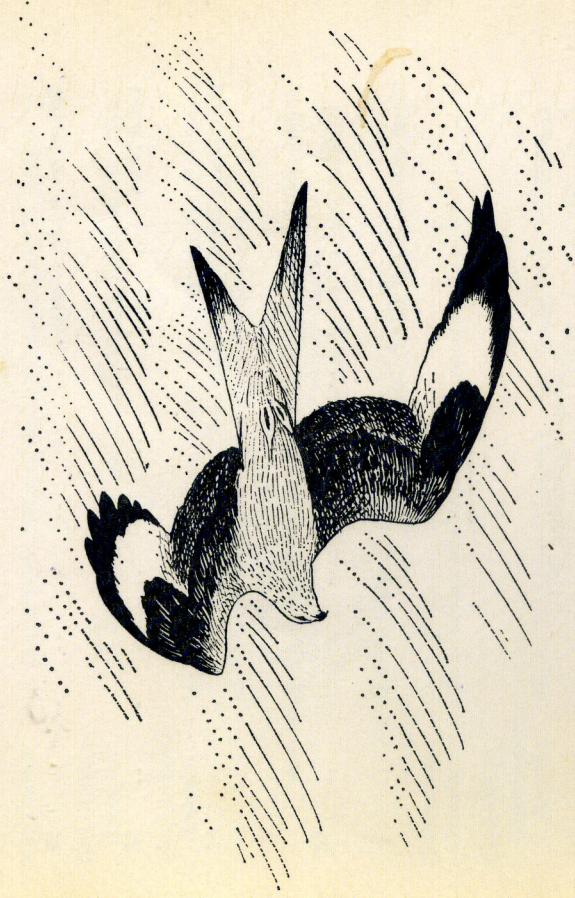


The
Sussex
Bird Report

1970



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THE SUSSEX BIRD REPORT

NUMBER TWENTY-THREE, 1970

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Cover drawing of Red Kite by Ian Willis

Published September, 1971

by

THE SUSSEX ORNITHOLOGICAL SOCIETY

PRICE: 50p

THE SUSSEX BIRD REPORT, 1970

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The above list of Council Officers and Members shows all holding office at the 30th June, 1971.

HON. SECRETARY'S REPORT

It is fitting that after 1970, European Conservation Year, we should enter 1971 with the Society's membership reaching the 1000 mark for the first time, maintaining the steep increase of the previous two years and indicating the increasing awareness and concern for Sussex birdlife.

The Officers and Council of the Society during 1970 were Guy Mountfort (President), Dr. M. Hollings (Vice-President), Mr. B. A. E. Marr (Hon. Secretary), Mr. C. F. Helyer (Hon. Assistant Secretary), Mr. R. E. Goddard (Hon. Treasurer), Mr. M. Shrubbs (Hon. Recorder), Mr. S. W. M. Hughes (Hon. Assistant Recorder), and Messrs. Smith (Hon. Editor), Mr. D. C. Lang (Hon. Conservation Officer), and Messrs. C. G. des Forges, C. M. James, R. J. Sandison and Dr. A. B. Watson. Unfortunately the Council has been plagued with illness during the year, the first member being Dr. Hollings on his return from Africa, then Messrs. Goddard, Lang and finally Mr. Helyer. However we are glad to report that all are now very much better and able to return to their respective duties on the Council, with the exception of Mr. Lang who has had to retire from the arduous task of Hon. Conservation Officer. All other Officers and Members of the Council are standing for re-election with the exception of Mr. Marr who announced at the last AGM that he would be retiring this year from the Hon. Secretaryship. Mr. Marr has held this position for nine years and was one of the founder members of the Society. Without his hard work and perseverance the Society would not be the driving force in Sussex ornithology that it is today. The Council would like to extend to Mr. Marr its sincere thanks and appreciation for all the work he has put in over the years. We would also like to congratulate Mr. Marr on his recent appointment to membership of the RSPB Council. The Council is pleased to report that it has been able to find a willing successor in Mr. D. G. Chelmick of Burgess Hill, and will be proposing him for election as Honorary Secretary at the Ninth Annual General Meeting. Mr. Chelmick has, in fact, been working with Mr. Marr since September and the retiring Secretary warmly endorses the Council's decision.

As usual the unofficial officers of the Society have greatly helped its running during the year and the Council wishes to express its thanks to Mr. D. J. Taylor (Membership Secretary), Miss Veronica Newton (Meetings Secretary), and Mr. C. E. Hope (Field Outings Secretary), as well as Mrs. Iris Simpson and Mrs. Norma Petrie-Hay for help in typing, and Miss J. V. Stacey for much help in routine handling of records. We also thank Mr. T. Palmer for packing and posting the literature sent out during the year. A welcome addition to the list of unofficial officers was the appointment of Mr. R. Pidgeon as Publicity Officer after his offer to help. This is a very big step forward for the Society as we can now take swift action in publicising an event should it be necessary and also be assured of accurate reporting. The Council would like to thank Mr. Pidgeon for his kind offer and wish him every success.

In presenting the Accounts for 1970, the Council is pleased to report a surplus of £255 on the year's working and, in addition, the Film Show profit amounting to £174 has been credited to the General Conservation Fund. The Council acknowledges with gratitude the donations to the Rye and General Conservation Accounts. The results for 1970 mean that it will not be necessary to increase the subscription in 1972, though, with rising costs, the position must be reviewed annually. Members will appreciate that subscriptions have never been raised during the whole of the Society's ten year life.

The attention of members is drawn to the repayment of income tax of £45, arising from Deeds of Covenant. The great value of this is that no outgoings

are involved as opposed to subscriptions of which, after allowing for the Society's expenses, only 1/9th approximately contribute to the surplus. Members will see from these figures how vital it is for any who are willing to execute covenants to do so, and the Council ask that all members not already covenanting subscriptions will please give their urgent consideration to the matter. The Council express their thanks to Mr. A. J. Cooke who has assisted the Hon. Treasurer by keeping the Membership Register, dealing with covenanted subscriptions and keeping the Society's accounts in order during the Hon. Treasurer's recent illness.

The Junior Section under the leadership of its new Secretary, Mr. W. Merritt, has continued to progress with a number of interesting field outings and newsletters. However numbers have not been increasing as Mr. Merritt would like and he hopes to remedy this situation by publicising the Section amongst Sussex schools. The Council attaches great importance to the Junior Section as we look to it to provide the bird-watchers, Council members and conservationists of the future; we therefore wish Mr. Merritt every success in this venture.

Following the retirement of Mr. Sheldon as Hon. Editor in 1969 Mr. S. Bayliss Smith agreed to take on the position and he has proved a welcome addition to the Records and Editorial Committee of the Society. This committee deals with the scientific programme and policy of the Society, and for European Conservation Year it decided not to start any fresh surveys but to concentrate the Society's activities on the BTO Atlas enquiry. This enquiry, covering a five year period commencing in 1968 hopes to plot the breeding distribution of all British breeding birds. Conservation is topical but in order to conserve we must have the necessary information backed up by accurate observation. This enquiry aims to provide this information as a basis for the conservation of British breeding birds in the future.

The Society's indoor meetings totalled seven during the year, two of which were combined meetings with the Surrey Bird Club and Horsham Natural History Society in Horsham. Another meeting was one of the Society's major contributions to European Conservation Year; this took place at the Dome, Brighton, where the Society, together with the RSPB, arranged a showing of the latest colour films produced by the RSPB, "Birds of the Grey Wind" and "Winged Aristocrats." This showing was a resounding success and the Society's share of the profit has again been placed in the Conservation Fund. Much of the success of this meeting was due to the hard work put in by Mr. and Mrs. M. Cahill and their band of helpers and to them the Council extends its sincere thanks. Other meetings, as always capably arranged by Miss Veronica Newton, have been held throughout the county for the convenience of members everywhere.

Field outings, always a prominent part of our programme, have proved as popular as ever. Once more arranged by Mr. Clive Hope, the aim has been to visit as many of the major bird habitats in Sussex as possible ranging from the mudflats and saltmarsh of Chichester Harbour to the heathlands of Ashdown Forest, with occasional visits to Beachy Head to study the bird ringing work and migration. As last year, our beginners' outings have proved very popular and have helped many members in the identification of our commoner birds.

The Society's newsletters have once more proved entertaining and sometimes controversial reading and again we have to thank Mr. Ian Willis for providing us with so many illustrations as well as the cover of the 1969 Sussex Bird Report. We should also like to extend our thanks to Mr. Michael Helps for providing the map of Rye Harbour in our winter issue which heralded European Conservation Year.

The conservation work of the Society was dealt a severe blow by the retirement of its Conservation Officer, Mr. D. C. Lang, due to ill health. Many of our achievements to date have been due to Mr. Lang's perseverance and enthusiasm and the Society owe him a great debt for all he has done. One of the projects that Mr. Lang worked on just prior to his retirement was the drainage scheme at Glynde Level. This work was completed by members of the Society in October and has been working with great success ever since. If completely successful, this project could prove to be a ray of hope in maintaining winter duck populations in the increasingly drier lowland flood plains of Sussex.

The Society's second main contribution to European Conservation was the setting up of a Conservation Fund to finance projects which we feel deserve most support in the Country. The fund was initiated on the proceeds of the 1969 Dome Film Show and with donations from members and the proceeds of the latest Dome Film Show has steadily increased, now standing at £822.

One of the most important projects that the fund has supported during the year has been the provision of a Warden at Rye Harbour. This scheme really got off the ground in 1970 after many years of frustrating discussion, and part of the area is already established as a local Nature Reserve. Work has been going ahead throughout the year to improve the habitat for Common Terns which are the reserve's most important breeding birds. The establishment of a warden, Mr. David Flumm, of Worthing, has done much to provide permanent protection for these birds so often needlessly persecuted by egg collectors and vandals. Mr. Flumm also supplied a valuable summary of his observations during the spring and summer for the Society's records.

European Conservation Year has seen the Society make great steps forward in the study and conservation of Sussex Birds and Habitats. Membership has now increased beyond the magic 1,000, the Conservation Fund has been started and Rye Harbour Nature Reserve is no longer just a pipe dream. Conservation Year was undoubtedly a success for Sussex, but we must not relax. The pressures are always on us to provide more information and finance for threatened habitats. Let us make every year a Conservation Year, for, if we could achieve every year what we have in 1970, the future prospects for birds and wildlife in Sussex would be greatly strengthened. This ideal can only be achieved by the members who can assist us to this end, either by contributing to the Conservation Fund, or by helping with the Society's work.

CONTRIBUTORS AND ACKNOWLEDGEMENTS, 1970

We are grateful to the following observers for records, and we also wish to thank all those observers who helped with the Society's breeding surveys—their names are marked with an asterisk.

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Breeding Surveys

During the year the Society's breeding surveys of Swift and House Martin were continued. S. W. M. Hughes organised the surveys and prepared the summaries for the systematic list. No new surveys were started in 1970.

B.T.O. National Census of Heronries

All the Sussex Heronries were visited in 1970 for this census, as they have been annually since it began. We are grateful to the following observers for their assistance:—
 J. Ashbee (Leasham), C. F. Helyer (Henfield), J. A. Hicks (Glynleigh, Priesthaws, Westham), A. K. Hughes (Parham), D. C. Lang (Glynde, Firie), J. Pelling (Fishbourne), Maj. W. W. A. Phillips (Pagham), F. C. Simmonds (Wartling).

B.T.O. Atlas

Dr. A. B. Watson, 83 Buckingham Road, Shoreham, is organising this project in the county for the B.T.O. and the Society is giving him full support. More coverage is needed for many areas, and Dr. Watson would be pleased to hear from any contributors willing to assist in this simple survey.

Wader Counts

Wader counts were continued in the main estuaries (see page 55) and D. S. Flumm organised the counts. All the figures obtained are being contributed to the B.T.O. Estuaries Survey started in the autumn of 1969. We wish to thank all the observers for their valued help with the project. Counters were:—
 Mrs. J. H. M. Edom, D. S. Flumm, Dr. M. Hollings, R. J. B. Jackson, A. R. Kitson, J. P. Knowles, B. Metcalfe, R. F. Porter, R. J. Sandison, M. Shrubbs, R. Williamson.

Wildfowl Counts

J. W. Clark (32 Gundreda Road, Lewes) continued to handle the organisation of the National Wildfowl Counts. We are grateful to the organiser for making the records available to the Society.
 Counters were:—

R. B. Barstow (Powdermill Res.), D. R. Coda (Glynde Levels), A. J. Cooke (Cuckmere Valley), J. Fowler (Chichester G.P.), D. C. Lang (Barcombe Res.), Miss V. Maxse (Burton Pond), J. P. McTear (Rye Harbour and Pett Level), C. E. Messer (Amberley/Pulborough Marshes), G. M. Moll (Knepp Lake and Warnham Mill Pond), D. R. Park (Svanbourne Lake and Paching Pond), J. Reaney (Darwell Res.), C. F. Tebbutt (Weir Wood Res.), Mrs. J. H. M. Edom, D. S. Flumm, Dr. M. Hollings, R. F. Porter, R. Williamson (Chichester Harbour), R. J. B. Jackson, M. Shrubbs (Pagham Harbour).

Regular observations of migration were made at Selsey Bill by H. P. K. Robinson and others and at Beachy Head by B. E. Cooper, J. F. Cooper, M. E. Nolan, A. Quinn and many others. Detailed summaries of the records from each locality were prepared by those named; a most helpful service in compiling the Report. In addition D. S. Flumm supplied a detailed report of the birds at the new Rye Harbour L.N.R. which has been referred to extensively in compiling the systematic list of the Report.

The volume of routine work involved in preparing the Report increases annually, and we also wish to acknowledge considerable assistance from R. J. Sandison who has gathered much valuable information on predators, from Miss J. V. Stacey and Mrs N. Petrie-Hay who have helped with much of the routine work of filing records and typing the Report, and from P. J. Wilson who has dealt with the ringing report. Their help is greatly appreciated. Spreading the work in this way is now inevitable, but it should be noted that any confidential records are handled only by the recorder.

Finally a serious omission from the 1969 Report must be rectified, and thanks expressed to R. J. B. Jackson for very considerable assistance in editing it. Mr. S. Bayliss Smith was not able to start his duties as editor of the Report until October, 1970 and Mr. Jackson very ably filled the gap between Mr. Sheldon's departure in December, 1969 and Mr. Bayliss Smith taking up the job in October, and was largely responsible for seeing the 1969 report through the printers.

CLASSIFIED RECORDS FOR 1970

Recoveries of birds ringed have not been cross-referenced to the ringing report. The wildfowl tabulation and the report on water counts should be read in conjunction with the notes under individual species for a complete picture.

Abbreviations: "G.P."—gravel pits. "S.F."—sewage farm. "E," "W," etc.—cardinal points of the compass are intended only to give a general direction unless the context indicates otherwise. In particular this applies to birds going up or down Channel and which are referred to as flying E. or W. "s/p," "w/p"—summer or winter plumage. "c/"—clutch size in nest found. "Brit. B."—British Birds (Rarities Committee). "LNR"—Local Nature Reserve. "SxBR"—Sussex Bird Report.

Definition: "Days watching"—the number of days in which watching was done in an area; the number of hours observation of visible passage is also shown in brackets.

Initials: Observers initials are given only with more unusual occurrences, except in the case of very rare breeding species.

1. **BLACK-THROATED DIVER (*Gavia arctica*).**—One at the mouth of the Cuckmere on Feb. 14th (TG, ADL) and oiled birds at Rye Harbour G.P. on Mar. 1st and 30th (DSF, BAEM). One at the Midrips on the 31st (KOS). One flew W. off Selsey Bill on Sept. 13th (RJBJ, HPKR) and, in December, 6 flew W. off Langney Point on the 8th and one in Newhaven Harbour on the 28th (MJR). Other records are given in the table of spring diver passage under diver species.

2. **GREAT NORTHERN DIVER (*G. immer*).**—Two at the Midrips on Apr. 8th (KOS). One flew E. off Selsey Bill on June 21st (CMJ, RJBJ, HPKR). See also under diver species.

4. **RED-THROATED DIVER (*G. stellata*).**—Wintering birds were present along the whole coast at both ends of the year, but 10 off Beachy Head on Feb. 28th was the largest party reported; otherwise no more than 3 were seen together. One at Darwell Res. on Feb. 15th was found dead there on Apr. 26th. See also under diver species and the tables of oiled birds on pages 59 and 60.

DIVER SPECIES (*Gavia* sp.).—An oiled bird at Camber on Jan. 11th was almost certainly *immer* (PFB, MRB). See also tables of oiled birds on pages 59 and 60. As in 1969 all records of spring diver passage are included under this heading to give a clearer picture. Some of the birds were specifically identified.

SPRING DIVER PASSAGE TOTALS 1970

	Selsey Bill			Beachy Head		
	Jan. & Feb. E W	Mar. 1st-May 31st E W	Feb. E W	Mar. E W	1st-May 31st E W	
<i>G. arctica</i>	2	12	nil	8	0	
<i>G. immer</i>	0	3	nil	1	0	
<i>G. stellata</i>	4	13	nil	6	0	
<i>Gavia</i> species	106	99	73	102	3	
Days watching	18 (122hrs.)	38 (340hrs.)	3 (2hrs.)	33 (78hrs.)		

The Beachy Head figures above are based on tables supplied by MJR and, in addition to his records, another 175 divers were noted there, mainly flying E., between Jan. 24th and May 28th, of which 3 were *arctica* and 5 *stellata* and the remainder not specifically identified.

Peak movements were: at Selsey Bill 5 E. and 22 W. on Jan. 11th, 46 E. on Feb. 7th and 9 E. and one W. on May 3rd; at Beachy Head 60 E. and 7 W. on Feb. 17th and 40 E. on Mar. 1st. MJR considered 80% of the birds of Feb. 17th to be *arctica*.

In the autumn the only sizable movement noted was 22 W. off Beachy Head on Dec. 13th.

5. **GREAT CRESTED GREBE (*Podiceps cristatus*).**—Present along the whole coast between January and March but the only large concentrations were between Brighton and Rottingdean where c.100 were present in January and February, with a maximum of c.145 on Feb. 26th and in Rye Bay, with c.100, on Jan. 19th. Inland, wintering birds were reported from 5 localities which held a total of c.45 birds. It would be interesting to know more precisely the extent to which this species winters inland, for this appears to be a comparatively recent change in habits.

There was a more marked spring passage than usual and records included a maximum of 45 at Weir Wood Res. on Mar. 8th and a total of 27 flying E. off Selsey Bill between Mar. 1st and May 16th.

Once again little change in the number breeding was noted and pairs were recorded as follows:

BREEDING PAIRS 1970			
Locality	No. of pairs	Locality	No. of pairs
Chichester G.P.	21	Barnhouse Pond	1
Burton Park	2	Pond Leigh	1
Knepp	1	Horsted Keynes	2
Warnham Mill Pond	2	Weir Wood Res.	6
Hammer Pond	0	Maresfield	1
Birchen Bridge	0	Darwell Res.	1
		Rye Harbour G.P.	2

Breeding success was slightly better than in 1969, with 21 broods noted, totalling 51 young. In addition 30 birds were counted at Weir Wood Res. on July 17th including some young, but no exact count of young there was recorded. Two observers remarked that young birds quickly vanished, presumably predated, after hatching.

Rather few at the coast in November and December except for 65 in Rye Bay on Dec. 14th and a maximum of c.50 off the Brighton/Rottingdean stretch on the 30th. Inland in these months a total of c.53 noted in 4 localities. See also tables of oiled birds on pages 59 and 60.

6. **RED-NECKED GREBE (*P. griseigena*).**—One at the Midrips on Feb. 21st was found dead there on the 28th (KOS). Single birds off Worthing on Mar. 8th (CMV) and Church Norton on the 22nd (JAB). At the end of the year single birds at Church Norton on Nov. 14th and 28th (MC, KJH, MS *et al.*), at the Cuckmere (TG, MJR) and flying W. off Langney Point (MJR) on the 22nd, in Chichester Harbour from Nov. 14th to the end of the year (JSMA, MC, NM, DCL) and off Newhaven on Dec. 11th (MJR).

7. **SLAVONIAN GREBE (*P. auritus*).**—Between January and March up to 10 off Church Norton and one in Chichester Harbour were the only wintering

birds noted. In addition there were single birds at Chichester G.P. on Jan. 11th and Weir Wood Res. on Feb. 3rd and 2 off Winchelsea on Jan. 18th.

On Mar. 22nd there were c.30 off Church Norton (JAB). This is by far the largest number recorded together in the county and most of these birds were probably on passage. Other records suggesting passage were 2 single birds at Rye Harbour between Mar. 15th and 28th and one or 2 off Beachy Head between Apr. 11th and 16th. One at Chichester G.P. from May 17th to June 13th (DSF, HPKR) was quite probably the same as one in Chichester Harbour on July 19th (JHME).

At the end of the year 3 off Beachy Head on Oct. 31st departed W., a maximum of 12 off Church Norton on Nov. 14th and up to 3 in Chichester Harbour in December. Two at Newhaven Tidemills on Dec. 13th and one there on the 30th and one at the Cuckmere on the 20th and 28th, with 2 on the 22nd.

8. **BLACK-NECKED GREBE** (*P. nigricollis*).—Single birds at Rye Harbour on Jan. 12th and Feb. 13th, at Pagham Harbour on Jan. 24th, and Pett Level on Mar. 1st. In the autumn single birds at Brooklands, Worthing from Sept. 4th to 12th and at Rye Harbour G.P. on the 24th. Two off Beachy Head on Oct. 24th and one in Chichester Harbour on Dec. 3rd.

SLAVONIAN/BLACK-NECKED GREBE.—Off Selsey Bill 2 flew E. and 16 W. in 18 days (122 hrs) watching in January and February and 10 flew E. and one W. in 13 days (110 hrs.) between Mar. 1st and Apr. 5th. Up to 4 off West Wittering in January.
One off Beachy Head on Sept. 7th.

9. **LITTLE GREBE** (*P. ruficollis*).—Between January and March totals of 59 in 6 coastal localities and 22 in 4 inland. Twenty-six at the Cuckmere on Feb. 12th was the largest party.

Fifteen or 16 breeding pairs were reported as follows: Aldsworth Ponds; Chichester G.P., 2; Swanbourne Lake, 2; Wiston Park, 1 or 2; Fen Place; Darwell Res.; Rye Harbour LNR, 7. In addition there were breeding season records from Knepp, Coolham and Cuttingly Wood. At least 3 regular breeding sites were not reported on and 13 of the above pairs bred successfully. This suggests some improvement in the breeding position.

A marked passage was apparent in mid October, with counts of 28 at Pagham Lagoon and 30 at the Cuckmere on the 19th and 25 at Weir Wood Res. on the 20th; the subsequent winter populations of these areas totalled c.30 birds.

In November and December 48 were noted in 5 coastal localities and 22 in 5 inland. The largest party was of 32 in Chichester Harbour.

16. **MANX SHEARWATER** (*Puffinus puffinus*).—Single birds, showing the characters of the race *puffinus*, flew W. off Selsey Bill on June 13th and July 25th (DSF, HPKR).

Single birds, showing the characters of the race *mauretanicus*, flew W. off Selsey Bill on July 4th, 11th and 19th and 9 together did so on Aug. 16th (HPKR). The following were not sub-specifically identified: one E. off Selsey Bill on July 19th and one W. there on Sept. 12th (HPKR *et al*).

21. **SOOTY SHEARWATER** (*P. griseus*).—A total of 6 recorded in the autumn, more than in any previous year. All were flying W. off Langney Point as follows: one on July 28th (MJR), the second July record for the county, one on Sept. 2nd (MJR) and 4, a single and 3 together, on Sept. 12th (MJH, NAGL, BAEM, RFP).

26. **FULMAR** (*Fulmarus glacialis*).—First recorded at Beachy Head on Feb. 15th and birds present there until the end of August, with a maximum of 45 on Feb. 28th. Prospecting behaviour by pairs and display on nest sites was again recorded there and elsewhere along the chalk cliffs and near Hastings, but breeding has still not been established.

At Selsey Bill 27 flew E. and 174 W. in 50 days (513 hrs.) watching between Mar. 21st and July 31st. Peaks were 3 E. and 29 W. on Apr. 25th and 10 W. on May 3rd. The strong westerly bias of these movements was repeated off Rye, where DSF noted 2 E. and 15 W. between Mar. 24th and May 23rd.

In the autumn single birds flew W. off Selsey Bill on Aug. 9th, 22nd and 23rd and Sept. 5th and one did so off Langney Point on Sept. 2nd.

27. **GANNET** (*Sula bassana*).—The records from Selsey Bill are tabulated:

	Jan. & Feb.	Mar.	1st-June	19th	June	20th-July	31st	Aug. & Sept.
E.	3	71	8				16	
W.	10	23	300	530	8		86	
Days watching	18 (122hrs.)	42 (382hrs.)	13 (165hrs.)	19 (160hrs.)				

The species was unusually numerous in February. Peak movements were 100 W. on Apr. 25th and 117 W. on July 4th.

The largest autumn movements were 25 E. off Beachy Head on Aug. 31st and 30 likewise on Oct. 24th. See also tables of oiled birds on pages 59 and 60.

28. **CORMORANT** (*Phalacrocorax carbo*).—Regular counts were made at Selsey Bill and Rye Harbour LNR and the figures are tabulated, to give monthly maxima.

