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THE JOURNAL OF THE SCOTTISH ORNITHOLOGISTS' CLUB



Volume 10 No. 7

Autumn 1979

Edited by D. J. Bates

Editorial

In the mire or down the drain?

Machair, with its associated marshes and lochs, is perhaps our least widely known wildlife habitat. Machair as such is hardly even mentioned in the older standard works such as the Harvie-Brown *Faunas* or Baxter and Rintoul's *Birds of Scotland*. It is found on exposed Hebridean coastlands where shell sand is blown on to the peat. The resulting soil is fertile and rich in wildlife. The cultivated dry machair supports large numbers of breeding Oystercatcher, Ringed Plover and Lapwing. The wet areas hold many wildfowl and waders, and in the national context there are important breeding populations of Shoveler, Corncrake, Dunlin, Red-necked Phalarope (at least until recently), and small numbers of Gadwall, Pintail, Spotted Crake and sometimes other rare breeding birds. The richness of machair is recognized by the conservation bodies and many sites of Special Scientific Interest (SSSI) are documented.

So it is particularly alarming to learn that in the face of the Nature Conservancy Council (NCC) more than one Grade 1 SSSI has been at least partly drained and that a similar scheme is now in operation in an area where at least four First Schedule protected birds are reported to breed in an outstanding plant community, yet this site is not even listed.

One of the conservationists' greatest handicaps is lack of information about many sites, or even of the existence of some of them. It seems that many small machair pools and marshes have been drained over the years without anyone taking much notice, yet we may wonder to what extent the puzzling widespread decline of the Red-necked Phalarope has been due simply to the loss of insignificant puddles here and there. The population crash in the Outer Hebrides in the 1960s is certainly thought to have resulted from this cause.

Conservation of machair is fraught with technical problems. Drainage does not require planning permission and theoretically it is possible for a wetland of recognized importance to be

drained, with a grant from the Department of Agriculture too, without the NCC even being informed. Most machair is also crofting land which quite justifiably gives tenants special rights. But even a nature reserve can be drained by a crofting tenant (we understand that at least one has been partially drained already). With such a lack of legal safeguards for wildlife it is good to know that the NCC, the RSPB and the Scottish Wildlife Trust are strenuously seeking solutions to these legal and political complexities, but time is running out.

The Department of Agriculture has previously assured the NCC that areas of conflict in nature conservation are likely to be minimal, largely because a high proportion of SSSIs are on marginal uplands or in the intertidal zone. The cynical may observe that the potential for wildlife, like that for agriculture, is greater on fertile than on infertile land, but that most fertile areas were brought under cultivation long ago. The only uncultivated areas left today are those that are less fertile, or that require expensive development such as drainage, but pressure is mounting on these too.

The SOC is not a conservation body as such, but its members are conservationists. What can we do? The striking point about the machair situation today is that neither the habitat nor its past and present destruction are widely known. It could be in ruins before many of us are even aware of its existence. Some time ago the NCC commissioned a survey by the Institute of Terrestrial Ecology but we are informed that many of the results cannot even be made available to NCC staff yet, and with tightening budgets we may wonder how complete the survey will be anyway. The primary aim of the recent Register of Ornithological Sites conducted by the British Trust for Ornithology (BTO) was to make information available for conservation. It works too, since the Ribble estuary was saved probably because its importance had been fully documented. Even though the groundwork of the register has been completed the BTO would still welcome important new information. Remember that one of the threatened machair marshes is still not in that register.

There are very few ornithologists in the Hebrides, so information must largely come from visitors. Should the SOC organize expeditions to record these sites? And what other sites are at risk in other under-recorded areas? Most of us also belong to voluntary conservation bodies. They have their full time staffs but they are fully stretched. They too need the vigorous support and active participation of their members. So what can we do?

The cliff-breeding seabirds of east Caithness in 1977

G. P. MUDGE

The importance of this coast for breeding seabirds was not appreciated until quite recently. Possibly 20% of the British Isles Guillemots are here. Soon they may be in the shadow of the oil platforms.

The seabirds breeding along the east coast of Caithness have received rather little attention in the past. Apart from specific surveys of the Kittiwake (Coulson 1963), Fulmar (Harvie-Brown 1912, Fisher and Waterston 1941, Fisher 1966) and Cormorant (Smith 1969), the only previous counts were made during Operation Seafarer in 1969 (Cramp *et al.* 1974). The 1969 survey revealed that east Caithness held very large numbers of cliff-breeding seabirds, but some doubts have been expressed concerning the accuracy and reliability of the counts then obtained. The coast of east Caithness is extensive and much of it rather inaccessible. Several able persons were involved in the 1969 survey, but counting was only possible during a limited amount of spare time. The present survey was carried out between 29th May and 9th July 1977 and aimed to count and map the distribution of all coastal seabird colonies. The results serve to update the Seafarer counts and, as eight years separate the two surveys, an examination of changes in status is also possible for certain species.

The stimulus for the present survey was the proposal to extract oil from the Beatrice Field at Smith Bank, about 25km off the east coast of Caithness. Developments close inshore pose a particular threat to breeding seabirds because should there be an oil spill there would be little time to take remedial action. A further threat is the proposal to mine uranium on the coast south of Berriedale.

A general account of breeding seabird numbers and distribution is given in this paper. The detailed results, with which future comparisons can be made, are available in Mudge (1977).

Methods

Details of the methods and a discussion of the census units for each species are given in Mudge (1977). Currently accepted units, recently used in Shetland by Harris (1976), were adopted, allowing comparison with Operation Seafarer. The results are presented without any rounding of numbers but

should not be seen as reflecting an unduly high level of accuracy. No attempt has been made to interpret them in terms of actual breeding pairs.

Counting (Wick to Helmsdale 29th May-30th June, John o' Groats to Wick 1st-9th July) was done during most of the incubation and nestling periods of the auks, when day to day fluctuations in numbers are at a minimum (Lloyd 1975, Hope Jones 1978). Towards the end of the survey counts may have been low due to the departure of failed breeders and some auks with young, but any such discrepancy is considered to have been small. Repeat observations at four sites revealed that for most species numbers did not drop off before the end of the survey, and for Guillemots there was only a slight decline. Counts were only made between 0900 and 1700 BST and were abandoned or confined to low density areas when weather conditions were poor (moderate winds and/or rain). While it is recognized that single counts of auks can lead to wide margins of error (Lloyd 1975) it was not usually possible for a single observer to attempt any repeat counts over such a large area. Land counts were backed up by five boat trips to examine sections of cliff not visible from land and to double check other sites.

Place names used in this account are as on Ordnance Survey 1:25,000 First Series (Provisional Edition) sheets (1963).

Species accounts

A broad comparison between the 1969 Operation Seafarer and 1977 counts is given in table 1. Some interpretation was necessary when defining colonies, as seabirds of one species or another breed along almost the whole coastline of east Caithness. Dense aggregations of more than 3,000 birds clearly separated from each other by more than a mile (1.6km) were arbitrarily accepted as major colonies. Nine such sites

Table 1.

Notes: for each species, the upper row=1977, lower row=1969. The census units employed in 1977 are fully discussed in Mudge (1977). Briefly, Fulmar—sites occupied by apparently breeding birds; Cormorant and Shag—figure outside brackets=birds, figure in brackets=nests; Kittiwake=occupied nests; other gulls—occupied nests/apparently occupied territories; Razorbill, Guillemot and Black Guillemot=birds; Puffin—figure outside brackets=total birds, figure in brackets=birds on land only. The 1969 figures are all derived from the deposited records of Operation Seafarer, where units were given as pairs (except for Fulmar, which was occupied sites). However, all are directly comparable with the 1977 figures as the same census units were used. For Cormorant, Shag and Puffin, the figure in brackets for 1977 should be used for comparisons. The 1969 counts for the area between Wick and Dunbeath are combined under the central column for Fulmar, Herring Gull, Kittiwake, Razorbill and Puffin.

Table 1. Gross distribution of breeding seabirds on east coast of Caithness 1969 and 1977

	John o' Groats to Sinclairs Bay	Sinclairs Bay to Wick	Wick to Lybster	Lybster to Janetstown	Janetstown to Dunbeath	Dunbeath to Berriedale	Berriedale to Helmsdale
Fulmar	6,489 2,745	206 218	6,262	1,010 5,981	833	4,447 6,355	2,432 862
Cormorant	2(0) 0	11(0) 61	153(81) 88	20(0) 0	0 0	50(34) 22	284(169) 652
Shag	447(180) 168-257	207(22) 1	1964(565)	155(31) 345-434	143(60)	661(352) 150	1,379(653) 450
Lesser Black-backed Gull	0 6	0 0	18 1-9	2 0	0 0	2 0	12 3
Herring Gull	270 165	126 63	5,668	1,507 9,768-9,857	1,413	2,392 1,870	4,856 5,220
Great Black-backed Gull	21 25	1 5	489 609	35 0	25 0	200 41	262 207
Kittiwake	10,685 6,792	648 660-2,000	24,360	69 9,322-10,022	0	5,903 4,000	11,360 11,508
Razorbill	1,922 2,332	120 10	3,978	148 1,772-2,671	265	4,305 4,750	3,458 3,410
Guillemot	18,776 7,553	129 40	37,431 10,600	47 0	1,068 100	18,357 15,390	50,443 15,800
Black Guillemot	97 38	69 12	94 26	18 0	22 0	38 1	70 120
Puffin	1,074(591) 1,707-11,605	60(44) 5	118(50)	0 400-3,097	19(12)	256(113) 1,210-12,096	239(105) 1,400

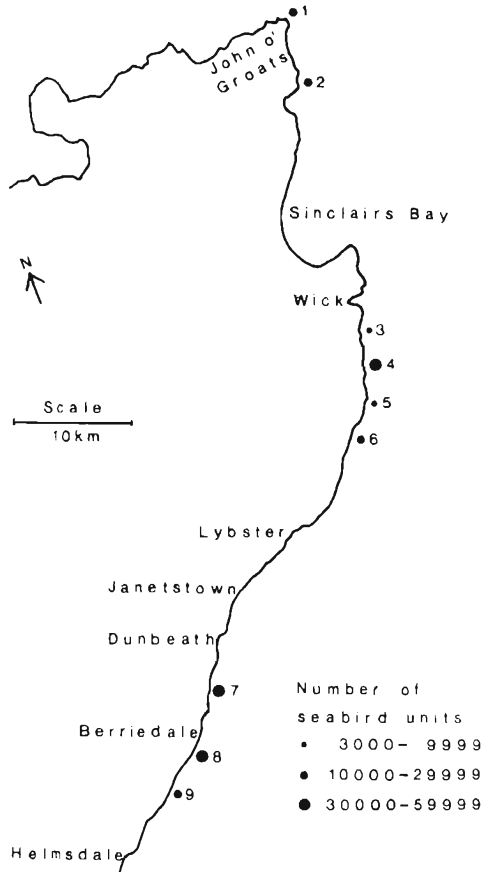


Fig. 1. Major seabird colonies on east coast of Caithness, 1977. For details of seabird units see table 1, for names of colonies see table 2.

recorded in 1977 are shown in fig. 1 and details of the species composition at each are given in table 2.

Fulmar

The accepted census unit for the Fulmar is the number of sites occupied by apparently breeding birds. Altogether 21,679 such sites were counted in 1977. They were very widely distributed, occurring on virtually every stretch of cliff and in places on earth banks where cliffs were absent.

