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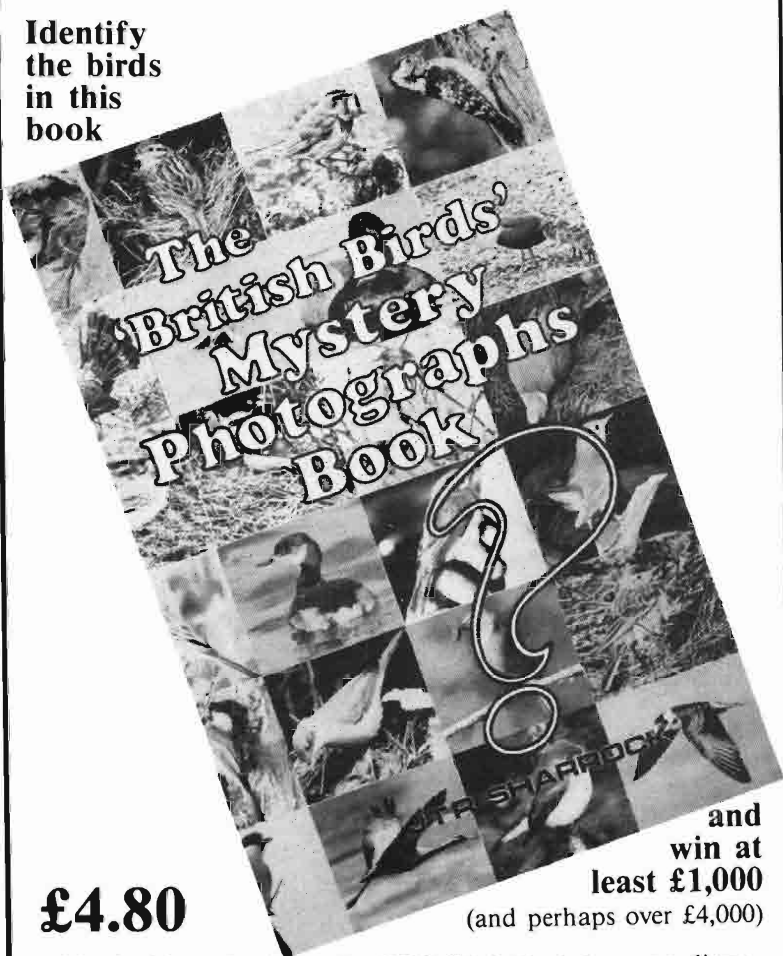
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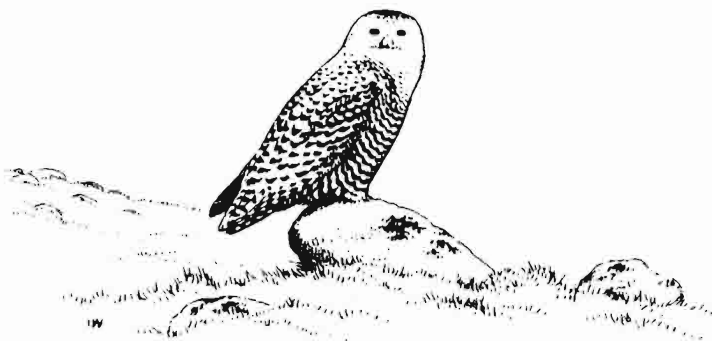
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illustrated by Ian Willis

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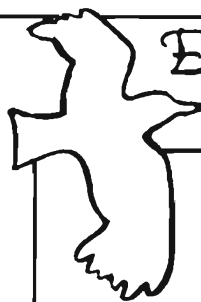
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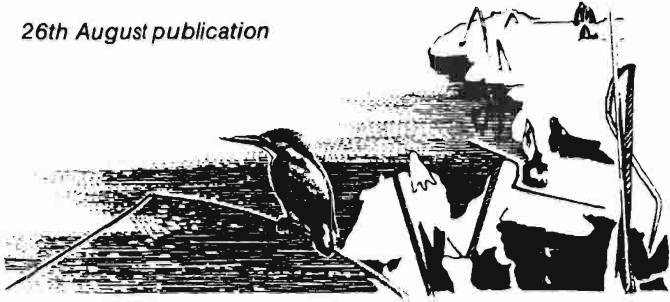
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Editor V. M. Thom
Business Editor M. Doran

26th August publication



Weather and Bird Behaviour

by NORMAN ELKINS

illustrated by Crispin Fisher

The emphasis of the book is on the effects of weather on bird life and the meteorological aspects of the avian environment rather than long-term climatic influences, though the latter are not ignored. The chapter titles indicate the book's range and interest: The Weather; Flight; Feeding; Aerial Feeding; Breeding; Comfort; Migration – inception and progress; Migrational Drift and Displacement; Vagrancy; Migration of Soaring Birds; Extreme Weather; Seabirds. From such themes the author, a professional meteorologist, has constructed an intriguing and instructive picture that will be of exceptional value to birdwatchers and ornithologists. Crispin Fisher has contributed 33 line drawings, and there is a section of 33 photographs.

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Volume 12 No. 7

Autumn 1983

Edited by V. M. Thom, assisted by R. W. Furness and I. R. Taylor

Editorial

A milestone

This number of *Scottish Birds* marks a milestone in the history of our journal; it is exactly 25 years since Vol. 1 No. 1 appeared, in autumn 1958. The original cover design, by Len Fullerton, has been used again for this number. There have naturally been changes in SB over the years—we no longer include Latin names of birds and we publish a wider variety of content—but in one important respect there has been virtually no change. *Scottish Birds* is still printed by Walter Thomson, Printer, Selkirk, the firm that took the fledgeling journal under its wing a quarter of a century ago. As members involved with publications will be aware, a happy relationship between printer and customer goes a long way towards smoothing the production path. We are fortunate in enjoying such a relationship with the Thomsons, two generations of whom have given the club excellent service over the years. (And we are grateful to Arthur Smith, who initiated this liaison).

Walter Thomson, senior partner in the firm when it took us on, is now semi-retired—he “only works an 8-hour day 5 days a week”, as he puts it himself—and brother Jim and his son Ian run the business in partnership (see plate 24). It is very much a family business, in which pleasing the customer and producing the goods on time are rated more important than fancy surroundings and spit and polish. The club owes the Thomson family a debt of gratitude for the good—and economical!—service provided by them over such a long period. We feel it appropriate to record the club's thanks in this column, and also to express the hope that our happy association will continue for many years to come.

Editorial changes

We are pleased to announce that Iain Taylor is now providing the editorial assistance formerly given by Stan da Prato. As many members will know, Stan is currently teaching in the Falklands; we have ensured that he will not lose touch with SB by making him Honorary Editor of the Index!

Photographic competition

Readers are reminded that entries must be submitted by 30 September. See SB 12: 173 for further details.

Letter from Ruby Smillie

Dear Members,

I wish to thank you all very much for your very kind and generous contributions to my retirement present from the club. I felt that the only way to express my gratitude to everyone was to publish this 'thank you' letter.

The choice of the silver salver with an engraved reproduction of the Crested Tit and the dates of my 20 years service will be a constant reminder of my long and very happy association with the club. A very generous cheque was also presented to me, and it will allow me to purchase a watch—to further remind me of the 'time' I spent with the club—and two occasional chairs to share with my husband. Thank you all most sincerely.

I would also like to take this opportunity to convey to council my thanks for the great honour they have bestowed on me by electing me an Honorary Member.

Ruby Smillie

Winter wader populations on the open shores of northern Scotland

R. W. SUMMERS and N. E. BUXTON

Comparatively little is yet known about the numbers of waders wintering along much of Scotland's open coastline, especially in the remoter areas. The survey reported here extends coverage of the east coast from the Moray Firth north to Caithness.

The Birds of Estuaries Enquiry (1969-1975) resulted in a great increase in our knowledge of the numbers and distribution of shore-birds in Britain (Prater 1981), but as it dealt mainly with estuaries the numbers on the long stretches of open coastline remained unknown. In order to determine the size of the populations of waders on these shores and thus complement the Estuaries Enquiry the Tay Ringing Group undertook a survey of the rocky shores of eastern Scotland in the early 1970s. The results showed that approximately

47,000 waders occurred in winter on 332 km of rocky shore between Berwickshire and Morayshire (Summers *et al.* 1975). The survey was followed by a review of the status of the Purple Sandpiper in Britain, based on casual records (Atkinson *et al.* 1978). However, the resultant figures were believed to be underestimates, at least for parts of Scotland, so much has yet to be learned about the population of Purple Sandpipers and other waders inhabiting the open coastline of Scotland. The present survey continues the documentation of the numbers and distribution of waders on the open northern coasts of Scotland. Detailed results have been deposited with the SOC and NCC.

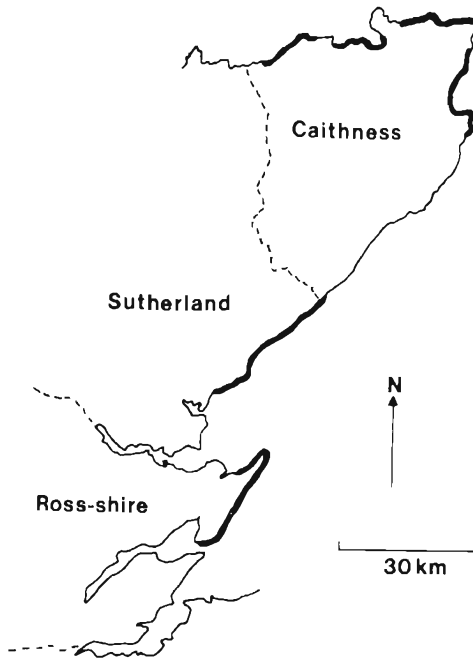


Figure Northern Scotland showing the surveyed coastline in heavy line.

Study area and methods

A total of 132 km of rocky and 23 km of sandy shore were surveyed on 30 and 31 January, 1 February and 1 March 1982 (Figure). Sections of cliff with a very steep inter-tidal zone were not surveyed because they support very few or no waders (Summers *et al.* 1975). Seventy kilometres of rocky and 12 km of sandy shore were surveyed in Caithness, from

Sandside Head to Middleton Farm, Scrabster harbour to Point of Ness at Dunnet, Ham to Duncansby Head, and Skirza Head to Wick. The rocks of this coast are of Devonian Old Red Sandstone. Twenty-nine kilometres of rocky and 8 km of sandy shore were surveyed in East Sutherland, from Ord Point to Golspie Pier. The rocky shore there is of Jurassic oolite. Thirty-three kilometres of rocky and 3 km of sandy shore were surveyed in East Ross-shire from Balchladich near Portmahomack to Balnapaling Pier, where the rocks are Devonian Old Red Sandstone. Most of the coastline was walked when the tide was between half ebb and half flood, and the birds were counted in the manner described by Summers *et al.* (1975). Populations of waders were expressed in terms of density: numbers per km length of shore, and numbers per km² of inter-tidal zone. Lengths and areas of shore were determined from 1: 25,000 maps, and a planimeter was used to measure areas.

Results

The numbers and densities of the waders on the surveyed coastline are given in Table 1. The most abundant wader on the rocky shores was the Purple Sandpiper, while high densities of Oystercatchers, Curlews and Turnstones were also encountered. The sandy shores supported a lower density of waders, with Ringed Plovers, Dunlins and Turnstones most abundant.

