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# SCOTTISH BIRDS



THE JOURNAL OF THE  
SCOTTISH ORNITHOLOGISTS' CLUB

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SPRING 1983

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## BIRDS NEW TO BRITAIN AND IRELAND

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# SCOTTISH BIRDS

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Volume 12 No. 5

Spring 1983

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Edited by V. M. Thom, assisted by R. W. Furness and S. R. D. da Prato

## Editorial

**H**AVING now officially donned the editorial mantle we have perforce had to consider carefully just what our editorial aims and policy should be. To help clarify our ideas we re-read the editorial in Vol. 1 No. 1 of *Scottish Birds*, where we found it stated that "The purpose of a journal is to be read with interest and pleasure". This may seem a self-evident and very modest aim for a journal such as ours, yet it is one which may not always be easy to achieve. Within the SOC we have a very wide spectrum of membership, from the casual week-end birder, through the active and knowledgeable amateur to the professional ornithologist. Catering for such a varied readership within the confines of one small journal must inevitably present a challenge—not only to those responsible for selecting the content but also to those who contribute to it. It is amazing how even the most intrinsically interesting of topics can be rendered as dull as ditchwater by an author who spares little thought for his readers! With the help of the fellow-members whose contributions keep *Scottish Birds* alive, we will endeavour to achieve a balance of content and a standard of readability which will result in most of our readers gaining interest and pleasure from these pages most of the time. We are only too well aware that we can never hope to interest and please all of you all the time.

The essentials of the editorial policy are, of course, laid down by the editorial committee and, where appropriate, approved by council, but within these general guidelines there is room for some flexibility. We will continue to give priority to papers dealing with the status and distribution of Scotland's birds, for which *SB* is clearly a very suitable vehicle, and to include more general articles on places of interest to bird-watchers. Papers concerned with methodology or techniques, or those heavily dependent upon supporting statistical data, do not seem to us to be what most of our readers want, and we feel that these are in any case best published in one of the more scientific journals. We would, however, encourage the

authors of such papers to submit to *SB* a brief non-technical account of their study aims and findings, which would serve both to keep members informed of important work being carried out in Scotland and to direct those interested to a fuller account. This would help to ensure that our journal fulfils its primary function of presenting a good all-round picture of the Scottish ornithological scene. Short progress reports on studies involving long-term monitoring (like that on page 159 of this issue) would also be welcome.

The use of these pages for the permanent recording of members' observations is a long-established practice which will continue. As *SB*'s first editor commented, our main purpose is to give publication to the records of our members. Over the years the character of our short notes has changed, largely due to the introduction of the Scottish Bird Report, and the emphasis recently has been more on observations of unusual bird behaviour than on records of first sightings or distributional changes. It may be that, since not all members now see the SBR, we should resume the publication of selected records of the latter type in *Scottish Birds*, perhaps following the style of the introductory summaries prepared for the SBR by Roy Dennis. We would welcome members' views in this connection.

**Out and about in 1983** There is little likelihood of the more active and energetic among us failing to find an opportunity for purposeful bird-watching during the year ahead. Having survived the rigours of Winter Atlas-ing and the late January census of nocturnal gull roosts (this sounds an even bigger challenge than counting geese!), they will hardly have time to draw breath before the start of the breeding season surveys. A top priority among these must surely be our own survey of the breeding waders of agricultural land, now in its second and final season (see page 158). The BTO's Buzzard survey offers something slightly out of the usual, involving as it does both an Atlas-type exercise and a survey of soaring birds, the latter aimed at obtaining estimates of Buzzard densities in different parts of the breeding range; we hope it will be well supported in Scotland.

**The fruits of our labours** It often happens that the records compiled during the course of a long-term co-operative study vanish into the maw of the organising body and reappear only in a condensed and digested form which is inadequate for detailed analytical use in local studies. The computer age is helping to change this and we are pleased to report that the full computer print-outs of all the wildfowl counts from 1961-1982 are now available for reference in the Waterston Library.



## Status and sex ratio of Pochard wintering at Edinburgh

P. A. R. HOCKEY

*The Duddingston Pochard flock has shown striking fluctuations during the last 20 years, with the winter peak ranging from under 500 to over 8,000 birds. The author was studying this population when the new Edinburgh sewage system was introduced; he discusses here the possible relationship between that development and the recent marked decline in Pochard in the area. Since 1979 numbers at Duddingston have not exceeded 350 but there were nearly 500 Pochard on the Forth off Edinburgh in January 1982.*

The Pochard breeds over much of the Palearctic region, wintering in western and southern Europe, Asia and north and tropical Africa, almost exclusively in freshwater habitats. Winter distribution is determined by food availability and shelter, and birds are found on relatively few inland lakes and reservoirs in Europe at this season (Olney 1968). When the water freezes Pochard are among the first species to leave.

In the Edinburgh area Duddingston Loch is the only freshwater body regularly to hold large numbers of Pochard. A long recognised feature of the Edinburgh population under ice-free conditions has been the use of two main aquatic habitats—Duddingston Loch for roosting and bathing by day and the stretch of coast between West Granton and Seafield (3.5 - 6.5 km distant) for feeding by night (fig. 1). When the loch freezes, this activity pattern alters and birds both feed and roost on the estuary during the day. The winter food of Pochard is normally vegetable; *Potamogeton*, *Chara* and *Nitella* being preferred species (see Olney 1968). Birds feed irregularly on saline and brackish water in areas other than Edinburgh but only in the Scandinavian fjords where there is a rich littoral vegetation are saline areas preferred (Olney 1968). The birds on the Firth of Forth show a strong association with sewage outfalls, feeding on discharged grain and vegetable matter (e.g. Player 1970).

A new primary treatment plant for Edinburgh was introduced in February 1978 and effluent is now discharged through a long diffusion pipe at Seafield (fig. 1). Identifiable solid matter has completely disappeared from the effluent and only

fine suspended solids not removed during the screening process remain. During the study period some untreated sewage still entered the estuary at Edinburgh, but flow was variable and these pipes will eventually be incorporated into the new system.

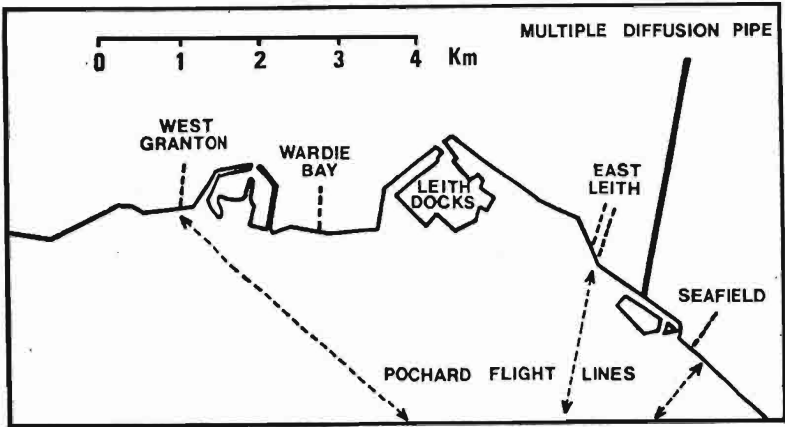


Fig. 1. The Edinburgh coastline showing the location of effluent pipes (dotted lines) mentioned in the text and the position of the new multiple diffusion pipe at Seafield. Pochard flight lines (direct) to and from Duddingston are included.

In view of these changes, the aim of this study was to examine trends and fluctuations in the Edinburgh Pochard population over the last 30 years and make a preliminary investigation into possible adverse effects of the new sewage treatment. The study also examined the sex ratio for comparison with other populations, where flocks are almost invariably biased in favour of males (e.g. Homes 1942).

### Methods

Monthly winter counts (September to March) made between 1949 and 1978 (Wildfowl Trust, unpub.) were analysed to assess trends and fluctuations in the daytime numbers of Pochard at Duddingston Loch and the adjacent Edinburgh coast. During winter 1978-9 regular counts were made in the same areas and at Largo Bay on the north shore of the Firth of Forth, as indirect evidence of some interchange between the two areas exists (Campbell 1974-8, Hockey 1979). Sex ratios were recorded at all sites, though only one estimate was made at Largo Bay due to difficult counting conditions.

### Trends and fluctuations 1949 to 1979

The number of Pochard wintering in the Edinburgh area

increased rapidly from 1949 to 1968, since when it has fluctuated considerably (fig. 2). The average number of birds present per day during the period September to March (i.e. the mean of all available monthly counts for each year) at Duddingston Loch and the Edinburgh coast is shown in the Table. These figures give a more accurate indication of the comparative diurnal utilization of the two areas than is given by the annual peak counts.

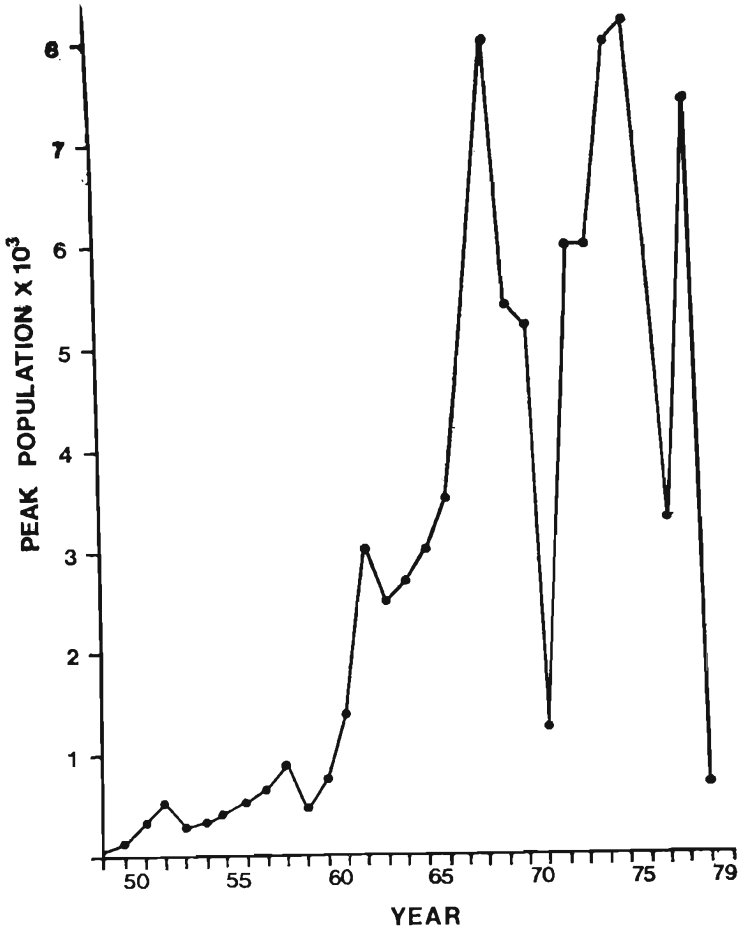


Fig. 2. Peak Pochard numbers (in thousands) in winter at Duddingston Loch 1949-79.