There have been several nationwide surveys of Fulmars and the history of its increase and spread has been thoroughly

Table 2. Major seabird colonies on east coast of Caithness, 1977

	Duncansby Head	Skirza Head	Stack o' Brough	Iresgoe	Ulbster	Bruan and Halberry Head	An Dun	Inver Hill	Badbea
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Fulmar	2,293	1,082	767	1,288	401	1,498	2,948	587	1,660
Cormorant	0	0	28(16)	0	0	0	2(0)	4(0)	273(169)
Shag	117(74)	205(95)	81(37)	226(79)	199(70)	650(166)	347(142)	348(126)	987(513)
Lesser Black-backed Gull	0	0	4	4	0	2	1	2	9
Herring Gull	56	60	854	578	378	1,216	1,072	1,742	2,339
Great Black-backed Gull	8	0	76	11	9	219	48	60	165
Kittiwake	4,072	6,503	3,068	12,204	513	8,126	5,389	9,558	1,779
Razorbill	1,079	721	296	1,535	378	885	3,838	1,978	1,416
Guillemot	11,901	6,811	1,815	20,149	1,322	13,151	17,631	38,437	11,814
Black Guillemot	11(3)	34(9)	8(3)	2(0)	13(0)	14(6)	17(1)	8(0)	55(27)
Puffin	723(502)	79(37)	18(17)	9(4)	3(0)	36(4)	45(22)	102(85)	68(15)

Notes : Names refer to the centre or densest part of each colony. Numbers (1-9) under each name indicate position in fig. 1. Census units are as described in the species accounts and for table 1.

documented (e.g. Fisher 1952a). In Caithness they were first recorded breeding in 1905 (Fisher 1952b). A survey in 1939 (Fisher and Waterston 1941) located five breeding stations, containing a maximum of 2,300 breeding pairs, though probably considerably fewer. By 1959 (Fisher 1966) the number of known stations had risen to eleven and held a maximum of 3,610 breeding pairs.

It is not known how comprehensive these earlier surveys were. However, by 1969 the total had risen to 16,161 occupied sites and birds were widely distributed along the coast. The British population as a whole is thought to have been increasing at about 7% per annum (Cramp *et al.* 1974) and if this rate is applied to the 1969 count (after allowing for an unrecorded area between Stack o' Brough and Ashy Geo) one would expect about 30,230 sites in 1977. This is well above the figure obtained (21,679), so, while the increase is continuing, the rate appears to be slower, perhaps at around 3% per annum.

Cormorant

The census units used for this species were individual birds and occupied nests. Counts for Operation Seafarer were of occupied nests, and comparable figures for 1977 are shown in brackets in tables 1, 2 and 4. Breeding was observed at six colonies in 1977 (table 3), which held a total of 284 occupied nests.

Smith (1969) referred to three colonies in east Caithness: Stacks of Occumster, Ord Point and Berriedale Ness. Ord Point (451 nests in 1967) was the largest colony in the whole of Britain. Although large gaps exist it is apparent that while

Table 3. Numbers of Cormorants at colonies in east Caithness

	1960-62	1964	1965	1966	1967	1969	1976	1977
Noss Head	—	—	—	—	—	61	—	0
Stack o' Brough	—	—	—	—	—	22	16	16
Stack of Ulbster	—	—	—	—	—	20	25	14
Stacks of Occumster	—	30	—	—	50	46	—	51
Ceann Leathad to Scredan	—	—	—	—	—	22	—	34
Berriedale Ness	8	—	—	25	22-23	—	—	0
Sron Mhor to The Needle	—	—)450	—)451	162	80	46
Ousdale Burn to Ord Point	100-200	—		—		490	(45)	123

Notes most counts refer to nests, though a few in the past were given as pairs;— =no available information. The 1976 total of 45 nests between Ousdale Burn and Ord Point was presumably an incomplete count. Information from deposited records of Operation Seafarer, Smith (1969), *Caithness Bird Report for 1976*, and personal observations.

the locations of colonies have probably remained relatively stable in recent years there has been a considerable overall decline in breeding numbers. Altogether 823 nests were recorded in 1969 but this had declined to only 284 in 1977. The major decreases occurred at the colonies between Sron Mhor and Ord Point and at Noss Head, while numbers elsewhere remained reasonably stable.

Shag

As for Cormorants, a combined count of individuals and nests was used. Counts made during Operation Seafarer were, as far as is known, solely of nests, and comparable data for 1977 are shown in brackets in the tables. Totals of 4,956 birds and 1,863 nests were recorded in 1977 and this species was widely distributed. While there were numerous concentrations of nests, the more or less continuous distribution of Shags precludes defining colonies as such. The densest area, between Sron Mhor and Ousdale Burn, held about 24% of known nest sites. The proportion of nests to birds varies considerably along the coast, this largely reflecting the topography of the coast (and hence the ease with which nests could be detected) but also the extent to which boat coverage was used.

Harvie-Brown and Buckley (1887) described the Shag as being very common along the whole coast of Caithness, especially at Duncansby Head and southwards. However, no counts are available until Operation Seafarer which recorded between 1,114 and 1,292 pairs on the east coast. This is substantially lower than the 1,863 nests recorded in 1977, though it is unlikely that a change in status has occurred. Detection of all viewable nests requires very thorough searching which was probably better achieved in 1977 with the additional coverage from a boat.



SHAG. Keith Brockie

Lesser Black-backed Gull

This species was censused in the same way as Herring Gulls. Lesser Black-backed Gulls are notably scarce on this coast and only 34 pairs were recorded in 1977. There does, however, appear to have been a slight increase in recent years, as only ten to 18 pairs were counted in 1969. Harvie-Brown and Buckley (1887) found it to be very scarce in 1885, having declined from a once higher population level. They record a colony of about 30 pairs on Dunbar's Stack (none there in 1977) and note that this stack once held much larger numbers. This decline from the 19th century has been noted in other areas in northern Scotland (Parslow 1967) and, while the reasons for it are not clear, it has been suggested that competition with Great Black-backed Gulls or Great Skuas may be involved (Cramp *et al.* 1974). However, this is unlikely to have been the case in east Caithness. In 1977 nests were widely scattered along the coast, always in association with Herring Gulls and usually on grassy slopes. Table 1 indicates a decrease between 1969 and 1977 to the north of Wick, but elsewhere numbers were higher in 1977.

Herring Gull

The usual census unit for this species is the number of nest sites and this was used until 12th June. After this (due to the hatching of chicks) all counts were of apparently occupied territories. The total for 1977 came to 16,232 units. Very few birds bred north of Wick though there was no shortage of suitable terrain. To the south of Wick breeding occurred along most stretches of coast, though with no well-defined sizeable colonies.

Harvie-Brown and Buckley (1887) described the Herring Gull as a most abundant breeding bird in Caithness, "the whole coast may be described as one vast gullery of these birds". The 1969 survey arrived at a figure of between 17,086 and 17,175 pairs, and, considering that some sections of coast were not included in these totals, it would seem that a decline in numbers has occurred between 1969 and 1977. This is contrary to the general trend elsewhere in Britain, where populations have been, and still are, increasing at between 10% and 12.8% per annum (Mudge 1978, Harris 1970, Chabrzyk and Coulson 1976). The Caithness population is heavily dependent on fish, both naturally caught and scavenged (from general observations and examination of pellets and regurgitations), and changes in both fish stocks and human fishing activities may be responsible for this decline.

Great Black-backed Gull

This species was censused in the same way as Herring Gulls. The 1977 total was 1,033 pairs, an increase from 1969 when 887 pairs were recorded. This species has increased considerably in Caithness since the end of the 19th century when Harvie-Brown and Buckley (1887) recorded it as having been almost exterminated. They only saw one pair during a visit in 1855, on the Stacks of Duncansby. This change of status is in line with the general increase throughout Britain during the present century (Harrisson and Hurrell 1933, Davis 1958, Cramp *et al* 1974).

Like the Herring Gull, few pairs breed north of Wick, though elsewhere it is well distributed. As with several other species, Great Black-backed Gulls appear to have become more widely distributed along the coast since 1969. In that year 800 out of the 887 pairs were found breeding in just four localities, three of which were very close together.

Kittiwake

The accepted census unit for Kittiwakes is occupied nests and, in line with Operation Seafarer, this was used in the present survey. The majority (96.6%) of the 53,025 occupied nests were in large, well defined colonies. The largest was at Iresgoe, followed by Inver Hill. These two colonies, though in reverse order, were also the largest for Guillemots.

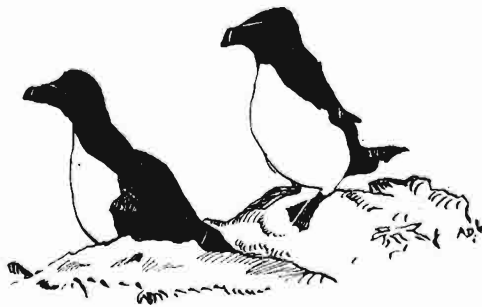
Towards the end of the 19th century Harvie-Brown and Buckley (1887) described the Kittiwake as breeding in great numbers along the Caithness coast, but gave no figures. In 1959 a nationwide survey of colonies was attempted (Coulson 1963). It is not clear how complete a coverage was obtained in Caithness, though it is unlikely that all sections of coast were examined. Although nine breeding concentrations were recorded, the number of breeding pairs was only in the order of 2,200. Operation Seafarer in 1969 put the total between 32,282 and 34,322 pairs (pairs=occupied nests) which indicates a very substantial increase from 1959. It is likely that coverage was more extensive in 1969, which may explain part of the difference, but comparison of the 1959 and 1969 figures for the same areas still reveals a large increase. The 1969 figure is considerably smaller than that obtained in 1977. The area between Stack o' Brough and Ashy Geo was not included in the 1969 totals and had over 6,000 nests in 1977. Assuming that numbers have remained similar, this addition would bring the 1969 total up to around 40,000 pairs. Coulson (in Cramp *et al* 1974) calculated that the Kittiwake population of the British Isles has been increasing recently at a rate of about 4% per annum. If this rate of increase is applied to the 40,000 pairs in 1969, a figure of 54,740 would be expected

in 1977. This is close to the figure actually obtained (53,025) and suggests that the increase is continuing at about the national rate, although observer differences may also have contributed (see section on Guillemots for more details).

Razorbill

The census unit used for both Razorbills and Guillemots was individual birds on the breeding ledges. This unit was used by Harris (1976), but Lloyd (1976) has pointed out that some Seafarer counts were of pairs and others of individuals. However, as far as is known the counts made in east Caithness were of individual birds and are thus comparable with the present results. The 1977 total came to 14,196 birds. Seven main concentrations held 80.7% of the population. Razorbills were widely distributed elsewhere in small numbers. The largest concentration was at An Dun, which held 27%.

Operation Seafarer was the first attempt to census this species in east Caithness. It was described as a common species in many parts of the Caithness coasts by Harvie-Brown and Buckley (1887), and Baxter and Rintoul (1953) recorded it at Berriedale, Noss Head and Duncansby Head. The 1969 total was between 12,274 and 13,173 pairs (pairs probably equal individuals) which is similar to the figure obtained in the present survey, and gross distribution was also fairly similar. The main discrepancy was for the cliffs between Wick and Dunbeath which were recorded as having perhaps twice as many birds in 1977. However, this section includes a large area between Stack o' Brough and Ashy Geo which was not added into the 1969 totals but which contained 1,145 birds in 1977. If similar numbers had been present in 1969, the total numbers and gross distribution for the whole coast would have been almost identical for the two surveys. However, in view of the findings for Guillemots, there is the suspicion that this apparent similarity between surveys may in fact indicate that a decline in numbers has occurred.



