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Earlier colony attendance by Guillemots and Razorbills

K. TAYLOR and J. B. REID

(Plate 22)

Cliff nesting auks are now seen on their breeding ledges much earlier in the winter than formerly. How widespread is this new habit, what are its causes, and why do some colonies attract many more birds in winter than in summer?

Most Guillemots and Razorbills leave their breeding colonies in July and the rest at the beginning of August in Britain. Many Scottish Razorbills travel to Scandinavian waters in late summer and autumn, as do some Scottish Guillemots, but movements of Guillemots are still imperfectly known (Cramp *et al.* 1974, Mead 1974). While at sea after leaving the colony, moult of primary feathers renders Guillemots flightless for several weeks, but Razorbills may drop their remiges later than Guillemots (Birkhead & Taylor 1977). The birds return to the breeding site in winter, well before the onset of egg laying. The present study reviews information on the timing of this winter return for three colonies—Fair Isle, the Farne islands and the Isle of May—where records are available from the 1950s to the 1970s (Bell 1962-6, *Birds in Northumbria* 1970-77, *Fair Isle Bird Observatory Reports* 1958-78, Isle of May Bird Observatory records, Eggeling 1974). Information from other areas is also presented to describe and assess the recent seasonal pattern of Guillemot and Razorbill colony attendance in the north of Britain. Population figures are quoted here in the units given by the counter.

Previous descriptions of colony attendance since the 1950s

In the 1950s Baxter & Rintoul (1953) recorded that Guillemots and Razorbills did not normally visit the breeding cliffs in Scotland until February. Bannerman & Lodge (1963) con-

sidered that while Guillemots 'exceptionally' came ashore in Britain in December, northern colonies were reoccupied after the turn of the year, with Razorbills landing in late February. About 1964, the pattern of Guillemot attendance on Fair Isle began to change, with birds being seen ashore in December and November between 1964 and 1967 (Dennis 1967). By the 1970s, winter records of Guillemots ashore were available from other Scottish colonies (e.g. Greenwood 1972), and Mead (1974) stated that some birds were at colonies in October. No similar trend of progressively earlier return to the breeding site was noted for the Razorbill, except that on Fair Isle they returned a few weeks earlier between 1964 and 1967 than was usual in previous years (Dennis 1967).

Attendance at Fair Isle, the Farne Islands and the Isle of May

The first recorded autumn and winter landings of Guillemots and Razorbills on Fair Isle are plotted as mean landing dates over three year periods from 1958-78 in fig. 1. There was a significant tendency for both species to return progressively earlier after 1963 (Spearman's rank correlation coefficient: Guillemot $r_s = -0.71$, $p < .01$; Razorbill $r_s = -0.57$, $p < .05$, $n = 15$). During this period the Fair Isle Guillemot population rose from 1,500-2,000 pairs in 1959 to 5,640 pairs in 1965 and c.10,000 pairs in 1969 and 1975. The Fair Isle Razorbill

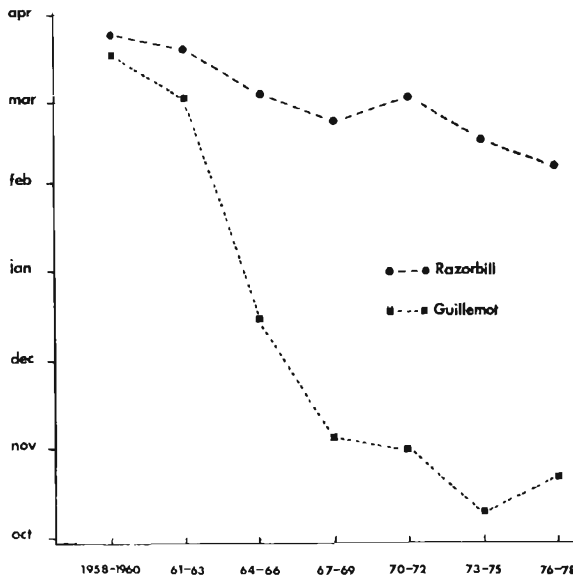


FIG. 1. Mean autumn/winter landfall dates for Fair Isle auks.

population increased from 750-1,000 pairs in 1965 to 1,200 pairs in 1969 and possibly 2,500 pairs in 1975 (Davis 1965, Cramp *et al.* 1974, Scottish Bird Report 1975).

The mean date Guillemots were last seen ashore on Fair Isle was 4th August (standard deviation ± 6 days) in the 1960s and 7th August in the 1970s. The mean date Razorbills were last seen ashore was 2nd August (s.d. ± 7 days) in the 1960s and 8th August (s.d. ± 7 days) in the 1970s.

On the Farne Islands records are dependent on dates of first observer visits to the colony. A comment that a return of Guillemots on 6th January 1952 was 'unusually early' should be viewed in this context (Watt 1953). Mean Guillemot return date was 14th November (s.d. ± 8 days) for 1961-5 and 3rd November (s.d. ± 11 days) for 1970-77. The Pinnacles colony increased from 1,300 pairs in 1971 to 2,400 pairs in 1977. Desertion of the Pinnacles occurs mainly in the first fortnight in August.

There are records of Guillemots and Razorbills ashore on the Isle of May in October, November and December since the 1950s. Our observations in 1978, and information in the observatory records, suggests that both species begin to visit the island in early October, the number of birds ashore increasing over the next few weeks, so that many thousands of Guillemots and several hundred Razorbills may be seen ashore by the end of October. Counts of these auks ashore on the Isle of May in autumn and winter 1952-79, together with approximate breeding population estimates for the fol-

Table 1. Autumn and winter Guillemot records, Isle of May

Date	No. ashore	Breeding pairs following season
1.11.52	c.50	2000
23.10.55	75	"
1.11.55	100	"
24.11.59	59	"
23.11.60	'many'	2000+
3.11.62	1000	"
1.11.64	1000+	"
24.10-25.11.66	2000+	"
5.10.70	170	"
2.11.70	2000	"
—,11.71	4400	3000-4000
—,12.72	4300	4000+
10.10.73	200	"
20.10.74	1200	"
23.12.74	16,000	"
14-17.10.75	400+	"
23.10.77	13,000	"
10-17.10.78	500+	"
23-30.10.78	'thousands'	"
17.10.79	1350	"

Table 2. Autumn and winter Razorbill records, Isle of May

Date	No. ashore	Breeding pairs following season
3.10.55	2	300-400
31.10.65	c.10	"
31.10-25.11.66	10+	"
5.10.71	100	"
—11.71	800	"
10.10.73	65	400-500
23.12.74	500	"
14.10.75	50+	"
23.10.77	2000+	"
10-17.10.78	50+	"
23-30.10.78	1000	"
15.10.79	50	"

lowing breeding season, are shown in tables 1 and 2. In December 1974 and October 1977 the number of Guillemots ashore was in excess of the estimated breeding population on the island in the following breeding seasons. In October 1977 and 1978 the number of Razorbills ashore was also greater than the estimated breeding population. These recent pre-breeding season counts were made by observers who knew the size of the island's auk populations during the breeding season. Most Razorbills and Guillemots leave the Isle of May by the end of July.

Attendance at other colonies around Britain

There are only a few recent autumn and winter landfall records for Guillemots and Razorbills at other colonies in the north. In Shetland, Venables & Venables (1955) noted that Guillemots did not come ashore until early February, but recent records (*Shetland Bird Reports* 1969-77) include Guillemots on land in late December or January between 1969 and 1971, and from October from 1974 onwards. Shetland Razorbills, noted by Venables & Venables (1955) as making a landfall in the second week of March, were seen ashore in February from 1969 onwards. In Orkney, Guillemots were ashore in October 1971, and 'thousands' were on the Copinsay ledges in mid October 1977 (*Scottish Bird Report* 1971, Hope Jones 1978). In Caithness, Guillemots were ashore in December 1971 and November 1972 (*Scottish Bird Reports* 1971, 1972).

While attendance by Guillemots at English colonies from mid October onwards is now normal, autumn sightings of Razorbills ashore are unusual (T. Birkhead pers. comm.). Guillemots were ashore at Bempton in November 1870 (Cordeaux 1872). In Wales Guillemots have been seen ashore in December for many years (Fisher & Lockley 1954), but Razor-

bills do not come on land until later, such as those on Skokholm which usually return in March (Lloyd 1972, 1976). In Ireland Guillemots were ashore on Great Saltee in October 1955 and 1957 (*Irish Bird Reports* 1955, 1957). North of Britain there was a traditional belief among Faeroese seabird fowlers that Guillemots came ashore on the island of Skuvoy on 25th January (Norrevang 1977).

Discussion

The change in the pattern of Guillemot attendance on Fair Isle which began in 1964 was considered by Dennis (1967) to be associated with a local increase in small fish such as sandeels (*Ammodytidae*). *Ammodytes marinus*, one of the main prey of Guillemots, spawns in February and March in Scottish waters and has a major spawning ground around Orkney (Langham 1971). In 1965 a tenfold increase in the abundance of the young of spring spawning species such as sandeels was recorded in the western English Channel (Russell 1973). While this may have reflected a much broader change in marine populations in the Northern Hemisphere (Cushing & Dickson 1976), it is not known whether there were similar changes in the Orkney area at this time.

An increase in local food abundance might allow birds to moult near the colony and thus return early to the breeding site but does not by itself explain why birds should come ashore in autumn and winter. While food supply appears to be the ultimate factor controlling the phasing of the breeding cycle in many northern seabirds (e.g. Salomonsen 1955), intraspecific competition for nest sites may be an important proximate factor. Birkhead (1978b) showed that more intraspecific aggression occurred among Guillemots ashore from November to March than at other times and considered that this aggression was indicative of nest site competition. Such competition is more intense in the densely breeding Guillemot than in the relatively dispersed breeding Razorbill and may partly explain why Guillemots come back earlier to the breeding site.

