

ISSN 0036-9144

SCOTTISH BIRDS



THE JOURNAL OF THE
SCOTTISH ORNITHOLOGISTS' CLUB

Vol. 13 No. 1

Spring 1984

Tell me Mr. Frank...

BIG DISCOUNTS LOW PRICES!

'BY RETURN' DESPATCH WHY WAIT?

Don't know which model to choose? Join the thousands of people who consult us every year about binoculars and telescopes. Whatever your own individual needs our expert advice will ensure that you make the correct choice and buy at the right price.

Ring us on any of these numbers



● 0728 3506 ● 0603 21704 ● 031-229 3363

(MON-FRI)

(MON-SAT)

(MON-SAT)

MASSIVE RANGE - THE RIGHT MODEL FOR YOU

PART EXCHANGE - ASK FOR QUOTE

CHARLES FRANK BINOCULARS



Made to our own specification and bearing our name, these fine instruments offer outstanding value. All are supplied with case and carry a 10 year guarantee.

STANDARD RANGE	
8x30ZCF	24.95
8x40ZCF	29.95
7x50ZCF	31.95
10x50ZCF	32.95

GREEN LABEL	
Extra wide angle Multi-coated lenses. Close focusing.	
8x40BWCF	69.95
10x40BWCF	74.00
10x50BWCF	77.50

ROOF PRISM	
8x21 mini NEW MODEL	
8x30 wide angle	69.95
8x40	67.50
10x40 wide angle	73.20
8x56 armoured	92.50

'K' SERIES	
Wide angle Fully coated optics	
8x40	71.00
10x40	71.00

OBSERVATION	
Big binoculars for use on a tripod	
11x80BCF - super bright -	160.00
20x70BCF - high power -	137.50
Tripod clamp	3.95

CHARLES FRANK 8x30 DE LUXE
Probably the best quality binocular available at this price. Made in East Germany. Leather case. Weight 180z. Ideal instrument for the younger user. **24.95**

OTHER MAKES



Quite simply the best Roof prism binoculars that give crystal clear vision. Guaranteed for 30 years.
8x20B miniature. 6oz **155.00**
10x25B miniature. 6.7oz **171.50**

8x30B Dialyt	316.50
8x30BGA/CF Dialyt armoured.	289.00
7x42BGAT* Dialyt armoured	369.50
8x56BGAT* Dialyt armoured	449.50
10x40BT* Dialyt	358.00
10x40BGAT* Dialyt armoured	364.00

Habicht

Precision made in the Austrian Tyrol. Highly recommended.
8x30 wide angle **209.00**
7x42 **209.00**
10x40 'Diana' wide angle **239.00**

OPTOLYTH ALPIN

Light as a feather - well almost! West German made armoured binoculars.
8x40 - 160z - **113.00**
10x40 wide angle - 160z - **115.00**
10x50 - 220z - **137.00**

SWIFT

7x542 Osprey armoured (no case) **96.50**
8x544 Audubon HR **126.00**
All other Swift models available.

Nikon

Binoculars to match the high reputation of their cameras.
8x30 wide angle **139.00**
10x35 wide angle **159.00**
9x30 roof prism **169.00**

CARL ZEISS JENA

UP TO 45% OFF M.R.P.
Wide angle binoculars with a lifetime guarantee. Great value.
8x30 Jenoptem **37.95**
7x50 Jenoptem **62.50**
10x50 Jenoptem **59.95**
8x30 Deltrintem **53.50**
10x50 Dekarem **84.95**
8x30 Deltrintmo monocular **34.95**
8x21 Turmon mini monocular **37.95**

Bushnell

7x26 Custom Compact. 110z **99.95**



HELIOS (Russian)

Difficult to fault at the price.
8x30ZCF **21.95**
7x50ZCF **29.95**
12x40ZCF **32.95**
8x30 monocular (no case) **11.95**

OTHER MONOCULARS

Tohyoh 8x30 **16.95**
Tohyoh 7x50 **23.00**
Tohyoh 10x50 **23.50**
Lumex 8x20 roof prism **49.95**
Lumex 8x24 'Miniscope' **32.40**

All binoculars/monoculars supplied complete with case unless otherwise stated.
Binocular & telescope briefing pack available - just send 35p stamps.