RAZORBILLS. Andrew Dowell

Guillemot

These were counted in the same way as Razorbills. The same census unit was used by Harris (1976) and during Operation Seafarer, though in the book (Cramp *et al.* 1974) numbers were referred to as pairs. The total population of east Caithness came to 126,251 birds, the vast majority of which were concentrated at nine main colony areas. By far the largest colony is at Inver Hill, which now ranks as the largest known colony on mainland Britain and is probably only exceeded by colonies in Orkney.

Prior to Operation Seafarer there had been no census of this species in Caithness. The Seafarer total in 1969 was 49,483 pairs (pairs=birds), which is only 39.2% of the 1977 total. This difference is too large to be explained simply as a natural increase in numbers. Some sites (e.g. Stack o' Brough to Ashy Geo) were not included in the 1969 totals (R. S. Shand pers. comm.) and increases at others, such as Inver Hill and Duncansby Head, may be partly explained by the additional coverage by boat in 1977. Indeed, D. M. Stark (pers. comm.) has viewed most of the coast from the sea since doing the 1969 count and concedes that his estimate of 10,000 Guillemots at Inver Hill was a considerable underestimate. However, counts at almost all sites, regardless of whether there was additional boat cover, were considerably higher in 1977 and it is suggested that observer differences in counting technique and/or accuracy may be the main reason for the apparent increase.

A further large discrepancy occurred between Dunbeath and Berriedale. A colony of 15,000 Guillemots was recorded in 1969 at Ceann Leathad, yet this site, with large, well vegetated slopes and relatively small cliffs, appears unsuitable for great number of Guillemots. However, a large colony was found about 2km northeast, centred on An Dun. It is considered that a geographical error must have been made in 1969.

Black Guillemot

The census units for this species were the totals of birds on land and sea, these being recorded separately. The Black Guillemot is not a very abundant bird in east Caithness but occurs in small numbers right along the coast. The 1977 total was 408 birds, of which only 97 were on land when counted.

Harvie-Brown and Buckley (1887) described the Black Guillemot as common on the Caithness coast, breeding in the geos of the east coast south of Duncansby Head. When Baxter and Rintoul (1953) visited Caithness in 1931 they found some pairs all around the coast, but it was nowhere very abundant,

except at Noss Head. In 1969, 197 pairs were recorded (pairs=individuals), which is just under half the 1977 total. It cannot be said with certainty whether this indicates a change in status or not, but, apart from between Berriedale and Helmsdale, all areas had higher counts in 1977 than in 1969 (table 1).

Puffin

The census units were the totals of birds in the vicinity of the colony, both on land and on the water, these being recorded separately. It would not be feasible to count burrows, as most sites are inaccessible. The total in 1977 was 1,766 birds, 915 of which were on land. The bulk of the population was on the northern part of the coast and most were concentrated in the Duncansby area.

Despite the great limitations of surveys of this type for Puffins, there seems little doubt that a considerable decline has occurred in recent years. There are no available counts prior to 1969, though both Harvie-Brown and Buckley (1887) and Baxter and Rintoul (1953) agreed that the Puffin was not a very plentiful bird on the east coast of Caithness. The Seafarer count, which contained many very approximate estimates, put the population between 4,722 and 28,203, these numbers referring to birds on land only. At each of the main colonies recorded in 1969, 1977 numbers were considerably lower. This was least marked in the Duncansby area. Further south the discrepancies were considerable. At Cnoc na Stri 1,000 birds were recorded on land in 1969, whereas two visits in 1977 revealed only one bird, yet this area looked very suitable for Puffins. This apparent decline is further substantiated by comments from local inhabitants.

Discussion

From table 4 it can be seen that east Caithness holds very large numbers of seabirds, particularly Guillemots and Kittiwakes. On a national scale, east Caithness is an exceptionally important area for Guillemots, holding in the order of 20% of the British and Irish population. Excluding Orkney, Shetland and the Outer Hebrides, which each hold a large proportion of the British population, the east Caithness total represents 41% of that of mainland Britain and Ireland. Next in order of importance comes the Kittiwake with east Caithness holding about 11.3% of the British and Irish population. However, assuming a continued general increase in the British total since 1969, a more realistic figure would be around 8-9%. The Razorbill population works out at 9.8%, but a recent consideration of the British total by Lloyd (1976) indicates that this

Table 4. Breeding seabirds in east Caithness in relation to the British and Irish population

	1977	1969	Total British population (1969)	% in east Caithness 1977
Fulmar	21,679	16,161	305,639	7.1
Cormorant	520(284)	823	8,134	3.5
Shag	4,956(1,863)	1,114-1,292	31,626	5.9
Lesser Black-backed Gull	34	10-18	46,978	0.1
Herring Gull	16,232	17,086-17,175	333,626	4.9
Great Black-backed Gull	1,033	887	22,337	4.6
Kittiwake	53,025	32,282-34,322	470,388	11.3
Razorbill	14,196	12,274-13,173	144,204	9.8
Guillemot	126,251	49,483	576,915	21.9
Black Guillemot	408	197	8,343	4.9
Puffin	1,766(915)	4,722-28,203	490,000	0.2

Notes the 1969 and 1977 totals are for the area from John o' Groats to Helmsdale. The 1969 figures are derived from the deposited records of Operation Seafarer. British and Irish totals are from Cramp et al (1974). Units are as described in the species accounts and for table 1.

is too high. She reconsidered the Seafarer results and came to a total of 145,730 pairs (=260,232 individuals), of which the east Caithness population would form only 5.5%. Other species which have a substantial proportion of their British population in east Caithness include Fulmar (7.1%), Shag (5.9%), Black Guillemot (4.9%), Herring Gull (4.9%), Great Black-backed Gull (4.6%) and Cormorant (3.5%).

The coast of east Caithness is a relatively unimportant area for Puffins and Lesser Black-backed Gulls, and as far as is known holds no breeding Manx Shearwaters, Storm or Leach's Petrels, Gannets, or skuas. However, the Arctic Skua breeds in scattered colonies inland (Cramp *et al.* 1974).

With such large numbers of seabirds frequenting east Caithness an oil spill anywhere near this coast at almost any time of year could result in a major bird mortality incident. Large concentrations of auks in particular are to be found on the water below the breeding cliffs. Sample counts of Guillemots at several sites revealed that on average about a third of the total number on the cliffs would be present on the water. Thus for the whole coastline, at any one time, somewhere in the order of 42,000 Guillemots would be concentrated there.

Other species that are particularly vulnerable at these sites include Razorbill, Puffin, Black Guillemot, Cormorant and Shag. Kittiwakes tend not to gather on the sea near their

colonies, but large concentrations wash, preen and rest where rivers enter the sea. At times several thousand occur at Dunbeath, Berriedale and Helmsdale. Moreover, Smith Bank (the site of the Beatrice oilfield) has recently been identified as an important feeding area for most species, at least in the breeding season.

Acknowledgments

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Summary

This paper reports on a survey of breeding seabirds on the east coast of Caithness, the aim of which was to count and map all colonies. The only previous complete survey of this coast was made in 1969 as part of Operation Seafarer, but apart from this the seabirds of east Caithness have received very little attention.

Three species, Fulmar, Great Black-backed Gull, and Kittiwake, are all considered to have genuinely increased since 1969. Shags, Guillemots and Black Guillemots are also recorded breeding in larger numbers, though here the differences are considered to be largely due to improved coverage in 1977. Herring Gulls and Razorbills showed little change in numbers censused in the two years, but both are considered to have declined. Cormorants and Puffins have certainly declined considerably.

On a national scale, east Caithness is found to be an exceptionally important area for Guillemots, holding in the order of 20% of the total for Britain and Ireland. Substantial proportions of the populations of several other species, particularly Kittiwake (8.9%), Razorbill (6%), Fulmar (7%), and Shag (6%), are also found there. In view of the international importance of these seabird colonies and the vulnerability of auks to oil pollution, particular concern is expressed over the proposal to extract oil from the seabed close to the coast.

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A Study of Ravens in Orkney

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The Raven in Orkney was heavily persecuted during the 19th century and its numbers greatly reduced (Buckley and Harvie-Brown 1891). However, by 1950 it was again sufficiently widely distributed for Baxter and Rintoul (1953) to consider that it had regained its former numbers. Balfour (1972) stated that the Raven was regularly distributed on most coastal cliffs with some breeding at inland sites. Apart from these general comments on status, there has been no detailed study of Ravens in Orkney. From 1972 to 1977 I recorded the breeding performance of the Raven on Mainland, Orkney, and have made some additional observations on the islands of Hoy and Sanday.

Study area

Mainland is the largest island in Orkney and has the greatest variety of habitat. The low lying land is extensively cultivated. There are many large freshwater lochs, some small plantations and several quarries, some of which are in regular operation. The areas of moorland and hills, which rise to over 260 m, comprise about 12% of the island. The coastline is 234 km long, of which 50 km (21%) consists of cliffs over 15 m high, 169 km (72%) of low rocky shore and 15 km (6%) of beaches (Mather *et al.* 1975).

Methods

Each year, from February to May, an attempt was made to find all the nests on Mainland by walking along all parts of the coastline where there were cliffs (even low ones) with suitable ledges for nesting. In inland areas, quarries, both in use and abandoned, were visited, as were trees, steep banks along streams, and ruined buildings. Thus I believe that all likely nest-site habitats were included in the survey.

It was sometimes difficult to be certain that Ravens had actually attempted to breed, as a nest may have been destroyed before I could visit the area. Some birds would quietly leave the nest locality on my approach, but others, especially if seldom disturbed, tended to be more demonstrative: there were two individual Ravens that would dive quite low over my head. As observations were only made at weekends, I could not visit every nest at completion of laying, but where the nest contained newly hatched young, it was possible to determine the date of clutch completion with reasonable accuracy.

Breeding territories

Using the term breeding territory to describe a locality (length of cliff or a quarry) where a pair of Ravens was found to be nesting, I identified a total of 27 breeding territories between 1972 and 1977. The number of years for which each territory was occupied is shown in Table 1.

Most pairs used several nest sites in their territories during the study period: of the 16 territories that were occupied every year, six pairs used two nest sites, eight pairs used three nest sites, one pair used four nest sites and one pair

Table 1. Number of years each of the 27 breeding territories was definitely occupied from 1972-7 (6 years)

No. of years occupied	6	5	4	2
No. of breeding territories	16	5	3	3

used five nest sites. In two territories the same nest site was occupied for five successive years.

Nest sites

Four types of nest site were used on Mainland: sea cliffs, quarries and inland cliffs, trees, buildings.

Sea cliffs

This was the most favoured type of habitat (83% of all nests, see table 4) with a marked preference for higher cliffs (table 2).

Table 2. Height of nesting cliffs

Above 30m	12 nesting cliffs
7m - 30m	8 nesting cliffs
below 7m	4 nesting cliffs

The highest nesting cliff was 90m but two nesting cliffs were only 4m high and on one of these a nest site was just 2m above a beach. Of 49 cliff nests, 40 (82%) were in the upper third of the cliff. Most sites were well protected by an overhang. The shortest distance between two occupied cliff nests was 1.7km, which was also the shortest distance between any two nesting pairs in any habitat in Mainland.

