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THE JOURNAL OF THE
SCOTTISH ORNITHOLOGISTS' CLUB

Volume 6 No. 8

WINTER 1971

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THE JOURNAL OF THE SCOTTISH ORNITHOLOGISTS' CLUB



Vol. 6 No. 8

Winter 1971

Edited by Tom Delaney, assisted by D. G. Andrew

Editorial

Opening of Nature Centre and new Bird Hall. This winter has seen the inauguration of two important projects of interest to ornithologists in Scotland—the RSPB's Loch Leven Nature Centre at Vane Farm reserve in Kinross-shire and, in Edinburgh, the new British Bird Hall at the Royal Scottish Museum. Although they are very different in character and setting, the emphasis in both places is very much on education.

The Loch Leven Nature Centre, which is the first of its kind in Britain, has been conceived as a "countryside classroom" where visitors can learn something of the ecology of the district.

A major part of the work here is the instruction of school-children, and indeed Miss Bridget Moore, who runs the Centre, is a qualified teacher. The county authorities of Perthshire, Kinross-shire, Clackmannanshire, Stirlingshire and Fife have made contributions towards the Centre's running costs, thus demonstrating very welcome practical support for conservation education.

The new British Bird Hall at the Royal Scottish Museum in Chambers Street, Edinburgh, is part of a major modernisation programme there. On the ground floor are dioramas of various seabirds, systematic displays of the non-passerines and a bird-song booth.

On the mezzanine floor there are displays of the passerines and a series of exhibits on subspecies, migration and conservation societies in Scotland.

Much of the work involved in developing this new Bird Hall has been done by Ian Lyster (whose paper on last year's Wax-wing invasion appears in this number), and the aim has been to provide a comprehensive reference display for information and educational purposes.

Both these developments represent a considerable investment in ornithological education by the bodies responsible, and their appearance on the Scottish scene is to be welcomed. Each in its way should help to create a wider interest in and knowledge of birds and their conservation.

Pink-footed Geese in Iceland. It appears that there is some delay in implementing the hydroelectric-power scheme at Thjorsarver in Iceland, and the most important breeding grounds there of the Pink-footed Goose (*Scot. Birds* 6: 183) have been relieved from flooding, at least for the moment.

Much to its credit the Icelandic Government is financing a programme of research on this unique area; during the 1971 season six scientists were allocated to undertake this work, and their programme will continue for at least two further seasons. However, there is much more research to be done than can be carried out by these six alone, and extra qualified research workers are needed to conduct various studies on the geese themselves and on associated questions relating to freshwater biology, parasitology, etc.

The Pinkfeet are as much British, and especially Scottish, birds as they are Icelandic, and there has been concern here about the project and its effect on the birds. It would be fitting if practical assistance with the research programme were to be offered now by conservation bodies in this country.

Current literature. Recent material of Scottish interest includes:

The threat of oil pollution to north Scottish seabird colonies.

W. R. P. Bourne, L. Johnston, 1971. *Marine Pollution Bulletin* 2: 117-120.

Gulls nesting on buildings in Britain and Ireland. S. Cramp, 1971. *Brit. Birds* 64: 476-487.

Mortality of hawks and owls in Speyside. D. N. Weir, 1971. *Bird Study* 18: 147-154.

Feeding techniques of the Oystercatcher. P. B. Hepplestone, 1971. *Bird Study* 18: 15-20. Culterty study.

Wild geese and agriculture. Department of Agriculture and Fisheries for Scotland, 1971. Advisory leaflet on prevention of crop damage by geese.

ENDOWMENT FUND

The Endowment Fund, established in 1966, is based on endowments bequeathed by Miss E. V. Baxter and Miss L. J. Rintoul. The Fund is administered by the Council of the Club, which can authorise grants for the advancement of ornithology in Scotland and also to further the interests of the Club. Grants are not restricted to members of the Club.

Application for a grant must be made through the Club Secretary, and must give full details of the project for which the grant is required. The application should normally be sent at least three months before the grant is needed so that it can be placed before Council for approval.

Wintering Eiders in the Tay estuary

B. POUNDER

Introduction

During the winter of 1970/71 observations were undertaken to determine the numbers and movements of the flocks of Eiders that winter in the Tay estuary. There is little detailed information in the literature on the habits of these flocks in the Tay despite the regular occurrence for a number of years of concentrations of several thousands. According to Berry (1939) and Atkinson-Willes (1963), the largest concentrations were at one time found on the Fife side of the river. During recent years, however, the flocks have developed a movement pattern that covers large areas of water on both north and south sides of the main navigational channel. The only recent publication of an accurate count is Milne's (1965) report of 5000-6000 birds roosting on the Abertay Sands in February 1962. Milne's account is part of an investigation into the habits of the species over a much wider area of the northeast coast of Scotland.

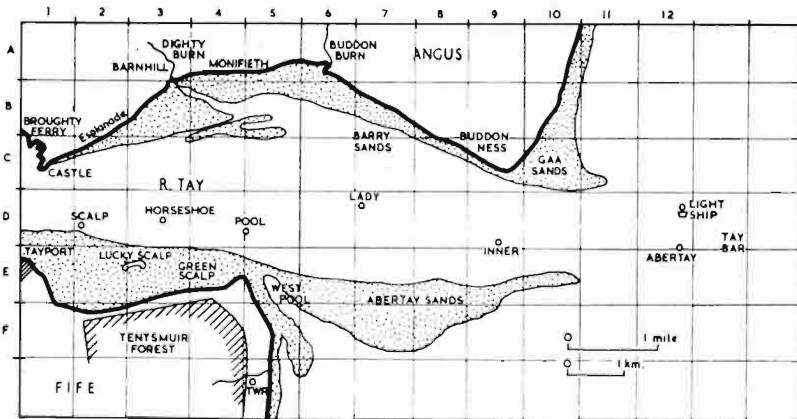


FIG. 1. Tay estuary showing sandbanks and river buoys.

Methods

Observations of Eider flocks in the Tay estuary were made with the aid of a x30 magnification telescope of 6.0cm aperture from a number of vantage points along both shores, e.g., large sand dunes on Buddon Ness and near Tentsmuir Point, an observation tower approximately one mile south of Tentsmuir Point and public roads in Broughty Ferry and Tayport, see fig. 1. Observations were also made from sites along the adjacent coasts, including the clifftops between Arbroath and

Montrose. Data have also been derived from other sources referred to in the text.

The positions of Eider rafts within the estuary were determined from cross-bearings taken with the aid of a compass or by reference to the known position of the river buoys. The locations of distant rafts from which birds were flying were sometimes deduced from measured flight times, on the assumption that Eiders fly at about 60 m.p.h. in still air, a result found from experiments.

The observations were carried out on an amateur basis, and so advantage could not always be taken of good weather or light conditions.

Daily movement cycle

The Eider flocks begin to arrive in the Tay at the beginning of September, and by the middle of the month concentrations of 5000-7000 occur at the Westpool waters off Tentsmuir Point (M. Smith, J. Keddie pers. comm.). Numbers decrease here as the birds move to the estuary proper and begin carrying out the daily movement routine described below. In 1968, 1969 and 1970 the routine was well established by the first week in October, by which time only about 400 birds remained off Tentsmuir Point. Throughout the whole of the 1968/69, 1969/70 and 1970/71 winters, a few hundred Eiders could be seen at all states of the tide in an area immediately south of the Westpool, and another flock of several hundreds drifted with the tides over the mussel beds between Tayport and Tentsmuir Point.

Almost 150 separate observations of the positions and movements of dense Eider rafts within the estuary were made between early October 1970 and early April 1971. The observed positions were recorded on diagrams such as the example shown in fig. 2. The numbers D2, C3, etc. refer to the grid squares shown on the map of the estuary, fig. 1. The tide lines, which run diagonally across the diagram, give the times of Dundee high tide. High tides at Broughty Ferry and at the bar of the estuary are ten minutes and 30 minutes respectively behind those at Dundee. In interpreting fig. 2 the reader must bear in mind that the records refer only to those rafts that were visible when the observations were carried out. However, the results are the same in general form as those obtained throughout the whole of the study period and they indicate clearly that the daily movement cycle is governed by the tides.

Shortly before low tide the birds form a dense raft several thousands strong off Barnhill in grid squares C3 and C4. A less densely concentrated tail extends to the rear across the mussel

beds off Monifieth, over which many of the birds are feeding, a fact indicated by the activities of the attendant gull flocks. After the turn of the tide, the rafts drift west with the current along Broughty Ferry Esplanade, and dense rafts build up between Broughty Castle and Tayport in the vicinity of the Scalp buoy. The main navigation channel is crossed by large numbers of birds. On occasions when the westerly drift coincides with dusk the concentrations round the Scalp buoy are extremely large, and it is probable that they may contain the whole Eider population of the estuary.

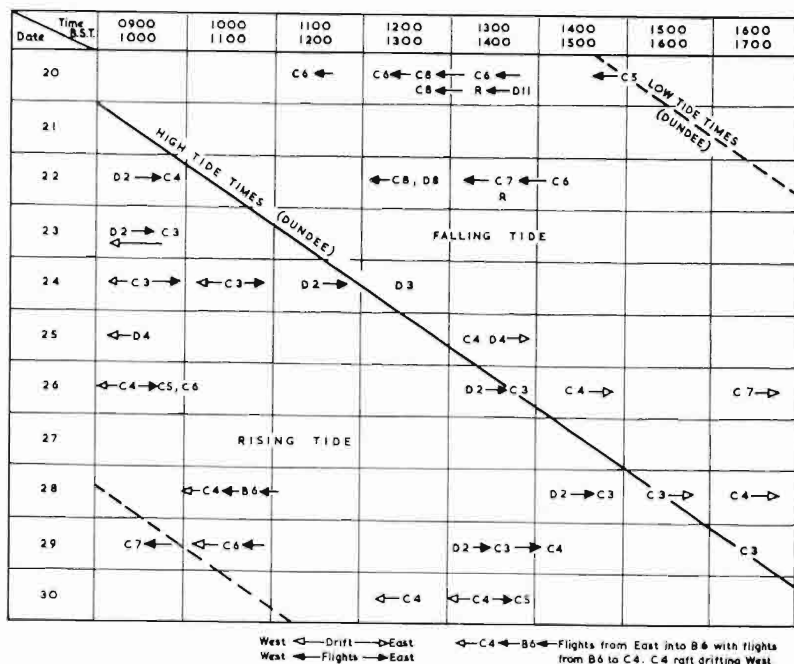


FIG. 2. Location and movements of most easily visible rafts (generally those nearest Broughty Ferry).

The situation is different on days when ample daylight remains; then groups of birds begin to fly back to the C3 region almost as soon as the drift has started, and this combination of east-west drift superimposed on west-east flights causes a marked reduction in the rate at which the large concentrations build up near the Scalp buoy. The drift/flight activity continues until high tide, by which time the rafts are strung out between the Scalp buoy and the region off Barnhill or Monifieth, with maximum concentrations in positions determined by the outcome of the competition between drift and flight.

After high tide the rafts drift east across the Monifieth mussel beds, usually attended by a large flock of scavenging gulls. The leaders draw away rapidly by entering the navigation channel and drift to areas on both north and south sides of the Abertay Sands and as far east as the Gaa Sands and near the Tay Bar. The rearguard follows at a more leisurely speed, keeping to shallow water closer to the Buddon Ness shore. These birds have probably fed when crossing the mussel beds, for they spend most of their time preening and displaying. Display is sometimes so intense as to make it possible to follow the progress of the flocks by sound.

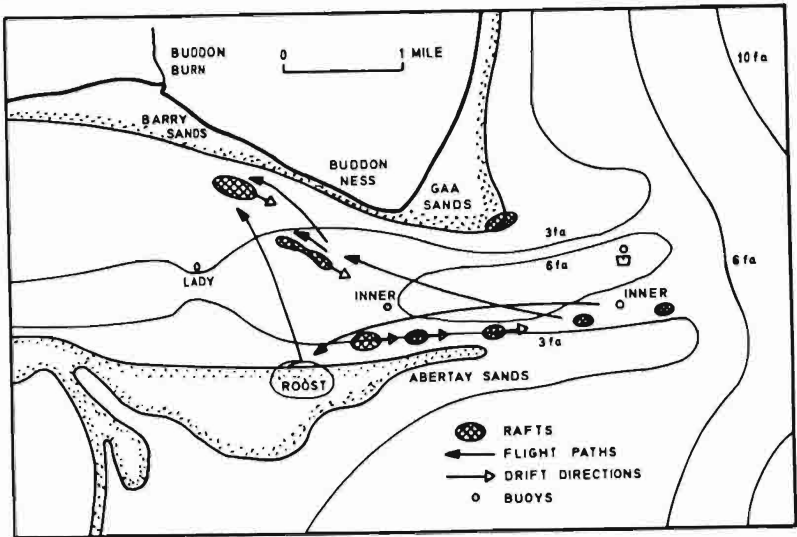


FIG. 3. Typical flight paths from rafts formed during ebb-tide period of the movement cycle.

By about two hours after high tide, birds that had drifted to the mouth of the estuary begin to return by flying to the rear-guard rafts, which are by this time in the vicinity of the Lady buoy and fairly close to the Buddon shore. The return flights gradually build up in intensity, and many birds stop off at a temporary roost on the Abertay Sands, probably the one noted in Milne's 1965 paper. The roost occurs in the E8, E9 region, apparently as a result of birds that happen to have been ranging over the sands in this area being lowered onto dry land by the falling tide. Typical flight paths back to the Lady buoy area are shown in fig. 3. These were observed on several occasions in perfect visibility from the observation tower near Tentsmuir Point.

The high concentration of birds in the Lady buoy area is

continually drifting east as the high tide falls. However, this drift is countered by westward flight hops so that approximate station is maintained near the Lady buoy. As the ebb slackens towards low tide, the effect of these flight hops is to move the large concentrations gradually west until at low tide, a dense raft is off Barnhill, and the cycle is completed.

The routine described above is consistent with all the 1970/71 observations and with the few sufficiently detailed observations available for the previous two seasons. No evidence was found to indicate marked changes due to abnormal weather or tide conditions. For example, although observations during gales failed to show any birds on the water, the positions of dense rafts could always be inferred from the flight activity. The passage of large ships through areas of high concentration brought about only transient changes in flight activity. Many of the mid-winter observations coincided with dusk or daybreak and the flight activity seen suggested that the to-and-fro movements on the tidal currents were carried out during the hours of darkness.

A measure of the rigidity of the movement habits during the 1970/71 winter is that out of nearly 100000 Eider flights observed between Broughty Ferry and the Tay bar, not one was contrary to the routine described above. Well established daily movement routines of wintering Eider flocks have been described elsewhere; see for example Salomonsen (1950, p. 128).

End-of-season changes

From about mid February, increasing numbers of Eiders roost on the Lucky Scalp island and the sandbars off Tentsmuir Point and Barnhill. Groups of up to about 100 Eiders mix and feed with flocks of several hundred Mallards and Goldeneye off the mouth of the Dighty burn at Barnhill. Small groups take up semi-permanent residence on the rocks off Broughty Castle and off West Ferry and there are up-river excursions along the Fife shore as far west as the Tay road bridge. There are also excursions along the Dundee shore by large flocks which reach the Stannergate Oil Terminal. For example, on 14th and 21st March 1970, some 1600 and 1100 Eiders were seen almost as far west as Dundee docks. These westerly excursions by large flocks are sporadic, and the reason for them is not known. There is no indication that they are caused by adverse weather in the more exposed areas of the estuary.

Counting the population

It is extremely difficult to obtain accurate counts of the birds wintering in the Tay. The rafts are so dense that direct one-by-one counts are impossible. However, estimates made on different occasions by different observers are remarkably

consistent, as can be seen from the data in table 1, which gives estimates of the rafts lying off Broughty Ferry and Tayport.

Table 1. Eider counts : Broughty Ferry-Tayport

Date	Count	Observer
8-10-68	10000	TMC
5- 2-69	10000	TMC
11-10-69	16000	TMC
28-10-70	15000	TMC
13-12-70	10000	BP
2- 2-71	10000	TMC
6- 3-71	c10000	TMC
12- 3-71	9000	BP

TMC—T. M. Clegg BP—B. Pounder

These results are consistent with the figure of 10000 quoted by Milne (1965) for 1955-64. Although the numbers are high, they are small compared with those recorded in, for example, Denmark (Paludan 1962). However, the Tay flock is probably unique in that numbers as large as these can often be seen in a single locality and in a single observation.

As an alternative to a direct count an assessment of the total population can be made from observation of the rates (numbers of birds per minute) at which the birds fly out from a region of high concentration such as the Broughty Ferry-Tayport area. The method would yield accurate results provided that counts commenced when the whole population was at the start area and that the birds did not drift back to the start after having been counted already on their way out. Such conditions are hard to achieve, and the difficulty is often aggravated by poor visibility.