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
Selsey Bill	30	25	90	50	10	10	12	15	22	20
Rye Harbour	30	30	26	25	14	4	3	15	30	50

No counts were made in November or December. There were also up to 50 on Bognor Pier in March and December, and 80 in Rye Harbour at the end of November.

Counts in Chichester Harbour at the end of the year produced:—Sept. 17, Oct. 47, Nov. 37, Dec. 10.

As usual a number of inland records, which included a record of 103 flying up-river at Arundel on Mar. 5th (SWR); it seems likely that these birds were on passage. In September parties of 15 on the 18th and 6 on the 19th flew W. high over the Downs at Beachy Head.

29. **SHAG** (*P. aristotelis*).—A badly oiled bird picked up dead at Rottingdean on Jan. 18th had been ringed at the Isle of May on July 27th, 1969. One wintering in the Pagham/Selsey area until Apr. 5th, when there was also one in Chichester Harbour. One off Beachy Head on Feb. 28th and one at Rye Harbour LNR from Mar. 21st to 24th.

Present at Beachy Head from May 13th to June 7th with a maximum of 12 on May 16th. In the autumn one off Selsey Bill on Aug. 22nd and Sept. 11th, one flying W. off Langney Point on Sept. 1st and one at Pagham Lagoon on Oct. 20th.

30. **HERON** (*Ardea cinerea*).—Counts were made at all the known Heronries except Eridge and Firle, where there was much activity on Apr. 25th. The numbers of occupied nests recorded were: Old Park Wood, Fishbourne, 25 plus 2 probably occupied; Pagham, 4 plus one probably occupied; Parham, 41;

Henfield, 9 plus 2 probably occupied; Glynde, one plus one probably occupied; Priesthaws; 6 plus 2 probably occupied; Glynleigh, nil; Wartling, 4 plus one probably occupied; Westham, 2; Leasam, 30. Allowing for the 2 colonies not counted, the total of 122-131 occupied nests shows no overall change compared with 1969, although individual colonies fluctuate considerably.

Records suggesting passage were: one E. off Selsey Bill on Mar. 1st and one out SW. there on the 7th and one E. off Beachy Head on Apr. 24th and 3 on the 26th. In the autumn totals of 5 flew E., 3 W. and 8 out S. at Selsey Bill between June 28th and Sept. 26th and 23 (5 & 18) flew W. high over the Downs at Beachy Head on Sept. 20th and 2 out S. there on the 27th.

31. **PURPLE HERON** (*A. purpurea*).—One at Litlington on May 10th (PJW). This record has been accepted by *Brit. B.*

32. **LITTLE EGRET** (*Egretta garzetta*).—One at Pagham Harbour on May 1st and a different bird there on the 20th and 21st (NPH, MS). These records have been accepted by *Brit. B.*

36. **NIGHT HERON** (*Nycticorax nycticorax*).—A sub-adult at Sidlesham Ferry on May 27th (MS). This record has been accepted by *Brit. B.*

38. **BITTERN** (*Botaurus stellaris*).—One at Chichester G.P. from Jan. 5th to Feb. 23rd, with 2 on Jan. 5th to 7th (AHD, BM, JVS). One at Northchapel from Jan. 19th to Feb. 25th (RWB). Single birds at Church Norton on Feb. 7th and Mar. 1st (DSF, HPKR), Newhaven Tidemills on Mar. 7th (per MJR) and Rye Harbour LNR from Apr. 13th to 15th (DSF). One picked up dead at Ford on Dec. 31st (WWAP).

42. **SPOONBILL** (*Platalea leucorodia*).—Single birds at Rye Harbour on May 8th and 21st and June 15th (DSF) and in Pagham Harbour on May 17th (many obs.). One flying over Newhaven Harbour on Dec. 28th (LG, TG, MJR). All were adults except the bird of Dec. 28th.

45. **MALLARD** (*Anas platyrhynchos*).—See table for winter populations. In addition there were 250 in the Adur Levels between Steyning and Henfield on Jan. 11th.

Breeding counts recorded were of 7 pairs at Pagham Lagoon, 18 pairs in 2½ miles of Chichester canal and c.35 pairs at Rye Harbour LNR. Breeding success was rather poorer than in the previous 3 years, with 38 broods totalling 183 young recorded, an average brood size of 4.8.

There were 450 at Rye Harbour LNR on Aug. 31st.

46. **TEAL** (*A. crecca*).—See table for winter populations. In addition there were 600 in the Adur Levels between Steyning and Henfield on Jan. 11th, 35 in the Ouse valley on Jan. 5th and at least 80 in Pevensey Levels in early February. At the end of the year a maximum of 34 at the new Arlington Res. on Dec. 22nd.

In the breeding season only 4 pairs were reported; at Sidlesham, rearing 6 young, Chichester G.P., Weir Wood Res., probably rearing young, and Rye Harbour LNR. In addition birds were seen at Dell Quay, Pagham, Slaugham Place, Leonardslee and Balcombe Lake in suitable breeding sites. Three regular breeding localities, Burton Pond, Shillinglee Park and Lurgashall Pond were not reported on.

There were 250 at Chichester G.P. on Sept. 11th.

Ducks.—The table below sets out the peak numbers of the regular and common species recorded in each winter period (January to March and October to December) at all the principal wintering areas in the county. It is thus designed to show the relative importance of these areas to wildfowl and give some indication of the maximum wintering population. All these localities are covered by the National Wildfowl Counts organised by the Wildfowl Trust. These figures, together with others held by the Society, have been used in compiling this table. The systematic list is largely confined to records outside the scope of the table.

PEAK WINTER POPULATIONS OF DUCK

Locality	Mallard		Teal		Wigeon		Pintail		Shoveler		Tufted Duck		Pochard	
	Jan/ Mar.	Oct/ Dec.	Jan/ Mar.	Oct/ Dec.	Jan/ Mar.	Oct/ Dec.	Jan/ Mar.	Oct/ Dec.	Jan/ Mar.	Oct/ Dec.	Jan/ Mar.	Oct/ Dec.	Jan/ Mar.	Oct/ Dec.
Chichester Harbour	63	90	150	160	255	1140	53	55	6	0	190	15	11	29
Chichester G.P.	475	430	50	125	14	0	0	6	75	75	380	120	390	140
Pagham Harbour	345	350	120	350	450	1000	75	22	17	33	30	25	11	0
Burton Pond		60									37	80	12	30
Amberley/Pulborough	150		1200	100	1600	150	110		24	22	1	4	1	4
Knepp	250		2		300		0		6		0		10	
Weir Wood Res.	500	230	90	130	120	40	0	3	0	0	120	40	100	80
Barcombe Res.	200	700	30	70	1220	520	3	1	11	32	50	60	40	45
Glynde Levels	65	200	85	500	430	800	0	3	4	40	3	6	0	0
Cuckmere	90	100	35	300	70	33	1	0	3	5	10	15	1	2
Darwell Res.	200	160	185	25	75	35	0	0	5	0	70	40	60	50
Powdermill Res.	120		40		0		0		0		25		40	
Pett Level									9				30	
Rye Harbour	500	100	42		300		1		40		45	20	400	50

NOTE: A blank indicates that no information was available.

47. **GARGANEY** (*A. querquedula*).—A poor year for the species. Spring passage was noted between Mar. 22nd and May 25th and a total of 25 was recorded. Records included a party of 10 at Leigh Pond on Mar. 23rd. There was no evidence of any breeding.

Autumn passage was noted between July 30th and Sept. 6th, with a total of 34 recorded, mainly at Rye Harbour, where there was a total of 21 between Aug. 10th and Sept. 1st.

48. **BLUE-WINGED TEAL** (*A. discors*).—A male at Church Norton and Chichester G.P. from May 12th to 14th (AP, JVS). This record has been accepted by *Brit. B.* and is the second for the county, but must be open to some suspicion of being an escape.

BREEDING OR RESIDENT PAIRS 1970

Locality	Pairs present	Pairs bred	Maximum young Recorded
Aldworth Ponds	14 and 40 birds	?	84
Chichester G.P.	7	14	5
Swanbourne Lake	1	1	2
Burton Park	2	?	7
Wiston Park	1	?	brood
Birchen Bridge	1	1	6
Wakehurst Place	1	1	20
Plumpton Place	1 and 3 birds	1	12
Glynde Reach	1 and 3 birds	1	
Barcombe Res.	3	3	
Weir Wood Res.	1 and 3 birds	1	
Cuttingly Wood	1	?	
Rowfant	1	?	
Maresfield	1	1	8
Rye Harbour G.P.	18	8	40

57. **POCHARD** (*A. ferina*).—See table for winter populations. Very few elsewhere; additional winter counts totalled 66 only, in 6 localities. In June 18 were recorded at Chichester G.P., Weir Wood Res., and Rye Harbour G.P.

60. **GOLDENEYE** (*Bucephala clangula*).—As usual large numbers were recorded only in Chichester Harbour, where the maximum count in the early months was 126 (33 adult males) on Jan. 3rd; by early March numbers had declined to c.30. In December there were 32 on the 3rd and 55 (22 adult males) on the 27th.

Elsewhere in the early months a total of c.30 noted along the coast and 9 in 3 inland localities, Chichester G.P., Rodmell and Weir Wood Res. At the end of the year 13 were recorded along the coast and 10 inland, at Chichester G.P., Burton Ponds, Weir Wood Res. and Barcombe Res.

61. **LONG-TAILED DUCK** (*Clangula hyemalis*).—In the early months 4 in Chichester Harbour until Mar. 8th and up to 4 in the Pagham/Selsey area until the 29th. Six flew W. off Selsey Bill on Jan. 3rd and up to 4 at Rye between Mar. 28th and Apr. 10th. One flew E. off Selsey Bill on Apr. 18th and 2 likewise off Beachy Head on the 25th.

At the end of the year 3 in Chichester Harbour from Oct. 22nd, with up to 6 there in December and one in the Pagham/Selsey area during the same period. One off Beachy Head on Oct. 25th, and one at Rye Harbour G.P. on Dec. 14th.

62. **VELVET SCOTER** (*Melanitta fusca*).—No winter flocks reported at either end of the year; except for spring passage only 7 were recorded between January and March at the coast. One at Weir Wood Res. on Feb. 1st (FML). Spring passage at Selsey Bill totalled 37 E. and 6 W. in 15 days (141 hrs.) watching between Mar. 28th and May 4th, peak 22 E. on May 3rd. At Beachy Head 30 flew E. between Mar. 29th and May 13th, peak 13 E. on May 4th.

At the end of the year 2 E. off Langney Point and 2 W. off Beachy Head on Oct. 24th, up to 3 in Seaford Bay between Oct. 24th and Nov. 30th, 3 off the Midrips on Oct. 25th, 12 E. off the Cuckmere on Nov. 10th and one at Pilsley Island on Dec. 27th were the only records.

See also tables of oiled birds on pages 59 and 60.

49. **GADWALL** (*A. strepera*).—At Chichester G.P. a maximum of 36 in January declining to 5 in March, a pair there on Aug. 24th and 25th and, at the end of the year, a maximum of 20 on Nov. 25th.

Records elsewhere were a pair at Arlington on Jan. 2nd and Feb. 28th, singles at Pagham Lagoon on Jan. 24th and 25th and Feb. 23rd and 25th and a pair at Rye Harbour G.P. from Mar. 8th to 16th. Two flew W. off Selsey Bill on Aug. 15th and there were 3 at Littleington on the 30th. One was shot at Rye Harbour on Oct. 31st and there was one at Weir Wood Res. on Nov. 24th; one at Thorney and 2 at Barcombe Res. on Dec. 13th and 6 at Fishbourne on the 30th.

50. **WIGEON** (*A. penelope*).—See table for winter populations. In addition there were 400 in the Adur Levels between Steyning and Henfield on Jan. 11th. A male at Dell Quay on May 16th and another at Weir Wood Res. on July 7th. Autumn arrival at Rye started on Aug. 8th.

52. **PINTAIL** (*A. acuta*).—See table for winter populations. The number present in the early months was higher than in any year since 1960. A pair probably attempted to breed in the East of the county.

53. **SHOVELER** (*A. clypeata*).—See table for winter populations. In addition there were 12 in the Adur Levels between Steyning and Henfield on Jan. 11th. Virtually no spring passage noted, except at Rye, where there was a peak of 42 on Mar. 19th.

One pair bred, rearing 9 young, and there were breeding season records from 3 other areas.

55. **SCAUP** (*Anthya marila*).—Many more recorded than usual in the first half of the year. There were up to 60 at Rye Harbour G.P. until Mar. 17th and, in April, up to 9 daily there until the 19th, with 20 on the 18th; one there from May 16th to 23rd.

Elsewhere there were single birds at Pagham Lagoon from Jan. 17th to 27th, flying W. off Selsey Bill on Feb. 7th and at Barcombe Res. on the 27th. Three at Thorney on Jan. 3rd and at Pett Level from Mar. 27th to Apr. 14th. There were 21 off Church Norton on Mar. 22nd and a total of 25 flew E. off Beachy Head between Mar. 21st and May 4th. One flew E. off Selsey Bill on May 8th.

At the end of the year single birds at Rye Harbour LNR on Sept. 5th, Pagham Lagoon from Oct. 27th to Nov 17th, and Thorney on Oct. 18th and Dec. 27th. Five at Brooklands, Worthing on Oct. 29th, one at Piddinghoe on Nov. 9th, 2 at Barcombe Res. on Dec. 9th and 4 at Rye Harbour G.P. on the 19th.

56. **TUFTED DUCK** (*A. fuligula*).—See table for winter populations. Additional winter counts totalled 117 birds in 9 localities.

Although rather fewer breeding records were received than in 1969 the total of 32 pairs proved to breed, compared with 26 in 1969, probably reflects a genuine increase. New sites were Plumpton Place and Maresfield. Breeding success was considerably better than in 1969.

64. **COMMON SCOTER** (*M. nigra*).—Thirty-five in Pevensy Bay on Jan. 7th and a maximum of 500 in Rye Bay between January and March were the only winter flocks recorded.

In the spring at Selsey Bill 1,060 flew E. and 92 W. in 38 days (340 hrs.) watching from March to May, peak 175 E. on Apr. 11th. At Beachy Head the main movements were: 580 E. on Mar. 23rd, 1,000 E. on the 30th, 1,700 E. on Apr. 11th and 600 E. on the 12th. In June 640 flew E. and 32 W. off Selsey Bill in 9 days (101 hrs.) watching, peak 305 E. on the 21st, when 700 flew E. off Beachy Head.

See also tables of oiled birds on pages 59 and 60.

67. **EIDER** (*Somateria mollissima*).—Recorded in every month except November. Approximate monthly totals were:

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
29	68	103	30	30	9	3	11	5	3	0	17

Birds were noted along the whole coast but the only large winter party was a maximum of 60 in the Pagham/Selsey area on Feb. 8th.

Spring passage off Selsey Bill totalled 42 E. in 38 days (340 hrs.) watching from March to May; at Beachy Head 31 flew E. between Mar. 14th and Apr. 11th.

See also tables of oiled birds pages 59 and 60.

69. **RED-BREASTED MERGANSER** (*Mergus serrator*).—As in 1969 rather few wintering birds noted, the largest winter parties being 27 off Climping on Jan. 10th and 46 in Chichester Harbour on Dec. 3rd.

Spring passage at Selsey Bill totalled 430 E. and 125 W. in 38 days (340 hrs.) watching from March to May, peak 57 E. and 6 W. on Apr. 11th. Rather few were noted at Beachy Head but 42 flew E. there on Apr. 11th and 30 likewise on the 18th. There were 2 June records, a female flying E. off Selsey Bill on the 7th and a male off Beachy Head from June 21st to 28th.

70. **GOOSANDER** (*M. merganser*).—In the early months 2 at Weir Wood Res. until Feb. 1st (many obs.) and 2 at Burton Park on Feb. 28th (KGA). Otherwise all records were of single birds, at Pagham Lagoon from Jan. 3rd to 19th (WWAP), Pett Level on Jan. 3rd (RB), Barcombe Res. on the 8th (DCL), Chichester G.P. from the 12th to Mar. 29th (many obs.) and Rye Harbour G.P. on Jan. 18th (DSF, ARK).

At the end of the year one flew W. off Beachy Head on Nov. 22nd (BEC, JFC, et al.), one at Barcombe Res. from Dec. 13th to 27th (DCL), 2 at Weir Wood Res. on the 20th (MPLeG) and one there on the 31st (CFT).

71. **SMEW** (*M. albellus*).—Three females at Chichester G.P. until Mar. 8th (many obs.) and single birds at Piddinghoe Pond from Jan. 10th to Mar. 10th (many obs.) and Pagham on Jan. 24th (JVS).

73. **SHELDUCK** (*Tadorna tadorna*).—The monthly maxima recorded in Chichester and Pagham Harbours were:

	Jan.	Feb.	Mar.	Apr.	Oct.	Nov.	Dec.
Chichester Harbour	3000	3300	3220	1770	14	250	1000
Pagham Harbour	1000	(320)	605	?	300	300	450

The February figure for Pagham is almost certainly low, no count was made there in April.

Elsewhere there were 30-40 wintering at Newhaven Tidemills and 10-15 at the Cuckmere in the early months. Very few winter birds noted inland; there

were 2 in the Amberley/Pulborough marshes in January and February, 3 at Glynde Levels in January, November and December and one at Darwell Res. on Nov. 15th.

In the spring of Beachy Head MJR noted 95 flying E. in 33 days (78 hrs.) watching between Mar. 9th and May 28th.

No counts of breeding pairs were made at either Chichester or Pagham Harbours but counts of young were: in Chichester Harbour a total of 209 newly hatched birds in Thorney and Bosham channels and Thorney Deepes between June 20th and July 19th, and 12 at Ichenor in June; in Pagham Harbour 5 on May 21st increasing to 170 by July 20th. A pair had 8 young at Alksworth Ponds on June 4th, 3 pairs had 23 young at Chichester G.P. on the 25th and one had one young at Burpham on the 20th. Single pairs bred at the Cuckmere and Belle Tout, hatching 17 young, and 6 pairs bred in the Rye area (5 at the LNR) rearing 49 young. Single birds were seen at Parham Park between May 27th and June 1st and Weir Wood Res. on June 30th.

75. **GREY LAG GOOSE** (*Anser anser*).—On Jan. 11th there were 4 in the Adur Levels (CEM) and 4 at Horse Eye Level (KV). Eight flew E. at Beachy Head on Mar. 30th (KV) and 2 likewise at Rye on Apr. 5th (BAEM). There were 3 in Crowhurst Marsh, St. Leonards from 24th-31st Mar. (SR). Twenty-eight flew W. at Beachy Head on Oct. 15th (RHC, MEC, MJR).

76. **WHITE-FRONTED GOOSE** (*A. albifrons*).—In January 70 flew W. at Bexhill on the 1st, a total of 180 passed over Cadborough between the 4th and 8th, 22 at Bracklesham and 3 at Horse Eye Level on the 4th with 4 at the latter area on the 11th, 17 flew S. over Barcombe on the 8th, 27 flew SW. over Chichester G.P. and 4 were seen at Wiggonholt on the 11th, 45 flew NW. over Partridge Green on the 15th, 38 were seen at Glynde on the 18th and 8 flew W. at Chichester G.P. and 2 likewise off Selsey Bill on the 24th. There were 7 at Weir Wood Res. from Feb. 3rd to 17th, 27 at Glynde on the 8th, and 3 at Amberley Wildbrooks on the 15th.

Two over Church Norton on May 24th (RJB, HPKR, MS) and 3 over Sidlesham on June 21st (MS) may have been escapes.

In December 28 flew NW. over Partridge Green on the 4th, 3 flew W. at Beachy Head on the 5th and 12 were in Pagham Harbour on the 9th. There were 10 at Glynde on the 24th, 13 at the Cuckmere on the 26th and 10 flying E. over Newhaven Tidemills on the 28th.

78. **PINK-FOOTED GOOSE** (*A. brachyrhynchus*).—Thirteen at Glynde on Jan. 3rd (JCC) and one at the Cuckmere on the 20th (AJC). Two flew NE. over Thorney Deepes on Dec. 27th (DSF, BAEM, IRW).

GREY GOOSE SPECIES.—In January 22 flew NW. over Bexhill on the 2nd, 13 NW. over Pagham on the 4th, 11 W. over Chichester G.P. on the 8th, 5 S. over Rye Harbour on the 11th and 35 SW. over Alfriston on the 17th. Two flew W. off Selsey Bill on Feb. 21st and 2 E. there on Mar. 22nd; 6 flew NE. over Crawley on the 23rd.

Six flew W. at Beachy Head on Oct. 10th and 4 in Seaford Bay and one over Climping on Dec. 24th.

80. **BRENT GOOSE** (*Branita bernicla*).—The monthly maxima in Chichester and Pagham Harbours were as follows:

Chichester Harbour.....	Jan.	Feb.	Mar.	Oct.	Nov.	Dec.
Pagham Harbour.....	2300	2000	1100	200	265	2900
	160	150	150	19	45	40

The December count in Chichester Harbour was the highest yet recorded; it was made on the 27th.

Spring passage was noted along the coast between Mar. 8th and April 18th, with c.360 birds recorded flying E. One flew E. off Beachy Head on May 13th (MJR), a very late date.

In the autumn first recorded on Oct 4th, off Selsey Bill, but only very small coasting movements were noted. On Nov. 21st 20 flying along the coast turned inland at Newhaven and departed N. (PJW).

81. **BARNACLE GOOSE** (*B. leucopsis*).—One at Camber on Jan. 7th and 11th (PFB, MRB, RCS). Possible escape suspected.

82. **CANADA GOOSE** (*B. canadensis*).—Winter counts from the principal localities are tabulated below:

Locality	Jan.	Feb.	Mar.	Nov.	Dec.
Amberley/Pulborough.....	56	—	—	150	—
Knepp.....	—	26	—	—	19
Warnham Mill Pond.....	11	24	18	31	35
Weir Wood Res.....	15	15	15	26	26

At the end of the year there were also small parties totalling c.64 birds in 5 other localities.

Successful breeding was recorded as follows: single pairs at Thorney Island, Chichester G.P., Burton Pond, Coolham, Paynes Place, Plashett Park, Pond Leigh, Warnham Mill Pond and Barnhouse Pond; 2 pairs at Rye. A total of 49 goslings was noted. In addition there were breeding season records from 5 other localities.

The species appears to be increasing its numbers and all records are needed so that an accurate assessment of its present status can be made.

85. **WHOOPER SWAN** (*Cygnus cygnus*).—Two in the Ouse valley on Jan. 7th (AJC) and single birds at Darwell Res. from Jan. 18th to Feb. 8th (TPD, PJM, JR *et al.*) and at Amberley on Dec. 2nd and 6th (HPKR).

86. **BEWICK'S SWAN** (*C. bewickii*).—At Amberley Wildbrooks there were maxima of 29 in January and 34 in February and March; 13 there on Nov. 15th and 14 throughout December. At Glynde there was one on Jan. 4th and 2 on the 31st and, in December, 17 on the 5th and 6th, 25 on the 12th, 28 on the 13th and 15 on the 24th.

Other records were: 3 at Horse Eye Level on Jan. 4th and 8 on the 18th, 2 at Darwell Res. on the 4th and 4 on Feb. 8th, 4 at Piddinghoe on Jan. 6th, with 3 until the 25th, and 24 flying S. over Chichester G.P. on the 20th. One was picked up dead at Camber on Jan. 11th.

In December 25 flew NE. over Ansty on the 13th and 20 likewise over Pesham on the 20th. Three at the Cuckmere on the 25th, which departed W.

91. **BUZZARD** (*Buteo buteo*).—One pair bred, rearing 2 young, and single birds were present in 4 other areas during the year. There is no evidence that any of the latter were paired or bred, but this may only reflect a lack of observations.

One at Beachy Head on Feb. 27th and 28th was perhaps an early migrant. Otherwise 3 records of spring passage, all in May, as follows: one N. over Pesham on the 9th, one over Rottingdean on the 12th and one flying SW. over Rye Harbour on the 23rd.

In the autumn at Beachy Head 8 were recorded between Aug. 27th and Oct. 22nd, all singly except for 2 on Sept. 16th one of which departed S. Elsewhere there were 7 records of 8 birds as follows: singles over Rye on Aug. 11th, flying S. over Parham Park on Sept. 4th, over Glynde Level on the 10th and flying E. over Exceat on the 15th. There were 2 at Pagham on Sept. 20th and singles flew E. over Glynde on Oct. 4th and SW over Plumpton on Oct. 18th.

92. **ROUGH-LEGGED BUZZARD** (*B. lagopus*).—One at Udimore on Sept. 11th was seen regularly hunting in the district until the end of the year (JA).

93. **SPARROWHAWK** (*Accipiter nisus*).—A comparison of the records for 1969 and 1970 suggests no decrease.

There were reports from 39 localities. Of these 20 held resident birds or pairs, of which 3 certainly bred, rearing a total of 7 young, and 5 probably bred. Other breeding season records came from 4 localities and there were autumn and winter reports from a further 15 localities in the interior.

Records indicating migration were of single birds arriving from the S. at Beachy Head on Mar. 8th and 21st and one likewise at the Seven Sisters on the 8th. In the autumn at Beachy Head there were singles on 8 dates between Aug. 9th and Oct. 8th and 2 on Sept. 26th.

95. **RED KITE** (*Milvus milvus*).—One at Beachy Head on Sept. 29th (JFC, RHC).