The highest linear density of breeding Ravens was eight pairs on a 26 km stretch of coast. In general the spacing of the pairs along this stretch of coast was fairly regular (table 3) although there were apparently suitable sites for nesting in between. This stretch of coast was not of continuous cliffs, but broken in several places by sandy bays and low rocky shores.

Table 3. Distance between nesting pairs on a 26km stretch of coastline on Mainland

Distance (km)	2.9	3.4	4.5	2.9	2.9	3.6	4.1
Mean distance between pairs	3.5km						

As each territory had more than one nest site, the measurement was taken from the mid point of the sites.

Quarry and inland cliff sites

These were the next type most commonly used and accounted for five breeding territories. One site in a small disused quarry was only 40m from a main road. Three territories were in operational quarries although this did not appear to disturb the nesting routine of the birds. In one terri-

tory an irregular site was in a disused quarry; the alternative site was on the bank of a burn in a neighbouring valley.

Tree sites

Two tree sites have been used during the six years of the study, both on only one occasion. The nests were in isolated trees, one in a poplar *Populus* (only 1.8m from the ground), the other in a Sycamore *Acer pseudoplatanus* at a height of 5.4m.

Buildings

Buildings were used in two territories. One territory had two different sites, a ruined chapel, where the nest was placed on the gable end, and the other on an iron girder under the roof of a disused building on a wartime airfield. The site of the second territory was on the bell tower of an old church. Nests on buildings are not confined to Mainland: Ravens have nested on a window ledge of the old lighthouse in North Ronaldsay, and a large ruined house has been used for several years on the island of Sanday (pers. obs.).

Nests

The number of nests found each year from 1972 to 1977 (table 4) was fairly constant, 21 to 25 nests (mean 23.2). In this period 83% of the nests were on sea cliffs and 17% at inland sites. Since the area of Mainland is 523km², the density of nesting pairs was thus one pair to 22.6km².

Table 4. Number and location of Raven nests on Mainland 1972-7.

	Sea cliff	Inland*	Total
1972	22	1	23
1973	19	2	21
1974	19	6	25
1975	20	3	23
1976	17	6	23
1977	18	6	24
Mean No. of nests per year	19.2	4.0	23.2

*This includes quarries and inland cliffs, trees and buildings.

Breeding

The Raven starts nesting early in the year: I have noted structural additions to old nests on 14th January and a lined nest on 24th February. The first eggs I have seen were two on 3rd March. Of 56 nests, 43 (77%) had complete clutches before 21st March and 13 (23%) had clutches completed after 21st March. Clutch sizes for 15 clutches that I was certain were complete are shown in table 5.

Table 5. Clutch size 1972-7.

Clutch size	No. of nests
4	3
5	7
6	5

Mean clutch size 5.1

The earliest fledged young I have seen were on 25th April; at the same site the following year there were three young ready to fledge on 20th April. Table 6 shows brood sizes from nests where the young had just fledged or were within one week of fledging.

Table 6. Brood size 1972-7.

Brood size	No. of broods
1	6
2	11
3	13
4	16
5	6

Mean brood size 3.1

Discussion

In a survey of the Isle of Man (which is more mountainous, but only 64km² larger in area than Mainland, Orkney) Cowin (1941) found 33 breeding pairs, a breeding density of one pair per 17.8km² compared to one pair per 22.6km² for Mainland, Orkney. Ratcliffe (1962) in his study of 139 territories in four



RAVENS COURTING IN THE SNOW. D. N. Weir.

inland areas of England, Scotland and Wales gives a mean territory size of 20km², although this figure cannot be directly compared with the territory size in Orkney.

In his study of Ravens in north Wales, Allin (1968) found that 77% of clutches were completed by 10th March, for nests below 1,000 ft (305m). Although the nesting sites were not directly comparable, in Orkney the same proportion was only achieved by 21st March. Thus although Ravens in Orkney laid later than in north Wales they appear to lay earlier than in other areas of north Scotland, where the mean *first egg* date was 22nd March (Holyoak 1967).

The mean clutch size for Orkney of 5.1 is similar to that found by Allin (5.2 for nests below 1,000 ft and 5.1 for nests above 1,000 ft). Holyoak recorded a mean clutch size of 5.2 for Wales and southern England, while Ratcliffe (1962) found a mean of 4.6 for his four areas of hill country.

Allin gives mean brood sizes of 3.37 (below 1,000 ft) and 3.12 (above 1,000 ft) for broods at least 2½ weeks old and Ratcliffe recorded a mean brood size of 2.55 for young over three days old. These are comparable with the 3.1 for (much older) broods in Orkney.

It can be seen that the breeding performance of Ravens on Mainland, Orkney, is similar to that found in other studies but that the breeding density is slightly less than in some other parts of Britain. One limiting factor may be the lack of suitable breeding sites as only 21% of the coastline consists of high cliffs, the most favoured nesting habitat.

Inland sites are probably more subject to disturbance than cliff sites. Raven nests on buildings were recorded in Orkney over 150 years ago: Low (1813) states that the Raven sometimes used the steeples of churches or any ruined buildings, whilst Buckley and Harvie-Brown quote from Wolley's Egg Book for 15th April 1849 to the effect that 'as Kirkwall Cathedral is undergoing repairs, the Ravens which always built on it have left and according to repute gone to the old ruins of the Bishop's Palace'. On Mainland today there are few suitable ruined buildings left (one that had a nest site was demolished in December 1977). Quarry sites also suffer from interference—indeed since my study began one quarry has been filled in with rubbish and at another the cliff face has been blasted and the nest ledges lost.

The fairly regular spacing of nests on a 26km stretch of coastline, where there are apparently plenty of suitable nest sites, suggests that this is due to territorial behaviour. Nethersole-Thompson (in Ratcliffe 1962) recorded 15 pairs on a 27km stretch of coastline in southwest England—almost twice the density in my study. This indicates that territory size may be



PLATE 25. Birds and North Sea oil production platforms (p. 271).

(a) A platform in Forties field showing gas flare on left.

British Petroleum

(b) Stan Howe (left) and Eill Eourne (right) handing over identification books to Jack Hobbs, the master of field support ship *Kiwi*.

T. D. H. Merrie



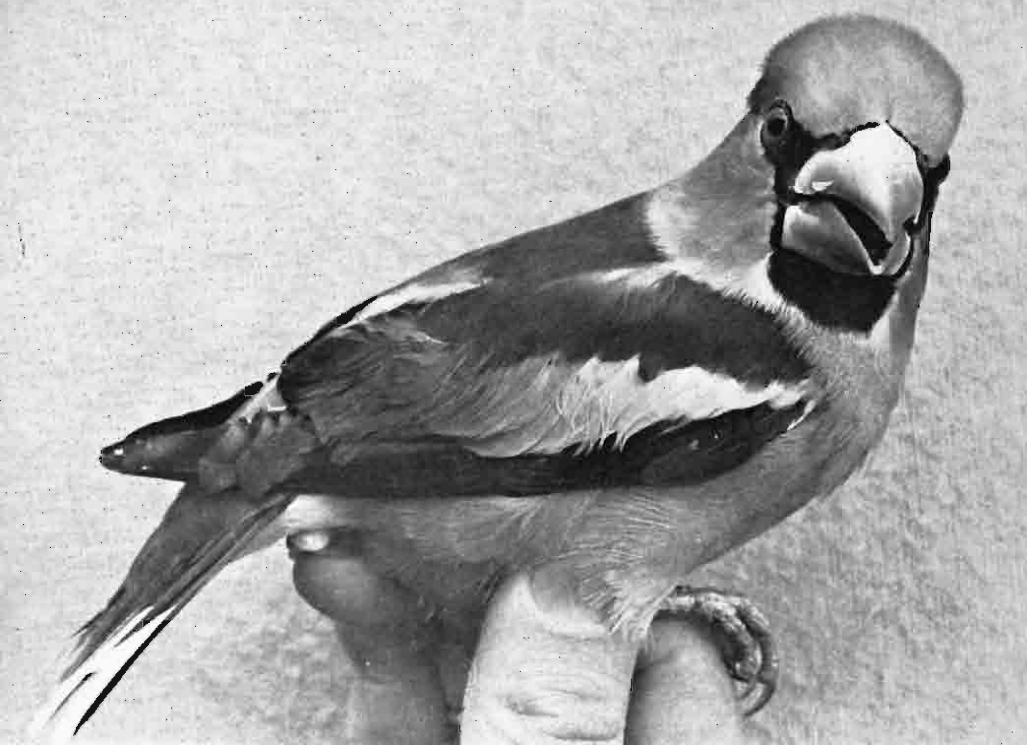


PLATE 26. Pair of Hawfinches, McIllothan, spring 1979. The ♂ (a) is noticeably brighter but note grey edges to secondaries on ♀ (b), the most reliable method of sexing throughout the year.

E. S. & S. R. D. da Prato





PLATE 27. (a) wintering Green Sandpiper, Auchincruive (Ayrshire), 5 November 1978.

R. H. Hogg

(b-c) ♂ Subalpine Warbler, St Kilda, June 1979 (p. 288).

S. Smith





PLATE 28. Dr D. A. Bannerman at SOC conference, Dunblane 1965 (obituary p. 277). *J. MacGeoch*

flexible, dependent on other factors. Newton (1972) suggests that the density of breeding Sparrowhawks in different areas in Britain may be related to the availability of prey, the nests being as evenly spaced as the habitat allowed. It could be that the available food supply near the nest area is less in Orkney than in southwest England.

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Summary

Raven nests on Mainland, Orkney were found each year from 1972 to 1977. The mean number was 23.2 per annum. Four different types of nest site were used: sea cliffs, quarries, trees, buildings. Sea cliffs were the most favoured nesting site (83% of nests). The highest linear density was 8 pairs on a 26km stretch of coast, where the pairs were regularly spaced. 77% of clutches were complete by 21 March. The mean clutch size of 5.1 and mean brood size of 3.1 were similar to those reported in other parts of Britain but the breeding density of one pair to 22.6km² was less than found in some other parts of Britain.

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Breeding of Blue Tits in relation to food supply

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How do different kinds of habitat influence the breeding success of members of the same species, even within the same wood?

Most population studies of the common species of titmice have been made of the Great Tit (Kluyver 1951, Perrins 1965, Krebs 1970, Royama 1970). Most of these studies have concentrated on the nature of the processes regulating the population size about some average level from year to year. Perrins (1970) found that young Great Tits were hatching just a little later than the time that would apparently be best from the point of view of maximum food availability. He suggested the reason for this was that the females could not obtain enough food to lay eggs earlier in the year and therefore could not produce their young exactly coincident with the peak in the caterpillar population. This has been confirmed by Kallander (1974), who was able to bring forward the date of breeding by supplying the birds with extra food.

We have recently obtained information indicating that the time Blue Tits lay their eggs, the number they lay and their overall breeding success may all be influenced by their habitat, probably acting via the food supply. We did not set out to obtain this information deliberately, so our results must be regarded as preliminary ones which we intend to amplify in the future.

Methods

The study was carried out in 1977 as part of a student field course held in Paddockmuir Wood near Perth. This is an area of deciduous woodland (31 ha) now managed by the Forestry Commission, lying beside the Tay in the Carse of Gowrie. The eastern end was planted mostly about 1930 and today has every appearance of a fully developed deciduous woodland, with trees of various species, mixed ages, and plenty of shrubs. The western end was planted mostly in 1951 with oak and beech in pure stands. The trees are small and there is little undergrowth. In the oak areas the wood is very open and exposed to the prevailing westerly winds.

