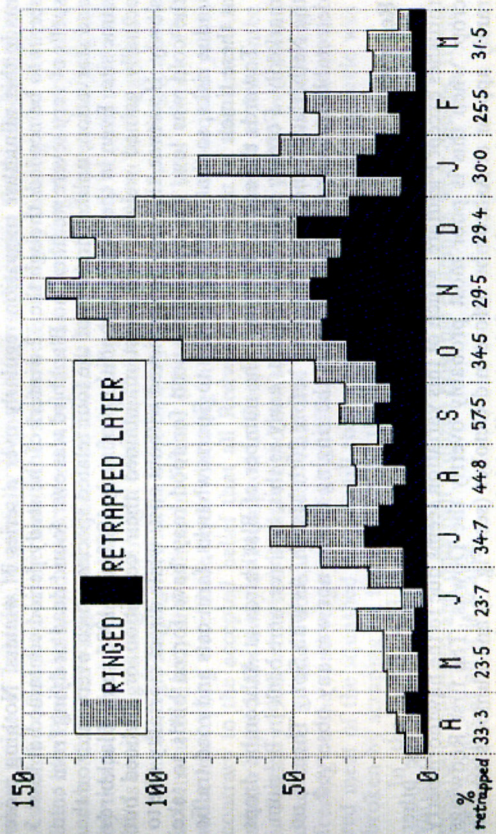


Figure 2. Blackbirds ringed at Ashcombe from 1975 to 1985 and the proportion subsequently retrapped. Retrap percentages are correct up to 15/5/86.

winters, and with one exception they follow a similar pattern. All were first year birds, agreeing with the theory that Continental Blackbirds become less migratory with age. They were ringed in October (2), November, December (4), and January, and were recovered usually the following spring or summer in Belgium (2), the Netherlands, West Germany (3), Denmark and Sweden. The exception was an adult male ringed in mid-January and found dead in Czechoslovakia 1½ years later; this remains the only known Blackbird movement between the two countries and must be untypical.

Compared with these 9 foreign recoveries of autumn and winter Blackbirds there were 7 recovered locally (within 5 Km) during the breeding season, while another 11 both ringed and recovered locally in autumn and winter were of uncertain origin. There are far too many biases in ringing and recovery data to make feasible any precise calculation of the proportion of Continental to local Blackbirds at Ashcombe, but a fair guess is that in an average year about a third of those present between October and February are foreign immigrants. These tend to be first year birds of either sex, and there is no evidence that they move on once they have arrived, or that they return to Ashcombe in subsequent winters although some may winter elsewhere in Britain. A male ringed at Ashcombe in January and found 405 Km away in Cornwall the following November was almost certainly an instance of this. The other birds concerned in the influx are presumably of local origin. Many are retrapped over several winters without ever being caught in the autumn, and it seems likely that they are attracted to the woodland scrub each year by the prolific crop of berries, perhaps coming from nearby woodlands or gardens where there are fewer berry-bearing trees.

Certainly once the haws have finished (generally towards the end of December) many Blackbirds quit the woodland scrub, especially if there is prolonged severe weather. Some then leave the site, but others transfer to kinder habitats within it. Retraps show many movements of up to 3 Km at these times from the high and exposed woodland to the more sheltered cottage gardens, small paddocks and deciduous woodlands around the farmsteads, which are up to 150m lower than some of the scrub. Here the Blackbirds forage in the leaf litter, compost heaps and grain dumps, where up to 20 may feed together more or less amicably. Some still return to the scrub at dusk to roost, while others roost in woodland ivy and only return when the cold weather is over. Certain ringed individuals have made this miniature migration regularly over a series of winters. Nothing more seems to be needed: though the 12 winters of the study period contained at least 5 spells of very severe weather, no Blackbird was ever found dead or dying from cold and starvation, unlike thrushes of the four related species which overwinter on the same site. Even in the extreme conditions of early 1982 and 1985 some Blackbirds actually gained weight, and most maintained their condition or declined but slowly. However, this was not achieved without cost: while direct mortality due to the cold was low, the overriding need for food may have forced birds to take undue risks, so that more fell victim to Sparrowhawks, farm cats and road traffic at these times.

Towards the end of February the number of Blackbirds at Ashcombe drops markedly. Foreign birds may leave as early as this, as three were back in Belgium, the Netherlands and West Germany before 20th March. As with Song Thrush, no detectable spring passage features in the ringing totals; nor was any observed.

Redwing

Redwing numbers at Ashcombe vary much more than those of the other thrushes except Fieldfare. Much of this variation seems due to the hawthorn berry crop: when this is poor most probably overfly the Downs. The first Redwings rarely appear at Ashcombe before mid-October (see Fig. 3) and numbers remain low for several weeks. Many of these earlier birds are adults, in direct contrast to Song Thrushes. Towards the end of November or in early December there is often a massive influx of Redwings in a good berry year, most of which are first year

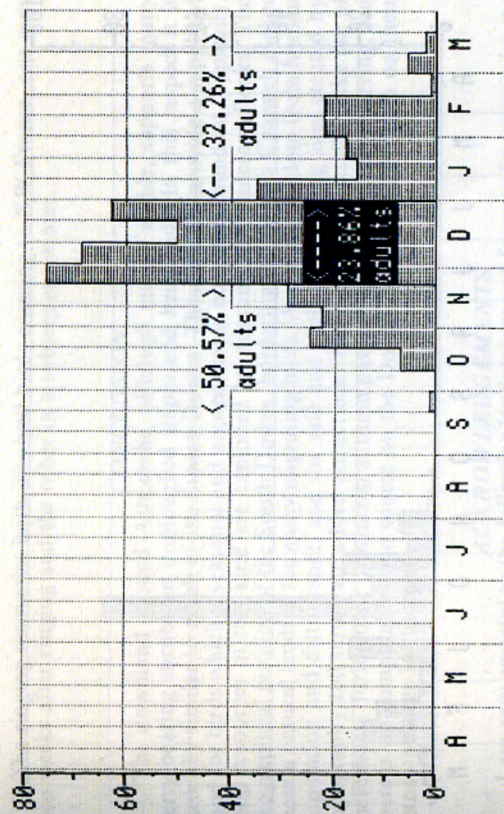


Figure 3. Redwings ringed at Ashcombe from 1975 to 1985.

birds. The combined flocks may total 1,000 or more. These stay until they have nearly finished the haws, putting on weight, and usually depart en masse before the end of the year. However, when the berry crop fails Redwings may be scarce or absent in December, eg none was ringed then in 1982 or 1984.

After the large passage flocks have left, some Redwings always winter at Ashcombe. Typically there are one or two flocks, each of about 30 birds, which are very mobile and feed over a wide area, often in the sheltered paddocks near the farmsteads. These birds still fly up to 3 Km to roost in the woodland scrub, though this is rarely used for feeding. In cold weather numbers increase only slightly. Redwings suffer badly during severe frost and snow. Initially they are visibly weakened, but if the cold spell is prolonged they seem to adapt better than the larger Fieldfares, perhaps by learning new foraging techniques, and exploiting a wider range of habitats. Especially if snow covers the open fields, Redwings at Ashcombe often feed in the woodland shelterbelts, actively turning over the leaf litter like Blackbirds, and roost there in ivy instead of making the journey to the scrub. Most Redwings leave Ashcombe towards the end of February, and judging by the prolonged nocturnal movements regularly heard in early March, nearly all birds on spring passage fly straight over the Downs, as few are seen on the ground.

The foreign ringing recoveries were entirely typical: one on breeding grounds in central Finland, and others in France (2) and Portugal in later winters. Far more interesting were three birds wintering in the same area in subsequent years, contrary to the accepted belief that all Redwings are itinerant at this time. An adult ringed 5 Km away at Plumpton in December 1972 was caught at Ashcombe in January 1976, while two adults ringed at Ashcombe in January 1977 were found dead there in mid-February 1978. This was in hard weather, when Redwings feeding on the road verge were hit by traffic; others in the flock then fed from the red meat of the squashed corpses till they also fell victim. The vicious circle was broken by scraping all the corpses off the road.

In the hand, 475 Redwings trapped at Ashcombe showed considerable variation in size and colour. However, no birds of the Icelandic race *coburni* were positively identified and only half a dozen possible examples were caught. If this race occurs at all it is scarce.

Fieldfare

This is the latest thrush to arrive at Ashcombe (see Fig. 4). As with the Redwing, numbers in autumn are very dependent on a good hawthorn berry crop.

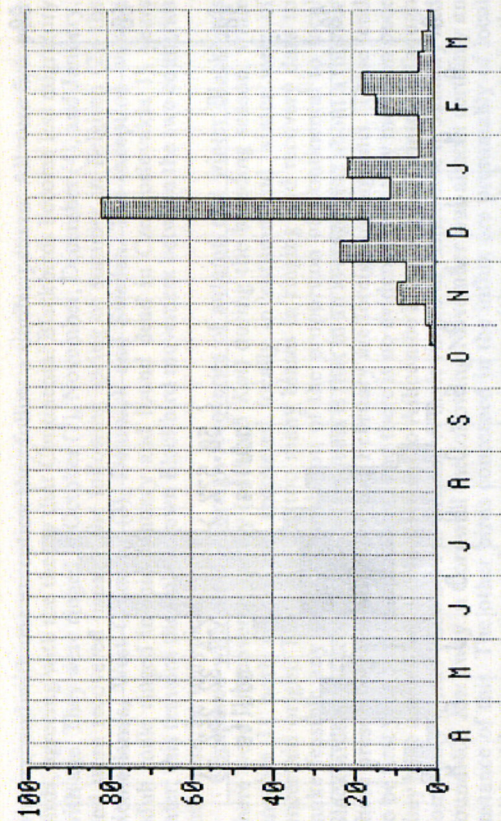


Figure 4. Fieldfares ringed at Ashcombe from 1975 to 1985.