During the years of increase at Edinburgh there was a northerly and westerly spread of the breeding population into

Scandinavia. One explanation suggested was amelioration of the Baltic climate and drying up of the breeding areas to the south and east in the forest steppe zone (Boyd 1959). The timing of the northwesterly spread of breeding birds and the increase at Edinburgh may be coincidental, as the Firth of Forth sample comprises at best less than 4% of the northwest European wintering population (L. H. Campbell pers comm.).

**Table.** The average number of Pochard per day on Duddingston Loch and the adjacent Edinburgh coastline September-March 1948-79

Winter	Duddingston	Coast	Winter	Duddingston	Coast
1948/9	24	0	1964/5	1,277	0
1949/50	49	No data	1965/6	1,621	12
1950/1	93	No data	1966/7	1,481	172
1951/2	162	No data	1967/8	1,769	110
1952/3	98	No data	1968/9	1,936	320
1953/4	147	No data	1969/70	2,496	460
1954/5	138	No data	1970/1	603	78
1955/6	199	0	1971/2	2,432	757
1956/7	276	0	1972/3	2,595	300
1957/8	332	8	1973/4	4,005	34
1958/9	185	No data	1974/5	3,921	0
1959/60	426	36	1975/6	2,179	904
1960/1	320	1	1976/7	1,280	347
1961/2	1,237	0	1977/8	2,411	251
1962/3	1,052	61	1978/9	333	260
1963/4	1,093	7			

### Sex ratio

The Edinburgh Pochard population is strongly biased in favour of males. During winter 1978-9 the percentage varied from 74.6% (n=476) to 88.0% (n=134) with an overall mean of 82.1% (n=5,180). This is a higher percentage of males than was found in London (58-72%), Lanarkshire (51-76%) or the Tay estuary area (54.5-82.5%) (Boase 1927, Homes 1982).

Various theories have been proposed to account for the predominance of males in northern wintering populations, though data from the southern edge of the wintering range are almost non-existent. Males undergo wing moult earlier than females and are the first to arrive on the wintering grounds: it has been suggested that the earlier migration of males means they pre-empt the food supplies and force the later arriving females to leap-frog. Alternatively, since females appear to prefer shallower feeding areas, the freezing of lake margins may force them to move to milder regions (Salomonsen 1968).

Freezing of the feeding area does not occur in the Edinburgh situation. However, if food supply becomes a limiting factor following the sewage purification programme, sex ratio data collected in future seasons may provide further information to support or refute the leap-frog theory. If this theory proves

to be correct then a trend towards increasing proportions of males could provide an index of relative food availability between years. Unfortunately few published data exist from years before changes in the sewage treatment.

## Conclusions

In view of the dramatic fluctuations in the winter populations of Pochard at Edinburgh during the last 10 years, care must be exercised in drawing conclusions from the observation that the lowest winter population in the last 20 years coincided with the introduction of the new sewage treatment plant. Pochard numbers at Largo Bay, where there has been no change in the sewage outfall regime, remained well within the range of the previous four winters (Hockey 1979). On the southern shore a massive decline in wintering Scaup began many years before the sewage changes (Campbell 1974-8). Evidence suggests however that Pochard are more dependent on raw sewage than are Scaup (Player 1970).

If Pochard continue to feed at sewage outfalls on the Forth it would be valuable to examine the populations in relation to availability of discharged vegetable matter and sewage associated invertebrates, as these will certainly decline due to the screening process and persistent exploitation. It is important that monitoring of Pochard numbers on both north and south shores of the Firth of Forth be continued, particularly at the time outflow from the East Leith sewers ceases.

## Acknowledgments

I am grateful to Dr L. H. Campbell for his comments on an earlier draft. The field data were collected while I was under contract to the Nature Conservancy Council (Scotland).

## Summary

Under ice-free conditions, Pochard at Edinburgh roost and bathe at Duddingston Loch by day and fly to the nearby coast to feed at sewer outfalls by night. When Duddingston Loch is frozen the activity pattern is altered and birds both feed and roost on the estuary during the day.

The population of Pochard increased rapidly at Edinburgh from 1949 to 1968, since when it has fluctuated markedly. Further monitoring in future years is needed to assess the full impact of sewage purification.

The sex ratio of Pochard flocks in the Firth of Forth is strongly biased in favour of males, as is common in Europe.

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## Breeding waders on agricultural land

H. GALBRAITH and R. W. FURNESS

*Drainage and improvement of rough grazing land is currently proceeding apace and seems likely to have an adverse effect on some of our breeding wader populations. This paper reports on a study carried out as a preliminary to the survey of breeding waders which was launched in 1982 and is continuing this season (see page 158).*

Although there is a large and growing body of knowledge concerning the ecology of waders in their wintering areas, comparatively little is known about their requirements during the breeding season. Many fundamental questions remain unanswered. For instance, what factors are important in habitat selection and how do these affect breeding distribution? Answers to such questions are a prerequisite of effective conservation. Protection of the estuarine wintering grounds would be futile if the British breeding populations were decimated by loss of breeding habitat through changes in land use.

The Uist machair is known to hold large populations of breeding waders (Fuller *et al.* 1979, Wilson 1978), but little published information exists for more typical Scottish agricultural habitats. Farmland populations may be particularly at risk as financial incentives are accelerating the rate at which marginal farmland is being drained and improved or afforested. This paper presents the results of a study of the densities and habitat preferences of Oystercatcher, Lapwing, Snipe, Curlew and Redshank on three agricultural areas in southern and central Scotland.

### Study areas and methods

The three study areas were 1.4 km<sup>2</sup> in Glen Fruin, Dunbartonshire, 57.0 km<sup>2</sup> of the Gleniffer Braes, Renfrewshire and 14.4 km<sup>2</sup> of the Yarrow Valley, Selkirkshire. Habitats were classi-

fied as arable (land ploughed within the last six months), pasture (improved grassland with few or no herbs, rushes or sedges), rough grazing (poor quality land with many coarse grasses, rushes, sedges and herbs) or riverbank shingle. In Glen Fruin and the Yarrow Valley each field was classed by habitat, and the location of wet or damp ground, and altitude was recorded.

To establish optimum census methodology several visits were made to each site in April and May 1981 (Galbraith and Furness 1981). Incubating adults, adults with young, isolated pairs, displaying or obviously agitated birds, or nests with eggs were taken as evidence of breeding. Due to their lack of territoriality (Hale 1956, Greenhalgh 1971) Redshank are difficult to census where they occur at high densities, while Snipe present further problems because of their secretive nature (Smith 1981, Fuller 1981). In spite of the difficulties, cross-check counts by each author of the other's study sites gave close agreement; detailed recommendations for census methodology are given in Galbraith and Furness (1981).

### Results and discussion

Comparing numbers of breeding pairs in each habitat in the Yarrow and Fruin study areas, the distribution of each species differs from random ( $p < 0.001$  in each case using a Chi squared test of association). It can be concluded that all species show strong habitat preferences, numbers nesting in each habitat type bearing little relationship to the available area of the habitat (Fig).

Table 1. Breeding densities of waders in the three study areas and recorded in previous studies: density in pairs/km<sup>2</sup>

	Glen Fruin (1.4km <sup>2</sup> )	Yarrow Valley (14.4km <sup>2</sup> )	Gleniffer Braes (57km <sup>2</sup> )	Westmorland Farm (Robson & Williamson 1972)	South Uist Machair (Fuller 1981)
Oystercatcher	4	3.6	0.0	0.2	13
Lapwing	43	17.0	1.1	5.9	32
Curlew	3	1.8	0.6	8.7	0
Redshank	11	2.7	0.03	0.4	5
Snipe	8	3.2	no data	5.9	3

The densities of breeding waders in the three study areas are compared with other published data in Table 1. For several species the density of pairs per km<sup>2</sup> varied by as much as two orders of magnitude even though all sites were chosen because previous visits had indicated that they held large numbers of breeding waders. The differences in breeding densities between study areas are primarily determined by habitat availability. When densities are compared between the same

habitats in the different study areas (Table 2) they are found to be much more closely similar. These data emphasize the limitations in presenting wader density figures when habitat composition is not taken into account.

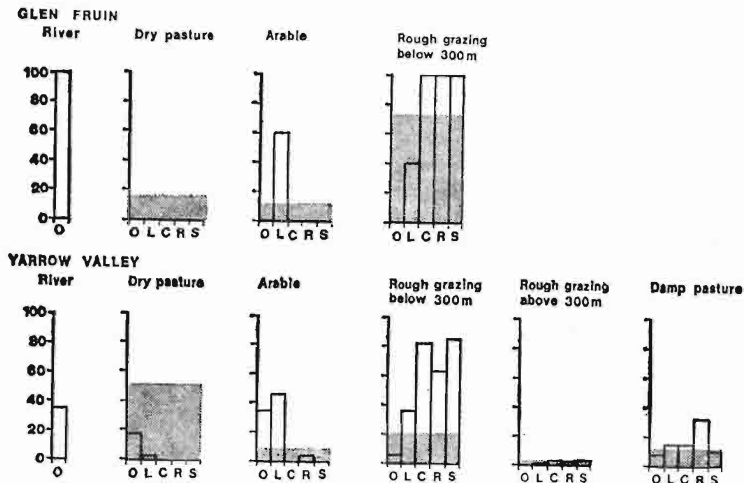


Fig. Percentages of 5 wader species breeding in each habitat type in Glen Fruin and the Yarrow Valley; species are O—Oystercatcher, L—Lapwing, C—Curlew, R—Redshank, and S—Snipe. The percentage of each study area consisting of each habitat type is indicated by the light stippling. Thus in the Yarrow Valley 55% of the area was dry pasture but this habitat was avoided by breeding waders with only 18% of Oystercatchers and 3% of Lapwings nesting in it.

Dry pasture holds very few breeding waders (Table 2). The particularly high breeding density of waders on the Glen Fruin study site results from the relative scarcity of improved dry pasture (15% of the study area) compared to the other sites. Dry pasture represented 66% of the Yarrow study area (Fig) and an even higher proportion of the Gleniffer Braes. Although few waders nested on dry pasture, it was used as a feeding habitat by some Oystercatcher, Curlew, Lapwing and Redshank which nested elsewhere. The density of breeding waders on rough grazing above 300 m (7.0 pairs/km<sup>2</sup>) was very much lower than on the more productive rough grazing below 300 m (56.6 pairs/km<sup>2</sup>). The difference is statistically significant ( $\chi^2=31$ ,  $p<0.001$ ) and the data indicate no difference between species in the degree of preference for lower altitude rough grazing ( $\chi^2=2.3$ , n.s.).