Conditions were good on 23rd December 1970, however, when a fly-out was observed to commence from an enormous raft off Broughty Ferry Esplanade to an area off Barnhill relatively devoid of Eiders at the start. By reference to the Scalp buoy it was seen that the source raft was drifting slowly west. Fly-out rates were determined as birds crossed the field of view of a telescope held fixed on the Horseshoe buoy, and the results are shown in fig. 4. The integrated total deduced from the area under the graph was 13000 birds crossing the field of view during the observation period. During the last ten minutes of the count, the raft that had formed in the receiving area drifted into the field of view, and fly-outs were observed from it. Thus some of the birds counted during this short period had probably been counted once before, and 13000 could be an overestimate of the population. However, the error may be smaller than it appears, for there were already birds in the receiving area before the counts commenced.

Good conditions were also realised on 2nd January 1971 when the east-west flight phase of the daily movement pattern was observed from the dunes along the shore of Buddon Ness.

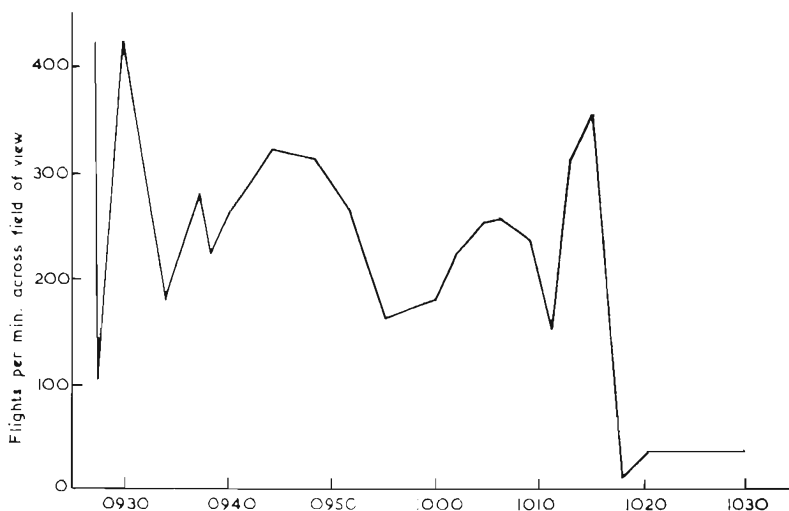


FIG. 4. Flight rates from D2 to C3, C4, 23rd December 1970.

At 1000 hrs BST Eiders were flying at rates of ten to 20 birds per minute to alight on the water west of the Lady buoy and off the mouth of the Buddon Burn. The source areas were about 160 flying seconds east of the Lady buoy, and a roost on the Abertay Sands about 90 flying seconds southeast of this buoy. Counting started at 1045 hrs. The roost thickened visibly during the first part of the count but was losing more birds than it gained by 1130 hrs. It had dwindled to negligible proportions by 1200 hrs. Counting was continued until 1225 hrs, by which time the flight rates were very low, most of the birds coming from source areas 150-160 flying seconds east of the Lady buoy. Two rafts were seen still in the D10 area at the end of the count. The integrated total from the graph of the results (fig. 5) was 10000 birds flying across the field of view. These birds were seen later from Broughty Ferry Esplanade. Most were between the Castle and Tayport by 1630 hrs, but a large raft was drifting in late. It was seen to contain 2000 birds, and if it represented the fraction uncounted during this experiment the total for the day would be 12000.

A third graph is shown in fig. 6 to illustrate that rates sometimes vary only slowly with time; this graph yielded a total of 4000 Eiders, the number of birds actually counted being

1197. The raft receiving these birds was already well established at the beginning of the count.

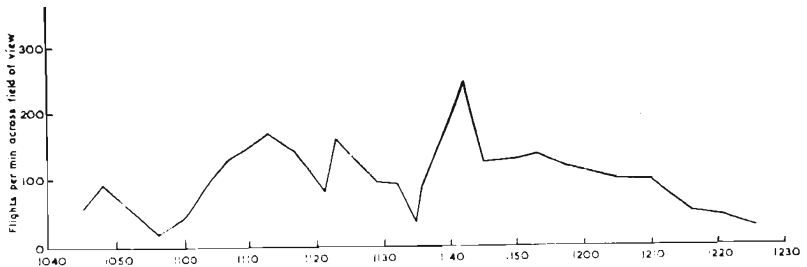


FIG. 5. Arrival rates at rafts at C6, C7 from sources further east, 2nd January 1971.

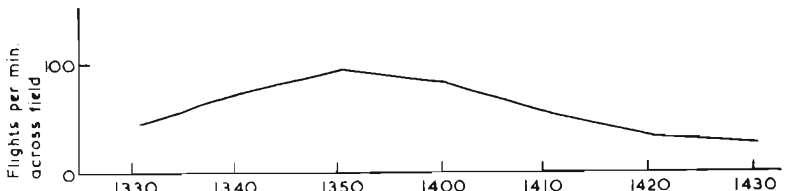


FIG. 6. Arrival rates at raft at C5 from sources further east, 22nd December 1970.

Several other counts were carried out during the 1970/71 winter but were abandoned for different reasons after yielding totals from 2200 to 7600 birds. However, the experience gained indicated that the method is capable of providing accurate totals provided that sufficient observation time is available and that the light is good.

Numbers along adjacent coasts

Eiders occur at several sites along the coasts north of the Tay during the winter months, but their numbers are small relative to those in the estuary. Count results for Westhaven (Carnoustie), the Montrose Basin (including the South Esk at Ferryden) and the Fife coast between St Andrews and Fife Ness are given in fig. 7. The Westhaven graph exhibits pronounced peaks in early February and early April and a less pronounced peak in early March. It is notable that the early February peak occurs shortly before the marked increase in numbers at Montrose, which indicates the possibility of a northward movement from the Tay during this period. A par-

allel southerly movement is indicated by the Fife graph. The April Westhaven peak correlates well with the movement of Eiders back to the Ythan breeding area. According to Milne

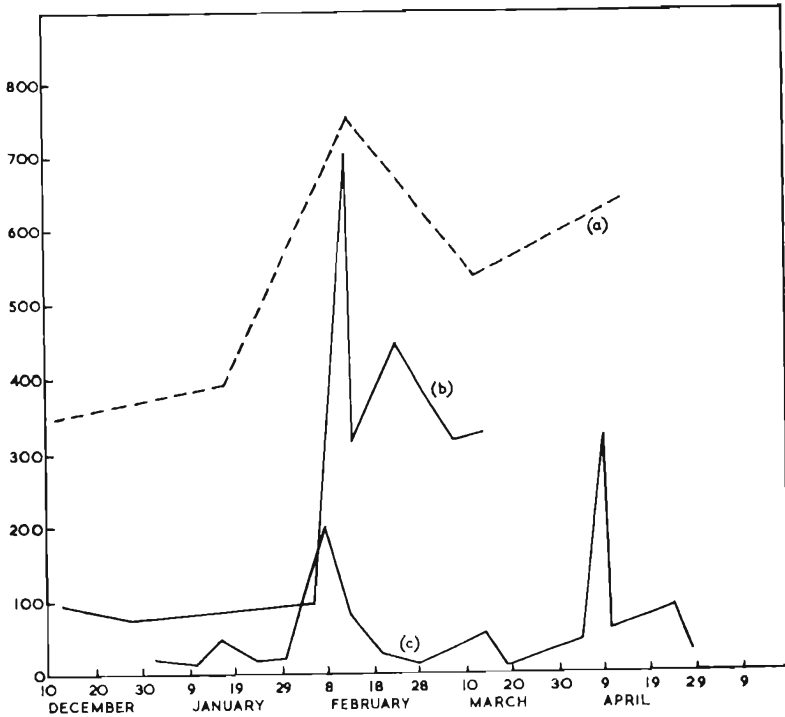


FIG. 7. Counts at sites along coasts adjacent to the Tay.

- (a) St Andrews (Rock and Spindle) to Fife Ness. (J. Grant).
- (b) Montrose Basin and Ferryden.
- (c) Westhaven (data mostly from T. M. Clegg).

(1965) this movement was rapid and resulted in the return of the breeding flock during the second week in April in the years 1961-64. February and March peaks are also indicated by totals at Westhaven in 1969 and 1970 (not shown), and the National Wildfowl Count data for 1970 indicate an increase in numbers at Montrose from 180 to 577 between mid January and mid March. Sharp April peaks are not shown by the 1969 and 1970 Westhaven results. However, a rapid passage to the Ythan during those years could easily have been missed.

Sex ratio

Estimates were made of the male:female ratio from samples of 500 birds in flight in the estuary between December 1970 and February 1971: the mean of the results was 1:1 and the range was 0.85:1 to 1.20:1. That equal numbers of males and females were present during the second half of March was evident from the fact that the great majority of the birds were flying in pairs. Paired flying was noticeable up to the first week in April, after which parties (and rafts) were seen to contain groups of unattached males. By April 16th the male:female ratio had increased to 1.4:1. It seemed likely that females were moving to nesting sites along the estuary shores by this time.

Small groups of juveniles were noticed at several sites along the coast north of the estuary, well away from rafts of adults. When mixed flocks of juveniles and adults were observed it was noticeable that the juveniles kept to the periphery. Juveniles were tamer than adults and often associated with Red-breasted Mergansers, especially when moving close inshore along the Barry Sands.

Discussion

Several investigators have described a twice-daily feeding rhythm in Eider and stress the importance of the common mussel in the diet of the species. In tideless waters feeding periods are confined to early morning and late evening (Pethon 1967, Dunthorn 1971), while in other areas feeding periods are governed by the tides (Bent 1925, Gorman 1971). Thus in the Tay estuary, with a tidal range of approximately 4.5 m, the daily movement cycle of the wintering Eider flocks should be governed by the location of the mussel beds, the depths of which will vary with the tides.

Although no systematic study of the full extent of the Tay mussel beds has been published, extensive beds are known to exist along the Scalps between Tayport and Tentsmuir Point and along both shores of the river upstream of Broughty Ferry and Tayport. However, despite the extent of these beds, they support only a few hundreds of the wintering Eider population. Beds large enough to have been commercially exploited in the past are also known off Monifieth, and it is significant that this area is the centre of symmetry of the daily movement cycle, the area towards which birds fly on both flood and ebb tides. From the evidence of debris washed ashore during periods of strong easterly winds, mussel beds probably exist along the Abertay Sands. Furthermore, examination of the faeces of Eiders that feed off the eastern Tentsmuir shore during the summer months has shown that they consist almost entirely of mussel-shell fragments.

The daily movement cycle of the wintering flocks may depend in part on the location of other types of food. Local fishermen report prodigious numbers of starfish off the Abertay Sands in the region occupied by the Eider rafts shown in fig. 3. This species is taken by Eider (Madsen 1954). Crustaceans are an important item of food for Eiders (Belopol'skii 1961, Pethon 1967). Decapods such as *Carcinus maenas* and *Corystes cassivelaunus* are common along the Abertay Sands, and the shrimp *Cragnon vulgaris* is reported by fishermen to be common off Tentsmuir, especially in late summer and early autumn.

It is interesting that this is the area in which the initial build-up of the wintering flocks occurs following the late-summer moult. Pethon (1967) reports a small but significant increase in the consumption of crustaceans (amphipods) by Eiders in Oslofjord during August-October and discusses the possible connection between a crustacean diet and the development of new plumage. The Eider groups that congregate at the mouth of the Dighty burn during late winter have a choice of small crustaceans (amphipods), annelids and *C. maenas* as items of diet. They do not seem to feed over a small mussel bed nearby.

The data presented here indicate that the estuary has held between 15000 and 10000 birds during the 1968/69, 1969/70 and 1970/71 winters. Records for previous years are too sparse to conclude whether the populations are increasing in parallel with the breeding-population increases in European waters reported by Ringleben (1955). From Taverner's (1959, 1963) discussion of the increase in numbers in British waters it seems unlikely that significant numbers of the Tay flocks are derived from English or Continental shores, especially now that it must be accepted that the Dutch breeding population does not move far during the winter months (Verwey 1956, Tanis 1957, Hoogerheide 1958). That the Dutch flocks winter in local waters is evidenced by the large numbers of oiled Eiders found during the February 1969 disaster off the Dutch coast (Swennen & Spaans 1970, de Jager & Belterman 1970). We must therefore look nearer home for the sources of the Tay flocks.

If Milne's (1965) data on the numbers of moulting Eiders off Murcar, Aberdeenshire, and Gourdon, Kincardineshire, during the summers of 1961 and 1962 are interpolated, we find that approximately 3700 males could have been there during the first week of July. Furthermore, 1971 counts indicate that approximately 1000 drakes were present between Fife Ness and Westhaven during early July. Thus assuming a 1:1 sex ratio and no significant changes in numbers between 1961 and 1971, we can account for nearly 10000 of the Tay population from these areas alone. Ringing and wing-tag results (Milne

1965) have shown that Eiders from the Ythan breeding grounds certainly winter in the Tay.

Milne (1969) considers that the ultimate size of an Eider population is governed solely by the availability of food. Since there are still largely unexploited mussel beds along the river shores upstream of Broughty Ferry and Tayport, it would appear that the Tay wintering population has yet to reach a maximum despite the prodigious food supply required—e.g., 10000 Eiders could eat approximately 600000kg of mussels during a 200-day period if we assume that each bird requires 300g per day (Belopol'skii 1961). This figure can be seen in perspective in the light of Dunthorn's (1971) conservative estimate of a commercial mussel harvest of 50000-100000kg per year from the Linne Mhuirich, a loch comparable in area to the Tay between Broughty Ferry-Tayport and Dundee docks.

The effects of oil pollution must be considered in a discussion of the ultimate Eider population the Tay can hold. The observations reported here, indicate that during recent years no fewer than 10000 Eiders have been present in the estuary during the whole of the period mid September to late March. Although the results shown in table 1 and fig. 7 indicate a steady loss of birds after the turn of the year, there is nothing to indicate movement of large numbers out of and back to the estuary. Such excursions would require a break in the well established movement cycle and would show up as fluctuations in the numbers seen along the adjacent coasts. Since large numbers remain within the confines of the estuary, they must be particularly vulnerable to the effects of oil. Although the Tay is likely to be spared disasters of *Torrey Canyon* scale (because only relatively small tankers use the oil-terminal at Dundee), even small spills can have significant effects. Because of the sandbars at the mouth of the estuary, the Tay forms a basin within which an oil slick can be trapped and moved from shore to shore on successive tides. Thus the effects of a spill can be apparent for a considerable time, a recent example being the oiling in 1968 of at least 1127 Eiders by the spillage of only 87 tons of crude oil (Greenwood and Keddie 1968). A further 2000 Eiders were picked up along local coasts during the incidents reported by Greenwood *et al* (1971).

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Summary

The Eider flocks that winter in the Tay estuary are shown to carry out a tide-dependent daily movement cycle. The numbers wintering in the estuary vary between 15000 during the first half of the winter and 10000 during the second half, the fall-off being caused by migrations both northwards and southwards along the adjacent coasts. The majority of the birds are considered to enter the Tay after a sojourn at moulting grounds between Aberdeenshire and Fife Ness during the late summer.

Waxwings in Scotland, 1970/71

IAN H. J. LYSTER

Introduction

Several large irruptions of Waxwings have occurred during the last 30 years, and these have been described in detail by Baxter and Rintoul (1947), Macmillan (1959, 1960, 1962, 1964) and Everett (1967). These accounts deal chiefly with occurrences in Scotland; for a wider picture, with discussion of the effect of winter food supplies etc., the papers by Cornwallis (1961), Cornwallis and Townsend (1968) and Svårdson (1957) should be consulted. This report describes the arrival and movement in Scotland of an irruption of Waxwings during the winter of 1970/71.

Waxwings are attractive, confiding birds and because of this they generally receive a great deal of publicity when they arrive here in large numbers. Such publicity is helpful in encouraging observers to send in records, and this survey is based on records from Club members and the general public in response to requests for information in local and national papers and in this journal. Table 1 shows the distribution of reports over the faunal areas of Scotland and the estimated number of birds concerned.

Table 1. Number of reports of Waxwings from each faunal area of Scotland in winter 1970/71, and estimated number of birds involved

Faunal area	Number of birds								Totals	
	Reports	Oct	Nov	Dec	Jan	Feb	Mar	Apr		May
Northern Isles	17	217	117					2		336
North Coast	10	16	33	5	12		7			73
Moray	36		207	87	85	37	2	2		420
Dee	26	150	271	6	14		16	3	8	468
Tay	90	117	884	73	34	33	49			1190
Forth	184	794	1674	72	58	87	22	1	10	2718
Tweed	36	24	127	21	66	11	10	7		266
Outer Hebrides	17	20	29	1						50
NW Highlands	0									0
Argyll/I. Hebrides	6		33	33						66
Clyde	84	5	119	26	10	51	4	16		231
Solway	23	14	57	8		12	2			93
	529	1357	3551	332	279	231	112	31	18	5911

For ease of comparison the format used by Everett (1967) has been followed.