None was ringed and few were seen in the autumns of 1982, '83 and '84, after summer drought on the thin downland soil had shrivelled the developing haws; whereas an exceptional berry crop in 1985 was exploited by several flocks of between 50 and 250 birds, so that 600 Fieldfares or more were present for most of December.

However, berries alone do not guarantee large numbers. Presumably the occurrence of Fieldfares at Ashcombe is governed not just by local conditions but by temperatures and food supplies over the rest of Britain and Europe. Cold weather movements are especially noticeable with this species, and severe conditions may either cause flocks to arrive, or to leave completely. Several hundred tired birds came to Ashcombe after snow in late December 1981 (disproportionately affecting ringing totals) and stayed when conditions improved, but a further cold spell in mid-January caused numbers to drop from 300 to 3 almost overnight. In more normal winters, Fieldfares are most consistently present at Ashcombe in the early months, though numbers rarely approach the extremes sometimes found in December. However, unless the weather is cold they only use the site for roosting, flying in high at dusk in one or more flocks altogether totalling 30-100 birds. Normally the tallest and densest hawthorn thickets growing on the most sheltered hillsides are used, as in autumn, but in severe cold low gorse is chosen instead, and birds may even roost on the ground in snow.

In hard weather when the berries are finished Fieldfares forage with Redwings on improved pasture and, like Mistle Thrushes, on recently established ley and (rarely) winter cereals. Turnips were eaten in December 1981. Unlike the other wintering thrushes, Fieldfares hardly ever feed on the ground in the woodlands, continuing to quarter the open fields even when these are frozen hard and partially snow-covered. For such robust-looking birds, they suffer badly during prolonged frosts. Their strategy of moving away from cold weather carries the risk that conditions may be no better where they arrive, at the end of their resources. Considering that birds in a flock are exposed to the same conditions and forage over the same general area, a surprisingly wide variation in weight could be found among individuals in the same catch. On 23.12.81, 20 Fieldfares ranged from 79gm to 119gm, and 12 the next day from 89gm to 125gm, with many similar instances. Differences in size would amount to 10% at most. By contrast, weights of Redwings caught from the same flock tended to be very similar.

The ringing recoveries both involved birds crossing to NW France, one only two weeks after ringing and the other in a subsequent winter.

CONCLUSION

The downland around Ashcombe, although mainly arable, supports many berry-bearing shrubs on unploughed slopes and headlands. In this respect it is basically similar to much of the Sussex Downs. These berries provide a supply of food for birds which is seasonal and unpredictable but often abundant. Typically, food resources of this kind are exploited by migrants and itinerant flocks. The geographical position of the South Downs, bordering the English Channel, makes them a natural landfall for many migrating birds. A relative freedom from human population and disturbance, and the safe and sheltered roosting sites created by topography and scrub, are added attractions. The thrushes especially make use of these assets during their protracted autumn passage and, less so, for wintering, but there is no comparable food source on the Downs to attract these birds on their return passage in the spring.

ACKNOWLEDGEMENTS

I am very grateful to the following landowners and farmers for permission to go on their land, without whose goodwill this study would have been impossible: Mr. T. G. Rea and family, Mr. D. West, Mr. P. W. Taylor and family, Mr. and Mrs. R. Green. For help with catching the birds, I am grateful to the trainees and visiting ringers who have assisted me at times. The histograms were kindly prepared by B. Clay. I also wish to thank the following for their valuable comments and constructive criticism of the first drafts: R. Spencer, M. Shrubbs, T. W. Parmenter, Ms. S. Keene and R. Hughes.

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SOME RESULTS OF THE STUDY BY RINGING OF WARBLER MIGRATION AT BEACHY HEAD FROM 1960 TO 1985

by R. D. M. Edgar

Beachy Head is well known for the substantial volume of passerine migration that takes place there particularly in the autumn. Many birds seem to be attracted by the rich food supply provided by berry-bearing bushes particularly bramble *Rubus fruticosus* and elder *Sambucus nigra*. This led to the establishment of a ringing station, which since 1962 has been located in Whitbread Hollow. Between 1960-1985 a total of 89,614 birds have been ringed and 62% of these were the nine commoner species of warbler.

At an early stage it was realised that with the substantial number of these species being encountered annually, population trends might be revealed, in addition to learning something of the origins and destinations of these birds. This knowledge is essential if coherent conservation policies are to be established. A major discussion on migration patterns and population trends is to be found in papers by Quinn and Nolan in Quinn and Clement (1972) where ringing results for 1960-1970 are examined. Cooper (1975) published further information on population trends for 21 species up to 1974.

This paper up dates the results for the nine commoner warbler species ringed at Beachy Head and with the further information available, records additional trends and discusses some observations on the recoveries.

METHODS

The figures presented on population trends are based on the method used by Nolan. For each year the total ringed of that species is taken as a percentage of that year's grand ringing total (from which has been subtracted the numbers of those species where the catches have relied entirely on the use of a tape lure, namely House Martin *Delichon urbica*, Swallow *Hirundo rustica*, and Redpoll *Carduelis flammea*). For comparison, is plotted the population Index derived from the Common Bird Census (CBC) of the British Trust for Ornithology (BTO)

as the most comprehensive index of population changes available for six of the species discussed. The farmland Index is used except in the case of the Garden Warbler where the woodland Index is used as in the early years it included considerably more territories. The year 1966 is taken by the BTO as an arbitrary Index figure of 100. It is important to note that the vertical scales in the figures of CBC population Index and percentages of annual total ringed are not directly comparable.

The majority of birds at Beachy Head were ringed in the autumn and a high CBC population Index is likely to be reflected in a higher percentage of birds ringed of that species as most birds are caught in their first year. However, a corresponding increase in the Index the following summer is possible if winter survival is good. Any comparison of population Index and ringing results cannot be taken too far since amongst other things the Index is a national census and will not cover exactly the catchment area of the birds moving through Beachy Head. In addition, there can be variation in ringing results from differing levels of ringing activity through the migration period or adverse weather conditions making catching difficult or impossible. It is not suggested here that Beachy Head is a Constant Effort Site in the accepted sense of the term but that the time scale covered is such that the overall picture presented gives a good reflection of population trends within the area of origin of these warblers.

RESULTS

Table I shows the number of recoveries of the individual species and the rate as a percentage of numbers ringed at Beachy Head compared with the national figure. "Recovery" here is taken both as a bird ringed at Beachy Head and encountered elsewhere and vice versa. The timing of migration by the various species is not covered here as it was presented by Quinn.

TABLE I. RECOVERY RATES OF WARBLERS RINGED AT BEACHY HEAD AND NATIONALLY

	No. of Recoveries 1960-1985	Beachy Head Recovery Rate %	National Recovery Rate* %
Grasshopper Warbler	1	0.27	0.29
Sedge Warbler	4	0.34	0.52
Reed Warbler	32	1.88	1.19
Lesser Whitethroat	14	0.35	0.44
Whitethroat	24	0.30	0.37
Garden Warbler	11	0.31	0.31
Blackcap	82	0.49	0.55
Chiffchaff	28	0.33	0.31
Willow Warbler	30	0.26	0.24

*Derived from Mead and Hudson, 1985.

Grasshopper Warbler *Locustella naevia* Figure 1

The scarcest of the species considered here and there has been but one recovery and that local. The recovery rate for the species, Table I, is very low, a reflection of its secretive habits.

The variation in annual ringing totals is from 58 in 1970 to only four in 1984. The increase shown at a number of sites in Britain in the late 1960s, peaking in 1971 followed by a considerable decline (Riddiford 1983) is clearly duplicated. It is interesting to note that the peak in 1970 corresponds with the highest number of breeding pairs in the county (Parmenter 1982). Seemingly the low numbers reached in the 1970s have persisted for ten years with no signs of sustained recovery. Until more recoveries are forthcoming it is impossible to say whether our birds are of local origin but the population trend both locally and nationally would appear to be the same.

Sedge Warbler *Acrocephalus schoenobaenus* Figure 2

In the early years more Sedge Warblers were ringed than Reed Warblers

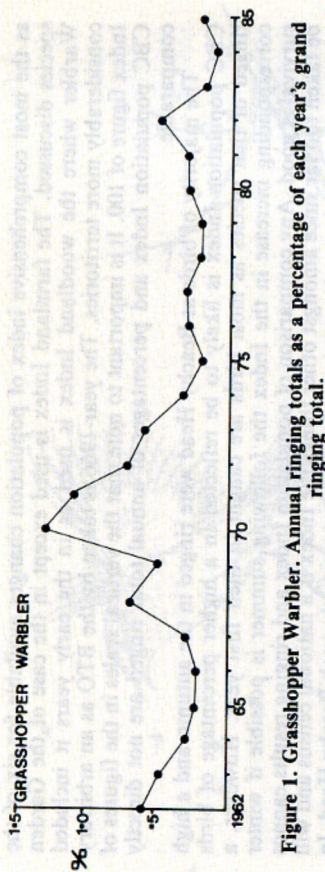


Figure 1. Grasshopper Warbler. Annual ringing totals as a percentage of each year's grand ringing total.

annually. The proportion dropped to one-third of the number of Reed Warblers in 1983 and one-quarter in 1985. The decline in the early 1970s is very similar to that of the Grasshopper Warbler. A recovery in 1975 and 1976 was not sustained and the prolonged gradual decline is a cause for considerable concern.

The Beachy Head recovery rate is lower than the national average (Table 1) and the recovery of a bird in the May following ringing in Ayrshire 400 miles NW is the only indication of a breeding origin. One recovery has been from abroad in April in Spain.