96. **BLACK KITE** (*M. migrans*).—One came in from the SE. at Beachy Head on Apr. 12th and departed W. along the cliffs (ARK, BAEM). This record, which is the first for the county, has been accepted by Brit. B.

99. **MARSH HARRIER** (*Circus aeruginosus*).—Single birds at Beachy Head on May 8th (AJC) and 13th (MJR); the latter was a male.

100. **HEN HARRIER** (*C. cyaneus*).—In the early months 4 were wintering as follows: Ambersham Common, a male until Feb. 28th; Ashdown Forest, last recorded Apr. 19th; Cuckmere valley, last recorded Apr. 18th; Beachy Head area, last recorded May 16th (MJR), an extremely late date. This bird was a readily recognisable individual. In addition there was one at Beddingham on Jan. 30th, a second bird at Beachy Head on Mar. 8th and singles at the Midrips from the 1st to 21st and on Apr. 11th.

In the autumn there were single birds at Nutley and Beachy Head on Oct. 3rd, at Winchelsea on the 18th, Findon on the 24th and 25th, Wepham Down on the 25th and the Midrips from Nov. 26th to 28th. In December a male at Lullington on the 3rd and ring-tails at Glynde on the 6th, the Cuckmere valley from the 26th to 31st, Sidlesham from the 27th to 31st, Fishbourne on the 30th and Amberley Wildbrooks on the 31st.

102. **MONTAGU'S HARRIER** (*C. pygargus*).—In May single birds at Sidlesham on the 7th (MS), Beachy Head on the 12th and 18th (JFC, MEC, BW), Camber on the 17th (DSF) and the Midrips on the 16th and 17th (KOS). An immature at Littleington on Aug. 9th (PJW).

HARRIER SPECIES.—Single unidentified harriers, either *cyaneus* or *pygargus* were recorded in the spring as follows: Apr. 30th, Wilmington Hill; May 3rd, Sidlesham Ferry and Beachy Head, both males; May 17th, Pagham Harbour. These records seem of particular interest in view of the somewhat more numerous spring records of *pygargus* than usual.

In the autumn there were singles in Amberley Wildbrooks on Sept. 5th, Rye Harbour on the 13th, the Cuckmere valley on the 15th and at Sidlesham on Oct. 10th.

103. **OSPREY** (*Pandion haliaetus*).—A remarkable total of 7-9 in the spring, more than in any previous year. Records were as follows: one came in from the sea at Pagham on Apr. 16th and departed N. (NPH, MS) and one at Weir Wood Res. on the 30th (JER). In May single birds at Beachy Head on the 7th, which departed NE, 17th departing E. and 18th departing NE. (BEC, RHC, ARK *et al.*). There was one, almost certainly 2, in Chichester Harbour on the 12th (WSH) and one, possibly one of the same, at Chichester G.P. on the 14th (JVS). At the end of the month there was one at Weir Wood Res. on the 28th and 29th (TWP, CFT *et al.*).

There were no autumn records.

104. **HOBBY** (*Falco subbuteo*).—First recorded on Apr. 25th when one arrived from the S. at Selsey Bill. Four other records at the coast between May 12th and June 7th.

Three pairs were proved to breed, 2 rearing a total of at least 3 young. Birds were also noted in the breeding season in 6 other established breeding areas, but the species was undoubtedly under-recorded during 1970.

Autumn passage was noted at the coast from July 12th, with one at Beachy Head, until Oct. 12th and 13 birds were reported. Eight of these were seen between Sept. 12th and 24th, mainly at Beachy Head, where singles were noted on 6 dates in the period.

105. **PEREGRINE** (*F. peregrinus*).—There was no further increase in records. At least one in the Glynde area (see 1969 SxBR) until Jan. 18th (DCL). One wintered in Horse Eye Level, being last seen on Mar. 8th (KV). This was possibly one of the birds seen at Glynde in Dec. 1969. Single birds at Beachy Head on Jan. 10th, Apr. 19th and May 8th (JFC, PJW).

At the end of the year single birds at Beachy Head on Sept. 15th, which departed S. (BEC, JFC, *et al.*) and 27th and 28th (NAGL, KV), and at Rottingdean on Dec. 16th (AJC).

107. **MERLIN** (*F. columbarius*).—Although there may be some unavoidable duplications the total of c.28 recorded during the year is the highest since 1947. In January there were single birds at Glynde and Horse Eye Levels on the 4th, Camber on the 11th, Pagham Harbour on the 24th and Beddingham on the 31st. One at Beachy Head and one at the Midrips on Feb. 4th and, in March, one at Beachy Head on the 18th and 27th and one arriving from the SW at Selsey Bill on the 30th. One at Beachy Head on Apr. 11th.

One at Rye Harbour on Aug. 14th and 24th (JA, DSF) was a very early arrival. Otherwise not recorded in the autumn before September, with single birds at Beachy Head on the 20th and 27th. In October there were singles at Alfriston on the 3rd, Beachy Head on the 12th and 16th, with 2 there on the 4th and 17th and one at Kingly Vale on the 24th. One flew out SE. at Langney point on the 15th. In November singles at Woodingdean on the 8th, Piddinghoe on the 9th, Beachy Head on the 12th, Chantonbury on the 25th, Pagham on the 28th, and Rye Harbour on the 30th. One at the Cuckmere on Dec. 8th.

110. **KESTREL** (*F. tinnunculus*).—A marked decline in the number of reports, only half as many being received for 1970 as 1969. This partly reflects a decline of interest in recording the species but there may be some local decrease in numbers. It is also of interest that many of the more recent breeding season reports are filling in gaps in the map resulting from the 1964-7 survey, which is most valuable.

There were breeding season records from 110 localities, of which 61 were established as territories. In these 18 pairs were proved to breed, 13 being known to have reared 22 young, 31 pairs probably bred and there were 12 possible pairs. In the remaining 49 localities there were simply casual breeding season reports.

Local declines were noted on the Selsey Peninsula, of c.30-40%, and probably on the Downs behind Worthing. In addition none was seen during a week's intensive field-work for the BTO Atlas in the area Northiam-Iden-Rye-Hastings-Brede-Northiam in early June. While it would probably be wrong to regard this as conclusive proof of its absence (Kestrels can be very elusive when breeding) the species is clearly scarce in this part of Sussex, which bears out the pattern produced by the 1964-67 survey.

Breeding success was also rather poor, the average brood size of 1.7 being similar to 1969. In the 3 years 1968-70 50 broods, totalling 91 young, have been recorded, average 1.8. This represents a drop of .4 compared with the overall brood size recorded by the 1964-67 survey.

Spring records of migration were of 4 arriving from the S. at Selsey Bill between Mar. 30th and Apr. 19th and one likewise at Beachy Head on May 19th. There were 8 at Beachy Head where there were only 2 resident pairs, on Apr. 4th. In the autumn single birds departed SW. at Selsey Bill on Aug. 8th and Sept. 26th and SE. on Oct. 16th and S. at Beachy Head on Aug. 29th with 2 on Sept. 19th. Elsewhere there was a quite marked movement between Sept. 30th and Oct. 3rd, with 6 W. off Langney Point (Sept. 30th-Oct. 2nd), one SW (Sept. 30th) and 3 arriving N. (Oct. 3rd) at Newhaven and one at S. at the Midrips on Sept. 30th.

115. **RED-LEGGED PARTRIDGE** (*Alectoris rufa*).—Records were received from 12 areas only. There were 62 on the Downs near Chantonbury on Jan. 6th and parties of c.20 there on Oct. 18th; c.100 in the Lychpole area, near Cissbury, on Nov. 8th. The species is obviously much more common in the Cissbury/Chantonbury area than elsewhere in the county (see also SxBR 1969).

Elsewhere DCL found strong coveys round Caburn near Lewes, and Bishopstone but there were none on the Rye Harbour LNR and only one pair on 400 acres at Sidlesham. Apart from 11 at the Midrips on Sept. 12th all other records refer to single birds or pairs only.

116. **PARTRIDGE** (*Perdix perdix*).—Although few detailed counts were submitted it was clearly a much more successful breeding season for this species than for some years. At Sidlesham there were 7 coveys totalling 84 birds on one area of 400 acres and 3 totalling 35 on another area of c.70 acres; on the Rye Harbour LNR there were 10 coveys totalling 104 birds. On Nov. 8th there were c.120 in the Lychpole area and, of the remaining 13 autumn or winter reports, 6 were of coveys of over 10.

On the other hand only 2 were seen in two 2 mile walks at Bishopstone and Tarring Neville in July.

117. **QUAIL** (*Coturnix coturnix*).—Between May and September there were reports from 18 localities, mainly along the Downs from Chantry Hill to Beachy Head, involving some 38 birds. Thus rather more were found than in the last Quail "year," 1965. Most, 16, were recorded in June and no breeding was proved but it is probable that at least some of the birds noted along the Downs in the summer attempted to breed. Unless calling, Quail are virtually impossible to find in large areas of standing corn. Records are given by months:

May: 8th, Beachy Head; 18th, Litlington; 25th, Crowhurst; 31st, West Chiltington. June: 5th and 12th, Saddlescombe; 8th, East Dean and 3 at Wilmington; 13th, Balmer; 15th, Sidlesham; 17th, Barcombe; 22nd, 4 at Chantry Hill and one at Street, to 29th; 25th, High Park; 28th, one each Wilmington and Chantry Hill. There were also 2 at Milton Street throughout the month. July: 1st, 3 at Chantry Hill; 7th, West Chiltington; 10th, 2 at Ditchling Beacon; 15th, Bishopstone; 26th, 2 at Woodingdean and one on 27th. August: 2nd, Chantonbury; 10th, Litlington; 11th, Beachy Head with singles also on the 24th and 29th and 2 on the 23rd. September: Beachy Head on 5th, 19th (2), 23rd (2), 24th and 25th and one at Sidlesham on the 11th. Two pairs probably bred, and 3 others were present in the breeding season in square TQ 70.

120. **WATER RAIL** (*Rallus aquaticus*).—In the early months 9 were recorded at 7 coastal localities and 16 were noted in 13 inland sites. Wintering birds were present up to at least Apr. 10th and there were singles, presumably migrants, at Rye Harbour LNR from Apr. 19th to 29th and at Beachy Head on the 30th and May 13th.

No definite breeding pairs were reported, but there were breeding season records from 5 localities, Church Norton, Wiston Lake, Beeding Brooks, Warrham Mill Pond and Litlington, all except the first being new sites. At least 3 regular breeding sites were not visited.

Rather few at the end of the year, a total of 9 single birds in November and December, 5 at the coast and 4 inland.

125. **CORNCRAKE** (*Crex crex*).—Single birds at Beachy Head on Apr. 19th (DB) and Harting on Sept. 10th (CEH).

127. **COOT** (*Fulica atra*).—A marked decrease in the amount of information received. Monthly maxima at stated localities are tabulated but are incomplete.

Locality	Jan.	Feb.	Mar.	Oct.	Nov.	Dec.
Thorsey	290	170	380	120	95	110
Fishbourne	100	180	40		120	120
Beesham		100	100			
Manwood End	500			80	770	660
Chichester G.P.			260		105	125
Sweetwater Lake	250	55	55	0	11	22
Wells Wood Res.	26					
Darwell Res.	100	115				
Beddingale	500	300		50		
Pett level	340	650		200		
Rye Harbour G.P.						

Waders

As in past years, a series of monthly wader counts were made in Chichester and Pagham Harbours, although the 1970 counts were bedevilled by administrative difficulties. The results are thus incomplete but those achieved are tabulated on pages 56 and 57. The systematic list is largely confined to records outside the scope of these tables, which should be consulted in conjunction with the list for all the 1970 information.

131. **OYSTERCATCHER** (*Haematopus ostralegus*)*.—The monthly maxima recorded at Rye Harbour were: Jan. 160, Feb. 60, Mar. 120, Apr. 120, May 120, June 90, July 115, Aug. 210, Sept. 350; c.300 there from October to December. Elsewhere there were 250 at Clipping on Jan. 10th and, between October and December, a maximum of 160 on Dec. 27th. Thirty at Saltdean on Apr. 14th and at the Midrips on July 16th; 100 in the latter area on Aug. 28th. Spring passage at Selsey Bill totalled 100E. and 42 W. in 39 days (347hrs.) watching from Feb. 28th to May 31st; at Beachy Head 34 flew E. between May 3rd and 13th.

Breeding reports came only from Rye Harbour, where there were 9 pairs breeding on the LNR and 3 on Northpoint Beach; breeding success seemed very poor.

One flew out SE. at Selsey Bill on July 26th and there were 2 at Weir Wood Res. on Aug. 3rd (RJB) and 2 at Arlington Res. on the 5th (MJR). See also tables of oiled birds, pages 59 and 60.

133. **LAPWING** (*Vanellus vanellus*)*.—The only sizable flocks reported in the early months were c.1,000 at Winchelsea on Jan. 4th, c.300 in Beeding Brooks on the 17th, c.500 in Amberley Wildbrooks on the 24th and 275 at Selsey and 250 at Ringmer on the 25th. At the end of the year the species seemed particularly numerous from late November to early December, when the following counts were made: c.3,000 at Glynde Level on Nov. 21st and c.15,000 there on Dec. 12th; c.1,250 at the Cuckmere on Nov. 21st and 750 on Dec. 11th; c.1,000 at Winchelsea on Nov. 23rd and c.2,000 on Dec. 6th; 500 at Groombridge on Nov. 24th; c.3,500 at Amberley Wildbrooks on the 28th.

There was an extensive cold weather movement on Jan. 5th and 6th, the largest count being of 1,750 SW. over Tilgate on the 6th. At Selsey Bill 530 departed S. over Feb. 14th/15th. In March a westerly movement was noted along the whole coast on the 5th, the largest counts being 715 at Bexhill and 300 at Lancing; a small arrival involving 120 birds was noted at Selsey Bill and Beachy Head on the 21st.

Rather few breeding counts were received and more would be welcomed with this species. At Sidlesham, although no precise count was made, an obvious increase and an excellent breeding season was apparent. Rye 70 pairs were present in the breeding season on the LNR but breeding success was very poor. There were 8 pairs on Glynde Level on May 19th. Large post breeding flocks noted were 300 at Chichester G.P. on June 13th, 100 at Weir Wood Res. and 350 at Rye on the 21st and 170 at Ditchling on the 25th. Three arrived from the S. at Selsey Bill over June 6th/7th and, in July, there were counts of 600 at Rye LNR on the 3rd and 850 at Chichester G.P. on the 18th.

*See also wader count tables, pages 56 and 57.

There was a very large cold weather movement in late December. Counts included 2,000 S. over Sidlesham in 2 hours on the 25th and 4,000 W. over Eastbourne on the 26th; on the 23rd most of the very large flocks noted in the Glynde/Lewes area departed.

134. RINGED PLOVER (*Charadrius hiaticula*)*.—Up to 26 were wintering in the Newhaven/Cuckmere area at both ends of the year. No other significant winter counts were made outside the wader counts.

A total of 36 breeding pairs was reported as follows: Chichester G.P., 5; Portslade, 4; Newhaven Tidemills, 2; the Crumbles, 2; Rye Harbour, 17 on the LNR and 6 at Northpoint Beach. Breeding success is difficult to judge but most pairs appear to have raised some young. The Portslade records are of particular interest since these birds were breeding successfully in the immediate vicinity of the power station, one pair in an enclosed compound, part of the power station complex. It seems possible that the species is developing a tolerance of casual disturbance in its breeding territories.

In the autumn there were monthly maxima at Rye Harbour of 90 in July, 80 in August and 70 in September. The autumn maximum at Shoreham was 100 on Aug. 12th and there were 49 at the Cuckmere on the same day. Inland a total of 22 was recorded at Weir Wood Res. between July 14th and Oct. 4th, 10 on Sept. 3rd being the peak count.

135. LITTLE RINGED PLOVER (*C. dubius*).—In the spring there were single birds at Sidlesham Ferry on Apr. 15th and Pagham Harbour on May 1st and 2 at Newhaven Tidemills on the 4th. One pair certainly attempted to breed.

An unusual number of autumn records with a total of c.24 reported at the coast and inland, at Chichester G.P., Weir Wood Res. and Arlington Res. between June 25th, when there was one at Weir Wood Res., and Sept. 19th. Monthly totals were: June, one, July 12, Aug. 8, Sept. 3.

139. GREY PLOVER (*Pluvialis squatarola*)*.—The monthly maxima recorded at Rye Harbour were: Jan. 28, Feb. 24, Mar. 9, Apr. 13, May 9, June 3, July 2, Aug. one, Sept. 2, Nov. 14. Three at Arlington Res. on Oct. 13th and 14th (MJR, PJW, VAW), inland records are very unusual.

140. GOLDEN PLOVER (*P. apricarius*)*.—Regular counts in the Selsey area recorded the following monthly maxima: Jan. 450, Feb. 40, Mar. 170, Apr. 300, May one, Nov. 400, Dec. 1,250. Other large winter counts were 350 at Pagham on Jan. 1st, 400 at Winchelsea marsh on the 25th, 120 at Horse Eye level on the 26th, 250 at Leasam on Nov. 15th, a maximum of 1,000 at Winchelsea on Nov. 22nd and c.300 on Pevensey Levels on Dec. 7th and 18th. Few others were reported. Small movements were noted in March and there were 4 May records; single birds at Sidlesham on the 3rd and Pagham on the 20th, showing the characters of the race *altilifrons*, and at Rye on the 12th and 24th.

Of 300 in s/p at Bracklesham Bay on Apr. 16th at least half showed the characters of the race *altilifrons*.

143. TURNSTONE (*Arenaria interpres*)*.—The monthly maxima recorded at Rye Harbour were: Jan. 62, Feb. 15, Mar. 67, Apr. 60, May 95, June 3, July 9, Aug. 50, Sept. 27, Nov. 48. The wintering population along the coast between Pevensey and Hastings involved c.100 birds in the early months and c.130 at the

*See also wader count tables, pages 56 and 57.

end of the year. There were c.30 at Selsey Bill in January and 32 at Climping on Dec. 13th.

In the spring there was a small coasting passage involving 72 flying E. off Selsey Bill in 25 days (230hrs.) watching between Apr. 11th and May 31st and 13 likewise off Beachy Head between May 4th and 13th; 2 flew E. there on June 9th. There was one at Chichester G.P. on May 9th and 2 on Aug. 15th (AHD, HPKR).

145. SNIPE (*Gallinago gallinago*)*.—Although there was a marked decrease in the amount of information received the records give the strong impression that numbers were genuinely very low, particularly in the early months. Counts are tabulated to give an approximate total of birds recorded in each month, with the number of areas in which counts were made shown in brackets.

Jan.	Feb.	Mar.	Nov.	Dec.
230 (12)	210 (9)	205 (8)	460 (7)	435 (9)

Of the regular areas normally holding 100+ visited in the early months only Thorney, with a maximum of 120 in January, held fairly large numbers. Otherwise 90, many of which were probably on passage, at Selsey Bill on Mar. 22nd was the only count of more than 50. At the end of the year 110 at Weir Wood Res. on Nov. 7th and a maximum of 180 at Thorney in December were the highest counts and counts of over 50 were also made at Selsey Bill, Amberley Wildbrooks, Coolham and Glynde Level.

The only breeding counts received were of 8 pairs in Pulborough Brooks and 5 in Beeding Brooks. The species was also present throughout the breeding season at Lavant and a nest was found at Bracklesham Bay where at least 4 males were displaying in April; this is the first record of breeding for the Selsey Peninsula since at least 1947.

147. JACK SNIPE (*Lymnocyptes minimus*).—The only records in the early months were of single birds at Barcombe Res. on Jan. 8th, Glynde Res. on the 18th and Thorney Deepes on the 25th; 2 or 3 at Thorney on Mar. 8th and singles at Bexhill on the 10th and Plumpton on the 29th and 30th.

In the autumn the first recorded were 2 at Sidlesham Ferry on Oct. 3rd. There were singles at Arlington Res. and the Cuckmere on the 6th, Sidlesham Ferry on the 19th and Arlington Res. on the 26th; one at Glynde on Nov. 7th. In December one at Brooklands, Worthing, from the 6th, with 2 on the 31st, 3 at Glynde Marlipit on the 19th, 4 at Newhaven Tidemills on the 20th and one at Church Norton on the 27th.

148. WOODCOCK (*Scolopax rusticola*).—Widespread breeding season reports of roding received, involving c.60 birds in 34 localities.

At the coast small movements were indicated by reports of 7 birds between Feb. 15th and Mar. 22nd, when 2 arrived from the sea at Beachy Head; 3 at the latter area between Nov. 8th and 25th.

150. CURLEW (*Numenius arquata*)*.—The monthly maxima recorded at Rye Harbour were: Jan. 80, Mar. 260, Apr. 25, May 19, June 26, July 43, Aug. 250, Sept. 200, Oct. 100; no records for the last 2 months. There were up to 30 at Newhaven Tidemills at each end of the year and 300 at Pett Level on Feb. 9th and 200 there on Dec. 14th.

As usual there were breeding season records from Ashdown Forest and one pair in the NW. of the county. A pair may also have attempted to breed at Sidlesham, where a territory was being defended throughout April.

*See also wader count tables, pages 56 and 57.

151. **WHIMBREL** (*N. phaeopus*)*.—First recorded on Apr. 9th at Rye Harbour. In spring visible passage was much smaller than in the previous 2 years, the only significant movements being 34 E. off Beachy Head on Apr. 18th and 25 E. there on May 5th. But very large numbers were noted at the Midrips in May, with 40 on the 3rd, 150 on the 5th, 6 on the 7th and 55 on the 9th (KOS). In June 3 at Rye on the 4th, 4 on the 7th and one until the 23rd, and one arrived from the S. at Selsey Bill on the 14th.

Little visible passage noted in the autumn but 40 flew SW. over the Rye Harbour LNR on Aug. 19th and 11 W. over Beachy Head on the 30th. Two in Pagham Harbour on Oct. 18th were the last recorded.

154. **BLACK-TAILED GODWIT** (*Limosa limosa*)*.—The maximum count in Pagham Harbour was c.500 on Feb. 16th, with c.350 there on Mar. 12th; up to 70 there throughout June. Inland records were up to 3 at Chichester G.P. in January, one at Arlington Res. on June 28th and 29th and 2 at Weir Wood Res. on Aug. 17th.

155. **BAR-TAILED GODWIT** (*L. lapponica*)*.—The only significant count outside Chichester and Pagham Harbours, apart from visible passage, was c.20 at Goring on Oct. 9th. Spring coasting movements were much smaller than in the previous 2 years, the only significant ones being of 30 E. off Beachy Head on Apr. 18th and 45 E. on May 4th and 47 E. off Selsey Bill on May 3rd. Five arrived from the S. at Selsey Bill on May 26th and 2 did so on the 30th. In the autumn 150 flew out SW. at Langney Point on Sept. 14th.

156. **GREEN SANDPIPER** (*Tringa ochropus*)*.—There were records for every month except April. Winter records came from Chichester G.P. and Glynde Level at both ends of the year, Lewes Brooks, Horse Eye Level and Langton S.F. in the early months and Thorney Island at the end of the year. Spring passage was very poor and virtually confined to March, but there was one at Weir Wood Res. on June 9th.

Autumn passage was first noted on June 20th and continued until about early November with a very sharply defined peak of 45 birds in the first week of August. Monthly totals were:

Jan.	7	Feb.	7	Mar.	11	Apr.	0	May	1	June	9	July	8	Aug.	61	Sept.	14	Oct.	4	Nov.	5	Dec.	4
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157. **WOOD SANDPIPER** (*T. glareola*)*.—There were no spring records. More numerous than usual in the autumn with a total of 33 noted between July 31st and Sept. 24th, more than in any autumn since 1956, when 37 were recorded. Most were recorded at the coast but there were records inland at Chichester G.P. and Arlington Res.

159. **COMMON SANDPIPER** (*T. hypoleucos*)*.—Recorded in every month except, very curiously, October. Winter records were of single birds at Lewes Brooks on Jan. 2nd, Weir Wood Res. on the 4th, and Chidham on Feb. 26th. In November singles at Fishbourne S.F. on the 22nd and the Cuckmere valley on the 21st and 24th; one at Chichester G.P. on Dec. 3rd.

*See also wader count tables, pages 56 and 57.

Spring passage was recorded between Mar. 10th and the end of May, with unusual numbers passing through in the latter month; the spring peak of 34 birds occurred in the third week and included a count of 21 at Rye Harbour LNR on the 16th, a very high count for the spring. Autumn passage was noted from June 22nd to the end of September with a very marked peak of 93 birds in the first week of August. As usual there were widespread reports inland. Monthly totals were:

Jan.	2	Feb.	1	Mar.	3	Apr.	13	May	74	June	7	July	57	Aug.	180	Sept.	80	Oct.	0	Nov.	2	Dec.	1
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161. **REDSHANK** (*T. totanus*)*.—The monthly maxima recorded at Rye Harbour between March and September were: Mar. 30, Apr. 25, May 35, June 55, July 120, Aug. 100, Sept. 30; no records were received for the other months. Other winter counts were c.80 at Shoreham on Jan. 2nd and up to 40 at Newhaven Tidemills and 25 at the Cuckmere between January and March. At the end of the year a maximum of 70 at Tidemills on Nov. 23rd and 30 at the Cuckmere on the 22nd.