The idea that early return of Guillemots to the breeding site is a result of pressure on nest sites is suggested by the Fair Isle data, where birds tended to return to the colony progressively earlier during a period when the estimated breeding population on the island increased fivefold.

Guillemots are flightless for 40-50 days during the post-nuptial primary moult, which takes about 63 days (Birkhead & Taylor 1977). Observations of Guillemots ashore at northern colonies in October, where most birds do not leave the ledges until late July or early August, suggest that some birds return

to the breeding ledges very soon after post-nuptial primary moult.

Proper interpretation of the significance of large numbers of auks ashore in winter on the Isle of May requires more accurate breeding population estimates than those made to date. Standard census methods are described by Birkhead & Nettleship (1980). Estimation of the ratio of breeding pairs to individuals present at the colony is of crucial importance in censusing cliff breeding auks (cf. Birkhead 1978a). In the absence of a ratio for the Isle of May it is not possible to say whether winter counts in excess of the estimated breeding population indicate that the island is used by auks from other colonies at this time of year. At one Guillemot colony on Skomer (Wales) where the ratio was accurately estimated, the number of birds ashore at times of peak attendance in the pre-laying period was slightly greater than double the number of pairs later breeding there (Birkhead 1977). Since recent Isle of May winter counts give Guillemot numbers ashore three to four times greater than the estimated number of pairs later breeding there, the need for more rigorous censusing in summer, as well as winter, is obvious. Although it is possible that the counts included non-breeders and immatures, there are unlikely to be enough present in the population to explain the large discrepancy. There are few data on the geographical spread of colonies that have auks ashore in winter, and, as previously noted by Bourne & Dixon (1974), a lack of information on changes in numbers of birds ashore at single colonies in winter.

More counts should be made of Guillemots and Razorbills at the breeding colonies in winter, evidence presented here suggesting that observers could fruitfully begin studying many Scottish colonies from early October onwards. Winter counts have conservation importance, since large pre-breeding aggregations of auks, such as on the Isle of May during the winter, mean that an oil spill could be more damaging in winter than in the breeding season.

Acknowledgments

We thank Dr Tim Birkhead and Dr Mike Harris for information and comments on earlier drafts, and Bernard Zonfrillo and Hector Galbraith for help in collecting Isle of May data. The senior author was supported by a Science Research Council post-graduate studentship.

Summary

Over the last two decades the seasonal pattern of colony attendance by Guillemots and Razorbills at some colonies in the north of Britain appears to have changed. Both species are now seen ashore earlier in winter than was previously considered normal. On the Isle of May both species have been seen ashore in October since the 1950s. The recent

pattern of attendance is documented for several colonies where records of autumn and winter auk visits are available. There is a scarcity of winter information for most other northern auk colonies. Early return to the colony may be due to intra-specific competition for nest sites, progressively earlier return to Fair Isle after 1963 being associated with an increase in the island's breeding populations. It is unlikely that the birds could come ashore much earlier than recorded to date since they are flightless for a period before this while moulting the primary feathers. There is a need for more, and more detailed, observations of Guillemots and Razorbills ashore at their colonies outside the breeding season. Winter auk counts could have conservation importance, but proper interpretation of such counts will require rigorous censusing of breeding populations.

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The Lesser Black-backed Gull on the Isle of May

NEIL DUNCAN

More attention has been paid to the Herring Gull than to the Lesser Black-back on the Isle of May. Since the cull began the Lesser Black-backed Gull's place in the island's seabird community has gained in importance and its numbers are now increasing steadily.

This paper reports on some aspects of the population ecology of the Lesser Black-backed Gull on the Isle of May (Firth of Forth). In recent years considerable attention has been paid to the biology of the Herring Gull on this island (see the papers of Parsons 1975, 1976, *et al.* 1976 for reproductive biology; Duncan & Monaghan 1977 and Parsons & Duncan 1978 for movements and dispersal; Chabrzyk & Coulson 1976 and Duncan 1978 for population dynamics with particular reference to the Nature Conservancy gull cull). It might be a consequence of the importance attached to the Herring Gull that attention seems to have been diverted from the sizeable population of Lesser Black-backs on the island. In fact, the Lesser Black-back is becoming increasingly important in relation to the numbers of other species breeding in this major seabird breeding station, and in 1979 they constituted almost 20% of the large gull population.

Most of the data in this paper were collected between 1974 and 1977 in the course of more detailed studies on the Herring Gull, and comparisons with this species are made where ap-

appropriate. Since much of the Lesser Black-back data were collected incidentally there are many gaps left to fill, especially in the assessment of breeding success. However, interest in the gull population on the island is likely to continue, and it seems worthwhile summarizing what is known about the Isle of May population with reference to status, movements and breeding success. Details of the Isle of May have been fully described in published accounts already (see especially Eggeling 1960, 1974).

Methods

(1) Breeding Lesser Black-backed and Herring Gulls were censused by counting all nests before each annual cull by dividing discrete topographical areas into longitudinal transects 2m in width and counting all nests, whether with eggs, chicks, or completed nests prior to egg laying. There was good separation of the species according to nest habitat, and inaccuracies through confusing the two were thought to be minimal. Doubt in any particular area or individual nest was usually dispelled by direct observations of the birds on their territories.

(2) Nests of a sample of Lesser Black-backed Gulls were staked and numbered early in the breeding seasons of 1974 and 1975. The timing of laying was investigated by daily nest checks, and clutch size was measured. Chicks were marked two or three days after hatching by using a unique combination of colour rings for each individual. These rings were stapled in position and designed to fall off after several weeks. The survival of chicks was followed until about their twentieth day by which time it was assumed that they would fledge successfully.

(3) Past ringing records deposited with the Isle of May Bird Observatory were examined up to 1977 and the location of each recovery or sighting of an Isle of May Lesser Black-back plotted.

The growth of the population

The Lesser Black-backed Gull did not breed on the May until 1930, but according to Eggeling (1974) the population increased steadily. By 1972 the population was estimated at about 2,500 pairs and analysis of the counts (Eggeling 1974, table 4, p. 138) indicates that the increase averaged 14.3% p.a. from the early 1930s. J. C. Coulson (pers. comm.) independently estimated the numbers of Lesser Black-backs as 10% of the total gull population in 1972. This count indicates that the numbers of pairs of Lessers was in the region of 2,100. This rate of growth was similar to that of the Herring Gull which had increased since its founding in 1907 at an average of 13% (Chabrzyk & Coulson 1976). Figure 1 illustrates the increase in numbers of breeding pairs of Lesser Black-backed and Herring Gulls respectively. To make the relationship linear the natural log of the number of gulls is plotted against time. The standard errors of the slopes are not significantly different, indicating there is no statistical difference between the rates of increase of the two species.

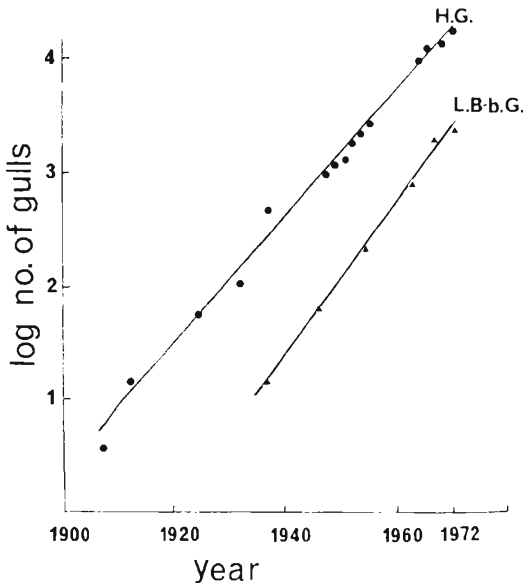


Figure 1. The rate of increase of the Lesser Black-backed Gull (triangles) compared with the rate of increase of the Herring Gull (dots) on the Isle of May since the first breeding records of the species. The log of number of pairs is plotted against year.

The population since culling began

The first gull cull on the Isle of May took place in 1972 and has since continued annually. The greatest effort has been directed towards lowering the numbers of Herring Gulls but attempts have been made to reduce the Lesser Black-backed population as well. Eggeling (1974) stated that about 1,700 Lessers were destroyed in 1972, and a further 1,100 in 1973. These figures appear to be estimates rather than accurate counts and hence are not considered in table 1 which gives a more detailed appraisal of recent effects of culling since 1974 when this study began. The totals killed are the sum of those culled and recovered on the island (N. J. Gordon pers. comm.), an estimate of the numbers of gulls which took narcotic baits on the island but died at sea or inaccessible places, and a small number of gulls taken in the course of recruitment experiments in the colony as a whole. Each year the numbers of gulls dying away from the island was estimated at 10% of the numbers recovered dead on the island (Duncan 1978).

Table 2 presents a breakdown on figures obtained in the yearly census since 1974. The population was at its lowest in 1975 and since then there has been a steady recovery despite the annual cull. For reference purposes, the Isle of May has

Table 1. The breeding population of Lesser Black-backed Gulls on the Isle of May 1974-9 (expressed as individuals, not pairs) and the numbers killed by culling. Numbers killed include birds dying at sea (estimated to be 10% of the number recovered on land) and a small number culled in recruitment experiments.