Reed Warbler *A. scirpaceus* Figure 3

The Reed Warbler makes an interesting comparison with the preceding species. The pattern until the mid-1970s of increase and decline followed by a recovery is similar. However in the Reed Warbler a healthy increase continued to 1979. Although in the last six years there has been a fall again in population the level is still at or above that of 1971. The difference in migration strategies of these two species of *Acrocephalus* warblers (Gladwin 1963) may be most significant in this difference in fortunes.

The recovery rate of Reed Warblers at Beachy Head is substantially higher than the national average. A generally high rate for this long-lived species is to be expected since the restricted breeding habitat is much favoured by ringers and all but four of the recoveries are controls by ringers. Most of these have been in the counties of Buckinghamshire, Hertfordshire and Berkshire or the east of England but one bird ringed in Breconshire (now Powys) reached Beachy Head a week later in September 1975. That some birds at Beachy Head are of Continental origin is shown by a Reed Warbler ringed on 27th August 1974 in West Germany controlled five days later. Although four birds have been recovered abroad none have been south of Morocco.

Lesser Whitethroat *Sylvia curruca* Figure 4

Despite annual fluctuations (rather greater in the population Index) Figure 4 demonstrates a considerable degree of consistency over the period, between the CBC Index and numbers ringed at Beachy Head.

Two recoveries have been from abroad, clearly demonstrating the eastern Mediterranean route taken by migrating Lesser Whitethroats. A bird ringed in 1965 was recovered the following spring in Lebanon and one ringed in August 1970 was recovered a month later in Northern Italy. Birds have also been recovered in breeding seasons subsequent to ringing in Wiltshire, Berkshire, Hertfordshire and West Sussex.

Whitethroat *S. communis* Figure 5

The decline of the Whitethroat is one of the best known population changes of a passerine in modern times and from a quarter of all birds ringed at Beachy Head (1965 and 1968) to less than 4% now is ample evidence of its lack of

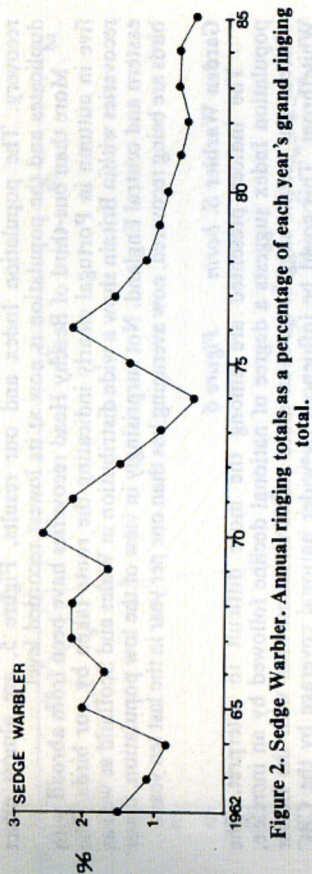


Figure 2. Sedge Warbler. Annual ringing totals as a percentage of each year's grand ringing total.

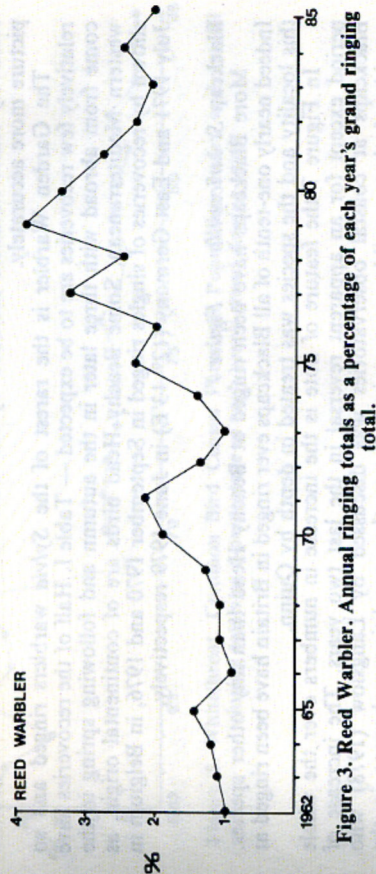


Figure 3. Reed Warbler. Annual ringing totals as a percentage of each year's grand ringing total.

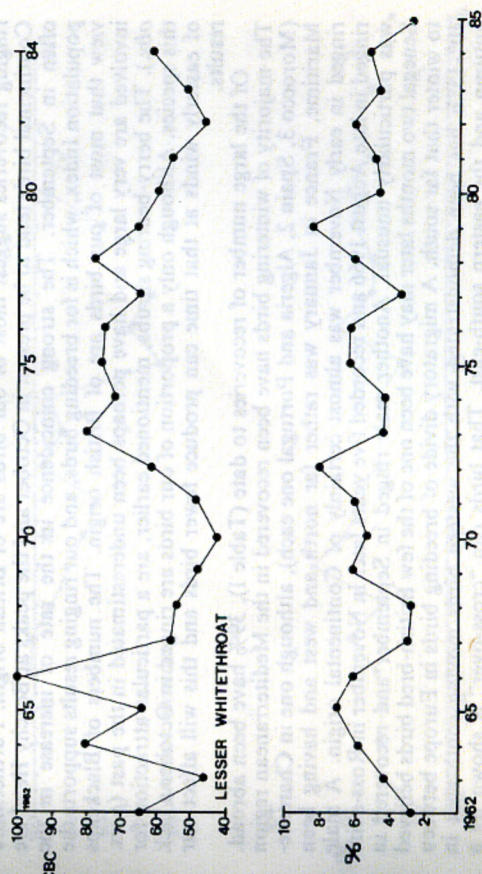


Figure 4. Lesser Whitethroat. Common Bird Census Farmland Population Index and annual ringing totals as a percentage of each year's grand ringing total.

recovery. The population Index and our results, Figure 5, are almost exact duplicates and the population is now at its lowest recorded level.

More than one-third of Beachy Head recoveries have been from abroad with five in autumn in Portugal clearly indicating the route taken by our birds. The recoveries within Britain show a wide distribution in Wales and Scotland as well as eastern and central England. Not surprisingly in view of the low population, fewer birds are being recovered, now averaging less than one per year in the last ten years.

Garden Warbler *S. borin* Figure 6

The indices presented are among the more difficult to interpret. The population Index suggests a degree of national decline followed by an increase, whereas our results suggest an even more stable situation than with the Lesser Whitethroat. This could be influenced by wider national coverage by the CBC than the source of origin of the Garden Warblers at Beachy Head but it is tempting, admittedly without evidence, to suggest the opposite, that in view of the relatively small numbers included by the CBC our results reflect the general picture more accurately.

The Garden Warbler is the rarest of the *Sylvia* warblers ringed and so relatively few recoveries are to be expected — Table I. Half of the recoveries have come from abroad with three later in the autumn and following spring in the western Mediterranean. Some Beachy Head birds are of continental origin, as shown by recoveries of singles ringed in September 1970 and 1976, in Belgium in July 1971 and East Germany (12° 13'E) in June 1979 respectively.

Blackcap *S. atricapilla* Figure 7

More Blackcaps have been ringed at Beachy Head than any other species. Indeed nearly one-tenth of all Blackcaps ever ringed in Britain have been ringed at this locality and the species was treated in depth by Quinn.

In Figure 7 the feature of note is the increase in numbers over the whole period except for an apparent reversal in the last two years. The increase of Blackcaps at coastal observatories was discussed by Langslow (1978) who considered that possible reasons include weather conditions, changes in the species' habits and a rise in total population. However, the east coast observatories are particularly influenced by arrivals of Continental birds and the Beachy Head ringing recoveries suggest most of our birds are of British origin. Furthermore Continental birds tend to be present in October and the peaks at Beachy Head are often in September. The strong coincidence in the rate of increase in the population Index, which is for breeding birds, and our ringing results supports the view that most of our birds are of British origin. The numbers of Blackcaps involved are very large and have perhaps been underestimated in the past (*pers. obs.*). The berry-bearing shrubs, mentioned earlier, are a particular attraction for this species. Although only a proportion of our birds are ringed in October a lack of easterly winds at that time can produce fewer birds and this will affect our results.

Of the large number of recoveries to date (Table 1), 39% have been abroad. The majority of wintering birds have been recovered in the Mediterranean region (Morocco 3, Spain 2, Algeria and Portugal one each), although one in Charente-Maritime, France in January was rather far north and west and having been ringed in early November was almost certainly of Continental origin. A male ringed in late August 1966 and recorded five years later in November in Ross-shire was particularly unusual. Another male ringed in September and recovered in Senegal two months later may have been one of the few British-bred birds believed to winter that far south. A migratory divide of breeding birds in Europe between 10°-15° E has been demonstrated with the western birds moving south-west in autumn and the eastern south-east. That birds can "cross-over" is shown by a September-ringed female being recovered a month later in Lebanon and a bird ringed in late September 1981 being controlled in July in East Germany (10° 12'E).