Table 1. The numbers and densities of waders on the rocky and sandy coastline of northern Scotland in winter

	Total	Rock (132km, 11.7km ²)		Sand (23km, 3.1km ²)			
		No.	No./km	No./km ²	No.	No./km	No./km ²
Oystercatcher	1855	1734	13.1	148.2	121	5.3	39.0
Ringed Plover	268	21	0.2	1.8	247	10.7	79.7
Golden Plover	57	57	0.4	4.9			
Grey Plover	3	2		0.2	1		0.3
Lapwing	198	180	1.4	15.4	18	0.8	5.8
Knot	22	22	0.2	1.9			
Sanderling	12				12	0.5	3.9
Purple Sandpiper	1865	1863	14.1	159.2	2	0.1	0.7
Dunlin	297	103	0.8	8.8	194	8.4	62.6
Snipe	2	2		0.2			
Bar-tailed Godwit	9				9	0.4	2.9
Curlew	1643	1588	12.0	135.7	55	2.4	17.7
Redshank	1029	912	6.9	77.9	117	5.1	37.7
Turnstone	1504	1367	10.4	116.8	137	6.0	44.2
Total	8764	7851	59.5	671.0	913	39.7	294.5

When the three counties are compared (Table 2) it is evident that the rocky shores of Caithness had the highest numbers and densities of waders, largely Oystercatchers, Purple Sandpipers, Curlews and Turnstones. The western section of Caithness from Sandside Head to Middleton Farm was the only part that was not surveyed during half ebb to half flood, so that many waders were at roost sites when the count was carried out. Practically all were encountered at a major roost of 633 birds (306 Purple Sandpipers) at Brims Ness. We have assumed that this population was drawn from the section we surveyed. The rocky coastline of Sutherland supported rather few waders; Oystercatchers and Turnstones were most abundant whilst Purple Sandpipers were relatively scarce. Moderate numbers of waders occurred in East Ross-shire and Purple Sandpipers, Redshanks and Curlews made up most of the population.

Table 2. Densities of waders per km² on the rocky shores of eastern Scotland (Fife to Aberdeenshire)* and northern Scotland (this survey) in winter. For the northern counties total numbers are given in brackets.

	County						
	Fife	Angus	Kinc'ne	Aberd'n	Ross	Suth'd	Caithness
Oystercatcher	54	170	115	113	52 (136)	51 (134)	229 (1464)
Ringed Plover	10	5	3	12			3 (21)
Grey Plover				2			+ (2)
Golden Plover	2	121	54			5 (14)	7 (43)
Lapwing						5 (14)	26 (166)
Turnstone	179	135	191	289	68 (176)	56 (145)	164 (1046)
Snipe							+ (2)
Bar-tailed Godwit		1		2			
Curlew	42	72	33	20	92 (240)	7 (18)	208 (1330)
Redshank	38	74	114	197	102 (266)	35 (90)	87 (556)
Knot	46	557		21			3 (22)
Purple Sandpiper	55	67	109	175	135 (351)	27 (70)	225 (1442)
Dunlin	41	56	19	54		16 (41)	10 (62)
Total	467	1258	638	885	449 (1169)	202 (526)	962 (6156)

*from Summers *et al.* 1975.

Discussion

The Purple Sandpiper is the only one of the species studied for which estimates of the population size in the study area have been made previously. Atkinson *et al.* (1978) estimated average winter maxima of 29 for East Ross-shire, 243 for East Sutherland and 599 for Caithness from casual records. The counts obtained during this survey were 351, 70 and 1444 respectively, i.e. a higher figure for two counties and a lower one for the third. It is to be expected that casual records would lead to under-estimation, for Atkinson *et al.* (1978) calculated that casual records accounted for only about 35% of the total population on some shores. The discrepancy between the estimated total of 243 for Sutherland and the counted total of 70 is difficult to understand, especially since we surveyed virtually all the coast of East Sutherland (Figure). However, the estimate of 243 was based on counts of flocks of no more than 55 individuals at a variety of sites, over several years (Atkinson pers. comm.), so that over-estimates would be obtained if a flock used more than one roost within a winter, or in different years. Also it is not clear if some of the figures refer to low tide counts as well as high tide roost counts, in which case double counting would again result. Finally, we cannot discount the possibility that real population changes may have taken place, and that the differences are not purely due to variations in the way the data were collected.

Comparisons can be made between the densities of waders on the rocky shores of northern and eastern Scotland (Table 2). The very high densities of Oystercatchers, Curlews and Purple Sandpipers in Caithness are apparent. The first two species were not restricted to the rocky shores for we observed many in the nearby coastal fields and recorded flights between the two habitats. Therefore it is likely that the total number of Curlews and Oystercatchers that visit the rocky shore may be even higher.

The highest densities of Purple Sandpipers tended to occur in northern Scotland, from Aberdeenshire northwards, though the very low figure for Sutherland is perhaps suspect (Table 2). The northern rocky shores had lower densities of Ringed Plovers, Knots and Dunlins compared with eastern shores, and even the more truly rocky shore species, the Turnstone, tended to have lower densities in the northern counties.

Acknowledgments

J. Flogdell, A. Mainwood, M. Martin, M. Nicoll and R. Rae also took part in the survey. We should like to thank the Nature Conservancy Council for financial support during the survey. N. K. Atkinson provided valuable comments on the draft of this paper.

Summary

A survey of 132 km of rocky and 23 km of sandy coast in Caithness, East Sutherland and East Ross-shire during the winter 1981-82 resulted in estimates of 7851 and 913 waders for the two shore types respectively. The rocky shores of Caithness were found to support the highest numbers and densities, and the main species were Purple Sandpiper, Oystercatcher and Curlew, though the latter two species also made use of coastal fields.

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RAVEN A. Dowell

The status of the Raven in southern Scotland and Northumbria

RICHARD MEARNS

Extensive afforestation and other land-use changes have markedly affected Raven populations in some areas. This paper documents the continuing decline in the Borders and south-west.

In southern Scotland and northern England Raven numbers and distribution were formerly stable, with only slight annual or short term fluctuations (Ratcliffe 1962), but numbers have been declining since the 1950s (Ratcliffe 1965). Marquiss, Newton and Ratcliffe (1978) surveyed the inland Ravens in these regions in 1974 and 1975 and found that territorial pairs had declined by 40% or more, from at least 81 regularly occupied territories to 48.

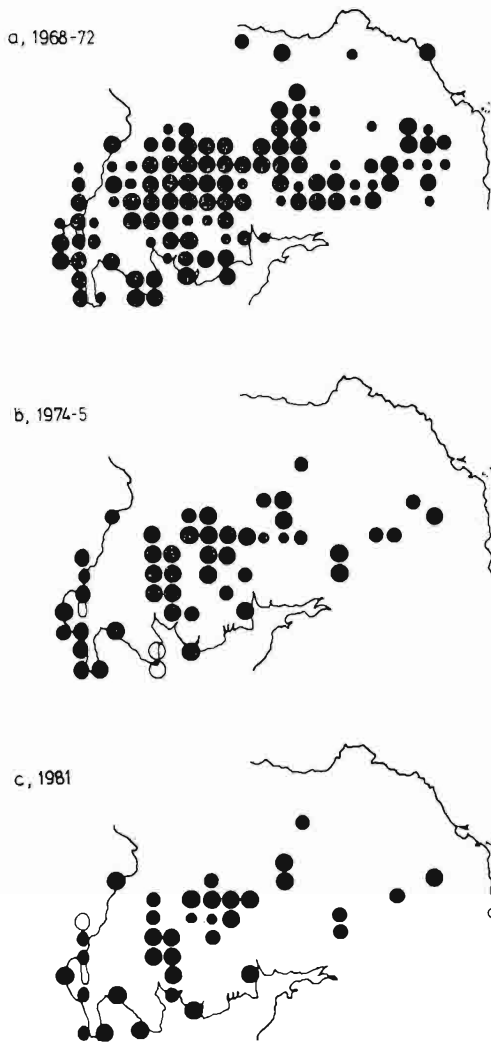


Figure Distribution for 10 km squares, of Ravens in Southern Scotland and Northumbria. For maps b and c the smallest dots represent single birds and larger dots represent pairs; the largest dots represent confirmed nesting, for which a lined nest was considered to be the minimum requirement. (0 denotes that none of the known territories in a 10 km square were visited). This roughly corresponds to the possible, probable and confirmed breeding classification of the BTO Atlas (map a, redrawn from Sharrock (1976), with permission).

The opportunity arose during the 1981 National Peregrine Survey to re-examine the status of inland Ravens in southern Scotland and Northumbria and also to census coastal Ravens, which Marquiss *et al* had not done. This paper attempts to document the extent of decline in coastal Ravens; and to examine the 1981 status of inland Ravens in the light of the prediction made by Marquiss *et al* of a further decline if blanket conifer afforestation continued.

Study area and methods

Northumberland and all Scottish counties south of the Forth-Clyde line except northern Ayrshire and Renfrewshire were included in the survey. A description of the study area is given by Marquiss *et al* (1978). The main objective was to examine inland Raven territories occupied in 1974 and 1975, and all known former coastal territories. Many inland territories deserted before 1974 were visited as well, and cliffs for which there were no known Raven records were examined. This provided a check on any possible changes in distribution. The few Raven territories that had only tree nest sites were also checked. The distribution and number of coastal Ravens in 1945-60 and 1961-62 were determined from old records supplied by various bird-watchers. Recording of occupied territories was on a basis roughly comparable to that used for the BTO Atlas (Sharrock 1976) (see Figure).

Results

The distribution of Ravens in 1968-72, 1974-5 & 1981 is summarised in the Figure.

Inland occupation In 1981, 35 territories were occupied (Table), but at 2 only single Ravens were seen and 3 were unoccupied in 1974 or 1975. Sixteen territories have therefore

Table
Numbers of occupied Raven territories in southern Scotland and Northumbria. Figures in parentheses give the number of pairs breeding

	Total No. of known territories	1945-60 [†]	1961-62	1974-75	1981
Coastal					
Kirkcudbright	12	7(?)	10(7)	2(1)	1(1)
E. Wigtownshire	9	(6?)	7(6)*	1(1)*	2(2)
W. Wigtownshire	20	10(?)	7(6)*	10(8)*	6(3-4)
S. Ayrshire	10	6(?)	3(2)	6(3)	3-4(1-3)
Total S.W. coast	51	29(?)	27(21)*	19(13)*	12-13(7-10)
Total inland	123	81(?)	—	48(38)	35(23)

[†]For 1945-60, numbers of regularly occupied territories are minima.

*Incomplete data (see text).

become deserted since 1975; 15 of these were also unoccupied in 1980 (records from B. Little, R. Roxburgh and RM) and are unlikely to have merely been overlooked. The other deserted territory had not been visited since 1975.

Thirty-nine territories deserted by 1974, including 3 that had only tree nests, were found to be still unoccupied in 1981, but one had been reoccupied. Between 1976 and 1980, there were two cases of reoccupation of former territories, but by pairs which bred for only one or two years and then disappeared (G. Carse, D. Kelly, pers. comm.). One territory was found for which there was no previous record. There was no evidence of a change from cliff to tree sites, though some nests in trees in unworked areas could have been missed. Cliff nests were unlikely to have been overlooked.

Inland breeding success All but five nests were on cliffs; one pair nested on an old bridge and 4 in trees. In 1981, 23 pairs were known to have bred, 17 successfully. There were too few records to assess average clutch size, but the average size of 10 successful broods was 3.2. Apart from two territories where only single Ravens were seen, ten pairs apparently did not breed, but in four cases an attempt might have occurred at an unknown alternative nest-site. The number of pairs breeding was probably under-estimated slightly.