TELESCOPES

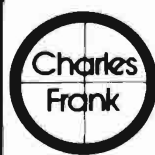
Charles Frank
14-45x50 armoured, case **73.45**
20-60x60 armoured, case **99.95**
Charles Frank
Zoom 20-45x60 Very sharp. A super telescope. **194.00**
Bushnell Spacemaster 23x30 wide angle. **162.00**
Spacemaster case. **16.50**
Bausch & Lomb Discoverer 15-60x60 **198.00**
Discoverer case **14.50**
Nickel Supra 15-60x60 case. **159.95**
Televari 25-60x60, case. **159.95**
Charles Frank 30x75 armoured case. **149.95**
Optolyth 30x75 armoured. leather case. **208.00**
Habicht 30x75NZ. The best of its kind. Armoured with end caps & sling. **295.00**

NEW LOW PRICE

Steiner 24x80. Very bright. Armoured, case. **199.95**
Many other telescopes always in stock - just ask.
A good telescope deserves a good tripod. This one is super.
Sisk Master D2 Full height. One action pan/hilt. Weighs only 2.5kg. **52.50**
Table top tripods, binocular/tripod adaptors, car window mount always available.

Charles Frank Service Dept.
Binocular cleaning & collimation.

All the Charles Frank instruments listed above are available from our appointed Stockist, Saville Photo Hi-Fi, 7 Goodramgate York. Tel: (0964) 25755.



Charles Frank Ltd. THE OPTICAL EXPERTS

CHARLES FRANK LTD, PO Box 5, Ronald Lane, Saxmundham, Suffolk IP17 2NL Tel: 0728 3506

BRANCHES

EDINBURGH
at Edinburgh Cameras
57 Lothian Rd.
Tel: 031-229 3363

NORWICH
at Norwich Camera Centre
20 White Lion St.
Tel: 0603 21704

All prices include VAT. Postage & packing £2. Return unsuitable goods, in unused condition, within 14 days for full refund. Prices correct 1/12/83 but liable to alteration. Visa & Access welcome - just quote your number.

BARCLAYCARD

VISA



Use Access



Shetland's Country Guest Houses have joined together to offer you the holiday of a lifetime at the best possible value for money. Each Guest House is situated in a tranquil, rural setting among some of the most compelling scenery in Britain. Excellent accommodation and traditional home cooking in a friendly, family atmosphere guarantee a comfortable and relaxing stay.

Your host will assist you in making plans for your holiday whether your interests lie in ornithology, angling, sailing, golf, history, pony trekking, or just sitting back to enjoy the freedom of these fascinating islands.

Please send me by return a complete Shetland Country Guest House information pack including details of the Sail/Drive and Fly/Drive package holidays.

Name: _____

Address: _____

Shetland Country Guest Houses,
Market Cross, Lerwick, Shetland. ZE1 0LU

G/SB/SPR/84

**Bargain Touring Holidays
in the
Shetland Islands 1984**

CARSKIEY

8,700 acre estate at the tip of
the

Mull of Kintyre

Self catering modernised farm
cottages sleeping 4-8 adults.

Excellent for sea and moor-
land birds especially at
migration times.

Golf, fishing, sandy beach.

Write to :

Cottage Letting,
Carskley Ltd.,
Southend,
Kintyre, Argyll, PA28 6RU

Orkney Islands

TAVERSOE HOTEL ROUSAY

Our peaceful island hotel overlook-
ing the sea makes an ideal centre
for ornithologists. Habitat-moor-
land, shore, cliffs and lochs attract
70 breeding species and many more
migrators. Excellent walking and
trout fishing. Close to excavated
prehistoric sites including Mid
Howe broch and cairn. Brochure
from :

IVAN & LOUISE OWEN,
TAVERSOE HOTEL, ROUSAY,
ORKNEY

Tel. 085682 325

BIRDWATCHING AFLOAT ON THE WEST COAST OF SCOTLAND

~

HAVE YOU EVER THOUGHT of combining birdwatching with
a sailing holiday on Scotland's beautiful West Coast? Large
parts of this area are abundant in bird life, which accepts a yacht
approaching quietly as part of the environment.