Each species has particular habitat requirements, which dictate the extent to which it will be affected by changes in the agricultural regime.



Table 2. Densities of breeding waders in Glen Fruin and the Yarrow Valley in relation to the nesting habitats used : densities in pairs/km<sup>2</sup>

Area & Habitat Type	Species					
	Area (km <sup>2</sup> )	Oystercatcher	Lapwing (pairs/km <sup>2</sup> )	Curlew	Redshank	Snipe
Yarrow Valley						
Arable	1.10	15.5	102.9	0.0	0.9	0.0
Rough grazing below 300m	3.11	1.0	28.4	6.7	7.7	12.8
Rough grazing above 300m	0.70	0.0	1.4	1.4	1.4	2.8
Dry pasture	8.02	1.1	0.5	0.0	0.0	0.0
Damp pasture	1.46	2.1	25.9	2.7	8.2	2.7
Glen Fruin						
Arable	0.09	0.0	400.0	0.0	0.0	0.0
Rough grazing below 300m	1.09	0.0	22.0	3.7	14.0	11.0
Dry pasture	0.22	0.0	0.0	0.0	0.0	0.0

Oystercatcher: Habitat usage by Oystercatcher in Glen Fruin differs significantly from that in the Yarrow Valley (Fig. Table 2,  $\chi^2=8.4$ ,  $p<0.05$ ). In Glen Fruin the species nests only on riverbank shingle; in the Yarrow use is made of arable land in particular, but also of dry pasture and rough grazing. The numbers of pairs of Oystercatcher per km of river are similar in the two areas (1.5 and 1.7 for Yarrow and Fruin, respectively) suggesting that the colonisation of arable and other habitats in the Yarrow may be an overspill which has not occurred in the Fruin because little dry pasture feeding habitat has been made available there. Conversion, by drainage and fertilisation, of marginal rough grazing to pasture or arable land could benefit this species by creating new areas suitable for nesting and feeding. Large and unbroken tracts of arable land may be unsuitable, however, as Hopleston (1972) and Wilson (1978) found that the chicks are led from arable fields into pasture shortly after hatching. Optimal conditions are probably provided by a mosaic of these two habitats.

Lapwing: In the Yarrow valley this species showed an extremely strong habitat preference ( $\chi^2=606$ ,  $p<0.001$ ), nesting mainly on ploughed ground, with lower densities in rough grazing and damp pasture (Table 2). Dry pasture was almost completely avoided. The attraction of ploughed land for Lapwing was clearly demonstrated when six pairs moved into a freshly ploughed field a few days after its conversion from dry pasture. In Glen Fruin 36 pairs of Lapwing nested in one 9 ha field where rape had been cultivated in the previous year.

Klomp (1954) showed that, like Oystercatcher, Lapwing nesting on arable land lead their chicks to pasture, and that in areas where arable land is extensive Lapwing nest only around the periphery where there is access to adjacent pasture. For Lapwing nesting on rough grazing the consequences of land improvement are not easy to predict. A patchwork of arable and dry pasture could increase numbers over those supported by rough grazing. However, in an area where rough grazing is converted to dry pasture with no arable land Lapwing numbers would be greatly reduced (Table 2).

**Curlew:** Although its ancestral habitat is wet upland moor, this species has colonised farmland (Sharrock 1976). In Scotland Curlew have spread into lowland arable areas (Watson 1954) though the extent of this habit is not known. In our study areas they nested only in rough grazing or damp pasture (Table 2) and this restricted habitat utilisation would result in the loss of local populations if extensive land improvement took place.

**Redshank:** This species nested only in rough grazing or damp pasture, and showed a rigid association with wet ground (Table 2). Almost all pairs were located beside ditches or pools. Hale (1980) postulated that this reflects the feeding requirements of chicks. Fuller (1981) has argued that due to its habit of sitting tightly on the nest the Redshank is poorly adapted for nesting in short vegetation such as pasture fields. This dependence on damp ground with tussocky vegetation renders the species especially vulnerable to large scale drainage of farmland, and as most of the Scottish population probably breeds in unimproved farmland its numbers could be seriously reduced by present farming trends.

**Snipe:** Like Redshank, Snipe were found only in damp areas of rough grazing and pasture (Table 2). Land improvement could similarly reduce Snipe populations, but, unlike Redshank, Snipe also nest commonly on moorland and bogs, so that agricultural developments are likely to affect Snipe less drastically.

## Conclusions

Unlike winter populations, breeding waders in Britain are not normally concentrated into small internationally important areas. This presents problems for the conservationist. Given our present lack of information on the sizes and breeding season requirements of the populations at risk it is possible that piecemeal land improvement could drastically reduce their numbers before the danger of the situation was recognised. Although Uist machair is famous for its breeding wader populations, it is worth noting that similar densities of all 5

species of wader were recorded in the less improved of our study sites (Table 1), so that unimproved farmland throughout Scotland may hold important numbers of breeding waders. Most land improvement involves converting low altitude rough grazing into dry pasture (with an intermediate stage of one or two years as ploughed land). Dry pasture supports few breeding waders. Local populations of Curlew and Snipe, and the national population of Redshank appear to be threatened by these developments.

### Acknowledgments

Our thanks are due to Harry Green and Mike Pienkowski for stimulating our interest in this subject, and to John Mitchell, Rob Fuller, Ken Smith and John Sweeney for helpful discussions. Stan da Prato suggested several improvements in the manuscript. The Nature Conservancy Council and Glasgow University supported the fieldwork.

### Summary

The densities and habitat preferences of wader species nesting in three farmland areas in south and central Scotland were investigated. Few birds nested on dry pasture, although the habitat was of some value to feeding waders. Conversion of rough grazing to dry pasture is likely seriously to reduce the national Redshank population and to reduce local numbers of Curlew and Snipe. With increasing land improvement stimulated by government subsidies it is important that the effects of these land changes are monitored.

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## Birdwatching in Lewis and Harris

W. A. J. CUNNINGHAM

That many of the rarer vagrants to the Outer Hebrides are found by visitors is no reflection on the competence of the small band of birdwatchers in these islands. Rather it is due to the size of the archipelago and it illustrates the potential for discovery and excitement in these western isles where the visitor is as free as air (and there is plenty of the fresh variety).

The first full account of the birds of the Outer Hebrides was given in 1888 by Harvie-Brown & Buckley in their *Vertebrate Fauna* series and I have tried to bring the account up to date in my recent book *The Birds of the Outer Hebrides*, describing the present status and distribution of the 296 species recorded in the Long Island. The Western Isles Natural History Society (Hon. Sec. Mrs J. A. Crummy, 17 Tolstachaolais, Lewis) publishes a bi-annual journal *Hebridean Naturalist*, in which an annual supplement will keep this account up to date.

Lewis and Harris together form one island divided politically, geomorphologically and, to a large extent ethnically, by a boundary between Lochs Seaforth and Resort, north of which Lewis is predominantly low lying. In the parishes of Uig and Lochs, however, the terrain becomes mountainous and, across the border in Harris, contains the highest elevation in the Outer Hebrides, the Clisham (799m). Part of the east coast of Lewis north of Stornoway and much of the west of both islands is croftland and splendid beaches of either non-calcareous or dazzling shell sand, while the hinterland is either blanket bog or rounded hills through which the ancient gneiss and intrusive granite appear more often than not with deep and dark acidic lochs occupying every hollow. The mixed woodland at Stornoway, the largest in the Long Island, and the Forestry Commission conifer plantations at Garynahine and Aline comprise the only substantial groups of trees. There are smaller plantations, shelter belts and scrub-covered freshwater islands wherever sheep and fire have been kept at bay. All these add up to a variety of habitats in which are found about 130 species of birds plus another 150 passage migrants and vagrants.

Golden Eagles breed and are often seen from the road; two or three pairs of Peregrine may still be found on remote coastal cliffs and Buzzard and Merlin hunt moor and machair commonly. Wandering Osprey, Hen Harrier, Sparrowhawk and Kestrel are occasionally seen, as are accidental White-

tailed Eagle, Gyrfalcon and Hobby. Apart from one or two resident pairs of Long-eared Owls, the only owls in Lewis and Harris have been vagrant Barn, Short-eared, Tawny and Snowy Owls.

The Stornoway Woods are unique in possessing the only rookery and the only substantial populations of Blue and Great Tits, Tree Sparrow, Spotted Flycatcher, Treecreeper and Goldcrest. Summer brings large numbers of Willow Warbler, occasional Grasshopper, Wood and Garden Warblers and Chiffchaff, while Sedge Warbler, Whinchat and Wheatear enliven the open countryside around.

The Corn Bunting was once common in the arable areas but is now almost extinct. Flocks of Twite winter in these parts and disperse to breed in the hinterland. Golden Plover, Oystercatcher, Lapwing and Curlew feed on the rough pasture but only a few remain to breed on the island. The township lands around Broadbay are the daily resort of 400-500 Rooks which nest in the Stornoway Woods and the trees of the burgh, and the score or so of Jackdaws that have appropriated the disused chimneys of the larger houses, where central heating has left them in peace. Many of the Lewis Ravens use the woods as a winter roost and 200-300 may be seen there and on the municipal dump. Nevertheless, Ravens are not uncommon elsewhere, feeding with the ubiquitous Hooded Crow and Great Black-backed Gull on roadside carrion mutton. A few Carrion Crows have recently made their way to Stornoway and evidence of interbreeding with Hoodies has become apparent. Chough are, regrettably, conspicuous by their absence.

Spring and autumn see the arrival of waves of Icelandic and Scandinavian thrushes, Snow Bunting, Brambling and Waxwing up and down the Long Island and great numbers of Whooper Swan, geese, duck and waders. Families of Whoopers may be found on many of the coastal lochs all winter, sometimes with a very rare Mute Swan from the Uists. Greylag, Barnacle and Greenland White-fronted Geese winter in Lewis and on some Harris islands but the main bodies of these and of Pink-feet and Brent overfly. Long-tailed Duck, Common Scoter and Wigeon occur in considerable numbers offshore in Broadbay and in the two main estuaries in Harris at Luskentyre and Northton. These sites also contain the main concentrations of waders but suitable parts of the coastline have their share of the commoner species, and Nearctic vagrants have been encountered in such numbers as to suggest that better coverage would reveal still more.

Golden Plover, Greenshank and Common Sandpiper are moorland breeders; Dunlin, Oystercatcher, Lapwing and Ringed Plover birds of the shore at all seasons and Turnstone

and Purple Sandpiper winter denizens of the rocky places. Corncrakes are common around Stornoway and on the machair of both islands where Spotted Crake, Quail and Water Rail are sometimes seen or heard. Several pairs of Black-throated Divers breed on Lewis's larger lochs and an unknown number of Red-throats are scattered throughout the length and breadth of Lewis and Harris. Great Northern Divers are a feature of Broadbay and the Sounds of Taransay and Harris in winter and spring.