Coastal occupation On the south-west coast there were earlier records for 51 territories, 29 of which were formerly regular and 22 of uncertain status. In 1961-62 the average nearest neighbour distances, between regularly occupied territories, were 4.3 km (South Ayrshire), 3.6 km (West Wigtownshire), 4.6 km (East Wigtownshire) and 5.1 km (Kirkcudbright). In many years densities would have been higher because of additional pairs breeding at irregularly held territories. In 1962 six pairs in West Wigtownshire had an average nearest neighbour distance of 1.9 km; three of these pairs had nests with young on one 3.2 km cliff section (R. Stokoe). In 1981 half the occupied Raven territories were in West Wigtownshire, where densities were formerly highest.

In 1961-62 there could have been 37 or more occupied territories as pairs were at 27 sites but ten of the 29 regular nesting territories were not visited, and in 1974-75 there were probably 19-23 sites occupied. In 1981 there was no information for Ailsa Craig, which had been regularly occupied throughout the 1970's and where breeding occurred in 1980. Assuming a pair was there in 1981 the number of occupied territories had decreased since 1974-5 from at least 29 to only 13—ie. by a minimum of 55%. The decrease varied between regions, being

greatest in Kirkcudbrightshire and least in West Wigtownshire (Table).

For the Berwickshire coast, which formerly supported at least three Raven territories, there was no information for 1974-75 or 1981. All cliffs on this coast have however been frequently checked for seabirds (and Peregrines in 1981) and there have been no reports of Ravens breeding since at least 1972, though there have been occasional sightings.

Coastal breeding success In 1961-62 at least 21 pairs bred; the average fledged brood size was 3.0 ($n=10$). In 1974-75, at least 13 pairs bred; possibly 17 if the 4 unchecked territories are assumed to have been occupied. In 1981 ten pairs may have bred, though for only 7 was breeding confirmed. One nest with eggs was destroyed, one failed soon after hatching, and 3 produced broods of one, two and three young. In the 5 other cases the final outcome was unknown. This gives an overall decline from 29 regular breeding pairs in 1961-2 to 7-10 pairs in 1981; a minimum decline of 66% in 20 years.

Discussion

Extent of decline The three maps should be compared with caution, as they are based on data obtained by different methods and cover periods of different length. In the Atlas survey 1968-72 alternative nesting places of the same pair could have been in different 10 km squares in successive years, leading to an over-estimate of confirmed and probable breeding. In 1981 neither all squares nor all territories were examined, but all territories occupied in 1974 or 1975 were checked so any further decline in this sample was recorded.

The maps show a continuing decline and contraction in the breeding range of the Raven in southern Scotland and Northumbria, though this has probably been less abrupt since 1968-72 than the maps would suggest. Marquiss *et al* deliberately classed some territories as occupied in 1974-75 although they suspected the birds present were from a neighbouring territory. (This applied also to 1981, but to a lesser extent because there were fewer Ravens). The decline in inland territories by 1974-75 was therefore possibly more extensive (by about 5 pairs) than Marquiss *et al* stated. The percentage decline on the south-west coast was almost certainly higher than the results suggest, as this area was poorly documented before 1961 and probably held more than the 29 'regular' territories recorded.

Reasons for decline Cliff climbing, displacement by Golden Eagles, egg robbing and persecution affect at most a small proportion of the Ravens in this area (Marquiss *et al* 1978) and organochlorine residues in eggs are low (Ratcliffe 1965, 1970). As both Raven and Peregrine formerly co-existed in the region

at high densities (Ratcliffe 1962), the recent rise in the number of Peregrine pairs in the area cannot have caused the decline, although Peregrines do occasionally evict Ravens (in Ratcliffe 1980). Furthermore the decline in Raven numbers continued when Peregrine numbers were lowest. Inland cliff nesting Buzzards have declined in the area from about 30 pairs in the 1950s to only 2 in 1981, so this species has offered no recent competition for cliff sites.

As Ravens in Britain rely heavily on sheep carrion for food (Ratcliffe 1962), Marquiss *et al* (1978) concluded that decline was largely due to land use change from sheep range to conifer forest. Decline was greatest in areas of most extensive afforestation, and desertion of particular territories was coincident with planting of the areas surrounding the nest sites. In some cases desertion took place when sheep were removed and before planting took place. In unafforested areas sheep carrion also decreased with improvements in sheep husbandry, though to what extent was unknown. The increasing trend towards bringing sheep down to low ground or into sheds for overwintering and for lambing might be of particular significance in this connection.

In southern Scotland there are few alternative food sources once sheep are removed. Rabbits, hares, goats and deer occur in some areas but are not always available at all seasons and many die in thicket forest where Ravens would not find them. Voles can be an important food source for some pairs, but only until the trees reach thicket stage, (Newton *et al* 1982). Maturation of existing forest could have accounted for the disappearance of some pairs between 1975 and 1981. The continued removal of sheep prior to afforestation, even though at a lower rate than in the early 1970's, would have eliminated others.

In central Galloway, the Moorfoot Hills and elsewhere inland, occasional winter and autumn sightings of Raven flocks (usually less than 20 birds but once over 40—per R. D. Murray and others) suggests no shortage of Ravens available to occupy vacant territories. These flocks may have been congregations of birds already breeding in the area (together with their young), resident non-breeders or birds from other areas. Southern Scotland is well within range of Ravens dispersing from the Lake District and Argyll. Though the number of young produced in the study area has recently been low, this should not have been a limiting factor. It seems inescapable that food shortage has led to some former territories being abandoned.

The reasons for decline on the coast are less clear but pro-

bably also involve land use changes and improved sheep management. In recent years farmers have tended to push the limits of arable land towards cliff edges as well as to reclaim heather moorland and improve existing pasture. Although the amount of arable land has increased, numbers of sheep have not declined overall because improvement of pastures has allowed higher stocking levels. However, improved stock management has minimised available carrion.

It is not known whether the decline in Ravens in south Scotland has been paralleled in any other areas. Weir (1978) reported a reduction in numbers and breeding performance in the Spey and Findhorn valleys between 1964-68 and 1977, but poisoned or killed Ravens were found at eight of the 22 territories studied. On Mainland Orkney, however, the number of Raven nests was more or less constant over the six year period 1972-77 (Booth 1979). Elsewhere in Britain, Marquiss *et al* (1978) reported no serious decline in the English Lake District for 1974-76 and in Snowdonia there was an apparent increase from the mid 50's to 1978-81 (P. Dare pers. comm). In both these areas there has been little afforestation and no other marked land use changes. In an area in mid Wales, with the highest recorded Raven density in Britain, the number of occupied territories declined only 9% from 1975 to 1979. Afforestation had occurred, but in smaller blocks than in southern Scotland, and sheep numbers remained very high (average numbers in mid-winter were 150 sheep per km²) so that all pairs still had access to a good carrion supply (Newton *et al* 1982).

The Raven seems bound to decline in parts of Britain, a victim of changes in land management and animal husbandry. This species may present a conservation problem in certain regions as its breeding range becomes further reduced; in some areas it is already less numerous than the Peregrine. It would clearly be worthwhile to assess Raven numbers in other parts of Britain, especially where previous data are available for comparison. Any future Peregrine survey would provide a good opportunity for doing so.

Acknowledgments

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Summary

In a survey of Southern Scotland and Northumbria in 1981, 35 inland Raven territories were occupied, numbers having declined by about 70% since the 1950's. Twelve or thirteen coastal territories were occupied and 7-10 pairs probably bred; a minimum decline of about 66% since the 1950's. Inland the decline was associated with the removal of sheep prior to afforestation and with improvements in sheep husbandry. On the coast, decline was thought to be due to improved farming practices and land use changes which reduced the amount of available sheep carrion. These changes included a reduction in areas of coastal moorland, improvement of pasture and an increase in the amount of cultivated land.

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Isle of May Bird Observatory and Field Station report for 1982

Prepared for the Observatory Committee by
B. ZONFRILLO, Honorary Secretary

The Observatory opened on 27th March and closed on 13th November. Five new species were added to the island's list, Rough-legged Buzzard, Great Snipe*, Rufous Bush Chat*, Dusky Warbler* and Arctic Redpoll*. A sub-species of "flava" wagtail, the Ashy-headed Wagtail* was also new. In October the largest concentrations of migrant birds ever recorded occurred. Mike Fraser, NCC's summer warden, assisted with record keeping and ringing and Drs M. P. Harris and S. Wan-

*denotes record subject to acceptance by Rarities Committee.

less gave much valuable assistance. A record 9998 birds were ringed.

Migration summary

Late **March** showed the first signs of migration with Ring Ouzel, Black Redstart, Wheatear, and 2 Goldcrests, 2 Merlins, a Peregrine and 2 Short-eared Owls. Northerly winds suppressed migration from the south and east and arrival of many migrants was later than usual. The first Chiffchaff arrived on 6th **April** and a Linnet, a Siskin and three Blackbirds on 14th. The first Willow Warbler and 8 Wheatears appeared on 15th, and an early **Yellow Wagtail** on 21st. Swallow, Sand Martin and Whimbrel all arrived before the end of the month. **May** began wet and windy, bringing a Barnacle Goose and a Swift on 4th, the first Whitethroat and House Martin on 5th, 2 Black Redstarts on 7th and on 9th a White Wagtail, Ring Ouzel and Scarlet Rosefinch. Easterly breezes on 11th May were enough to bring in a Wryneck, 2 Redstarts, a Sedge Warbler, a Wood Warbler, 9 Whinchats, 20 Wheatears, 5 Tree Pipits, 3 Yellow Wagtails and a Blackcap. Next day Garden Warbler, Lesser Whitethroat, Spotted Flycatcher and 40 Willow Warblers were seen and on 13th a Turtle Dove arrived. On 15th a 'flava' wagtail arrived and was identified as *M. f. cinereocapilla*, the Ashy-headed Wagtail*. A force 5 south-east wind on 16th May brought down a good selection of migrants including Tufted Duck, Common Sandpiper, Cuckoo, Pied Flycatcher, Blue-throat and Osprey, and on 17th a Red-backed Shrike. On 19th an immature Marsh Harrier was sighted but from then until the 28th migration was slow, with only 11 Canada Geese providing interest as they flew north. A Red-throated Pipit* on 2nd **June**, a Quail on 6th and another Osprey on 7th were highlights as migration slowed to a trickle. **July**, usually a dead month for migration, was brought to life by a light north east wind bringing Whinchat, Whimbrel and Wheatear. Early on 12th **July** a small bird fluttering in the catching box of the Low Trap proved to be an Arctic Redpoll*, the first record for the May. Occurring at mid-season this boreal species was, to say the least, unexpected.

Autumn migration probably began on 21st **July** with the arrival of 35 Knots. A Peregrine appeared on 27th and a Stonechat on 30th, with a Pied Flycatcher and a Whimbrel on 31st. Early **August** saw 3 Ruffs and 8 Golden Plovers and a juvenile Red-backed Shrike. Icterine and Reed Warblers on 5th **August**, followed by a Wood Warbler on 6th, arrived in thick fog. On 7th 2 Garden Warblers, a Barred Warbler, 2 Black Redstarts and another Red-backed Shrike were ringed. Mid **August** brought the first movements of Arctic Skuas and Manx Shear-

waters past the island, while onshore Greenshank and 2 Spotted Redshanks on 18th probed the island's ponds. Migration continued slowly and unspectacularly. On 1st **September** a falcon—possibly a Lanner—complete with jesses arrived but could not be caught. Two Stonechats and a Barred Warbler, together with a good selection of small passerines, were seen on 6th and 4 Pintail visited the island on 7th. On 14th an adult Little Gull was among some terns at the South Ness. A north east wind on 19th September resulted in a small fall of migrants which included Marsh and Melodious Warblers, both trapped. A Pomarine Skua was offshore on that date. On 21st 3 Reed Buntings were trapped (one bearing a Norwegian ring), and Pink-footed and Barnacle Geese were seen, while at sea 2 Sooty Shearwaters moved north. A Lapland Bunting arrived on 23rd. On 28th September 25 Arctic Skuas were counted and a Black Guillemot was seen.