September/October—arrivals

The first Waxwing seen was a single bird at Carnoustie, Angus, on the early date of 22nd September. (On the same date in 1965 the first birds of that year's big invasion were seen). No others were reported until eight appeared at St An-

draws on 11th October, followed by a flock of 20 at Longniddry, East Lothian, on 12th, four in Lerwick on 15th and a

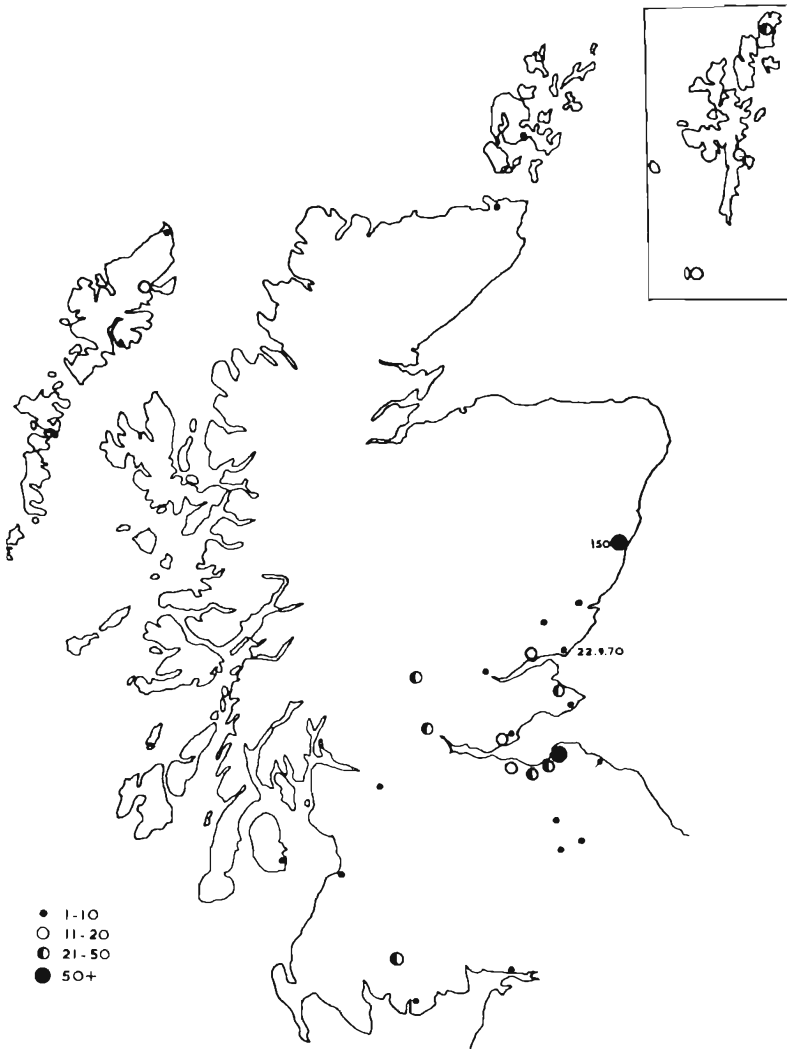


FIG. 1. Reports of Waxwings in October 1970.

flock of 50 in Unst, Shetland, on 17th. In most places this early wave of migrants was followed by a gap of about a week, during which no Waxwings were recorded. However, in East Lothian on the short stretch of coast between Longniddry and

Aberlady the numbers continued to build up steadily. On 17th there were at least 60, about 100 had arrived by 24th, and on 27th over 1000 birds were estimated present in the area. By this time, however, Waxwings were also arriving in increasing numbers throughout the rest of Scotland. On 23rd October a small party was seen at Dunbar, while at St Andrews five were seen on 22nd and up to 50 the following day. Few were seen in Fife for the next few days, although three were at Kirkcaldy by 29th, and on 30th a group of ten was seen at Burntisland and four at Anstruther. Further north, in Angus there were ten at Glamis and one at Brechin on 25th, and a flock of over 100 at Stonehaven, Kincardineshire on 28th. At Thurso 20+ arrived on 24th, with numbers increasing towards the end of the month; in Kirkwall a single bird was reported on 26th, and in Stornoway a single bird seen on 24th was followed by several more on 30th. On Fair Isle 16 arrived on 22nd October, and flocks of up to 11 were recorded almost daily.

Everett (1967) noted that during the 1965/66 and 1966/67 invasions Waxwings were first seen well to the southwest, in Argyll. It seems that this pattern was not repeated in 1970. One bird was seen on Arran on 25th October, three were seen in Glasgow on 29th, and a single bird was noted in Ayr on 30th. Further south two were seen in Annan on 24th, a flock of 12 at Mossdale, Kirkcudbrightshire, on 27th and a "small party" at Kirkcudbright itself on 30th. In the Borders there is an interesting record of a flock of 8+ at Melrose as early as 20th October, and the birds stayed until 9th November. Meanwhile at Stow, Midlothian, eight birds were present on 29th, and six were seen at Selkirk on 31st.

Thus, apart from the bird of 22nd September, the invasion began on 11th-17th October with a small wave of birds arriving on the east coast, chiefly in Fife and the Lothians but also in Shetland; about a week later the main wave of migrants arrived.

November—dispersal

On 1st November over 300 birds were counted in the Longniddry-Aberlady area in East Lothian and up to 400 were estimated in the area on 4th. By then the bushes and trees had been noticeably stripped of berries, and at the end of the first week of November the number of birds started to drop rapidly: there were 150 on 6th, but none at all by 23rd. This disappearance from the East Lothian coast is perhaps reflected in the large numbers of Waxwings then seen further inland and to the west, but the records that follow suggest more birds were still arriving, generally in small flocks and chiefly at other parts of the east coast and Moray basin. Wax-

wings were now being recorded throughout the Forth faunal area. In and around Edinburgh flocks of up to 30 birds were being regularly seen, and this picture was repeated in Dalkeith, Penicuik, Lasswade, Bonnyrigg, South Queensferry, Linlithgow and Bo'ness. Reports suggest that the small flocks of Waxwings generally stayed within a fairly confined area while food supplies lasted, during which time they dispersed further or regrouped. A series of records from Mayfield, near Dalkeith, Midlothian, illustrates this (table 2). Waxwings

Table 2. Waxwing numbers at Mayfield, Dalkeith, Midlothian†

	Date	Time	Weather	Number	
Nov	21	11.30	sunny	14	
	23	11.15	rain	11	
	23	p.m.	rain	40	
	24	11.15	dull	2	
	24	14.15	dull	18	
	25	14.15	dull	12	
	26	11.20	dull	10	
	27	14.10	fair	3	
	28	12.15	dull	11	
	28			30+*	
	30	13.45	heavy rain	2	
	Dec	1	14.00	sunny	21
		2	14.30	rain	2
3		14.00	dull	11	
4		14.00	sunny	12	
5		10.50- 14.20	sunny	1	
6				0	
7		14.00	sunny	1	
8				1	
9		14.00	dull	12	
10		14.00	dull	7	
11		14.00	dull	8	
12-14	14.00	dull	0		

†Records from F. Turnbull

*Seen by another observer

were seen on the Isle of May at the beginning of the month, generally moving in flocks of about 12. At Haddington, East Lothian, some five miles inland from Longniddry, the first Waxwings arrived on 6th November, increasing to at least 60 a week later. Further south, two or three were seen at Eddleston, Peeblesshire, on 2nd, 12 at Kelso on 5th, three at Yetholm, Roxburghshire, on 6th, and 30 at Tweedside, Roxburghshire, on 7th. From 9th onwards birds were also seen at Selkirk and at Gattonside near Melrose.

From the second week of November flocks of up to eight birds were noted in Stirling, Plean, Falkirk and Alva. Larger flocks were seen in Perthshire, with 20+ at Coupar Angus, Comrie and Blairgowrie during the first week and at least 80 at Perth on 8th. Waxwings were also seen by Loch Tay,

and two parties were at Pitlochry, again during the first week of November. From East Fife came over 35 November records; the largest flock noted was 56 birds at Cupar on 6th, and flocks of 30-40 were seen at Upper Largo on 9th and at St Andrews on 16th. Smaller flocks were seen at Burntisland, Leuchars, Cupar, Cardenden and Crail; a flock of 12 flying southwest over Morton Lochs on 29th may have been fresh arrivals. Still near the east coast, at Invergowrie, Angus, 100+ were seen on 4th and 52 on 7th, when a flock of 75 was also recorded at Montrose. Elsewhere in Angus during the first half of November, flocks of 20-40 were seen at Brechin, Liff, Muirhead, Carnoustie, Edzell and Broughty Ferry. An interesting observation during the first week was the sighting of two Waxwings flying south-southwest over the Sidlaw Hills. In the Dee faunal area Waxwings were also recorded in good numbers, for example a flock of 85 at Powis on 5th, 98 at Lower Denburn on 9th and 26 at Banchory on 23rd. Smaller flocks were also reported in the middle and at the end of the month in both Aberdeenshire and Kincardineshire.

In the Moray Basin a party of 40 arrived during November (they stayed until January) at Gibson, near Huntly, Aberdeenshire, and a flock of at least 25 was seen on 14th.

The first arrivals in Inverness were 12 on 6th. During the second week of November a group of 50 arrived at Lentram, near Inverness, but by 16th only 2 were left. In Aviemore 23 were seen on 15th, and although Thurso had its maximum numbers in the first week of November, by the middle of the month the numbers had dropped.

Scattered groups of Waxwings were also seen throughout northwest Caithness during the first three weeks of November. In Shetland there were many sightings of Waxwings in the weeks following the arrival of 50 on Unst on 17th October, but this proved to be the biggest flock seen, and most records were of small parties or single birds. On Fair Isle 19 were seen on 1st, then smaller flocks and singles irregularly throughout the rest of the month. The latest reports were of four in Lerwick on 15th, two at Levenwick on 18th and two on 22nd and 27th, again at Lerwick. In the Outer Hebrides a Waxwing was recorded in North Uist on 7th November, and flocks of 11-25 birds were seen in Stornoway during the first week, decreasing to a single bird on 11th. A single bird was seen at Shawbost, Isle of Lewis, on 3rd November and two at Tarbert, Isle of Harris, on 26th.

In western Scotland six birds were seen at Oban on 6th November, and others at Morven, Sound of Mull, on 7th. The only records for the Western Highlands and Argyll came at the end of the month, with 20 at Lochawe, about six at Loch-

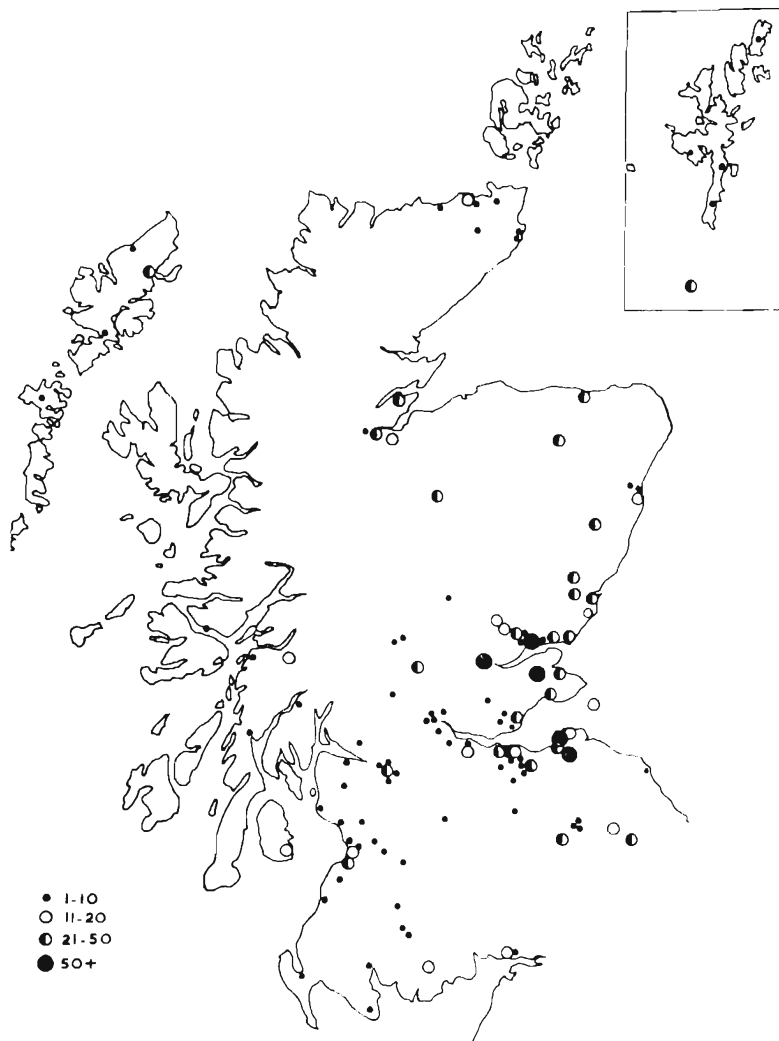


FIG. 2. Reports of Waxwings in November 1970.

gilphead and two at Strachur. The situation in the Clyde faunal area was very different; reports indicate totals of at least 60 birds distributed in a series of small flocks in and around Glasgow and Ayr. Generally these flocks comprised fewer than ten birds, though one of 28 was recorded.

Glasgow was fortunate in having a wintering flock in the Sauchiehall Street-University districts; a series of counts of

these birds (table 3) shows how the flock size fluctuated and emphasises how little reliance can be placed on isolated counts in attempting to calculate area totals.

Table 3. Waxwing numbers in Sauchiehall Street, Glasgow*

Date	Number	Date	Number
Nov 11	14	Feb 2	32
13	4	3-4	29
18	1	5	18
19	25	10	21
20	7	11	5
21	2	12	2
22	3	23	8
		24	3
		26	5
Jan 13	3	Mar 2	1
15	4	4 & 11	4
27	1	12	3
29	2	13	4

*Reports by R. Allan, W. Brackenridge, I. Gibson, I. Stewart and Miss M. Nicoll.

From the Solway area too, reports suggested the presence of small, fairly static flocks throughout the countryside. Specific records mention 13 at Chapelcross, near Annan, on 14th and 15th, 12 at Castle Douglas on 18th, and up to 15 at Dalry from 6th-18th. Waxwings were also present at Newton Stewart, Whithorn and Stranraer.

Thus it appears that the main landfall of Waxwings occurred between the end of October and the middle of November, mainly on the coastal belt between the Moray Firth and the Firth of Forth. On arrival the flocks tended to split up and disperse across the country. A small flock would often stay for several weeks in an area where there was abundant food.

December—small flocks, well dispersed

In December the number of birds reported dwindled (fig. 3). However Waxwings were still present in most areas, sometimes in quite large numbers. In Edinburgh and Dalkeith flocks of up to 12 were noted. In Haddington there were two birds on 4th and in Eyemouth, Berwickshire, four on 10th. At Yetholm, Roxburghshire, four were present from the end of November until 3rd December, two others were seen on 23rd, and one was seen at Darnick, near Melrose, on 1st. In Melrose itself, a party of 16 was seen on the morning of 11th; they appeared tired and were not seen to feed. In Fife, apart from a flock of 40 seen at St Andrews on 24th December, only small flocks or single birds were recorded, and these only from Cupar. Inland there were no records from Perthshire, and all the records from the Stirling area (five at Stirling, two at Alva, one at Dunblane and five at Cambuskenneth) were noted before 9th.