But it is seabirds that attract most visitors. Great and Arctic Skuas breed on the moorland adjacent to Broadbay, on whose gulls and terns they are parasites. Gannets from Sula Sgeir and St Kilda commute into and out of the Minch to feed, round the Butt or through the Sound of Harris, where good seawatching is available. Gallan Head and Tiumpan Head are also good vantage points for this purpose, with shearwaters and skuas particularly in mind. Fulmar and Kittiwake colonies are easily observed at Swordale, Tiumpan Head and the Butt of Lewis, and Razorbill and Guillemot on Tolsta Head. The ternery at Melbost has held several hundred pairs of Common and Arctic and a few Little Terns but is under threat from developments to Stornoway aerodrome. There are isolated groups of all three species elsewhere. Herring, Lesser and Great Black-backed Gulls breed in moorland and coastal colonies. Common Gulls are anything but common and most of the Black-headed Gulls nest on Loch Stiapavat in Ness.

Stornoway Harbour and Broadbay are favoured resorts of Glaucous and Iceland Gulls in winter but they may be met with almost anywhere and occur regularly in Loch Roag and Tarbert. An Ivory Gull in Stornoway, Little Gulls at Butt of Lewis and a Ring-billed Gull at Shawbost are among the more exotic visitors recorded.

Although not easily accessible to the visitor, there are several uninhabited off-lying islands worth mentioning.

North Rona and Sula Sgeir, situated 72km north of Lewis, are of international interest for their oceanic vegetation and populations of seabirds and Grey Seals. The former island is one of the main breeding grounds of this seal and of Storm and Leach's Petrels and attracts a great many migrant birds. In spring and summer it is a delightfully green and pleasant land, thronged with auks, gulls, and Fulmar, and breeding Great Skua, Eider and Shag. Only 16km to the westward lies the gaunt and forbidding pile of Sula Sgeir, summer home of many thousands of Gannets and a few auks and gulls. The young Gannets there have been harvested for local consumption since time immemorial by a hardy group of hunters from Ness in Lewis. Formerly a staple diet in Ness, the *guga* is still prized there and among exiled islanders but cannot be recom-

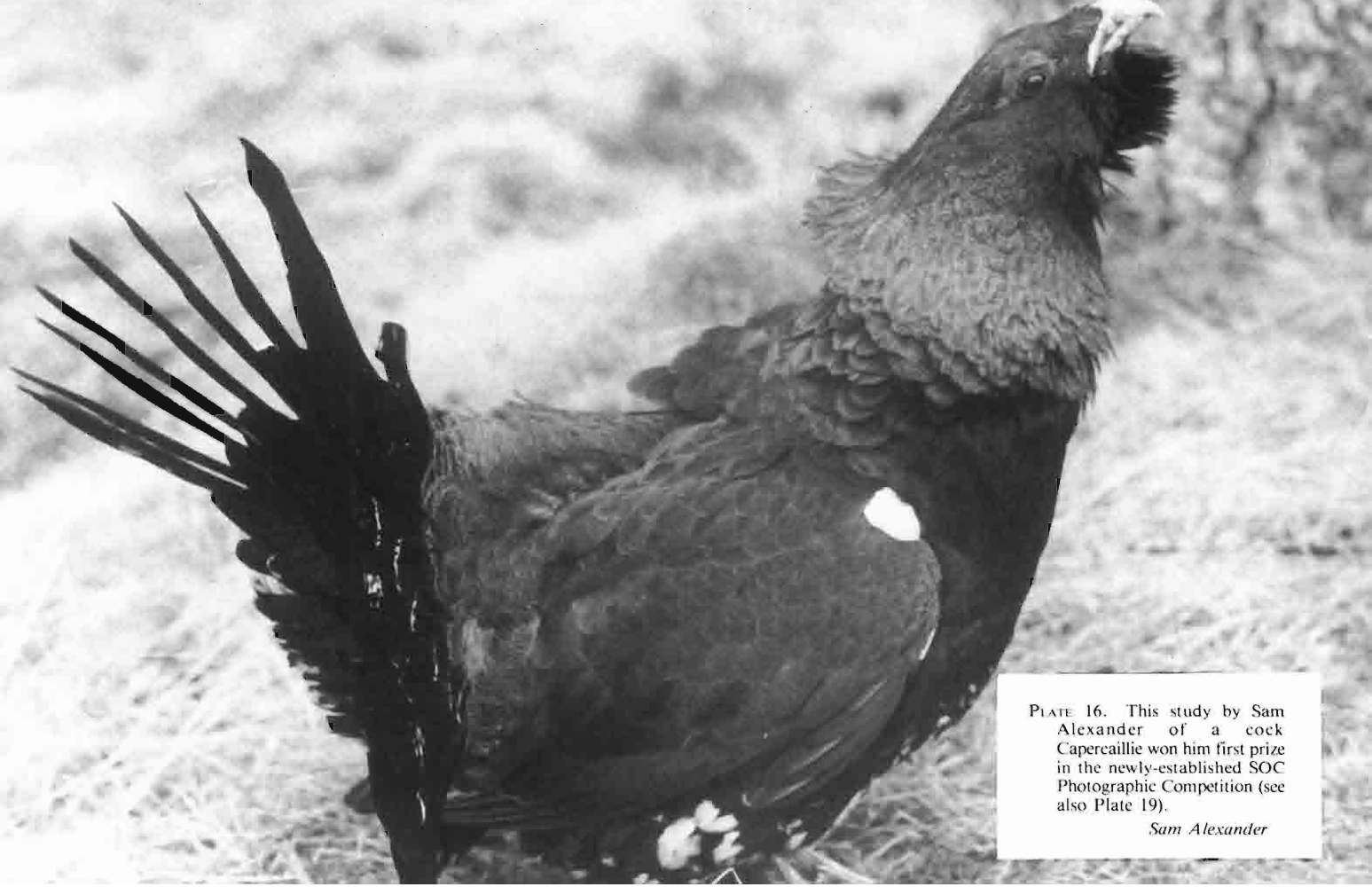


PLATE 16. This study by Sam Alexander of a cock Capercaillie won him first prize in the newly-established SOC Photographic Competition (see also Plate 19).

*Sam Alexander*



PLATE 17a. Although numbers are lower than in the past, Pochard still visit the Forth at Seafield in hard weather (p. 143).

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

b. In the Yarrow Valley—as elsewhere—tussocky rough grazing, a valuable habitat for breeding waders, is gradually giving way to improved dry pasture (p. 151).

*R. W. Furness*







PLATE 18. Both Redshank and Lapwing breeding populations are likely to be adversely affected by drainage and improvement; Redshank because rough grazing is a favoured nesting habitat and Lapwing, which nest by choice on arable land, because access to damp grassland is essential for the chicks.

*R. T. Smith*

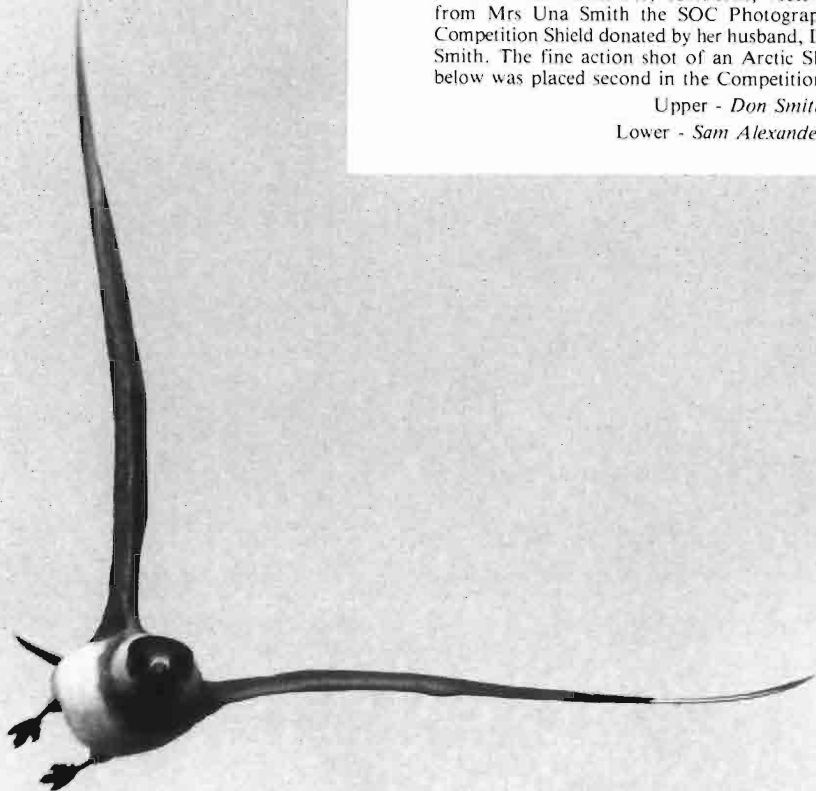




PLATE 19. Sam Alexander, Aberdeen, receiving from Mrs Una Smith the SOC Photographic Competition Shield donated by her husband, Don Smith. The fine action shot of an Arctic Skua below was placed second in the Competition.

Upper - *Don Smith*

Lower - *Sam Alexander*



mended to a normal palate. The homecoming of the hunters to Port Ness with their cargo of split and salted birds should not be missed.

The Seven Hunters or Flannan Isles can be seen from western Lewis, 32km out in the Atlantic. Once inhabited by lighthouse keepers, they are now occupied only by an automatic light, sheep and many seabirds, including a small Gannet colony. Less is known of the birdlife than that of any other of the Hebrides and their isolation and inaccessibility except in a flat calm effectually discourage investigation. Visits may be arranged by chartered fishing boat from Breasclete or Bernera in Lewis. The Flannan Isles have produced, for example, the only Collared Pratincole in the Outer Hebrides and it is frustrating for a local birdwatcher to speculate what has turned up there undetected. Many readers will be familiar with the fate of the first keepers of the light at the turn of the century as related in 'Flannan Isle' by W. W. Gibson, 'Three men alive on Flannan Isle who thought on three men dead'.

On the other side of Lewis, in the Minch, lie the enchanted or Shiant Isles, truly magical places on a still summer day. Here the last of the native Ernes nested, their eyrie used until recently by a pair of Golden Eagles. This group of three picturesque islands can be reached by chartered fishing boat from Scalpay in East Loch Tarbert.