October 1st saw the start of bulk migration with 700 Song Thrushes, 250 Redwings, 100 Chaffinches and 180 Meadow Pipits arriving; also present were a Turtle Dove, 8 Ring Ouzels and a Crossbill. The easterly wind picked up and the weather deteriorated and by 7th birds were arriving in ever increasing numbers, among them a Yellow-browed Warbler and a Dusky Warbler*. On 8th a Barred Warbler was caught and on 9th a Long-eared Owl was trapped. October 10th began as a cloudy wet day with wind easterly force 4 rising to force 6 by evening. During that day 500 Goldcrests landed and 500 Redwings passed through. A Yellow-browed Warbler, a Reed Warbler and 30 Chiffchaffs were noted and a Rufous Bush Chat* sat on the rocks above Pilgrims Haven. An exhausted Bluethroat was ringed. Next day brought identical weather conditions and a massive fall of birds occurred, blanketing the entire island. Totals for 11th October included at least 15,000 Goldcrests, 4000 Robins, 600 Blackcaps, 800 Redwings, 200 Chiffchaffs, 400 Bramblings, 50 Redstarts and 50 Garden Warblers. Two Pallas's Warblers* were ringed and 3 Great Grey Shrikes, a Barred Warbler, and 5 Snow Buntings were seen. Waves of migrating birds continued to come in and on 12th totals showed 2000 Robins, 100 Dunnocks, 3000 Redwings, 400 Fieldfares and 6 Willow Warblers. At sea 15 Great Skuas were counted while ashore a Sparrowhawk, 2 Peregrines and a Rough-legged Buzzard were watched, along with a Shore Lark. On 13th the rain and wind were unrelenting, bringing down more waves of migrants—4000 Robins, 1500 Blackbirds, 600 Fieldfares, 8000 Redwings, 2000 Song Thrushes and 150 Siskins. Blackcaps totalled 1000 and another Pallas's Warbler appeared with 30 Reed Buntings, 30 Ring Ouzels and a total of 20 owls, mainly Short-eared, circling the north plateau.

PLATE 24a. Ruby Smillie's retiral, after 20 years as the club's Membership Secretary, was marked by a party at which the President, Ivan Draper, presented her with an engraved salver and a cheque.

Muriel Draper

- b. This issue completes 25 years' printing of *Scottish Birds* by the family firm of Walter Thomson, Selkirk (p. 205). Walter Thomson himself is seen seated at his keyboard, with his brother Jim (right) and nephew Ian behind.



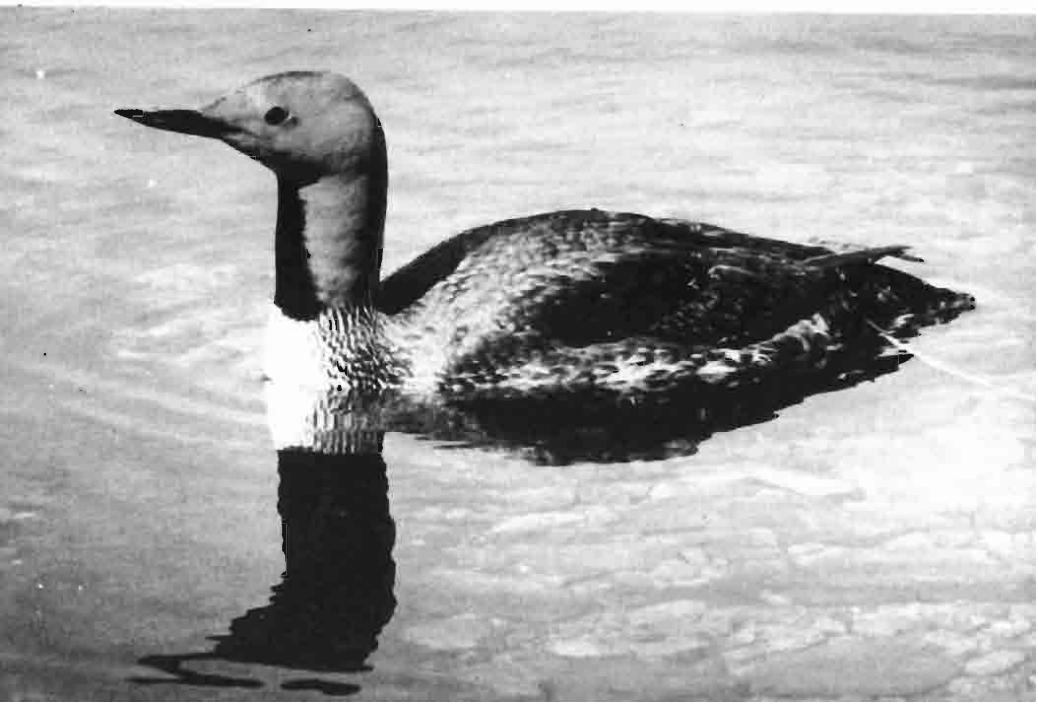


PLATE 25a. Afforestation has greatly reduced Raven numbers in southern Scotland (p. 211). This wooded gully (to right) held nesting Ravens when it was surrounded by open sheep-walk; it is now within Ae Forest, Dumfriesshire.

Barbara Mearns

- b. In the Western Isles, breeding Red-throated Divers are apparently among the birds drowned in gill-nets while feeding close inshore. (p. 227).

W. S. Paton



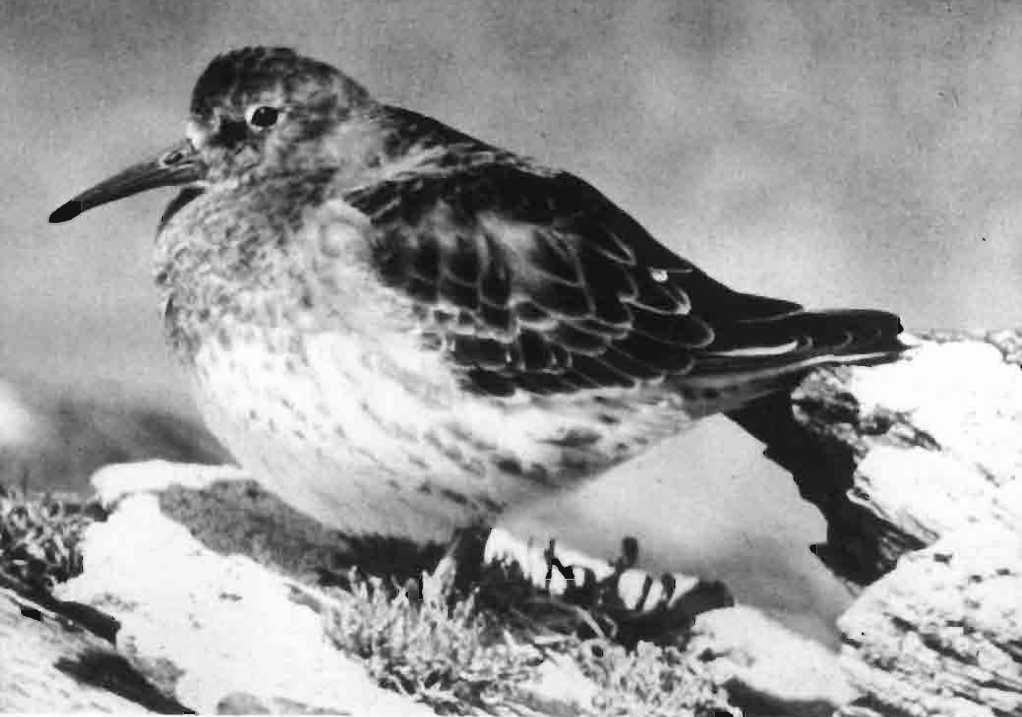


PLATE 26 The rocky shores of Caithness support much larger numbers of wintering Purple Sandpipers and Turnstones than do those of Easter Ross and East Sutherland, and the densities of Purple Sandpiper (above) there in 1981-82 were the highest yet recorded in Scotland (p. 206).

R. J. Chandler



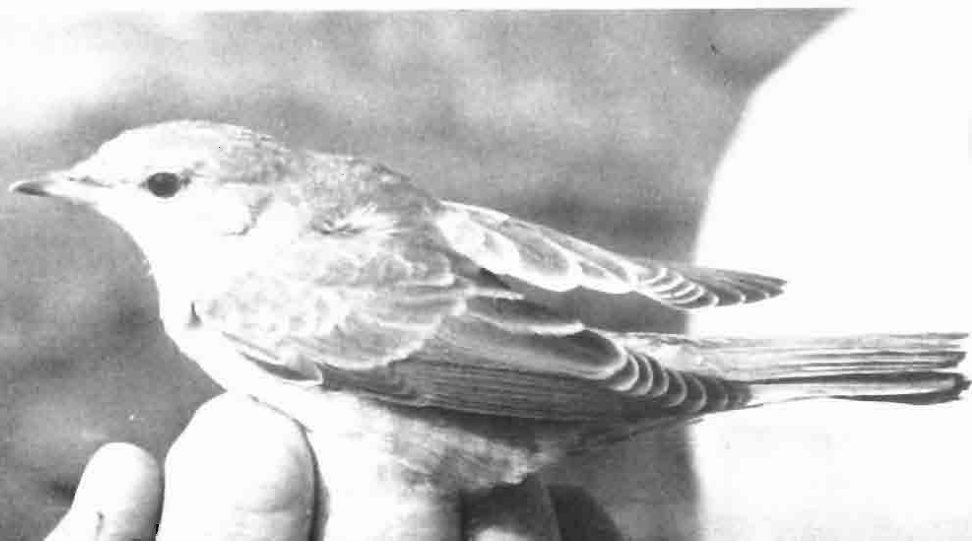


PLATE 27a. This Arctic Redpoll, an unexpected and unseasonal visitor trapped on 12 July 1982, was the first recorded on the Isle of May.

N. Aebischer

b. Barred Warblers occur there regularly on autumn passage, always in this juvenile plumage.

B. Zonfrillo



Numbers of birds dropped on 14th as the wind veered northerly for a spell. A Jack Snipe was ringed and a Little Gull seen. On 15th a Glaucous Gull, 3 Pomarine Skuas and 2 Arctic Skuas were noted during a seawatch. On 16th the wind veered easterly again, but skies were clear. Similar conditions on 17th meant that migration was generally rapid with birds merely resting briefly before continuing westwards. Thrush numbers were impressive with 2000 Blackbirds, 4000 Fieldfares, 1000 Song Thrushes, and 7000 Redwings. At sea 2 Long-tailed Ducks, a Red-breasted Merganser and a Puffin were noted. On 18th the winds died down but were still easterly and enough to bring in another Shore Lark, Rough-legged Buzzard, 2 Pomarine Skuas and 80 Dunlin. Things were quiet from 19th onwards, with only the wind-blown corpses of many unfortunate Goldcrests as reminders of the unprecedented fall.

In early November migration was still evident with a Lapland Bunting on 3rd, and on 5th 60 Woodcock, a Water Rail and a Black Redstart—part of a movement of birds including 5000 Blackbirds, 700 Fieldfares, 500 Song Thrushes, 1000 Redwings and 2 Glaucous Gulls. On 6th a Little Auk was seen and 400 Starlings arrived, and next day two Brent Geese were noted. A Great Snipe* was flushed on 8th and a Scaup landed on the loch. Finally a Black Redstart was ringed on 13th November.