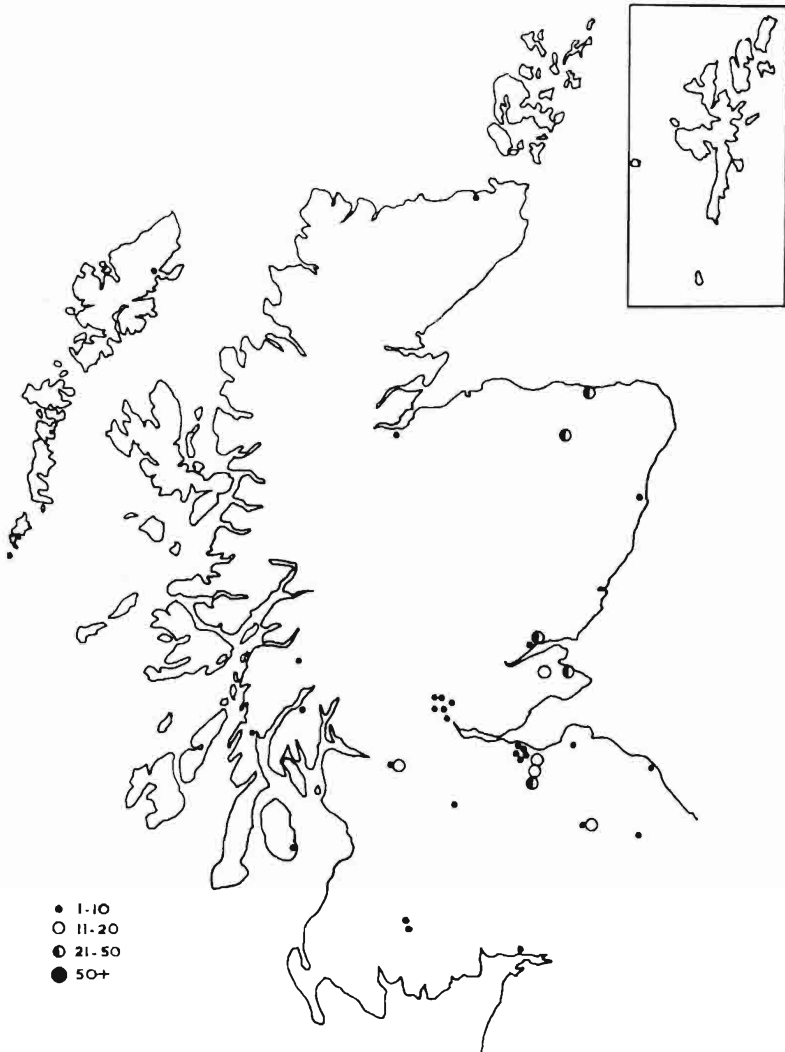


FIG. 3. Reports of Waxwings in December 1970.

At Invergowrie, Angus, there was a single bird on 4th followed by a party of at least 20 on 14th. The latter flock gradually decreased until by the end of the month only three birds remained. In Aberdeenshire, a flock of five or six was reported at Skene on 13th, and 30 at Huntly on 23rd. At Banff the flock of 40 that had arrived in November was still present, while further west, in Inverness, small groups were present throughout the month, the largest being a flock of seven on 14th and

six on 26th. Few birds were noted in the Thurso area.

The picture was the same in the west. One bird was reported in the Outer Hebrides, at Stornoway, on 19th, and in Argyll Waxwings were certainly present until the end of the first week of December (two at Strachur, five or six at Lochgilphead, 20 at Lochawe). Small flocks were still to be seen in and around Glasgow, the largest comprising 12-15 birds near Tannochside in Lanarkshire on 2nd and 3rd. Waxwings were also present in Ayrshire over a fairly wide area. Finally, in Solway few Waxwings were reported, and the only records received were of three at or near Dalry on 3rd and 15th and two at Chapelcross near Annan on 2nd and 3rd. It would therefore seem that in December there was a massive disappearance of birds, starting about the end of November and continuing throughout most of December. However, small flocks continued to overwinter in areas where there were adequate supplies of berries.

January—numbers down

As in 1966 and 1967, January saw a further dwindling of the number of Waxwings sighted throughout Scotland, though there were one or two interesting local exceptions.

In the Lothians, flocks of up to eight birds were occasionally reported, and a group of 16-20 was seen in Edinburgh on 17th and 21st. In East Lothian, flocks of eight or nine birds were recorded in Haddington during the second week of January, and other, smaller groups were seen at Eyebroughty, Gullane and East Linton. Small flocks were also seen at Eyemouth, Berwickshire, on 5th and 13th. In the Tweed faunal area single birds were seen in Galashiels on 13th and 20th and in Selkirk on 4th, but in Melrose a flock of 20 was seen on 3rd, and in Hawick 40 were seen on 4th.

From St Andrews came a report of some 25 during January and February, a flock of eight was seen in both Montrose and Brechin, and there were single birds in Carnoustie. In Banchory 14 were seen on 31st January, and Waxwings were present in Banff up to 14th. At the end of the month up to 30 were present in Inverness, twice as many as recorded during the first three weeks. The most northerly report for January came from Scarferry, near Thurso, where up to seven birds were present during the middle of the month.

No Waxwings at all were reported in January from the Northern Isles, Outer Hebrides, Northwest Highlands, Argyll, Inner Hebrides or Solway. In Glasgow a few scattered groups were reported from the University and Sauchiehall Street, and in Ayr and district some five sightings were made. Most birds were seen on the east side of the country, in fact in some places more than in December.

Thus the majority of the Waxwings seem to have moved on, although a number of overwintering flocks were still present, notably in the Borders and coastal areas of eastern Scotland.

Spring records—possible return passage

February was bedevilled by a postal strike, which prevented submission of many records. This is unfortunate, because just before the strike, reports of fairly large flocks around Edinburgh and Inverness were being received that indicated the possible development of a return movement. In Inverness a flock of 21 was seen on 13-15th, but only one bird was seen on 16th and two on 20th; a flock of 16 was seen elsewhere in the city on 27th. In Edinburgh a flock of 12 noted on 19th was seen to move off to the northwest. Also in Edinburgh a flock of 30 was seen on 1st, 14 on 9th, 15 on 13th and 12 on 17-18th. These records come from all over Edinburgh and may represent different flocks. Twelve Waxwings were seen on 2nd March, others on 6th, and the last record is of an unknown number seen on 11th. This concentration of birds in the Edinburgh area is most interesting, for the same thing was noted in the spring of 1966. East of Edinburgh the only record of the month (and final one of the winter there) was of a single bird at Eyemouth on 2nd February.

In the Tweed area there is a record of seven birds at Innerleithen, Peeblesshire, on 9th February, four others at Gattonside, Roxburghshire, on 4th, and in March a few were still present in both Selkirkshire and Roxburghshire.

In Fife over 20 birds were noted in St Andrews up to the middle of February, but by 3rd March there were only two, and the last record is of a single bird on 6th March. Further up the coast, three were recorded in Montrose on 1st February, another on 3rd and then none until two were seen on 3rd March. A single bird was also noted at Monifieth on 18th February, and three were at Carnoustie on 4th March. At West Ferry, Dundee, six were seen on 6th March and four on 14th. From Brechin came a report of 30 on 8th March. At Banchory, Kincardineshire, a flock or flocks of up to 16 "timid" birds were seen on 23rd and 27th March. Further north, at Dornoch, Sutherland, two were present from 24th March to 5th April; one of these birds was seen to feed the other, and it is probable that they were a pair. Mutual feeding during the winter has been recorded in the wild by Hutchinson (1966) and in the aviary by Meaden and Harrison (1965). It suggests that some form of pair bond persists outside the breeding season. The most northerly record for early spring is of seven birds at Scarferry, Thurso, in the middle of March.

In the eastern part of central Scotland, eight Waxwings were regularly seen in Perth between 7th and 21st February;

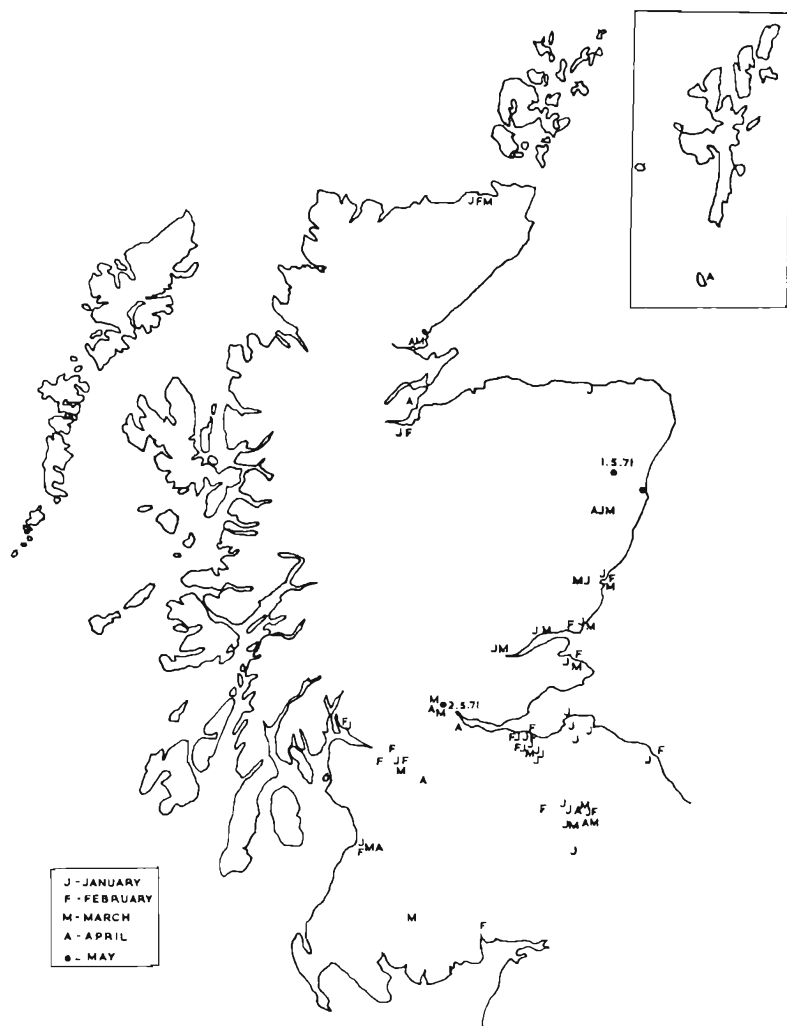


FIG. 4. Reports of Waxwings January-May 1971.

during the week ending 27th March two small parties were seen at Bridge of Allan, and others were seen at Bannockburn. Further west, two were noted in Helensburgh on 8th February, nine in Bearsden on 13th (and one on 22nd), one in Paisley on 4th and 22nd, and in Glasgow up to 32 birds were present during the first week of February. After this, however, the numbers dropped, and the last seen were four on 13th

March. In Ayrshire there were three reports of Waxwings during February and five in March. At least 12 were seen in Dumfries on 8th February and two at Dalry on 1st March. Other Waxwings were present around Dumfries at about this time.

From this it would appear that a return movement was taking place during the first three weeks of February, with most of the birds having gone by the beginning of March. A few small flocks were still on the move at the end of March, chiefly in eastern Scotland.

April and May—final departure

April and May saw the last of the Waxwings (table 4). In the Forth area one was seen at Grangemouth on 27th April, and about this time a small party was also present at Bridge of Allan. In Roxburghshire five were seen on 3rd April at St Boswells and two at Gattonside on 12th. In the Dee faunal area three Waxwings were seen at Banchory on 4th April, eight at Kintore, Aberdeenshire, on 1st May, and there is an unconfirmed report that Waxwings were still around Aberdeen on 8th May. At Munloch, in the Black Isle, a flock of five was seen on 23rd April, sitting in an apple tree, which was in full bloom. This flock had probably been in the area since 13th or 14th.

Table 4. Waxwings in Scotland in April and May 1971

Grangemouth, Stirling	1	27th April
Bridge of Allan, Perth	"small party",	last week April
St Boswells, Roxburghshire	5	3rd April
Gattonside, Roxburghshire	2	12th April
Banchory, Kincardineshire	3	4th April
Kintore, Aberdeenshire	8	1st May
Munloch, East Ross	5	23rd April
Dornoch, Sutherland	2	24th April
Dornoch, Sutherland	1	30th April
Hamilton, Lanarkshire	12	2-6th April
Stirling	5	2nd May

In Dornoch two were present from the last week of March to 5th April. The most northerly records for April and May come from Fair Isle, where single birds were seen on 24th and 30th April, the most southerly was a single bird at Ayr on 4th. Twelve were also seen at Hamilton on 2nd-6th April. The last definite record for the whole of Scotland was of a flock of five at Stirling on 2nd May.

Food of Waxwings 1970/71

Many observers reported on the food plants visited by flocks (see table 5). As in previous years rowan did not come very high on the list, even though it is fairly common in Scotland

and is one of the chief sources of food during migration in Scandinavia. Cotoneaster was by far the favourite food plant in towns, though, given a choice, some birds were reported to prefer viburnum or berberis. In rural areas hips and haws were commonly eaten, and apples were popular everywhere;

Table 5. Food of Waxwings, 1970/71

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Totals
Cotoneaster	5	90	4	3	2		1	1	106
Hawthorn	2	17	5	3		2			29
Rosehip		2	5	6	2	2			17
Apple		9	3	2					14
Berberis	2	5		1					8
Pear	1	4							5
Rowan	1	3	1						5
Elder		3							3
Wild cherry	1	1							2
Whitebeam		1			1				2
Holly		1					1		2
Crab-apple					1				1
Sea-buckthorn				1					1
Viburnum		1							1
	12	137	18	16	6	4	2	1	196

one report suggested a Waxwing could consume about an apple a day. Several reports mentioned Waxwings drinking from gutters and puddles.

Interaction with other species

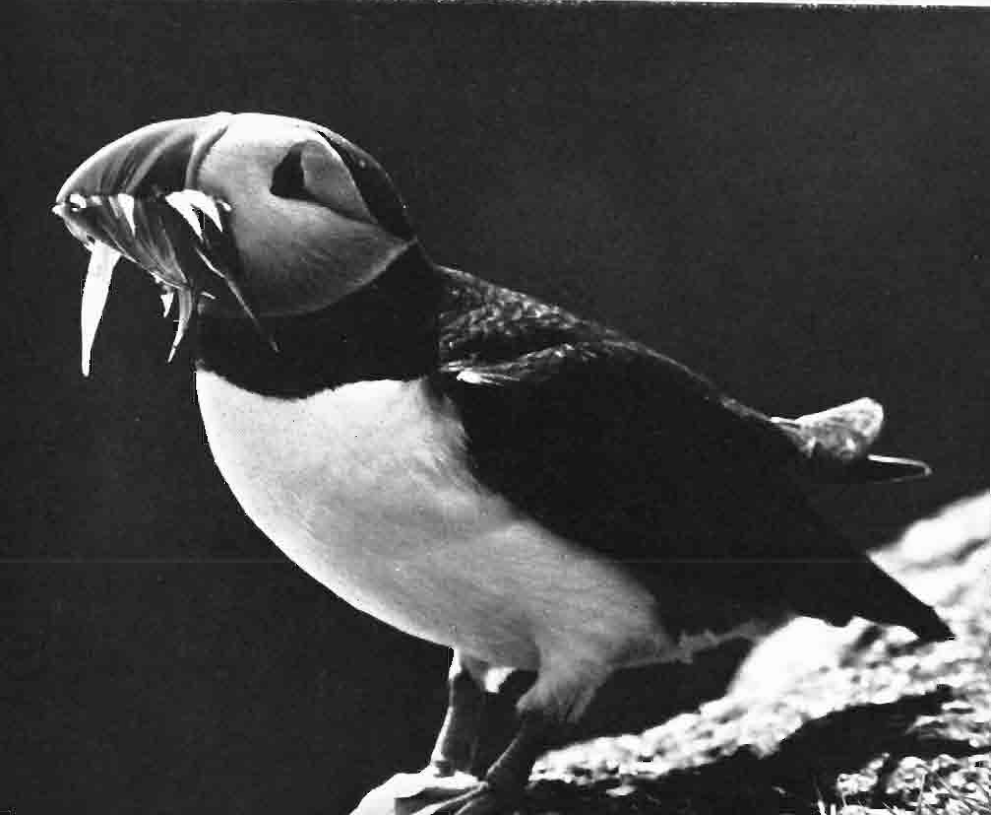
Several reports described the curiosity or aggression shown to Waxwings by other species of birds. In Edinburgh a single Waxwing was seen to be "semi-mobbed" by Blue Tits and House Sparrows; at Haddington a flock of 60 Waxwings was nearly always followed by a number of House Sparrows, and at Alva two Waxwings were seen surrounded by inquisitive Blue Tits. Possible competition was also noted; from one chased away from an apple by a Blackbird to a flock of 11 feeding on whitebeam at the same time as a Mistle Thrush and 3 Greenfinches.