From the west coast of south Harris several interesting islands may be visited; Taransay by charter from Seilebost; Pabbay, Shillay, Coppay, Haskeir, Ensay and Killegray by charter from Leverburgh; Berneray by daily ferry from Leverburgh. None is of particular ornithological significance although Ensay and Killegray have wintering Barnacles and breeding Greylags. Interested readers are invited to consult Robert Atkinson's evocative and entertaining accounts in his *Island Going and Shillay and the Seals*.

In the parish of Harris is found what is probably the best known and certainly the best documented of the Outer Hebrides—St Kilda. It is enough to draw attention to Harris & Murray's *Birds of St Kilda* and to recommend a visit as the experience of a lifetime! My last visit coincided with that of a Laughing Gull, which was rather gilding the lily.

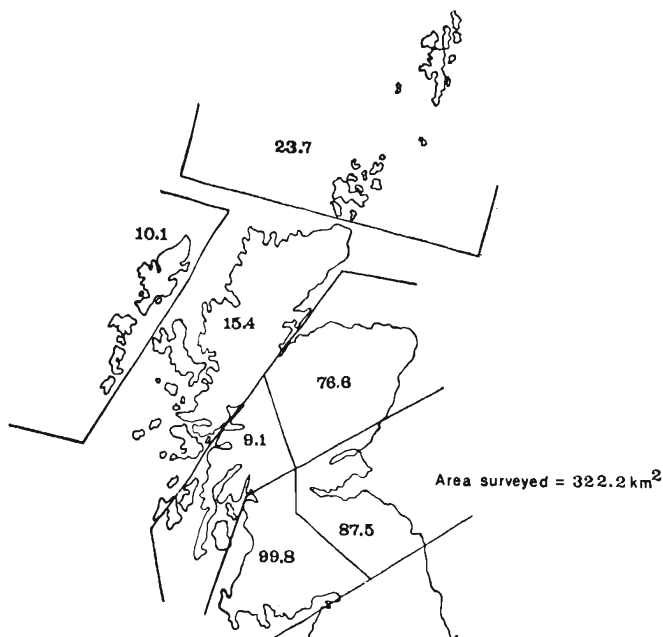
Rockall, another 340km westward and a Site of Special Scientific Interest, might as well be mentioned too to complete the record but is likely to be of little more than theoretical interest to most readers.

Peter Cunningham, 'Aros', 10 Barony Square,  
Stornoway, Isle of Lewis.

### Survey of breeding waders of agricultural land

Summer 1982 saw the first full year of the breeding wader survey and it proved a resounding success. Over 90 participants took part in surveying a total of 322 km<sup>2</sup> of farmland. Over 3500 pairs of waders were counted including 1651 pairs of Lapwings; 712 of Oystercatchers; 348 of Curlew; 318 of Redshank and 160 of Snipe.

Because of the patchy distribution of observers in Scotland it was inevitable that some areas would be covered more thoroughly than others. The map shows the distribution of the areas covered (in km<sup>2</sup>). As we expected the "blank" areas are the Northern Isles, the northern mainland, the western seaboard and Argyll.



1983 will be the final year of the survey and will be our last opportunity, not only to fill in some of the blank areas, but also to gather more valuable information from the areas of better coverage. If you took part in last year's survey and would like to do so again, or if you have not yet taken part but would like to do so, please contact me at 96 Neilston Road, Paisley PA2 6EL.

HECTOR GALBRAITH

## Short Notes

### Work on Golden Eagle and Peregrine in northeast Scotland in 1982

This is the second annual summary by the North-East Scotland Raptor Study Group. Observations on Peregrines were less intensive than for the all-Britain survey in 1981, but on Golden Eagles more intensive because of the 1982 all-Scotland survey. For both species the Group covered all known and likely sites in the counties of Aberdeen, Kincardine, Angus, Fife, Kinross, Perth east of the A9 road, and Banff except in the south-west corner of the Cairngorms. This is a slightly larger area than covered in 1981 (as it includes that part of Perthshire from the Glen Tilt road west to the A9 road). Please note that a printer's error occurred in the 1981 summary (*Scottish Birds* 12, p. 55). Under the Table heading 'Known to have laid (probably laid)', the Peregrine figures should read 41 (0), not 4 (10).

**Table Breeding in 1982**

All lines except bottom one give no. of cases, not no. of eggs or young

	Golden Eagle	Peregrine
Home ranges or sites with pair or single bird present	45*	61 <sup>r</sup>
Adult pairs	25-26†	52
Known to have laid (probably laid)	21(3)	44(2)
Eggs failed to hatch (eggs or small young disappeared naturally)	3(3)	5(2)
Fledged young seen (large chicks seen, not checked for fledging)	15(0)	23(5 <sup>x</sup> )
No. of young fledging	20-21	61 at least <sup>u</sup>

\*In another 8 ranges, birds were considered or known to have come from adjacent ranges with breeding pairs

†In one range, adults were seen but no nest found; possibly adults were from an adjacent range

<sup>r</sup>Three other sites where a bird or birds were seen were thought to be probable alternatives for existing sites

<sup>x</sup>At a 6th nest, small young were seen and not checked later

<sup>u</sup>16 nests produced exactly 46 fledged young and 7 nests at least 15 fledged young

### Golden Eagle

At least 25 pairs were located, of which 15 pairs bred successfully, about average. Snowstorms at the beginning of May probably accounted for the failure of at least two pairs. Possibly because of the good summer, 20-21 flying young were raised, which is better than average. No eaglets were removed

under licence for falconry purposes and there was no evidence that any eaglets had been removed illegally. The Group ringed four eaglets at three nests.

In spite of the more intensive coverage of the area, only one 'new' pair was found. This home range was clearly a well-established one which had been overlooked because of the apparent unsuitability of the ground. Many more immatures and single adults were found than in 1981, however, and the overall picture obtained of the eagle population in northeast Scotland was a much surer one.

On one point the Group is now a little wiser; telling 'immatures' and 'adults' apart is not as simple as the books would have us believe! In two breeding pairs the female, with white wing patches and a conspicuous white base to the tail, would have been classified as 'immature' if seen away from the nest. In both cases fertile eggs were laid, and one of the pairs raised two young. In at least three other breeding pairs one of the birds had a prominent white base to the tail, although no white patches on the wings.

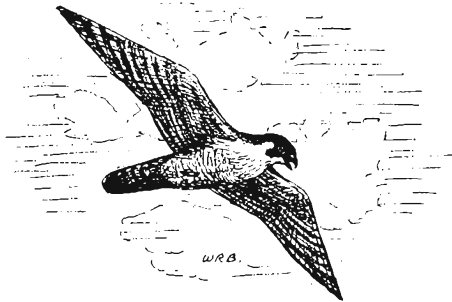
In three long-established home ranges the Group found nests that had been built-up and lined but were empty; this strongly suggested that the eggs had been removed. Proof of this was not obtained unfortunately. At two other nests breeding failure could well have been due to human disturbance. In one case climbers in a snow gully kept the bird off the nest for well over an hour. When next visited the egg was deserted, and this pair did not relay. In the other case deserted eggs were found to contain embryos only a few days off hatching. A hundred yards away, in a depression in the heather, chocolate wrappings showed that people had stopped there. The Group found no direct evidence that gamekeepers had persecuted nesting eagles, and several keepers were clearly interested in 'their' eagles.

The main prey items were Red Grouse and Mountain Hare, featuring about equally on the eaglets' menu. In a few home ranges, Ptarmigan or Rabbits were also taken. More unusual items were a hen Capercaillie, a Short-tailed Vole (hardly likely to satisfy a growing eaglet), a nestling gull (probably Common Gull) and, at separate nests, remains of a lamb and a deer calf. Whether or not these latter two were picked up as carrion was impossible to say. As well as collecting records of prey, the Group also collected hundreds of pellets which have been sent to the Nature Conservancy Council for analysis, as part of their study on Golden Eagles.

To coordinate the eagle survey in northeast Scotland, one member of the Group was employed by the RSPB.

## Peregrine

The proportion of pairs that failed was higher than average, probably due to robbing, but those that succeeded reared larger broods than average, perhaps because of the fine summer. If the summer weather had been bad, as in 1981, it would have been a disastrous year. In 1982 only two pairs lost their eggs or small chicks through natural causes. In contrast to this, eggs disappeared and were probably robbed from four nests and possibly three more; only three of these pairs re-laid. Five complete broods of young were also considered to have been robbed, including two well-grown broods of three and four, and a sixth brood possibly robbed. None of these pairs re-laid. The overall rate of unnatural loss, of eggs and young combined, was the highest recorded in the area since studies began there in 1965, and was slightly worse than in the bad year of 1976.



Although most Peregrines in the study area were on grouse moors, most estates and their gamekeepers left them alone or helped to protect them. One pair was interfered with, however; feathers from an adult hen provided suggestive evidence that she had been shot, and an immature hen had replaced her. Of the five pairs that did not hatch eggs, two were thought to have failed because of disturbance from visitors (not bird watchers). Birds were seen at five places on the coast, with pairs at four of them. Two of the pairs laid eggs and a third probably did so; one pair reared three young. Farmers at one place on the coast called the Peregrine the 'cock o' the doos' because it kills so many doves.

Apart from the usual prey of domestic pigeon and Red Grouse, some interesting prey items at moorland sites were a Turnstone, a Woodcock, a Jackdaw, a Collared Dove, a Skylark, a juvenile Dipper, four Starlings, three Blackbirds, and two Ring Ouzels. On one moorland cliff holding a Peregrine nest with four big chicks, a live racing pigeon was seen crouching! Prey at one lowland site included a Swift, a Cuckoo and a cock Kestrel.

The Group ringed 43 young Peregrines. The skeleton of an adult cock was found on a roosting ledge, at a site where a pair raised young in 1982. Several new inland sites were found where a bird or birds were present, including new breeding pairs, and it seems likely that the inland Peregrine population in the area is still expanding slowly.

This note is presented by two of us on behalf of the Group.

SANDY PAYNE, ADAM WATSON

### Golden Eagle inter-action with Roe Deer and Fox

On 14th February 1982 we watched an immature hen Golden Eagle land on a Deeside hill and then noticed a female Roe Deer 15 yards below and grazing towards her. At less than 10 feet away the deer stopped grazing and walked towards the eagle. At about 5 feet it stopped and the two looked at each other for a minute, then the Roe Deer jumped at the eagle, standing up and kicking out with her fore-legs, whereupon the eagle flew away.

On 13th March, in the same area and under conditions of thick snow cover, we saw a Fox jump at an immature eagle as it flew low over a hill. The eagle landed 40 yards further along and the Fox soon joined it, holding its brush straight up as described by Gordon (1955, *The Golden Eagle*). We then noticed an immature hen eagle sitting only 10 feet from the Fox, on the opposite side from the male. The Fox bared its teeth at both birds, walked around both twice and then sat down for a minute and looked at them, baring its teeth. The Fox then began to jump at the eagles, snapping at them, and they flew a few feet away. Fox and eagles continued this behaviour for 3-4 minutes, until the eagles finally flew off.