Dates of some migrants (daily maximum in brackets)

Whimbrel 22 Apr-30 May; 11 Jul-13 Sep (4).
 Spotted Redshank 18 Aug-9 Sep (2).
 Cuckoo 13 May-5 Jun (1). No autumn records.
 Swift 4 May -28 Sep (13).
 Swallow 20 Apr-17 Oct (100).
 Red-throated Pipit 2 Jun (1).
 Bluethroat 16 May; 10-11 Oct (1).
 Black Redstart 31 Mar-7 Jun; 7 Aug-13 Nov (2).
 Marsh Warbler 19-20 Sep (1).
 Reed Warbler 5 Aug & 10 Oct (1).
 Icterine Warbler 5-6 Aug (1).
 Melodious Warbler 19-22 Sep (1).
 Barred Warbler 7 Aug-11 Oct (1).
 Lesser Whitethroat 12 May-6 June (8); 14 Aug-12 Oct (3).
 Pallas's Warbler 11-13 Oct (2).
 Yellow-browed Warbler 7 Oct, 10 Oct (1).
 Chiffchaff 6 April-5 Nov (200).
 Willow Warbler 15 Apr-15 Oct (50).
 Pied Flycatcher 16 May-12 Jun (1); 31 Jul-20 Sept (3). Very low nos.

Breeding birds

Numbers of breeding Puffins continue to increase, as do Kittiwakes. One Kittiwake chose to nest "inland" at Holymans Road, raising two young. Around 1600 Shags bred, a record total. With Herring Gull numbers remaining low, no birds

were culled this year but a number died of what was probably botulism. 152 Eider nests were found and at least 27 pairs of Oystercatchers bred. Breeding Fulmars dropped slightly, with 58 chicks reared. Guillemot and Razorbill numbers remain high. Common Terns again bred, with 14 nests found, producing at least 17 young. Fresh eggs were laid during August suggesting birds were perhaps failed breeders from elsewhere, probably Farne Islands. Four pairs of Lapwings laid eggs but were again unsuccessful. Around 20 pairs of Feral Pigeons bred and the two pairs of Stock Doves were once more present and one young bird was seen. At least 25 pairs of Rock Pipits bred and at least 115 young were reared. Five pairs of Pied Wagtails raised 21 young and four pairs of Swallows raised at least 24 young.

Ringling

The record total of 9998 birds ringed comprised 6762 seabirds and waders and 3236 passerines. Record totals were achieved for Shag 1118, Eider 46, Oystercatcher 57, Lesser Black-backed Gull 704, Guillemot 190, Razorbill 41, Swallow 49, Robin 731, Blackcap 217, and Chiffchaff 71. Herring Gull topped the totals with 1997, Puffin coming second at 1958. New species ringed were Teal (1), Pallas's Warbler (2), and Arctic Redpoll (1). Unusual species ringed were Jack Snipe (2), Moorhen (1), Marsh Warbler (1) and Melodious Warbler (1). Only five Pied Flycatchers were ringed. Rock Pipits were ringed and colour ringed by Mike Fraser and the total of 71 chicks marked was more than the British total for 1981. An adult and a juvenile Gannet were caught sleeping on the rocks and 20 Storm Petrels were lured. Storm Petrels were twice sighted at night over the island without lures playing. Derek Skilling's party, present during the October fall, correctly decided to refrain from ringling exhausted Goldcrests, otherwise the ringling total could have been greatly increased. Ringling recoveries show the origins of some of the birds trapped during the influx. Duncan Bell ringed the Observatory's second ever Jack Snipe and a week later Mike Carrier ringed the third. Most of the 640 Blackbirds ringed were caught by Keith Brockie, Sarah Wanless and Peter Kinnear during the large movement of thrushes on 5th and 6th November.

Ringling recoveries

Following the coldest winter on record surprisingly few of the island's ringed birds were affected to any great extent. More Shags died from oiling and fish nets than were found dead during the severe weather. Colour marked birds on the

island included a Lapwing dye marked at Langbank on the Clyde, a wing-tagged Heron from Perthshire and further Purple Sandpipers colour ringed in Norway. Recoveries and controls are as follows, age codes follow species and are bracketed.

Ringed Isle of May		Recovered/controlled	
Fulmar (1)	14.08.80	18.08.81	Haamstede, Netherlands (dead)
Storm Petrel (4)	04.08.79	03.08.82	Fetlar, Shetland (control)
Shag (1)	23.06.81	19.01.82	Hurlingham Lake, London (dead)
Shag (1)	18.07.79	04.03.82	Bewel Bridge Reservoir, Sussex (dead)
Shag (1)	21.06.81	26.12.81	Ijmuiden, Netherlands (sight record)
Great Black-backed Gull	16.12.74	05.06.81	Stormyra, More-og-Roms- dal, Norway (shot)
Kittiwake (1)	23.06.82	12.11.82	Pas-de-Calais, France (dead)
Kittiwake (1)	19.07.76	07.11.81	Eider Estuary, Schleswig- Holsten, West Germany (dead)

The Fulmar (from the top of the "Angel") is our first in Holland and the Storm Petrel at Fetlar was of breeding age. Inland Shags are unusual; the London bird was found during a period of extreme cold. Few Shags cross the North Sea—the Dutch bird stayed a few days and came under close scrutiny from the local birdwatchers.

Long-eared Owl (2)	28.10.79	03.02.82	Drente, Netherlands (roadkill)
Long-eared Owl (2)	09.10.82	12.11.82	Prestwick Airport, Strath- clyde (entered fire station, released)

Two reports of this species double the past total and indicate possible origins and destinations of migrants.

Ringed Isle of May		Recovered/controlled	
Pied Wagtail (3♀)	10.08.81	07.01.82	Atherstone, Warwickshire (dying, hypothermia)
Robin (4)	13.10.82	23.10.82	Ramsey, Huntingdon, Cambridgeshire (dead)
Blackbird (4♂)	29.10.75	03.05.82	Lavia, Turku-Pori, Finland (dead)
Blackbird (6♀)	04.04.81	25.07.82	Teuva, Vaasa, Finland (dead)
Song Thrush (3)	07.10.77	07.02.82	Toledo, Spain (dead, hunted)
Starling (3)	27.09.79	26.07.82	Middlesborough, Cleve- land, (dead)

The Robin was a transient from the October fall (see below) and the Blackbirds resting on the island during autumn and

spring follow a well established pattern of migration to the Baltic countries.

Ringed elsewhere	Recovered/controlled Isle of May
Storm Petrel (4) 21.07.82 Burravoe, Yell, Shetland	29.07.82 (control)
Shag (1) 15.07.81 Foula, Shetland	18.05.82 (dead)
Oystercatcher (4) 25.08.68 Fife Ness	18.05.82 (controlled, breeding)
Common Tern (4) 29.08.77 Seaforth, Liverpool	04.07.82 (dead at nest)
Robin (6) 25.04.82 Store Faerder, Vestfold, Norway	12.10.82 (control)
Robin (3) 18.09.82 near Pori, Finland	11.10.82 (control)
Blackbird (4) 18.03.81 Hanstholm, Jylland, Denmark	13.10.82 (control)
Reed Bunting (4♀) 23.07.82 Arstad, Rogaland, Norway	21.09.82 (control)

The Storm Petrel is, to date, the most rapid movement from the northern isles to the May; Shags from that region are unusual. The Oystercatcher was ringed as an adult and therefore at least 15 years old. Trapping terns at Liverpool has revealed a route from Farne Isles and it is likely that our bird originated there. The Robins and Blackbird are controls from the October fall and the Reed Bunting is the first for that species on record.

Observatory notes

A new butterfly, the Clouded Yellow *Colias croceus*, was recorded on 3rd June and the Red Admiral *Vanessa atalanta* was particularly abundant. The Sea Mammals Research Unit tagged several Grey Seal *Halichoerus grypus* pups in order to study movements. Air-sea rescue were alerted in June when a small craft got into difficulties off the west landing, the occupant was saved (as was an Isle of May rescuer!) but the boat was smashed apart in the heavy swell, despite being secured. New Principal Keeper Norrie Muir joined the lighthouse staff from Fair Isle and even he was astonished by the number of birds on the island in October. We are again indebted to the Northern Lighthouse Board and the keepers on the May for all their help, and to Jimmy Smith for his expert seamanship in often difficult conditions.

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Short Notes

The Ailsa Craig Gannetry in 1982

The gannetry on Ailsa Craig has been counted more frequently than any other colony in Britain, with approximately annual counts from 1936 to 1976 (Fisher and Vevers 1943, Gibson 1951, Scottish Bird Reports, Wanless 1979). Between 1949 and 1976 the population increased at about 3% per annum from c. 5000 pairs to 15,000 occupied sites. No counts have been published since 1976.

The present count was made from colour slides taken from the sea at 1600 hrs on 10th July 1982. These were projected on to a screen and the images counted. It was possible to distinguish pairs and single birds but not whether any nest material was present, so counts are given as the total number of occupied sites; this unit was also used in the 1976 counts. The colony sections in table 1 correspond to those used previously (Gibson 1951) except that we have lumped some adjacent areas. Two complete counts of the slides differed by only 132, which is 0.6% of the mean, although counts of individual areas varied by more than this (table 1).

Table 1. The number of occupied Gannet sites on Ailsa Craig in July 1982 (2 separate counts—see text) compared to counts made in June and August 1976. The proportional change was calculated using the means of the 1976 and 1982 counts

Colony section	1976		% increase 1976 to 1982
	24th June/6th August	10th July	
Sliddery and Sliddery			
Top Ridge	369/444	639/670	61
Slunk and Above			
Ashydoo	1179/1262	1317/1375	10
Balvaar Top Ridge			
and Balvaar	1152/1063	1444/1483	32
Balvaar to Cairn			
and the Cairn	2669/2763	3125/3265	18
Barrheads, Cairn to			
Mare and the Mare	6327/6654	8540/8635	32
Stranny S(3) and S(4)	1043/1276	1569/1500	32
Stranny S(1) and S(2)	700/646	1171/1080	67
Main Craigs, Main			
and East	799/799	892/864	10
Main Craigs Top, Main,			
East and Far East	1543/1298	2080/2037	45
Total	15781/16205	20777/20909	30

The 1982 counts, of 20777 and 20909 occupied sites, when compared with figures of 15781 and 16205 in June and August 1976, give a mean rate of increase of 4.5% per annum. The increase was, however, not uniform throughout the colony and varied from 1.6% per annum in Slunk and Above Ashydoo and Main Craigs Main and East to 8.2% and 9.0% per annum in Sliddery and Top Ridge and Stranny S(1) and S(2) respectively.

Increases on the steeper cliff faces were mostly relatively small, the main increases being in cliff top areas where the birds had colonised the grassy inland slopes. Since 1976 there has been a noticeable loss of vege-

tation and some soil erosion on the landward side of Sliderry Top Ridge, Balvaar, Barrheads and above Stranny Point and Main Craigs.

In 1976 there were three main "club" areas where immature and adult Gannets gathered. All these now occupy larger areas (table 2) particularly that on the Ashydoe to Cairn plateau. It was impossible to tell from the photographs if these birds were breeding but their dispersion suggested that some might have nests.

Table 2. The number of occupied sites in "club" areas on Ailsa Craig in 1976 and 1982. The 1976 figure is the highest count recorded between May and September

Club area	1976	1982	% increase 1976 to 1982
Below the Mare	389	501	29
Ashydoe to Cairn Plateau	230	885	285
Stranny Point	167	225	35
Bed o' Grass	c.50	60	c.20
Total	c.836	1671	c.97

The continuing increase in the gannetry has resulted in most of the suitable cliff edges apparently becoming full. An exception is Main Craigs Far East which appears suitable and was used up to 1963 (J. A. Gibson pers. comm.). For some unknown reason the Gannets do not like this area and the colony is expanding on to the upper slopes of the island and on the grassy areas half way up the west cliffs which were previously used as clubs. Such also occurred on the Bass Rock and Grassholm. If Gannets are prepared to colonise the upper slopes on Ailsa Craig it will be a long time before their numbers are limited by a shortage of nest sites.