Breeding pairs were recorded from Chichester Harbour, the Sidlesham/Selsey area, Chichester G.P., the Arun, Adur, Ouse and Rother valleys, Glynde Level, near Chailley and Rye, with a total of c.67 pairs involved. Few complete counts were made in any of these areas but there were 3 pairs at Chichester G.P., 5-6 pairs in Beeding Brooks (Adur valley) and 12 pairs at Rye marsh and Harbour. Breeding success in the Sidlesham area was very good.

There were 2 at Weir Wood Res. on Nov. 15th and one on the 17th, late dates for inland records.

162. **SPOTTED REDSHANK** (*T. erythropus*)*.—Recorded in every month except November. In the early months single birds were wintering at Pagham Harbour and Newhaven Tidemills and there was one at Shoreham on Jan. 2nd, 2 at Chichester G.P. on the 4th and one at Dell Quay on Feb. 26th. In December single birds were apparently wintering at Thorney, Pagham Harbour and Newhaven Tidemills.

A small spring passage was noted between Mar. 10th and June 14th. Autumn passage was noted between June 21st and the end of October, with a very marked peak of 47 birds in the first week of August. There were inland records from Weir Wood Res. and Arlington Res. Monthly totals were:

Jan.	5	Feb.	2	Mar.	4	Apr.	1	May	6	June	17	July	1	Aug.	57	Sept.	19	Oct.	4	Nov.	0	Dec.	3
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164. **LESSER YELLOWLEGS** (*T. flavipes*).—One at the Cuckmere on Aug. 3rd and 4th (MJR, PJW, VN). This record has been accepted by Brit. B. and is the 4th for Sussex.

165. **GREENSHANK** (*T. nebularia*)*.—Recorded in every month. Winter records were of one or 2 at Thorney Deepes in January and February and 4 there in December. Spring passage was first recorded on Mar. 19th and continued until June 6th, although there was also one at Rye on the 14th; most passage was in May. Autumn passage was noted between June 26th and about mid-November, with 3 sharply defined peaks, in the first week of August, 38 birds, the first week of September, 63 birds and the third week of October, 64 birds. There was the usual wide scatter of inland records. Monthly totals were:

Jan.	1	Feb.	2	Mar.	2	Apr.	3	May	16	June	4	July	27	Aug.	55	Sept.	94	Oct.	67	Nov.	13	Dec.	4
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*See also wader count tables, pages 56 and 57.

169. **KNOT** (*Calidris canutus*)*.—The monthly maxima recorded at Rye Harbour were: Mar. 6, Apr. 2, May 45, June 1, July 1, Aug. 2, Sept. 5. In addition 250 flew SW. out to sea there on Aug. 19th and 23 W. on the 30th.

Six arrived from the S. at Selsey Bill on Mar. 21st and there were 30 in Pagham Harbour on May 16th and 32 at the Midrips on the 17th.

170. **PURPLE SANDPIPER** (*C. maritima*).—About 40 were recorded at both ends of the year, although there was only one report from Bulverhythe, a regular winter site. Records as follows: Selsey Bill, one on Nov. 14th and 21st; Pagham Harbour, 7 in January and 5 in March, still 2 on Apr. 20th, 2 in December. Rather higher numbers than usual. Climping, 4 on Jan. 10th and a maximum of 13 in December, higher numbers than usual; Shoreham, one on Oct. 29th; Newhaven, maxima of 26 in January, 30 in February, 17 in November and 29 in December, continuing the recent trend of high counts. Langney Point, one or 2 from Sept. 2nd to the end of the year; Bulverhythe, one on Dec. 3rd; Pett, one on Apr. 3rd.

171. **LITTLE STINT** (*C. minuta*)*.—One or two wintering in Pagham Harbour until at least Mar. 9th. One at Sidlesham Ferry on May 5th and 9th was the only spring record.

A good passage in the autumn with c. 70 recorded between July 28th and Oct. 18th, although no party of more than 5 was seen. Most were seen at the coast but there were inland reports from Chichester G.P., Weir Wood Res. and Arlington Res. One at Pilsey Island on Nov. 14th.

173. **TEMMINCK'S STINT** (*C. temminckii*).—Three in the autumn as follows: one at Sidlesham Ferry on Aug. 22nd (BM, MS), one at Weir Wood Res. from Aug. 24th to Sept. 1st (PCB, RJB, *et al.*) and one at Arlington Res. on Aug. 24th (MJR, PJW, VAW).

176. **PECTORAL SANDPIPER** (*C. melanotos*).—One at Shoreham on Sept. 26th (CMV).

178. **DUNLIN** (*C. alpina*)*.—The monthly maxima recorded at Rye Harbour were: Mar. 20, Apr. 110, May 12, June 4, July 180, Aug. 125, Sept. 15. Other significant winter flocks were: maxima of 400 at Shoreham between January and March and 500 in December and 130 at Newhaven Tidemills between January and March and 200 there in December.

One arrived from the S. at Selsey Bill on Jan. 4th and a total of 6 did so between Apr. 11th and May 30th; coasting passage in the spring was very slight. Eleven flew out SW. at Selsey Bill on Sept. 19th.

As usual there was a scattering of records inland, at Chichester G.P., Pulborough, Weir Wood Res., Barcombe Res., Glynde Level and Arlington Res.

179. **CURLEW SANDPIPER** (*C. ferruginea*)*.—One in Pagham Harbour on May 20th and 24th was the only spring record. Another very good autumn passage, although modest compared with the great invasion of 1969. However, that exceptional movement apart, the 1970 total of c. 85 birds appears to be the highest autumn total yet recorded. Records fell between Aug. 6th and Nov. 15th, when there were 4 at Thorney (JHME), a very late date. All records were for the coast except for one at Weir Wood Res. on Sept. 3rd. The largest party was of 28 at Sidlesham Ferry on Aug. 31st.

*See also wader count tables, pages 56 and 57.

181. **SANDERLING** (*C. alba*)*.—The monthly maxima recorded at Rye Harbour were: Jan. 75, Mar. 55, Apr. 50, May 30, June nil, July 22, Aug. 80, Sept. 50, Oct. 10, Nov. 40; no reports for February or December. Other significant winter flocks were c. 300 at Climping on Jan. 10th and a maximum of 350 there in December and up to 60 at Goring in March. At East Head, West Wittering, there were up to 100 between January and March and 250 on Nov. 13th. A small spring passage off Selsey Bill, where 158 flew E. and 34 W. in 38 days (340hrs.) watching from March to May, peak 41 E. on May 5th. See also tables of oiled birds on pages 59 and 60.

182. **BUFF-BREASTED SANDPIPER** (*Tryngites subruficollis*).—One at Sidlesham Ferry on Sept. 5th (JAB, LGH). This record has been accepted by *Brit. B.* and is the fourth for Sussex.

184. **RUFF** (*Philomachus pugnax*)*.—Recorded in every month, monthly totals being:

Jan. 99	Feb. 96	Mar. 154	Apr. 24	May 9	June 1	July 3	Aug. 19	Sept. 17	Oct. 14	Nov. 13	Dec. 15
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The species was unusually numerous again in the first 3 months (see SxBR 1968), when the following flocks were noted: 34 at Thorney (DFB, BAEM) and 65 at Bracklesham (HPKR) on Jan. 3rd, 70 at Earnley (probably the Bracklesham flock) on Feb. 18th (JVS), 32 at Pagham Harbour on Mar. 8th (RJB) and 80 flying W. over Sidlesham on the 15th (MS). Otherwise numbers were somewhat below average, autumn passage in particular being rather poor.

185. **AVOCET** (*Avocetta recurvirostra*).—At Pagham Harbour the wintering flock of 12 (see SxBR 1969) remained until Mar. 26th, 2 of them until May 2nd. Spring records were one at Newhaven Tidemills on Apr. 24th, single birds at Rye Harbour LNR and the Midrips on May 3rd, with 2 at the latter area on the 4th. Five W. off Selsey Bill were later found at Sidlesham Ferry on May 16th, two remaining until the 18th. In June 7 flew E. off Selsey Bill on the 6th, 6 flew E. off Beachy Head on the 7th and 6 at the Rye Harbour LNR on the same day; all these records could refer to the same party.

No autumn records. Wintering birds first returned to Pagham Harbour on Dec. 13th but there were only 3 there at the end of the month.

187. **GREY PHALAROPE** (*Phalaropus fulicarius*).—Single birds in the Cuckmere valley from Sept. 13th to 17th (MJR, PJW, VAW, *et al.*) and trapped on Oct. 17th (PJW, VAW). One at Pagham on Nov. 22nd (CEM) and one at Brooklands, Worthing from Nov. 22nd to 25th (CEM, CMV).

188. **RED-NECKED PHALAROPE** (*P. lobatus*).—One bird at Rye 11th-16th Sept. (DSF *et al.*).

189. **STONE CURLEW** (*Burhinus oedicnemus*).—Very little breeding season information was received. In August one or 2 were calling at Arlington Res. and one at the Midrips on the 23rd.

*See also wader count tables, pages 56 and 57.

193. **ARCTIC SKUA** (*Stercorarius parasiticus*).—First recorded on Apr. 11th, at Beachy Head. Spring passage there totalled 62 E. up to June 14th, with a peak of 24 over May 5th/6th. At Selsey Bill 34 flew E. in 30 days (297hrs.) watching from Apr. 19th to the end of June, peak 7 on Apr. 25th.

A larger autumn passage than usual, with c.135 recorded between July 4th and Nov. 18th. Most movement was in September particularly between the 12th and 15th, with movements of 15 W. off Selsey Bill on the 12th and 49 W. off Langney Point on the 14th (NAGL, RFP). The latter is easily the largest single movement recorded off Sussex. Single birds were picked up dead at Felpham on Nov. 21st and Rye on the 29th.

One was seen at Weir Wood Res. on Sept. 3rd (RRG), only the second inland record this century.

194. **GREAT SKUA** (*S. skua*).—One flew W. off Selsey Bill on Jan. 18th and one, perhaps the same, offshore there on the 24th (DSF, HPKR). A slightly oiled bird picked up at Pagham on the 24th later died (WWAP). Another very good spring passage. At Selsey Bill 8 flew E. and one W. between Apr. 18th and May 23rd and at Beachy Head 15 flew E. between Apr. 11th and May 2nd. There were also singles off Rottingdean on Apr. 30th and May 4th. About 23 birds appear to be involved in these records.

One off Selsey Bill on June 22nd (HPKR). Otherwise 9 were recorded along the coast during the autumn, between July 4th and Sept. 15th.

195. **POMARINE SKUA** (*S. pomarinus*).—An unprecedented spring passage, eclipsing even that of 1967. An adult flew W. c.75 yards out off Goring on Mar. 10th (CMV), the first March record for the county. In May singles flew E. off Selsey Bill on the 3rd (RUBI, HPKR) and 4th (MS) and W. on the 23rd (HPKR). At Beachy Head there was an extraordinary movement on the 4th, when 26 flew E., in parties of 2, 9, 4, 2, between 0700 and 1045 hrs. (RHC, MJR). All birds were adults with full tails and passed very close affording excellent views. Three flew E. there on the 13th (BEC, MJR). Thus the spring total was at least 32 birds, compared with 21 in 1967.

In the autumn one flew W. off Langney Point on Sept. 14th (RFP).

196. **GREAT BLACK-BACKED GULL** (*Larus marinus*).—The monthly maximum recorded at the Rye Harbour LNR were: Mar. 300, Apr. 200, May 200, June 65, July 260, Aug. 200, Sept. 500; birds in May and June were all immatures. There were 300 at Camber on Jan. 18th.

Flock counts made elsewhere were: 250 at Piddinghoe Pond on Jan. 8th and 100 on Nov. 9th; 55 at the Seven Sisters on Aug. 26th; 60 at the Cuckmere on Sept. 11th and 75 on Dec. 11th; 100 at the Crumbles on Dec. 5th; 100 at Climping on Dec. 12th; 350 at Bulverhythe on the 25th and 250 at Roedean on the 28th. See also tables of oiled birds on pages 59 and 60.

199. **LESSER BLACK-BACKED GULL** (*L. fuscus*).—Winter reports involving 68 birds came from 5 localities in January and February and 14 birds were noted at 4 localities in December. There were only small visible coasting movements in the spring but a large passage was noted at the Rye Harbour LNR, involving c.600 birds between Mar. 15th and the end of May; the highest count was 400 on Apr. 3rd.

In the autumn at Selsey Bill 2,960 flew SW in 10 days (129hrs.) watching between June 27th and July 31st and 715 did so in 19 days (160hrs.) in August and September; peaks were 540 on July 4th and 295 on Aug. 16th. See also tables of oiled birds on pages 59 and 60.

200. **HERRING GULL** (*L. argentatus*).—The table below summarises movements off Selsey Bill.

	Jan.	Feb.	14th-June 14th	June 20th-July 31st	Aug./Sept.
E.	1190	2250	2250	35	0
W.	35	145	1610	460	460
Days watching ...	10 (60hrs.)	47 (420hrs.)	13 (165hrs.)	19 (160hrs.)	

At the Rye Harbour LNR the following monthly maxima were recorded: Mar. 400, Apr. 400, May 800, June 600, July 500, Aug. 800, Sept. 1,000; birds in May and June were all immatures. There were 53 successful nests there in one colony and a total of 123 nests was destroyed in the tern pit. Fifteen pairs attempted to breed at Northpoint.

On Aug. 14th there was a yellow legged bird at Rye (DSF) and there were 2 such birds at Chichester G.P., which were also noted as having slightly darker mantles than normal, on Nov. 5th (JVS) and one, similar to the Chichester birds, at Newhaven on the 6th (AJC). See also tables of oiled birds on pages 59 and 60.

201. **COMMON GULL** (*L. canus*).—Four hundred immatures flying E. off Beachy Head over May 5th/7th was the only significant coasting movement noted. Large numbers were noted at the Rye Harbour LNR as the following monthly maxima and counts show: Mar. 100, Apr. 400 on 9th, 1,000 on 14th, 500 on 15th, May 50, June 24, July 16, Aug. 1,000 on 1st, 350 on 2nd, 160 on 16th, 250 on 18th, Sept. 400.

Elsewhere the following flock counts were made: 200 at Selsey Bill on Jan. 25th; 200 at the Cuckmere on Feb. 14th; 600 at Beachy Head on Mar. 8th; 550 at Roedean on Apr. 11th; 100 at Southwick on June 23rd; 1,180 S. over Findon on Aug. 12th and 100 at Burton Down on the 23rd. In December there were 100 at Climping on the 12th, 400 at Roedean on the 28th and 150 at Newhaven on the 30th. See also tables of oiled birds on pages 59 and 60.

202. **GLAUCOUS GULL** (*L. hyperboreus*).—An adult at Hove from Feb. 28th to Apr. 4th and a similar bird there on Nov. 21st and Dec. 13th (TPD, GAS). An immature in the Pagham/Selsey area from Mar. 19th to 21st (PF, CMJ, MS, IRW) and another flying E. off Selsey Bill on the 30th (HPKR).

FRANKLIN'S GULL (*L. pipixcan*).—An adult in s/p at Arlington Res. on July 4th (MJR). This record has been accepted by *Brit. B.* It seems most likely to have been the bird present for most of the spring at Farlington (Hants.) which was the first bird of this species to be recorded in Europe. It breeds on the prairies of N. America and winters mainly on the Pacific coast of S. America, with a few in the Gulf of Mexico, off Louisiana and Texas.

205. **MEDITERRANEAN GULL** (*L. melanocephalus*).—All records were of adults. One at Chichester G.P. on Jan. 10th and one off Selsey Bill on Feb. 7th. In March there were single birds at Hove on the 7th and 14th, Pagham on the 14th, Piddinghoe on the 18th and flying E. off Beachy Head on the 21st; one off Bulverhythe on Apr. 4th. One in Pagham Harbour on June 7th. One on Bexhill seafont on June 24th.

At the end of the year one in the Pagham/Selsey area from Nov. 14th to at least Dec. 18th and one at Hove on Nov. 21st. See also tables of oiled birds on pages 59 and 60.

207. **LITTLE GULL** (*L. minutus*).—A larger spring passage than usual, with a total of 40 birds noted between Apr. 12th and June 14th; most, 36, were seen in May. All records were for the coast except for 3 at Chichester G.P. on May 12th. In the autumn a total of c.43 recorded between July 1st and Dec. 17th. Most were seen at the coast but there were reports inland from Chichester G.P. and Weir Wood Res. Monthly totals were:

July	Aug.	Sept.	Oct.	Nov.	Dec.
3	15	17	2	5	1

208. **BLACK-HEADED GULL** (*L. ridibundus*).—At the Rye Harbour LNR the following monthly maxima and counts were recorded: Mar. 2,000, Apr. 800 on 10th increasing to 3,000 by 15th, May 700, Aug. 2,000, Sept. 3,000. There were 3 breeding colonies there. At 2 of these a total of 263 nests containing 531 eggs and 49 chicks was counted in early June, but ultimate breeding success was poor, only c.150 young fledging. The third colony was in the Common Ternery and strenuous attempts by the warden to dislodge them successfully prevented breeding.

See also tables of oiled birds on pages 59 and 60.

209. **SABINE'S GULL** (*L. sabini*).—On Sept. 13th an immature flew E. off Selsey Bill (HPKR), another was seen off Langney Point (ASG, AQ), and a third was found in Newhaven Harbour. The last bird remained until the 18th (RHC, BAEM, RFP *et al.*).

211. **KITTIWAKE** (*Rissa tridactyla*).—Movements off Selsey Bill are tabulated:

	Jan.-Mar.	Apr.-June	July-Sept.
E.	50	114	205
W.	37	573	27 (266hrs.)
Days watching	27 (203hrs.)	36 (348hrs.)	27 (266hrs.)

The largest movements were 69 W. on Apr. 18th, 54 W. on May 30th and 82 W. on July 4th. At Beachy Head the only significant movement was 105 E. over May 5th-8th.

At the Rye Harbour LNR the following monthly maxima were recorded: Mar. 10, Apr. 13, May 200, June 80, July 45, Aug. 55, Sept. 25. No records were received for the other months. See also tables of oiled birds on pages 59 and 60.

212. **BLACK TERN** (*Chlidonias niger*).—First recorded on May 3rd, at Selsey Bill and Rye. Spring passage at Selsey Bill totalled 55 E. up to the 31st, peak 31 on the 24th; 3 passed E. there in June, up to the 22nd. Elsewhere a total of 63 recorded up to June 14th.

A much larger autumn passage than usual, with a total of c.220 recorded between July 5th and Oct. 6th, at the coast and inland. Most were seen at Chichester G.P., with c.65 noted between Aug. 9th and Sept. 22nd; peak counts were 17 on Aug. 19th and 11 on Sept. 12th. C.40 also passed through Rye Harbour G.P. in August. See also tables of oiled birds on pages 59 and 60.

214. **WHISKERED TERN** (*C. hybrida*).—One in s/p at Chichester G.P. from May 14th to 21st (JVS, MS *et al.*). This record has been accepted by *Brit. B.* and is the second for the county.

217. **COMMON TERN** (*Sterna hirundo*).—At Rye Harbour 118 pairs bred at Northpoint Beach, rearing c.60 young. In the LNR none bred, the ternery site having been taken over by Herring and Black-headed Gulls. Attempts to dislodge these were only partially successful. No count was made of the Chichester Harbour colony. A pair summered and may have bred at Chichester G.P. See also tables of oiled birds on pages 59 and 60.

COMMON/ARCTIC TERN (*S. hirundo/paradisea*).—First recorded on Apr. 11th, at Selsey Bill and Beachy Head. Spring passage at Selsey Bill totalled 2,330 E. and 9 W. in 32 days (308hrs.) watching up to June 22nd, peaks 350 E. on May 3rd and 380 E. on the 16th. At Beachy Head 1,330 flew E. in 23 days (66hrs.) watching up to May 28th, peak 766 on May 13th.

Autumn passage at Selsey Bill totalled 86 E. and 1,170 W. in 29 days (289 hrs.) watching between June 27th and Sept. 30th, peak 112 W. on Sept. 6th; at Beachy Head the largest movement was 800 E. on Aug. 29th. The last recorded was one at Beachy Head on Oct. 15th.

219. **ROSEATE TERN** (*S. dougalli*).—Two flew E. off Beachy Head on May 13th (MJR) and one did so off Selsey Bill on the 16th (HPKR). Two in the Pagham/Selsey area on the 23rd and 24th (JAB, HPKR, MS). One flew W. off Selsey Bill on June 27th, 3 did so on July 11th and one on Aug. 9th (HPKR, MS). Singles at Rye Harbour LNR on July 24th and Aug. 3rd (DSF).

222. **LITTLE TERN** (*S. albigrons*).—First recorded on Apr. 11th, off Selsey Bill and a total of 71 flew E. there up to May 31st, peak 28 on May 16th. At Beachy Head 48 flew E. between May 3rd and 20th. In the autumn 50 W. off Selsey Bill on Sept. 19th was the only significant movement noted. Inland there were up to 3 at Weir Wood Res. between Sept. 7th and 16th. The last recorded were 3 at Church Norton on Sept. 29th.

Breeding pairs recorded were: Pagham Harbour, 20-30; the Crumbles, 4, the first for 13 years; Rye Harbour, 7 on the LNR and 2 at Northpoint Beach, the first in the latter area for many years. Breeding was also noted at the Midrips and a pair again summered at Chichester G.P. Although no count was recorded for the Chichester Harbour colony numbers in the county were evidently very low, less than half the 1969 level. Breeding success was also very poor, although a few young were reared at Pagham, the Crumbles, Northpoint and the Midrips. Human disturbance in colonies is still the greatest hazard facing the species and even regular wardening cannot always prevent this; DSF reports that this was the cause of the complete failure of the Rye LNR colony to rear more than one young.

See also tables of oiled birds on pages 59 and 60.

223. **SANDWICH TERN** (*S. sandvicensis*).—First recorded on Mar. 22nd, at Selsey Bill and a total of 2,025 flew E. and 28 W. there in 40 days (386hrs.) watching to June 27th, peaks 196 E. on May 3rd and 16th. At Beachy Head 923 flew E. in 24 days (67hrs.) watching between Apr. 10th and May 28th, peak 117 on May 5th and 13th. At Rye there were 100 at the LNR on Apr. 16th and 200 on May 16th. Two or 3 apparent pairs (mating was seen on May 23rd but no other sign of breeding) summered in Pagham Harbour.

In the autumn 126 flew E. and 1,456 W. off Selsey Bill in 28 days (279hrs.) watching between June 28th and Sept. 30th, peaks 150 W. on July 4 and 214 W. on Sept. 6th. There was one at Burton Pond on Aug. 10th (KGA) and 2 at Weir Wood Res. on Sept. 15th (PCB). The last recorded was one off Beachy Head on Oct. 15th. See also tables of oiled birds on pages 59 and 60.

224. **RAZORBILL** (*Alca torda*).—A total of 76 recorded during the year, of which 63% were oiled. See also tables of oiled birds on page 00.

226. **LITTLE AUK** (*Plautus alle*).—One picked up dead at Bexhill on Nov. 19th (RKH, RS).

227. **GUILLEMOT** (*Uria aalge*).—A total of 115 recorded during the year, of which 80% were oiled. See also tables of oiled birds on pages 59 and 60.

230. **PUFFIN** (*Fratercula arctica*).—A badly oiled bird at Newhaven Tidemills on Jan. 11th (TG) and one, not oiled, picked up dead at Aldwick on Oct. 14th (WWAP).

AUK SPECIES.—Many fewer noted at Selsey Bill than in 1969. Records are tabulated below:

	Jan.-Mar.	Apr.-May	June	July-Sept.
E.....	3	5	8	8
W.....	49	169	13	23
Days watching	29 (214hrs.)	27 (247hrs.)	9 (101hrs.)	27 (266hrs.)

The largest movement was 44 W. on May 17th.
At Beachy Head the largest counts were 35 on Jan. 24th and 30 on May 16th.

232. **STOCK DOVE** (*Columba oenas*).—Rather few records were received and counts of winter flocks and breeding pairs of this species would be welcomed. The only sizable flocks noted were 40 near Chantonbury on Jan. 6th and 40 at Chichester G.P. on June 21st. Otherwise no party of more than 10 seen, except for c.15 resident on the Rye Harbour LNR. The few breeding season records received included reports from St. Leonard's Forest and Newels Rough, Lower Beeding, which may be new sites. Otherwise there were records from 20 localities, including 10 pairs between Berwick and Hampden Park, along the railway.

235. **TURTLE DOVE** (*Streptopelia turtur*).—One at Rye Harbour LNR on Mar. 26th (DSF), a very early date. Otherwise the first spring record was at Beachy Head on Apr. 24th; 7 arrived from the S. there on May 1st.
Seven pairs breeding on 100 acres at West Chiltington was the only breeding count received. The last recorded were 2 at Steyning on Oct. 25th.

236. **COLLARED DOVE** (*S. decora*).—The species continues to spread and was recorded from 8 new localities in the breeding season: Slindon, Greattham, Rudgewick, Sullington, Falmer, Weir Wood Res., Rodmell and South Heighton. Large winter flocks were recorded as follows: 100-150 at East Dean (East Sx.) in the early months and c.120 on Nov. 24th; up to 60 at Storrington in the early months; 50 at Alfriston on Nov. 4th. In December there were counts of 35 at Yapton, 210 at Church Norton, 54 at Chichester, 40 at Copthorne and 40 at Udimore.

Owl species.—Please note that all records of owls are required, both for the breeding season and the winter.