Mortality

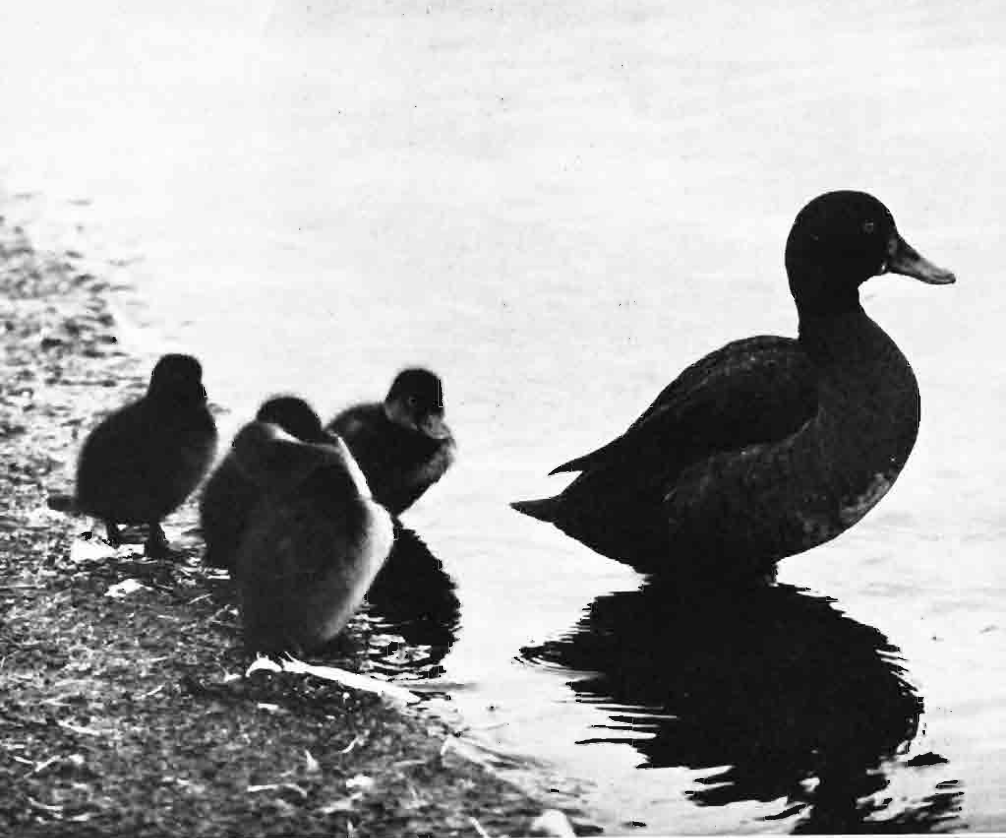
As in previous invasions many Waxwings were picked up dead. A certain amount of bias may be involved in such reports, however, since a strange, brightly coloured bird is more likely to be handed over to the local naturalist or museum than a duller, more common species. However Waxwings do appear to be rather accident-prone and are particularly careless in traffic. No fewer than 12 were killed when a flock flying across the road at Longniddry was hit by a car. Several stunned or exhausted birds were successfully restored to full health and released.



PLATES 29-32. The photographs on this and the following pages are the work of Bobby Tulloch. *Above* Guillemots at Hermaness, Unst, 1971. A number of 'bridled' birds can be seen on the ledges. *Over* Ruff at Haaf Grumey, August 1971 (plate 50a). Puffin at Hermaness, Unst, 1971 (plate 50b). Portrait of a Ptarmigan (plate 51). Tufted Duck with young (plate 52a). Lapwing sitting on eggs in three inches of snow, Mid Yell, 23rd April 1967 (plate 52b).







Ringling records

Three ringed birds were reported: one was seen on the Isle of May but not caught; one, picked up dead at Stranraer on 12th November, had been ringed on 25th October at Alppila, near Helsinki, Finland; the third was caught at Cupar, Fife, on 14th November by the Tay Ringing Group. This bird had been ringed on 10th October at Signilskär, Eckerö, in the Åland Islands, Finland. The Stranraer bird had travelled about 1200 miles in, at the most, 18 days, an average of 66 miles a day; the Cupar bird had flown 900 miles in, at the most, 35 days, an average of some 25 miles a day; both had travelled in a west-southwest direction.

Acknowledgments

Without the co-operation of Club members and members of the general public this survey would have been impossible. Many people wrote several times, and others sent in comprehensive summaries that helped me greatly. To all these people I would like to extend my thanks.

Summary

The arrival of large numbers of Waxwings in East Lothian in October 1970 heralded a major invasion. Over 500 separate observations were received, concerning over 5000 birds. Details are given of the arrival and dispersal of these birds in Scotland. A single isolated bird was seen on the east coast on 22nd September, followed by a small wave in the middle of October. The main arrival began at the end of the third week of October. At first there was a strong concentration in East Lothian, but arrivals soon occurred along much of the east coast. The number of birds reported fell during December and January. In February there was an indication of a return passage.

Records of the fruit eaten by Waxwings during this invasion are listed by months, and brief mention is made of interaction with other species and mortality. In table 6 a comparison is made with previous invasions.

Table 6. Waxwing invasions of Scotland since 1957

	Berry crop in Fenno-Scandia	First record	Forerunners	Main invasion	Last record
1957	abundant	late Jan	late Jan-early Feb	11th Feb	31st Mar
1957/58	total failure	1st wk Nov	—	10th Nov	Feb
1958/59	abundant	23rd Oct	11th Nov	13th Dec	Apr
1959/60	poor	31st Aug	Sep/Oct	30th Oct	Mar
1961/62	—	early Oct	—	7th Nov	6th Apr
1963/64	—	28th Oct	—	2nd Nov	25th Apr
1965/66	poor	22nd Sep	7-15th Oct	15th Oct	8th May
1966/67	—	9th Oct	—	mid Oct	30th Mar
1970/71	—	22nd Sep	11th Oct	17th Oct	2nd May

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Scottish winter Rook roost survey—southern Scotland

J. H. B. MUNRO

Introduction

The scale of the survey has made it necessary to phase the work over at least three winters, starting in 1970/71. For convenience the country has been divided into three areas: southern—south of a line joining Falkirk, Kilsyth, and Greenock; northern—north and west of a line joining Inverness and Fort William, and including all the islands; central—the area in between.

The first report deals with the southern area and includes (where applicable) the results of the pilot survey made in 1969/70 (*Scot. Birds* 6: 166-168).

Roosting behaviour is recorded in detail in the literature, and only observations conflicting with or extending existing knowledge are given here.

Factors affecting the accuracy of the survey

The use by Rooks of autumn roosts is well known. Roosts found before November or December may not be true winter roosts, and a few of those recorded here may not have been occupied all winter.

Where the survey of any of the three areas defined above extends over more than one winter, some roosts may be abandoned and the birds move elsewhere. Many winter roosts, however, are of very long standing, and if the birds do move they are unlikely to go far, so that this should not seriously affect the general distribution pattern that has emerged.

Results

Fifty-eight winter roosts were found. They cover the agricultural part of the southern area, and from the pattern of their distribution it is believed that only about six winter roosts remain undiscovered. These are likely to be in Berwickshire (1), Dumfriesshire (2) and Roxburghshire (3).

The positions of the roosts were marked on a land-classification map, a simplified version of which is given as fig. 1. It is clear, as might be expected, that the roosts are associated with good-quality land, especially the alluvial ground of the river valleys, though some roosts were on poorer land nearby.

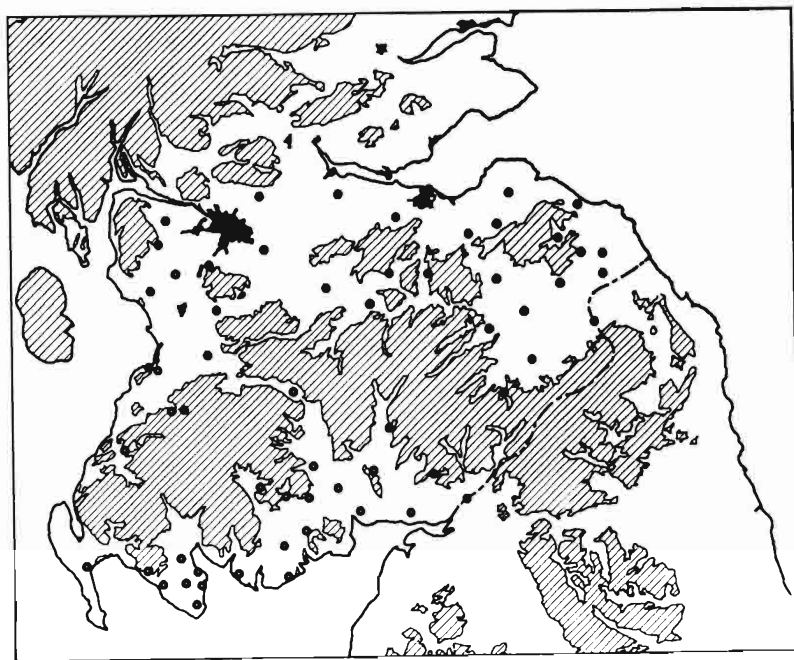


Fig. 1. Distribution of winter Rook roosts in southern Scotland, 1970/71. The hatched area shows poor-quality land (taken from Ordnance Survey Land-Classification map, 1945).

There is an indication that the largest roosts are associated with the best land, e.g. Hutton Castle, Old Greenlaw, Dunscore, Bar Hill, Terregles, Stevenson and Outtle Well. The distribution pattern was found to be notably regular where there is good farming land, but much of the southern area consists of poor land, on which there are no roosts, and for this reason the pattern is dealt with on a county basis.

Distances between roosts varied from five to ten miles in the great majority of cases (46 out of 58), but four roosts were 11-16 miles from their neighbours, and eight were less than five miles distant. Because of the regularity of the distribution of roosts on good land it became possible in the later stages of the survey, by studying a map and taking into account the physical features of the district, to predict fairly accurately where there should be a roost. In this way considerable time and effort were saved in the location of roosts.

Roost populations

Jackdaws were present in all roosts, and in some cases a few Carrion Crows also roosted with the Rooks and Jackdaws. No other species was recorded.

It was difficult to assess the number of birds using the roosts and the ratio of Jackdaws to Rooks. Jackdaws are apt to be noisier, and estimates of their numbers can be influenced by this. Even in mid winter the number of birds in any given roost seemed to vary, and sometimes a roost might cease to be used: for example, at Duns Castle at the end of the first week in November the thousands of birds formerly present abandoned it for the Simprin roost about six miles away.

The birds used a wide variety of trees, both coniferous and broad-leaved, but chose mature trees at least 30 feet high where these were available. Tree strips or isolated small woods were preferred, and close young plantations were shunned.

Final pre-roosting concentrations

Just before going to the roost, the birds normally collect in a single concentration, usually on the ground close to the roosting trees, but sometimes up to a mile or so away. Where the roost is large, several final concentration areas may be used. C. K. Mylne made an intensive study of a roost at Muiravonside and found at least three such areas were used, though late flocks flew direct to the roosting trees. At Bridgend of Kildarroch the birds gathered on the ground then flew to a small wood nearby, before going to the roost a quarter of a mile away. At Bedrule, where some hundreds of birds were already frequenting the roost in mid afternoon, incoming flocks flew direct to the roost. There was, however, dead ground behind the roost, and some birds may have concentrated there unseen.

Normally the birds rise in orderly fashion from the final dense pre-roosting concentration, giving an impression of a black ribbon unwinding towards the roost. At Dalmahoy the concentration on the ground constantly crept nearer the roost;

the birds farthest away flew low over the heads of those nearest the roost and alighted ahead of them, but the gathering remained close-packed and looked like a black blanket moving across the ground towards the roost.

Distribution of roosts by counties

	Trees used	Estimated population (including Jackdaws)	Roost known since	Approx. dist. (miles) from nearest roost
AYRSHIRE				
Ailsa Hospital	pinewood	"several thousands"	"many years"	2
Auchenleck House	—	5000	—	8
Dunlop House	deciduous	500	—	7
Eglinton Park	hardwood	"several thousands"	—	8
Loudon Woods	deciduous	1000+	1925	8
Nether Auchendrane	mixed	3000	—	2
Pinclanty	ash/alder	1000+	—	13
Straiton	fir/larch	3000	—	9

The Ailsa Hospital and Nether Auchendrane roosts are exceptionally close together, but Dr Castle reports that they were both in use at the same time in 1970/71. The Pinclanty roost serves the Ballantrae and Maybole areas and is separated from the Straiton roost by the hills of Carrick.

BERWICKSHIRE

Allanshaws	pinewood	—	1946	7
Duns Castle	mixed	3000	—	6
Foxcovey Simprin	coniferous	4000	—	5
Hoprig Farm, Cockburnspath	pine strip	1000	—	7
Hutton Castle	pine strip	10000+	—	5
Redpath Farm, Longformacus	mixed	500	—	7
Redpath Hill, Bemersyde	conifers	2000-5000	—	8
Todrig, Old Greenlaw	—	10000+	1960	7

There is possibly a roost near Spottiswood.

DUMFRIESSHIRE

Bankend, Locharwoods	mixed	2000	—	9
Dalgonar, Dunscore	conifers	10000+	—	6
Dunabie Farm	conifers	1500	—	9
Halluchs, Lochmaben	conifers	10000	—	9
Mennoch, Braefoot	larch/spruce	2000	—	15
Mount Annan	mixed	1500-2000	—	8
Stenrieshill, Wamphray	conifers	1000	—	9
(Heatherhead, Cumberland)	beech/oak	2500-3000	—	10)

There are possibly roosts in the Langholm and Durisdeer areas.

DUNBARTONSHIRE

Bar Hill	birch	5000-10000	1924	10
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EAST LOTHIAN

Stevenson Mains	mixed strip	5000-10000	1947	7
Stobshill, Humbie	coniferous strip	5000	—	7

It seems probable that the Stevenson Mains roost takes the place of a very old roost at Tynninghame, which was in use in 1794.

	Trees used	Estimated population (including Jackdaws)	Roost known since	Approx. dist. (miles) from nearest roost
KIRKCUDBRIGHTSHIRE				
Auriland Farm, Gelston	birch	500	—	6
Barlay, Balmaclellan	mixed	2000-3000	1962	5
Barrhill, Dalbeattie	—	—	—	6
Bridgend of Kildarroch	oak			
	scrub	2000-5000	—	9
Grove Hospital, Terregles	larch	very big	—	6
Holehouse Farm, Dundrennan	mixed	1000-3000	—	6
Meikle Auchenreoch, Crocketford	conifers	5000-10000	—	5
Paddock Hall, Nether Corsock	conifers	5000	—	5
LANARKSHIRE				
Carstairs House	deciduous	5000	—	9
Hamilton Palace	deciduous	—	1924	8
Spittal Farm, Biggar	mixed	5000	1903?	7
MIDLOTHIAN				
Borthwick Church	deciduous	2000	—	7
Dalmahoy Hill	deciduous	3000-5000	—	11
PEEBLESSHIRE				
Burnhead Farm, Eddleston	conifers	—	1946/47	9
Felton Farm, Dolphinton	pinus	5000	—	7
RENFREWSHIRE				
Castle Semple Loch	alders	6000	—	6
Pinkerton Farm, Foulwood	mixed	500-1000	—	6
Stoneybyres Farm, Eaglesham	beech	7500-8000	c1935	10
ROXBURGHSHIRE				
Cogsmill Stobs	conifers	1000-3000	—	10
Hoselaw	mixed	—	—	9
Spittal Bedrule	conifer strip	5000	—	10
There are probably three additional roosts near Kelso, Marchcleugh Crailing, and Chesters.				
SELKIRKSHIRE				
Sunderland Hall	conifers	—	—	8
STIRLINGSHIRE				
Drumgoyne Station	conifers	5000-8000	—	11
Dunmore House, Airth	conifers	2000	—	9
Muiravonside	deciduous	10000	—	9

A subsidiary roost was found at Lochcote, about one mile from Muiravonside. This is a very old roost, known to have been used for at least 50 years before 1946/47.

	Trees used	Estimated population (including Jackdaws)	Roost known since	Approx. dist. (miles) from nearest roost
WIGTOWNSHIRE				
Bladnoch Weir	deciduous	1000-5000	—	5
Dowalton Loch	—	3000-5000	—	3
Elrig	spruce	3000	—	3
Falhar	—	500-1000	—	4
Galloway House	—	10000	—	2
Outtle Well	—	30000-50000	—	2
Stoneykirk	deciduous	8000-11000	—	16
White Loch of Milton	—	5000	—	3

The Wigtownshire roosts are remarkable for their closeness, apart from Stoneykirk, which is isolated by barren country. This roost has been known for five years and probably takes the place of the Gruzy Glen roost known to have been occupied for at least 60 years. The immense size of the Outtle Well roost is also remarkable. Some birds, though not great numbers, cross Wigtown Bay from Kirkcudbrightshire to roost in Wigtownshire.

Acknowledgments

Thanks are due to a large number of people without whose help the survey could not have been carried out.

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I am indebted to K. Williamson, who redrafted much of the report, and whose kindly suggestions were invaluable.

Summary

Following a pilot study in 1969/70, a survey was made in 1970/71 of winter Rook roosts in Scotland south of the Forth and Clyde. Fifty-eight roosts were found, and it is estimated that only about six roosts remain undiscovered in the area. Roosts were associated with good farming land, and the largest ones tended to be on or near the best land. Both coniferous and broad-leaved trees were used for roosting; mature woods were preferred, and tree-strips or isolated small woods were normally chosen. Jackdaws were present in all roosts.

Some observations on final concentrations and roost occupation are reported, and a county-by-county list of roosts is given. The geographical distribution of roosts was remarkably regular, 46 of the 58 roosts being within five to ten miles of the next one.