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S. MURRAY and S. WANLESS

Large clutch and brood sizes of Whooper Swans

Clutch size data given in B.W.P. Vol. 1 (1977), suggest that any large broods of Whooper Swans wintering in Britain belong to the Continental rather than the Icelandic breeding population. Ranges for clutch size as published in B.W.P. are: 3-5 (n=9) from Iceland, 4-7 (n=7) from U.S.S.R., and 2-7 (n=18) from Finland. However evidence from Scotland suggests that the range estimate for the clutch size of the Icelandic population is too low, and consequently no safe conclusions can be drawn as to the origin of large broods observed wintering anywhere in Britain.

Recent observations of broods of more than 5 cygnets wintering in Scotland include: two of 6, Loch of Strathbeg, Grampian, one of 6, Loch Davan, Grampian, both in October 1978 (Bell 1979, Kirk pers comm.); one of 6 and one of 7, South Uist, Western Isles, in November 1978; one of 7, Tiree, Strathclyde, and one of 8, South Uist, both October 1980 (C.J.S. pers. obs.), and similar large broods have previously been

reported elsewhere (Boyd and Eltringham 1962, Hewson 1963). Furthermore there is conclusive evidence that broods, and therefore clutches, larger than 5 do occur on the breeding grounds in Iceland itself (Kinlen 1963, M. A. B. and N. Stronach, pers. obs.).

The occurrence in Scotland of broods larger than 5 cygnets would not of itself prove that the Icelandic clutch size range is greater than previously recorded. However, ringing recoveries and observations of marked birds support the view that Whooper Swans wintering in Scotland are of Icelandic origin (M.A.B. pers. obs.), while amalgamation of broods either prior to or during migration is unlikely. Territorial pairs are very aggressive on the breeding grounds (M.A.B. pers. obs.), and families move together as a unit on migration (B.W.P. Vol. 1.).

Previously Cadbury (1975) reported a brood of 6 cygnets at Welney, Norfolk, and from this and other very limited evidence the belief seems to have started that not only the Welney flock, but all flocks in southern England are of Continental origin (e.g. Richards 1980). However, although we do not yet know the exact extent to which numbers in Southern Britain might be augmented by Continental birds, recent ringing evidence suggests that the Welney flock is also of Icelandic origin (M.A.B., pers. obs.).

Large broods of Whooper Swans therefore cannot confidently be attributed to the Continental population, and their occurrence in Iceland and Britain suggests that the clutch sizes of the different populations overlap completely, previous samples being too small to be representative.

Observations by M.A.B. were made while he held a Stirling University Studentship and with the aid of The Vincent Wildlife Trust; observations by C.J.S. were made as part of research financed by N.E.R.C. in a grant to Prof. G. M. Dunnet, Aberdeen University.

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M. A. BRAZIL and C. J. SPRAY

Unnatural mortality of Red-throated Divers

In spring and summer in the Outer Hebrides the calls of Red-throated Divers flying to and from their inshore feeding grounds are a commonplace sound. The semi-enclosed Broad Bay, north-east of Stornoway, is an important feeding area for these birds in northern Lewis. During the past few years, whilst carrying out Beached Bird Surveys in Broad Bay, I have noted unusual numbers of corpses of this species. In July 1980 I found 2 on Coll Beach, and on Traigh Mhor Tolsta I found 4 in June 1981 and a further 10 in July. All were adults in breeding plumage.

The two birds in 1980 were not examined for injuries, but most of the 14 in 1981 had either legs or wings missing, or these limbs were broken. This was obviously not natural mortality, but no direct evidence

of the cause of death was found. However a large number of gill-nets are set along the coasts of Broad Bay for various species of fish and it is likely that the birds were caught and drowned during feeding. The injuries, which are consistent with those of Cormorants and Shags killed in similar situations on the east coast, were probably inflicted during extraction from the nets. The fact that no corpses of Great Northern Divers have been found, although Broad Bay holds substantial numbers of wintering and migratory birds, provides supporting circumstantial evidence, as no nets were set at the times of year when this species occurred.

The most worrying feature of the situation is that it is activities on the feeding grounds, far distant from the nest, that are the problem; and that they are resulting in the death of breeding adults. The protection afforded to the Red-throated Diver at its nest, under Schedule 1 of the Wildlife and Countryside Act (1981), is of no help in this case. Fourteen birds, representing between 7 and 14 pairs, must comprise a significant proportion of the north Lewis breeding population of this species.

N. E. BUXTON

The Spring 1983 number of *Birds* recorded Guillemots suffering a similar fate in salmon nets off north-east Scotland.—Eds.

The Fulmars of Holyrood Park, Edinburgh

During the late 1960's and early 1970's there were occasional reports of Fulmars flying inland over the Edinburgh area. Observations were mainly of single birds, in January-July, and related especially to Holyrood Park, central Edinburgh, Blackford Hill and Torphin. The first evidence of birds occupying a potential breeding site was in 1971, when 3 were seen for several months on ledges at Torphin Quarry, at the NW corner of the Pentland Hills 10 km from the sea. In 1976 regular observations in Holyrood Park suggested that the first serious attempt at colonising the ledges of Salisbury Crags (4 km inland) was taking place; that year up to 4 birds were present from February until early September. By 1980 counts of over 30 birds were reported, especially during March-June, but little information was supplied on the number of sites occupied. There was certainly no evidence of breeding and most birds appeared to depart by mid-June/early July. Birds were also noted sitting or prospecting ledges on Arthur's Seat at the Guted Haddie, and recently have shown an interest in Samson's Ribs and the crags above.

Up to 1980 the data suggested that young birds were prospecting Salisbury Crags for new breeding sites. In July 1981 the first evidence of breeding occurred when a member of the public called at the RSPB office at 17 Regent Terrace, carrying an almost fully grown Fulmar chick which had by all accounts fallen at his feet below the crag! The bird was released at Portobello. There was unfortunately no proof of breeding at the 10-11 sites occupied in 1982, although the difficulty of observing eggs or chicks makes the gathering of such information far from easy. The number of birds using Salisbury Crags is increasing and they appear to be staying longer, suggesting that further breeding—confirmed by the presence of big young on the ledges in late July/August—is likely to occur over the next few years as more of the birds reach breeding age.

This movement to potential inland breeding sites has not been confined to Holyrood Park. In August 1978 one fully grown chick was reported from Torphin Quarry, with 4-5 sites occupied; by 1982, 24

birds were present at 16 sites on 20 May and one young was seen in August. Since 1979 two or three birds have been observed regularly at Blackford Quarry (7 km inland). Elsewhere in the Lothians there have been regular observations of birds sitting on ledges or prospecting potential sites at North Berwick Law (1.5 km inland), Traprain Law (8 km inland), and Garleton Quarry near Haddington (10 km inland), and breeding has been proved at the latter two locations. It is interesting to note that at most of these sites the occupied crags generally face west to north and are within sight of the sea.

The occupation of inland breeding sites, mostly crags or quarry faces with ledges reasonably safe from disturbance or predators, no doubt reflects a continuing expansion of this species, with numbers at coastal and island sites still increasing. An interesting aspect of the Holyrood Park Fulmars is that they often appear on the ledges in January (or even December), a month or more before any are seen on the coast at Musselburgh, Leith or further up the Forth (G. L. Sandeman pers. comm.). This suggests a need for young birds to reinforce their claim to a potential breeding site at an early stage if they are to retain possession of it.

The information in this note has come primarily from the records submitted to R. W. J. Smith when he was Midlothian and West Lothian recorder from 1968-80, and from the Holyrood Park Bird Report prepared since 1978 by Dr L. L. J. Vick. May I request that in future observers make every effort to count occupied sites during May-July as this gives a much clearer picture of the number of potential breeders. July/August is also an important period for checking on the presence of young.

A. W. BROWN

Reviews

The Birds of the Outer Hebrides: a guide to their status and distribution by Peter Cunningham; Melven Press, Perth, 1983; 241 pages; many drawings; hardback; £5.95.

With the Outer Hebrides so much in the news recently, this book could hardly have been published at a more opportune moment. It is however no rushed job produced in the advent of expected major environmental changes envisaged under the E.E.C.'s Integrated Development Programme. Instead it represents the culmination of over 30 years of personal observation and research by the author, as he travelled through the islands in the course of his duties with the Customs and Excise, based in Stornoway.

It is nearly 100 years since Harvie-Brown and Buckley published a "Vertebrate Fauna of the Outer Hebrides", the last complete and exclusive account of the birds of these islands. Until his untimely death, the late Dr J. Campbell was gathering material to produce a new account, and the present author has been able to use these unpublished notes and records to help compile his own work.

After a brief description of the islands (St Kilda is excluded) the bulk of the book deals with the status and distribution of the different species. Although basically a personal attempt to provide an up-to-date record of each species, it is a well researched stocktaking of the existing situation. People unfamiliar with the islands may be surprised by the relative rarity of certain species *vis a vis* others, or in certain cases the scarcity of available information (especially quantitative data). Those more fam-

iliar with the Hebrides, their extent and inaccessibility, will be impressed by what the author has achieved. With very few resident naturalists, much information gathered each year by visiting birdwatchers is taken away with them, never again to see the light of day—this book will perhaps act as an incentive for future visitors to submit their own observations.

Produced in hardback, and designed for the pocket, the text is complemented by excellent line drawings by Roger Lee. Furthermore it includes the Gaelic names of all the birds; a useful and interesting addition. A list of references covering the ornithology of the islands and a personal checklist complete the book. For anyone interested in birdwatching, and visiting the Outer Hebrides, this book is a must.

CHRIS. J. SPRAY

Sutherland Birds, a Guide to the Status and Ecology of Birds in Sutherland District, edited by Stewart Angus; Northern Times, Golspie; 96 pages; 33 colour and 4 b and w plates, 13 drawings, map; hardback; £4.95.

This book is the first to deal solely with the birds of Sutherland—a large and varied county, much of it wild and relatively inaccessible. The first five chapters, contributed by well-known local ornithologists, describe the principal habitats and ornithological conservation in the county; the bird list (totalling 262 species and covering up to 1982) is based on a very thorough search of the literature plus some unpublished records and recent quantitative data; and a gazeteer of place names with 4-figure grid references is included to enable those unfamiliar with Sutherland to locate places mentioned in the text. The number and quality of the illustrations, especially the colour plates, is remarkable for a book at this price.

Stewart Angus is to be congratulated on the amount of information he has managed to compress into the admirably concise accounts in his species list. These summarise distribution and status, mentioning habitat preferences and recent changes where appropriate. The few figures that are given will provide a useful basis against which observers may compare their own findings, and should help to stimulate future ornithological recording in Sutherland. This is a nicely produced book, well laid out and attractively illustrated. At only £4.95 it represents extremely good value for money—and the royalties from its sale are to be devoted to wildlife research in Sutherland. We could do with many more county guides of this type and quality.

V. M. THOM

The Arctic Skua by P. O'Donald; Cambridge University Press. Cambridge, 1983; 324 pages; 7 monochrome photographs; 18 diagrams and maps; £25.