	No. of breeding gulls	No. of non-breeding gulls	No. killed by culling	% breeding population killed
1974	1,590	100	581	36.5
1975	1,302	70	276	21.2
1976	1,484	50	349	23.5
1977	1,682	50	26	1.5
1978	1,710	50	133	7.8
1979	1,870	50	202	10.8

Table 2. The number of pairs of Lesser Black-backed Gulls breeding in different areas on the Isle of May, 1974-9 and the percentage annual change

	1974	1975	1976	1977	1978	1979
North Ness	22	4	8	6	7	8
Rona	144	85	106	98	103	144
East Tarbet	19	12	8	11	3	3
West Side*	225	214	236	285	295	312
East Side**	178	150	164	197	201	218
South Ness	207	186	220	244	246	250
Totals	795	651	742	841	855	935
% change since previous year		-18.1	+14.0	+13.3	+1.8	+9.4

*Altarstanes to Pilgrims' Haven

**High East Tarbet to Kirkhaven

been divided into six areas which are well known by visitors to the island.

Summing up, it can be seen that the population has increased by about 140 pairs since 1974, and fig. 2 portrays the extent of the population change during the period of culling: these changes are compared with the extent of changes in the Herring Gull population over the same period.

Breeding success

It has been difficult to measure breeding success of gulls on the Isle of May since the onset of culling, and although some study areas of the island were left uncultured in 1975 through agreement with the NCC so that breeding success of Herring Gulls could be measured, these were not areas particularly favoured by Lesser Black-backs. Generally, the peak of laying is about eight days later than that of the Herring Gull (pers. obs.) and although many clutches have been started

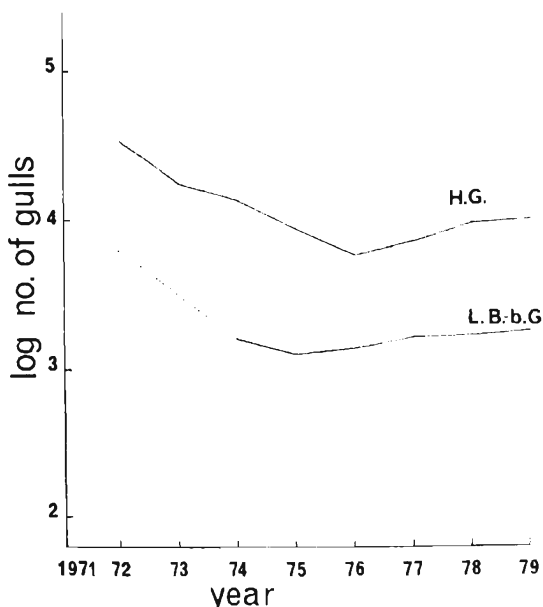


Figure 2. Population trends of the Lesser Black-backed Gull on the Isle of May compared with the Herring Gull since the onset of culling in 1972. The population was not known in 1973. The log of number of pairs is plotted against year.

at the time of the cull, which has usually been undertaken in the last week of May, less than 20% of clutches have been completed. The disruptive effect of the cull was such that clutch size and breeding success became extremely hard to measure with certainty.

In 1974 and 1975 a sample of Lesser Black-back nests were kept under observation during the breeding season. Clutch size was recorded in both years, and fledging success in 1975 only.

Table 3. Summary of aspects of breeding biology of the Lesser Black-backed and Herring Gull on the Isle of May, 1974 and 1975

	Lesser Black-backed Gull		Herring Gull	
	1974	1975	1974	1975
Sample size (n)	48	53	120	223
Date at which 50% of clutches were completed	22 May	23 May	16 May	19 May
Mean clutch size	2.72	2.70	2.76	2.64
Mean no. chicks fledged/pr.	—	1.10	—	0.85

Table 3 summarizes data on breeding, making comparisons with the Herring Gull in the same year.

Some results of ringing

Lesser Black-backs have not been ringed in numbers proportional to those of the Herring Gull on the Isle of May. Nevertheless, since the early 1950s more than 1,000 have been ringed on the island (mostly as chicks). Numbers of recoveries have been sufficient to arrive at some conclusions relating to movements from the island, but insufficient to illustrate seasonal trends in dispersal. Between 1954 and 1977 there were 76 recoveries reported to the BTO by the public, and a further 100 Isle of May ringed gulls were culled on the Isle of May and elsewhere in the years 1972-9. Fifteen of these were recovered breeding in other colonies (see fig. 3) but there has been no evidence of gulls changing colony after first breeding.

Ringing has enabled information to be collected on two aspects of Lesser Black-back biology: firstly, dispersal from the natal colony, and secondly, the degree of philopatry (re-



Figure 3. The pattern of recoveries of Lesser Black-backs ringed on the Isle of May between 1954 and 1977. Triangles indicate birds found breeding in other colonies (recovered in culls). Dots indicate birds recovered by the general public and reported to the BTO. Gulls culled on the Isle of May are not recorded, and one adult ringed in October and recovered at Nyksund, Sortland, Norway is not recorded.

turn to the natal colony). Recoveries of ringed birds (excluding those culled on the Isle of May) are plotted in fig. 3. There are no revelations since it is well known that the gulls reach the west coast of Morocco and further south during winter dispersal as sub-adults. There is no conclusive evidence of adult birds wintering in the British Isles.

Philopatry can only be proved through adequate samples of marked individuals. There is good evidence that a large proportion of Herring Gulls do not return to their natal colony to breed (Chabrzyk & Coulson 1976, Duncan & Monaghan 1977) but there is no reference to the Lesser Black-back on this subject and further study is required.

In all, 9.6% of the Lesser Black-backs ringed as chicks on the Isle of May before 1974 have been recovered breeding on the May (table 4), and a further 1.3% have been recovered in culls in other colonies, notably the Farne Islands. Forty five per cent of the gulls ringed as adults have been recovered on the May. Sixteen ringed as chicks in other colonies have also been

Table 4. The numbers of ringed Lesser Black-backed Gulls recovered in the culls 1972-9

	1972	1973	1974	1975	1976	1977	1978	1979	Totals
Numbers ringed as									
chicks	23	25	12	12	1	0	1	1	75
adults	7	1	1	1	0	0	0	0	9
Ringed as chicks elsewhere	9	2	2	3	0	0	0	0	16

recovered, and despite the much smaller proportion of Lesser Black-backed Gulls culled on the island compared with Herring Gulls (about 4,300 as against over 39,000) this is a higher total than for the Herring Gull—which amounts to only eleven in all. However, there is no firm evidence that recruitment from other colonies is greater than has been suggested for the Herring Gull (Chabrzyk & Coulson 1976, Duncan & Monaghan 1977) since the numbers of Lesser Black-backed Gulls ringed in other colonies are probably greater. This has been the case on the Farne Islands where Lesser Black-backs outnumbered Herring Gulls by about ten to one in the 1960s (J. C. Coulson pers. comm.).

Discussion

Compared with the reduction in numbers of Herring Gulls on the Isle of May since 1972, the control of Lesser Black-backs seems to have been slightly less successful. In 1979 the Lesser Black-back stood at 44% of its estimated pre-cull level (1972, J. C. Coulson's count), while the Herring Gull population had been reduced to about 26%. While there may be fac-

tors regulating recruitment in Lesser Black-backs which are different from the Herring Gull (Duncan 1978) the most likely explanation is a difference in culling effort, with less emphasis on the Lesser Black-back. Had the Lesser Black-back population remained uncultured, by 1979 it would probably have stood at about 5,300 pairs, but it is significant that increases have been recorded in each year since 1976 despite an annual cropping of the population with the attendant disturbance.

Breeding success of Lesser Black-backs was marginally greater than for the Herring Gull in the seasons where this was investigated. This was expressed by higher fledging success and may be explained in some measure by the species breeding later. Thus birds which are disturbed during culling in May have an opportunity to replace clutches, and some may not have started by the time the cull finishes. The figure for breeding success was similar to those found by Brown (1967) working at Walney and Harris (1964) working on Skomer.

Generally, it appears that the Lesser Black-back population on the Isle of May is thriving despite the effects of the cull. Recruitment through immigration from other colonies is probably important and at least a proportion of the population has been able to breed successfully in recent years despite the annual cull.

Acknowledgments

It is a special pleasure to thank those who have helped in recent years with gull studies on the Isle of May. A. W. Colling and N. J. Gordon have been particularly helpful and the Isle of May Bird Observatory Committee have supplied records of past ringing and population counts. Dr Jasper Parsons contributed much by his ringing efforts in the 1960s. Drs J. C. Coulson and Sarah Wanless greatly improved the presentation of this paper by their constructive criticism. The work was undertaken whilst in receipt of a NERC Studentship 1973-7.

Summary

1. Prior to 1972 the rate of increase of the Lesser Black-backed Gull population on the Isle of May averaged 14.3% p.a., which was similar to that of the Herring Gull (13% p.a.).
2. Since the onset of culling in 1972, c.4,300 Lesser Black-backs have been killed and the population in 1979 stood at about 935 pairs (44% of the highest pre-cull total).
3. Mean clutch size was 2.72 and 2.70 in the breeding seasons of 1974 and 1975 respectively. In 1975 the average number of young fledged per pair was 1.10 (cf. 0.85 for the Herring Gull).
4. Recoveries of Lessers ringed on the Isle of May have been plotted. Of these 100 have been recovered in culls on the island and 15 culled in other colonies.
5. It appears that the Lesser Black-back population on the May is thriving despite the annual gull cull.