There are many accounts of Foxes and eagles sparring (Gordon, 1955, *The Golden Eagle*: 84-89, and Everett, 1977, *The Golden Eagle*: 36) but few involving the Fox as aggressor.

We thank Dick Balharry for useful comments.

IAIN MACLEOD, KEITH DUNCAN, INNES SIM

### Cuckoo eating young amphibians

Between 12th August and 8th September 1981 a juvenile Cuckoo frequented my garden in the village of Ford, Midlothian. The garden is attractive to several species of amphibians being relatively large with several damp areas, rough grass and stone walls. The adjacent field is rather wet and frogs *Rana temporaria*, toads *Bufo bufo* and newts *Triturus* spp. can be found in the area throughout the year. Young



frogs and toads (c. 1"/2.5 cm or less) often appear in the garden and were present in large numbers during the period described in this note. The Cuckoo was first seen from the house windows and soon became accustomed to people in the garden, which enabled closer observation, and allowed photographs to be taken. The bird was often seen flying down to the ground from one of several perches. Through binoculars I was surprised to see that the bird was not picking up caterpillars but small amphibians, which it ate on the ground before flying back to a perch. The long grass hampered observation and I was not able to see whether it was taking frogs, toads or a mixture of the two since both species were present in numbers. I did manage to photograph the bird when it was feeding and the resultant colour print confirms that the bird was taking small amphibians, though not the species involved. I did not record how long the Cuckoo spent feeding in the garden but it was seen taking amphibians on nearly every one of the 28 days it spent in the area.

Though Cuckoos are well known for feeding on Lepidoptera larvae which other birds avoid due to their hairy or noxious skins, I can find no previous records of Cuckoos taking amphibians or reptiles in Britain.

I should like to thank Mrs E. Hamilton for confirming the identification of the amphibians and D. J. Bates for encouraging me to write this note.

DUNCAN McDOUGALL

Mr McDougall's photographs, though not suitable for reproduction, certainly confirm that the Cuckoo was taking small, tailless amphibians. The European Cuckoo feeds predominantly on caterpillars and beetles when on its breeding grounds and there appear to be no records of amphibians or reptiles being taken (Ian Wyllie, *The Cuckoo*, London 1981). However all Cuckoos seem to be adapted to eating prey with hairy, or even toxic, skins and several tropical species are known to take lizards and snakes, including venomous species.—Eds.

### Cormorant eating Lesser Octopus

While I was ringing Cormorant chicks at a colony near Ballantrae, Ayrshire, one bird regurgitated the part-digested remains of a Lesser Octopus *Eledone cirrhosa*, about 80mm in body length with tentacles 75mm long. Cramp *et al* (1977, *The Birds of the Western Palearctic*, Vol. 1) make no mention of any Cephalopod amongst a long list of prey species eaten by Cormorants. Fish of several species were the main prey at this colony and these included the Butterfish *Pholis gunnellus* small specimens of the Flounder *Platichthys flesus* and the

Sea-scorpion *Taurulus bubalis*, and medium sized examples of Grey Gurnard *Eutrigla gurnardus*, Common Eel *Anguilla anguilla* and Pollack *Pollachius pollachius*, all of which are found in shallow waters and have little or no commercial value.

The Lesser Octopus is common in the Clyde sea area at depths of 16 to 80 metres but the Common Octopus *Octopus vulgaris* is very rare. (Allan, 1962, The Fauna of the Clyde Area—Mollusca). Cormorants are probably capable of reaching greater depths than the 9.5 metres recorded in Cramp (1977), but in this case the Octopus may simply have swum out of its depth.

My thanks are due to R. A. Jeffrey for his help.

B. ZONFRILLO

## Letter

Dear Editor,

### Counting Gannets at breeding colonies

I feel that some comment should be made on the confusion in the literature over censuses of Gannets at their colonies, for I believe that, however accurate the counts, there is still confusion about what is actually being counted. This is doubly regrettable because, although Gannets are among the most easily counted seabirds in the world, such confusion makes comparisons and conclusions highly contentious.

"Nests" and "breeding pairs" both present problems. "Nests", if the counter really means nests, exclude the often-substantial numbers of established site-owners which have little or no nest material but may go on to breed the next year. Nest counting from photographs is particularly difficult as few details of nest or suitability of site can generally be seen. "Breeding pairs" are not easy to determine accurately, since one must distinguish failed-breeders from non-breeders and, depending on the month of the count, possibly from pairs that will breed that year. And of course this category excludes several categories of established non-breeders.

I believe that the most appropriate unit is that of "occupied site". This simply means that, at the time of the count ALL birds (apart from "club" birds congregated outside the limits of the breeding colony) which are attending a site at the colony, with or without nesting material, are counted as site-occupiers. If the count (photographic or direct) has been of all BIRDS present, then one need only correct the figure to take account of pairs, so that two birds on a site count as one site and not as two. I have dealt with this approach more fully in "The Gannet" (1978). Of course, more detailed assessments of parts (samples) of the colony, noting presence or absence of nest-material, eggs and chicks, are always valuable but usually possible only from direct examination with binoculars. The whole of a large colony could not possibly be treated with this degree of thoroughness.

Since it is important that counts should be expressed in units which can be properly compared, may I suggest that interested seabirders co-operate in defining the best way to count Gannets at their breeding colonies? I would gladly collate responses and suggestions with a view to publishing an agreed version in *Scottish Birds*.

J. BRYAN NELSON

## Reviews

**A Scottish Naturalist. The Sketches and Notes of Charles St John 1809-1856.** Edited by Anthony Atha; Andre Deutsch, London 1982; 192 pages; 32 pages of colour and many black and white illustrations; 26 x 20 cms; £10.95.

Charles St John is often regarded merely as a Victorian sportsman who shot Ospreys, but he was a writer of distinction, a keen observer and chronicler of nature and a self-taught artist. He wrote two books in his rather short life-time, *Short Sketches . . .* from his journals, and *A Tour in Sutherlandshire* (not *A Tour in Sutherland* as cited in the book under review). *Natural History and Sport in Moray* was published posthumously.

The present work consists of extracts, mainly presented in diary form, selected from all three. These have been well chosen and carefully edited to read coherently, omitting the more blood-thirsty episodes, but with no indication from which book the various sections are drawn. The text is interspersed with St John's own drawings and water-colour sketches; although many of his bird portraits simply look stuffed his black and white sketches are on the whole extremely lively and entertaining. These illustrations from his sketch-books are said to be published for the first time, apparently overlooking H. C. St John's illustrated edition of Charles St John's note-books, published in 1901.

St John was not a Jardine or a MacGillivray, nevertheless *A Scottish Naturalist* is well worth reading, although one has to be careful of some of his assertions. From the historical aspect there is much of interest in his writing, for example his observations on crows and geese, and his very pertinent remarks on grouse-moor management.

This is altogether a well produced good quality publication which puts St John in his true perspective as observer and writer.

IAN DURANCE PENNIE

**The Birds of the West Midlands** by Graham Harrison, Alan Dean, Alan Richards and David Smallshire; West Midland Bird Club, PO Box 1, Studley, Warwickshire, 1982; 494 pages; 82 plain photos; many tables, histograms, maps and drawings; 25 x 18 cm; £15.00.

This book provides a fascinating insight into the ornithology and, indirectly, ornithologists of another part of Britain, and shows what can be achieved by an enthusiastic group of amateurs. Chapter one provides a profile of the West Midlands. The area is then divided into seven regions, and chapters two to eight cover each region in turn. The main sites of interest are mapped for each region, and its geology and geography are described. Specific habitats, and the more interesting species of birds occupying them, are then considered. These chapters are very well written, and enable the reader to visualise the character of the region, and the effects of farming, quarrying, urbanisation, etc. on the bird community.

The major part of the book (nearly 300 pages) is devoted to chapter nine, the systematic list. The text concentrates mostly, but not exclusively, on the fifty years 1929-1978, and is backed up by excellent tables and histograms. However, the estimates of each species of bird in West Midlands must be viewed with considerable scepticism. The final chapter, giving breeding distribution maps, is disappointing. The maps are based on 10 km squares, and combine information from the WMBC Atlas of

Breeding Birds of the West Midlands and the BTO Atlas of Breeding Birds in Britain and Ireland. The period covered is 1966-1972 inclusive. Hence, the maps are a little out of date, and 10 km squares are possibly too large for a local atlas. However, the quality of the book is very high and, provided the buyer does not primarily want a local atlas of bird distributions, he should not be disappointed. The book must be worth the rather high cost (£15.00) to any birdwatcher with an interest in the West Midlands.

S. T. BUCKLAND

**An Atlas of the Birds of the Western Palaearctic** by Colin Harrison; Collins, London, 1982; 322 pages; 594 coloured maps; 810 line drawings; 4 text diagrams; £12.95.

The 20 year interval since the publication of Voous' classic "Atlas of European Birds" has seen significant advances in our knowledge of bird distributions and in our understanding of the factors that determine how these distributions, and the birds themselves, have evolved.

This book is in many senses a second-generation version developing many of Voous' ideas on zoogeography and taxonomy and attaching them to a much greater information base. Possibly the most valuable part of the book is the 30 page introduction that provides the reader with some means of interpreting the maps that follow. In addition to discussing climate and vegetation, there is some detail concerning the effect of prehistoric vegetation patterns on the present species distribution and how this, in turn, may have influenced the evolution of the populations involved. The concept of ecological counterparts of European species in other parts of the Palaearctic is used throughout the book, the author baulking at calling them superspecies or species groups. This allows the reader to gain some appreciation of the manner in which familiar species are replaced by related, but different, species elsewhere.

To assist in this, every species discussed, including many only found in the eastern Palaearctic, are illustrated and mapped. The illustrations are limited to the most distinctive, usually male, plumage and are stylised in the typical field guide manner but are usually excellent in displaying the sometimes enormous and sometimes subtle differences between closely related species. The generally very accurate maps utilise colour and shading well to distinguish the different populations involved and in the case of Western Palaearctic species to show breeding and wintering areas. The use of a modified Mercator projection with its stretching of polar areas and shrinking of the southern limits of the Palaearctic was perhaps not the best choice of map projection, an equal-area projection possibly being better, but at least has the merit of being familiar to most readers.

The cost of this well produced and thought-provoking book is reasonable and it can be recommended to anyone interested in bird distributions and the factors that determine these distributions.

R. D. MURRAY

**Gulls, a guide to identification** by P. J. Grant; Poyser, Calton, 1982; 280 pages; 376 plain photos; many drawings; £12.00.