SINBAD CHARTERS (Peter Waddington) runs skippered sailing
holidays from Rhu Marina, near Helensburgh, in his 36 ft
(8 berths including skipper) Westerly Medway Sloop "Zamora".
The skipper will adjust to all, from the experienced sailor to the
complete novice. You can plan your own cruise and go anywhere
within the constraints of time and navigational safety—partici-
pating in the sailing as much or as little as you want.

FOR DETAILS, write enclosing s.a.e. to : Peter Waddington,
Yacht "Zamora", Rhu Marina, Nr. Helensburgh, Dunbarton-
shire—or ring Rhu (0436) - 820160 ("Zamora" when in harbour)
or 820123 (c/o Gareloch Charters when "Zamora" is at sea).



THE SCOTTISH FIELD STUDIES ASSOCIATION LTD.

Kindrogan Field Centre *Birdwatching Courses 1984*

KINDROGAN provides accommodation, lecture rooms laboratories and a library for visitors. Situated in the Southern Grampian Highlands, it affords excellent opportunities for all aspects of field studies.

BIRDS —a weekend course, John Edelsten	May 11-13
SUMMER BIRDS —hills and lowlands. R. M. Ramage	June 15-20
SCOTTISH BIRDS —a relaxed course. Paul Croft	July 4-11
HOW BIRDS WORK —their biology. Ron Freethy	July 18-25
BIRDS OF HILL AND GLEN —YOC course. Ian Walker	July 25-Aug 1
HIGHLAND BIRDS —a strenuous course. Ted Green	July 25-Aug 1
BIRDS OF HILL AND GLEN —YOC course. Jim Flint	Aug 8-15
AUTUMN BIRDS —winter visitors. Nicol Mutch	Sept 28-Oct 5
AUTUMN BIRDS —winter visitors. Ron Youngman	Oct 19-26

All applications and requests for information on these and other courses should be addressed to The Warden, Kindrogan Field Centre, Enochdhu, Blairgowrie, Perthshire, PH10 7PG. Tel. Strathardle (025 081) 286. S.a.e. appreciated.

**CENTRALLY HEATED
FULLY MODERNISED SELF
CATERING
HOLIDAY COTTAGES
to let in GALLOWAY**

***Caldow Lodge,
Corsock,
Castle-Douglas,***

Kirkcudbrightshire,
Scotland, DG7 3EB.
Tel. Corsock 286.

Proprietors, Norman and Anthea Gray

Amidst Moor, Marsh, Forest
and Lochs, glorious countryside.
Birdwatchers' paradise.

Off Season Lets.

Please send for brochure, stamp
appreciated.



WATCH BIRDS
with **JOHN GOODERS**

John invites you to join him at his sixteenth century farmhouse near the Sussex coast for a week's birdwatching holiday.

- * Daily excursions in comfortable minibus
- * Evening lectures and videos
- * Super three course dinners
- * Personal attention - parties limited to 6
- * Detailed brochure from :

LATTENDEN'S FARM (SB)
Ashburnham, Battle, E. Sussex
Tel. 0323 833245





FREE BOOK - if you join us now

IF you are not already a member of the RSPB why not join us today and receive completely free our full colour "Book of British Birds" or the excellent field companion "Birdwatcher's Pocket Guide" by Mitchell Beazley.

Simply send your first year's subscription of £9.00 to RSPB Scottish Office, 17 Regent Terrace, Edinburgh EH7 5BN and we will send you your member's pack and free book of your choice by return. (Please remember to state which book you would prefer.)

Latest Films

Do not miss the Scottish Premieres of the RSPB's new films which take place over the next few weeks. These are "Where Eagles Fly"—a spectacular look at the life of the Golden Eagle—"Concerning Swans"—a beautifully filmed portrait of one of our best-loved birds—and "Gardening with Wildlife"—a film for everyone.