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Birdwatching in Galloway

DONALD WATSON

(Plate 21)

From the shining mudbanks of the Nith estuary to the precipitous cliffs of the Mull of Galloway is little more than 80 km as a goose flies. Looking back from the Mull across the wide expanse of Luce Bay, the Stewartry mountains seem remote, belonging to a different world, as indeed they often do climatically, gathering the clouds while the coast basks in sunshine. Diversity of habitat makes the small region of Galloway (the Stewartry of Kirkcudbright and Wigtonshire) outstanding for variety of birds. This first of two articles is confined to inland areas.

The Ken-Dee valley contains the richest inland sites for wildfowl. Here, lowland and upland intermingle. The landscape has a gentle quality, with its mounded fields and clustered woods, dominated by the profile of the Rhinns of Kells mountains riding the northern horizon. South of the old railway viaduct many marshy bays formed when the hydroelectric



PLATE 21. A pair of Ravens in Galloway photographed through a Rowan tree
in May 1980.

Jack Orchel

Ravens have declined there with the loss of sheep carrion (see *Birdwatching in Galloway*, page 188).



PLATE 22. Guillemots on the west cliff.

A familiar sight perhaps, except
(see Earlier colony attendance by



the Isle of May, October 1978.

B. Zonfrillo

these birds are in winter plumage
(see also *Albatrosses and Razorbills*, page 173).

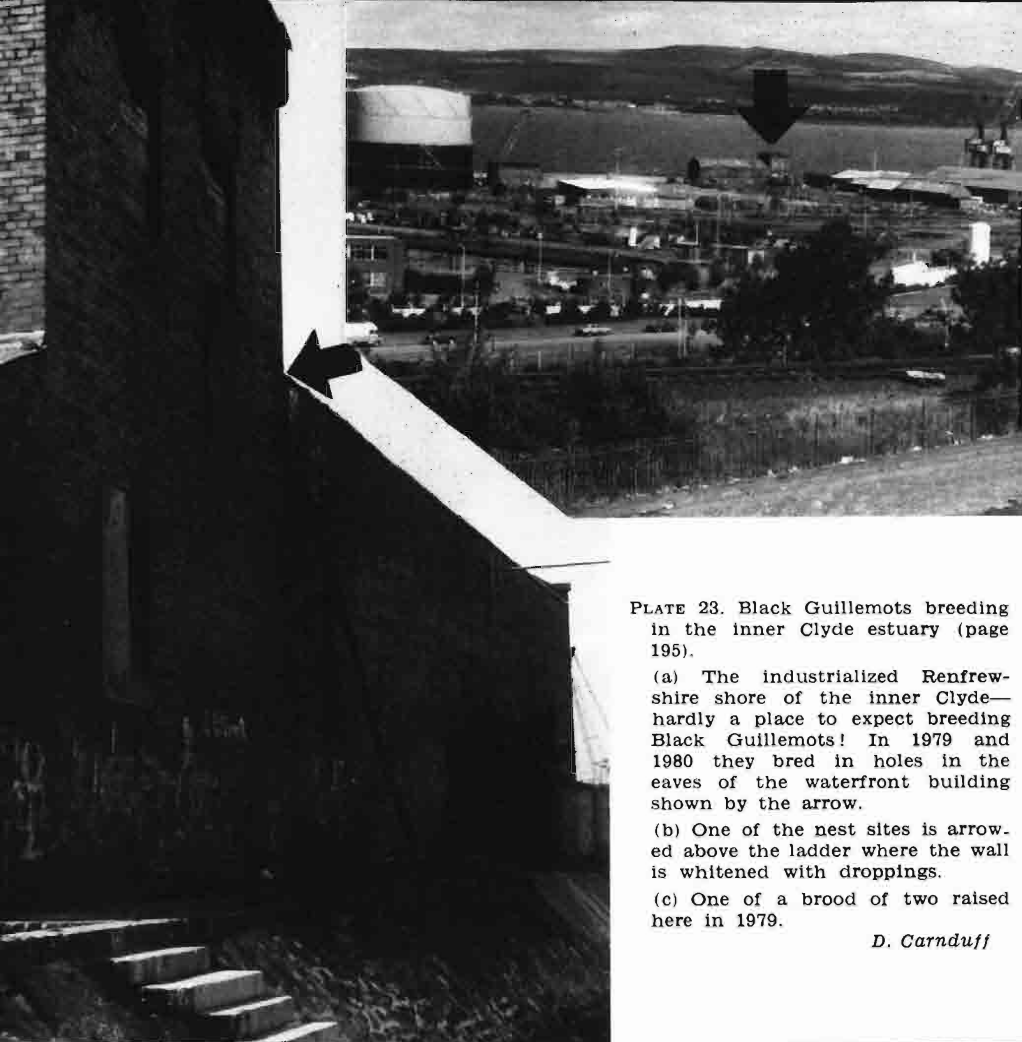


PLATE 23. Black Guillemots breeding in the inner Clyde estuary (page 195).

(a) The industrialized Renfrewshire shore of the inner Clyde—hardly a place to expect breeding Black Guillemots! In 1979 and 1980 they bred in holes in the eaves of the waterfront building shown by the arrow.

(b) One of the nest sites is arrowed above the ladder where the wall is whitened with droppings.

(c) One of a brood of two raised here in 1979.

D. Carnduff



power scheme raised the water level in 1935. These have made an excellent feeding habitat for dabbling duck, including many Shoveler and Pintail, both of which also breed in small numbers.

There is some evidence that raising the water level was responsible for the establishment of the regular wintering flock of Greenland White-fronted Geese, though some had visited the area as far back as 1913. The recent decline of this flock from over 400 to under 300 has coincided with an increase at West Freugh in Wigtownshire, where 360 were counted in December 1980. Nowadays most of the geese in the Ken-Dee system are Greylags which, prior to 1939, were scarce inland. South of Loch Ken, around Threave, Bean Geese were then the dominant geese and even during the 1950s over 200 could still be seen from the A75 road, happily not then a Euro-route, as they fed on High Tae Drum, sometimes accompanied by up to three Lesser Whitefronts. A few Bean Geese still return to the same area but they are elusive during their short stay, between Christmas and early March.

Whooper Swans now feed increasingly on grass fields, notably at Greenlaw in the Dee valley, where 124 were counted in March 1978. Bewick's Swans were formerly rare in the district but some are now seen commonly among the Whoopers. In contrast Smew are much rarer than they were 15-20 years ago when small parties, including a good proportion of the dazzling white drakes, were frequent in hard weather. Duck counts, however, show little change in the numbers of commoner ducks in recent years. Despite much increased disturbance from power boating, post-breeding flocks of Goosanders on Loch Ken still often exceed 100 in August-September. They consist largely or wholly of ducks and their broods from nesting sites upstream, most adult drakes having left, perhaps for Scandinavia, in May-June. It is not known whether mink have had a significant effect on water birds in Galloway. They have certainly killed young Dippers, Teal ducklings and many nesting Black-headed Gulls. A critical study of mink is much needed.

The region contains a wealth of lochs. Generally those in the uplands, with rocky or peaty shores, are the least productive, though Loch Moan in Glentroot Forest Park has the largest Black-headed Gullery and many hill lochs have been colonized by feral Greylag Geese which were first introduced in 1930 to Lochinch, still their greatest stronghold. The Mochrum Lochs, on the low moors of Wigtownshire, are of special interest for their variety of breeding birds, including Common Terns, Red-breasted Mergansers and Dunlin. The large Cormorantry, usually sited on the islands of Castle Loch,

is known to have existed since the 17th century, but in 1979 and 1980 only a few pairs nested, on Mochrum Loch. Among the best lowland lochs are Lochs Milton, Arthur and Carlingwark in Kirkcudbrightshire and Loch Connel, Soulseat Loch and the Lochinch estate lochs (permission required) in Wigtownshire. Carlingwark Loch, close by Castle Douglas, is partly bordered by marshland where Water Rails are common and Spotted Crakes recorded; in winter a fine variety of duck can be seen, especially in the bay at the southwest end. Unfortunately an attempt to drain much of the marsh by opening up the Gelston burn may reduce its attraction for Water Rails, Sedge Warblers and Reed Buntings.

Despite increasing drainage, the pastoral landscape of lowland Galloway is still wonderfully varied. There is an abundance of rough uneven ground, often with bog or carr, where Barn Owls hunt more commonly than anywhere else in Scotland and wintering Hen Harriers are widespread. In recent years grey males have outnumbered ringtails in the Stewartry.



HEN HARRIER *Donald Watson*

They have three important winter roosting areas. The Chaffinch is by far the dominant species in winter flocks of finches and buntings, but Bramblings, Mealy Redpolls and Tree Sparrows locally add to a delightful variety of species. While the Corn-crake has become rare and the Corn Bunting decreased, Quail continue to be heard in barley fields near Beeswing. The lowlands have a network of secluded waterways, with nesting Dippers, Grey Wagtails and Common Sandpipers. The patient watcher may glimpse a Kingfisher, by no means a rarity even after the cold winter of 1978/9.

Though sadly diminished, hardwoods rich in birds are still to be found in all the major river valleys. Some of the best are in tributary glens, like the Garroch in the Glenkens, where Wood Warblers, Garden Warblers, Redstarts and Tree Pipits are plentiful in summer, Blackcaps and Pied Flycatchers in smaller numbers. The well known readiness of the last species to occupy nestboxes may be seen in the Forestry Commission's oakwoods in Glentroot. The pockets of damp Alder and birch woodland that survive 'land improvement' are the headquarters of Galloway's numerous Willow Tits—roadsides at Woodhall and Loch Arthur are good places to see them, as

well as Long-tailed Tits, Redpolls, Siskins and Bullfinches. In 1974 a Marsh Tit sang from the Beeches above Loch Ken but no more have been identified. Little Owls have lately been seen in the vicinity of Laurieston.