We put up 28 nestboxes in the wood in late April. By mid May most of these had been occupied by Blue Tits, most of

which had begun to lay eggs. Thereafter we visited the boxes at intervals of about a week until mid June, and then much more often until early July. For each nest we were able to estimate the date on which the first egg was laid, the dates on which the chicks hatched and fledged, the average clutch size, and the hatching and fledging success. Some of our estimates, especially of hatching and laying dates were approximate, but we do not think they were biased.

Because of the variation from nest to nest and the errors involved in our estimates of the various items, the averages quoted below are not reliable as population estimates. We are, however, interested simply in knowing whether there were differences between the two ends of the wood, rather than in accurate estimates of each item. We have described the differences as significant if the probability of them arising by chance is less than one in twenty. The Wilcoxon-Mann-Witney test has been used throughout since the data are far from normally distributed.

Breeding success

The birds in the east end of the wood laid significantly more eggs than those in the west end, the average clutch sizes being eleven and nine respectively. On average they began to lay these eggs four days earlier (7th May versus 11th May), although this difference is not significant. There was a similar difference in hatching and fledging dates (28th versus 31st May, and 16th versus 20th June), significant in both cases. The number of fledged young produced was over twice as great, on average, in the east end as in the west end (nine versus four), the difference being significant.

Food availability

Turning from the data to the habitat, it seems reasonable to suppose that the supply of insect food might be implicated in the observed differences, for we might expect it to be better in the older part of the wood. Two relevant sets of data are available to examine this idea.

During the period when the young birds were in the nest we set out two trays under each tree in which there was a nesting box. Each was full of dilute formalin to kill any insects dropping into it and was covered with wire netting to prevent it filling with leaves or being drunk by animals. At this time the caterpillars were descending from the trees on silken threads to pupate in the soil, so many of them were caught in the traps. If the numbers caught in these traps are an accurate reflection of the caterpillar population in the trees above, then the results of this study show that the numbers per tree

in the east end of the wood were two and a half times as great as those in the west end, a significant difference.

In late June we obtained samples of the insects in the foliage by using a standard beating method where the insects drop out onto a cloth spread below the foliage. By this method we obtained twice as many caterpillars, on average, in the east end of the wood as in the west end, although the difference is not significant because there was so much variation between beatings within each end of the wood.

Discussion

The results may be explained in terms of differences in the food supply at the two ends of the wood. Our suggestion is that Blue Tits in the richer east end were able to get more insect food in early May and were therefore able to lay more eggs and to lay them earlier, thus creating a difference in timing that persisted through the rest of the breeding cycle.

Either because the parents found it easier to feed both themselves and their chicks, or because predators found the nests less easily in the more thickly wooded east end of the wood, losses through predation and desertion were less than in the west. The net result was that parent birds in the east end produced over twice as many fledged young per pair than birds in the west end and did so four days earlier.

If the east end of the wood is in fact higher quality Blue Tit habitat, one would expect greater competition for territories in that area, so that any bird succeeding in establishing itself there may already be superior in some sense to a bird forced to accept a west end territory. This may go hand in hand with superiority as food gatherers and parents and so might add to any differences between the two ends of the wood caused by differences in food supply.

We hope to continue this study in greater detail to test the tentative conclusions presented here.

Acknowledgments

We would like to extend our sincere thanks to the Forestry Commission for permission to carry out this work in the wood, and also to various student friends for help with the study, particularly members of the 1977-78 third-year and honours classes in botany, zoology and biology at Dundee University. We would also like to thank our fellow instructors on this course, with especial thanks to Dr Hugh Ingram.

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Birds and North Sea oil production platforms

T. D. H. MERRIE

(Plate 25)

Ever since the first production platforms appeared in the North Sea the odd observer has been making the odd observation, and for lack of continued opportunity to observe, or lack of other comparative observations, has quietly filed away his record and nobody has been much the wiser. Occasionally something spectacular has occurred that even the uninformed Everyman on the platform has noticed and spoken about it afterwards among his friends. Due to the scarcity of well trained ornithologists working offshore, reports of these spectacular events have taken the form of fables, from which everyone can deduce that something remarkable has occurred but cannot tell precisely what has happened. Rumours have circulated that the platforms are a deathly trap into which thousands of birds are drawn to perish in the heat of the flares. Allegations have come from those who should know better that the oil companies have been deliberately withholding information, but the truth is that there has been no substantive evidence to withhold.

In 1977/8 two ornithologists joined the onshore staff of BP at Dyce, Aberdeen: myself and Stan Howe. Stan had been president of the Ahmadi Natural History Group in Kuwait, and wanted to know why BP in Aberdeen did not have a similar society. The answer of course is that there are many extant natural history bodies operating in Aberdeen, not the least of which is the SOC. However there was a niche to be filled, in fact two niches. The first concerned our onshore personnel, many of whom move widely and frequently round the world, and don't stay long enough in any one place for them to be encouraged to join local natural history and other

clubs. The second concerned the platforms, now in full production and settling down to a more routine way of life than during the construction and commissioning phase.

So the BP Sports and Social Club at Aberdeen spawned another member section, the Nature Club, one of whose aims was to encourage platform staff to take up ornithology as a recreational pursuit, which could, if properly directed, provide valuable scientific data on the behaviour of birds at sea and documentary evidence on the effect of the platforms on birds, particularly migrating landbirds. We obtained the assistance of Bill Bourne, working with George Dunnet of Aberdeen University, to provide professional guidance.

The initial phase of the scheme was to recruit observers and to institute a daily record sheet to be sent ashore with the daily mailbag for collation in our records/archives office. The sheets are duplicated and a copy sent to Aberdeen University for processing by computer along with all the other northeast Scotland bird observations—a system pioneered and still operated by Alan Knox. During the setting up of this phase we became aware that one or two experienced ornithologists had been working offshore with BP for some time and had been keeping records (Barber & Hobbs 1978). Notably, we made the acquaintance of Alan Morley, a platform attendant since autumn 1977, who had previously been assistant warden at Bardsey. Up to that time Alan's offshore list had reached a total of 62 species, including just about all the seabirds one would expect to see in the middle of the North Sea, and all the migrant landbirds one would expect to cross over it.

Good as they were, one man's observations were not enough. Shift cycle is two weeks on, two weeks off, and during the two weeks on, spells of day shift and of night shift have to be undertaken. Also, regrettably, one cannot bird-watch all day when one is paid for working. However, an article in the company newspaper by Alan about his birding on the platform aroused a good deal of interest. We also canvassed strongly and provided each platform in Forties Field (there are four) and our field support ship *Kiwi* with identification books and charts and binoculars.

Kiwi has proved an ideal observation post. The function of the ship is to cruise gently around the field waiting for an emergency to happen. Normally it doesn't, and so a fairly peaceful life is led by all aboard. A large number of the crew have become interested and have contributed a useful series of records.

The platforms are a different matter. Here one must note the difference between a platform and a rig. A rig is a mobile structure used for exploration, drilling or construction pur-

poses. Offshore rigs may be semi-submersible, jack-up or drillship types. A platform is a fixed structure used for production related activities. It consists of a jacket prefabricated on shore and towed to site on a barge or special flotation tanks and sunk at a predetermined spot. To this jacket are attached modules, also prefabricated onshore, each comprising a more or less self contained unit: for drilling, for oil and gas processing, for accommodation, and so on. These are assembled and linked together offshore in what is known as the hookup phase. The outward appearance of a platform is rather like a castle on stilts, presenting blank defensive walls to the sea and the weather. They are not designed as observation posts. The platform staff best situated to make natural history observations are those with largely outdoor jobs such as platform attendants. Generally speaking, the best observation area is in the vicinity of the helideck.

Notwithstanding the difficulties in making observations we now have about 30 correspondents in various disciplines and a reasonably continuous flow of notes comes in. There is considerable variation in the quality and consistency of observations but this is gradually improving.

What has been seen in the eight months prior to writing this report? We have had rarities enough to satisfy most twitchers, including a white Gyr Falcon, Cory's Shearwater, and a Lanceolated Warbler, arrested by Bill Bourne as it skulked in the chief engineer's bathroom on *Kiwi*. The records up to the end of 1978 have been sorted by computer and papers on these and other aspects of the project to date are planned for publication later in 1979 (e.g. Bourne *et al.* in press).

Running concurrently with our project is a study by Peter Hope Jones, on a three year contract with the Nature Conservancy Council, of the distribution and abundance of seabirds at sea, using all available means of transport and fixed installations for periodic counts. He has complemented our Forties observations with records obtained on visits to our West Sole platforms about 40 miles east of Spurn Point. The observations are consistent with those from Forties. The two parties are maintaining a close liaison.

Valuable information has been and is being gained on the occurrence of seabirds throughout the year, on the influence the platforms exert on feeding and other behaviour, and on the migration of landbirds. Observations on this latter have been augmented by onshore studies using radar screen photographs of migratory movements in the Forties/Aberdeen area.

During misty weather in the autumn some spectacular falls of migrants have occurred, attracted by the bright lights at

night. This phenomenon is not new. It has been a feature of lighthouses for well over a hundred years when on some nights hundreds of birds have dashed themselves to death against the glass of the light.

The likelihood of similar mortality is much lower on oil production platforms, despite the allegations of Sage (1979 a, b) which are commented on by Bourne (1979). The general level of illumination enables birds to find safe perches and the sheer heat and noise of the flares inhibits an approach close enough for burning to occur. Nevertheless mortality through burning has occurred but at a much lower frequency than other causes. During the worst night during autumn 1978 an estimated eight birds per hour were seen to fall from the region of the flare. Inquiries about similar incidents in the past have revealed that these are very isolated and that observations were very subjective and no accurate estimates of numbers exist.

Death by burning is insignificant compared to other causes of mortality. Many have been seen to fall into the waves from sheer exhaustion as the flocks flew low against the wind. Others were picked up on the decks having died of starvation, most weighing no more than half their normal healthy weight. This degree of mortality is a fact of migration which we are now able to record at first hand.

On the other side of the coin the platforms provided a welcome resting place for some birds, most of whom took off again when daylight came. Several owls, however, and a few birds of prey stayed for several days feeding richly off passing or resting passerines. Both Short-eared and Long-eared Owls appeared. One night there were 30 on one platform alone. The gulls hanging around the platforms also fed on carcasses falling to the sea.

We are happy with the progress made during the first year of the project and feel that a worthwhile contribution to science can be made, as well as providing an absorbing interest for some of our offshore staff. We are now trying to extend the project to cover all operating platforms in the British sector of the North Sea. We are offering to set up the communication network necessary, to arrange for collation and analysis of records by Aberdeen University and would very much like to hear from anyone who is in a position and is willing to help in this wider project.

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T. D. H. Merrie, Kirklea, Oyne, by Inch,
Aberdeenshire

Short Notes

Merlin apparently stalking prey

Structurally Merlins are not really adapted for walking about on the ground but I have seen them do so to recover prey previously concealed during the breeding season (*British Birds* 72: 118-9). In winter I have also seen one apparently stalking prey on the ground.