They can be seen at the following venues

GLASGOW—The Mitchell Theatre on Saturday 10th March (2.30 p.m. and 7.30 p.m.).

EDINBURGH—The George Square Theatre on Saturday 17th March (2.30 p.m. and 7.30 p.m.), Monday 19th March (7.30 p.m.) and Tuesday 20th March (7.30 p.m.).

The above shows have been sponsored by Conoco

INVERNESS—Eden Court Theatre on Tuesday 27th March (7.45 p.m.).

SCOTTISH BIRDS

THE JOURNAL OF THE SCOTTISH ORNITHOLOGISTS' CLUB
21 Regent Terrace, Edinburgh, EH7 5BT (tel. 031-556 6042)

CONTENTS OF VOLUME 13, NUMBER 1, SPRING 1984

	<i>Page</i>
Editorial	1
Letter from Major & Mrs Peirse-Duncombe	1
Breeding Lowland Waders in East Sutherland (J. & C. F. Barrett)	2
The Status of the Mute Swan in the Lothians (A. W. & L. M. Brown)	8
Birdwatching in Inverness (R. H. Dennis)	15
Numbers and spacing of summering Snow Buntings and snow cover in the Cairngorms (T. P. Milsom & A. Watson)	19
Short Notes	
Greenland White-fronted Goose Census (D. A. Stroud)	23
Work on Golden Eagle & Peregrine in NE Scotland in 1983 (S. Payne & A. Watson)	24
Storm Petrel attacking Great Skua (A. C. Blackburn)	26
Mellanic Black Guillemot in Shetland (P. J. Ewins)	26
Reviews & Current Literature	27
Notices	29
The Scottish Ornithologists' Club	30
Recent Reports (Pete Ellis)	32
Recent R.S.P.B. staff changes	32

Editor V. M. Thom
Business Editor M. R. Williams

Arctic Birds

JOIN an ERSKINE EXPEDITION in Jun/Jul/Aug and see such birds as Gyr Falcons, Snowy Owls, Arctic Redpolls, Sabine's Gulls, Arctic animals such as Muskox, Walrus and Ermine, and many species of boreal flowers. Camping trips to 4 remote localities in Greenland, also Labrador, Rockies, Iceland and Alaska. Boat-based trip to Spitsbergen (80°N). Hotel-based trip to Siberia. Expert guides. £850 up.

Nearer to home, take a thrilling boat-based tour round the Orkneys and Shetlands, June 9 to 20, £525.

Send a stamp to:

ERSKINE EXPEDITIONS

14 Inverleith Place, Edinburgh, and state your interest.



NEW GALLOWAY

"Cairn Edward"



Situated in its own grounds, adjacent to Loch Ken, on the A762. Open all the year.

Terms: Dinner, B & B £13; packed lunches available.



PHONE

New Galloway 244



PAPA STOUR Shetland

Papa Stour is a small island reached by boat from West Burrafirch on the west mainland.

Breeding birds include arctic terns, bonxies, arctic skuas and colonies of guillemots and razorbills on the spectacular Atlantic cliffs.

Self-catering Caravans to let.

We are close to clean sandy beaches, and children are very welcome.

SAE for details to:

Vicki Coleman,

Papa Stour,

Shetland.

Tel. Papa Stour 234

SCOTTISH BIRDS

THE JOURNAL OF THE SCOTTISH ORNITHOLOGISTS' CLUB



Volume 13 No. 1

Spring 1984

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

Editorial

We apologise for the late appearance of *SB* 12:8. This was largely due to delays caused by the installation of new equipment by the printer; the consequent late delivery meant that mailing coincided with the Christmas rush.

New names Since the first working day of 1984 John Davies has been in post as the club's Secretary and Treasurer. We hope that he will find his new job both interesting and rewarding, and that he and his family will enjoy living at 21 Regent Terrace. John's arrival was closely followed by Maureen's wedding, so we have two "new" names to remember. We wish Maureen—now Williams—and her husband Ben every happiness in the future.