Green Woodpeckers, though scarcer than Great Spotted, have been established in the Stewartry since 1954 and were still spreading as far west as Dunskey in Wigtonshire in 1979. Sometimes a groundfeeding Green Woodpecker may be disturbed in pure conifer forest in the uplands. Nuthatches remain tentative inhabitants of the region, the latest sightings being in Glentool in 1976 and near New Luce in 1977. The Wood of Cree, with coppiced oaks and birches, has much charm but a restricted variety of birds. At Kilsture Forest, near Kirkinner in Wigtonshire, the Forestry Commission has made attractive walks through interesting mixed woodland. In this area Magpies, for reasons unknown, are conspicuously more common than in the Stewartry.

Profound changes in the birdlife of the uplands have arisen from very widespread conifer afforestation. In 1916 the Rev. C. H. Dick wrote of the Deugh valley near Carsphairn, 'Nowhere so inevitably as here does one recall these lines of Stevenson:

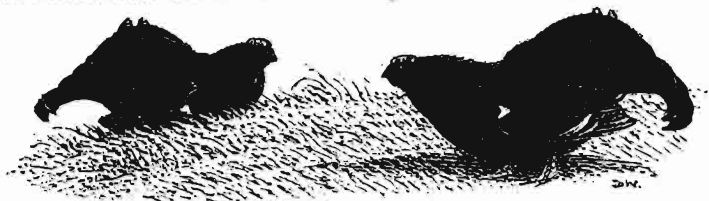
Where about the graves of the martyrs the Whaups are crying . . .
Hills of Sheep and the howes of the silent vanished races.'

Not so today, when by far the majority of hill roads present views of conifer plantations, with only the hilltops bare of trees. At first sight the birds gained from this afforestation seem more impressive than the losses. Short-eared Owls, Kestrels and Black Grouse, Whinchats, Redpolls, Willow and Grasshopper Warblers are just some of the species that multiply in the early stages. For some years the variety of nesting passerines is considerable and much greater than on the open moor. By far the majority of passerines leave the forests at the end of summer and do not return till March, April or May. In winter, Bullfinches may catch the eye as they rise from heathery verges, while in favourable years parties of Common Crossbills adorn the trees and solitary Great Grey Shrikes are as likely to be found in young plantations as anywhere. The arctic weather in early 1979 virtually exterminated a large population of Stonechats both in planted and unplanted hill ground.

Once the trees close up, these forests become increasingly impenetrable, especially since brashing of branches was abandoned. The most interesting patches are found where deer damage or windblow have occurred. Nightjars still nest in traditional places where trees have grown poorly and many

Woodcock breed. As the trees grow older and denser many species of birds are lost, while a few, like Sparrowhawk and Jay, arrive and there are fluctuating numbers of Siskins. At Talnotry magnificent cock Golden Pheasants, with their shadowy hens, creep from beneath the tall trees of Kirrough-tree forest in the gloaming.

Pleasant as it is to listen from a forest ride on a spring morning to the songs of Blackbird, thrushes, Chaffinch and Willow Warbler, these and other forest birds are extremely common in other habitats. Even Black Grouse, now chiefly associated with the plantations, abounded on rough pasture with hardwood scrub before they crashed mysteriously in



BLACK GROUSE *Donald Watson*

the 1920s. It must be remembered that the nearly 20% of Galloway planted with conifers is mostly in the uplands, especially on hill ground of moderate elevation which used to support the best breeding populations of moorland birds like Red Grouse, Golden Plover, Curlew, Skylark, Meadow Pipit and Wheatear. At Raploch Moss and more recently near Loch Skerrow planting has almost eliminated the last nesting Dunlin from the Stewartry.

Loss of sheep carrion has caused a great reduction in hill nesting Ravens and Buzzards, though the latter may be increasing on lower ground with plenty of Rabbits. There has been a sharp decline of breeding Merlins in their former stronghold east of the Cairnsmore of Fleet National Nature Reserve since most of their hunting grounds have been afforested. Local studies indicate that they depend on access to moorland birds for most of their prey. Ten years ago it looked as if Hen Harriers might become numerous breeding birds in the younger plantations but they have failed to colonize many of these and my observations show that males, which provide the food for incubating females, hunt mostly over unplanted ground.

The presence of Golden Eagles is a source of pride to many people in Galloway. Visitors, content with a sighting from a well known vantage point, may be unaware that the pair they see have reared no young and rarely had eggs in the past eight years. Difficulty in finding prey in deep forest is more probably

the cause than occasional disturbance. Only one pair, with the least afforested territory, has had consistent success. Peregrines in Galloway are not under the same pressure, since their favourite prey consists of passing pigeons. They are, however, by no means safe from illegal taking of eggs and young.

The Forestry Commission's intention to fell many blocks of trees at 35-40 years presents an opportunity to leave important open enclaves and to replant with much more hardwood. I am informed that the intention, at least, is not to replant with conifers close to streams and to increase the proportion of hardwoods in such sites. The Commission has long been helpful in bird protection but there is a need to encourage a similar attitude on some private ground.

The highest mountains in Galloway, just over 800 m, may seem puny by Highland standards. Nevertheless they formerly supported Ptarmigan and have a long history of sporadic occupation by Dotterel. They are visited by Snow Buntings in winter. To walk these heights on a rare fine day in early summer is to know the best of Galloway, even if you encounter no birds rarer than a sprinkling of Golden Plover on the summits or a Ring Ouzel piping from a dark corrie.

(To be concluded)

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Short Notes

Fluctuations in breeding Shags on the Isle of May

Potts *et al.* (1980. Population dynamics and breeding success of the Shag *Phalacrocorax aristotelis* on the Farne Islands, Northumberland. *J. Anim Ecol.* 49: 465-484) argued that Shags breeding on the Farne Islands and, by implication, the Isle of May are merely sub-populations of a larger contiguous east coast population. In the event of an abnormally high mortality reducing the breeding stock of one sub-population the effect may be buffered by immigration from neighbouring sub-populations. They have shown that this took place when, in May 1975, the Farnes breeding population was reduced to 37% of its previous level by a red tide. Subsequently immigration of first time breeders and a few adults, mainly from the Isle of May, quickly restored breeding numbers so that by the following breeding season the population was almost back to pre-crash levels (Armstrong *et al.* 1978. Further mass

seabird deaths from paralytic shellfish poisoning. *British Birds* 71: 58-68). This note records recent population levels on the Isle of May and describes the effect of emigration.

Since 1973 I have censused breeding Shags on the island, using as my criteria apparently occupied nests, i.e. nests with either eggs, chicks or sitting adults (table).

	1973	1974	1975	1976	1977	1978	1979	1980
Nests	1129	979	676	364	814	805	1015	1041

From June to August 1975 an unknown factor reduced the colony by approximately 30% just before and during the census. Ringing recoveries indicate that the mortality suffered during this period was equivalent to that normally suffered in a full year. The red tide which decimated the Farnes population one month earlier was apparently not involved (Armstrong *et al.* 1978) although immature Isle of May birds summering in the Farnes area were probably killed by the red tide, thus lowering recruitment to the May colony in the following year. 1976 saw a further reduction as lowered recruitment and emigration of birds to recolonize the Farnes took place. In 1977 numbers began to rise, probably due to overspill from the Farnes in addition to recruitment of native first time breeders, i.e. birds hatched on the island in 1974 and 1975. The population continued to grow until by 1979 numbers were not widely different from the 1973 total.

These population figures show well the expected dampening effect which emigration and immigration have on fluctuations imposed by severe mortalities when only part of a larger population is affected.

My thanks are due to Peter Lack for the 1980 count.

H. GALBRAITH

Mute Swan killing Bank Vole

On 3rd June 1980 at Duddingston Loch (Edinburgh) I observed a Mute Swan standing on the bank peck and bite something on the ground several times in quick succession before twice picking up and dropping a small mammal. When I investigated, the swan took to the water, but I found a freshly killed adult Bank Vole *Clethrionomys glareolus* at the site. The rear of the skull was crushed and the animal was bleeding from the mouth. There was no swan nest nearby. Mute Swans attack and kill other water birds fairly frequently, and occasionally eat amphibians, but I cannot find any records of them killing any mammal.

COLIN R. McLEOD

Black Guillemots breeding in the inner Clyde estuary

In 1979 a pair of Black Guillemots bred in a hole in the eaves of a building close to shipyards in the inner Clyde estuary at Port Glasgow (Renfrewshire) (plate 23). I was first told of their presence in late July by a shipyard worker who had seen the birds standing on the roof and flying to and from the estuary. He took me to the site and, while we watched, a Black Guillemot flew in from the estuary and entered the hole. We immediately heard what we took to be food begging calls of young birds. A few days later Iain Gibson and I extracted two well grown young and ringed them. In 1980 two pairs bred.

The nest sites, about 7 m above ground, were shallow cavities at the top of the wall covered by a corrugated asbestos roof. The birds gained entry at places where the brick had crumbled. The building, now used only as a shipyard workers' car repair club, is sited in an area of heavy industrialization, the Scott Lithgow Group's Kingston Shipyard being about 100 m to the east and their dry dock and its associated cranes and office buildings about 500 m to the west. Public access to the area is restricted, but the birds seemed undisturbed by workmen occasionally walking below the nest sites.