On 22nd November 1975 near Stranraer, Wigtownshire, I saw a female or juvenile sitting on a fence post beside some pasture fields where about 40 Linnets and ten Skylarks were feeding. After 15 minutes the Merlin flew about 10m towards the passerines, landed and walked over the grass with mincing steps, head and back horizontal, keeping behind some clumps of grass as if stalking. It stopped behind a grass tuft, frequently peering over the vegetation, presumably to look at the feeding birds or at its intended prey. Sixteen minutes later it approached them closer, walking with mincing steps, flew about a metre keeping very low, walked again then stopped behind cover. After another four minutes it flew low and fast directly towards the passerines which flew up. The Merlin circled below them but did not attack and flew back to the fence post where it remained for 20 minutes before flying away.

R. C. DICKSON

Ring-billed Gull in Aberdeenshire

Whilst looking through a pack of c.1,400 Common Gulls on the Ythan estuary, Aberdeenshire, on 14th February 1976, I noticed a slightly paler bird amongst them. It also appeared a little larger but not nearly so robust as the few Herring Gulls. After 20 minutes of telescope observation the following notes were made.

Description Head white with faint grey smudging from rear of crown to back; similar but indistinct marks on ear coverts. Back and upper wing surface very pale grey—perhaps paler than Common Gull; grey-brown patches towards carpal joint; primaries similar to Common Gull but very little white visible on closed wingtip; faint medium grey trailing edge to secondaries visible in flight; tail white with indistinct grey band at tip. Underparts white with very faint markings due possibly to feather soiling. Beak obviously stouter than Common Gull;

base dull yellow, well defined black band near tip, tip itself appeared pale yellow. Legs pale yellow with flesh tint.

At this point I suspected the bird might be a Ring-billed Gull, and reference to Hume (1973, *British Birds* 66: 509-517) confirmed this, the bird apparently emerging from second winter plumage. Although its overall paleness, stout bill and intermediate size were readily apparent in a loose flock, a tightly packed flock would have posed problems.

R. H. HOGG

[Breeds and winters within North America. This is the first Scottish record and the first for the British Isles outwith Glamorgan where there have been annual occurrences since 1973. From about 1930 a population explosion and recovery of former breeding range have followed a decline due to the feather trade.—ED.]

Kittiwakes with red legs

A. W. Barker's note in 10: 180 regarding a Kittiwake with red legs prompts me to record several similar sightings.

On 22nd May 1977 on the Isle of May I saw two adults with bright red legs and feet. They were seen from the boat as it passed below the south cliffs, both birds being in a flock of about 60 Kittiwakes. Their plumage was identical to that of the rest of the flock.

On 19th November 1977 I saw another adult with bright red legs and feet at Port Seton, East Lothian, sitting on the harbour wall with three other adults.

On 21st March 1978 I photographed a first winter Kittiwake at Troon Harbour, Ayrshire. Although I hadn't noticed the leg coloration whilst photographing the bird, examination of the photograph clearly showed that the leg colour was dull pinkish red. During late March 1978 there was a first winter Kittiwake at Ayr harbour with dull pink legs and feet, this being recognizable as a different bird to that at Troon due to its particularly tattered plumage. It would be interesting to know whether the two first winter birds retained the reddish leg coloration on attaining adult plumage.

IAIN H. LEACH

Carrion Crow opening milk bottles

In Dalgety Bay, Fife, Carrion Crows regularly forage in the open gardens. During the winter of 1975/6 I sometimes saw a Crow, presumably the same individual, walking up to milk bottles on front steps, usually in the early morning, in the road where I stayed. Neighbours often reported that a Crow

had pecked through their bottle tops, and these claims were supported by the dimensions of the holes in the metal foil. I saw it happen only once, on 1st February 1976, but I was unable to see whether any milk was taken. I thank Derek Goodwin for his comments.

D. J. BATES

Obituary

DAVID ARMITAGE BANNERMAN, OBE, LL D, Sc D, FRSE.

(27 November 1886 - 6 April 1979)

(Plate 28)

My earliest recollection of David Bannerman was of him at Queen Victoria's Diamond Jubilee in 1897 when I stood with a much older boy on the balcony of his mother's house to watch the procession. He was eleven, I was four, and already at the age of eight he had written a book! He went to Wellington College and Pembroke College, Cambridge, where he took an honours degree in science. He was a keen horseman and joined the Cambridge OTC squadron and represented Cambridge against the army in a competition at Olympia. As a result he was given the post of galloper to one of the generals on army manoeuvres.

Very early in life he had said to his mother, 'I am going to be an ornithologist and join the British Natural History Museum', and on leaving Cambridge he applied for a post but there was no vacancy. However, in 1910, he persuaded the authorities to take him on temporarily at 2/6d per hour and his foot was on the ladder.

He felt strongly that a professional ornithologist must not get office-bound and deal merely with skins, bones and conferences, so he determined to strike out into the field of practical bird study. Up to the outbreak of World War I he had visited many lands studying bird life: the West Indies, South, North and West Africa, South America, Europe and the Atlantic Isles.

On the outbreak of war he at once tried to join up, but having lost the hearing in one ear through complications after measles he could not pass the medical. However, he was determined to get to the war which he believed might be over in three months. He persuaded his godfather to buy him a motor car, which he quickly learned to drive and was thus able to get to France as an ambulance driver in the early

stages where he served for some time until he was appointed staff officer to HQ British Red Cross Society in France. He was awarded the MBE, Order of St John, Mons Star and French War Medal for his services.

After the war he rejoined the staff of the Natural History Museum and rose to be head of the Bird Room. He was twice invited to become a director but declined as he felt he would be too much tied down. When the Second World War broke out he was appointed a censor and was a sergeant in the Home Guard.

He retired in 1952 to take up farming and stock rearing in Kirkcudbrightshire under the shadow of Criffel and there he lived happily with his second wife Mary (Jane), herself a distinguished ornithologist. He was now able to visit old haunts and explore new places which he did regularly for the rest of his life. He visited Morocco between 1950 and 1952 when he and his wife lived among the Atlas tribesmen.

He had the urge to write bird books of which he knew there was a need, having the great advantage of being able to correspond with the leading ornithologists of the world, many of whom were personal friends. In 1922 he had written *The Canary Islands: their history, natural history and scenery*. His two greatest works are of course his eight volume *The Birds of Tropical West Africa* (1930-51) and, with George Lodge, the 12 volume *The Birds of the British Isles* (1953-63).

When David was writing *The Birds of Tropical West Africa* he had invited George Lodge to prepare a number of plates of Africa's most brilliant birds. A friendship sprang up. Lodge said to him one day, 'I'd like to paint every bird on the British list.' On 23rd February 1942 Lodge wrote, 'The idea of us collaborating in a book on British birds appeals to me very strongly. I am getting old, having gone 81, but I do not think my work is deteriorating yet.' And so the great book was born. Both author and artist put in a tremendous amount of work; Lodge was determined to complete the British list and did so, his last picture as good as most, painted when he was 93! David spent ten years on the work and often spent some time in Edinburgh with the publishers Oliver and Boyd, staying at the New Club where he was a popular member.

In 1953 was published his two volume *The Birds of West and Equatorial Africa* and a steady stream followed: *Larger Birds of West Africa* (1958), *Birds of Cyprus* (1958) after collecting material in the midst of the troubles, *Birds of the Atlantic Islands — Canary Islands* (1963), *Maderia* (1965), *Azores* (1966) and *Cape Verde Islands* (1968)—the latter two volumes jointly with his wife, *Handbook of the Birds of Cyprus and Migrants of the Middle East* (1971), again jointly with his

wife, *Birds of the Maltese Archipelago* (1976) with J. A. Vella-Gaffiero, and finally a book on the Balearic Islands (not yet published) jointly with his wife at the age of 92. A truly remarkable feat when it is realised that from 1953 to 1963 the 12 volumes of *The Birds of the British Isles* were regularly coming out.

David was an excellent shot and loved fly fishing. In these pursuits he met and made many friends outside his ornithological circle which was important when he was so heavily engaged in book writing. In these he had enormous help from his wife and his later books are in their joint names.

Among honours showered upon him were the OBE, LL D (Glasgow University), FRSE, and Gold Medal of the British Ornithologists Union. He was Vice-President of the BOU, member of council of the Royal Geographical Society and Zoological Society, Honorary Associate of the British Museum, Honorary Curator of the Royal Scottish Museum, Honorary President of the SOC, and honorary member of ornithological societies of Belgium, France, Spain, Cyprus, Gambia, the Balearic Islands and the United States.

A special tribute has been paid by Dr Snow and Dr Goodwin of the British Museum of Natural History, 'His contribution to British and world ornithology has been incalculable. In his great handbooks and scientific papers he has left behind a massive and enduring monument.' Sir Hugh Elliott, Bt, president of the BOU, writes, 'For the greater part of the lifetime of most of us he has been one of the BOU's most distinguished and respected members, Vice President, Medalist, and latterly one of the very special group of honorary life members. But I personally will particularly remember his helpfulness in the 1930s to me and many other aspiring ornithologists in the Bird Room, a kindness so often repeated in the intervening years.'

David was a thoughtful man and during the Second World War felt that his friend Field Marshal Lord Alanbrooke could do with some relaxation. He went to see him and said, 'I am going to take you down to Cambridge to meet George Lodge and see his pictures.' They duly went, and for an afternoon the war was forgotten.

PHILIP CHRISTISON

Review

The Sulidae: Gannets and Boobies. By J. Bryan Nelson. Published for the University of Aberdeen by Oxford University Press, 1978, pp. 1012, 14 colour and 18 monochrome plates, 404 text figures, photographs, line drawings, maps, 134 tables. 27 x 19 cm. £40.00.

This is a monograph in the grand style but not to be confused with recent similarly titled, large and expensive books on parrots, birds of paradise, and rails. These were studies on large groups of scarcely-studied birds where the text tended to fill the gaps between the plates. The book considered here is a scientific work based on the author's prolonged and detailed study of a few species.

I approached this mammoth book with enthusiasm and trepidation but I completed the task in a couple of weekends. The book upholds the author's reputation as a scientist and a writer. He apologises for its length as follows, "The clipped impersonal reporting enforced by the competition for space in most scientific journals is often tedious. Obviously this book is hardly a thriller, but the idea has been to make it a browsable book, with ideas and atmosphere as well as facts. This is one reason why it is far too long". To a large extent he succeeds. It reminds one of Murphy's classic *Oceanic Birds of South America*, especially because it assumes, for good or bad, that the reader has no access to a library. Everything, absolutely everything, is here. Few things of any consequence have been overlooked.

There are detailed accounts of the North Atlantic, Cape and Australasian Gannets, White (= Masked), Brown, Blue-footed, Peruvian, Red-footed and Abbott's Boobies. The various gannets are given specific emphasis in these accounts, the author treating the three as belonging to a single superspecies containing three allopecies, *Sula* [*bassana*] *bassana*, *S.* [*b.*] *capensis* and *S.* [*b.*] *serrator*. For each species we are led through nomenclature, external features, breeding distribution, numbers, breeding ecology (including colony structure, migration, food) and behaviour. The final section is an extremely detailed interspecific comparison. The appendices, covering topics ranging from factors relevant to counts at ganneries to the vegetation in which Red-footed Boobies nest, are small for a book of this scope and could usefully have been expanded with some of the detail in the text, e.g. the 80 pages of breeding distribution of boobies.