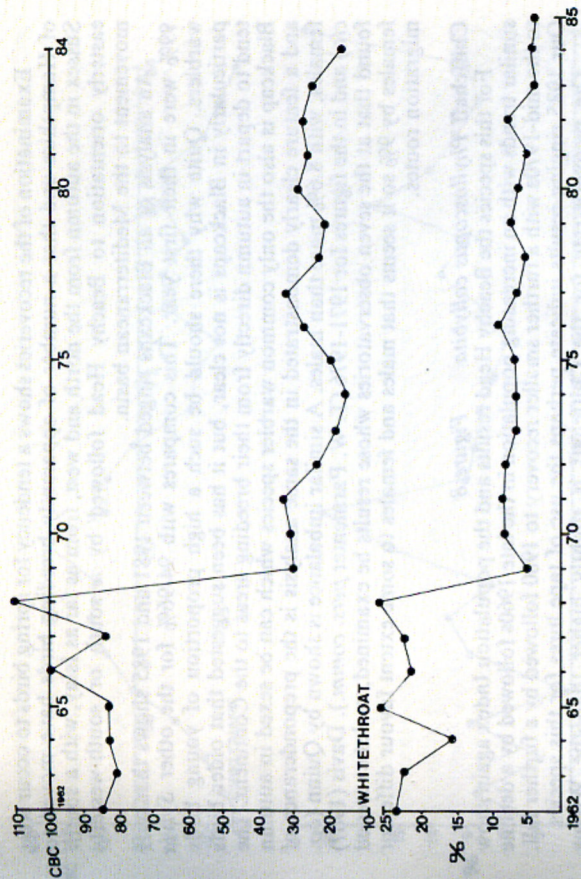


Figure 5. Whitethroat. Common Bird Census Farmland Population Index and annual ringing totals as a percentage of each year's grand ringing total.

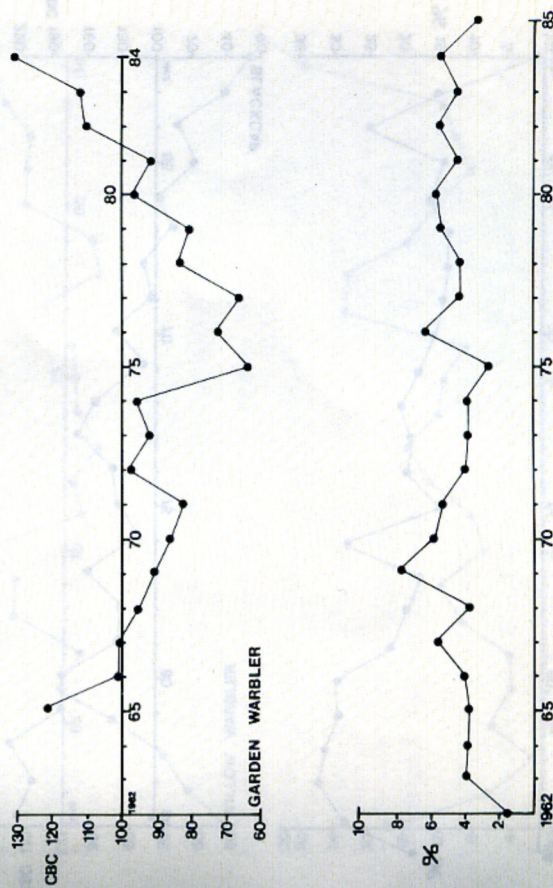


Figure 6. Garden Warbler. Common Bird Census Woodland Population Index and annual ringing totals as a percentage of each year's grand ringing total.

Examination of the recoveries shows a tendency for spring birds to occur west of Hampshire and that a number of apparently breeding birds have moved to Sussex in the autumn from the north and west, from as far as Islay, with a south-easterly orientation to Beachy Head followed by a south or south-westerly movement to the Mediterranean basin.

An analysis of all Blackcaps ringed between 1981 and 1985 shows that over 99% were in their first year. This compares with 94-96% for the other *Sylvia* warblers. Quite why there should be such a high proportion of young birds particularly in Blackcaps is not clear, but it has been suggested that older birds tend to depart in autumn directly from their breeding areas to the Continent. The Blackcap is also the only common warbler species which can be sexed in autumn and a feature clearly demonstrated in the same analysis is the preponderance of females, with 8.6% more than males. A similar imbalance is shown by Quinn (*op. cit.*) and in the figures for 1971-1976 (T. W. Parmenter *pers. comm.*). Davis (1967) found that at the seven observatories whose results he examined, males exceeded females by 9% so it seems that males and females to some extent favour different migration routes.

Chiffchaff *Phylloscopus collybita* Figure 8

For this species the Beachy Head results and the population Index again show similar trends with an increasing population in the late 1960s followed by a decline to the mid-1970s with a further smaller recovery to 1980 followed by a further fall. Our 1985 ringing results indicate perhaps the use of tape lures for this species.

The recovery rate for the Chiffchaff is slightly higher than the Willow Warbler possibly because it does not cross large unpopulated areas on migration. The only winter recovery is from Spain. That birds at Beachy Head in autumn enter Britain via a westerly route in spring is suggested by spring recoveries in Shropshire (2), Cheshire, Cardigan, Skokholm and Calf of Man.

Willow Warbler *P. trochilus* Figure 9

Some of the decline apparent in Willow Warbler numbers shown in the late

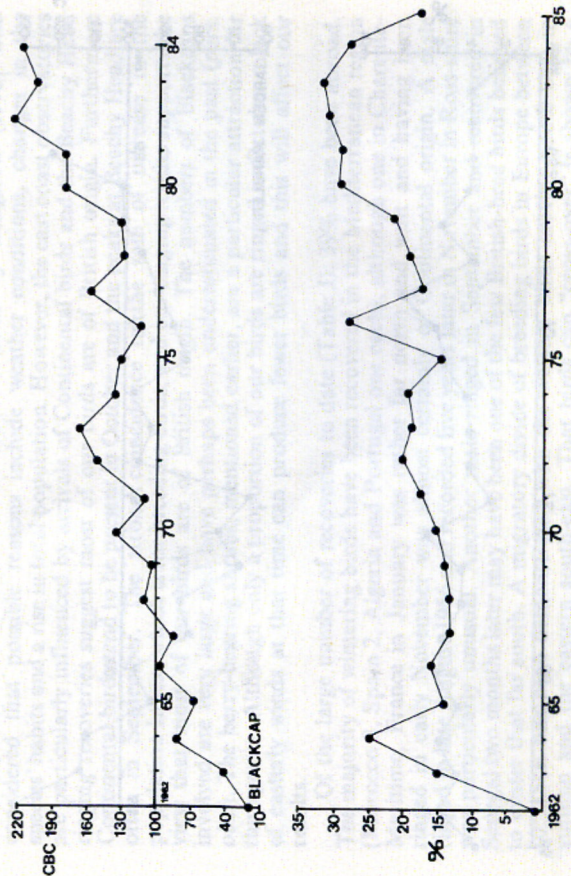


Figure 7. Blackcap. Common Bird Census Farmland Population Index and annual ringing totals as a percentage of each year's grand ringing total.

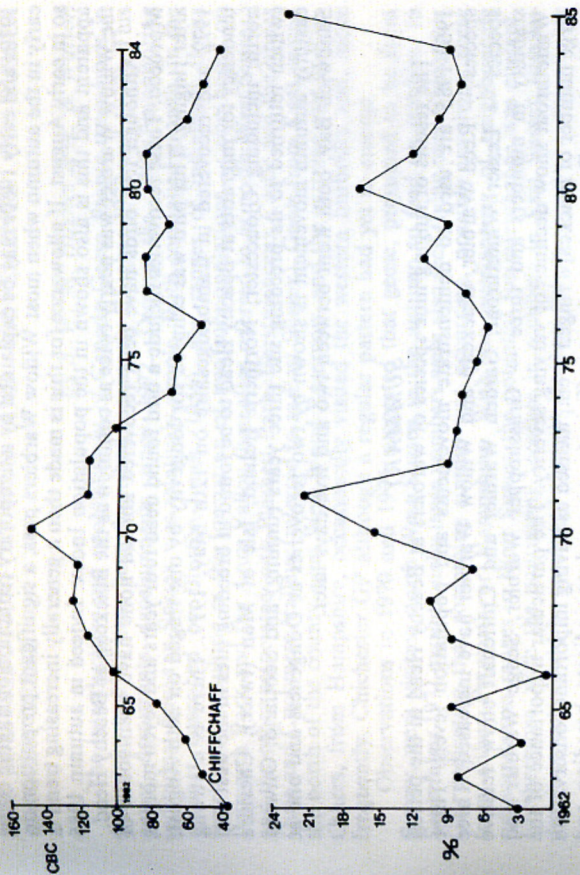


Figure 8. Chiffchaff. Common Bird Census Farmland Population Index and annual ringing totals as a percentage of each year's grand ringing total.

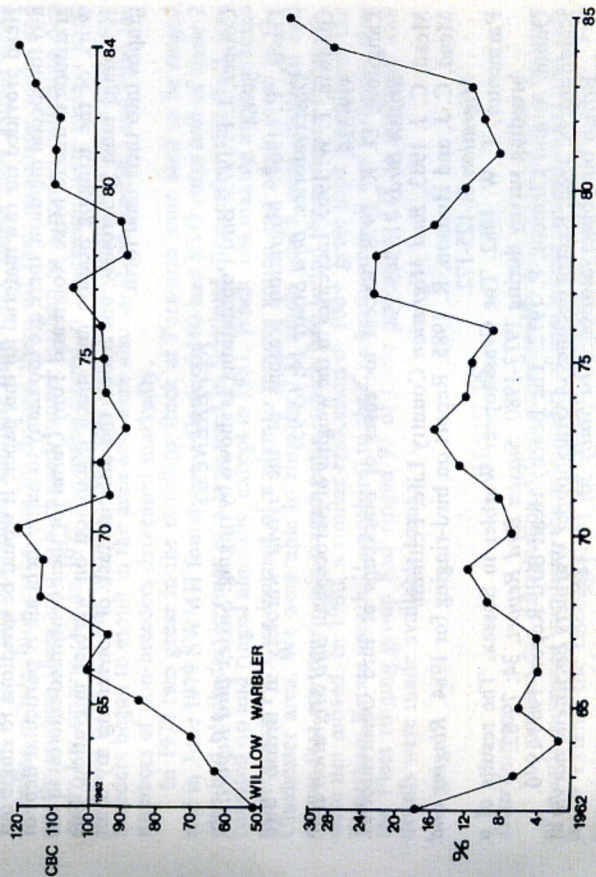


Figure 9. Willow Warbler. Common Bird Census Farmland Population Index and annual ringing totals as a percentage of each year's grand ringing total.