Another marvellous book from the Poyser stable, Peter Grant's book on gulls is a painstakingly accurate work. Following the same layout as the European raptors guide (Porter, Willis, *et al*), each of the 23 species is given a detailed, individual treatment, with appropriate line drawings of each significant age group. The drawings are excellent, although some slight criticism could be levelled at the clarity of those in group one, and

the Glaucous/Iceland Gull ones left me with floaters in my eyes! The photographic section at the end has been carefully chosen to further illustrate age differences. At the end of the introduction to each group Grant correctly stresses the importance of familiarity with the commoner species before trying to convert, say, a Common Gull into Ring-billed, but the thoroughness with which each species is dealt should leave the honest observer in no doubt. For those of us who shudder at the word "seagull", and who want to improve our ability to both identify and age this very accessible group of birds, this book is completely invaluable.

ANGUS HOGG

**Care of the Wild** by W. J. Jordan and John Hughes; Macdonald, London and Sydney, 1982; 198 pages; many drawings; softback; £4.95.

This book covers the treatment of sick and injured wild life at an amateur level. The authors have wide practical experience with the RSPCA and a great deal of information is packed into the 200 pages. Inevitably with such a big subject there are many omissions and the section on the legal aspects is out of date. Nevertheless I was impressed with the practical common sense approach and the care taken to avoid glamourising this field or minimising the difficulties involved. This book will help to fill a big gap.

J. F. HUNT

**The Garden Bird Book** edited by David Glue; Macmillan in association with the British Trust for Ornithology; 1982; 208 pages; 12 colour and 50 plain photos; many drawings and diagrams; £7.95.

When we are told that the area of all our gardens in Great Britain is roughly twice that of our National Nature Reserves, then even the most blasé ornithologist must sit up and take notice. This is a book for everyone interested in birds. Although there are several contributors there is a continuity of style, incorporating clarity of exposition, which makes the book a "good read" for the ordinary birdwatcher, whilst those with scientific leanings will appreciate the graphs so joyfully provided by the BTO statisticians and which are largely based on the results of their own Garden Bird Feeding Surveys.

David Glue, as editor, has been well served by both contributors and publisher. This is a well produced book meriting the claim of "definitive guide" by the publisher, and we are sure it will have a wide appeal.

MARION & STAN SHIMELD

**A Field Guide to the Birds of Japan** edited and published by the Wild Bird Society of Japan, Tokyo, 1982; 336 pages; many colour illustrations and maps; £11.20 (available in Europe only from the SOC Bird Bookshop).

This is an invaluable addition to the literature on Asian ornithology. Produced by the extremely active WBSJ this book increases enormously the information available in English on Japanese birds. It is in standard field-guide format, with the text and plates opposite each other, and employs the Peterson system with pointers high lighting the important field characters. The plates are of a high standard throughout and all the illustrations are by Shinji Takano, Japan's foremost bird artist and an acknowledged expert on field characters. The text, compiled by a variety of authors is concise and accurate. Although small the distribution maps are an extremely important feature of this work, since they

cover the region from south-east Asia northwards and east to the Bering Sea. Thus they are also very useful for China and Korea.

Any new guide has its faults and this one I would criticise for its lack of standardisation of the English names; they are an odd mixture of American and British. All too often descriptions omit calls, a particular shame because Japanese birdwatchers are especially good at describing bird songs and calls in written syllables. I would have welcomed supplementary, detailed distribution maps of those species regularly occurring in Japan, perhaps instead of the brief guide to birdwatching localities. The latter is of interest to those planning a trip, but too brief for use by residents.

Despite any drawbacks, this is the book I carry into the field. Not only is it the best available in English, but it is also better than any so far available in Japanese. It will shortly be published in Japanese.

M. A. BRAZIL

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.

*Perthshire Bird Report for 1981.* (16 pp). E. D. Cameron (ed) 1982. £1 post free from Perth Museum & Art Gallery, George St, Perth.

*Borders Bird Report for 1981.* (36 pp). R. D. Murray (ed) 1982. £1.10 post free from SOC Bird Bookshop.

*Expedition to the Outer Hebrides in 1979.* Final Report. (103 pp). B. A. Pendlebury (comp.) 1982. Royal Air Force Ornithological Society.

*Wildfowl and Wader Counts 1981-1982.* (52 pp). D. G. Salmon (ed) 1982. Wildfowl Trust.

The abundance and distribution of intertidal invertebrates [in the Clyde estuary], and an estimation of their selection by Shelduck. D. B. A. Thompson 1982. *Wildfowl*: 33 : 151-158.

Clutch parasitism and nesting interference between Shelducks at Aberlady Bay [Forth estuary]. M. W. Pienkowski & P. R. Evans 1982. *Wildfowl*: 33 : 159-163.

*Edinburgh Ringing Group Report for 1981.* No. 9 (1982). (22 pp). 50p (75p by post) from J. H. Ballantyne, 6 Mansfield Place, Edinburgh EH3 6NB.

*North-East Scotland Bird Report for 1980.* (48 pp). Aberdeen University Bird Club 1981. Includes "Wintering Wildfowl at the Loch of Strathbeg 1954-80" by M. V. Bell, and "Coasting movements by seabirds in North-East Scotland" by W. R. P. Bourne.

*North-East Scotland Bird Report for 1981.* (47 pp). Aberdeen University Bird Club 1982. Includes "Wintering Wildfowl in the Ythan Valley" by M. V. Bell.

W. G. HARPER

## The Scottish Ornithologists' Club

### SCOTTISH BIRD REPORTS

The 1981 SBR is now available from the club secretary; please send cash with your order—£1.25 (members) or £1.75 (non-members), post free. Earlier reports are available on request.

### SUMMER EXCURSIONS

Details of summer excursions arranged by branches are published on a separate sheet enclosed with this journal.

### LOCAL RECORDER

Please note the following change :

Argyllshire, Inner Hebrides R. F. Coomber, 4 Staffa Cottages, Tobermory, Isle of Mull, PA75 6PL.

### SOC ANNUAL CONFERENCE - 1983

The next conference and AGM will be held in the Marine Hotel, North Berwick, East Lothian, from 4-6 November 1983. Details will be published in *Scottish Birds*; bookings can only be accepted on the official booking form which will be sent to all members with the autumn journal.

### 1982 RAFFLE

The draw for the annual raffle took place after dinner at the conference on 6 November 1982. With the new arrangement of sending a book to every member (some received two in an excess of zeal by those who fill the envelopes!) we had to print many more tickets than usual. We wish to thank the benefactor who helped to reduce the printing bill considerably. Even with this help the total expenses were much greater than before, amounting to £380 including the first prize of £50. We sold £1182 worth of tickets (£431 more than last year) giving us a net profit of £802 to put towards club funds, a net increase of £125.

The new arrangement was obviously a success and will be repeated next year. We are extremely grateful to those members who, although not approving of raffles, returned their book with a donation. Our thanks also go to those firms, branches and members who donated all the prizes, and of course to all those who bought tickets. Well done! A list of winners can be obtained by sending an SAE to the club secretary.

### ANNUAL CONFERENCE

**The Thirty Fifth Annual Conference** Each autumn some two hundred birdwatchers home in on North Berwick's Marine Hotel to forget mundane matters like strikes, wars and disasters while old friends are greeted and only one topic fills the corridors: birds—studied, snapped, seen—or just imagined. The Club conference, organised with apparently effortless efficiency by Alastair Peirse-Duncombe and his colleagues, now runs to a familiar and wholly acceptable pattern and the 1982 model was no exception.

Friday night is traditionally members' night, and last year we were carried from the Pribiloff Islands via Aberdeen, Ayr, and Galloway, over the Pyrenees through Spain to Africa, where we learnt that the Club has a member resident in (but one hopes not too far in) the Durban

sewage works. After this, a leap across to South America before ending with some stunning slides of the birds and scenery of the South Orkneys. Truly the talent behind the lens-caps of Club members never ceases to impress.

For the main 'meat' of the conference on Saturday, we were offered three papers on the general theme of birds and their diet. Like a beautifully constructed cordon bleu meal, each course was a work of art in its own right, and the whole illustrated the vast diversity of the subject. Dr David Houston gave an absorbing account of the vultures of the Old World, emphasising their importance in the ecosystems of the African plains. Then Bernard Zonfrillo, after showing a slide of the globe from outer space and remarking casually "this is my study area", talked about the feeding ecology of the petrel family, and chiefly about the fulmar. For me, at least, he added much new knowledge about a bird I thought I knew quite well. And lastly Chris Mead from the BTO explained the effects of the hard winter of 1981/82, showing how birds can survive by various subterfuges even in apparently harsh conditions.

On Sunday morning Ian Gibson first summarised his studies of yellow wagtails in Ayrshire and North Lanarkshire. This attractive bird is one that few of us easterners will be familiar with, and the prognosis for this small and apparently isolated population, given recent changes in agricultural practice, is not good. Dr Mick Marquiss then outlined his research on herons in eastern central Scotland. This is designed primarily to see if the heron can be used as an indicator of chemical pollution of aquatic ecosystems and is producing much useful data about the bird's life cycle. Progressing from species to habitats, John Hunt described the RSPB's new reserves in Orkney and Perthshire and Bernard Gilchrist highlighted the interest in some of the SWT's particularly ornithological reserves. Both speakers expressed their gratitude to the Club for the donation of the George Waterston Memorial Hides at Vane Farm and Montrose Basin respectively.

The final event on the programme is always unusual. Last year John Burton of the BBC Natural History Unit at Bristol opened our eyes—and ears—to some of the fearful fankles we can get into when listening to birdsong, especially in southern Britain or Europe. How many of us realise that the call of a scops owl can be muddled with that of a midwife toad? or a mole-cricket with a nightjar?

One always leaves North Berwick wondering 'whatever will they think of for next year?' Well, we've only got to wait for the next issue of *Scottish Birds* to find out.

E. F. B. SPRAGGE

## Notices

**North-East Scotland Ornithological Atlas** Over the years 1981-84, an ornithological survey of all sites covered by the North-East Scotland Bird Report (Grampian region less Moray district) is being carried out. There are three main aims for the survey. Firstly, if a site is threatened by development, we will be able to supply information on the ornithological value of that site. This will be achieved in two ways. Each site can be given an overall index, assessing its value, which will then be immediately available. More detailed information, listing all records received from a given site, can also be supplied, but the circulation of such lists will be limited, especially if they contain confidential records. The second purpose of the atlas is to assist ornithologists working in North-



East Scotland, by providing basic information on the distribution and status of each species, and references to other work, if any, on the species. Thirdly, it is hoped that the survey will stimulate the interest of many people not just in birds but also in other aspects of the natural environment.