Short Notes

Steller's Eider in Aberdeenshire

On 8th November 1970 at 0930 hrs I saw a dark duck with white head and wings among a flock of Eiders feeding in the sea off Rattray Head Lighthouse. It was smaller than Eider and about the same size as Long-tailed Duck, but plumper. I identified it as Steller's Eider.

Description Head pure white, with dark eye patch; upperparts dark brown, except for white forewings; tail pointed; breast dark brown, shading lighter towards belly; bill duck like, not as long or heavy as Eider's.

The Steller's Eider stayed with the Common Eiders, drifting north with the outgoing tide and flying back to the feeding area. It rose from the water more like Mallard than Common Eider, and its flight was fast; in flight the white of the head and forewings was very conspicuous against the dark body. When diving the bird would open its wings like Common Eider, but spent less time submerged than the Common Eiders.

I watched the bird intermittently until 1300 hrs, when the increasing choppiness of the sea prevented further sight of it.

M. R. WILLIAMS.

(There are three previous Scottish records: two males in Orkney, 5th-19th January 1947 (*Brit. Birds* 40: 253); another male in Orkney 13th November 1949 (*Scot. Nat.* 1950: 57) and a female in southeast Sutherland 22nd September 1959 (*Scot. Birds* 1: 234). The species breeds in arctic Siberia and in Alaska.—ED.)

Early fledging of Hen Harrier brood

On 12th June 1971 DMB found a Hen Harrier's nest in a young conifer plantation near Dornoch, southeast Sutherland. The nest contained one egg and a nestling almost at the fledging stage. Early on the evening of 13th, DM went to the site. During an unsuccessful search for the nest, when he was frequently mobbed by the female, he flushed a young bird, which flew away strongly and disappeared over a ridge about 100 yards distant. Later the same evening we returned to the area, and DMB found two young birds in the nest. One youngster, presumably the one he had found in the nest the previous day, fluttered a few yards out of the nest and crouched in the heather, while the other flew up and dropped into cover about 50 yards away. DM obtained an excellent view of the bird as it got up and, judging from the manner of its flight, was almost certain that it was not the fledgling he had flushed earlier in the evening.

E. Balfour states that in Orkney even the last days of June would be an early date for young Hen Harriers to be flying. The earliest flying date positively known to A. D. Watson in Galloway is 2nd July, although at one nest there in 1960, hatching started on 27th May, and the first young bird was almost certainly able to fly just before the end of June.

The young of the Dornoch brood appear to have fledged at least a fortnight, and possibly up to 16 or 17 days, earlier than any previously recorded. Allowing for minimum incubation and nestling periods egg-laying must have begun before the end of the first week of April.

D. M. BREMNER, D. MACDONALD.

Upland Sandpiper at Fair Isle

At 9.30 a.m. on 5th October 1970 Stewart Thomson reported an unusual wader beside a pool near the church on Fair Isle. We searched the area and about an hour later flushed the bird from long grass near the shop. It was shy and difficult to approach, but we had some views of it in flight and once as it briefly perched on a fence post. Finally we managed to stalk it near the church and for more than 15 minutes had excellent views with binoculars and telescopes from about 100 yards. It was an Upland Plover, a new species for Fair Isle, and only the second record for Scotland; the first was shot at Ruthwell near Dumfries on 13th October 1933.

While we watched it, the bird ran through long grass, across the road and up the side of a small hill, finally disappearing in flight over the skyline. It was seen by many observers including Dr B. Marshall, I. S. Robertson, B. Asher, G. J. Barnes, R. E. Emmett and E. J. Wiseman. About half an hour later I was near the South Lighthouse when the Upland Sandpiper dropped into a marsh just 30 yards from me. A heavy rain shower was approaching, and the bird huddled in the marsh for ten minutes until the shower passed. I had excellent views of it at close range. Suddenly it shook itself and flew up calling, with a short repeated wild whistle, *quip-quip*, not two distinct calls but rather variable. The bird disappeared high to the south over the sea and was not seen again.

Field description A large wader, about the size of a Ruff, with rather long wings, tail and neck; upperparts brown, beautifully patterned with black and buff streaking, lower back and rump dark brown; crown dark brown; a whitish ring round the eye; neck long and thin; head small but with a large eye; chin, belly and under tail-coverts white; rest of underparts buff-brown, marked with dark streaks on throat and breast and dark bars on the flanks; wings like upperparts, no wing-bar, primaries darker (especially noticeable in flight); tail dark brown, sides white, with beautifully marked tawny-brown bars and notches radiating from centre of tail; underwing whitish, barred with thin,

black lines; bill short and dark, rather like a Ruff's; legs long and yellow.

When walking the bird would stalk along in a rather delicate, deliberate way; when alighting it kept its wings raised, showing the pale underwing.

ROY H. DENNIS.

White-rumped Sandpiper in Orkney

On 11th October 1970 I observed a small strange wader feeding on the shore of the small estuary at Mill Sands, Tankerness. It was decidedly smaller than Dunlin, upperparts mainly brownish grey, with some whitish feather edgings and a decidedly rufous tinge on the back. There was a pale or whitish superciliary stripe. The underparts were mainly whitish, with grey-brown markings on the upper breast. The bill was short and straight and dark or blackish. The legs were also dark.

Presently the bird rose and flew low, directly away from me to the opposite side of the estuary. The white rump above a dark tail that appeared rounded, with pointed central feathers, and the faint wing-bar identified it as a White-rumped Sandpiper.

It had been resting when first seen, but after its short flight it began to feed actively, dashing about and picking up small morsels from the mud or sand and making short flights. It remained rather solitary and did not join the Dunlin flock nearby, but at times came close to Knot, Grey Plover, Ringed Plover and Lapwing. I did not hear it call, but the next day E. J. Williams located the bird and noted a thin *peep* flight-call, repeated at brief intervals.

E. BALFOUR.

(This is the sixth Scottish record. Another White-rumped Sandpiper was in Orkney on 31st October 1969 (*Scot. Birds* 6: 202), and the previous reports were from Midlothian 21st-24th August 1955 (*Edin. Bird Bull.* 5: 78; *Brit. Birds* 49: 39), East Lothian 12th October 1958 (*Edin. Bird Bull.* 8: 112; *Brit. Birds* 53: 165), Caithness 10th September 1966 (*Scot. Birds* 5: 27) and the Outer Hebrides 21st-27th November 1966 (*Scot. Birds* 4: 506).—ED.)

Desert Wheatear at Fair Isle

While walking along the clifftop at Millens Houllan in the early afternoon of 20th November 1970, I found a male Desert Wheatear. I watched it for about ten minutes and wrote a field description as it ran about on the short turf, busily feeding. It was quite tame and came within ten yards of me. When I

returned at 3 p.m. with I. S. Robertson and G. J. Barnes the bird was still there, and we watched it for about 30 minutes before it flew off low to the south, over the shoulder of Ward Hill. It was not seen again. There are three previous records for Fair Isle: 6th and 26th October 1928 and 18th November 1940—all three were "obtained".

Field description A small pale wheatear; slim and rather more Red-start-shaped, with a horizontal stance and a rather long tail; whole upperparts dark creamy buff, with the slightest pinkish tint; tail wholly black, with upper tail-coverts and lower rump creamy white; whitish stripe over eye between creamy buff crown and black side of face; chin, throat and sides of neck also black, forming clean-cut black bib, but feathers tipped grey and white; underparts pale off-white, creamy on upper breast; wings black, primaries noticeably so, but secondaries browner, with creamy white fringes forming pale wing-panel; greater coverts similar, with whitish tips; lesser and median coverts like back; bill, eye, legs and feet black.

When the bird was at rest, the black parts of the plumage appeared as a continuous band of black from bill to tip of tail; in flight the upper surface was very distinctive, with white rump, black tail, dark flight feathers, pale upperparts and paler scapulars.

ROY H. DENNIS.

Firecrests in Morayshire

On 4th October 1970, while watching the ravine of the Dorback Burn near Relugas, I heard a number of sharp, rather loud *zip* or *zit* notes, which did not closely resemble those of any of our tits or those of Goldcrest but which nevertheless seemed vaguely familiar. The side of the ravine from which the calls came is densely covered with broom, and as I watched two birds appeared on some of the outer branches of a bush. I recognised them as Firecrests, a species I had previously seen in Spain and Germany.

There were more calls from the interior of the bush, and soon a third Firecrest emerged. The birds kept coming out and disappearing again for about 20 minutes then they moved to the bottom of the ravine and disappeared.

They were quite confiding, perhaps less restless than Goldcrest, and they would occasionally sit still on a twig, affording a good view, at times from no more than ten yards distance. They were very similar to Goldcrest, with similar movements, but the call was sharper and louder, and only single notes were heard. In appearance they were a purer green than Goldcrest, and not so brownish. The wing showed a double, pale wing-bar, and the underparts were very pale, appearing white at the centre of the belly. The crown was orange, and I could not make out any yellow edging. The eye-

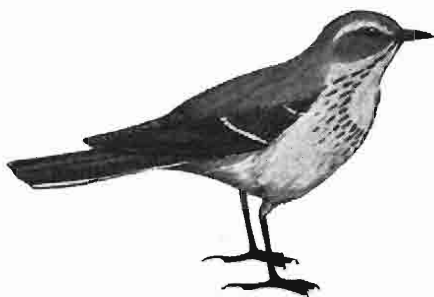
stripe was white and very conspicuous, being flanked above and below by black.

R. RICHTER.

(This, the eighth Scottish record, is the first for the mainland and the first of more than one bird. Unrecorded in Scotland until 1959, the Firecrest has occurred also in Shetland twice, Orkney once and on the Isle of May four times, with dates from 11th June to 11th October, but mostly between mid September and mid October; one apparently summered in Shetland in 1965 (*Scot. Birds* 5: 398).—ED.)

Water Pipit in Ayrshire

On 13th April 1970 W. R. Brackenridge identified a Water Pipit at Doonfoot. On 14th I visited the place and found a lighter-coloured bird feeding near some Rock Pipits on piled-up seaweed. It was the same size as Rock Pipit but appeared slimmer when feeding on the ground.



Description Head, nape and back greyish brown, with browner shading becoming more obvious towards tail; outer tail-feathers white; eye-stripe whitish, distinct; chin whitish, with some brown streaks from neck to chin; upper breast off white, and lower breast well marked with brown streaks, creating an impression of a white shield on the breast as seen from the front; belly white; two wing-bars were seen in flight.

The bird was wary of other species except Rock Pipit. Its call, *tsiip*, seemed longer than the similar call of Rock Pipit. I saw the bird daily until 18th April.

A. G. STEWART.

(As with previous records of *A. s. spinoletta* (*Scot. Birds* 6: 50-53) we referred this record (and the accompanying sketch by WRB) to K. Williamson and I. G. Johnson. They accept the bird as a Water Pipit on the basis of the white outer tail feathers, the two wing-bars, the distinct eyestripe and the white belly. This seems to be the first record for Ayrshire and indeed for the west side of the country.—ED.)

Food of Great Grey Shrikes in Inverness-shire and southeast Sutherland

A Great Grey Shrike was present at the Bught Park, Inverness, from 14th February to 15th April 1970. Its range included about ten acres of low scrub and grassland fringed by tall trees, bounded to the south by the River Ness and to the north by a small artificial burn. The bird was also seen in an adjoining scrub area, but the total size of its range was not known.

One pellet was retrieved from beneath the bird's perch on telephone wires immediately after it was regurgitated, and 30 more were collected from below a 20-foot hawthorn tree in which the shrike roosted. The pellets were all similar in appearance to those described by Hewson (*Scot. Birds* 6: 18-22 and plate 4). They varied from 19mm to 54mm in length, but were of fairly constant width (12mm to 15mm) and averaged 33mm x 13mm. The remains of ten short-tailed voles, 14 bank voles and two field mice were found, all identified from jaw-bones and teeth. In addition one bird limb-bone was present, probably of a small passerine, and the remains of two insects (the carapace of a beetle and the hollow thorax and wings of a bee). The composition of the diet by weight (calculated by Southern's method, whereby all prey species are related to a standard prey unit; *Ibis* 96: 384-410) was:

Short-tailed vole 37%; bank vole 52%; field mouse 7%; bird 4%; insect-trace.

Bank voles were therefore an important constituent of this bird's diet, whereas in his investigation of pellets of a Great Grey Shrike in Morayshire, Hewson reported no trace of this species. Bank voles were probably the most abundant prey species in the areas of thick cover. Few fresh droppings of short-tailed voles were found in the grassland, which is their typical habitat, and in 16 trap-nights no voles were caught, and only three common shrews.

The shrike fed by swooping from the tops of small trees or from power cables, and one insect was seen to be caught. W. Melvin Morrison watched the shrike chase a Blue Tit, unsuccessfully.

JOHN A. LOVE.

From 21st November 1970 to 9th April 1971 an adult male Great Grey Shrike was observed in occupation of a range alongside a two-mile stretch of the road from Dornoch to the Meikle Ferry. About half of the area is arable farmland and contains a narrow strip of alders and birches; the other half, much more favoured by the bird, is moorland with a lot of broom and whin. Bushes and trees were seldom used as observation posts by the shrike, as a row of overhead wires,

running parallel to the roadway, provided a look-out stance along the bird's entire range.

Late one evening in early April the shrike was seen to fly down from the overhead wires and enter a tall, scraggy whin where it was open on one side. The bush was found to contain a larder and, judging from the amount of droppings under the branches, it probably served also as a roost. Wedged between two whin stems were the remains of a field vole, the head having been eaten. Four pellets, which measured 35 x 11, 30 x 11, 25 x 12 and 22 x 12 mm respectively, were collected from below the bush. These were found to contain the remains of three field voles, a common shrew, a common lizard and two or three bumble bees.

The lizard was an unexpected victim so early in the season.

D. MACDONALD, A. S. CLARKE.

Obituary

THE RT. HON THE EARL OF MANSFIELD

The Earl of Mansfield, who died on 2nd September 1971, was born to a great heritage, and he devoted his life to it with a fine sense of responsibility; he performed his wide range of public duties in Parliament and many other spheres with distinction. Few men could achieve success in so many fields; in all of them he amassed a remarkable knowledge and, being blessed with a retentive memory, he could discourse on many subjects with great ability and clarity. As a keen agriculturist and successful farmer, he had a deep love of the land in all its aspects, and ornithology was always one of his foremost interests, for he had ample opportunity to study a wide variety of birdlife on his estates in several counties. He was a member of the Scottish Ornithologists' Club, the British Ornithologists' Union, a former chairman of the British Trust for Ornithology, a trustee of the Wildfowl Trust, president of the Wildfowlers' Association of Great Britain, a member of the Royal Society for the Protection of Birds and a member of the Secretary of State's Advisory Committee on the Protection of Birds.

He did much during his presidency of the Wildfowlers' Association to try to eliminate wholesale and indiscriminate shooting and to maintain sanctuaries where wildfowl could not only rest undisturbed but also where ducks could breed in substantial numbers, a policy that has been carried out with great success.

Knowing Lord Mansfield intimately for the best part of a lifetime, I was always impressed by his humble bearing, his dignified manner and his enthusiasm for the subjects that were always dearest to his heart. Wherever the welfare and protection of bird life were concerned, he was always willing to

help in any way he could, and his advice was based on knowledge and a lifetime of experience.

For some time before his death his eyesight had been failing due to cataract in both eyes; he underwent an operation which gave promise of success but unfortunately he suffered a severe heart attack from which he did not recover. He had a wide circle of friends in all walks of life who will miss him greatly. By his death the country has lost one of its keenest bird protectionists.

ALASTAIR ANDERSON.

Reviews

Birds of Prey in the Field—a Guide to the British and European Species.
By Roger Harkness and Colin Murdoch. London. Witherby, 1971.
Pp 208; 24 plates (61 photographs), 44 pages of black-and-white drawings. 20½ x 13½ cm. £2.25.

For a long time now there has been a pressing need for a field guide on the European birds of prey. This book is intended to meet the need and, up to a point, succeeds.

Section 1 deals with the problems surrounding predator identification. The clockface method of making field notes is novel and practical, but would be simpler if the clock started at one o'clock and not at seven o'clock as shown. (A check list of ten commandments using the same observations might be even easier to remember and use).

Section 2 is devoted to identification and should be the easiest section to use, but the lists of tables 1 and 2 are untidy and confusing. They could be made simpler and more concise by straightforward tabulation.

Some of the pointers put forward as aids to identification can also be questioned; for example the colour of the immature Goshawk (p. 39) is decidedly ginger-brown rather than golden. Again, in dealing with eagles, although the set of the wings is important, in my view little evidence of identification can be gained from the angle of a bird's primary tips, and I feel the diagram on this is of little use to anyone but the experienced raptor specialist; indeed if adopted as a rule of thumb by the novice, it will bring more confusion to the already confused. Although the whole of this section is an earnest attempt to help identification, the non-specialist may find it too complex to be easily understood.