1970s and early 1980s may be explained by a temporary reduction of ringing effort early in the autumn when most Willow Warblers pass; a significant proportion do so in early August. If allowance for this is made then a generally increasing trend is apparent and this is also shown in the population Index. Indeed in autumn 1985 the Willow Warbler was nearly twice as common as the Blackcap at Beachy Head.

Although five birds have been recovered abroad none have been south of Morocco. These recoveries include a bird found dead four years and seven months after ringing. This bird was eclipsed for longevity by one ringed on 20th August, 1972 and recovered in Cambridgeshire on 12th May, 1979. There is a strong tendency for migrants at Beachy Head to be found at breeding sites in the west and north, including Gloucester, Northern Ireland, Isle of Man (twice), Cheshire (which returned to its breeding site three years running) and Scotland. Onward easterly autumn movement is shown by two recoveries at Dungeness and one at Sandwich Bay, both Kent between two and five days later.

SUMMARY

The results of ringing nine species of warblers at Beachy Head in the period 1960-1985 are used to demonstrate movements and population levels. Three species — Reed Warbler, Blackcap and Willow Warbler have increased. Three species — Lesser Whitethroat, Garden Warbler and Chiffchaff show relative stability in numbers and three — Grasshopper Warbler, Sedge Warbler and Whitethroat show declines of varying severity. The particular importance of the large number of Blackcaps ringed is emphasised as having important conservation implications. Recoveries, where sufficient, are used to indicate breeding and wintering areas of warblers migrating through Beachy Head.

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Many thousands of hours of hard work by present and past ringers at Beachy Head provided the raw material for this paper. It would be invidious to single out any for special mention, there are too many to name them all. A particular debt of gratitude is due to Mike Nolan and Tony Quinn for their continued interest in the work of the Ringing Station and much discussion on warbler migration. Sue Hitchings most generously undertook the difficult task of converting my draft graphs into their final form.

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THE DISTRIBUTION, STATUS AND MOVEMENTS OF SUSSEX CANADA GEESE

by S. W. M. Hughes & A. B. Watson

The introduction and establishment of Canada Geese *Branta canadensis* in Sussex up to 1972 have been described previously (Hughes 1972 and 1973). This paper documents developments since 1972. During the 1960s monitoring individual flocks in Sussex was relatively simple. With continued growth, in the manner described by Blurton-Jones (1956), the ranges of individual flocks overlapped, resulting in the formation of two subpopulations — one based on Petworth Park and the Arun Valley (hereafter referred to as north West Sussex) and the other associated with Plashett Park, Herstmonceux Castle and the upper Ouse and Cuckmere Valleys (referred to as East Sussex). Geese from Kent visited the north of the county eg at Weir Wood Reservoir, and the extreme east at Rye. Others, from Hampshire, occasionally visited the western harbours and, more frequently, Chichester GP although a regular pattern had yet to emerge.

Observations in 1970 and 1971 suggested that geese, presumed to be from Surrey, were visiting north West Sussex in the autumn to feed on stubbles. In September 1971 exceptionally large numbers were also seen flying over Chichester GP, indicating that something similar was occurring, possibly involving geese from either Petworth or Hampshire. With the overlapping of neighbouring subpopulation ranges in West Sussex the potential for interchange was evident. Furthermore, with the continuing increase in numbers in East Sussex, similar developments could be envisaged there in the near future.

SOURCES AND METHODS

This paper has been compiled from data from several sources namely, the survey of inland waters (1983-1984) and the Society's files of casual records, the winter wildfowl counts performed for the Wildfowl Trust and ringing programmes by ABW in 1974 and continued annually until 1983. Geese were caught when flightless in late June-early July by driving them off their moulting water and gently guiding them into a V-shaped funnel leading to a roofed collecting pen ready for ringing. Up to 1977 the geese ringed at Chichester were mainly local breeding pairs and the young of the year, but as the population increased non-breeders began to moult in the area and were also included. In 1983 and 1984 the numbers of non-breeders decreased markedly.

In 1978 two geese in the moulting flock at Petworth were seen to be ringed and in June 1979 SWMH found 4 in a flock of 160 had BTO rings and of these 2 also had black darvic rings of a type used in Scotland. Thereafter this flock was rounded up and ringed annually, except in 1981. When first making arrangements at Petworth Park we learned of a plan to remove young and adult geese to the Chichester area. We were able to ring the 137 adults which were relocated and ensure that any previously ringed geese, which had found their way to Petworth, were not moved. In 1980, a similar relocation of 100+ geese took place from the Eleventh Estate (north Hampshire) to the Chichester area. It was fortunate that the Fleet ringing group had ringed 97 of these previously (73 as goslings) and details were made available to us.

RESULTS

Distribution

The present day distribution differs considerably from that in 1972, because of greatly increased numbers, the availability of new inland water habitat and, to a lesser extent, the relocation of substantial numbers as already described. The species is most widespread during the breeding season and distribution in 1972 and 1983-1985 is illustrated in Figures 1a and 1b. The increased distribution can be judged by both the number of 10 Km squares in which the species was present (27

in 1972; 39 in 1983-85) and the much greater density within the squares as indicated by the number of occupied tetrads (47 in 1972 and 171 in 1983-85). The species is now widespread north of the Downs, with the exception of a few areas in the north-east of the county. On the coastal plain in West Sussex distribution is still confined mainly to the Chichester area.

Each year the species appears in new sites either during the spring dispersal of breeding pairs, which has recently included downland in East Sussex and coastal sites in West Sussex, but also in the autumn during the search for stubbles. The winter distribution is less widespread, determined by the location of larger waters which can offer refuge to substantial flocks, and the larger areas of permanent pastures, which are mainly in the major river valleys. The relative importance of the various winter sites is shown in Figure 1c. Significant factors influencing the winter distribution since 1972 have been the construction of the wildfowl refuge at Arundel in 1976, greatly increased use of Arlington Reservoir, and the new large reservoirs at Bewl Water (1977) and Ardingly (1979).

Population estimates

The practical problems of estimating numbers in Sussex have been considered

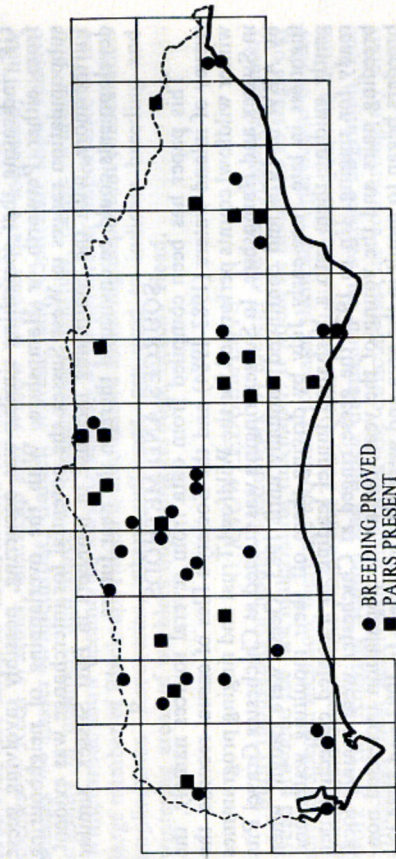


Figure 1a. Breeding distribution of Canada Geese in Sussex, by tetrads, 1972

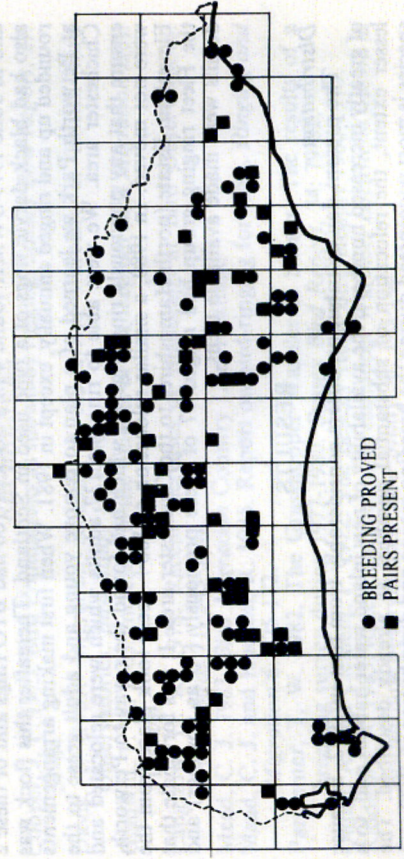


Figure 1b. Breeding distribution of Canada Geese in Sussex, by tetrads, 1983-1985

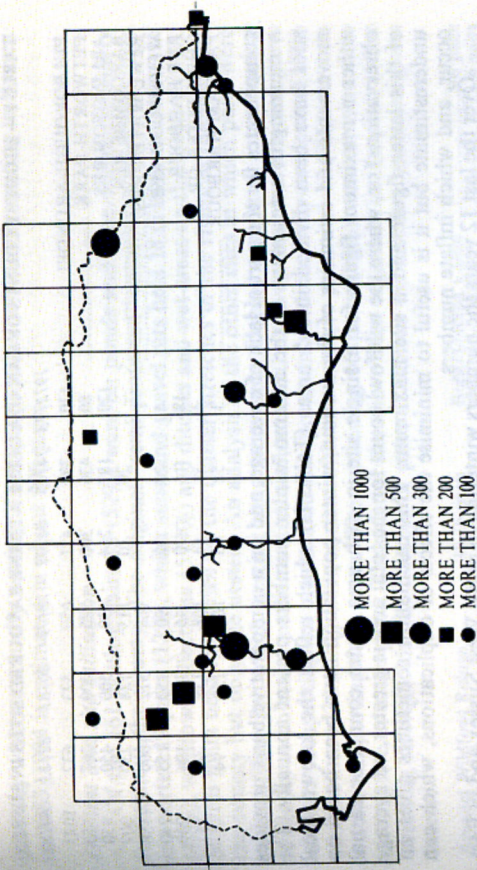


Figure 1c. Winter distribution of Canada Geese in Sussex in 1985

in a previous paper (Hughes 1972). National population estimates have been based on July counts of moulting birds plus the young of the year and mid-January counts of wintering flocks. In July 1971, a count in Sussex produced 326 geese (including 98 young), probably an underestimate owing to the difficulty of locating some family parties at their breeding sites without an organised county survey. In the same year the mid-January figure had been calculated at c.300 but this was known to be an underestimate, adjustments having been made to allow for possible duplication of counts. Counts published by the Wildfowl Trust for January and July 1976 were 349 and 387 respectively (Ogilvie 1977) but the subpopulations included in these totals differed from those used for the 1971 estimate.