It is pointless here to try and evaluate the author's many theories on the interactions between breeding, behaviour, food, etc. Most have already been published but the data are all here for one to make a personal judgment. The few disagreements I have are mere quibbles relating to degrees of emphasis. For example the conclusion that there is "a vast system of interchange operating between most or all of the British west coast ganneries," with birds "floating" about looking for the best colony. Some movement of birds certainly occurs, the main evidence for this conclusion being the erratic and tantalizingly unexplained fluctuations in the counts of birds at some colonies, but there might be other explanations. Many readers will be able to evaluate the sections on the North Atlantic Gannet. The boobies are treated just as authoritatively.

The production of the book is virtually perfect. I have never seen black and white photographs and line drawings (by John Busby) used to such good effect. The glossy monochrome and colour plates, of lower quality, are superfluous. There were a few points that grated: the frequent use of Ailsa and the Bass instead of the proper names. More serious is the apparently random interchange of piquero (= any booby in Spanish) for Peruvian Booby which will confuse. There is too much reiteration of the main theories, although this will certainly help the browser, for few people will repeat my approach. The author's decision to use Masked instead of White Booby came too late to be incorporated in this book. A pity as it will now be impossible to get this much needed change generally accepted.

It is regrettable that the magnificent book is so long that the inevitable high price will prevent most birdwatchers from buying a copy. But do

read it. I join with Professor Wynne-Edwards in his foreword, "In so far as anything is predictable beyond that millennial curtain, 2000 A.D., I expect that, when it is long past, marine ornithologists will still consult J. B. Nelson's *Sulidae*, even as we now look up J. H. Gurney's *The Gannet*, published in 1913. What scientist could wish for more?"

M. P. HARRIS

Current literature Articles and reports on the status and distribution of birds in Scotland are listed here. Strictly biological studies such as ecology and behaviour are excluded, as are references from widely read journals such as *British Birds* and *Bird Study*. Most listed items and many others are in the club library, and we would be grateful to authors for reprints of any ornithological work, biological or otherwise, published outwith the main bird journals.

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L e t t e r s

Colonization of Scotland by northern birds

R. D. Murray (10: 158-174) really cannot get away with the Victorian idea that there is nothing more recent and near at hand than glacial refugia to explain animal distributions. To take only the most obvious factor, surely man has influenced more species than Spotted Crakes, Ospreys, Dotterel and Whimbrel (if he has affected all of those)? During the Middle Ages he destroyed all the best forests, and afterwards he drained all the best swamps. Eventually there were far more hungry people on the land than there are now, most of whom had nothing better to do with their spare time than hunting or poaching. They observed no close seasons, and left no records, and if they could not reach the birds in the summer they got them in the winter. By the time the first naturalists arrived along the first roads most of the damage had been done, and our information relates to the period of recovery.

To take only the most obvious consequences, we know that the largest quarry, including the Capercaillie in the woods, the Crane in the swamps, and the Great Auk at sea, were all exterminated, though reintroduced Capercaillie are now flourishing again in the replanted forests. Personally I find it quite incredible that fewer wildfowl nested before 1820 than occur now, and suggest that it is self-evident that there must once have been more which were exterminated before records were kept. If the record is conspicuously incomplete for such commercially important species, virtually anything could have happened to the others in the days before binoculars. They may have been less vulnerable to hunting, but they were at least as sensitive to changes in habitat and predator pressure.

If we look at Mr Murray's lists, some species could be old inhabitants returning as the result of protection and habitat restoration, and others could be responding to natural or artificial changes in habitat or climate. While the ice ages may well be responsible for the character of the European avifauna as a whole, surely it is more likely that closer and more recent phenomena influence current local distribution. It is moreover odd that so many vagrants have only started to occur recently, while if one looks at the old literature some even more surprising birds such as Purple Sandpipers, Snowy or Hawk Owls, and even King Eiders were reported breeding in the last century but the records discarded as unproven in this one.

It seems possible that as with American migrants some of these birds have always occurred but were not accepted in the past, though they are now picked up and confirmed because of their increased accessibility, better fieldwork, and an improved reporting system, and have a better chance of becoming established owing to protection.

W. R. P. BOURNE

Dr Bourne's objections to my paper follow what are almost classical lines—are observed effects caused by human or natural agencies? To eliminate the human factor I quite deliberately selected the avifaunas of the tundra and boreal forest as being the least disturbed of all the Palaearctic environments. Although many of the birds winter in habitats that are grossly altered by man, the breeding range as a whole remains largely unaffected by human activity. Furthermore I also selected a very large geographical area, northern Europe, to eliminate purely local factors, such as those raised by Dr Bourne for Scotland. Using the perspective gained from this particular geographical viewpoint the trends seen within Scotland quite closely matched trends that were, and are, observable over much of northern Europe west of the Urals.

Bearing in mind the historical, numerical (over 50 species involved) and geographical scale of the phenomenon described in my paper it is very difficult to see how purely local factors described by Dr Bourne could be operating. If the palynologists acknowledge that our vegetation is still changing in response to the effects of long term climatic change why should it be inconceivable that birds that live in the same habitats are doing exactly the same?

With reference to some of his specific objections, the disappearance of the megafauna from Scotland due to human activity does not in any manner imply that the microfauna also vanished. It is axiomatic to most palynologists and palaeontologists that under any environmental pressure, whether natural or human-inspired, it is always the larger members of the biota that vanish while the smaller forms of life hang on tenaciously.

As for the ifs, buts and maybes raised by Dr Bourne in the latter part of his letter, it is difficult to comment as I had to restrict myself to facts, but clearly factors such as improved observer cover would only be important in detecting the trends earlier. Colonizations, by their nature, would inevitably be detected at some point. It is likely that some of the breeding attempts would be missed but the trend as a whole would be unmistakable.

R. D. MURRAY

Fighting talk

The last issue of *Scottish Birds* included a section of current ornithological publications which mentioned a study of roost-fights in Whooper Swans in the Devon valley (10: 241). I should perhaps forestall anyone from drawing the arguable conclusion that the atmosphere of central Scotland induces unusual aggression. The original article was in fact about roost-flights.

C. J. HENTY

NOTICES

Colour ringed warblers Breeding warblers in Midlothian are being individually colour ringed. Reports of sightings of such birds, whether from Midlothian or elsewhere, will be most valuable and will be acknowledged. S. R. D. da Prato, 38 Caerlaverock Grove, Tranent, East Lothian.

Fair Isle Bird Observatory Trust: John Harrison Memorial Fund. This fund was instituted in 1968 by the late Richard Richardson, in memory of John Harrison of Norfolk, to help young people between the ages of 15 and 21 to visit Fair Isle. Grants are awarded annually to successful applicants to defray travel and accommodation costs at the Fair Isle Bird Observatory. Applications must be submitted by 30 November to the Hon. Assistant Secretary, FIBOT, 21 Regent Terrace, Edinburgh, EH7 5BT, from whom application forms are available.

The Scottish Ornithologists' Club

43rd Annual General Meeting - Agenda

The 43rd annual general meeting of the club will be held in the Marine Hotel, North Berwick, East Lothian, at 5.30 p.m. on Saturday 27 October 1979. The agenda is:

1. Apologies for absence.
2. Approval of minutes of 42nd Annual General Meeting of the Club held at the Marine Hotel, North Berwick on 28 October 1978.
3. Matters arising.
4. Report of council for session 42.
5. Approval of accounts for session 42.
6. Appointment of auditor.
7. Election of new members of council. The council recommends the following elections:
R. H. Hogg and R. L. McMillan to replace J. K. R. Melrose and J. Mitchell who retire by rotation.
8. Any other business.

NORTHERN MEETING

As stated in the spring number of the journal (page 196), there will be an additional meeting of the Club in 1980. This will take place at the Drumossie Hotel, Inverness during the weekend 18-20 April 1980. Full details of the programme, together with the booking form, will be sent to members with the winter number of the journal. In fairness to all members, bookings can only be made on the form sent out with the

programme; also the Drumossie Hotel has been instructed only to accept reservations made on a hotel booking form which is obtainable only from the club secretary at the time of booking for the meeting. It is regretted that advance bookings for the meeting and the Drumossie cannot be accepted.

ENDOWMENT FUND

Members are reminded that the Club's Endowment Fund was established for the advancement of ornithology. Any legacy or donation will be very gratefully received and should be sent to the club secretary.

The Fund is administered by the Council of the Club which is empowered to make grants from the accumulated free income. Applications for a grant should normally be submitted to the club secretary by 31st December each year, so that they can be considered at a council meeting usually held in March. Applications received after 31st January will not be considered for a grant given in the financial year ending on 30th June following.

CLUB BADGES

SOC badges, depicting the club's emblem—the crested tit—in silver on blue enamel, are now available at 50p each (58p by post). They can be obtained from the club secretary; supplies are held by some branch secretaries.

Members are reminded that ties in maroon, dark blue or green, with the club emblem, are available at £2 each (£2.08 by post), and also window stickers at 15p (23p by post).

WINTER EXCURSIONS

AYR BRANCH

Sunday 4 November 1979 HUNTERSTON, PORTENCROSS. Leader, John Burton. Meet 1.30 pm Wellington Square, Ayr, or 2.15 pm Hunterston access road.

Saturday 1 December DOONFOOT. Leader, Bruce Forrester. Meet 1.30 pm Wellington Square, Ayr.

Sunday 27 January 1980 LOCH RYAN. Leader, Angus Hogg. Meet 9.15 am Wellington Square, Ayr (bring lunch).

Saturday 23 February LOCH KEN. Leader, John Melrose. Meet 9.15 am Wellington Square, Ayr (bring lunch).

Sunday 30 March CULZEAN. Leader, Roger Hissett. Meet 1.30 pm Wellington Square, Ayr.

DUNDEE BRANCH

All excursions leave Crichton Street at 10 am (bring lunch & tea).

Sunday 14 October 1979 ERROL. Leaders, Tay Ringing Group

Sunday 18 November WESTHAVEN. Leader, D. B. Thomson.

Sunday, 9 December KINNORDY & LINRATHEN. Leader, Mrs J. A. R. Grant.

Sunday 20 January 1980 MONIKIE. Leader, B. M. Lynch.

Sunday 17 February TAYPORT & TENTSMUIR. Leader, D. B. Thomson.

Sunday 23 March FORFAR LOCHS. Leader, B. Pounder.

It is intended to arrange a weekend excursion in April. Please contact the branch secretary for full details (please send s.a.e. if writing).

INVERNESS BRANCH

Sunday 30 September 1979 DORNOCH AREA. Leader, Donnie Macdonald. Leave 8 am.

Saturday 3 November LOSSIEMOUTH & BURGHEAD. Leader, Derek McGinn. Leave 8 am.

Saturday 24 November LOCH OF STRATHBEG. Leader, Jim Dunbar. Leave 7 am.

Sunday 24 February 1980 APPLECROSS or LOCAL FIRTHS. Leader, Roy Dennis. Time to be arranging depending on venue.

Saturday 15 March Venue to be arranged.

Saturday 24 May INSH MARSHES. Leader, Russell Leavett. Leave 8 am.

6-8 June Possible weekend outing—details to be arranged.

All excursions leave from Cathedral car park, Inverness (take lunch & tea). Names to and further details from Mrs J. Morrison, 83 Dochfour Drive, Inverness IV1 5ED (tel. 0463 32666). Please send sae if writing.

INVERNESS BRANCH SECRETARY

We are very pleased to announce that the branch secretary was married during the summer, and we send our very best wishes to Edith and her husband. Will members please note that her new name and address are: Mrs E. M. MacQuarrie, Kildalton, 38 Lovat Road, Inverness (tel. 0463 39097).

ABERDEEN BRANCH—FIRST WINTER MEETING

Please note the date is Monday 1 October, not as previously stated.