The use of man-made structures by breeding Black Guillemots is well known, the *Atlas* listing holes in harbour walls and other unusual sites. I can, however, find no record of the species breeding within a heavily industrialized area, or in an estuarine situation apart from the population in the brackish waters of the Baltic.

The Clyde at this point is 3 km wide with large areas of sandbanks exposed at low tide, and 10 km from seawater proper. Data collected monthly during 1979 by the Clyde River Purification Board at a point in the deep water channel off Port Glasgow showed that salinity ranged from an average of 14.22 parts per 1,000 (surface, low tide) to 29.34 p.p. 1,000 (bottom, high tide). Normal sea salinity is 33 p.p. 1,000.

A small fish dropped by an adult bird at the building was collected and later identified as Butterfish *Pholis gunnellus*, which is normal Black Guillemot diet.

The first record of a Black Guillemot off the Renfrewshire coast was in 1942 at Wemyss Bay, and all other records—mainly of individuals or parties up to five—are since 1972 when one was seen off Port Glasgow. Evidence of breeding in the inner Clyde first occurred in 1976 when three were seen displaying off Ardmore Point (Dunbartonshire) in early June and a juvenile was present there in August the same year. The nearest point where breeding has been recorded is Little Cumbræ, 35 km away (40 km by sea).

The shipyard Tysties look rather out of place against a backdrop of cranes and supertankers under construction but they have earned the affection of the workmen who generally seem keenly interested in the birds' wellbeing.

D. CARNDUFF

Tawny Owl nesting in abandoned car

On the evening of 15th May 1980 I was walking towards a rubbish dump in a mature Sitka/larch plantation near Glen-trool Village (Kirkcudbrightshire) when a Tawny Owl flew out of an old car abandoned on the dump. When inspecting the car I was astonished to find under the back seat a Tawny Owl chick plus one unhatched egg, the owlet being about one week old. The car was a very old Morris Oxford without windows. The owlet was ringed on 27th May (unhatched egg still present) and seemed healthy. David Glue informs me that this is to his present knowledge a unique Tawny Owl nest site.

ANDREW DOWELL

Obituary

LESLIE HILTON BROWN, OBE

Leslie Brown died in Kenya on 6th August 1980. An account of his education, professional work and publications appeared in *Ibis* (112: 427-8) in connection with his receipt of the BOU's Union Medal in April 1970. Here I give a personal recollection. It will suffice to say that after graduating at St Andrews he went on to tropical agriculture and became Chief Agriculturist in Kenya after 1960. Of more importance to us is that, despite this busy responsible job, he did far more ornithological research in his spare time than many professionals achieve full time.

I met him at Braemar in 1951 when he gave me a lift to the SOC conference in Edinburgh where he gave a talk on eagles. We discussed eagles all the way there and back. Later, he, Charles Palmer and I estimated the Scottish eagle population at 270-280 pairs. Subsequently Leslie and I studied Scottish eagles more deeply and he often stayed with me in Glen Esk while on holiday. I remember once returning past midnight after skiing in the Cairngorms. My wife had gone to bed but I found Leslie at the fireside with a bottle of whisky which we emptied while exchanging eagle news into the wee sma oors. Next day we climbed through deep snow into a blizzard.

Storm clad and winter-hardened, I marvelled at his determination, kilted and straight from Kenya.

Other memories stand out, like Leslie's skill at finding eyries, or his organization while we sat writing a draft. Another was his fireside conversation, telling us his adventures while living with primitive Kenyan tribes. Then there was his prickly individualism. Some found him cold and intolerant, but he admired grand wildlife and countryside, and natural rural folk, whether Kenyan tribesmen or Aberdeenshire hill farmers.

He often criticized sycophantic or authoritarian gamekeepers, and publicly objected to illegal persecution of birds of prey. I've known him ceremoniously fling piles of gin traps, collected on long hill walks, into deep salmon pools. As early as the 1940s he used to mark eagle eggs with indelible blue ink, adorned with four-letter words so that collectors would find the eggs of no value. He used to enthuse about the RSPB forming a young guerrillas section to burst locked gates, disturb deer stalks and grouse drives on offending estates, and terrorize miscreant keepers by turning up in force, picking teeth with a big sgian dubh each!

Leslie made a major contribution to our knowledge of eagles in Scotland and Africa, and did much to organize information on world birds of prey in several books, and popularize it in others. These and his many papers in *Ibis* and elsewhere made him a well known world ornithologist and will long outlive him.

So also will our memory of his character, as unusual as the work he did and published in his spare time. Heart trouble dogged him in recent times, but every year or so he toured Scotland, the United States and other countries, keeping in touch with eagle enthusiasts. He enjoyed spreading out a map of the Highlands, holding it down with a bottle of Glen Fiddich and two dram glasses. He would then put coins on crags with eyries to find gaps where other eagles might be expected. I and others will miss these special occasions. And we will miss the tall figure with the piercing eyes, stubbly beard, eagle-like eyebrows, and that serious face which could so readily break into a boyish grin when some mischievous thought came to him.

ADAM WATSON

Reviews

Collins Bird Guide: a photographic guide to the birds of Britain and Europe by S. Keith & J. Gooders. Collins, London, 1980. 768 pages; 613 colour photos; drawings; over 400 maps; 19 x 10 cm; softback £5.95.

The appearance of a new field guide, particularly one said to be revolutionary, poses a number of questions. Is it really different from those already available? Does it provide a better method of identification? Is it easier to use? The *Collins Bird Guide* is very different in appearance—tall, narrow and fat with floppy plastic covers. The species descriptions are excellent, very similar in style and content to Peterson, with an additional summarizing comment on each. The main difference is in the illustrations. These are photographs which are clearly reproduced with good colour renderings. They are grouped together at the beginning of the book, and are arranged according to the colour and anatomical or behavioural similarities of the birds. There can be very few birdwatchers who would not learn something from these attractive pictures. Good as they are, however, they do not offer a comprehensive guide to the various diagnostic features nor do they give an impression of the relative size of the different species. This new guide has many attractive features, but insufficient to displace the old favourite from my pocket or make me recommend it to a beginner.

Big Jake Calls the Waders. Haven Autoguides: Stereo SRTX/80/CUS 598. Millstream Records, Beach Rd, Weybourne, Holt, Norfolk, NR25 7SR.

This is a recording of Jake Ward's quite remarkable mimicry of wader calls arranged as a guide to identification. Having overcome an initial sense of astonishment that such sounds could be produced by the human voice, one can appreciate their success in presenting the wide range of wader calls in a memorable form. There is no artistic sense of atmosphere but this does not detract from the value of this record as a method of learning.

I. T. DRAPER

Observations of Wildlife by Peter Scott. Phaidon, Oxford, 1980; 112 pages; 39 colour, 66 plain illustrations; 28 x 22 cm; £7.95.

I found this book enjoyable. The paintings and sketches are cemented together with the author's personal view of life and nature conservation. The pictures themselves give much pleasure, particularly to anyone who has watched wildfowl, but the accompanying notes add a new meaning, often telling when, where and why they were created or why that particular style was used. Some notes are quite long and cover the biological or conservation background of the subject. A charming picture of Red-breasted Geese was painted during a certain committee meeting! The pictures also cover a wide range of Sir Peter's life from 1937 to 1980.

The main text should not be neglected. It deals with his approach to painting, his enthusiasm for the Wildfowl Trust and the need to encourage people to look at birds, his concern about the future of Planet Earth, and his extensive travels, including encounters with whales and fish. Throughout the book there are nice stories and anecdotes as well as some telling quotes. As the author says in the Epilogue, this is a patchwork of a book, but the many pieces merge to make a very pleasant one which is very good value.

FRANK HAMILTON

The Peregrine Falcon by Derek Ratcliffe. Poyser, Calton, 1980; 416 pages; 3 colour plates and many line & wash drawings by Donald Watson; 1 colour, c.60 plain photos; diagrams; maps; 24 x 16 cm; £12.

It is a pleasure to review this eagerly awaited book, although Dr Ratcliffe's own generous acknowledgment of my own Peregrine work makes criticism seem invidious. The dangers of pesticides and pollutants, especially to predators at the top of the food chains, are now well recognized, as is the value of monitoring predator populations and their contaminant

burdens, both as environmental barometers and to determine the measures needed to save the predators themselves. Yet these problems are recent and substantially date from 1945, the same year that the boy Derek Ratcliffe searched out his first Peregrine nests. It was as well that he did; in the years to come no other scientist's studies of one animal did more to identify and elucidate the problems of pesticides and wildlife. Moreover, although his work was scrupulously objective and he eschewed emotion and special pleading when others did not, it was largely as a result of his studies that the Peregrine became the fitting symbol of the desire for a cleaner Earth.

He begins by stating that he writes mainly of British Peregrines, that his book has no pretensions to scientific sophistication and that he has tried 'to write the story of the bird in an ever changing scene, to which it has so far adapted with remarkable success'. The book brings together his many publications and more recent data up to 1979, supplemented by his wide knowledge of current Peregrine studies by others in Britain and abroad, and of the literature. The 16 chapters cover history of relations with man, habitat throughout Britain, population trends, distribution and numbers, food and feeding, nesting habitat, the breeding cycle (two chapters), movements and migration, breeding density and territory, population regulation and dynamics, relations with other birds, pesticides, other enemies, appearance, form and variation, conservation and the future. The chapters are well organized but the layout results in some repetition. For many this will underline important points and help to connect the story but will be less to the taste of others. The major tables, usually broken down into districts and periods of years, cover distribution and number of nesting places, populations and breeding in 1930-39 compared to 1961, 1962, 1971 and 1979, food, features of nests, egg size, weight and shell thickness, clutch and brood size and organochlorine residues in livers and in eggs.