241. **BARN OWL** (*Tyto alba*).—With reports during the year from 59 sites, the species appears to be maintaining its numbers in Sussex. However a check of 11 territories found occupied in the Selsey Peninsula in 1967 showed that only 7 were certainly occupied in 1970; breeding was successful in one and almost certainly so in 2 more but no result was known in the other 4.

Elsewhere 5 pairs and 3 single birds were found in the breeding season in an area of c.30 square miles embracing Pulborough, Bury, Bignor and Byworth and 3 pairs were known in Slinfold parish. Ten other pairs and 15 single birds were recorded from 25 widely scattered localities. In all 5 pairs were noted as breeding successfully but this almost certainly under-states breeding success. Single birds were recorded in a further 16 localities in the winter months only.

Four traffic casualties were noted, 3 on roads at Church Norton, Christ's Hospital and Uckfield, and one on the railway at Wivelsfield.

246. **LITTLE OWL** (*Athene noctua*).—Recorded in 64 sites during the year. The species appears to be decreasing, at least locally. Thus PJW and VAW noted a decrease in the Cuckmere valley and Beachy head area and a check of 15 territories found occupied on the Selsey Peninsula in 1967 found only 7 occupied in 1970, plus one new territory; no successful breeding was noted.

Elsewhere there were 4 pairs known in Slinfold parish and 45 other pairs or birds were noted in widely scattered localities in the breeding season. Successful breeding was noted by 9 pairs, 6 of which were known to have reared 15 young. Outside the breeding season there were reports involving 11 birds from 8 localities.

247. **TAWNY OWL** (*Strix aluco*).—Widely recorded throughout the year. This is our commonest owl and shows no sign of decrease. There were records from 78 localities during the year, mainly for the breeding season or for birds resident all the year.

Records included the following counts: 2-3 pairs in the Aldwick Bay Estate; at least 4 birds resident in Arundel; 4 pairs on 300 acres round Cattlestone Farm, West Chiltington; 6 occupied territories in each of the One KM squares TQ2028 and TQ2029, 3 in Marlpost Wood, 5 in the Horsham Urban District and 5 in Slinfold parish. Four pairs were reported as breeding successfully, rearing 8 young. Breeding success is clearly grossly under-stated but, judging from the admittedly tiny samples we receive, it appears very consistent.

Two were found dead in poletraps on an estate in the west of the county.

249. **SHORT-EARED OWL** (*Asio flammeus*).—An unusual number recorded, with totals of c.38 noted between Jan. 1st and May 10th, when there was one at Beachy Head, and c.36 between Sept. 18th and the end of the year. As usual records were confined to coastal areas (39 birds), the Downs (16 birds) and the river valleys and Levels (19 birds). The total of c.74 for the year is apparently the highest since 1954 and 1955.

The largest numbers recorded together were 8 at Camber on Jan. 11th and 6 at Pagham in December. Monthly totals are tabulated below and the high number recorded in January seems of interest, since only 2 were recorded in December, 1969.

Jan.	Feb.	Mar.	Apr.	May	Sept.	Oct.	Nov.	Dec.
27	11	15	7	2	3	10	12	25

262. **GREEN WOODPECKER** (*Picus viridis*).—At least as widely recorded as in 1969, with reports from 107 sites, mainly for the breeding season. Selected counts are: 2-3 pairs in Kingly Vale; present in 8 sites in Slimfold parish; present in 5 sites in Horsham Urban District and 4 in St. Leonard's Forest. In addition there were reports from 14 other localities in the Horsham/St. Leonard's Forest area. Present in 6 sites in the SW quarter of Ashdown Forest.

One flew W. past Selsey Bill on Aug. 9th; otherwise no records for the Selsey Peninsula which has yet to be recolonised by breeding birds.

263. **GREAT SPOTTED WOODPECKER** (*Dendrocopos major*).—Recorded from a total of 94 sites during the year, largely in the breeding season. Selected counts are: 3 pairs on 300 acres round Cattestone Farm, West Chiltington; 8 pairs in Slimfold parish; present in 5 sites in the Horsham Urban District and 5 in St. Leonard's Forest; birds were also noted in 17 other localities in the Horsham/St. Leonard's Forest area.

One flew out S. at Beachy Head on Apr. 19th.

264. **LESSER SPOTTED WOODPECKER** (*D. minor*).—During the breeding season birds were noted in 8 sites in the Horsham/St. Leonard's Forest area and in 4 at Pulborough. Elsewhere there were reports from 12 localities. Breeding was proved at Pulborough and Maresfield.

265. **WRYNECK** (*Jynx torquilla*).—In the spring one at Ansty on Apr. 20th and one at Chichester G.P. on May 8th. One was present in a locality in central Sussex for much of May.

A much larger autumn passage than usual, with a total of 41 recorded between Aug. 24th and Oct. 14th, when there was one at Beachy Head. Thirty-four of these birds were seen at Beachy Head, where the peak counts were 5 on Aug. 25th, 4 on the 30th and 4 on Sept. 5th.

271. **WOODLARK** (*Lullula arborea*).—Very few recorded, with reports from only 2 areas in the interior. However at least 2 of the very few sites for this species were apparently not checked. An account of the species present status as a breeding bird in the county was published in the 1969 SxBR.

One flew W. at Beachy Head on Sept. 26th (BEC, RKH, RS) and one arrived from the S., with Skylarks, at Church Norton on Dec. 27th (MS).

272. **SKYLARK** (*Alauda arvensis*).—Breeding season counts received were: 13 singing males on 3 Sq. KM in the Lee Farm/Wepham Down area, 5 on 2 sq. KM at Well Bottom, near Chanctonbury and 7 at Cissbury; 6 pairs on 100 acres at West Chiltington.

During the cold spell in December there was a large W. movement at Rottingdean between the 25th and 29th and a large arrival from the S. in the Selsey area on the 27th; 500 at Chidham on the 31st.

273. **SHORELARK** (*Eremophila alpestris*).—One at Camber on Jan. 10th (KOS). A flock of 5 in the Crowlink area from Jan. 31st to Apr. 16th (AJC, CFH, NAGL, *et al.*). At the end of the year singles at Camber on Dec. 6th and 13th and 2 or 3 on the 12th (PFB, RRG, WM *et al.*).

232. **NIGHTJAR** (*Caprimulgus europaeus*).—The first records were of single birds in the Rye area on May 10th and 13th. Although coverage of breeding localities was not as good as in the previous 3 years, 36 pairs or singing males were reported from 16 localities. In the autumn the last records were of single birds at Sidlesham on Sept. 17th and Beachy Head on the 16th and 25th.

255. **SWIFT** (*Apus apus*).—The first records were at Eastergate on Apr. 16th, Chichester G.P. and Beachy Head on the 17th and Weir Wood Res. on the 20th. The largest spring arrival noted was of 120 at the Rye Harbour LNR on May 21st and there were c.500 there on the 29th. There were the usual complicated mid-summer movements, including both arrivals and departures at the coast in June and July. Flocks of up to 800 were noted at the Rye LNR in late June and early July and there were 700+ at Liffington on July 4th.

Autumn departures began about July 9th and the largest noted were 600 out SW. at Rye on the 14th, c.300 per hour W. over Wepham Down on Aug. 8th and 9th and 250 out S. at Selsey Bill and similar numbers at Beachy Head on the 23rd. The last recorded were singles at Weir Wood Res. on Sept. 15th, Rye on the 20th and 21st and Beachy Head on the 23rd.

Breeding Survey

The breeding survey started in 1968 was completed in June, 1970, with counts of birds present at known breeding colonies throughout the county. The results indicate a June population of 4,000+ birds. A detailed account of this survey appears on page 61. Although the survey has been concluded, counts of birds present in June at breeding colonies will still be of interest, particularly from areas not previously covered.

256. **ALPINE SWIFT** (*A. melba*).—Single birds at Church Norton on May 12th (AP) and Liffington on the 16th (PJW, VAW). These records have been accepted by *Brit. B.* and are the first spring records for the county, although there is one record for late June.

258. **KINGFISHER** (*Alcedo atthis*).—There were breeding season reports from 34 localities. Nine pairs were proved to breed and 4 other definite pairs were noted. Once again there was little information on the number of young reared. Other records were simply of birds present but it is reasonable to suppose that breeding took place in most cases.

There were also records outside the breeding season involving 19 birds from 18 suitable breeding sites. Probably many of these were residents. A total of 12 birds were noted at the coast during the winter months.

260. **ROLLER** (*Coracias garrulus*).—One, first found by APDC on June 28th, remained at Weir Wood Res. until July 4th (many obs.). This record has been accepted by *Brit. B.* and is the first county record since 1949.

261. **HOOPOE** (*Upupa epops*).—The only spring records were single birds at Sidlesham Ferry on Apr. 16th and Pevensey Levels on the 27th. In the autumn single birds at Pulborough on Aug. 25th and Rottingdean on Sept. 12th and 13th. One was seen near Climping from Nov. 21st to Dec. 6th (PDD, IF, FMDS, *et al.*). There is only one previous December record for the county, at Hartfield on Dec. 14th, 1897.

274. **SWALLOW** (*Hirundo rustica*).—First recorded at Chichester G.P. on Mar. 31st, with 4 at Weir Wood Res. the next day. The largest spring arrival at Selsey Bill was 55 on May 16th; at Beachy Head it was 60 on the 12th. The rather few reports of breeding received suggest a less successful season than in 1969; a total of 67 young flew from 23 nests.

There were some enormous autumn movements. At Selsey Bill a total of 14,415 departed SE/SW in 26 days (251 hrs.) watching between July 5th and Sept. 30th, peak 10,000 on Sept. 19th. At Beachy Head the main movement occurred between Sept. 15th and 21st, when c.40,000 departed S.; 10,000 on the 18th and 20,000 on the 19th were the maximum counts. There was a roost of 4,000+ at Littleington on Sept. 19th and 15,000 departed SW, at Rye Harbour LNR on the 20th. These September movements coincided with the peak passage of House Martins and some substantial Sand Martin movements. There were numerous records for the second half of November but the last recorded were 3 at Church Norton on Dec. 6th.

275. **RED-RUMPED SWALLOW** (*H. daurica*).—One at Beachy Head on Apr. 18th departed W. (BEC). This record has been accepted by *Brit. B.* and is the second for the county, the first being at Beachy Head on Apr. 23rd, 1967.

276. **HOUSE MARTIN** (*Delichon urbica*).—Eight at Weir Wood Res. Apr. 1st were the first recorded. Apart from one at Church Norton on the 4th and 5th there were then no more until the 13th. No large spring movements were reported, the largest arrival noted at Selsey Bill being 15 on May 17th and at Beachy Head the peak count was 60 on the 23rd.

There were large autumn movements. At Selsey Bill 33,615 departed S/SW on 19 days (160 hrs.) in August and September, with a peak of 25,000 on Sept. 19th. At Beachy Head the largest movements were 20,000 departing S. on Sept. 15th and 4,000 on the 26th. Other large counts were 700 at Plumpton on the 25th and 1,000 at West Chiltington on the 30th. Albinos were reported from Midhurst on Sept. 12th and Northsea on the 13th. There were many November records from the coast including 20 at Beachy Head on the 15th. December records were of singles at Church Norton on the 1st, Lodsworth on the 4th and Pagham on the 7th, with 2 at Pagham on the 5th.

Breeding Survey

Counts of occupied nests received for 1970 were as follows:

Alfriston	23	Hartfield	22	Rottingdean	25
Anemering Lee Farm	37	Honstanton	69	Rye Harbour	4
Battle	53	Islesham	7	Rye	47
Billinghurst	72	Lidlesham	10	Sidlesham	9
Cocking	40	Midfield	46	Slimfold	26
Conthorne	29	Mannings Heath	24	Stammer Park	38
Ditchling	250	Pagham (Kings Beach Estate)	32	Udimore	3
East Hoathly	22	Ringmer	178	Washington	42
Hampden Park	25	Rodmell Cement Works	20	Winchelsea	53

Cliff nesting was reported from Saltdean in 1969 and Seaford Head in 1970, and one pair raised 2 broods in a hole under the eaves of a house at Dragons Green, Shipley, in both years. Several observers have again commented on large scale eviction of House Martins from their nests by House Sparrows; at one colony at Slimfold all natural nests were lost in this way but the colony was saved by the provision of artificial nest boxes.

277. **SAND MARTIN** (*Riparia riparia*).—First recorded on Mar. 24th, at Chichester G.P., Pond Leigh and Rye. Spring passage was again very small, c.50 at Chichester G.P. on Apr. 1st and 15th being the largest counts.

Counts of breeding colonies received were: 80 nests in Sreat Sandpit; 2 colonies totalling c.45 pairs on the Rye Harbour LNR and one of 10 pairs on Rye Golfcourse. The birds on the LNR had a very poor season.

There were some large autumn movements. At Rye there were counts on the LNR of 600 on July 18th increasing to 2,000 on the 26th, 800 on Aug. 15th increasing to 4,000 on the 18th and a September peak of 2,000 on the 2nd dropping to 200 by the 14th, although 400 flew SW. on the 16th and 800 on the 18th. At Selsey Bill a total 9,290 departed SE/SW. in 23 days (193 hrs.) watching from July 18th to Sept. 30th, peak 3,600 on Aug. 1st. There was a maximum of 3,000 at Chichester G.P. on Sept. 7th and 1,000 departed S. at Beachy Head on the 18th.

278. **GOLDEN ORIOLE** (*Oriolus oriolus*).—Single birds at Burgess Hill on May 11th (MP) and Beachy Head on the 17th (RHC, MEC, MJR *et al.*). Two flew over Pett Level on July 7th (FCS).

281. **HOODED CROW** (*Corvus corone cornix*).—In the early months one at Piddinghoe from Jan. 7th to the end of February (many obs.) and one at Sidlesham Ferry on Apr. 16th (IAP). At the end of the year single birds at Beachy Head from Oct. 17th to 22nd (many obs.) and Rustington on the 26th and 27th (MH), and 2 or 3 at the Cuckmere from Nov. 10th to Dec. 12th (many obs.).

282. **ROOK** (*C. frugilegus*).—Counts of breeding colonies were received as follows: Pagham parish, 92 nests in 6 colonies; Ovingdean/Rottingdean/Woodingdean, 185 nests in 6 colonies; Ringmer, 135 nests in 2 colonies; West Grinstead, 22+ nests in 4 colonies. In addition 12 other colonies totalling 136 nests were reported from Bolney, Haywards Heath, Chailey, Cooksbridge, Groombridge, Horsted Keynes, Piddinghoe, East Chiltington, Plashett Park and Lewes.

283. **JACKDAW** (*C. monticola*).—Counts of a regular roosting flight over Watersfield recorded maxima of c.830 on Mar. 25th and c.1220 on Oct. 17th.

285. **NUTCRACKER** (*Nucifraga caryocatactes*).—One flew W. over Beachy Head on Aug. 22nd (JFC, LG, TG). This record has been accepted by *Brit. B.*

288. **GREAT TIT** (*Parus major*).—A spring maximum of 45 at Beachy Head on Mar. 21st included 30 moving W. In the autumn there was an increase from 2 in the Belle Tout area on Sept. 20th to 30 on Oct. 8th; 2 only on the 10th.

289. **BLUE TIT** (*P. caeruleus*).—Seven nests at Plumpton produced 34 young, an average brood size of 4.9; 5 nests were successful (RJL). At Horsham 8 nest boxes in the Urban District produced 41 young (average 5.1) and 16 in the Rural District 114 young (average 7.1) (SW/MH).

290. **COAL TIT** (*P. ater*).—Two, showing the characters of the continental race *ater*, at Beachy Head on Sept. 26th and 2 more on Oct. 11th.

292. **MARSH TIT** (*P. palustris*).—A bird ringed at Possingworth as a juvenile on July 29th, 1961, was retrapped on Nov. 1st; it had also been retrapped in 1962, 1966 (twice) and 1969 as a breeding bird (GM).

293. **WILLOW TIT** (*P. montanus*).—Recorded in the breeding season from 20 localities, 7 of them in the Horsham area; there were 3 pairs on 150 acres at West Chulvington. Breeding was proved at West Chulvington, Brighton and Beachy Head.

294. **LONG-TAILED TIT** (*Aegithalos caedatus*).—The species continues to be widespread and numerous. Records included a report of a notable increase in the woods around East Hoathly. Elsewhere a total of 29 parties were noted, containing 362 birds in all. Fourteen of these were post breeding parties containing 173, an average party size of 12.5.

On Oct. 27th 30 apparently arrived from the sea at Beachy Head.

295. **BEARDED TIT** (*Parnurus biarmicus*).—No records for the early months. At the end of the year there were 4 at Chichester G.P. on Oct. 16th and 21st and 5 on Nov. 4th which departed SW. Several were heard at Pett Level on Oct. 26th (JA) and there were 3 at Pagham on Dec. 7th. Up to 6 at Pebsham on Dec. 20th included a bird with a white band on the right leg.

296. **NUTHATCH** (*Sitta europaea*).—Two or three pairs present in Collington Woods, Bexhill, all the year. The species is not often found in coastal sites in Sussex but has bred here for many years.

299. **WREN** (*Troglodytes troglodytes*).—Four nests at Plumpton produced 15 young, an average brood size of 3.8; 3 nests were successful (R.J.L.). There was a marked passage at Beachy Head during the first 10 days of October, with many trapped and up to 70 recorded in a day.

301. **MISTLE THRUSH** (*Turdus viscivorus*).—One arrived from the S. at Selsey Bill on Mar. 14th. Four nests at Plumpton failed to produce young (R.J.L.). A total of 77 moving W. at Beachy Head between Oct. 6th and 13th.

302. **FIELDFARE** (*T. pilaris*).—Very few present in the county in January and February but there was a large movement on Feb. 14th, when c.3,000 flew W. at Selsey Bill and c.1,000 E. at Beachy Head; 600 W. at Beachy Head on the 16th. A fairly marked spring passage up to Apr. 20th. Records included 350 W. at Beachy Head and 550 NW, and 1,000 in the area at the Cuckmere on Mar. 5th and 350 at Slaughtam on Apr. 7th. At Sidlesham a steady passage between Mar. 17th and Apr. 16th involved c.500 birds. The last recorded were 2 at Beachy Head on May 2nd.

In the autumn first recorded on Sept. 29th, at Beachy Head and 150 arrived from the S. there on Oct. 21st. Some large flocks were noted in November when there were c.400 at Glynde Level on the 1st and 500 on the 21st, c.5,000 at Patcham on the 16th, c.1,300 flying S. over Greatham on the 21st and c.5,000 near Lewes on the 27th. In December 200 at Glynde Level on the 6th and c.500 at Camber on the 31st were the only sizable flocks noted.

303. **SONG THRUSH** (*T. philomelos*).—Sixteen departed S. at Selsey Bill on Feb. 14th. At Plumpton 59 nests produced 65 young, an average brood size of 1.1, similar to 1969; 19 nests were successful (R.J.L.).

304. **REDWING** (*T. iliacus*).—As with Fieldfare there was a marked movement on Feb. 14th, when 95 departed S. and 1,250 W. at Selsey Bill and 400 flew E. at Beachy Head. Otherwise 200 at Washington on Jan. 28th and 110 on Feb. 8th, 115 at Selsey Bill on Jan. 31st and 110 at Slinfold on Feb. 9th were the only sizable flocks in January and February. A large movement on Mar. 5th, with 600 flying W. at Beachy Head, 1,000 in the area and 425 flying NW. at the Cuckmere and 150 at Washington. One at Rye on Apr. 20th was the last spring record.

In the autumn first recorded on Oct. 4th at Slinfold and 150 arrived from the S. at Beachy Head on the 22nd. In November the only large flocks noted were 200 on Glynde Level on the 21st and 500 near Lewes on the 27th. C.1,500 flew W. over Eastbourne on Dec. 26th during the cold spell.

307. **RING OUZEL** (*T. torquata*).—First recorded on Mar. 26th, at Beachy Head, and between then and May 18th 19 were seen.

In the autumn recorded at Beachy Head between Sept. 6th and Nov. 17th, with peak counts of 30 on Oct. 3rd and 20th. Scarce elsewhere, with a total of only 14 in the same period.

308. **BLACKBIRD** (*T. merula*).—At Plumpton 86 nests produced 69 young, an average brood size of 0.8, similar to 1969; only 23 nests were successful (R.J.L.). The autumn maximum at Beachy Head was 100 on Oct. 20th.

311. **WHEATEAR** (*Oenanthe oenanthe*).—Three at Selsey Bill on Mar. 19th were the first recorded. Spring peaks were: Selsey Bill, 26 on Apr. 15th and 22 on May 3rd; Beachy Head, 36 on Apr. 16th; Rye Harbour LNR, 22 on Apr. 15th.

Breeding pairs were recorded as follows: Crumbles, one; Rye marsh, one; Rye Harbour, 4 on the LNR and one at Northpoint Beach. Six of these pairs raised 13 young. In addition breeding may have occurred on Southwick Beach and there was one on Pevensey Levels on June 14th and 7 at the Midrips on the 19th.

Autumn passage was noted between July 12th and Nov. 17th, with peaks at Beachy Head of 120 on Aug. 23rd, 150 on the 27th, many of them arriving during the afternoon, and 100 on the 30th.

317. **STONECHAT** (*Saxicola torquata*).—In January and February c.45 were reported wintering from 13 localities; in December c.30 were noted in 14 localities.

During the breeding season 32 pairs or singing males were recorded as follows: St. Leonard's Forest, one; Sullington Warren, one; Challey Common, one; Ashdown Forest, 12; Mile Oak, Portslade, 2; Southwick, one; Rottingdean, one; Newhaven, one; Bishopstone, one; Seaford Head, 2; Lower Cuckmere valley, one; Lullington Heath, 2; Wilmington, 2; Crowlink, one; Beachy Head 3. The Holywell to Crowlink area was not searched thoroughly. No records were received for the commons in the West or North-west of the county. On June 27th there was an immature at Selsey Bill.

318. **WHINCHAT** (*S. rubetra*).—First recorded on Apr. 23rd, at Rye Harbour. The largest spring counts were 6 at Beachy Head on May 3rd and at Sidlesham on the 25th. There were no records suggestive of breeding.

Autumn passage was noted from July 18th to Oct. 21st, with a peak of 250 at Beachy Head on Aug. 30th, a quite exceptional number.

320. **REDSTART** (*Phoenicurus phoenicurus*).—First recorded on Apr. 12th, at Beachy Head. There was an influx along the whole coast over the 15th/16th, with 30 birds in 5 localities on the 15th and 29 in 6 on the 16th. The spring peak at Beachy Head was 20 on Apr. 18th and there were 15 there on May 3rd.

The only breeding season records received were of pairs or singing males as follows: Woodend, Chichester, one; Graffham Down, one; St. Leonard's Forest, 7; Worth Lodge Forest, one; Ashdown Forest, 5. All breeding season records of this species are still required.

Autumn passage was noted from Aug. 13th to Oct. 29th, with a peak at Beachy Head of 40 on Sept. 16th; on Aug. 28th there were 20+ at Burton Down.

321. **BLACK REDSTART** (*P. ochruros*).—In the early months there were 3 wintering along the cliffs between Brighton and Roedean and single birds at Newhaven and Seaford. Spring passage involved c.52 birds between Mar. 1st and May 30th. There were inland records at Slinfold, Lullington and Sheffield Park.

Two pairs bred successfully in Brighton and a third male holding territory was apparently unmated. This is a new breeding area. A pair bred, and 3 pairs or singing males were present during the breeding season in the Hastings area.

Autumn passage was noted at Beachy Head between Aug. 9th and Nov. 15th and a total of 53 birds recorded with a peak of 10 on Oct. 13th. Elsewhere only 7 birds were seen in the same period. At the end of the year single birds were probably wintering at Selsey Bill, Worthing, Seaford, and the Cuckmere, with 2 at Roedean.

322. **NIGHTINGALE** (*Luscinia megarhynchos*).—First recorded on Apr. 17th, at Duncton. Once again a satisfactory number of breeding season reports were received. Selected counts of singing males are: Welchs Common, 5 in a square mile round this area; West Chilmington, 12 in a circle one mile radius round Cartlesstone Farm; Madgelands Wood, Southwater, 7; Shaves Wood, Poynings, 4; Lullington Heath, 8-10. Elsewhere there were reports of one to 3 singing males from 28 localities. The records for the last 2 years show the species as much more common in West Sussex than East. One at Beachy Head on Sept. 19th was the last recorded.

324. **BLUETHROAT** (*Cyanosylvia svecica*).—Single birds trapped at Chichester G.P. on Aug. 24th and 31st (CRG) and one seen at Pagham on the 27th (SJT).

325. **ROBIN** (*Erithacus rubecula*).—Twelve nests at Plumpton produced 22 young, an average brood size of 1.8; 5 nests were successful (R.J.L.). In October influxes were noted at Beachy Head on the 10th (50), 11th (60) and 12th (100).

327. **GRASSHOPPER WARBLER** (*Locustella naevia*).—First recorded on Apr. 17th at Duncton; the spring peak at Beachy Head was 30 on Apr. 30th. A sharp increase in breeding season reports, with c.150 singing males noted in 60 localities. This probably reflects a genuine increase and the wide scatter of records from areas north of the Downs suggests that the species may be extending its range in the county. Selected counts of singing males are: Cartlesstone Farm, West Chilmington, 5 on 90 acres; St. Leonard's Forest, whole area, 10; Newell's Rough, 4; Worth Priory, 5; Cissbury Ring, north face, 6; Steyning Round Hill, 9; Hampshire Hill and Cook Farm, Nuthurst, 8; Hornshurst Wood, 4; Brightling,

4. Breeding success at West Chilmington was very good, most pairs apparently being double-brooded.

Autumn passage was noted at Beachy Head until Oct. 21st, with a peak of 25 on Aug. 22nd; numbers were higher than in any previous year.