By 1976 the geese in north West Sussex and south Surrey were behaving as a single group. Ogilvie (1977) also suggested the possibility of overlap and interchange with the subpopulations in neighbouring counties. Subsequently several abnormally high winter counts, often associated with periods of severe weather, provided circumstantial evidence of such interchanges. Such influxes are no longer considered exceptional. Clearly counts of autumn and winter flocks in Sussex are not valid for estimating the size or growth of the county population in the breeding season, but the numbers are still of importance in their own right.

Autumn and Winter Numbers

The increases over the last decade have been dramatic, as shown by the highest counts at the nine most favoured sites in the county (Table 1). The same geese will often use more than one site and so sites have been grouped appropriately. At a few, peak numbers may occur between August and October, eg at Arlington Reservoir, Bewl Water and Chichester Gravel Pits; many of the geese at the latter two may subsequently spend the remainder of the year outside the county. However at most sites the highest counts occur during November-January.

Some smaller flocks now remain at secondary sites for much of the winter. Thus the best winter estimates are obtained by considering the maxima at the main sites in conjunction with the wildfowl counts for the whole county, which include 35 sites. In addition geese use another 8-10 sites which are not counted on a regular basis because they are of no importance for wintering duck. An extended count in mid-January 1984 found 1,471 geese at the regular sites and 204 at the additional sites. The continuity offered by the counts at the regular sites more than

TABLE I — HIGHEST COUNTS OF CANADA GEESE AT NINE FAVOURED SITES IN SUSSEX

	1972/73	74/75	76/77	78/79	80/81	82/83	84/85
PULBOROUGH-ARUNDEL	130	398	421	650	523	632	1073
PETWORTH PARK	80	436	300	325	400	267	550
ARLINGTON RES.	120	187	264	430	500	450	850
BARCOMBE RES.	—	70	10	115	124	230	307
BEWL WATER RES.	—	—	—	168	512	1000	1158
WEIR WOOD RES.	4	20	38	90	150	155	240
RYE HARBOUR	18	16	30	46	170	194	209
CHICHESTER GP	4	38	64	108	138	96	111
PAGHAM HARBOUR	3	52	65	100+	150	74	—

compensates for the partial lack of coverage, and on a comparative basis provides a meaningful assessment of the autumn/winter numbers present annually. The sites have been divided into 5 areas (Table II) which reflect the known local movements and estimates of the autumn/winter population have been based on either a maximum figure for a single site in each area (from counts or casual observations) or, where the wildfowl count for the total area is greater, an average of this latter figure and a site maximum. This calculation sometimes gives an underestimate but it is useful to minimise the effects of duplications, which can occur, and which inflate numbers.

Over the last 12 years the numbers wintering in north West Sussex and in East Sussex have increased more than six-fold. Numbers at the coastal sites, albeit much smaller, have increased even faster. The massive and rapid increase in numbers in the extreme north of the county, since 1980, reflects the availability of the new reservoirs, particularly Bewl Water. In the autumn/winter of 1984/1985 the numbers using Sussex regularly were estimated to be 3,600. The decline in numbers in northern West Sussex in 1980/1981 can be attributed to the combined effects of removing geese from Petworth Park in 1979 and poor breeding success there in 1980. However, despite a second poor breeding season at Petworth in 1981 the numbers had started to increase again by 1981/1982, presumably due to geese moving in from other less favoured areas.

TABLE II — ESTIMATED AUTUMN/WINTER NUMBERS OF CANADA GEESE IN SUSSEX (1972/73 — 1984/85)

	1972/73	74/75	76/77	78/79	80/81	82/83	84/85
NORTH WEST SUSSEX (Arun Valley sites, Petworth Park, Lurgashall, Adur Valley, Knepp and Warnham)	200	436	444	650	530	702	1230
EAST SUSSEX (Ouse Valley, Barcombe Res., Cuckmere Valley, Arlington Res. and Pevensey)	120	215	264	430	580	450	850
NORTH SUSSEX (Bewl Water Res., Weir Wood Res. and Ardingly Res.)	25	20	25	165	583	1002	1258
SOUTH WEST SUSSEX (Chichester and Pagham Hbrs. and Chichester GP)	4	52	87	110	145	169	101
SOUTH EAST SUSSEX (Rye Hbr., Pett Level and Darwell Res.)	18	16	38	70	172	203	221
ESTIMATED COUNTY TOTALS	350	750	850	1400	2000	2500	3600

Breeding population

In spring 1983, 544 waters and other wetland sites were visited during the Society's survey of inland waters and a Mute Swan census. An additional 40 waters were included in spring 1984. These studies provided an ideal opportunity to reassess breeding distribution (Figure 1b) and to estimate the number of breeding pairs. During this period, 239 pairs were found at 133 potential breeding sites; 161 were known to have nested. More may have nested but it was impossible to make return visits to all the waters. Possibly a few other pairs were missed on extremely small ponds regarded as unsuitable for either of the primary surveys. However some of the 239 may have been newly formed pairs prospecting for a

territory without actually nesting. Thus the population actually nesting in Sussex in 1983/1984 is estimated at about 200 pairs.

Habitat and site utilisation

Of the 161 nesting pairs 83 (52%) were on ponds and lakes scattered widely throughout the county. The original "semi-protected" colonies in parkland sites supported 19 pairs (12%), whilst sand and gravel pits held 18 (11%), reservoirs 16 (10%), wildfowl collections 15 (9%) and ditches and wet areas on the levels 8 (5%). Several pairs held territories on the quieter stretches of the rivers in the north of the county but only one nested. An analysis of the other sites at which pairs were present (but for which nesting data were unavailable) suggested a continuing tendency to colonise smaller waters and outside the survey there have been reports of pairs prospecting on ornamental fish ponds in gardens. Fifty-two pairs (32%) were solitary, 36 (22%) were at sites with two or three pairs and 13 (8%) were on waters supporting four pairs. The remaining 66 pairs (38%) were at nine sites having five or more pairs. These latter sites have been regarded, in the past, as the breeding strongholds; the number of pairs at each in the last five years are given below:

Arundel Wildfowl Refuge	10-15 pairs	Herstmonceux Castle	5-6 pairs
Petworth Park Lake	14-17 pairs	Weir Wood Res.	5-6 pairs
Bewl Water Res.	6-8 pairs	Chichester GP	6-10 pairs
Plashett Park	6-8 pairs	Knepp Castle Lake	5-6 pairs
Rye Harbour SSSI	5-6 pairs		

The breeding success at the main sites is not always good, for a variety of reasons. The future of the species is therefore largely determined by the success of the solitary pairs and smaller groups, scattered throughout the county, which comprise approximately 60% of the nesting pairs. This is a reversal of the situation that existed in the 1960s and has implications for population growth and control measures.

Breeding success

The breeding success in Petworth Park during the period 1976 to 1979 has been reported previously (Hughes and Hughes 1982). Annual fledging success per nesting pair varied from 4.4 to 5.8 (mean 5.0) for 60 nests over four years, compared to 4.1 to 4.7 (mean 4.4) at 18 other waters in West Sussex over the same period.

The size distribution of 283 broods, not including the semi-protected flock at Petworth, for the years 1970 to 1984 has been as follows:

Brood size	1	2	3	4	5	6	7	8	9	10	11	12	13	14
No. of broods	20	27	40	48	65	48	19	9	2	1	3	0	0	1

In most years the most frequently recorded brood size varied from 4-6. Occasionally it was 3 or 7 reflecting particularly poor or good breeding seasons. However over the 15-year period 5 was the most frequently recorded brood size compared with 6 or 7 in the study at Petworth Park. Fledging success from the same series of 283 broods varied from 3.3 to 5.26 per successful nest with a mean of 4.5. Taking account of the known nest failures the annual breeding success recorded varied from 3.07 to 4.87 (mean 4.17) per pair.

To date the highest number of young actually reported in any year has been 383, in 1983. Clearly this is considerably fewer than might be expected from an estimated breeding population of c.200 pairs. The most likely explanation is that breeding success has been over-estimated due to under-recording of nest failures, particularly at the more remote smaller waters. Evidence from well documented sites, eg Chichester GP where success has been very variable, and Bewl Water, where it is rare for more than half to be successful even with the provision of rafts, support this. Successful breeding is not permitted at the Arundel Wildfowl Refuge and is probably controlled at other important sites eg Knepp Lake, Plashett Park and Herstmonceux. In addition recent breeding success at Petworth Park has

often been poor, annual results being 10 young in 1980, 14 in 1981, 73 in 1982, 59 in 1983, 72 in 1984 and 24 in 1985. The 1980 and 1981 failures were due to red deer (since removed) grazing on the islands and trampling nests whilst in 1985 failure was due to mink, which have now been eliminated.