The intention to present the story simply and clearly is fulfilled. Nicely interpolated Peregrine anecdotes give freshness, as do Donald Watson's fine variety of illustrations and a very good selection of photographs. Many will enjoy the informal inside account of the pesticide story and the comments on the attitudes of some interested parties, which add a human dimension. I strongly recommend the book to all interested in Peregrines, and in the problems facing British wildlife in general.

Despite the modest disclaimer in the preface it is inevitable that this book will be regarded as a major scientific work on the Peregrine. The amount of new material and the value of a worker's own compilation of his studies make it an important work for serious students in Britain and abroad. From this viewpoint the book will attract some criticism, of varying validity. It is understandable that the role of mercury based pesticides in the Fenno-Scandian declines is not discussed but some mention of it might have been made. The necessity to calculate a British population baseline, here 1930-39, against which future trends can be assessed, is evident but the possible effects on the baseline of chronic local persecution at the time might be underestimated. Some people may feel that the discussions and conclusions advance little further than in the papers up to 1973.

It appears to me that, firstly, the author is constrained by a perhaps greater appreciation than the rest of us of the uncertainties of Peregrine population ecology, and secondly, that he has scrupulously avoided anticipation of the results of current studies by other British workers. Some disagreement with his views may result from differences in the main study areas of individual workers; I see the food spacing relationship as simpler and more direct than he does, probably because my experience is much more limited to grouse-eating Peregrines. Certainly I

agree with most of his conclusions and comments, as on the oiling of Peregrines by Fulmars; his views are supported by events on the c.10 mi² Chowiet Island (Alaska) where five pairs of Peregrines breed successfully among over 200,000 Fulmars, with no evidence of oiling.

Although well up to date, the book could not include some exciting recent events, notably the successful 1980 breeding in the wild of three pairs of captive bred Peregrines in the northeast U.S. and the spectacular recovery in 1979-80 of an inland boreal population in Alaska and the Yukon Territory. Finally, after again commending this book, every reviewer is allowed one anecdote: I once knew a head stalker who pole-trapped Peregrines, in all sincerity to protect the Choughs nesting on the estate.

DOUGLAS WEIR

Also received

Recording Natural History Sounds by R. Margoschis. Print and Press Services, Barnet, 1977; 109 pages; plain photos; diagrams; 22 x 15 cm; £4 (hardback), £2.75 (softback).

Wood Engravings of Birds by C. E. Jackson. Witherby, London, 1978; 144 pages; colour plate, many plain illustrations by Bewick, Thorburn, Tunnicliffe *et al.*; 24 x 15 cm; £5.95.

Highland Wildlife by Richard Perry. Croom Helm, London, 1979; 202 pages; 16 plain photos; 22 x 14 cm; £6.95.

The Guinness Book of Woodland Birds by Michael Everett. Guinness Superlatives, Enfield, 1980; 160 pages; 50 colour photos; over 50 drawings by R. A. Hume; over 50 maps; 20 x 14 cm; £3.95.

The books reviewed above are available from the SOC Bird Bookshop

Current literature Articles and reports on the status and distribution of birds in Scotland are listed here. Strictly biological studies such as ecology or behaviour are excluded and so are references from the widely read journals *British Birds*, *Bird Study*, *Ringing and Migration* and *Ibis*. Most items listed and many others are available for reference in the club library and we are grateful to the contributors. The library welcomes copies of work on any ornithological subject.

The breeding populations of terns in Orkney and Shetland in 1980. I. D. Bullock & G. H. Gomersall 1980. RSPB report.

BTO/SOC Corncrake survey 1978/79. C. J. Cadbury.

Tay Ringing Group Report 1978-79. 1980. (Includes papers on sexing Dippers, winter waders, breeding Grey Wagtails, Heron movements and mortality, and Lapwing movements).

North-East Scotland Bird Report 1979. A. G. Knox *et al.* 1980. Aberdeen University Bird Club.

Wick High School Bird Report 1979. K. W. Banks (ed.).

The effects of [sic?] song-bird populations of upland afforestation with spruce. D. Moss *et al.* 1979. *Forestry* 52: 129-150.

Stirling and Clackmannan bird report 1978. — 1979. C. J. Henty 1980. *Forth Naturalist and Historian* 4: 49-73 (1979).

Peregrines and man in the Stirling region. J. Mitchell 1980. *Forth Naturalist and Historian* 4: 75-85 (1979).

The Birds of Glen Clova. B. M. Lynch 1980. SOC Dundee Branch. 35p.

Lothian Bird Report 1979. G. F. Bell *et al.* (ed.) 1980. 85p + postage from G. F. Bell, 434 Lanark Road, Edinburgh, EH13 0NJ.

Sea birds and the Bravo blow-out at Ekofisk, North Sea. F. Mehlum 1980. *Polska Akademia Nauk: Acta Ornithologica* XVII: 119-126.

Ornithological Interest of Some Inland Waters in Wigtownshire. J. E. Howie 1980. Nature Conservancy Council, 19/20 Belgrave Square, London, SW1X 8PY.

- Heronry Report for Loch Lomondside*, 1980. J. Mitchell 1980. Nature Conservancy Council, South West Region.
- 1980 *Census of Breeding Waders on the Ring Points: Loch Lomond National Nature Reserve*. J. Mitchell 1980. Loch Lomond NNR.
- Wintering seaducks in the Moray and Dornoch Firths, Scotland. G. P. Mudge & D. S. Allen 1980. *Wildfowl* 31: 125-30.
- Population study of Golden Plover *pluvialis apricaria*, using marked birds. R. Parr 1980. *Ornis Scandinavica* 11: 179-189. (Study area Kincardineshire.)
- The spring migration of Sanderlings *Calidris alba* through Britain in 1979. P. N. Ferns 1980. *Wader Study Group Bulletin* 30: 22-25.
- The Results of the National Wildfowl Counts and Birds of Estuaries Enquiry* 1979-80. D. G. Salmon (ed). Wildfowl Trust. 75p including postage from BTO.

Letter

Status of Ring-necked Parakeet in Scotland

The party of Ring-necked Parakeets *Psittacula krameri* seen flying along the East Lothian coast (11: 140) is not, as suggested, the first Scottish record of this species. On the morning of 18th April 1976 I saw a male bird near Dunbar (East Lothian) and what may have been the same individual was seen the next day near Gullane, flying out over the Firth of Forth towards Fife (R. Nisbet pers. comm.). The weekend had started with easterly winds and fog and numbers of migrants were seen at the same time as the parakeet.

There is, of course, a feral population in England where breeding has been recorded as far north as Cheshire. Concern has been expressed over this, especially in fruit growing areas where the birds could prove to be a pest. An inquiry into their status (*BTO News* 93: 7, 102: 5) has already produced Scottish records from Dundee and Wick in 1977-80, Moffat 1979-80, and Loch Lomond and Aberdeen in 1980 (B. Hawkes pers. comm.) but as yet no evidence of breeding north of the border. In view of their expansion in England and the birds' apparent ability to withstand cold winters, breeding in Scotland seems a distinct possibility. However, Ring-necked Parakeet has never featured in the *Scottish Bird Report*, which seems unfortunate as there is a need to document the birds' expansion throughout the British Isles.

S. R. D. DA PRATO

Notices

Garganey and Cirl Bunting records As a result of representations from several people, the Rare Breeding Birds Panel has agreed to add Garganey and Cirl Bunting to its list. Since the panel's most recently published report is that for 1979 (*Rare breeding birds in the United Kingdom* in 1979, *Brit. Birds* 74: 17-36) it is possible for these additions to be made retrospectively: Garganey and Cirl Bunting will be included in the panel's 1980 report as well as subsequent ones.

Observers are requested to send details of all breeding season sightings of these species in 1980, 1981 and subsequent years to the relevant county or regional bird recorder who will, as usual, then pass them on to the panel on its special forms. Please notify mere presence in the breeding season in suitable habitat (as well as probable and confirmed breeding); both species appear to be decreasing and we stress that all breeding season records are required.

Working Group on Granivorous Birds (INTECOL) The third International Congress of Ecology will take place in Warsaw from 5-11 September 1982. The Working Group on Granivorous Birds (INTECOL) is organizing inside the congress a special symposium. The role of granivorous birds (especially Corvidae and Columbidae) in ecosystems is suggested as a theme of symposium. The theme will include the problems: (1) population dynamics, (2) biomass and production rates, (3) energetics, (4) impact of granivorous birds in ecosystems, (5) management of pests. The time for oral contributions at the symposium is limited to 15 minutes. The programme of the symposium has to be arranged at the end of 1981, i.e. based on titles and one page abstracts of papers. The poster presentation will be also possible. All correspondence should be sent to Prof. Dr Jan Pinowski, Institute of Ecology PAN, Dziekanow Lesny, 05-150 Lomianki, Poland, or by telex 817378 IEPANPL.

Northeast Scotland bird atlas A local atlas project covering Grampian Region (apart from Moray District) was launched in January. It will run until the end of 1984, after which maps will be produced for summer, winter and passage distribution. The area has been divided into almost 400 sites; it is hoped that most of these sites will be covered at least 12 times during the four year period, once for each month of the year. If this can be achieved, it should be possible to summarize accurately the seasonal changes in the distribution of species. Initial response has been very encouraging. However, with such a large area to cover, all offers of help will be gratefully accepted, even if you are only in the area for a day or two on holiday. If you are interested in taking part or would like further details, please contact Steve Buckland, Statistics Department, Aberdeen University, AB9 2UB.