332. **GREAT REED WARBLER** (*Acrocephalus arundinaceus*).—One trapped at Beachy Head on May 11th (JFC, RHC, MEC, MJR). This record has been accepted by *Brit. B.*

333. **REED WARBLER** (*A. scirpaceus*).—First recorded on Apr. 27th, at Rye Harbour. On May 18th CEM found 30+ on Sompting Brooks. Breeding season counts of singing males were: Chichester canal, 9 along 2½ miles; Burton Pond, 5; Arundel Mill stream, 9; South Heighton, 5+. The species also bred commonly on the Rye Harbour LNR, but no accurate count was possible.

The autumn peaks at Beachy Head were 20 on Aug. 15th and 15 on Sept. 18th. The last recorded were 2 at Litlington on Oct. 16th.

334. **MARSH WARBLER** (*A. palustris*).—One singing at Beachy Head on June 7th was trapped (JFC, KV *et al.*). One singing and seen at Fairlight on June 18th and 19th (SR).

337. **SEDGE WARBLER** (*A. schoenobaenus*).—First recorded on Apr. 14th at Litlington. In the breeding season counts of singing males made were: Thorney Deeps, 3; Chichester canal, 12 in 2½ miles; Burton Pond, 3; St. Juliens, Coolham, 6; Hardham Waterworks to Greattham Bridge, 9. The species breeds commonly on the Rye Harbour LNR but no accurate count was possible.

In the autumn CRG trapped 1,139, mainly juveniles, at Chichester G.P. in August and September, and there was a peak of 50 at Beachy Head on Aug. 22nd; numbers were higher than usual there. The last record was one at Litlington on Oct. 16th.

340. **ICTERINE WARBLER** (*Hippolais icterina*).—Two, one trapped, in quite separate areas at Beachy Head on Aug. 24th (JFC, RHC, MJR). These are the 4th and 5th records for Sussex.

343. **BLACKCAP** (*Sylvia atricapilla*).—In the early months single birds at Newhaven from Jan. 11th to 14th and Crowborough from Feb. 8th to 18th were presumably wintering. One at Bexhill on Mar. 7th may have been an early migrant. Otherwise spring passage was first noted at the end of March and the peak count at Beachy Head was 10 on Apr. 30th.

Autumn passage was noted up to the end of November, although some late birds may have wintered. The peak counts at Beachy Head were 35 on Aug. 1st, 180 on Sept. 19th and 70 on Oct. 4th; the species was more numerous than usual.

346. **GARDEN WARBLER** (*S. borin*).—First recorded on Apr. 10th, in the Cuckmere valley, an early date. The spring peak at Beachy Head was 20 on May 13th. Breeding season reports included counts of 7 singing males in Madgelands Wood, Southwater and 13 in St. Leonard's Forest.

Autumn passage was noted from Aug. 8th to Oct. 18th with peaks at Beachy Head, where numbers were well above average, of 130 on Aug. 15th, 40 on Sept. 19th and 4 on Oct. 7th.

347. **WHITETHROAT** (*S. communis*).—First recorded on Apr. 18th, when an arrival obviously occurred along the whole coast. The spring peak at Beachy Head was 120 on May 3rd, a considerable increase compared with 1969. Although few actual counts have been supplied reports indicate some recovery in the numbers breeding, except at West Chilington where a drop of 30% was noted. Six pairs were counted in a square mile at Washington.

Autumn passage was noted until Oct. 10th, when there was one at Exceat. Peak counts at Beachy Head were 130 on Aug. 19th and 70 on Sept. 6th. These counts were some improvement on 1969 but still very low.

348. **LESSER WHITETHROAT** (*S. curruca*).—First recorded on Apr. 30th, at Runcton. Few breeding season records received but there were reports of 21 pairs or singing males from 18 localities.

Autumn passage was noted to Sept. 30th, with peaks at Beachy Head of 70 on Aug. 30th and 40 on Sept. 4th.

353. **DARTFORD WARBLER** (*S. undata*).—Noted in four localities in the breeding season, the records indicating a total population of c.12 pairs. The species had a very good breeding season.

354. **WILLOW WARBLER** (*Phylloscopus trochilus*).—One singing at West Dean (East Sx.) on Mar. 22nd. In June there were 2 or 3 males holding territory in elm hedges at Sidlesham and Earmley. See also under Willow Warbler/Chiffchaff.

356. **CHIFFCHAFF** (*P. collybita*).—There was one wintering at Chichester G.P. at each end of the year, and in late December, single birds were seen at Sidlesham, Seaford and Littleton. Otherwise first and last dates were Mar. 10th and Nov. 29th. See also under Willow Warbler/Chiffchaff.

WILLOW WARBLER/CHIFFCHAFF.—General migration data for both these species are all placed under this head. In spring there was a massive arrival on Apr. 15th, when 160 were noted at Selsey Bill, c.800 at Beachy Head and 125 at Rye Harbour LNR. Other peak counts were 300 at Beachy Head on the 30th, 200 on May 2nd and 80 on the 17th.

There were also large numbers in the autumn, with peaks at Beachy Head of 250 on 3 dates in August, 450 on Sept. 16th and 350 on Oct. 7th.

Willow Warblers appeared to predominate in late April, May and August, Chiffchaffs in September and October.

357. **WOOD WARBLER** (*P. sibilatrix*).—One at Beachy Head on Apr. 30th was the first recorded. Rather few breeding season records received but 17 pairs or singing males were reported from 12 localities. Three singing males in St. Leonard's Forest and at Lodsworth were the largest concentrations noted.

In the autumn single birds at Beachy Head on July 29th, Aug. 9th, 22nd, 27th and 30th, and at Brighton on Aug. 13th.

358. **BONELLI'S WARBLER** (*P. bonelli*).—One at Beachy Head on Aug. 25th (JFC, RHC, MEC *et al.*). This record has been accepted by *Brit. B.* and is the first for Sussex.

361. **PALLAS'S WARBLER** (*P. przewalskii*).—One at Beachy Head from Oct. 11th to 13th was trapped (RHC *et al.*). This record has been accepted by *Brit. B.* and is the 4th for Sussex.

364. **GOLDCREST** (*Regulus regulus*).—Spring passage was noted at the coast between Feb. 14th and mid May; the peak count at Beachy Head was 15 on Apr. 11th. Breeding season reports received included counts of 8 singing males in one square mile at Washington and a similar number in c.200 acres of St. Leonard's Forest; the species was also very numerous in the Groombridge/Forest Row area.

A very large autumn passage at Beachy Head. The peak counts were 90 on Sept. 25th, 80 on Oct. 7th and 100 on the 13th. These are the highest figures recorded there.

365. **FIRECREST** (*R. ignicapillus*).—No reports of wintering were received. A total of c.45 were recorded in the spring between Feb. 27th and May 19th; c.30 of these were reported at Beachy Head but there was no clear passage peak.

A rather smaller autumn passage than in the previous 2 or 3 years. At Beachy Head birds were noted on 11 dates between Sept. 3rd and Dec. 5th, with peaks of 5 on Sept. 22nd, 4 on Oct. 17th and 4 on Nov. 21st. Elsewhere 5 were seen in the same period.

366. **SPOTTED FLYCATCHER** (*Muscipapa striata*).—First recorded on Apr. 29th, at Pagharn. The spring peak at Beachy Head was 25 on May 27th. Eleven pairs were counted in one square mile at Washington and there were 5 pairs along the Ouse in a one mile stretch below Sheffield Bridge. Other breeding season reports included a count of 10 broods totalling 28 young in the Horsham area.

Autumn passage was noted from Aug. 1st to Sept. 28th. Peak counts at Beachy Head were 50 on Aug. 30th and 20 on Sept. 16th and there were 20 at Church Norton on Sept. 15th.

368. **PIED FLYCATCHER** (*Ficedula hypoleuca*).—In the spring 8 were recorded between Apr. 19th and May 3rd. Autumn passage was noted at Beachy Head between Aug. 3rd and Oct. 11th, with peaks of 30 on Aug. 25th and 10 on Sept. 20th. Elsewhere 22 were noted in the same period, mainly at the coast.

370. **RED-BREASTED FLYCATCHER** (*F. parva*).—One at Beachy Head on Sept. 29th (JFC, RHC, NAGL, MJR), the sixth record for Sussex.

371. **DUNNOCK** (*Prunella modularis*).—Twenty-two nests at Plumpton produced 28 young, an average brood size of 1.3; 9 nests were successful (R.J.L.).

373. **MEADOW PIPIT** (*Anthus pratensis*).—Spring arrivals from the S. at Selsey Bill totalled 1,700 in 13 days (121hrs.) watching between Mar. 21st and Apr. 19th, peak 1,400 on Mar. 30th. At Beachy Head birds were arriving at c.75 per hour on Mar. 28th and 150 arrived on the 30th.

Twenty-four breeding pairs in the Arun valley between Hardham Waterworks and Greatham Bridge was the only breeding count received.

The only large autumn movement noted was 400 W. at Beachy Head on Sept. 17th.

374. **RICHARD'S PIPIT** (*A. novaeseelandiae*).—Two at Rye Harbour LNR on Sept. 22nd (DSF) and one at Beachy Head on Oct. 15th (RHC). These records have been accepted by *Brit. B.*

375. **TAWNY PIPIT** (*A. campestris*).—A total of 10 in the autumn as follows: at Beachy Head singles on Aug. 23rd, 28th, Sept. 22nd, Oct. 11th and 2 on Sept. 21st (JFC, RHC, MEC, MJR). Two at Worthing on Aug. 27th (CMV), one at Rye Harbour LNR from Sept. 5th to 7th (JA, DSF) and one at the Crumbles on Oct. 11th (MJR).

376. **TREE PIPIT** (*A. rivialis*).—First recorded on Apr. 11th, in the Cuckmere valley; by the 18th 4 were singing in St. Leonard's Forest. During the breeding season c.142 pairs or singing males were reported from 35 localities; 32 being found in 15 areas not visited during the 1967-69 survey. A detailed report on the breeding distribution and status of this species will appear in the 1971 Report. Autumn passage was noted between Aug. 1st and Oct. 11th, with peaks at Beachy Head of 30 W. on Aug. 11th and Sept. 13th.

377. **RED-THROATED PIPIT** (*A. cervinus*).—1969 record: one at Beachy Head on Oct. 19th and 20th (JFC, BAEM, AQ *et al.*) was the first record for Sussex. In 1970 one was found at Arlington Res. from Oct. 13th to 15th (MJR, PJW, VAW *et al.*). Both these records have been accepted by *Brit. B.*

379. **ROCK PIPIT** (*A. spinoletta*).—Up to 10 were wintering at Selsey Bill between January and March and similar numbers were recorded between Black Rock and Rottingdean and at the Cuckmere at both ends of the year. One departed SE. at Selsey Bill on Apr. 11th. No breeding counts were received but successful breeding was noted at Rottingdean.

Single birds showing the characters of the race *spinoletta* at Weir Wood Res. on Mar. 24th, Newhaven Tidemills on Apr. 6th and Rye Harbour LNR on the 13th and 22nd.

380. **PIED WAGTAIL** (*Motacilla alba*).—Counts at a large roost at Scaynes Hill recorded c.600 on Jan. 4th and c.400 on the 18th. Eleven arrived from the S. at Selsey Bill between Mar. 21st and Apr. 5th. Peak counts of autumn passage at Beachy Head were 20 E. on Sept. 23rd, 25 W on the 29th, and 30 E. on Oct. 11th.

In the spring a total of 19 birds showing the characters of the race *alba* noted between Mar. 24th and May 5th, at the coast and inland. In the autumn there was one at Church Norton on Aug. 18th and 5 at Weir Wood Res. on Oct. 6th and 13th.

381. **GREY WAGTAIL** (*M. cinerea*).—The 1970 breeding season records are tabulated below:

River system	Number of occupied territories in which:	
	Breeding proved	Breeding possible
West Rother	0	2
Arun	3	0
Adur	8	0
Mole	0	1
Medway	0	2
Ouse	14	7
East Rother	0	1
Chichester	0	1
Eden	0	1
TOTALS	25	21

There were no reports from Hastings or the Cuckmere. With the completion of the breeding and winter surveys by WM, PFB, RRG *et al.* there has naturally been a decline in the number of records received. Nevertheless birds were recorded at 64 sites, of which 5 were not recorded in the survey between 1967 and 1969; 4 of these sites are within 3KM of a known winter site. In the Haywards Heath area 4 out of 14 nests under observation failed. Thirty-four pulli were ringed from the other 10 of which 15 definitely fledged from 5 nests (WM).

Wintering records received involved 43 birds at 27 localities. Again 5 of these localities were not recorded in the survey between 1967 and 1970, 3 of them are within one KM of a known breeding site.

Passage movements at the coast were smaller than in 1969. In the spring one flew W. at Selsey Bill on Mar. 28th and singles were seen at Beachy Head on the 21st, 26th and 27th. In the autumn totals of 4 flew E. and 9 departed S. at Selsey Bill between Aug. 29th and Sept. 30th and a total of 52 were noted at Beachy Head, with a maximum of 7 on Sept. 16th.

It would be most helpful if observers would give precise map references for all breeding or wintering sites for this species. Otherwise it is not always clear whether a record refers to a new site or not and records are difficult to evaluate.

382. **YELLOW WAGTAIL** (*M. flava*).—First recorded on Apr. 3rd, at Pett Level. No large spring movements, the largest count being 27 at Rye on Apr. 28th. Counts of breeding pairs received were: Arun valley, 27 between Hardham Waterworks and a point half a mile S. of Greattham Bridge; Rye Harbour LNR, 9 pairs all successful. In addition there were records of breeding from Pagham Harbour, Beeding Brooks, Glynde Levels, the Cuckmere valley, Brede Level, the Rother Levels and Guldeford Level and single pairs may have bred at Pilsey Island and Chichester G.P.

A very large autumn passage. At Selsey Bill 544 departed S. in 13 days (116hrs.) watching between Aug. 15th and Sept. 20th, peak 202 on Aug. 23rd. At Beachy Head there were exceptional movements in late August with a peak count of c.500 in a day; there were late birds there on Oct. 9th and 27th. At Rye there were peaks at the LNR of 200 on Aug. 30th and 100 on Sept. 6th and there were 120 at Worthing S.F. on the 17th.

Single birds showing the characters of the race *flava* were seen at Chichester G.P. on Apr. 24th and 27th and Bexhill on May 6th. One showing the characters of the race *thunbergi* at Pagham on June 4th (NPH, WWAP, JVS).

383. **WAXWING** (*Bombycilla garrulus*).—One at Lindfield on Feb. 14th (EH, DBN). A small influx in December with birds noted at 5 localities as follows: Horsham, present from Nov. 30th to Dec. 19th with a maximum of 10-15 on Dec. 14th (EH, SWMH, JL, EJM); Lewes, up to 6 from the 2nd to 9th (DCL *et al.*); Fernhurst, one on the 9th (PGD); Milland, 4 on the 17th (DVG-L); Gos-sops Green, 6 on the 20th (CEH).

384. **GREAT GREY SHRIKE** (*Lanius excubitor*).—In the early months there were single birds at Cissbury Ring on Jan. 11th (RJS), Ditching Common from the 12th to 16th (CEH, RJB), Beddingham on the 30th (DCL), Beachy Head on the 31st and Feb. 1st and another from Feb. 26th to Mar. 18th (many obs.), Ambersham Common from Feb. 5th to Mar. 28th (many obs.), Glynde (JR) and Crowhurst (SR) on Mar. 1st and Ashdown Forest on the 29th (RSEE).

At the end of the year recorded at Beachy Head from Oct. 17th, with 2 on the 22nd, 3 on the 25th of which 2 arrived from the S. and departed inland, 3 on the 27th and 2 on the 31st (many obs.). Elsewhere single birds at Greattham on Oct. 24th and Nov. 30th (REG, RJS) and Glynde from Nov. 21st to Dec. 20th

(DCL, MS). There were 2 different birds at Worthing rubbish tip between Nov. 13th and 19th (CEM, CMV) and one at Mannings Heath on Dec. 6th (GET).

388. **RED-BACKED SHRIKE** (*L. collurio*).—Single birds at Beachy Head on Aug. 12th (JFC, DL), Worthing on the 16th and 17th (CEM) and Rye Harbour LNR on the 30th (DSF).

389. **STARLING** (*Sturnus vulgaris*).—Large roosts were noted at Golding's Barn, Upper Beeding, with c.40,000 on Jan. 7th and near Cowfold (TQ210210) in April. At Rye there were high summer counts on the LNR of c.6,000 on May 29th and June 5th, c.10,000 on June 19th and a maximum of c.3,000 in July. At Beachy Head 800 arrived from the S. on Oct. 24th and 500 likewise on Nov. 8th. In early December there were counts of 10,000-12,000 at East Dean (East Sx.) and the Cuckmere valley.

391. **HAWFINCH** (*Coccothraustes coccothraustes*).—Breeding was proved at Duncton and Chelwood Gate and birds were present at Pebshaw in May and June. All other records received were for January to April as follows: Cophthorne, one on Jan. 18th; Bolney S.F., 2 on Feb. 15th and one on the 28th; Highbridge Mill, one on Apr. 8th; Beachy Head, one on Apr. 11th; Westfield, one on the 12th; Friston Forest, one on the 19th and one at Aldwick on the 27th.

392. **GREENFINCH** (*Carduelis chloris*).—A hundred at Beachy Head on Jan. 24th and 200 at the Midrips on Mar. 1st were the only flocks reported for the early months. Thirteen nests at Plumpton produced 23 young, an average brood size of 1.8; only 5 nests were successful (RJL).

The only large autumn movement reported was 200 W. at Beachy Head on Dec. 5th. Some large flocks in the Rye area at the end of the year, with up to 400 at Nook Beach in November and December and c.1,000 at Camber on Dec. 31st.

393. **GOLDFINCH** (*C. carduelis*).—The maximum spring count at Beachy Head was 250 on May 12th. Fifteen nests at Plumpton produced 30 young, an average brood size of 2; 7 nests were successful (RJL).

A heavy autumn passage, peak numbers occurring in mid-October, when counts at Beachy Head recorded E. movements of up to 2,000 per hour between the 12th and 16th. Elsewhere counts included flocks of 400 at Weir Wood Res. on the 13th and 200 at Findon on the 14th. C.250 at Weir Wood Res. on Dec. 20th was the only large winter flock reported.

394. **SISKIN** (*C. spinus*).—Rather scarce in the early months with records from only 9 localities between Jan. 1st and the end of April; no party of more than 12 was reported.

Rather more numerous at the end of the year. Autumn passage at Beachy Head involved 120 birds between Sept. 13th and Oct. 31st, with a maximum of 12 F. on Sept. 23rd. Winter parties were noted from 18 localities in the interior. Most parties were of fewer than 20 birds, larger ones being c.100 along 1 1/4 miles of the Ouse at Lindfield on Nov. 29th, c.60 at Deans Mill, Lindfield on Dec. 5th and 25 on Horsham on the 27th.

395. **LINNET** (*Acanthis cannabina*).—The only large winter flock reported for January or February was c.750 at Rottingdean on Jan. 3rd; 385 departed S. in 18 days (122hrs.) watching at Selsey Bill in these months. The spring passage peak at Beachy Head occurred between Apr. 19th and 27th, when 50 arrived from the S. and c.350 moved W. Sixteen nests at Plumpton produced 18 young, an average brood size of 1.1, much lower than 1969; only 5 nests were successful (RJL).

A heavy autumn passage, mainly in the first half of October, when E. movements of up to 2,000 per hour were noted at Beachy Head between the 12th and 16th; 600 flew W. there on the 23rd and there were c.1,000 at Lullington on the 7th.

396. **TWITE** (*A. flavirostris*).—Monthly totals were:

Jan.	Feb.	Mar.	Apr.	Oct.	Nov.	Dec.
92	95	53	3	142	81	95

The main flocks noted in the early months were up to 40 at Sidlesham Ferry until Mar. 8th, up to 30 at Camber in January and 50 at Rye Harbour on Feb. 21st. There were 3 at Beachy Head on Apr. 19th.

At the end of the year the largest flocks were 40 at the Midrips on Oct. 25th and 50 at Camber on the 19th increasing to 70 in December. There was one at Bignor Hill on Oct. 31st (KGA), inland records are very unusual.

397. **REDPOLL** (*A. flammea*).—The largest parties noted in the early months were 30 at Albourne on Jan. 18th and a similar number at Cophthorne on Mar. 23rd. Otherwise small winter parties were reported from 8 localities. Some spring passage at the coast; for example birds were recorded on 10 dates between Apr. 11th and June 6th at Beachy Head, with 4 arriving from the S. on Apr. 11th and 2 likewise on May 5th.

Breeding was proved in Ashdown Forest and TQ71 and there were breeding season records from 5 other areas.

An exceptional autumn passage at Beachy Head, with a total of c.2,600 birds recorded. Peak numbers occurred in the first half of October when there were counts of 400 on the 1st, 300 on the 8th and 350 W. on the 12th. Fifty flew N. over Weir Wood Res. on the 27th. Winter parties were reported from 14 localities at the end of the year but the only large one was of 50 birds at Fairwarp on Dec. 5th.

400. **SERIN** (*Serinus serinus*).—One at Beachy Head on Oct. 16th (RHC). This record has been accepted by *Brit. B.*

407. **CHAFFINCH** (*Fringilla coelebs*).—A hundred at Beachy Head on Jan. 11th. Ten nests at Plumpton produced 24 young, an average brood size of 2.4, a notable improvement on the 2 previous years; 7 nests were successful (RJL). There were no large autumn movements.

408. **BRAMBLING** (*F. montifringilla*).—In January and February small parties, totalling 26 birds, were noted at Pagham, Washington, Findon, the Cuckmere and near Bexhill. A fairly marked passage in March when records included 20 W. at Beachy Head and 39 NW. at the Cuckmere on Mar. 5th, c.100 at Rye Harbour on the 8th and 30 at Werthing on the 14th.

Hardly any autumn passage noted. At the end of the year 50 between Tunbridge Wells and Bells Yew Green on Dec. 31st was the only flock reported.

409. **YELLOWHAMMER** (*Emberiza citrinella*).—A roost at Beachy Head held up to 130 birds in early September.

410. **CORN BUNTING** (*E. calandra*).—In March numbers on the Rye Harbour LNR rose from one on the 16th to 60 on the 25th, declining to 12 in April. Breeding season records were received from 24 localities, all but 3 along the Downs; not reported north of the Downs. Selected counts of singing males are: Sidlesham, 12 on 400 acres; Peppering High Barn, 7 on 3 sq. KM; Angmering Lee Farm to Wepham Down, 8 on 5 sq. KM.; Sullington Hill to Chantry Hill, 8; Cissbury/Chantonbury, 10 on 7 sq. KM.; Truleigh Hill, 7 on one sq. KM. On July 22nd CMV watched a markedly leucistic male at Chantry Post.

415. **CIRL BUNTING** (*E. cirius*).—Most records were, as usual, for the Cuckmere valley, where PJW estimated a minimum of 15 singing males between Milton Street and the sea. There was a flock of 15-20 in his garden at Alfriston in late December. Other breeding season reports involved single pairs or singing males at West Stoke, Lavant, Aldwick, Duncton, Rottingdean and Beachy Head. There were 2 pairs at Thorney S.F. and the species was resident at Steyning. There was a party of 7 at Beachy Head on Jan. 31st.

416. **ORTOLAN BUNTING** (*E. hortulana*).—One at Beachy Head on Sept. 20th (RHC).

421. **REED BUNTING** (*E. schoeniclus*).—Pairs or birds were noted in atypical breeding habitats as follows: 4 singing males in young conifers in St. Leonard's Forest; a pair apparently breeding on the Downs at Mile Oak; birds in 4 or 5 localities in Ashdown Forest. A nest was found at the base of a gorse bush on high dry ground on Chailey Common. More conventionally there were 30 singing males in the Arun valley in June, between Hardham Waterworks and Greatham Bridge, excluding Pulborough South Brooks.

422. **LAPLAND BUNTING** (*Calcarius lapponicus*).—Single birds at Beachy Head from Sept 16th, to 18th, 22nd, 27th and Oct. 11th (RFP, MJR *et al.*). One at Camber on Dec. 12th and 13th (DBO).

423. **SNOW BUNTING** (*Plectrophenax nivalis*).—Up to 30 at Camber in January, 2 on Mar. 21st and one on Apr. 5th and one at Rye Harbour on Feb. 21st, 7 on Apr. 8th and one on the 13th were the only records for the early months.

At the end of the year present at Camber from Oct. 31st and up to 28 there in December. Elsewhere single birds at Pilsey Island on Nov. 15th, Newhaven Tidemills on the 26th and from Dec. 28th to 30th and at the Cuckmere on Dec. 25th. Fifteen at Langney Point on Nov. 22nd and 2 or 3 at Pagham from Dec. 15th.