A book that looks like one of the Poyser series but costs twice as much would need to be good to compete. This book is not. It contains only a few black and white photographs to relieve a tedious and often inaccurate text. The first few chapters are clearly intended for the informed general reader; parts read like first year undergraduate statistics lecture notes, parts contain unscientific and often inaccurate statements (e.g. page 43, "well in excess of 3000 pairs of Bonxies now terrorize large parts of Foula"—the present Bonxie population is well under 3000 pairs, and has increased at 7% per annum from 1900 to 1980, not at 14% as stated by O'Donald). The author is clearly unaware of much relevant literature. In the chapter on population size he cites numbers of Arctic Skuas in the Faeroes from an incomplete 1940s survey, without mentioning the detailed census published by Joensen in 1966 which

found three times as many pairs, or the many counts made in the 1970's. The excellent and detailed 148-page monograph by Maher is not even listed in the bibliography, though it contains much more information on Arctic Skua ecology than any other single work.

I found dozens of factual and conceptual errors. For example, most British seabirds do migrate, in spite of O'Donald's assertion to the contrary. He also stated several times, and some of his models assume, that numbers of Arctic Skuas immigrating to any colony equal numbers emigrating. This is clearly absurd. Arctic Terns cannot be "increasing in numbers on Fair Isle, Hermaness and Noss" as they do not breed on Hermaness and recently went extinct on Noss. The wing length of all *Catharacta* skuas is given as 380-405 mm (source not acknowledged) yet female Bonxie wing length averages 413 mm according to BWP and *lönnerbergi* has even longer wings.

The second half of the book is difficult to read as it is highly mathematical and contains many fully worked statistical analyses which the reader is unlikely to want to see. Serious students of population genetics, for whom this section is presumably intended, will also be disturbed by the author's habit of cloaking errors by deriving statistics to five or six significant figures (implying great precision and accuracy) though these are often based on crude estimates of survival which themselves depend on guesses of immigration rates.

R. W. FURNESS

The Barn Owl by D. S. Bunn, A. B. Worburton, R. D. S. Wilson; Poyser, Calton, 1982; 264 pages; 1 colour & 31 b. & w. plates; £12.60.

Poyser's ornithological publications have set something of a standard in recent years. They have shown that it is perfectly feasible to adopt a rigorous scientific approach yet to write in a way that can be enjoyed and understood by all. "The Barn Owl", although undoubtedly useful and interesting, falls short of this standard. The book seems superficially to contain all the appropriate topics but on detailed reading proves an uncomfortable blend of reasonable scientific reporting and careless and misleading writing. The authors have clearly experienced difficulty in distinguishing hypothesis from fact and make firm assertions that can neither be accepted nor rejected on the basis of existing knowledge. The unwary reader can easily be led astray. They have done well to hunt out a large proportion of the available literature but have unfortunately sometimes either ignored or failed to appreciate the full significance of it. The sections concerning population ecology (breeding, movements etc.) suffer from a shortage of reliable information and there is no discussion of the potential inadequacies of the data that are used. It becomes obvious that the book is premature and that we simply do not know enough about Barn Owls for a really first class and convincing book to be written about them. Books on owls sell well because people like owls and it is to be expected that this book will be judged a success.

IAIN R. TAYLOR

Wintering Waders on the Banc d'Arguin (Mauretania) by W. Altenburg et al; 1982; 284 pp; 9 pp photos, maps; softback: £7.50.

This book describes an expedition to a remote part of the W. African coast which is of unique importance to waders and many other birds. Speaking with some envy, I can say that it is one of the best reports of an ornithological expedition yet produced. With its many maps, vignettes and photographs, this reasonably-priced book is strongly recommended to anyone interested in waders in Europe or Africa.

M. W. PIENKOWSKI

Also received

A List of Clyde Vertebrates by J. A. Gibson; 2nd edition 1980; 79 pages. A species list of mammals, birds, reptiles, amphibians and fishes that have been reported in the Clyde area.

A Regional Check-list of Clyde Birds by J. A. Gibson; 2nd edition 1981; 85 pages. Covers records up to 1981 giving status of each species in 15 subdivisions of the Clyde faunal area.

Identical in format with the above are Regional Check-lists of Mammals, Reptiles and Amphibians, and of Freshwater Fishes. All are available from W. McMurtrie, 21 Eastwood Ave., Giffnock, Glasgow G46 6LS.

Birds of the Mediterranean and Alps by Lars Jonssen; Croom Helm, London, 1982; 160 pp; numerous colour plates & distribution maps; 20 x 12; £5.95.

Birds that Came Back by John Gooders; Andre Deutsch, London, 1983; 182 pp; 8 pp of colour illus; many plain & line illus; 24 x 17; £12.95.

Highland Year by L. McNally; Century, London, 2nd edn. 1983; 143 pp; 10 col & 50 b/w photos; 25 x 16; £8.95.

The Woodcock by Herbert Kalchreuter (translated into English by Peter D. K. Hessel, Ottawa); Verlag Dieter Hoffman, 1983; 119 pages + bibliography; maps, tables & diags.; softback; c.£6.40.

PAPERS OF SCOTTISH INTEREST Articles and reports on birds in Scotland, mainly on status and distribution, are listed here. Some biological studies, e.g. behavioural, are excluded, as are references from the widely available journals **British Birds**, **Bird Study**, **Ringing and Migration**, and **Ibis**. Most items listed are available for reference in the Waterston Library. The librarian welcomes copies of work on any aspect of ornithology.

Fife & Kinross Btrd Report for 1981. (27 pp). I. G. Cumming & T. C. Smout (eds). Includes a short report "Herons in Fife and Tayside".

The Btrds of Possil Marsh [Lanarkshire]. (29 pp). G. J. Brock 1983. A species list with collected records 1871-1982.

Perthshire Peregrines in 1982. (2 pp). P. Stirling-Aird.

Raasay Btrd Report for summer 1982. (13 pp). A. Church & D. Lodge.

Ayrshire Btrd Report for 1982. (30 pp). R. H. Hogg (ed) 1983. £1.25 post free from SOC Bird Bookshop.

Caithness Btrd Report for 1982. (13 pp).

Canna Report 81-82. (15 pp). R. L. Swann & A. D. K. Ramsay.

Loch Lomond Btrd Report for 1982. (16 pp). J. Mitchell (Comp.) 1983. Nature Conservancy Council. Includes "Nesting of Temminck's Stint in Dunbartonshire in 1979" and reminiscences of the late Prof. M. F. M. Meiklejohn's weekly articles in the *Glasgow Herald*.

Orkney Btrd Report for 1982. C. Booth *et al.* 1983. £1.75 post free from SOC Bird Bookshop. Includes articles on "Orkney Fulmars", "Use of Orkney farmland in winter by wading birds", "Rookery survey", etc.

The population of the Greenland Barnacle Goose. (8 pp). M. A. Oglvie 1983. An unpublished report on an aerial survey in Scotland and Ireland in March-April 1983. The wintering population has fallen by 25% since 1978.

Effect of wind on the foraging behaviour of Common and Sandwich Terns. I. R. Taylor 1983. *Orn. Scand.* 14: 90-96. This study was made on the estuary of the river Ythan, Aberdeenshire.

Oil pollution, seabirds, and operational consequences, around the Northern Isles of Scotland. M. G. Richardson, M. Heubeck, D. Lea & P. Reynolds 1982. *Environmental Conservation* 9: 315-321. A study of the seabird deaths from oil pollution around Orkney and Shetland in 1979, and of the measures that have been taken to reduce them.

W. G. HARPER

Letter

Dear Editor,—

Temporal abmigration - a new evolutionary concept

Serious students of ornithology are aware of the concept of reverse migration, which takes place in the opposite direction from normal. Hitherto this has been regarded as a spatial phenomenon: I should like to draw attention to recent evidence that it may also be a temporal one. A good example is given in the recent report of the Fair Isle Bird Observatory (1982: 59) of a Turtle Dove ringed on spring passage at Fair Isle on 15 May 1982, and recovered in Spain the previous winter. A more widespread occurrence of this phenomenon is brought to light in the latest issue of our journal (12: 204), where it is stated that corrections to the 1981 Scottish Bird Report will be found in the 1938 report. Clearly it is important to understand that birds, like the young lady of limerick fame, may fly much faster than light, starting one day, in a relative way, and returning the previous night.

P. CRISTATUS

We stand corrected!—and wonder how many other readers noted the error? (1938 should have read 1982)—Ed.

The Scottish Ornithologists' Club

ANNUAL CONFERENCE and ANNUAL GENERAL MEETING

The 36th annual conference and 47th annual general meeting of the club will be held in the Marine Hotel, North Berwick, East Lothian, during the weekend 4-6 November 1983. The conference programme and booking form, and the agenda for the AGM, are enclosed with this number of the journal. Members are reminded that bookings for the conference can only be accepted on the booking form; the hotel management have been instructed not to accept any booking except through the club secretary.

HONORARY MEMBERS

Under the constitution of the Club, council is empowered to elect those who have rendered distinguished service to Scottish Ornithology as honorary members. At a meeting earlier this year council agreed to confer honorary membership on two members and is very pleased to announce that both have accepted the invitation. The two new honorary members are Mr Sandy Anderson and Mrs Ruby Smillie.

ENDOWMENT FUND

The SOC Endowment Fund was established for the advancement of ornithology, and in recent years has received generous donations and legacies which have enabled an increasing number of members to receive a grant towards a variety of projects in which they are involved. The Fund is administered by the council of the club which is empowered to make grants from accumulated income; in 1983 £2000 was awarded to 13 applicants.

Applications for a grant **must** be made on a form available from the club secretary and submitted by 31 December. Applications received after that date will not be considered for the financial year to 30 June follow-

ing. Applications, with recommendations by the research committee to which they are submitted, are considered by council at its meeting in March.

RAFFLE TICKETS

Last year, for the first time, council agreed that each member should be sent a book of tickets for the club's annual raffle, for which the draw takes place at the conference. A book is included with this journal. We do appreciate that some members do not like this method of receiving tickets, and to them we apologise, but last year the club's funds benefited by over £225 more than the average received in the previous five years when tickets were sold at meetings or through the post.

Tickets will be available at the September and October branch meetings, and members who wish to buy more than one book can either buy them there or send the extra cash to the club secretary who will return the necessary counterfoils. Do please send ticket stubs and payment to the club secretary as soon as possible—certainly no later than 29 October—or bring them to the conference. An acknowledgment for payment sent by post will only be made if an sae is enclosed.

CLUB TIES, BADGES AND CAR STICKERS

SOC ties, badges and car stickers, all with the club emblem—the Crested Tit—are available from the club secretary and some branch secretaries at the following prices:

Ties in maroon, dark blue or green - £3.00 each (£3.15 by post).

Badges 50p each (63p by post). Car stickers 15p each (28p by post).

SCOTTISH BIRDS

Copies of all back numbers of the journal from Volume 1 No 1 (autumn 1958), and also some complete unbound secondhand volumes, are available. For details of prices write to the club secretary.

WINTER EXCURSIONS

AYR BRANCH All excursions meet at Wellington Square, Ayr, at the time stated.

Saturday 22 October 1983 DIPPLE and TURNBERRY. Leader Don Smith. 1 p.m.

Saturday 19 November CAERLAVEROCK. Leader Gordon Riddle. 9 am.

Saturday 22 January 1984 AROUND THE LOCHS. Leader Angus Hogg. 10 a.m.

Sunday 26 February LOCH RYAN. Leader Bruce Forrester. 9.30 am.

Saturday 24 March MURRAY'S MONUMENT. Leader Roger Hissett. 9 am.

DUNDEE BRANCH All excursions, except the first mentioned, leave Crichton Street, Dundee at 10 am by private car (bring lunch and tea).

Sunday 23 October 1983 LOCH OF STRATHBEG RESERVE. Leader J. Dunbar, RSPB Warden. For information about this excursion please contact the branch secretary and enclose an sae if writing.

Sunday 20 November TAY ESTUARY SURVEY. Leader B. Lynch.

Sunday 11 December LINRATHEN. Leader B. Pounder.