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.

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

Orkney D. Lea, 6 Old Scapa Road, Kirkwall, Orkney, KW15 1BB.

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

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

Moray Firth C. G. Headlam, Dallachie, Fearn, Ross-shire, IV20 1TN.

Banffshire, Morayshire, Nairnshire J. Edelsten, 14 South High Street, Portsoy, Banffshire, AB4 2NT.

- 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** Miss M. P. Macmillan, An Fhuaran, Clachan Seil, Argyllshire.
- Fife, Kinross-shire** Mrs J. A. R. Grant, Brackmont, Crail, Fife.
- Clackmannanshire, Perthshire (West), Stirlingshire** Dr D. A. Bryant, Birkhill Cottage, Pool of Muckhart, Dollar, Clackmannan.
- Clyde** R. A. Jeffrey, 1a High Calside, Paisley, Renfrewshire.
- Bute** J. B. Simpson, Estate Office, Rothesay, Bute.
- Lothians** R. W. J. Smith, 33 Hunter Terrace, Loanhead, Midlothian, EH20 9SJ.
- Ayrshire** A. G. Stewart, 31 St Andrews Avenue, Prestwick, Ayrshire, KA9 2DY.
- Borders** A. Bramhall, 28 Blakehope Court, Tweedbank, Galashiels, Selkirk, TD1 3RB.
- Dumfriesshire, Kirkcudbright, Wigtownshire** Vacant.

Current Notes

These notes include unchecked reports and are not intended as a permanent record, nor will they be indexed. Please send reports via local recorders at the end of March, June, September and December.

The cold and unsettled spring weather delayed many migrants and they were generally scarce at coastal stations. Continental weather late in the season provided more interest, however. In the end, the tally of rarities was surprising: first Scottish records of **Cattle Egret**, **Greater Sand Plover** and **Spectacled Warbler**, and second records of **Song Sparrow** and **Cretzschmar's Bunting**. There were interesting developments amongst breeding birds too, with **Scaup**, **Red-backed Shrike** and **Brambling** nesting, and signs of range extension of **Red-necked Phalaropes** and further colonization by **Lapland Buntings**.

Black-throated Diver 16 Sinclair's Bay (Caith) 7 Apr was a large gathering there. **Great Northern Diver** 17 Rattray (Aber) 28 Apr was likewise. **White-billed Diver** Scourie (Suth) 17 Apr; Yell Sound (Shet) May (?); Fair Isle 5 May; S Uist early Jun. **Sooty Shearwater** early one c25 km E of St Kilda 28 Jun. **White Stork** Maryculter (Aber) 25-26 Apr; Banchory (Kinc) 26 Apr; Darvel (Ayr) 30 May; Barns Ness (E Loth) 3 Jun. **Cattle Egret** Kinnordy (Angus) May—1st for Scotland. **Brent Goose** *Pale-bellied hrota*: late one St Kilda 22-24 Jun. **Teal** *Green-winged carolinensis* ♂ wintered Eden estuary (Fife); ♂ Newtonmore (Inv) 19-27 May. **Garganey** pr New Cumnock (Ayr) 15-16 Apr. **Blue-winged Teal** ♂ Orkney spring. **Scaup** ♀ + brood N Highlands July. **Steller's Eider** ♂ still resident Peninerine (S Uist) June. **Long-tailed Duck** 2 Fair Isle 2 Jun, one 23 Jun, both late. **Black Kite** Rattray 30 May. **Marsh Harrier** Kinord 16 Apr, Strathbeg 17 Apr (Aber), Leuchars (Fife) mid May. **Rough-legged Buzzard** Fair Isle 28 Apr, 18 May, 4 Jun. **Osprey** migrants Stonehaven (Kinc) 26 Mar, Dunbar (E Loth) 13 Apr; 20 prs bred. **Red-footed Falcon** Caithness May. **Hobby** 4 Fair Isle during 21 May-12 Jun. **Gyr Falcon** white one took Puffin from Mike Harris's Isle of May study area 13 Apr. **Spotted Crane** nesting Uists June. **Corncrake** 1st report Noss Head (Caith) 5 May. **Avocet** Belhaven (E Loth) 12 Apr; Ythan (Aber) 17 Apr. **Little Ringed Plover** Fair Isle 20 May. **Greater Sand Plover** Orkney in

spring—1st Scottish and 2nd British record (within 6 months). **Little Stint** Wick (Caith) 5 Jun. **Whimbrel** 1st reported Musselburgh (E Loth) 14 Apr; nested St Kilda 3rd year running—2 unmated ♀♀ laid 8 eggs in same nest. **Spotted Redshank** Fair Isle 19 May. **Wood Sandpiper** present 2 sites Inverness in May; 1 Fair Isle 30 May. **Common Sandpiper** 1st reported Dee mouth (Aber) 14 Apr. **Red-necked Phalarope** pairs at 2 sites S of Great Glen. **Pomarine Skua** singles Aberlady (E Loth) 14 Apr; Wick (Caith) 26 Apr, 5 May; 2 c30 km E of St Kilda 28 Jun. **Long-tailed Skua** Fair Isle 6 Jun. **Great Skua** early one Gailles (Ayr) 11 Feb; 24N/2 hrs Wick 30 Apr; **Mediterranean Gull** South Queensferry (W Loth) again in April; 1st yr Irvine in winter, Doonfoot 8 May (Ayr)—now becoming regular in Scotland. **Iceland Gull** 7+ Wick Jan-Feb. **Glaucous Gull** up to 8 Ayr Jan-Apr. **Kittiwake** 7000N/1 hr Rattray 28 Apr, part of a large movement of seabirds in the NE. **Sandwich Tern** 1st reported Turnberry (Ayr) 4 Apr. **Little Tern** 1st record Ardeer (Ayr) 14 Apr. **Little Auk** found dead; Troon (Ayr) 28 Jan; 3 Aberdeenshire April; Peninerine June (wing only) **Turtle Dove** St Kilda max 6 on 18 Jun; in song North Berwick (E Loth) spring. **Snowy Owl** one St Kilda in Mar; 2 ♀♀ Fair Isle 16 Ap, ♂ 19-22 Apr; ♀ Foula (Shet) mid June. **Swift** 1st 2 Galashiels (Selk) 1 May. **Wryneck** in song in NE; only coastal migrant reported Noss Head 20 May. **Short-toed Lark** Fair Isle 21-24 May. **Skylark** flock of 2500 Prestwick (Ayr) 27 Jan. **Shore Lark** Fair Isle 24-25 May, 11 Jun. **Sand Martin** 1st reported Irvine 5 Apr - late. **Swallow** 1st ones reported Doonfoot 12 Apr - late. **House Martin** 1st records Dunure (Ayr) (2), Barns Ness and Belhaven 12 Apr. **Tawny Pipit** Leuchars 1 Jun. **Tree Pipit** 1st reported Doonfoot 14 Apr. **Red-throated Pipit** Fair Isle 23-24 May. **Yellow Wag-tail** 1st reported St Abbs Head (Ber) 15 Apr; Grey-headed *thunbergi* 2 Fair Isle 21 May, two 4 Jun. **Waxwing** Ballater and Aberdeen late March. **Bluethroat** Cruden Bay (Aber) and 4 Girdleness (Kinc) late May; 7 Fair Isle, 21 May, one 6 Jun. **Black Redstart** 7-16 Apr: 2 Doonfoot; 2 St Abbs; 8+ Girdle Ness-Rattray; 8+ Noss Head-Wick; 3 Fair Isle. **Redstart** 1st reports St Abbs (2), Penmanshiel (Ber) and North Berwick 15 Apr. **Whinchat** 1st reported Doonfoot 12 Apr - early. **Wheatear** 150 Aberlady 13 Apr; 100 Fair Isle 17 Apr. **Black-eared Wheatear** Eastern *melanoleuca* Crosskirk (Caith) 14 Apr; this species or **Pied Wheatear** trapped Fair Isle 18 Jun—help is needed from anyone with experience of either species in worn plumage to sort this one out! **Fieldfare** late one Fair Isle 19 Jun. **Sedge Warbler** 1st reported New Cumnock 16 Apr. **Marsh Warbler** Fair Isle 2 Jun, 4 on 6 Jun; in song Orkney mid Jun. **Reed Warbler** 2 Fair Isle 5 Jun. **Great Reed Warbler** St Abbs Head 29-30 May. **Icterine Warbler** Fair Isle 30 May, two 2 Jun, two 5 Jun, 4 on 6th; Noss Head 5 Jun, 2 on 6th. **Spectacled Warbler** ♂ Fair Isle 4-5 Jun—1st for Scotland, 3rd British. **Subalpine Warbler** ♀ Fair Isle 1-10 Jun; ♂ St Kilda early Jun. **Lesser Whitethroat** 10 Fair Isle 4 Jun. **Whitethroat** 1st reported Wick 28 Apr. **Willow Warbler** 1st 3 St Abbs Head 11 Apr. **Firecrest** 2 St Abbs 8-11 Apr, 1 to 13th. **Red-breasted Flycatcher** Fair Isle 31 May. **Red-backed Shrike** Wick-Noss Head 7 May, 3 later in May, 3 during 4-6 Jun; 6 Fair Isle 21 May and 1 Jun and 6 Jun; Aberlady 23 June; bred again NE Scotland. **Brambling** late one Fair Isle 5 Jun; ♂ singing and ♀ on nest in birchwood in NE Scotland in Jun-Jul—the only other authenticated nest was in 1920 in Sutherland. **Scarlet Rosefinch** 4 Fair Isle during 21 May-8 Jun. **Hawfinch** ♂ L Ken (Kirk) 18 Feb—a rarity there. **Song Sparrow** Fair Isle 17 Apr-7 May—2nd for Fair Isle and Scotland, the 1st was in 1959. **Lapland Bunting** Fair Isle 19 Jun; bred again in Highlands, 10 prs estimated in one site, 2 fledglings seen; colonization may well be in progress. **Ortolan Bunting** Fair Isle 2 Jun, 4 Jun. **Cretzschmar's Bunting** ♂ Fair Isle 9-10 Jun—2nd for Fair Isle and Britain. **Rustic Bunting** ♂ Fair Isle 11 Jun.

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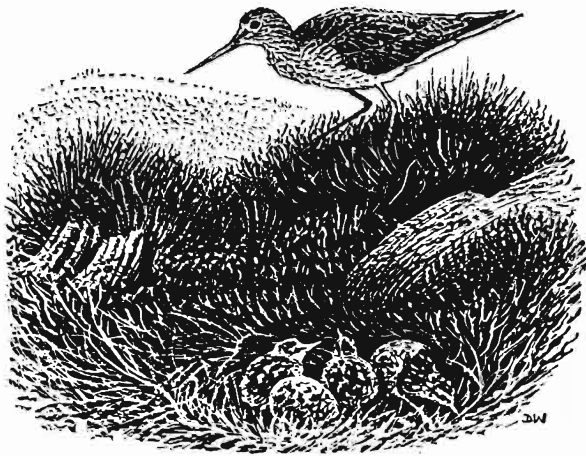
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GREENSHANKS

Desmond and Maimie Nethersole-Thompson

Desmond Nethersole-Thompson has been studying his favourite bird, the Greenshank *Tringa nebularia*, since 1932. He told of his earlier researches in the Spey valley in *The Greenshank*, a New Naturalist volume published in 1951, a classic, long out of print and a collector's item.

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