Letter from Major and Mrs A. D. Peirse-Duncombe

Dear Members,

Daphne and I find it hard to thank you all sufficiently for the wonderful present you gave us when I retired. It was sad that, following my illness last October, we could not be present for the whole conference weekend, but we were delighted to have been able to attend the AGM and receive your presents. The tray, engraved with the Crested Tit and my dates as Secretary, will always remind us of our time with the Club. The very handsome cheque which accompanied it has enabled us to buy some items for our new house which we would otherwise not have purchased. In addition we have put some aside for our trip to Canada where we plan to visit our son in May. We are overwhelmed by your generosity.

We came to the Club in 1969 knowing hardly any members, but it very soon became apparent that we had come to a most friendly organisation with a wealth of goodwill shown to us at all the branches, and by those with whom I corresponded. As I said briefly at the AGM, the warm welcome extended to us in those early days has continued to the end. We will never forget the kindness of members at meetings, conferences and other club functions.

I received many messages and letters at the time of my illness and then my retirement, and I am sure those who wrote will forgive me for not replying personally, and accept this letter of thanks instead. With my departure brought forward by my illness before my successor arrived, an extra burden was put on Maureen Doran (now Mrs Williams) which she could not have foreseen, and I would like to take this opportunity to thank her and all members of our staff for their work at that difficult time of transition, and also all the staff who have served the Club so loyally during my time as Secretary.

Finally, as many of you will know, Daphne and I are now living in the Borders near Melrose. We hope to attend branch meetings and conferences in the future, and see many of you in the coming years. Thank you all most sincerely for making our time with the Club so enjoyable, and for giving us such a memorable and handsome parting present.

DAAPHNE and ALASTAIR PEIRSE-DUNCOMBE

Breeding Lowland Waders in East Sutherland

J. & C. F. BARRETT

This study extends the coverage of breeding wader habitat types to include largely unimproved marginal land near the coast. Repeat surveys in successive years suggest the possible effects of the severe winter of 1981-82 on local breeding populations.

Sutherland is largely an area of blanket bog and mountain, with farmland confined to coastal strips and river valleys. Some of the breeding waders characteristic of the moorland areas have been studied in depth, for example the Greenshank (Nethersole-Thompson & Nethersole-Thompson 1979), but little information is available on those of agricultural land, which is known to be important for breeding waders in central Scotland (Galbraith & Furness 1983) and the Uists (Fuller 1978, 1981). The aim of the present study was to investigate the species and densities of waders breeding in lowland east Sutherland and to identify their habitat preferences.

Study area and methods

The study area covered a 23 km section of the Brora Valley (from Brora to Dalreavoch Bridge, largely unfenced, unimproved grassland) and two areas of semi-improved marginal land (totalling 5.07 km²), one on the coastal strip between Golspie and Brora and the other inland between Rogart, East

Langwell and Rhilochan. These sites were selected as representative of the inland low ground area and the coastal plain, since all the major habitats typical of these areas were included within them. At the end of the breeding season the habitats in the study area were mapped, using the following classification based on vegetation characteristics:

- (1) dry grassland—short unimproved pasture, sheep grazed and dominated by *Agrostis* and *Festuca* grasses
- (2) dry grassland with bracken—similar to (1) but with extensive growth of bracken
- (3) dry grassland with rushes—similar to (1) but with patches of *Juncus*
- (4) wet grassland with rushes—similar to (3) but with extensive wet patches, sometimes with standing water in hollows
- (5) *Calluna/Eriophorum* with grasses—a degraded blanket bog type, resulting from heavy grazing and burning pressure
- (6) hay meadows—areas of sown grasses, ungrazed until cut for hay or silage during the summer
- (7) *Calluna*/dry grassland—a mixture of heather and grasses on better drained ground, usually grazed by sheep or cattle.

A network of small roads dissecting the study area allowed all counts to be made from a car, thus minimising disturbance and permitting a high proportion of the nests or broods of the total number of breeding pairs (estimated from territories) to be identified. The other criteria used in determining the presence of a breeding pair were those discussed in Galbraith & Furness (1981). Difficulties in estimating the abundance of waders have been discussed by several authors (Hale 1956 (Redshank), Fuller 1978 (Ringed Plover), and Smith 1981 (Snipe)). Recording from a vehicle was considered to be an efficient technique for all lowland breeding waders except Snipe, but it can of course only be applied to a limited number of areas, where roads and terrain permit, and even in such a situation is likely to result in some under-estimation of the total population. In 1981 nine visits were made between mid-April and early July, and in 1982 four visits between late April and early June.