The area covered by the scheme has been divided into 395 sites. An observer surveys a site by counting the number of each species of bird he sees, and by noting down evidence of breeding where appropriate. At the time of writing (August 1982), over a hundred people have taken part. All casual records submitted for the annual North-East Scotland Bird Report are also included in the analyses, so that the total number of participants is considerably greater. However, some areas, notably Banffshire, South Kincardineshire and parts of the Buchan plain, are very under-recorded, and any further offers of help would be very welcome.

If you can offer any help with this survey, or would like to receive newsletters summarising progress and giving some preliminary species distribution maps, please contact the survey organiser: Steve Buckland, Dept. of Statistics, University of Aberdeen, AB9 2UB.

**The XIX International Ornithological Congress** will be held in Ottawa, Canada, from 22-29 June 1986. Details of the programme are not yet available but those interested in participating in the Congress are urged to inform the Secretariat in order to obtain announcements and application forms. Correspondence should be addressed to: The Secretary-General, Dr Henri Ouellet, XIX Congressus Internationalis Ornithologicus, National Museum of Natural Sciences, National Museums of Canada, Ottawa, Ontario, Canada, K1A 0M8.

**BTO Mute Swan Census 1983** As announced in *Scottish Birds* Vol. 12 No. 4 the BTO, in co-operation with the Wildfowl Trust and SOC, is undertaking a Mute Swan Census this spring with the aim of obtaining complete coverage of Britain. A list of local organisers for Scotland appears after page 172. Apart from aiming for complete coverage the survey will be run on the same basis as the 1978 census with the 10km square as the recording unit. During April and May observers will be asked to record the presence of pairs in territory and to confirm breeding by locating the nest or cygnets. Information from other months will also be welcome. Non-breeding birds will be counted in April. It is intended to publicise the census through local radio and press to stimulate public interest but it is hoped that many SOC members will participate and contact their local organiser. A. W. and L. M. Brown are co-ordinating the census in Scotland.

## RECENT REPORTS

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

In EARLY & MID-OCTOBER periods of easterly winds & bad weather brought a series of tremendous falls of drifted migrants to Scotland. The east coast & northern isles were inundated with birds: numbers were greatest in the south & the biggest fall occurred around 10-11 Oct. Several lucky birders on the Isle of May were overwhelmed by the 22,000 mig-

rants which carpeted the island. Many Siberian birds were seen up & down the coast amongst the **Goldcrests**, **Robins** & **Blackcaps**, but numbers were so large as to ensure that many rarities must have slipped through undetected.

There was an influx of **Rough-legged Buzzards** with at least 14 between St Abbs and Shetland. Single **Spotted Crakes** appeared at Fair Isle, Out Skerries & Drums (Abdn), a **Pectoral Sandpiper** at Girdleness, & **Hoopoes** in the Lammermuirs, at St Andrews & on Whalsay. **Great Spotted Woodpeckers**—probably of Scandinavian origin—were seen in Shetland & Caithness. Fair Isle had **Short-toed Larks** & an **Olive-backed Pipit**; **Richard's Pipits** appeared there & at Spiggie & Out Skerries. The Isle of May produced a **Rufous Bush Robin** on 10 Oct. & held 4,000+ **Robins** on 11th. A **Thrush Nightingale** was seen at Fife Ness & **Bluethroats** at the Isle of May, Fair Isle, Shetland & Aberdeen. **Black Redstarts** were more numerous than usual with at least 19 between Aberdeen & Shetland. **Stonechats** of the Siberian races *maura/stejnegeri* occurred at Ratray Head, Fair Isle, Out Skerries & Whalsay between 6th & 24th, & Fair Isle also had a **Lanceolated Warbler** on 6th, 20 **Ring Ouzels** on 11th & a **Black-throated Thrush** on 13th. **Icterine Warblers** occurred at Unst & Wick, while a male **Orphean Warbler** was caught by a lucky ringer in Aberdeen. Large numbers of **Blackcaps** occurred all along the east coast, with 150 on Fair Isle and 600 on the Isle of May on 11th. An amazing aspect of these falls was the unprecedented number of **Pallas's Warblers**, at least 53 between St Abbs & Shetland. They outnumbered the more regular Siberian visitor, the **Yellow-browed Warbler**, of which only 10 were reported. Other noteworthy visitors were **Radde's Warbler** (also of Siberian origin) in Shetland & Orkney, a **Dusky Warbler** at St Abbs, 9 **Red-breasted Flycatchers** & 26 **Great Grey Shrikes**. **Parrot Crossbills** arrived in numbers for the first time since 1962, with 27 reported from Shetland, Fair Isle, Orkney, Caithness, Perth & North Uist, but only 3 **Scarlet Rosefinches** were seen. On the southern part of the east coast the most memorable feature of this remarkable fall was undoubtedly the huge number of **Goldcrests**—at least 2,000 at St Abbs on 10th & an astonishing 15,000 on the Isle of May on 11th.

LATE OCTOBER, NOVEMBER & DECEMBER were characterised by a series of deep depressions which crossed the Atlantic, bringing with them relatively mild weather & some unexpected birds. These included a **Ring-necked Duck** in Shetland on 24 Oct. & a **Teal** of the American race *carolinensis* in Inverness in November. Several lucky people saw the white **Gyr Falcon** found on a North Sea oil rig & released near Aberdeen in November. A **Long-tailed Skua** passed Peterhead on 23 Oct & there was a **Mediterranean Gull** at Banff on 17th, an immature **Bonaparte's Gull** in Unst on 21st, & a superb **Ross's Gull** at Scalloway from 26-29 Dec. One of the best autumns on record for American land-birds arriving in Britain brought several to Scotland, but it is anyone's guess how many reached our shores never to be seen by birders. Those reported included a **Grey-cheeked Thrush** in Shetland, an **American Robin** on Foula, a **Yellow-rumped Warbler** on North Uist, & Britain & Ireland's third **American Redstart** on Islay (on 1 November).

STOP PRESS. **Laughing Gull** at Barassie, Ayr on 8-9 Jan 1983 & **Killdeer** near Bo'ness, W Lothian from late January.

PETE ELLIS

POSTSCRIPT. A full analysis of this remarkable October fall is in preparation and will be published later in the year. If accepted by BBRC the **Orphean Warbler** and **Rufous Bush Robin** mentioned above will be the first recorded for Scotland, while **Killdeer** has previously been recorded only once—in 1867 and under slightly dubious circumstances!—Eds.

# BTO MUTE SWAN CENSUS 1983

## Scotland

A LIST of the local organisers for Scotland is given below, and anyone who is interested in helping with the census either within their own county or elsewhere in Scotland is asked to write to the relevant organiser. If in doubt please contact the Scottish organisers, A. W. & L. M. Brown, 7 Trelawney Terrace, Penicuik, Midlothian, EH26 0NB.

**Shetland** Dr B. Marshall, Symbister, Whalsay, Shetland.

**Orkney** P. Reynolds, Berrybank, Evie, Orkney.

**Outer Hebrides** Dr C. J. Spray (see Aberdeenshire.).

**Caithness** Mrs P. M. Collett, Sandyquoy, East Gills, Scrabster, Caithness, KW14 7UH.

**Sutherland (East)** D. MacDonald, Elmbank, Dornoch, Sutherland, IV25 3SN.

**Sutherland (West)** Dr I. D. Pennie, 5 Badcall, Scourie, Sutherland, IV27 4TH.

**Ross-shire** C. G. Headlam, Dallachie, Fearn, Tain, Ross-shire, IV20 1TN.

**Inverness-shire** R. A. Broad, 5 Birch Place, Culloden, Inverness-shire, IV1 2LB.

**Nairnshire, Morayshire** Dr R. Richter, 55 Dunbar Street, Burghead, Morayshire.

**Aberdeenshire, Banffshire** Dr C. J. Spray, Culterty Field Station, Newburgh, Ellon, Aberdeenshire, AB4 0AA.

**Kincardineshire** D. Carstairs, Rose Cottage, Lamonfauld Road, Hillside, Montrose, Angus.

**Angus** N. K. Atkinson, Tadorna, 5 Tolmount Crescent, Montrose, Angus, DD10 9DQ.

**Perthshire** E. D. Cameron, Strathclyde, 14 Union Road, Scone, Perthshire, PH2 6RZ.

**Stirlingshire, Clackmannanshire** H. Robb, 27 Victoria Place, Stirling, Stirlingshire.

**Kinross-shire, Fife** Mrs W. Mattingley, 49 Elizabeth Street, Tayport, Fife.

**Lothians** A. W. & L. M. Brown, 7 Trelawney Terrace, Penicuik, Midlothian, EH26 0NB.

**Ayrshire, Arran, Bute, Cumbrae** R. H. Hogg, Kirklea, 11 Kirkmichael Road, Crosshill, Maybole, Ayrshire, KA19 7JR.

**Peeblesshire, Selkirkshire, Roxburghshire, Berwickshire** R. J. Robertson, 99 Howden Road, Jedburgh, Roxburghshire, TD8 6JT.

**Argyllshire, Inner Hebrides** S. Newton, 11 Jameson Place (2nd Floor), Leith, Edinburgh, EH6 8NZ.

**Dunbartonshire, Renfrewshire** I. P. Gibson, Arcadia, The Glen Howwood, Renfrewshire.

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

**Dumfriesshire** Dr E. Fellows, West Isle, Islesteps, Dumfries, Dumfriesshire, DG2 8ES.

**Kirkcudbrightshire** Miss J. E. Howie, 60 Main Street, St John's Town of Dalry, Kirkcudbrightshire, DG7 3UW.

**Wigtownshire** G. Sheppard, The Roddens, Leswalt, Stranraer, Wigtownshire.

## THE SCOTTISH ORNITHOLOGISTS' CLUB

**T**HE Scottish Ornithologists' Club was formed in 1936 and membership is open to all interested in Scottish Ornithology. Meetings are held during the winter months in Aberdeen, Ayr, the Borders, Dumfries, Dundee, Edinburgh, Glasgow, Inverness, New Galloway, St Andrews, Stirling, Thurso and the Wigtown District at which lectures by prominent ornithologists are given and films exhibited. Expeditions are organised in the summer to places of ornithological interest.

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

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

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

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

### APPLICATION FORM

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Type of membership .....

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Signature .....

Proposed by .....

Seconded by .....

(If you do not know any members who can propose or second you please leave blank)

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#### Notes—

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

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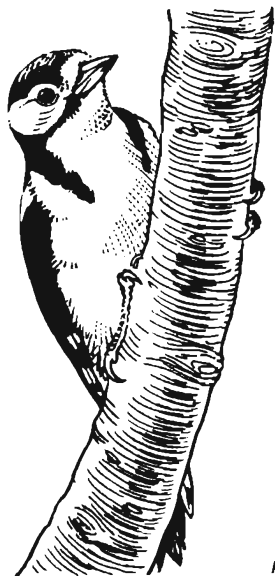
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