Sections 3 and 5 comprise field sketches by the authors, and should have been put together as one. Both sets of sketches are excellent examples of what raptor spotters should aim at. Quick, clear and concise, they render an extremely positive action replay to be consulted and followed up at home if the user is still in doubt.

Section 4 deals with systematics and, when used in conjunction with a field guide for plumage colours, is certainly the best pocket reference work published, containing a great volume of accurate detail.

The photographs, I'm glad to see, are not the immaculate prints so often found in bird books. Instead these are typical of the imperfect views one gets in the field and thus more practically helpful.

Although the book is designed for use in the field, the layout is such that a great deal of reading and cross-checking is required: this is tiresome and impractical, especially as constant reference has to be made to the index. However, despite its flaws, I welcome the book to my bookshelf; it should prove, with practice, a useful guide to those who are keen to improve their identification of our native raptors and their European cousins.

JOHN MURRAY.

Highland Birds. By D. Nethersole-Thompson. The Highlands and Islands Development Board and Collins, 1971. Pp. 112; 83 photographs (62 in colour); 8 maps. 20 x 23 cm. £1.25.

This is the first of a series of publications designed, as stated in the preface, to establish a useful and authoritative Highlands library. In this venture the Board have certainly achieved a noteworthy initial success. On picking up the book one is at once impressed by the lavishness of the illustrations at so modest a price. Apart from a few blemishes in colour reproduction, such as the brooding Capercaillie and the Woodcock settling on eggs, the plates are superb. The majority of the photographs depict over 50 species, the remainder being views of characteristic and outstanding habitats. Criticism might be made of the format, but it is doubtful whether the plates could be displayed so advantageously under any other arrangement.

Fine as are the illustrations, the text is even better. Desmond Nethersole-Thompson, who has had 40 years experience of birdwatching in the delectable wilderness of the Highlands, writes with rare facility, blending scientific facts and descriptive passages in a most charming manner. In an introductory chapter he spreads a wide net over Scottish ornithology, past and present, and refers particularly to the work done by the SOC. It is also gratifying to note that he pays tribute to that doyen of Scottish naturalists, Seton Gordon, who, in the years between the wars, did so much to stimulate an interest in birdwatching in the Highlands.

In the main text the mainland and islands are divided into eight areas, each being allocated a separate chapter and an accompanying map. Apart from some repetition the general and special aspects of birdlife in each district are vividly detailed. The author refers to several unsolved problems, both local and general, which offer opportunities for research to ornithologists eager to undertake such studies. Perhaps, one day, a brilliant student may even come forward with the answer as to whether 'leggers' or 'arsers' undertake flea counts!

D. MACDONALD.

A Naturalist on Speyside. By Henry Tegner. London, Geoffrey Bles, 1971. Pp. 128; 36 black-and-white photographs, folding map of area. 21½ x 14½ cm. £1.75.

Though making only annual pilgrimages to Speyside, the author has nevertheless amassed much information about the history, people and wild creatures of the area. The dustjacket aptly describes the book as "a guide to the region and an account of memorable outings observing wildlife." Its scope is wide, covering such diverse subjects as memorials, pearl-fishing, phantoms and the Highland Folk Museum at Kingussie as well as the expected topics on the wild animals and birds that inhabit the Spey valley and the surrounding hills. There are chapters on red deer, roe-deer and reindeer, foxes, squirrels, wildcats, goats, Golden Eagles, Grouse, Capercaillies and the Loch Garten Ospreys.

A noticeable omission is the lack of credits for the photographs, and surely there can be no excuse for publishing poor photographs of tame reindeer and of Black-headed Gulls. And why does the chapter, "The Beautiful Scavengers of Loch an Eilean" (Black-headed Gulls) have so little space devoted to them and so much to Common, Herring, Lesser and Greater Black-backed Gulls, which are much less frequent, and why mention Little Gull, Audouin's, Slender-billed, Glaucous, Iceland and Ross's Gulls, which are most unlikely to be recorded there?

Nevertheless this is a useful book for those going to Speyside for the first time, especially those with an interest in but little knowledge of natural history.

HARVEY BURTON.

Letter

Sir,

Oiled birds and the animal-welfare societies

There seems to be danger, in dealing with the facts and figures of oil pollution, as the paper "A massive wreck of oiled birds" (*Scot. Birds* 6: 236-250) did so thoroughly, that we forget the important welfare work that such incidents require. The authors' vague reference to "the animal welfare societies" in their acknowledgments is just not good enough, especially as their own painstaking research makes clear their concern for the birds involved in this type of pollution. While I appreciate that the long-term work of preventing oil pollution ultimately depends on the scientific collection and presentation of such data, we must not ignore the short-term need for meeting the crisis on the beaches. May I therefore draw the attention of your readers to the magnificent work of the Scottish SPCA, which played by far the largest part in coping with this incident?

All four SPCAs in Scotland, took part, the Aberdeen APCA, the Dundee SPCA and even the Glasgow and West of Scotland SPCA, whose area was not involved. At one time, as many as 20 Inspectors were involved each day, 14 of these being Scottish SPCA Inspectors, with men being brought in from as far away as Shetland and Kirkcudbrightshire. Over 5000 of the birds were picked up by these men working in all weathers and often without help. Of course we and the Inspectors appreciate that many others, including many volunteers and RSPB members, also took part in this unpleasant task, but it is the organization with paid employees trained for this kind of work and having their own transport that is in the end expected to cope.

The cost of the operation was of course considerable, and I would like to recommend the work of the Scottish SPCA for its increasing responsibility for the welfare of our wild birds in the face of growing pollution of all kinds. There are two ways in which birdwatchers can help. One is by contributing financially; but the other is by offering help in surveying the coastline in any future incident of this kind, thus saving the Inspectors' time for the more specialised tasks of humane destruction or rehabilitation.

The RSPB, because of its excellent Beached Bird Survey, deserved the special mention the authors gave it. But even the RSPB openly admits that incidents on the scale of the 1970 oiling disaster are beyond its resources; it cannot even cope with the day-to-day welfare problems of wild birds in distress. In the Edinburgh telephone directory under "RSPB" a second entry reads "For injured birds call SSPCA—see under Animals". Thus the public, when finding birds oiled or in dis-

tress and so most in need of 'protection', is diverted from the more obvious organisation to the Scottish SPCA, which is better equipped to deal with them. If you ring 031 225 6418 you will always find an Inspector on duty at the Scottish SPCA headquarters at 19 Melville Street, Edinburgh.

So please when there is an opportunity, as there clearly was for the authors of this important paper, let credit be given where it is undoubtedly due.

CHRISTOPHER MYLNE.

J. J. D. GREENWOOD writes :

In our paper, my co-authors and I gave reasons for not mentioning specific organisations or individuals. I believe these were valid. Nevertheless, I welcome Mr Mylne's letter for the publicity it gives to the work of the SPCAs in Scotland and of the RSPCA in England.

Most people reading our paper will, I believe, have been sickened by the tally of death and suffering among the affected seabirds. How many of them have translated their feelings into action, by giving financial support to the SPCAs, the RSPB, the SWT, and the Conservation Society? Each of these is fighting oil pollution in its way. To subscribe to all is cheaper than subscribing to a single golf club, and I hope that readers of *Scottish Birds* will not only agree with Mr Mylne that credit should be given where it is due, but will also give financial support where it is due.

Request for Information

Status of Reeves's Pheasant and other feral species. The Records Committee of the British Ornithologists' Union has placed the feral breeding species of Britain and Ireland into two categories, C and D (Categories A and B include species which have occurred in an apparently wild state). Category C (those species which, although originally introduced by man, have now established a regular feral breeding stock which apparently maintains itself without necessary recourse to further introduction) currently includes Red-legged Partridge, Pheasant, Little Owl, Egyptian Goose, Mandarin Duck, Ruddy Duck, Golden Pheasant and Lady Amherst's Pheasant. Category D (those species which would otherwise appear in category C except that their feral populations may or may not be self-supporting) includes Wood Duck (formerly Carolina Duck), Reeves's Pheasant and Bob-white Quail.

The BTO Atlas Project has provided confirmed breeding records during 1968-71 for all of these species, with the exception of Reeves's Pheasant, for which there are not even any records of presence, let alone of proved breeding. Anyone having information on the present or past status of Reeves's Pheasant as a feral breeding bird in Britain is asked to write to me. Data on the other feral species (except Red-legged Partridge, Pheasant and Little Owl) will also be welcomed, particularly information on population sizes, dates of introduction and history of the species in specified areas. Dr J. T. R. Sharrock, 59 Curlew Crescent, Bedford.

The Scottish Ornithologists' Club

Revenue Account for the year ended 30th June 1971

	Year to 30/6/71	Year to 30/6/70
INCOME—		
Suscriptions received for year	£3796	£2479
Income Tax recovered on covenanted subscriptions	604	328
Dividends and Interest received (gross)	195	236
Surplus on Bookshop (sales £5289)	1382	1115
Sale of 'Scottish Birds'	170	167
Sundry sales less sundry purchases	17	54
Donations received	63	7
	<u>£6227</u>	<u>£4386</u>
EXPENDITURE—		
Branch expenses including lectures	£372	£403
Travel expenses of Council members and of delegates to conferences	195	176
Secretarial services	3270	3079
Office expenses	536	471
Scottish Centre for Ornithology and Bird Protection: Club's share of running expenses	317	274
Cost of books purchased for library	56	47
Cost of publishing 'Scottish Birds' (less advertising revenue £263)	786	834
Net cost of Annual Conference	121	35
Suscriptions paid	33	32
	<u>£5686</u>	<u>£5351</u>
Excess of Income over Expenditure carried to Balance Sheet	<u>541</u>	<u>(965)</u>
	<u>£6227</u>	<u>£4386</u>

The Scottish Ornithologists' Club

Balance Sheet as at 30th June 1971

	Year to 30/6/71	Year to 30/6/70
Accumulated Surplus as at 30th June 1970	£3025	£3990
Add: Excess of Income over Expenditure for year	541	(965)
Accumulated Surplus as at 30th June 1971	<u>£3566</u>	<u>£3025</u>
(Note: £1000 of this surplus is earmarked for the House Fabric Fund)		
Made up of:		
Cash in hand and Bank current accounts	£316	£162
Savings Bank accounts	560	91
Bookshop stock at valuation	977	840
Tie and Badge stocks at valuation	211	86
Debts due to Club	565	329
Night store heaters—Cost	£465	
Less depreciation	105	—
Investments at cost, as below	2900	3500
	<u>£5889</u>	<u>£5008</u>
Less:		
Life Membership Fund	£500	450
Subscriptions paid in advance	50	76
Debts due by Club	816	902
Sum due to Endowment Fund	510	258
'Scottish Birds' Fund	150	—
Sums earmarked for: Library binding	238	238
Painting	59	59
	<u>2323</u>	<u>1983</u>
	<u>£3566</u>	<u>£3025</u>

Investments as at 30th June 1971:

	Market Value	At cost	At cost
Loan to County Burgh of Wigan at 7½%	£—	£—	£600
Safeguard Industrial Investments Ltd.—700 Ord. shares of 25p each	378	508	508
950—6½% Treasury Loan 1976	945	946	946
£1300—British Electricity 3%			
Guar. Stock 1974/77	1125	952	952
£550—5¼% Conversion Stock 1974	535	494	494
	<u>£2983</u>	<u>£2900</u>	<u>£3500</u>

ENDOWMENT FUND

(The free income of which is available for the advancement of ornithology)

Revenue Account for the year ended 30th June 1971

	Year to 30/6/71	Year to 30/6/70
INCOME—		
Interest and Dividends received (gross) ...	£227	£196
EXPENDITURE—		
Grants as detailed in Report of Council	—	125
Unexpended Income for the year	<u>£227</u>	<u>£71</u>

Balance Sheet as at 30th June 1971

Endowment Fund as at 30th June 1970	...	...	£2519	£2519
Accumulated unexpended Income as at 30th June 1970	...	...	£505	434
Add: Unexpended Income for year	...	...	<u>227</u>	<u>71</u>
			732	505
			<u>£3251</u>	<u>£3024</u>
Made up of:				
Investments at cost as below	...	...	£2441	£2441
Royal Bank of Scotland Deposit Account	...	...	300	325
Due by Club's General Funds	...	...	510	258
			<u>£3251</u>	<u>£3024</u>

Investments as at 30th June 1971:

	Market Value	At cost	At cost
976 Units of the Equities Investment			
Trust for Charities Ltd. ...	£1985	£1000	£1000
£1140 5% Exchequer Stock 1976/78 ...	1020	100	100
£440 8½% Conver. Unsecured Loan Stock			
1993/98 British Printing Corporation Ltd.	238	441	441
	<u>£3243</u>	<u>£2441</u>	<u>£2441</u>

HOUSE FABRIC FUND

Summary of Accounts for the year to 30th June 1971

	Year to 30/6/71	Year to 30/6/70
RECEIPTS—		
Balance as at 30th June 1970	£130	£107
Year's rent from Mr and Mrs George Waterston	150	150
Year's rent from World Wildlife Fund	130	130
Miscellaneous Interests	5	5
	<u>£415</u>	<u>£392</u>
EXPENDITURE—		
Repairs and Maintenance	£182	£55
Property Burdens	214	190
Insurance	18	18
Miscellaneous	26	—
	<u>£440</u>	<u>£263</u>
On deposit with Edinburgh Building Society	£100	129
Loan from S.O.C. General Revenue Account	125	
	<u>(25)</u>	
	<u>£415</u>	<u>£392</u>

EDINBURGH, 28th September 1971.—I have audited the foregoing Revenue Accounts for the year to 30th June 1971, and the Balance Sheet at that date. I have accepted as correct the Subscriptions and other receipts shown as received in the Books and the value placed on the Bookshop Stock. Subject to this I certify that in my opinion the foregoing accounts are correctly stated and sufficiently vouched.

(Signed) ARTHUR WALKER,
Chartered Accountant.

REPORT OF COUNCIL

Your Council submits the following Report for the year 1970/71 :

Membership The new subscription rates applied to all members from 1st October 1970 and it was most encouraging to find that the number of resignations was smaller than expected. This, combined with the largest ever increase in new members, 359 (33 more than last year), gave a net increase of 37 members bringing the total membership to 2186 at the end of the session. One more member transferred to Life membership. The table of membership for the past six years is given below :

	30/6/66	30/6/67	30/6/68	30/6/69	30/6/70	30/6/71
Ordinary	1373	1524	1677	1771	1849	1889
Junior	252	259	265	274	286	282
Life	0	0	3	6	9	10
Honorary	3	4	4	5	5	5
	<u>1628</u>	<u>1787</u>	<u>1949</u>	<u>2056</u>	<u>2149</u>	<u>2186</u>
Increase	140	159	162	107	93	37

A most welcome addition to the Club funds came from the increase in the number of Deeds of Covenant signed by members. We now have 409 Covenants, an increase of 72 during the year and representing 474 subscriptions. We recovered £2,040 of tax from 1961-1970, but for this year alone we have been able to recover £604. This is a very considerable help to the Club in its endeavour to keep pace with continually rising costs. Great credit is due to all those who have helped both to increase our membership during the year and to encourage members to sign Deeds of Covenant.

Death It is with deep regret that Council records the death during the year of Dr J. W. Campbell, Vice-President of the Club from 1954-1956.

Honours Council is very pleased to record the election of Dr D. A. Bannerman, an Hon. President of the Club, as 'Honorary Curator' of the Royal Scottish Museum, Edinburgh, for ornithological services to the Museum. Dr W. J. Eggeling, immediate Past President, who retired as Director of the Nature Conservancy in Scotland at the end of 1970, is warmly congratulated on his award of the C.B.E. in the Queen's Birthday Honours.

Business of Council Five meetings of Council were held during the year and business discussed included the following :

Membership In order to increase the membership of the Club, Council decided that efforts should be made to advertise our activities more widely. Forms and posters were distributed locally to extra-mural classes, schools and libraries, and Branches were encouraged to hold additional meetings in other towns in their districts.

Special Appeal Council determined that, in spite of continually rising costs, the high standard and quality of production of *Scottish Birds* should be maintained; in addition, with the increasing burden of editorship, a reasonable honorarium should be paid to the Editor. Council therefore agreed to launch an Appeal specifically for *Scottish Birds*. The target is an income of £500 per annum and it is hoped to achieve this by donations under Deed of Covenant. In 1970/71 £225 was raised, of which £115 was covenanted, and by 1st August 1971 £125 had been donated under covenant for 1971/72. The Council most warmly thanks those members who have so generously supported the Appeal, but hopes that there are others who are prepared to help maintain the high standard of the journal.

Young Member on Council It was considered that the younger members of the Club should be represented on Council. Accordingly, Council has decided to co-opt one young member from the start of the next session. The member will be under 25 years old at the start of the session and will be elected annually by Council from nominations submitted by Branches.