The current productivity for the county is estimated at c.400 goslings annually. Greater accuracy is impossible with an unknown number of pairs or nests being deliberately prevented from producing young by human activity.

Ringling statistics

Details of the number of geese ringed in West Sussex, plus retraps, controls and recoveries are given in Table III. Results up to September 1985, have confirmed much that had been assumed about the movements of local populations in West Sussex as a result of many years of careful field observations. They have also provided evidence of movements beyond the county boundaries, which previously had only been speculation, and longer distance movements which had never been suspected.

TABLE III. RINGING OF CANADA GEESE IN SUSSEX FROM 1974 TO 1984

YEAR	SITE	ADULTS RINGED	YOUNG RINGED	RINGING TOTAL	RETRAPS	CONTROLS	RECOVERIES	TOTAL*	% OF NO RINGED
1974	Chi	0	17	17	10	0	5	12	70
1975	Chi	2	20	22	10	1	1	12	54
1976	Chi	6	10	16	7	5	4	11	69
1977	Chi	11	18	29	13	8	3	20	69
1978	Chi	30	17	47	18	4	8	25	53
1979	Chi	12	30	42	18	6	9	28	64
	Pet	236	6	242	82	7	20	104	43
1980	Chi	3	31	34	11	1	1	13	38
	Pet	38	10	48	8	1	2	11	23
1981	Chi	6	18	24	10	0	0	10	42
1982	Chi	12	29	41	0	1	2	3	7
	Pet	89	76	165	38	3	16	50	30
1983	Chi	8	14	22	0	1	0	1	4.5
	Pet	39	34	73	28	1	2	31	42
1984	Pet	144	56	200	0	0	7	7	3.5
TOTALS		636	386	1022	253	39	80	338	33.0

Totals ringed: at Chichester (Chi) 294; at Petworth (Pet) 728.

Retraps = geese retrapped at original ringing site.

Controls = geese trapped away from original ringing site.

Recoveries = geese shot or found dead.

*Total number of geese involved in retraps, controls and recoveries.

Local movements

Of the geese ringed at Chichester GP many have been recovered locally in West Sussex, in the Pagham Harbour area (11), Chichester Harbour area (3), Mundham (4), Runcton (1) and a few further afield at Petworth (6), Singleton (1) and Midhurst (1). Fourteen have been controlled at Baffins Pond, Portsmouth, 7 of which have been retrapped at Chichester, indicating that the geese at Chichester GP are an integral part of the south Hampshire subpopulation. There has also been a substantial ringing effort at Portsmouth, with many geese being relocated to Fareham and Havant and to date 14 of these have been controlled at Chichester. It is not known if these same geese are involved in regular movements with the long established flock at Petersfield.

Also as expected, most recoveries of geese ringed at Petworth Park have been concentrated in the Arun Valley, for example, at Arundel (7), Amberley (12) and Pulborough (2). Others have been found in the Adur Valley at Shipley (2),

Partridge Green (2) and Henfield (1), and to the west of Horsham (3), confirming that some, if not all, of the geese normally found in these areas originate from Petworth. Surprisingly, there have only been two recoveries to the west and south of Petworth, at Midhurst and Singleton; possibly, therefore, flocks using the valley of the Western Rother mainly comprise birds from Petersfield. Perhaps due to less shooting, only two Petworth birds have been recovered in south-west Surrey (at Shalford) and two on the Hampshire border (at Woolmer) although others have travelled greater distances in the same direction (see below).

That Petworth is a significant moulting ground is indicated by 5 birds first ringed at Chichester but controlled at least twice at Petworth, by 5 others relocated from north Hampshire to Chichester but subsequently found at Petworth and by 43 (of 137 adults) transported to Chichester from Petworth which subsequently returned. Two ringed at Chichester, and one from north Hampshire that had been released near Chichester, have been controlled at Arundel.

Despite the substantial ringing undertaken between 1977-1980 at Eleyetham and Fleet, Stratfield Saye and Bourley Reservoir in north Hampshire, only 4 geese from this area have been controlled at Petworth Park; one was subsequently retrapped at the original ringing site. However, 4 Petworth birds (including one originally transported to Chichester) have been recovered in south Berkshire at Reading and one at Ascot. No bird ringed at Chichester has been found in north Hampshire or vice versa. Other recoveries of Petworth birds in Hampshire have included two at Stockbridge, and singles at Alesford and Southampton. It is interesting to speculate on the possible routes that these birds may have taken to reach their destinations.

From the time the species became regular in the Adur Valley in 1972, and the numbers in the Ouse and Cuckmere Valleys increased dramatically, there was speculation that the north West Sussex and East Sussex geese would soon overlap, perhaps facilitated by a small isolated flock at Burgess Hill. In 1980, two Petworth geese were recovered in East Sussex, at Ringmer and Loughton, thus establishing that an interchange had occurred. However, in August 1983, in a careful examination of approximately 300 of the 500+ geese present at Arlington Reservoir, John Willsher could only find one ringed bird (number not determined). Similarly one Petworth bird has now been recovered in the Medway Valley at Leigh giving the first evidence of a transfer between West Sussex and West Kent, although it has long been suspected that geese in the Crawley area were overlapping with the birds of south-east Surrey with the potential for further movement to West Kent. Another first was an adult ringed at Poole, Dorset, which was controlled at Chichester in 1982. However there is still no evidence to suggest that these latter movements are anything but exceptional.

Our knowledge of movements within East Sussex and between East Sussex and Surrey and Kent is almost non-existent. One bird, ringed at Newhaven in 1964 — in itself an unusual record — was recovered in Godstone, Surrey, in 1971. It is clear that with increasing numbers in central East Sussex, and also at Dungeness, there is potential for overlap and in recent years sightings of other feral goose species within flocks of Canada geese, acting as "markers", have produced circumstantial evidence that interchange is occurring.

Long distance movements (more than 200 Km)

Two geese ringed as juveniles at Chichester, one in 1976 and one in 1977, were controlled in Inverness-shire in July 1978 in the large flock which moults each year on the Beauty Firth. In June 1979 one of these birds was found in Petworth Park. Also in 1979, six other geese ringed on the Beauty Firth in 1978 were controlled at Petworth in July and another had been shot at Guildford in January. Thus there was evidence of geese reared at Chichester, travelling at the end of the first or second year to moult in Scotland and then moulting the next year in Sussex in the company of other birds from Scotland, whose original natal area was unknown.

One reappeared at Petworth again in 1980 but there was no trace of the others until one was recovered at Amberley in November 1982. Since then an adult, ringed at Petworth Park in 1983, has been controlled a year later on the Beaulieu Firth showing that these long distance movements are continuing.

It is only possible to speculate on the route taken to Scotland. However the moult migration of predominantly immature birds between the Beaulieu Firth and North Yorkshire is well established (Dennis 1964; Walker 1970) and 4 of the 6 geese subsequently moulted at Petworth in July 1979 had been reported at Gouthwaite Res., Nosterfield GP, Masham GP or Fairburn Ings in Yorkshire on their way south in September 1978. Further south there are pointers in the form of two other geese controlled at Petworth. One originally ringed as a juvenile in Warwickshire in 1978 was found at Petworth in June 1979 and subsequently recovered in Staffordshire in 1981. The second, ringed as an adult in Staffordshire in 1979, was controlled at Petworth in 1982. Results from other ringing schemes show that an increasing number of geese, from the East and West Midlands and East Anglia now migrate to Scotland to moult.

DISCUSSION

Since 1972 there has been a massive increase in the numbers of Canada Geese in Sussex and, nationally, numbers now exceed 30,000 (Salmon and Moser 1985). They are valued by many as an attractive addition to local fauna, particularly when seen *en masse*, but the increased numbers may pose problems for the farming community when they graze on winter cereals. Heavy grazing on some permanent pastures in parkland areas has also been cited as a problem and this can be combined with heavy fouling at the sites used by large flocks of moulting birds. Anxiety has also been expressed, by some ornithologists, concerning grazing competition with other species, *eg* wigeon, at sites such as Waltham Brooks.

If the species is left to its own devices it seems that further increases in population will occur whilst it continues to exploit marginal breeding habitats. Population control in West Sussex, as previously predicted (Hughes 1972) has been uncoordinated and the breeding controls at the main sites, both deliberate and accidental, have done little more than produce space which has been quickly filled by geese moving in from less desirable areas. Furthermore, whilst these controls were being undertaken, solitary breeding pairs were being readily accepted at smaller waters for their novelty and ornamental value and their overall breeding success has more than compensated for the controls at the main sites. Under the Wildlife and Countryside Act 1981, a licence is needed for controls other than by the legal method of wildfowling during the open season from 1st September to 31st January on inland waters.

The interchange between neighbouring subpopulations and the longer distance movements confirmed by the ringing scheme suggest that local control measures are never likely to have more than temporary results. Similarly relocation of adult geese within Sussex has proved ineffective, at least over short distances, with ringing evidence showing that after a year many geese had returned to their original water. A similar scheme in Hampshire was also ineffective even when the distance involved was considerably greater and the majority of the birds involved were goslings. Little consideration seems to have been given to the ethics of relocation, relieving one community at the expense of another, and ornithologists should view such experiments in farming areas with particular concern. For this reason the Canada Goose is named in Schedule 9 of the Wildlife and Countryside Act 1981, whereby it may not be transported unless a licence has been obtained in advance.