Although Galbraith & Furness (1981) showed that the majority of breeding pairs could be identified on a single visit during the optimum period, the fact that different numbers of visits were made in the two years will inevitably affect the validity of comparisons between them to some extent.

Results and discussion

The seven habitat types represented as percentages of the total area were: dry grassland 41.6%, dry grassland with bracken 5.1%, dry grassland with rushes 27.0%, wet grassland

with rushes 9.1%, *Calluna/Eriophorum*/grasses 12.0%, hay meadows 2.2%, and *Calluna*/dry grassland 3.0%. There was no change in habitat composition between the years.

Table 1. Numbers of pairs of waders recorded breeding in the study area in 1981 and 1982

	1981	1982	% reduction	% increase
Oystercatcher	38	16	57.9	
Ringed Plover	3	1	66.0	
Lapwing	129	72	44.2	
Snipe	5	4	20.0	
Curlew	21	11	47.6	
Redshank	16	5	68.8	
Common Sandpiper	10	12		20.0
Total	222	121	45.5	

In 1981 212 pairs of six species (excluding Common Sandpiper) were counted and in 1982 109 pairs (Table 1). Species were non-randomly distributed over the study area (Table 2), with Oystercatcher, Lapwing, Curlew and Redshank favouring certain habitats. In the case of Ringed Plover and Snipe the sample size was too small to give comparable information. The total number of wader territories (all species) was significantly higher on some habitats than on others. The 11.1 km of loch and river surveyed produced Common Sandpiper densities of 0.9 pairs/km in 1981 and 1.3 pairs/km in 1982; Galbraith & Furness (1983) found very similar densities on two rivers in their study area

Dry grassland was used by all species but held the lowest densities of breeding pairs; this finding agrees closely with that of Galbraith & Furness (1983). Surprisingly, the largest overall density of waders, nearly 158 pairs/km², occurred in dry grassland with bracken. This habitat was used for both nesting and feeding, as ringing of chicks showed that the young remained there until fledging. A total of 53 chicks from the 23 broods located in this habitat were ringed and 33 were subsequently recaptured; all those recaptured were in the grassland with bracken habitat. It is possible that the cover of bracken affords the chicks a greater degree of protection from predators than does a more open habitat. Oystercatcher, Lapwing and Redshank all had their highest densities in this habitat and Snipe was the only species not found breeding there. In the remaining habitats all-species densities ranged from 32.5-55.7 pairs/km², but densities of individual species varied more widely (Table 2).

As stressed by Galbraith & Furness (1983), habitat composition is an important aspect to consider when assessing

densities of breeding waders. In this study 40% of the area, mostly in the dry grassland category, was totally unused by breeding or feeding waders. This absence of waders from large areas of apparently suitable habitat has been noted elsewhere (Lister 1964, Fuller 1978 and Jackson & Jackson 1980). In this study, habitats other than dry grassland, though of smaller area, were of greater importance to breeding waders.

Table 2. Densities of breeding waders in relation to habitat 1981, (pairs/km²) and the available area of each habitat, in ha.

	Oyster-catcher	Ringed Plover	Lapwing	Snipe	Curlew	Redshank	Total
Dry Grassland (ha. 211)	4.7	0.5	15.6	0.5	1.9	0.95	24.2
Dry Grassland with Bracken (ha. 26)	38.5	7.7	84.6	—	11.5	15.4	157.7
Dry Grassland with Rushes (ha. 137)	8.0	—	21.9	—	3.6	3.6	32.2
Wet Grassland with Rushes (ha. 46)	2.2	—	41.3	2.2	—	4.3	50.0
<i>Calluna/Eriophorum</i> and Grasses (ha. 61)	6.6	—	29.5	4.9	9.8	4.9	55.7
Hay Meadows (ha. 11)	18.2	—	18.2	—	9.1	—	45.5
<i>Calluna</i> and Dry Grassland (ha. 15)	—	—	33.3	—	13.3	—	46.6
Total area (ha. 507)							
Av. density	7.5	0.6	25.4	1.0	4.1	3.2	41.8
χ^2	39.98		50.08		16.58	17.12	104.28
6							
	P<0.001		P<0.001		P<0.025	P<0.01	P<0.001