Resolution The Resolution passed last year at the thirty-fourth Annual General Meeting in Dunblane expressing the Club's concern at the proposals to flood the Thjorsarver breeding ground of the Pink-footed Goose, for hydro-electric purposes, was forwarded to the Icelandic Government.

Caerlaverock National Nature Reserve During the year the Wildfowl Trust started work on the Reserve area at Eastpark Farm. A local advisory committee has been set up under the Chairmanship of Sir Arthur Duncan and the Club is represented on the Committee by the Club President, Mr Donald Watson, and Mr R. T. Smith, Vice-Chairman of the Dumfries Branch.

Club Representation The Club was again represented on the British Section of the International Council for Bird Preservation by Sir Landsborough Thomson and Mr George Waterston, and on the Duck Working Group of the International Wildfowl Research Bureau by Miss Valerie Thom.

Annual Conference The Twenty-third Annual Conference and the Annual General Meeting, held in Dunblane, were attended by 343 members and guests. The lectures on Saturday morning were given by Dr Gustaf Rudebeck, Zoological Institute, University of Lund, Sweden on 'Long Range Migration', and by Sir Landsborough Thomson, an Honorary Member of the Club, who lectured on 'A History of Migration Studies'. On Sunday morning Dr Jeffery Harrison, accompanied by slides shown by Mrs Harrison, spoke on 'The Creation of a Wetland Habitat', and Mr Richard Brook from the Natural History Unit of the British Broadcasting Corporation in Bristol, kindly introduced the film 'Europe—Continent fit to live in' which he had produced himself especially for ECY70.

Branches A full programme of lectures was again given in all Branches during the winter, and both the Edinburgh and Stirling Branches arranged an extra meeting. These meetings, at Galashiels and Falkirk respectively, were very well attended and promoted ornithology and interest in those areas. Summer and winter excursions were again organised by Branches, and the Club's annual excursion to the Solway goose grounds took place in March. The Speyside weekend in May was based on Carrbridge, and the Club is most grateful to Mr David Hayes for giving us facilities at LANDMARK for the evening programme.

Fieldwork Throughout the year members of the Club have taken part in a number of activities which included :

Atlas of British Breeding Birds The BTO Atlas Scheme has now completed the fourth of its five years of fieldwork. Members were again encouraged to take part through the Regional Organisers and Council is most grateful for all the hard work they and many others have put in on this important project. A coverage map, prepared by Dr J. T. R. Sharrock, National Organiser, was kept in the Scottish Centre and proved most useful in co-ordinating work done by groups and for guiding visitors to poorly covered areas. The *BTO News Ornithological Atlas Supplement* for 1971 was distributed to all members with the spring number of *Scottish Birds*. This year the BTO made special efforts to cover unsurveyed squares in Scotland by sending teams to some of the less accessible areas, and Dr Sharrock spent over two months working mainly in Sutherland and Argyll. An all-out effort is still required to fill the remaining gaps in the final year, 1972. All those who have given help during the year are warmly thanked for their efforts.

Winter Wildfowl Counts For some years Miss Valerie Thom has been responsible for organising the winter wildfowl counts throughout Scotland. This year, under her guidance, the Club took over the responsibility for appointing the Regional Organisers who co-ordinate the work in their own areas. Many members of the Club have been engaged in these counts and the Organisers are most grateful for all the help which they have received.

Rook Roost Survey Council gave official backing to the survey of Rook roosts in Scotland which is being undertaken by Mr J. H. B. Munro. Much useful information was received from all parts of the country during the winter of 1970/71 and the findings, together with those of the coming two winters during which the survey is being conducted, will be published in papers in *Scottish Birds*. The help given by many members to this survey is gratefully acknowledged.

Scottish Birds At the end of 1970, after two years as assistant Editor and nine years as Editor, Mr Andrew Macmillan handed over the editorship of the journal to Mr Tom Delaney. Four numbers were published and the 1970 *Scottish Bird Report* is printed in the autumn number.

Library A number of new reference books were added to the library this year, and more books, journals and reprints were donated. Council is most appreciative of these gifts and warmly thanks the donors.

In response to an appeal in *Scottish Birds*, a Club member most generously donated a new Record Player. This, together with the Tape Recorder already in our possession, is available for use by members in the Scottish Centre.

The Council is most grateful to Dr Bannerman for the gift of his portrait, painted by J. R. Dugmore.

Bookshop The Bookshop has now been in existence for just over eight years and the profit has risen from a modest £154 in 1963 to a record £1,382, making a very welcome addition to Club funds. For the first time sales averaged over £100 per week, and there is no doubt that the Bookshop has become very widely known in Britain and throughout the world. Council is most grateful to the British Trust for Ornithology for its help in letting the Club arrange book displays at its Annual Conference in December and the Ringing and Migration Conference in January, and also to the Irish Wildbird Conservancy and RSPB for providing similar facilities at their Conference in Northern Ireland last March. A selection of books was taken to one meeting of each Branch during the winter, in addition to the extra meetings and the two Club weekends.

Scottish Centre Meetings of the Fair Isle Bird Observatory Trust, the Isle of May Bird Observatory and Field Station Committee, and the Aberlady Bay Nature Reserve Biological Committee were held in the Centre during the year, and informal discussion groups were held regularly throughout the winter.

The usual large number of postal and telephone enquiries was received throughout the year, and during the summer many visitors from Britain and abroad called at the Centre for help and advice. These visitors are always welcome, and many make good use of the facilities provided by the Reference Library and the Bookshop.

During the autumn night store heating was installed in the basement and ground floor of the Centre, giving much better working conditions in the winter.

Acknowledgments During the year many members gave help and time to the Club—by serving on Committees, leading excursions, assisting at the Conference and in other unseen ways. Council wishes to record its sincere thanks to all those members, whose work has been of immense value and without whom the smooth functioning of the Club would have been very difficult.

For the Council.

A. DONALD WATSON, President.

THIRTY-FIFTH ANNUAL GENERAL MEETING OF THE CLUB

The Thirty-fifth Annual General Meeting of the Club was held in the Hotel Dunblane Hydro, Perthshire, on Saturday 30th October 1971 at 6 p.m. Mr A. Donald Watson, President of the Club, presided over an attendance of about 125 members.

Apologies Apologies for absence were received from Dr D. A. Bannerman, Dr David Boddington, Sir Charles G. Connell, Sir Arthur B. Duncan, M. J. Everett and Mr & Mrs J. H. B. Munro.

Minutes The Minutes of the Thirty-fourth Annual General Meeting, held in Dunblane on 31st October 1970, were approved and signed.

Matters arising : Pink-footed Geese in Iceland. No information has been received from the Icelandic Government following the Resolution sent to it after last year's Meeting, but a report on the progress made during

the year was given by Mr M. A. Ogilvie of the Wildfowl Trust, Slimbridge, at the request of the Chairman. Mr Ogilvie said that the short-term outlook seemed reasonably good, partly because the Icelandic Government has taken notice of the Resolutions which it has received, and partly because there has been a change of Government in the last year. The new Government is more conservation minded and has made a grant to finance research in the Thjorsarver area over the next three years. However the long term outlook is not so hopeful because the engineers still have plans to use the area for hydro-electric purposes.

Report of Council The Report of Council for Session 34, presented by the Chairman, was adopted.

Accounts The Accounts for the year ending 30th June 1971, presented by the Hon. Treasurer, were approved.

Appointment of Auditor Mr Arthur Walker C.A., was re-elected Auditor for the ensuing year.

Election of Hon. President Proposing the election of Dr W. J. Eggeling as an Hon. President of the Club, the Chairman said that Dr Eggeling had given great service to the Club and to Scottish Ornithology. He had been a Member of Council for eleven years and was the immediate past President; he was Chairman of the Committee which so successfully organised the Scottish Bird Island Study Cruise and was also the Leader of the Cruise itself. Dr Eggeling was the Conservation Officer for Scotland in the Nature Conservancy from 1954 to 1967, and was its Scottish Director from 1968 until he retired at the end of 1970. The Meeting unanimously endorsed his election.

Election of new Members of Council In the absence of any other nominations, the Council's recommendations for the following elections were approved.

Council Members : R. H. Dennis, Dr Ian Newton and N. Picozzi to replace the late Mr James MacGeoch, and R. G. Caldow and Dr David Jenkins who were due to retire by rotation. The Chairman thanked the retiring members for their service to the Club.

It was agreed that in future a list of Members of Council will be printed with the Conference Programme.

Constitution The Meeting approved the following amendment to the Constitution, as recommended by Council and at the request of the Club's Bank :

4 MANAGEMENT AND OFFICIALS (b) Council 3 should now read :

3. Have control of the funds and finances of the Club, and have power to borrow from the Bank or any other source.

Election of Members of Council A motion that nominations for new Members of Council should be sought from Branches was not approved following a counter motion, which was carried, that the present system of election was satisfactory.

Research work in Iceland on Pink-footed Geese Mr M. A. Ogilvie spoke of the need for more research workers in the Thjorsarver area to assist those already provided by Iceland itself. He agreed to give full details to the Club Secretary so that the requirements can be given greater publicity.

Votes of Thanks The Chairman moved a warm vote of thanks to all those Members who had helped to make the Conference such a success, and he also paid tribute to the work done by the Club staff. The Meeting closed with a hearty vote of thanks to the Chairman by Mr C. K. Mylne.

COUNCILS AND OFFICIALS OF THE CLUB FOR SESSION 35

Hon. Presidents : David A. Bannerman, O.B.E., LL.D., Sc.D., F.R.S.E.;
Sir Charles G. Connell, W.S.; Sir Arthur B. Duncan; W. J. Eggeling,
C.B.E., B.Sc., Ph.D., F.R.S.E.

President : A. Donald Watson.

Vice-President : George Waterston, O.B.E., F.R.S.E.

Hon. Treasurer : Maxwell K. Hamilton, C.A.

Hon. Treasurer of House Fabric Fund : D. G. Andrew, W.S.

Secretary and Treasurer : Major A. D. Peirse-Duncombe.

Deputy Secretary : Mrs George Waterston.

Membership Secretary : Mrs R. D. Smillie.

Editor of "Scottish Birds" : T. Delaney.

Assistant Editor of "Scottish Birds" : D. G. Andrew, W.S.

Business Editor of "Scottish Birds" : Major A. D. Peirse-Duncombe.

Council : R. S. Baillie, R. H. Dennis, Dr I. T. Draper, C. G. Headlam, A. T. Macmillan, Miss M. P. Macmillan, Prof. M. F. M. Meiklejohn, T. D. H. Merrie, Dr Ian Newton, N. Picozzi. **Young Member** co-opted for 1971/72 (see Report of Council) R. G. Nisbet.

Branch Representatives to Council : R. G. Caldow (Glasgow); Miss G. L. C. Falconer (St Andrews); J. H. B. Munro (Edinburgh); B. Pounder (Dundee); R. T. Smith (Dumfries); A. G. Stewart (Ayr).

BRANCH AND GROUP OFFICE BEARERS

Aberdeen : Chairman, N. Picozzi; Vice-Chairman, D. P. Willis; Secretary, Miss F. J. Greig; Committee, A. Duncan, A. Robb, R. F. Yule.

Ayr : Chairman, A. G. Stewart; Vice-Chairman, Dr M. E. Castle; Secretary, R. M. Ramage; Committee, W. R. Brackenridge, J. L. Burton, R. A. Hogg, Miss S. M. Williamson.

Dumfries : Chairman, R. T. Smith; Vice-Chairman, B. S. Turner; Secretary, H. M. Russell; Committee, W. Austin, Mrs E. M. G. Ross, J. Todd, J. F. Young.

Dundee : Chairman, D. B. Thomson; Vice-Chairman, Dr D. G. Adamson; Secretary, Mrs A. Noltie; Committee, P. N. J. Clark, J. E. Forrest, Mrs J. A. R. Grant, B. Pounder.

Edinburgh : Chairman, J. H. B. Munro; Vice-Chairman, C. K. Mylne; Secretary, L. W. G. Alexander; Committee, Mrs C. M. Adams, J. M. S. Arnott, P. Kerr, Dr L. L. J. Vick.

Glasgow : Chairman, R. G. Caldow; Vice-Chairman, Dr I. T. Draper; Secretary, Mrs I. T. Draper; Committee, Mrs H. S. C. Halliday, J. Mitchell, R. G. Nisbet.

Inverness : Chairman, C. G. Headlam; Vice-Chairman, W. A. Sinclair; Secretary, Mrs W. A. Sinclair; Committee, Miss J. Banks, R. H. Dennis, Miss P. R. Forbes, M. I. Harvey, Mrs W. Morison.

St Andrews : Chairman, Miss G. L. C. Falconer; Vice-Chairman, Miss J. McFarlane; Secretary, Miss M. M. Spire; Committee, I. G. Cumming, Miss M. H. E. Cunninghame, Miss D. E. Rowling, J. S. Wiffen.

Stirling : Chairman, Rev. G. T. Jamieson; Vice-Chairman, K. P. Anderson; Secretary, T. D. H. Merrie (1971); D. M. Bryant (from 1.1.72); Committee, Mrs J. M. Abrahams, A. Eccles, R. M. Wilson.

Thurso : Chairman, Mrs P. M. Collett; Secretary, S. Leybourne.

SCOTTISH BIRDS RECORDS COMMITTEE

Chairman : D. G. Andrew.

Committee : A. G. S. Bryson, Sir Arthur B. Duncan, Dr W. J. Eggeling, A. T. Macmillan, Prof. M. F. M. Meiklejohn, Dr I. D. Pennie, Kenneth

Williamson, George Waterston, Prof. V. C. Wynne-Edwards.

MANAGEMENT COMMITTEE

M. K. Hamilton (Convenor), D. G. Andrew, George Waterston, A. D. Watson.

LIBRARY COMMITTEE

Dr W. J. Eggeling (Convenor), Ritchie Seath (Hon. Librarian), A. T. Macmillan, Dr I. D. Pennie, George Waterston.

CLUB REPRESENTATION

British Section, International Council for Bird Preservation: Sir Landsborough Thomson, George Waterston.

International Wildfowl Research Bureau, Duck Working Group: Miss V. M. Thom.

HONORARY MEMBERS

Duncan Anderson, Clyde Bain, Henry Boase, P. W. G. Gunn, Sir Landsborough Thomson.

WEEKEND EXCURSION TO DUMFRIES

The weekend excursion to the Solway goose grounds has been arranged with the County Hotel, Dumfries, from Friday 25th February to Sunday 27th February 1972.

Accommodation: inclusive terms £5.50, inclusive of gratuities, as follows: bed on Friday 25th; breakfast, packed lunch, dinner and bed on Saturday 26th; breakfast and packed lunch on Sunday 27th. Members should inform the Hotel in advance if they require dinner on Friday night (£1.10 per person extra). A limited number of rooms with private bathrooms are available for the additional charge of £1.00 per night.

Members may bring guests and should book direct with the Manager, County Hotel, Dumfries (tel. 5401), notifying him that they are attending the Club excursion.

Those not staying at the County Hotel are invited to attend an informal meeting at the Hotel on Friday evening at 8 p.m. when details of the weekend excursions will be announced. It is advisable to bring warm clothing, gum boots if possible, and thermos flasks, for the excursions.

BRANCH SECRETARIES

Ayr Mr R. M. Ramage's address is now: 57B St Quivox Road, Prestwick KA9 1JF, Ayrshire.

Stirling Will members please note that from 1st January 1972 the Branch Secretary is Mr D. M. Bryant, Department of Biology, University of Stirling, Stirling.

Thurso Mr S. Leybourne, 11 Mowat Court, Thurso.

SCOTTISH BIRDS — VOLUME I

The first number of Volume I is being reprinted and will be available early in the new year at 50p (post free). All who require a copy, including those who have ordered but have not paid, are asked to send their remittance to the Club Secretary.

Arrangements are being made for binding Volume I. Full details will be given with the Index to Volume 6, which will also give information about binding that Volume, and which will be published in March 1972.

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Birds in Northumbria. *Galloway, Meek & Yeoman*, 50p
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Woodland Birds. *Eric Simms*. £3
Man and Birds. *R. K. Murton*. £2.50
Guide to the Birds of South America. *R. Meyer de Schauensee*. £7
Birds of Zambia. *C. W. Benson*. £2.50 (Jan)
Check List of the Birds of Turkey. *Orn. Society of Turkey*. 50p
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Stonehouse*. £2.60
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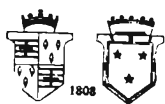
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BOBBY TULLOCH,
RSPB Shetland Representative,
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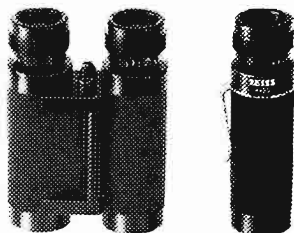
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