The numbers problem is particularly obvious, although localised, in July at the moulting sites and also in the autumn and winter when the large flocks are most clearly visible at the favoured localities. Immigration during periods of

severe weather exacerbate the problem and emphasise that it is no longer a purely local phenomenon. Parkin and McMeeking (1985) have described how many geese in the rapidly expanding population in Nottinghamshire leave the county in winter, and Baker (1985) has described a similar movement westward from the London area. With population increases occurring in most other counties in central lowland Britain, large scale winter redistribution can be predicted. Sussex, particularly during periods of prolonged severe weather.

Ringing has shown that Canada Geese in Sussex can be far from sedentary, nevertheless the really long distance movements only apply to a very small minority of sub-adults. The number of controls and recoveries, even in neighbouring counties, are still relatively few but they illustrate a potential for dispersal and interchange which is such that the original concept of subpopulations is no longer of value for mapping distribution or monitoring population growth.

Finally ringing Canada Geese on a large scale is logistically difficult and expensive. Thus the formal ringing programme at Petworth has been allowed to lapse whilst that at Chichester has stopped because of the lack of a sizeable moulting flock. With more than 1,000 geese ringed over 11 years we await further controls and recoveries to further elucidate the population structure and movements of the species.

ACKNOWLEDGEMENTS

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SUMMARY

Since 1972 the numbers of Canada Geese in Sussex have increased dramatically. Numbers are highest during the autumn/winter months (3,600 in 1984/85) when local birds, supplemented by immigrants, flock in the river valleys and on the larger inland waters. During the breeding season distribution is much more widespread and in 1983-1984 c.239 pairs were found at 133 sites. The species' future is likely to be determined by the success of single pairs and small groups (less than 4 pairs) which now comprise 62% of the breeding population. The remainder are still concentrated at 9 former breeding strongholds where success is now relatively poor. The size distribution of 283 broods showed 5 to be most frequent with an average annual fledging success of 4.5 over 15 years. Average breeding success, over the same period, has been calculated at 4.17 but this is almost certainly high due to unreported nest failures and controls. Current productivity is estimated at c.400 goslings annually. A ringing programme at Chichester and Petworth, involving 1,022 birds, has confirmed the local movements of these flocks and has shown that limited interchange occurs between the subpopulations. Some geese are involved in movements to and from neighbouring counties and a small minority participate in longer distance movements to the Midlands, Yorkshire and the moulting grounds on the Beaulieu Firth. Subpopulation ranges in S.E. England have now expanded and overlapped to such an extent that this concept is no longer of value for mapping distribution and monitoring population growth.

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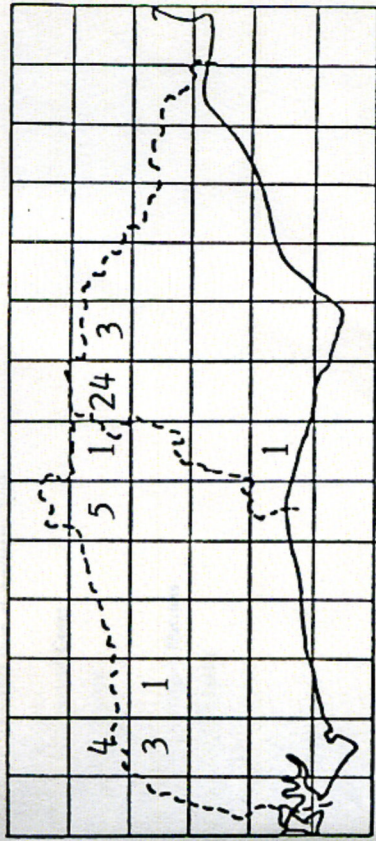
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THE BREEDING DISTRIBUTION OF WOOD WARBLERS IN SUSSEX
by A. J. Prater

The SOS undertook a survey in 1983 of the distribution of breeding Wood Warblers (*Phylloscopus sibilatrix*) in Sussex. This species has always been very local in southern England although it is widespread farther north and west; surprisingly, it is also common in many woodlands in west continental Europe. A national survey was organised by the BTO in 1984, but the results of this are not yet available.

This brief note summarises the results and compares them in Figure 1 directly with the SOS Redstart survey of 1982 (J. W. Houghton, *SxBR* No. 35: 64-68). The area in which the two species are found is very similar; they are more or less restricted to the sandstone of north-west Sussex and Ashdown and St. Leonards/Worth Forests. Wood Warblers are found in the deciduous woodlands, while the Redstart tends to be in areas with scattered mature or overmature deciduous or coniferous trees.

The number of singing males recorded was 42, this is well below the 150 pairs



Wood Warbler
Redstart

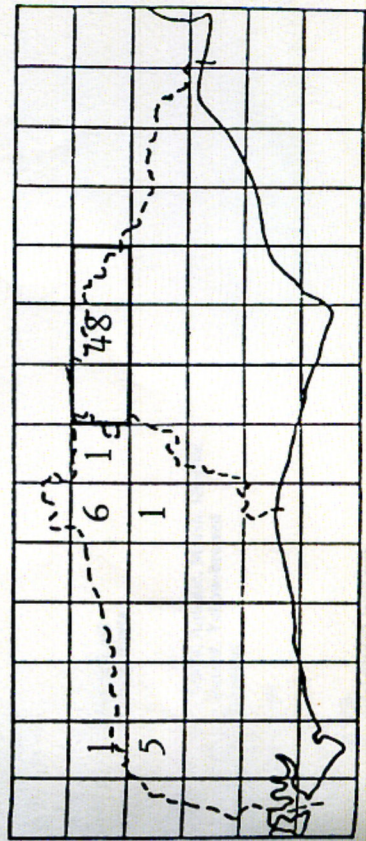
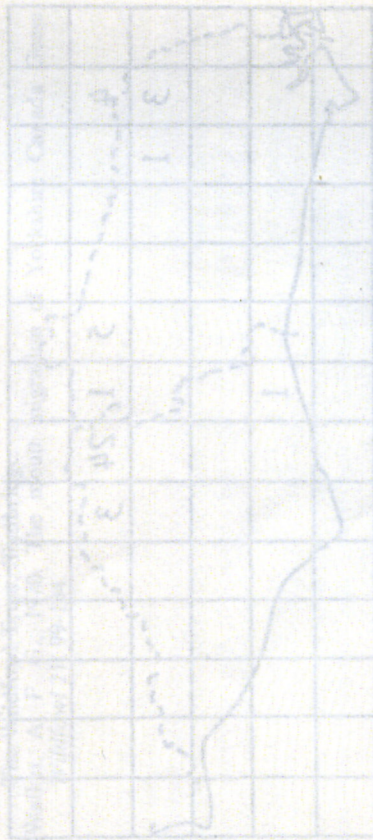
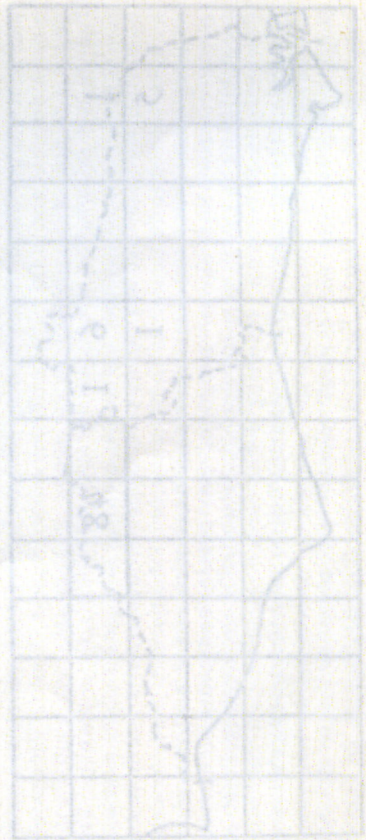


Figure 1. The breeding distribution of Wood Warblers in Sussex compared to that of Redstarts.

suggested by Shrubbs (1979: *The Birds of Sussex, their present status*, Phillimore, Chichester) for the period 1965-1969, although he did not have an organised survey on which to base the estimate. It is quite possible that some pairs were missed, but it is extremely unlikely that more than 50-55 pairs bred in the county in 1983. That year appears to have been on the high side for recent years, so there has undoubtedly been a substantial decrease in numbers over the last fifteen years.



Wood Warbler



Redstart

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 of 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)
- Grebes (other than Great Crested and Little)
- Shearwaters
- Storm and Leach's Petrels
- Shag
- Bittern
- Purple Heron
- White Stork
- Spoonbill
- Bewick's Swan (other than at Amberley Wild Brooks)
- Whooper Swan
- Bean and Pink-footed Geese
- Garganey
- Red-crested Pochard
- Long-tailed Duck
- Honey Buzzard
- Red Kite
- Marsh and Montagu's Harriers
- Goshawk
- Rough-legged Buzzard
- Osprey
- Peregrine
- Quail
- Spotted Crane
- Corncrake
- Stone Curlew
- Kentish Plover
- Dotterel
- Temminck's Stint
- Pectoral Sandpiper
- Buff-breasted Sandpiper
- Phalaropes
- Pomarine Skua
- Mediterranean and Sabine's Gulls
- Iceland and Glaucous Gulls
- Roscate Tern
- Black Guillemot
- Little Auk
- Puffin
- Hoopoe
- Wryneck
- Woodlark and Shore Lark
- Richard's and Tawny Pipits
- Waxwing
- Dipper
- Bluethroat
- Warblers: Cetti's, Savi's, Aquatic, Marsh, Icterine, Melodious, Barred, Yellow-browed
- Red-breasted Flycatcher
- Golden Oriole
- Red-backed Shrike
- Raven
- Serin
- Crossbill
- Scarlet Rosefinch
- Lapland, Gull and Ortolan Buntings

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