425. **TREE SPARROW** (*Passer montanus*).—The only large flocks reported in the early months were 60 near Bexhill on Feb. 6th and c.250 at Worthing rubbish tip on Mar. 14th. In the breeding season reported from 23 widely scattered localities. The only new site reported was at Balcombe but the records leave the clear impression that the species is becoming generally distributed throughout the county. Most records were of single pairs but there were 8 on 80 acres at West Chilmington and 5 in Sireat sandpit; small colonies were widespread on Pett Level in pollarded willows.

A very large autumn passage noted at Beachy Head, numbers exceeding any previous year. The maximum counts were 400 S. on Oct. 7th, 800 W. and 700 in the area on the 11th, c.2,000 W. on the 13th, 800 W. on the 23rd and 400 W. on the 27th. Large winter flocks at the end of the year were c.100 at Amberley Wildbrooks on Nov. 8th, similar numbers at Cissbury on the 22nd and at the Crumbles on Dec. 5th and 150 at Worthing rubbish tip and Weir Wood Res. on Dec. 20th.

SUMMARY OF BIRD RINGING IN SUSSEX, 1970

Compiled by
P. J. WILSON

A total of 14,861 birds of 85 species were ringed in 1970, compared with 12,554 in 1969 and 13,445 in 1968.

Interesting birds ringed, other than those at Beachy Head, included 2 Bluethroats by Chichester Ringing Group, and 15 Cirl Buntings and a Grey Phalarope by P. J. Wilson.

SELECTED LIST OF RECOVERIES REPORTED IN 1970

Key to symbols and terms
(Ring numbers are omitted)

Age	Manner of Recovery
pull.—nestling or chick, <i>not yet flying</i>	v—caught or trapped and released with ring;
juv.—young, <i>able to fly freely</i> ;	+—shot or killed by man;
1st W.—bird in its first winter	x—found dead or dying;
fig.—full grown (age uncertain);	o—caught or trapped alive and not released or released but with ring removed;
ad.—adult, at least one year old;	/?/—method of recovery unknown.
1 Y.—first year bird in the plumage assumed at its first (post juvenile) moult;	
PJ—post juvenile; free flying bird definitely not juvenile but not certainly in an older age group.	

Sex	Birds ringed in Sussex	Distance
♂—male		The distance is given in miles and directions are approximate
♀—female		
Mute Swan	imm. 9.4.61 Emsworth, Hants/Sussex border (ABW)	
	x 15.4.70 Laleham, Staines, Surrey, 45m. NNE.	
	1st.W 4.3.62 Pagham Lagoon (ABW)	
	y 31.8.70 Salisbury, Wilts. Breeding. 49m. WNW.	
	x 15.2.63 Shoreham (DAS)	
	x 21.2.69 Schaproe, Rugen, E. Germany (not reported until 1970)	
	There were also 5 recoveries from the Hants./Sussex coasts	
Ruff	P.J. ♂ 11.1.69 Newhaven (PJW)	
	x 30.12.70 Larroque, St. Senin, nr. Castena-Veduzan, France	

Willow Warbler	fig.	31.8.68 17.4.70	Shoreham (REG and JAN) Frampton-on-Severn, Gloucs.	110m. NW.
Starling	PJ v	27.12.68 2.2.70	Alfriston (PIW) Apeldoorn (Gelderland), Netherlands	
Goldfinch	juv. x	28.8.69 15.2.70	Shoreham (REG and JAN) Champagnac, Jonzac, France	
Birds ringed elsewhere and recovered in Sussex				
Shag	x (oiled)	27.7.69 18.1.70	Iste of May Roedean (AJC)	
Swallow	juv. v	24.8.70 28.8.70	Wolvercote, Oxford Chichester Gravel Pits (CRG)	65m. SSE.
Sand Martin	juv. v	9.8.70 27.8.70	nr. Edwinstone, Notts. Chichester Gravel Pits (CRG)	170m. S.
Blackbird	1Y ♀ v	19.9.70 20.9.70	Duinbergen (West Flanders), Belgium Hodcombe, Beachy Head (RHC)	(note the very short time lapse between ringing and recovery)
Reed Warbler	ad. v	7.9.69 11.5.70	5kms. S. of Agadir, Morocco Belle Tout, Beachy Head (RHC)	
Sedge Warbler	juv. v	6.9.70 11.9.70	Radpole, Weymouth, Dorset Chichester Gravel Pits (CRG)	75m. ENE. (A good example of "reversed migration" by a young bird in autumn)
Willow Warbler	juv. v	9.8.70 15.8.70	Broadbottom, Hyde, Cheshire Shoreham (REG and JAN)	200m. SSE.

BEACHY HEAD RINGING STATION

During the year, nine new members joined the Ringing Station as trainees, and three of these qualified for class "C" licences. To offset this increase in membership, we regret the temporary loss of Barry Cooper, who being one of the original members when the Ringing Station was formed in 1960, has put many hours of hard work into its success.

1970 proved to be our most successful year with a grand total of 4,645 birds of 56 species being ringed in Whitbread Hollow. This now brings the number of birds ringed since 1960 to 24,196 of 84 species. Three new species were ringed for the first time by the Ringing Station, and these were Collared Dove, Fieldfare (which was long overdue), and Marsh Warbler which proved to be a very educational bird for the Ringers present. We were fortunate that the bird was in full song before it was trapped.

R. H. Charlwood once again had a most successful year's ringing at Hodcombe, where he caught 2,800 birds of 61 species. He had the good fortune to trap a Pallas Warbler in October, the fourth record for the Head and the second one ringed in 3 years.

After last year's bleak report on the very low numbers of Whitethroats in 1969, 1970 saw an increase in the numbers being ringed. As stated in the 1969 Sussex Bird Report, the numbers of Whitethroats ringed in 1968 was 22½% of the total number of birds ringed for that year. In 1969 this had drastically decreased to 5% of the total number of birds ringed. The 1970 results showed that White-throats had increased to 7¼% of the total number of birds ringed, and it should

Sand Martin	Juv. v	31.8.64 20.5.68	Pagham (CRG) Ovens, Cork.	345m. WNW (not reported until 1970)
	Juv. v	26.8.67 2.5.70	Chichester Gravel Pits (CRG) Gatheville, Manche, France	
	Juv. v	7.9.69 25.5.70	Chichester Gravel Pits (CRG) Chillesford, Orford, Suffolk.	130m. NE
Great Tit	PJ ♂ v	16.12.69 25.3.70	Burgess Hill (JAW) Hungerford, Berks.	65m. NW.
Ring Ouzel	1Y /?/	28.9.68 14.4.70	Beachy Head (BHRG) Gez ez Angles (Hautes Pyrénées), France	
	PJ ♂ x	18.10.70 29.10.70	Beachy Head (BHRG) Manzamena (Javel), Spain	
Redstart	ad. ♀ x	20.5.69 26.6.70	Hodcombe, Beachy Head (RHC) Winston, Darlington, Durham	
Robin	PJ x	10.8.69 4.1.71	Beachy Head (BHRG) Canelos Estareja (Beira Littoral) Portugal	
	PJ x	8.8.70 late 12.70	Hodcombe, Beachy Head (RHC) Ribadassella (Oviedo), Spain	
Grasshopper Warbler	1Y x	10.8.69 15.4.70	Hodcombe, Beachy Head (RHC) Carture d'Argenson, nr. Lubille (Deux-Sèvres), France	
Reed Warbler	1Y v	31.7.69 20.6.70	Litlington (PIW) Marston, Sittingbourne, Kent.	46m NE.
	ad. v	3.8.69 3.5.70	Beachy Head (BHRG) Hornsea, Yorks.	
	1Y /?/	3.7.63 12.10.69	Shoreham (JS) Bilbao, N. Spain	
Sedge Warbler	juv. x	26.7.69 20.6.70	Chichester Gravel Pits (CRG) Clapton, Crewkerne, Somerset.	90m. W.
	1Y /?/	7.8.69 9.5.70	Litlington (PIW) Bardsey Island, Caernarvon, Wales.	250m. NW.
	1Y v	24.8.70 20.9.70	Litlington (PIW) Ile du Migron, Loire Estuary, France	
Garden Warbler	1Y /?/	26.8.67 3.5.70	Beachy Head (BHRG) Porcuna (Jaén), Spain	
	ad. x	8.8.69 26.4.70	Plumpton (RJJ) Castellon de la Plana, Spain	
Lesser Whitethroat	fig. /?/	28.8.65 1.5.70	Beachy Head (BHRG) Sutton Courtenay, Berks.	
	PJ /?/	20.9.69 5.6.70	Beachy Head (BHRG) Caversham Bridge, Reading, Berks.	
	fig. /?/	27.8.70 20.9.70	Beachy Head (BHRG) Nr. Piovone (Vicenza), Italy	
	juv. v	10.9.69 20.3.70	Patcham (PJB) Nr. Eilat, Israel	

REPORT ON WADER COUNTS IN 1970

By
M. SHRUBB

prove interesting to see how long it takes before the Whitethroat population is back to the 22½%.

The Society organised three outings to the Ringing Station, but these were poorly attended by its members. Those who were present saw a good selection of the common migrants being ringed, weighed and measured.

The following is a list of species ringed by the Beachy Head Ringing Station in 1970.

Kestrel	1	Sedge Warbler	117
Water Rail	1	Blackcap	749
Collared Dove	1	Garden Warbler	263
Wryneck	1	Whitethroat	364
Swallow	78	Lesser Whitethroat	208
House Martin	21	Willow Warbler	401
Sand Martin	2	Chiffchaff	795
Great Tit	37	Goldcrest	170
Blue Tit	91	Firecrest	7
Coal Tit	2	Spotted Flycatcher	16
Willow Tit	7	Pied Flycatcher	6
Long-tailed Tit	5	Duncock	146
Tree Creeper	3	Meadow Pipit	17
Wren	186	Tree Pipit	3
Mistle Thrush	4	Yellow Wagtail	3
Fieldfare	1	Greenfinch	72
Song Thrush	133	Goldfinch	55
Redwing	2	Linnnet	9
Ring Ouzel	18	Redpoll	3
Blackbird	102	Bullfinch	83
Wheatear	2	Chaffinch	24
Stonechat	19	Brambling	1
Whinchat	25	Yellow Hammer	8
Redstart	45	Cirl Bunting	1
Black Redstart	5	House Sparrow	7
Nightingale	10	Tree Sparrow	11
Robin	145	Total	4645
Grasshopper Warbler	58		
Reed Warbler	90		
Marsh Warbler	1		

J. F. COOPER.

The programme of monthly wader counts in Chichester and Pagham Harbours was continued in 1970, using the same methods as in previous years (SxBR 1965, 53) and covering the same roosts as in 1968 (SxBR 1968, 70). Counts were planned for each month except July, when there was no suitably high tide at weekends. However, no August figures are shown in the table since, although a complete count was planned, in the event only Thorney Island was counted.

Coverage was very poor, many counts being missed, particularly at Chidham and Pilsley Island. This was unavoidable; at various times during the year our regular counters were away for extended periods and temporary help was not always easy to arrange. This has especially affected the figures for Oystercatcher, Grey Plover, Curlew, Bar-tailed Godwit, Redshank, Greenshank and Dunlin, all of which are very low. But all the figures are affected. Details of roosts not counted are shown under each column in the table.

As remarked in the 1969 Report, the increasing disturbance in these harbours during the summer months is seriously affecting the accuracy of the summer counts. The June count at Pilsley Island, for example, recorded no birds but 800 people! This probably affects the counts far more than the birds, since feeding areas are untroubled and there are temporary alternative roosts available. But such temporary roosts are virtually impossible to keep track of in an area with a coastline of 36 miles, largely surrounded by private property. Summer counts are therefore being abandoned; there seems little point in counters' valuable time being expended for such disappointing results. Fortunately many useful data on summer wader populations were gathered before this problem became so acute.

Despite the generally poor results in 1970 some interesting records were obtained during the counts. The autumn peaks of 413 Turnstone and 610 Sanderling noted in October were the highest counts yet obtained for either species in the county and the Knot flocks present in the early months were also the largest so far recorded. Other interesting figures were the high Ringed Plover numbers at Pagham in October, the 22 Curlew Sandpipers there in September and the 12 Avocets wintering there in the early months.

The results of the monthly counts in 1970 are set out in Table 1. No count along the whole coastline was arranged. The counts are continuing in 1971, when the various problems of organisation encountered in 1970 have been solved.

TABLE I. MONTHLY WADER COUNT TOTALS IN WEST SUSSEX IN 1970

Species	25 Jan.		8 Feb.		5 Apr.		24 May		21 June		6 Sept.		18 Oct.		15 Nov.		13 Dec.	
	Chi.	Pag.	Chi.	Pag.	Chi.	Pag.	Chi.	Pag.	Chi.	Pag.	Chi.	Pag.	Chi.	Pag.	Chi.	Pag.	Chi.	Pag.
Oystercatcher	?	105	?	—	200	40	200	?	?	115	740	130	760	220	585	?	745	280
Lapwing	850	120	475	—	35	?	0	0	140	140	195	?	265	105	380	90	590	270
Ringed Plover	4	70	2	—	5	6	9	10	150	35	0	?	30	460	30	12	12	110
Grey Plover	150	260	150	—	170	85	110	60	65	35	1	220	135	185	70	35	30	200
Golden Plover	500	0	300	—	25	1	1	0	0	0	10	0	1	0	250	4	1	0
Turnstone	15	100	2	—	15	?	0	15	3	0	85	35	235	180	15	?	20	85
Snipe	120	7	85	—	30	3	25	2	0	0	20	2	0	2	155	5	180	8
Jack Snipe	1	0	0	—	2	0	0	0	0	0	3	0	0	0	1	0	1	0
Curlew	120	250	580	—	475	60	325	40	20	45	?	250	110	415	110	?	250	100
Whimbrel	0	0	0	—	0	0	0	1	2	1	?	10	0	2	0	0	0	0
Black-tailed Godwit	0	0	30	—	1	0	330	45	0	75	0	1	7	90	200	25	30	160
Bar-tailed Godwit	35	0	120	—	150	20	15	0	9	0	180	9	130	5	85	1	495	8
Green Sandpiper	0	0	0	—	0	0	0	0	0	0	3	0	0	0	0	0	0	0
Common Sandpiper	0	0	0	—	0	0	0	0	0	0	13	11	0	0	0	0	0	0
Redshank	85	15	480	—	350	9	225	15	15	30	400	410	665	570	530	90	620	195
Spotted Redshank	0	0	0	—	0	0	0	0	0	0	14	1	1	1	0	0	0	0
Greenshank	1	0	2	—	0	0	0	2	1	0	50	6	50	2	10	0	4	0
Knot	550	0	750	—	485	0	10	0	0	0	2	0	4	0	20	0	0	1
Little Stint	0	0	0	—	0	0	0	0	0	0	0	1	2	0	0	0	0	0
Dunlin	1500	4500	1800	—	8200	?	550	1000	50	6	0	350	10000	1840	6000	?	11200	1900
Curlew Sandpiper	0	0	0	—	0	0	0	0	0	0	0	22	9	0	0	0	0	0
Sanderling	?	0	?	—	10	0	65	0	180	0	205	0	560	50	105	0	85	0
Ruf	0	0	0	—	0	30	0	0	0	0	8	3	0	0	0	0	0	0
Avocet	0	12	0	—	0	2	0	2	0	0	0	0	0	0	0	0	0	1
Roosts not counted	Pilsey N. Pagham	Pilsey N. Pagham	Pilsey Pagham	Chidham N. Pagham	Chidham N. Pagham	N. Pagham	Chidham Fishbourne S. Pagham	Chidham Fishbourne S. Pagham	Chidham S. Pagham	Chidham Fishbourne	Chidham	S. Pagham	Chidham	Chidham				

NOTE: Chi.—Chichester Harbour, Pag.—Pagham Harbour.
A ? indicates that the species was present but not counted.

OILED BIRDS IN SUSSEX IN 1970

One of the problems with the recording of oiled birds is the impossibility, in many instances, of linking birds found with a particular disaster. There seem to be so many disasters, so many oil slicks (confirmed and otherwise) and so many oiled birds, especially along the South coast where recent incidents have demonstrated some appalling navigational standards and irresponsibility on the part of ships' crews.

One of the results of this irresponsibility is the oil on the beaches about which holidaymakers protest loudly, another is given in Table 1, which lists the total numbers of birds found oiled along Sussex beaches during 1970. This was the worst year on record for oiled birds in Sussex; the numbers found were 90% more than in 1969 and the number of species involved was double. There was no very great increase in observer activity, so the increase is almost certainly a real one. Most oiled birds were found during the period January to March and particularly over the weekend of 28th February-1st March, when the second International Survey of Beached Birds was organised by the RSPB.

Auks were once again one of the main victims and it is extremely worrying to note that, of 115 Guillemots recorded in Sussex during the year, 80% were oiled; similarly with Razorbills 63% of the 76 recorded were oiled.

As can be seen from Table 1b, showing the distribution of records, the auks were found washed up dead along the whole coastline, with no concentration apparent in certain areas. The majority of divers, grebes and sea-ducks, however were found in the extremities of the county, at Paghnam and Rye Harbours; this probably reflects the comparative abundance of these species offshore at these localities. As in 1969 it was surprising and pleasing to note only 2 Red-breasted Mergansers washed up oiled during the year, but again this may only reflect small numbers wintering offshore. Certainly counts in West Sussex in December and early 1971 showed few to be present.

On many coasts, particularly in recent years, a proportion of the birds recorded washed up dead have not been oiled. There has been much speculation about the cause of death of these birds, but recent analyses have shown many to contain a high level of certain industrial organochlorines that are tipped into the sea as waste. In the main records of sea-birds washed ashore dead but un-oiled have been particularly associated with the north-west coast and Irish Sea, around which there are many large industrial ports and complexes. It is of interest that only 13 un-oiled birds were recorded as washed up dead along the Sussex coast in 1970. We suspect that this low number may be inaccurate as observers may not have recorded all such birds that they found. We would be most grateful for all such records in the future.

We would like to thank the following for supplying records:
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R. F. PORTER, M. SHRUBBS.

TABLE I. OILED BIRDS FOUND ALONG THE SUSSEX COAST IN 1970

A. TOTAL NUMBERS AND MONTHS IN WHICH FOUND

Species	Jan.-Mar.	Apr.-Jun.	July-Sept.	Oct.-Dec.	Total
Black-throated Diver	3				3
Red-throated Diver	8				8
Diver Species	4				4
Great Crested Grebe	4			1	5
Gannet	2			3	5
Cormorant	2			1	3
Shag	1				1
Heron	1				1
Mallard	8				8
Tufted Duck	1				1
Velvet Scoter	3				3
Common Scoter	15	1			16
Eider	6			1	7
Red-breasted Merganser	2				2
Shelduck	2	1			3
Mute Swan	3				3
Oystercatcher	7				7
Ringed Plover	36				36
Sanderling	1				1
Great Skua	144	24	8	39	215
Gulls	13	17	4	1	35
Kittiwake		4	2		6
Black Tern		4			4
Common Tern		9	1		10
Sandwich Tern		1			1
Little Tern		2	1		3
Razorbill	41			4	45
Guillemot	75	3		14	92
Puffin	1				1
Auk species	5				5
TOTAL	387	63	16	65	531

SURVEYING A BREEDING POPULATION OF SWIFTS

By
S. W. M. HUGHES

INTRODUCTION

Since its formation in 1962, the Sussex Ornithological Society has undertaken a series of surveys of the distribution and numbers of specific species breeding in the county. Initially the surveys were concerned with the rarer Sussex breeding species such as Wheatear and Stone Curlew, but latterly the scope of this work was extended to include species occurring in well defined habitats, for example, Redshank and Yellow Wagtail, or a larger readily identifiable species, such as the Kestrel, which breeds throughout the county.

The size and general topography of Sussex make it a difficult county in which to obtain good observer coverage and this is accentuated by the predominantly coastal distribution of the Society's membership. By 1967, however, experience had shown that the combined efforts of a number of amateur ornithologists could provide valuable results which justified the work involved in the organisation of the surveys. In addition many members felt that the surveys were intrinsically interesting and important as a basis for possible conservation measures in the future.

All the early surveys involved coverage of large tracts of land either on the Downs, in the forests, or along the river valleys. The considerable physical effort required from observers was a major factor limiting the number participating. A complete change was therefore considered desirable and three species closely associated with man, i.e. Collared Dove, House Martin and Swift were chosen for a new programme of surveys in 1968.

A paper describing the continued colonisation of Sussex by the Collared Dove, using results from the survey programme, has already been published (Porter 1970); the work on the House Martin is still progressing and has already produced some interesting results. This paper reports the results available to date for the Swift (*Hirundo apus*), and also considers the feasibility of surveys designed to involve the total membership of a large county Ornithological Society in a regional study of a relatively common species.

METHODS

Special Considerations. Before describing the techniques adopted to assess the Swift population of Sussex, it is helpful, to consider, briefly, certain aspects of the migration, breeding biology and behaviour of this species.

The Swift is a summer visitor to Britain from central and southern Africa. Regular arrival in Sussex starts at the end of April and the main movement takes place during the middle two weeks of May (des Forges and Harber 1963). The eggs are laid approximately two weeks after the main arrival and thus nestlings are being fed during the last third of June, throughout July and often into the first week of August, depending on the food supply which in its turn depends on the prevailing weather conditions. It is thought that the young migrate south immediately on leaving the nest and that the adults follow within a few days. The majority of Swifts, therefore, spend only a quarter of the year in Britain, a shorter time than any other breeding species. (Lack & Lack 1951).

Several factors make the Swift a difficult species to study. The nest, which is usually under the eaves or in some other crevice of a building, or occasionally under old thatch, is almost invariably inaccessible. Furthermore, several pairs may have a common entrance to their nests and thus entrances and nests cannot

B. DISTRIBUTION OF RECORDS

Species	Chichester Harbour	Pagham/Seisey*	Worthing/Portside	RoeDean/SalDean*	Newhaven/Cuckmere*	Eastbourne/Beachy Head	Hastings/Bexhill	Rye Harbour
Black-throated Diver								3
Red-throated Diver		4			1	1		1
Diver Species		1	2					1
Great Crested Grebe	1	1	1	1			1	1
Gannet					1			
Cormorant								
Shag				1				
Heron		1						
Mallard		8						
Tufted Duck		1						
Velvet Scoter		3						
Common Scoter		1	1					
Eider		6			1		2	12
Red-breasted Merganser		2						2
Shelduck								1
Mute Swan		3						
Oystercatcher		1			6			
Ringed Plover		1						
Sanderling	22	14						
Great Skua		1						
Gulls		69	1	62	31			51
Kittiwake		7			1			26
Black Tern								2
Common Tern								4
Little Tern		4	11	4	9			1
Sandwich Tern		14	24	8	16	2	5	6
Razorbill	1	22						10
Guillemot		1	1					12
Puffin		1				1		
Auk species								
TOTAL	24	167	41	77	66	4	8	133

NOTE: There were also records from Chichester G.P., Climping, Darwell Res., Hove and the Midrips; * indicates that a Beached Bird Survey was made.

always be equated. The size of a colony can only be judged from the number of birds flying around in the vicinity, but even this compromise has limitations. For example, as many as 20% of the birds present at a colony at the beginning of the season may be immature non-breeding birds and these often visit and even occupy nest sites (Lack & Lack 1951, Cutliffe 1951). Counts of birds present cannot, therefore, be extrapolated in terms of breeding pairs.

There is no specific time during the breeding cycle when the total population of a colony can be expected to be visible on the wing. Some birds may already be incubating before later migrants arrive and a proportion will always be feeding away from the colony. The Swift, being almost exclusively aerial, often travels considerable distances for food, tending to move south, even crossing the Channel, to avoid depressions which greatly reduce the number of airborne insects (Lack 1955). Thus parties feeding high over a specific area may not be the local breeding population. Counting birds at a colony is also complicated by the high speed and tight formation of the birds flying low near the vicinity of their nest sites.

In view of these difficulties the results of any survey of this species will only be of value for comparative studies in future years, if full details of the methods adopted are specified.

Techniques adopted. The survey was started in 1968 when a stencilled letter was sent to all members of the Society in April requesting information on breeding Swifts. It was suggested that priority should be given to finding colonies and, if time allowed, counts of *screaming parties* should be made during the period late May to early June. Details of the nest sites and effects of urban development and re-development were also invited.

The response to this request was poor and in 1969 it was decided to send a printed questionnaire to all members again requesting details of Swifts present during the 1968 breeding season. Members were asked to make the appropriate deletion in the following sentence:

Screaming parties of Swifts were/were not present in my locality last summer.

Space was also allocated for details of colonies in other localities and the importance of defining the locality by the name of the hamlet or village, or for towns and large urban areas, by street names or map references was emphasised. The response to this questionnaire was encouraging and a short preliminary report and a special recording sheet for the 1969 breeding season, were prepared and posted to all members with the Society's Summer Newsletter.

The preliminary report restated the current objectives of the survey, i.e., to locate and count colonies of Swifts, and collect any additional information relevant to their breeding. Counting *low screaming parties* at nesting sites was again emphasised but a distinction was drawn between these parties and the screaming of migrating birds at high altitudes. Members were asked to make counts in the last two weeks of May or the first two weeks in June and preferably in the evenings. The recording sheet provided was ruled to facilitate reporting of date, locality, and the number of birds counted. Once again the importance of defining the locality accurately was stressed.