Sunday 15 January 1984 KILCONQUHAR LOCH and LEVEN. Leader J. Grant.

Sunday 12 February MEIKLEOUR. Leader D. Doig.

Sunday 11 March MONTROSE BASIN SWT RESERVE. Leaders C. Eatough (SWT Ranger) and V. Ellmore.

Sunday 15 April ENOCHDHU. Leader R. Corbet.

MEMBERSHIP SECRETARY

During this year there have been a number of changes in the staff at Regent Terrace, and full details will be published in the annual report of council in the winter journal. However, we are particularly pleased to welcome Miss Pat Webster as our new Membership Secretary; any query about membership should be addressed to her.

Notices

BRISC Twelve-Species Survey 1983 The Biological Recording in Scotland Committee is a group of Scottish naturalists, including SOC members, which aims to promote all kinds of wildlife recording and to develop a network of biological records centres throughout Scotland. The 1983 species survey includes a range of animals and plants, including two birds, the Kestrel and the Barn Owl, the latter now evidently a rare bird over most of the country. Information can be obtained from most local museums or by sending a sae to BRISC c/o Scottish Wildlife Trust, 25 Johnston Terrace, Edinburgh EH1 2NH. The 1983 BRISC Action Guide, which contains the distribution maps for species recorded in 1981 and 1982, is available (price 50p) from the above address.

British Birds Members of the SOC are again being offered 25% off the normal subscription rate for this excellent monthly magazine. Payment should be made on the enclosed form, on which are shown full details of charges, and should be sent direct to Mrs E. Sharrock, Circulation Manager, British Birds, Fountains, Park Lane, Blunham, Bedfordshire MK44 3NJ.

Recent Reports

These notes include unchecked reports and are not intended as a permanent record, nor will they be indexed. Please send reports to Pete Ellis, 17 Regent Terrace, Edinburgh, via local recorders, at the end of March, June, September and December. The period April to June is covered here.

The cold wet weather in April and May in many areas of the mainland contrasted with unusually dry conditions in the western and northern isles. Long periods of easterly winds raised many birders' hopes, but few large falls materialised, Shetland in particular having one of its poorest-ever springs for grounded migrants. But despite this some exceptional rarities did turn up. The most notable sightings in the period were Scotland's first **Dartford Warbler**, in song at St Abbs on 18 May, and first **Needle-tailed Swift**, seen by a privileged few on South Ronaldsay on 11-12 June.

White-billed Divers in spanking summer plumage were seen off Skye and Shetland in April-May; a **Sooty Shearwater** was off Troon on 12 June when it should have been in the southern hemisphere; and a **Night Heron** on Unst in April had presumably overshot southern Europe. There were **Black Storks** at Biggar and North Berwick in June, **White Storks** at East Linton, Evanton and Orkney in April-May, and a **Spoonbill** at Caerlaverock for nearly 2 weeks in April. Unusual wildfowl records included a **Bean Goose** at Tynningame in April, a pair of **American Wigeon** on Unst in June, two male **Garganey** at Loch of Strathbeg and another at Prestwick in May, an immature male **Surf Scoter** off South

Uist and an adult male off Tiree in April, and a female **Ruddy Duck** at Coldstream also in April. A **Honey Buzzard** on Fair Isle 22-25 April was exceptionally early, there was another on the Isle of May in June, and immature **Sea Eagles** from the re-introduction project on Rhum, complete with coloured wing tags, reached Orkney and Shetland in April. Several **Marsh Harriers** were reported in May-June, wintering **Rough-legged Buzzards** stayed on in Glen Dye, Orkney and Shetland, and one visited Fair Isle in April, and a male **Red-footed Falcon** graced the Orkney scene in mid-June.

Quail wet a number of birders' lips on the Isle of May, Shetland, Fair Isle, Loch of Strathbeg, the Black Isle and Crosshill in June, and **Cranes** appeared in Orkney, Shetland and Fair Isle in April-May. Waders made a good showing, the highlights being an **Avocet** at Fife Ness on 8 May, **Temminck's Stints** at Paisley and North Uist in May, and an exceptional run of **Broad-billed Sandpipers**, the first at Stranraer on 17-19 May, followed in June by a pair at Aberlady, another at Tynninghame and yet another in North Uist. Also in North Uist, in May, was a **Long-billed Dowitcher**—in summer plumage so the usual identification problem did not arise.

The regular spring skua passage off North Uist reached phenomenal proportions when in one week in May 898 **Pomarine Skuas** and 417 **Long-tailed Skuas** passed Balranald. Among the vagrant gulls reported were **Mediterranean Gulls** at Aberlady and Aberdeen in May, an adult **Laughing Gull** on Fetlar in June, Wick's second **Ross's Gull** this year in April, and an immature **Ivory Gull**—which was under police surveillance at Muckle Flugga on 6 June. An immaculate **White-winged Black Tern** graced Balgavies Loch on 22 May and one fortunate Shetland birder found his second live **Brunnich's Guillemot** on 5 April. A spate of **Hoopoes** in April and May produced records from Girvan, Fetteresso, Islay, Hoy, Fair Isle and Unst.

Notable small passerines in May-June included a female or immature male **Red-flanked Bluetail**, which tantalised observers on the Isle of May on 24 May, and exceptional numbers of **Marsh Warblers**, with nine on Fair Isle, two in Orkney and one on the Isle of May. A male **Subalpine Warbler** sang for many birders at Fife Ness and others occurred on Orkney and Fair Isle. A sizeable influx of **Lesser Whitethroats** produced seven on the Aberdeenshire coast on 6 May and thirty at Fife Ness on 8th; eight singing males in Ayrshire included the first breeding records for the county this century. There were **Firecrests** at St Abbs and the Isle of May and **Red-breasted Flycatchers** at Bilsdean, the Isle of May and Unst. **Golden Orioles** turned up at the Mull of Kintyre and Galloway in May and on Orkney, Fair Isle and Shetland in June, and there were **Rose-coloured Starlings** on the Isle of May and Unst in June. The only **Ortolan Bunting** of the spring—an increasingly scarce species—was in Shetland on 14 May.

PETE ELLIS

Stop Press The Management Committee has appointed John Davies to succeed Alastair Peirse-Duncombe as Secretary of the club; he is expected to take up his post in January. John is a graduate of the University College of Wales and is currently working as a geophysicist with the Dublin Institute of Advanced Studies. He has been a club member since 1969 and has spent two seasons on Fair Isle as seabird assistant, so he is no stranger to the Scottish scene; his wife Fiona comes from Fife. They and their two small daughters, Mairi and Catriona, plan to live in the flat at 21 Regent Terrace. We welcome John to his new appointment and look forward to meeting him and his family at the Conference in November.

WILDFOWL COUNTS IN SCOTLAND

For more than 20 years the task of organising the winter Wildfowl Counts in Scotland was undertaken by a succession of dedicated SOC members; first by Miss Rintoul and Miss Baxter, then by Miss Betty Garden and finally by Miss Valerie Thom. When Miss Thom resigned in 1971, no overall Scottish Organiser could be found to continue the work centrally, and so a number of Regional Organisers were appointed who deal direct with the Wildfowl Trust in Slimbridge. The Club agreed to be responsible for appointing Regional Organisers when necessary in future, and a copy of the counts for all parts of Scotland is maintained in the Club's Reference Library in Edinburgh.

A list of the Regional Organisers is given below, and anyone who is interested in helping with the counts is asked to write to their nearest Organiser. If there is none please contact Slimbridge.

Shetland D. P. P. Eva, 6 Westerloch Brae, Lerwick.

Orkney P. Reynolds, Berrybank, Evie, Orkney.

Wester Ross and Skye A. Currie, Glaiseilean, Broadford, Isle of Skye, IV49 9AQ.

Outer Hebrides N. Buxton, 4 Sand Street, Coulregrein, Stornoway, Isle of Lewis, Western Isles.

Caithness S. Laybourne, Old Schoolhouse, Harpsdale, Halkirk, Caithness, KW12 6UN.

Inverness-shire, Easter Ross, Sutherland (East) C. G. Headlam, Dallachie, Fearn, Ross-shire IV20 1TN.

Banffshire, Morayshire, Nairnshire J. Edelsten, 12 Durn Avenue, Portsoy, Banffshire.

Aberdeenshire, Kincardineshire A. Duncan, 12 Cairncry Avenue, Aberdeen, AB2 5DS.

Angus B. Pounder, 64 Forfar Road, Dundee, Angus.

Perthshire (East) E. D. Cameron, Strathclyde, 14 Union Road, Scone, Perth, PH2 6RZ.

Argyllshire and Inner Hebrides (South) S. Newton, 11 Jameson Place, Leith, Edinburgh, EH6 8NZ.

Fife, Kinross-shire Mrs J. A. R. Grant, Brackmont, Crail, Fife.

Central Region D. Thorogood, 4 Archers Avenue, Stirling, FK7 7RJ.

Bute J. B. Simpson, Estate Office, Rothesay, Bute.

Dunbartonshire, Lanarkshire, Renfrewshire R. A. Jeffrey, 1a High Calside, Paisley, Renfrewshire, PA2 6BY.

Lothians Miss J. Wilcox, 18 Howdenhall Gardens, Edinburgh, EH16 6UN.

Ayrshire A. G. Stewart, 31 St Andrews Avenue, Prestwick, Ayrshire, KA9 2DY.

Borders A. Bramhall, 28 Blakehope Court, Tweedbank, Galashiels, Selkirkshire, TD1 3RB.

Dumfriesshire, Kirkcudbright, Wigtownshire P. Shimmings, 1 Jeanville, Lochmaben, Dumfriesshire, DG11 1PA.

THE SCOTTISH ORNITHOLOGISTS' CLUB

THE Scottish Ornithologists' Club was formed in 1936 and membership is open to all interested in Scottish Ornithology. Meetings are held during the winter months in Aberdeen, Ayr, the Borders, Dumfries, Dundee, Edinburgh, Glasgow, Inverness, New Galloway, St Andrews, Stirling, Thurso and the Wigtown District at which lectures by prominent ornithologists are given and films exhibited. Expeditions are organised in the summer to places of ornithological interest.

The aims of the Club are to (a) encourage the study of Scottish ornithology and to promote an interest in wild birds; (b) co-ordinate the activities of Scottish ornithologists; (c) encourage ornithological work in Scotland; (d) encourage conservation of Scottish birds and protection of threatened and rare species; (e) hold meetings for discussion and to arrange ornithological field meetings, and (f) appoint local recorders and publish material relating to Scottish ornithology, including *Scottish Birds*, the club journal.

There are no entry fees for Membership. The Annual subscription is £7.50, or £3 in the case of Members under twenty one years of age or Students under 25 who satisfy the Council of their status as such at the times at which their subscriptions fall due. The Life subscription is £150. Family Membership is available to married couples and their nominated children under 18 at an Annual subscription of £11, or a Life subscription of £225. *Scottish Birds* is issued free to Members but Family Members will receive one copy between them. Subscriptions are payable on 1st October annually.

Scottish Birds, which is published quarterly, includes papers, articles and short notes on all aspects of ornithology in Scotland. The club also publishes the annual Scottish Bird Report.

Application for Membership form, copy of the Club Constitution, and other literature are obtainable from the Club Secretary, Major A. D. Peirse-Duncombe, Scottish Centre for Ornithology and Bird Protection, 21 Regent Terrace, Edinburgh, EH7 5 BT (tel. 031-556 6042).

APPLICATION FORM

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(or nominated child under 18 on family membership)

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1. Those entitled to draw the State old age pension may pay a reduced subscription of £4.50 (single) or £6.50 (family) on application to the Club Secretary.
2. Banker's Order and Deed of Covenant forms can be supplied by the Club Secretary.



EVENTS

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