Grampian Merlins A long term study of Merlins breeding in Grampian region has begun. Information on breeding sites (old or new) or sightings of birds in breeding habitat would be welcomed by Graham W. Rebecca, 31 Rainnieshill Gardens, Newmachar, Aberdeenshire.

(Notices must reach the editor at least four months before publication.)

The Scottish Ornithologists' Club

ANNUAL CONFERENCE

The 34th annual conference and 45th annual general meeting of the club will be held in the Marine Hotel, North Berwick, East Lothian, during the weekend 30 October to 1 November 1981. The conference programme and booking form will be sent to all members with the autumn journal early in September. Reservations for the conference can only be accepted on the booking form; the Marine Hotel has been instructed not to accept any booking except through the club secretary.

BRANCH MEETINGS

Will members please note that the dates of the first meetings of branches next winter will be as follows:

September	21st Borders and Glasgow
	22nd Edinburgh, Inverness and Wigtown
	23rd Ayr, Dumfries, St Andrews and Thurso
	24th Dundee, New Galloway and Stirling
October	5th Aberdeen

The venue and times of all meetings are unchanged; full details will be published in the syllabus of lectures sent to all members with the autumn number of the journal early in September.

LOCAL RECORDERS

Please note the following new Local Recorders to whom records for the 1981 *Scottish Bird Report* should be sent :

Orkney C. J. Booth, 'Ronas', 34 High Street, Kirkwall, Orkney.

Lanarkshire Dr E. S. Alexander, 3 Lilac Hill, Hamilton, Lanarkshire
ML3 7HG.

GEORGE WATERSTON MEMORIAL FUND

Members will be interested to know that at the time of going to press (30 April) £2,625 had been donated. Details were enclosed with the spring journal and contributions are still welcomed; these should be sent to The Secretary, SOC, 21 Regent Terrace, Edinburgh EH7 5BT, together with an SAE if an acknowledgment is required.

WANTED - ELECTRIC DUPLICATOR

The electric duplicator in the SOC office has broken and is too costly to repair. If any member knows of one which is no longer required, and can be donated to the club, please contact the club secretary at 21 Regent Terrace, Edinburgh EH7 5BT (tel. 031 556 6042). Arrangements can be made to collect it if necessary.

BRANCH SECRETARIES

Will members please note the following new appointments :

Ayr B. C. Forrester, 29 Crandleyhill Road, Prestwick, Ayrshire (0292 75670).

Edinburgh Miss J. Wilcox, 18 Howdenhall Gardens, Edinburgh EH16 6UN (031 664 8893).

Current Notes

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

The period January to March is covered here. The mild winter weather produced a strange mixture of species. Gulls have been particularly interesting. Large numbers of **Glaucous Gulls** have been widespread. In Shetland 120-150 were seen on Unst, and Fraserburgh attracted up to 26. **Iceland Gulls** have also been widely distributed but in smaller numbers. Shetland yet again stole the show with 3 adult **Ross's Gulls**. It seems strange that there is still not a Scottish east coast record south of Caithness. Wildfowl were much in evidence; 74 **Bean Geese** in the Carron Valley was the largest flock in Scotland for several years. An **American Wigeon** in Udale Bay and at least 3 **Ring-necked Ducks** in SW Scotland attracted a number of observers. The most elusive bird was the **Gyr Falcon** which tantalized many birders in the Lammernmuirs. A **Long-billed Dowitcher** which wintered at Caerlaverock entertained many visitors, though only a lucky few saw the **Little Bunting** which paid a brief visit there in February. The mild weather was no doubt responsible for the reports of wintering 'summer visitors'. A pair of **Whin-**

chats at Selkirk, a **Black Redstart** at Dunbar and a **Firecrest** on the Black Isle were well north of their normal wintering ranges, though **Great Shearwaters** at Ayr and Fraserburgh were in the wrong hemisphere. All indications suggest an early start to the breeding season, though first prize for optimism must go to a **Blackbird** incubating eggs in Ayrshire in January.

White-billed Diver dead Noss Head (Caith) 22 Jan, Whalsay (Shet) Feb. **Fulmar** 9 blue phase Fraserburgh (Aber) 14 Feb. **Great Shearwater** Fraserburgh 14 Feb, 2 Ayr 21 Feb. **Night Heron** Kelso (Rox) Jan. **Bean Goose** 74 Carron Valley (Stir) 15 Feb. **Snow Goose** white phase Skene (Aber) Mar. **Canada Goose** one of smaller races with Barnacles S. Walls (Ork) 19 Mar. **Brent Goose** Pale-bellied *hrota* Eden Estuary (Fife) 7 Feb-1 Mar, Cotehill L (Aber) 15 Feb. **American Wigeon** ♂ Udale Bay (Ross) Jan. **Teal** Green-winged *carolinensis* Stornoway (Lewis) 4 Jan. **Ring-necked Duck** single ♂♂ L Insh (Inv) Jan-Mar, Soulseat L (Wig) Jan-Feb, Gadloch (Lan) Jan, Woodend L (Lan) Jan. **King Eider** 2 ♂♂ Golspie (Suth), Mar, ♂ Sullom Voe (Shet) 10 Mar. **Surf Scoter** ♂ Golspie Mar. **Smew** ♂ L Strathbeg (Aber) 15-28 Jan, ♂ Sullom Voe 6 Jan, 2 ♂♂ Kelso Jan, single redheads Stranraer (Wig) 11 Jan-1 Feb, Hensol (Kirk) Jan, L Davan (Aber) Jan, Martnaham L (Ayr) Jan-Mar, Ayr 9 Feb-16 Mar.

Rough-legged Buzzard 3 Aberdeen Mar. **Gyrfalcon** grey phase Whitadder Resr (E Loth) and Hule Moss (Ber) Feb-Mar, Shetland Mar. **Ruff** 15 Eden Estuary 21 Mar, 29 Aberlady 24 Mar. **Long-billed Dowitcher** Caerlaverock (Dumf) Jan-Mar. **Spotted Redshank** Ardersier (Inv) Jan-Feb, Eden Estuary 8 Jan. **Green Sandpiper** Tarholm (Ayr) Jan-Feb. **Little Gull** Ayr 9 Feb, Girdleness (Aber) 19 Feb. **Iceland Gull** 10 singles various sites Jan-Mar, total 4 Ayr Jan-Mar, 12 Lewis Jan-Mar, 4 Fraserburgh Feb, 4 Girdleness Feb, 6 Scalloway (Shet) Mar, 2 Inverness Mar. **Glaucous Gull** various sites Jan-Mar, max 8 Scalloway Jan, 7 Wick Jan, 10 Noss Head 11 Jan, 120-150 Unst (Shet) 23 Jan, 2 Elgin (inland) Feb, 26 Fraserburgh 3 Feb, total 10 Ayr Jan-Mar, total 13 Lewis Jan-Mar. **Ross's Gull** Unst 22 Jan, Scalloway 24 Jan, Quendale (Shet) 28 Jan. **Sandwich Tern** 2 Forth Jan-Mar, 3 Prestwick 28 Mar. **Brünnich's Guillemot** dead Johnshaven (Angus) 25 Jan. **Little Auk** singles Yell Sound (Shet) 6 Jan, Fraserburgh 14 Feb, Fortrose (Ross) Mar, 2 Echnaloch Bay (Ork) 28 Jan, 2 Port Seton 14 Feb, 3 dead Aberdeenshire Mar, 3 dead Fife Mar. **Kingfisher** Botanic Gardens Edinburgh Jan-Mar.

Sand Martin Linlithgow L (W Loth) 21 Mar. **Swallow** Danna (Argyll) 1 Apr. **Waxwing** Peterhead (Aber) 11 Jan, 2 Edinburgh Jan, 2 Caithness Feb. **Black Redstart** Dunbar Jan, Fair Isle 16 Mar-2 Apr. **Whinchat** 2 Selkirk Jan. **Wheatear** Great Cumbrae (Bute) 14 Mar, Glenshee (Perth) 15 Mar. **Ring Ouzel** Westwater (Midl) mid Mar. **Blackbird** incubating Ayrshire 27 Jan. **Blackcap** 4 singles Aber/Kinc Jan-Feb, Edinburgh Feb, 2 Stornoway Jan-Feb. **Chiffchaff** singles Aberdeen Jan, Ackergill (Caith) Jan, total 5 St Andrews (Fife) winter, total 11 Borders Jan. **Willow Warbler** Prestwick 28 Mar. **Firecrest** Black Isle 21 Mar. **Willow Tit** 2 Hule Moss 22 Mar. **Great Grey Shrike** Glen Tanar (Aber) Jan, Hule Moss 11-15 Mar. **Chough** shot Ayr 31 Jan. **House x Tree Sparrow** hybrid ♂ Fair Isle 16 Mar. **Brambling** 100 Penicuik Mar. **Lapland Bunting** 8 Musselburgh Jan, 2 Gullane 23 Jan, 7 S. Uist 15 Feb. **Little Bunting** Caerlaverock 25 Feb.

Late news (April) **Ring-necked Duck** ♂ Kilmichael (Arg); **Sandhill Crane** Fair Isle from 26th.

PETE ELLIS

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Helios (Russian)	8 x 30	18 oz	£ 59.95
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Telescopes

Model	Weight	Price
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Lumex 604 (No case)	24 oz	£ 66.90
H & R Televari 25-60 x 60	44 oz	£147.00
Bushnell Discoverer 15-60 x 60 (No case)	48 oz	£162.00

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Prices correct at 19th March 1981

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