Much useful information on the location of colonies was received in 1968 and 1969 and it was decided to proceed further in 1970 and endeavour to obtain some basic numerical data. A stencilled letter, addressed personally to 390 selected members, was sent out on May 24th requesting counts of the total number of birds flying low over a specified area on a fine evening in June, particularly around sunset, and preferably in the first half of the month. A separate recording sheet was enclosed with the letter, listing three areas for which counts

were particularly required. In general, the areas named were the observers home locality and two other areas nearby. The first mentioned was regarded as a priority area. Economics restricted the circulation of this letter. All members who had contributed to the survey in 1968 and 1969 were included automatically, unless heavily committed to other projects. Otherwise members were selected to obtain complete coverage of West Sussex, Brighton and Hove. Because of a lack of members in the north-east of the county complete coverage appeared impossible in East Sussex, so attention was concentrated on the larger villages and towns, with smaller villages included when the distribution of members allowed.

The overall distribution of questionnaires was as shown below.

West Sussex (excluding Worthing and Shoreham)	120
Worthing and Shoreham	40
East Sussex (excluding Brighton, Hove, Portslade and Southwick)	140
Brighton, Hove, Portslade and Southwick	90
	390

RESULTS

Very few counts were received in response to the requests in 1968 and 1969, but the details of colonies which were located were extremely valuable when planning the survey for the 1970 breeding season.

It is impossible to present in this paper, all the information received during the three year survey period, but full details have been added to the Society's files for future reference. Table 1 details the number of Swifts estimated in 165 localities throughout the county; the localities should be regarded as the built-up parts of the areas named rather than the complete parish or county borough etc. The figures given, unless stated otherwise all relate to counts made in June 1970. However, where counts were not made in 1970 the table has been supplemented with counts made in 1968 and 1969.

Some localities were counted by more than one observer and in these instances averaged figures have been quoted. In a very few instances where there was a gross disparity between the results of two or more observers, reference has been made to counts in previous years, or personal assessments based on local knowledge, prior to deciding which figures should be quoted. Where such arbitration has not been possible the lowest figure reported has been given. Other qualifications for the figures quoted are given in the footnotes to the table.

In Table 1 no attempt has been made to indicate the number of colonies in any locality, due largely to the difficulty in clearly defining a colony. Details of specific nest sites, where known, have been placed on record in the Society's files and this information is available for any ornithologist wishing to pursue similar studies in the future.

Table 1. COUNTS OF SWIFTS AT BREEDING SITES THROUGHOUT SUSSEX.

Albourne	24	Bramber	8	Chichester	74
Adversane	5†	Brede	8	Clappam	3
Aldwick	4	Brighton	240h	Cocking	23
Arlund	14†	Broadbridge Heath	5	Cotemans Hatch	2†
Arundel	24*	Broad Oak	16†	Coneyhurst	6
Batcombe	24*	Burgess Hill	35	Coolham	4
Barnham	15	Burpham	8	Copthorne	5†
Barns Green	210	Buxted	16	Cowfold	92
Bexhill	5	Bury	18	Crawley Down	22
Bignor	22	Chamelsdale	10	Cross in Hand	23
Billingshurst	4	Chantley	6	Crowborough	38
Birdham	35	Chelwood Common	10	Cuckfield	30
Botney	35	Chelwood Gate	6		

Dane Hill	10	Lindfield	65	Scaynes Hill	8
Ditching	12	Littlehampton	135	Seaford/Blanchington	20
Drayton	2	Littleworth	15	Selsfield	4
Earham	2	Lodsworth	10	Shillingale	2
East Dean (W.S.)	**†	Lower Beeding	3	Shingley	15†
East Grinstead	**†	Lower Cookham	3	Shoreham	30
East Hoathly	**†	Loxwood	3	Slinford	8
East Lavant	20	Lurgashall	25	Slinfold	16
Eastbourne	160†	Mammings Heath	25	Somping	20†
Edburnton	36	Mayfield	2	Southase	6†
Eridge	12	Midhurst	2	Southwater	38†
Exeat	10†	Midhurst/	7	Southwick	7
Fairwarp	6	Easebourne	45	South Harting	14
Felbridge	10	Monks Gate	16	South Mundham	2
Felpham	18	Netherfield	2	South Stoke	8
Ferhurst	36†	Newick	21	St. Leonards	32
Findon/Nepcote	30	Newhaven	10	Stanner	3*
Fittleworth	5	Ninfield	12	Steyning	35
Fleching	15	North Chapel	4	Stopham	2
Forest Row	8	North Heath	8	Storrington	40
Fulking	4	North Stoke	6	Sturton	5
Hailsham	30	Nurbourne	6	Taakeham	9
Hainaker	12†	Nyetimber	16	Tillington	14
Hardham	4	Old Heathfield	4	Turners Hill	9
Hartfield	2†	Ovingdean	4	Turnbridge Wells (Ss)	14
Harting	15	Ovingdean	4	Uckfield	80
Hastings	60†	Partridge Green	4†	Upper Beeding	12
Hassocks	18	Patching	5	Upper Hartfield	12
Haywards Heath	30†	Pease Pottage	4	Waldron	2
Heathfield	10	Petworth	60	Warham	30
Heanfield	26*	Petworth Mill	4	West Chiltington	4
Herrnmoreux	4	Petworth Bay	10	West Chiltington	23
Forsted/Sydney	16	Piddington	24	West Chiltington	8
Forston/Kolifey	318	Plainstow	26	West Grinstead	10
Foulington	19	Porings	26	West Hoathly/	11
Frove	25	Porriande	17	West Wittering	7
Furston	4	Purborough	17	Whitehams Green	2
Furston Green	30	Ringmer	8	Wick	30
Furthampton/	22	Robertsbridge	10	Wick	19
Hurst Wickham	6†	Rodmell	20	Wick	35
Icklesham	2†	Rogate	12	Winchelsea	10
Ichenor	6	Rotherfield	14	Woodingdean	16
Itchingfield	2†	Rotttingdean	16	Woodmancoote	206
Pen Place	5	Rudwick	2	Worthing	6
Kirford	7†	Runcion	4	Wych Cross	6
Lancing College	6	Rusper	4		
Lewes	140	Saleshurst	65		

* Swifts known to breed in locality but no count made.
† Figure quoted thought to be an underestimate due to incomplete coverage.
‡ Information refers to 1969 breeding season.
§ Information refers to 1968 breeding season.
|| relates also to colony at farm at TQ 443403.
Count refers to Brighton County Borough excluding Stanmer, Falmer, the Woodingdeans, Ovingdean, Rotttingdean and Salfieldean.

Localities for which nil returns were received are listed in Table 2. Where more than one observer was involved this is indicated, as is a negative result confirmed by observations in two or more years.

Aleiston	East Wittering
Angmering*	East Wittering
Angmering on Sea*	Falmer†
Ansty	Falmer†
Amberey Village*†	Falton
Ashurst Wood	Farrant
Ashington	Friars Gate
Battle	Furness Green
Bepton	Glynde
Bells New Green	Goring
Berwick	Heyston
Brooks Green	High Hurstwood†
Christ's Hospital*	Horam
Coldwaltham	Lions Green
Cooksbridge	Lynmsier
Dallington	Maresfield
Dell Quay	Milton Street
Earmley	Moundfield
East Harting	North Mundham
	Nywood

* more than one observer.
† confirmed in two years.

The coverage achieved was better than had been anticipated at the planning stage, particularly in East Sussex. This was mainly due to some observers covering several localities in addition to those actually allocated to them. In West Sussex the only major urban area not counted was Bognor and it seems highly probable that colonies were missed in Lancing and Small Dole, and a few smaller villages, e.g., Westergate, Eastergate, Rake and Milland. The coverage of East Sussex was not quite as satisfactory; no count was obtained for East Grinstead and coverage of Haywards Heath, Eastbourne and Hastings may not have been complete. Several potentially important villages, e.g. Brighton, Burwash, Hickstead, Playden, Ticehurst, Wadhurst and Westfield were not visited and coverage was generally poorest in the extreme east and north east of the county. Despite these obvious omissions c.85% coverage of the county can be claimed, producing counts totalling over 4,000 birds. The June population for the entire county ought therefore to have been in the region of 4,500 birds. Again it must be stressed that with this species it is impossible to extrapolate these figures in terms of breeding pairs.

DISCUSSION

Members response. The response from members to the four requests for information was very variable (Table 3). A total of 242 members participated at some time during the three year period, the greatest response occurring in 1970 when 188 provided information.

Table 3. RESPONSE FROM MEMBERS OF THE SUSSEX ORNITHOLOGICAL SOCIETY TO REQUESTS FOR INFORMATION ON BREEDING SWIFTS.

No.	Requests for information.	date of despatch	No. of requests despatched	No. of forms returned	No. of members sending records direct to Recorder.
1	Form of request.				
1	Stencilled letter sent with Newsletter No. 26.	4/68	c.685*	not applicable	13
2	Printed questionnaire sent with Newsletter No. 30	4/69	c.900*	113	27
3	Preliminary report and recording form sent with Newsletter No. 31.	6/69	c.900*	47	
4	Personalised letter and recording form	24/5/70	390	196†	8

* Total membership
† includes acknowledgements from 16 members unable to participate in the survey.

The poor response to the first letter was predictable since previous experience had shown that the response to any survey in its first year is usually limited. The second request produced more encouraging results and should possibly be rated more favourably since information was requested in retrospect. But the surprisingly disappointing response to the third request dictated the need for a completely new approach in 1970.

Although it is impossible to be certain, it seems highly probable that the success of the second request was due to its extreme simplicity. The third circular probably failed because it was despatched later than planned and arrived too late for the specified counting period. But it also stressed that information on the whereabouts of colonies was still required and the recording forms supplied were particularly well suited for reporting this information. Nevertheless it produced few results.

The success of the fourth and last request justified the considerable administrative effort required and the expense incurred. It undoubtedly stemmed from the more personal nature of the letter sent and the fact that the recipients were requested to survey specified areas. Finally the despatch of this request was timed carefully so that it arrived only a few days prior to the counting period.

Development of the survey technique. The objectives of the survey, as described earlier, remained unchanged throughout the three year period. The emphasis however changed in the third year from locating colonies to obtaining counts of the birds at the colonies.

The difficulties encountered when surveying this species have already been described and from the outset members' attention was drawn to those habits of the species which might assist the location of colonies and making counts. In 1968 and 1969 *screaming parties* were emphasised and the fact that this behaviour occurred in the vicinity of breeding sites. Some confusion arose with the occasional screaming of high flying migrants and thus the emphasis was changed slightly in 1970 to counting *low flying birds in the vicinity of nest sites* and no mention was made of the *screaming* habit.

The counting period was also changed from the second two weeks of May and the first two weeks of June in 1968 and 1969 to June preferably the *first two weeks* in 1970, since two observers had found in 1969 that the majority of birds at two colonies in Shoreham and Hove did not arrive until the end of the first week in June.

The original counting period was selected after a trial run in 1967 had shown that numbers of Swifts at two colonies were fairly constant during the last half of May and the first half of June, but showed marked daily fluctuations in the second half of June and particularly in early July. These fluctuations, which may be related to the hatching and subsequent feeding of young presented a problem in defining a counting method and it became apparent that it could not be overcome without the observer paying several visits to the colony. This was considered impracticable as far as the overall survey was concerned. In two circulars this change in the habits of the birds in late June and early July was attributed, erroneously, to young birds appearing on the wing and it was surprising that only one member commented on this mistake.

Experience in 1968 showed that the number of birds present at a colony was usually much higher in the evening than at any other time of day and thus in 1969 and 1960 observers were asked to make counts as near sunset as possible. Considerable care was taken to keep all instructions as simple as possible so that members should not be discouraged from participating in the survey.

This had the drawback of making it impossible to draw attention to some of the species habits which were relevant to the methods adopted. For example, no mention was made of the large feeding parties, often made up of birds drawn from a large area, that occur in the "microfronts" of cold air flowing out from thunderstorms (Harper 1958), or the similar airflows associated with sea-breeze fronts (Simpson 1967). It was hoped that these potential sources of error could be contained by stressing the counting of birds flying *low* over breeding areas. Nor was there any mention of the birds often seen moving south or south west along the Downs or coastal districts. Such movements which occur mainly in July and which are thought to be of non-breeding birds (Walpole-Bond 1938), and partly of continental origin, (Hurrell 1951 and Lack 1955) were reported by several members who continued their observations into July. This source of error was eliminated by adhering strictly to the specified counting period.

Reliability of survey method. The methods adopted for this survey have been described in detail and their limitations are obvious. These limitations and the

fact that the survey was carried out by a large number of amateur ornithologists with no experience of the method or, in many cases, of any survey work, must provoke doubts as to the reliability of the results obtained.

It seemed worthwhile therefore to waste some observer effort in 1970, by allocating specific areas to more than one observer, in an endeavour to check the reproducibility of the results. Unsolicited counts for areas already allocated to another observer provided further comparative information. Table 4 gives examples of counts for specific localities in 1970 from more than one observer and it can be seen that the results are satisfactorily consistent. There were a few (not quoted in the Table) gross inconsistencies, almost all of which were explained by factors such as less complete coverage, time of day, or weather conditions.

Table 4. EXAMPLES OF COUNTS MADE BY 2 OR 3 INDEPENDENT OBSERVERS IN THE SAME AREAS IN 1970

	24	25	34	Hurstpierpoint	14	12	12	12	South Harring	15	12
Albourne	22	25	10	Horsted Keynes	10	10	8	8	Steyning	30	35
Billingshurst	14	18	16	Old Heathfield	14	11	12	12	Thakeham	6	9
Bury	21	25	—	Rotherfield	12	12	—	—	Tillington	7	—
Cross in Hand	10	12	—	Rottingdean	14	15	—	—	West Chillington	23	24
Ditchling	—	—	—	Rye	63	65	—	—	West Hoathly	8	8
Edburton	36	36	—	Shoreham (St. Mary's)	10	12	—	—	Winchelsea	16	16
Fittleworth	5	5	—								

Less conclusive, but nevertheless relevant, is a comparison of counts made in specific localities on two or three consecutive years by the same observer (Table 5). With the exception of Wisborough Green and Winchelsea these counts are also fairly consistent and assuming that there had, in fact, been no gross change in the populations of these areas, they confirm that the method can give a fairly reliable indication of size of the population of a specific area.

Table 5. EXAMPLES OF COUNTS IN AREAS ON TWO OR MORE SUCCESSIVE YEARS BY THE SAME OBSERVER.

	1968	1969	1970	1968	1969	1970	1968	1969	1970
Albourne	18	20	24	Mayfield	8	8	Rusper	—	4
Billingshurst	—	25	22	Partridge Grn.	—	4	Rye	59	65
Broadbridge Heath	—	6	5	Platistow	—	4	Slimfold	16	16
Dane Hill	—	10	10	Ringmer	6	7	Winchelsea	—	26
Lodsworth	—	8	10	Rottingdean	7	10	Wisborough Green	—	15

It may be concluded that the techniques adopted for this survey, although obviously not sufficiently sensitive to detect small changes in populations, should prove satisfactory for detecting any marked increases or decreases that might occur. It must however be stressed again that in any future work with this difficult species it will always be essential to define carefully the methods used, if meaningful comparisons are to be made.

Population past and present. In the county literature there is an almost total absence of numerical information on breeding Swifts. Hudson (1900) remarked on their complete absence in some of the villages on the Downs, although in others and some of the coastal towns he considered the species to be abundant, often being seen in parties of 30 or 40. Although interesting these records are of limited value since it is not known to which towns or villages he was referring. However he did also refer to a screaming party of 24 Swifts at an old stone house, a public school, near the station at Lewes. This colony has now disappeared but Lewes can still be regarded as a very good area for this

species. Walpole-Bond (1938) mentions only one colony, that at the Parish Church, Horsham, which numbered approximately 16 pairs. This colony no longer exists and thus again we are deprived of an historical comparison. Horsham can, however, like Lewes, still be considered to be a Sussex stronghold for the species (see Table 1), although it is doubtful whether the present day numbers will be maintained since much of the central area of the town is scheduled for redevelopment.

Despite many enquiries it has proved impossible to find detailed unpublished records which might afford any other comparisons over the long term. In more recent years careful records have been kept of the population at Rottingdean (Newton, V., pers. comm.). Here the numbers of Swifts remained at 2 or 3 annually between 1961 and 1966 and then increased steadily to 10 in 1969 and 14, possibly 16 in 1970.

The fact that observers have not kept records of the numbers of breeding Swifts in specific areas in the past is probably due to the species' conspicuous habits and extreme mobility, which combined, make it appear more abundant than it really is. Many of the figures given in Table 1 are probably lower than might have been predicted from casual observations or general impressions. Although there are certain to be some inaccuracies in these figures it is obvious, from personal communications received during this survey, that even experienced observers have been unaware of the true size of their local breeding populations, having previously only bothered to note the large spectacular parties that are seen during the migration periods.

In conclusion despite its shortcomings in design and execution this survey has provided, for the first time, numerical data on the breeding season population of the Swift in many areas of Sussex. Despite incomplete coverage the results allow an assessment of the total county population in June and it is hoped that the counts for individual localities will form a basis for comparative observations in future years. In the short term there is a need to recheck the figures already obtained and to locate and count colonies which have undoubtedly been missed, particularly in the east of the county. In the long term it should be possible to detect population trends in specific localities if not the entire county.

In addition to the information obtained on the species itself, this survey has provided valuable experience in the organisation of surveys involving a large number of relatively inexperienced observers. Simplicity is obviously of paramount importance in such surveys but the ultimate degree of success is probably directly related to the efforts made to conduct the survey on a personal basis. Surveys of this kind can entail considerable administrative and financial involvement, which has to be balanced carefully against the value of the results and the degree of pleasure and interest afforded to contributors. The results and experience gained from the Swift survey described in this report could well affect future thinking on the feasibility of surveys of the more common species, which have hitherto been considered impossible in Sussex because of the problem of observer coverage.

SUMMARY

A survey of the Swift (*Apus apus*) population of Sussex during the 1968-1970 breeding seasons is reported. The special difficulties encountered with this species are considered and the methods evolved to overcome them in this survey are described in detail.

The results of counts in 219 areas (amounting to at least 85% coverage of the towns, villages and hamlets in the county) revealed a Swift population in June 1970 of c.4,000 birds. The total county population was therefore estimated to be c.4,500.

The techniques employed in an attempt to involve the total membership of the Sussex Ornithological Society in the survey, and thus to obtain maximal observer coverage of the entire county, are also reported. Over the three year period records were received from 242 members i.e., 27% of the total membership. It is suggested that this encouraging response might result in the organisation of similar studies of other relatively common species.

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A NOTE ON THE ECOLOGICAL EXPANSION OF THE REED BUNTING IN NORTH WEST SUSSEX

In recent years the Reed Bunting (*Emberiza schoeniclus*) has increased in numbers and extended its geographical range in the British Isles. This development has been accompanied by two apparent ecological changes; an expansion of breeding range into drier habitats, more typical of the Yellowhammer, and secondly an increasing tendency to feed in gardens, even in suburban areas (Parslow 1968).

Atypical Breeding Habitats.

The first indication of an expansion into drier habitats came in 1933 when Lack found a pair of Reed Buntings breeding on a dry heath in Breckland, several miles from any typical marshy nesting site. In 1961 Longman reported the species breeding in a young plantation in Staffordshire and noted a definite tendency towards drier nesting sites in parts of that county. This development was not fully appreciated until Kent (1964) reported the results of a survey in Nottinghamshire and concluded that 24% of the total population of Reed Buntings in that county were nesting in typical Yellowhammer habitats, e.g. mixed farmland, rough ground with bracken cover, and young conifer plantations. Since then Williamson (1968) has described the species occupying territories, alongside Corn Buntings in barley fields in Hertfordshire and Summers-Smith (1968) has reported an increase from 2 to 14 pairs over a period of 7 years on 223 acres of mixed farmland in north Yorkshire.

There is no information in the literature relating to the counties to the south of the Thames and thus a brief investigation into the situation in Sussex seemed warranted. Initially we examined the Sussex Ornithological Society's files which contained a few interesting records; for example, as long ago as 1961 a Reed Bunting's nest, with eggs, was found on one of the highest parts of Broadwater Forest. In 1966 two cock birds were holding territories in Ashdown Forest and another two were reported from dry areas on Iping Common. In the following year one observer commented that the species had bred on his farmland census plot, at Plumpton, for the first time and in 1968 the species was found apparently breeding on Weeks Common.

We had ourselves found a pair of Reed Buntings in a small coniferous plantation in St. Leonards Forest in 1968, and thus in 1969 we made a thorough search of all coniferous plantations, less than 15 feet in height, in an area of approximately 185 square miles of north west Sussex, defined by an arc of 8 miles radius based on O.S. map reference TQ 118 315.

Twenty-two plantations totalling c.1500 acres were searched, and a total of 9 cock birds were located at 7 sites. In addition cock birds were found, apparently holding territory, at three farmland sites near Christ's Hospital and in one area of open birch woodland in St. Leonards Forest. All territories were confirmed by at least two sightings of singing males during the month of June.

Bell (1969) in considering the recent changes in nesting habitats of the species in some detail, has differentiated between two extremes of dry habitat which the species now occupies. First, those which are entirely atypical being completely dry and some distance from the nearest marsh or waterside habitat. The second category comprises dry areas adjacent to territories in typical habitats. He also recognised that many sites might be classified as intermediate between these two extremes.

In Bell's experience most records of Reed Bunting nesting in dry areas related to those near typical habitat, rather than entirely dry habitat or an intermediate stage. Of the 13 territories discovered by us in north west Sussex,

4 were close to water, possible nest sites being between 100-300 yards from the waters edge on some of the highest and driest ground in the areas concerned; 6 territories were perhaps intermediate being more than a quarter of a mile from typical habitat and 3 were at least one mile from typical breeding habitat. It is however noteworthy that all the latter sites containing a substantial dry ditch running through the plantations concerned.

Of the 9 territories in young conifers 5 were in plantations of *Pinus* sp. and 3 were in *Picea* sp; the height of the trees varied between 6 and 12 feet and all areas had good shrub and ground layers of gorse, broom, willow and bramble. The remaining site consisted of *Pinus* sp. 2 to 3 feet in height planted under a nursery of oak, and here the cock bird often sang from oaks at a height of 12 to 25 feet, and on one occasion from the roof of a nearby cottage. The total acreage of the occupied plantations was 300 and although it is not realistic to calculate a population density on the basis of such a small census it is nevertheless of interest that this data gives a figure of 1 pair per 33 acres of plantation as compared with 1 per 22 acres quoted in the Nottinghamshire study.

Urban feeding.

The published literature on the Reed Bunting's adaptation to suburban conditions is more limited (Parslow 1968). It seems probable that this development is more recent, and therefore more localised, than the expansion of breeding range considered previously.

Our own observations of this species feeding in gardens are limited to Horsham and date back to the severe winter of early 1963 when Reed Buntings mixed freely with House Sparrows, Chaffinches, Greenfinches and other common garden species in small gardens of a housing estate on the western outskirts of the town. These gardens were c.100 yards from arable farmland where a small flock of Reed Buntings was known to have wintered in previous years. Numbers in the gardens were small, with a maximum of three being seen together on 28 days up to March 31st; c.25 were present in the nearby fields with various finches. The appearance of the species in the gardens was considered to be due entirely to the severe conditions which had also driven a few Meadow Pipits and Skylarks into the same area. We were therefore surprised to record the species in the same gardens in the relatively mild weather of January, 1964 and to note its continued presence until April 4th.

Reed Buntings were also present although in smaller numbers during the winters of 1965 and 1966. In 1967 there was a considerable increase in numbers, up to the 1963 level, at both ends of the year and the species was found at a second site, in mature well wooded gardens nearer the centre of the town, approximately half a mile from any area of open countryside. Subsequent enquiries confirmed that the species had been seen regularly at this second site during the previous winter. The status remained unchanged during 1968 and it is unfortunate that observations could not be continued at either site in subsequent years.

In 1969 we heard of Reed Buntings at a third site in Horsham equidistant from the two former locations. Careful observation confirmed that a few were almost daily visitors to the small gardens in this area during the first three months of the year; a party of 10 during a cold snap in early March was probably exceptional, but a few continued to visit one garden almost daily throughout most of April, the last being seen on 29th. In two of the three sites mentioned Reed Buntings visited bird tables, but this habit was restricted mainly to periods of severe weather.

All reports of Reed Buntings in gardens in the Horsham urban district had been for the months November to April, until 1970 when a single cock bird was

seen at a small ornamental garden pool at a fourth site in central Horsham on two dates in July. Despite local publicity there have been no reports of this species in other parts of Horsham and thus it appears that this adaptation to suburban feeding habits is confined to that part of town bordering arable farmland in the vicinity of Warnham Mill Pond and its associated streams.

The Society's files contain only two other records of Reed Buntings visiting gardens. These are from Pulborough and Toddington, both sites being very near typical Reed Bunting habitat, and thus differing from the truly suburban conditions described above.

In conclusion it should be noted that north-west Sussex has never been a stronghold of the Reed Bunting and there appears to have been little, if any, change in the few typical habitats of this species that do exist. It will be interesting to note whether this expansion of breeding and wintering habitats continues and results in a noticeable increase in the total population of the area. There is evidence that similar changes in breeding habitat must have been occurring undocumented for some years in other parts of Sussex. Likewise it seems doubtful that the exploitation of the urban garden in the winter months can be confined to Horsham. Any additional information on either of these ecological changes would be welcomed by the Society's Hon. Recorder.

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