The reduction in breeding numbers (excluding Common Sandpiper) between 1981 and 1982 was quite marked (Table 1), with an overall drop of over 45%. Furness (1982) recorded similar reductions in the Yarrow Valley and suggested that they were largely attributable to high mortality during the cold winter of 1981-82, a situation most likely to occur in species which winter locally. In our study area the reduction in breeding numbers was most marked in the coastal plain (74.4%), whilst in inland areas it was only 33.6%. Losses were particularly marked in Oystercatcher and Lapwing, which decreased by 68.7% and 79.2% respectively in coastal areas but only 50.0% and 23.5% inland. Such differences between coastal and inland

losses might be partly due, at least in the case of the Oystercatcher, to the use of different wintering quarters. Swann (1983), using ringing recoveries, has shown that a significant number of Highland coastal breeding Oystercatchers winter locally (in the Moray Firth), whereas inland breeding birds tend to move to the south-west coast and Ireland. Winter mortality in 1981-82 (especially among Oystercatcher and Redshank) was most severe on the east coast of Scotland, particularly on the Moray Firth and Montrose Basin, whilst south and west coast estuaries were relatively unaffected by the severe weather (Clark 1982). It seems likely, therefore, that differential winter mortality may account for the variation between Oystercatchers breeding in coastal and inland sections of the study area.

Table 3. Comparison of breeding densities in East Sutherland (1981) with other studies in Scotland

	Average density in pairs/km ²						All spp.
	Oyster-catcher	Ringed Plover	Lapwing	Snipe	Curlew	Redshank	
East Sutherland	7.5	0.6	25.4	1.0	4.1	3.2	41.8
Glen Fruin (Galbraith and Furness 1983)	4.0		43.0	8.0	3.0	11.0	
Yarrow Valley (Galbraith and Furness 1983)	3.6		17.0	3.2	1.8	2.7	
North Uist Machair (Fuller 1981)	13.0	6.0	32.0	3.0		5.0	64.0
Sutherland Blanket Bog (NCC unpublished)					0.1-0.8		

It is difficult to assess the relative importance of this study area for breeding lowland waders as there are few comparable published data for northern Scotland. And the extent to which breeding wader populations may fluctuate from year to year, as demonstrated in this study and elsewhere (eg Nethersole-Thompson 1979, Furness 1982), makes comparisons between different areas in different seasons of doubtful value. The figures presented in Table 3, while giving some indication of how the situation in east Sutherland compares with certain other parts of Scotland, should consequently be treated with considerable caution. They do suggest, however, that the coastal and valley lowlands of northern Scotland may support quite substantial numbers of breeding waders. Such areas are likely to become increasingly important as agricultural improvement

reduces the availability of suitable habitat elsewhere in Scotland, with consequent reduction in breeding wader populations there (Green 1980).

Acknowledgments

Our thanks to Dr D. R. Langslow and Dr T. M. Reed for helpful comments on earlier drafts of this paper and for supplying unpublished information on Curlew densities. Thanks also to the staff of the Zoology Department, National Museum of Wales, for providing work space and for typing services. We are obliged to Hector Galbraith and Dr R. W. Furness for providing data from their studies and to Bob Swann for his analysis of Highland Oystercatchers.

Summary

A study of breeding lowland waders was made in east Sutherland in 1981 and 1982. Each of the 7 species recorded showed strong preferences for particular habitat types and some habitats held significantly larger total breeding numbers than did others. The highest density occurred in dry grassland with bracken, while the study area as a whole supported densities comparable to those recorded in other predominantly agricultural areas in Scotland. The total breeding population in 1982 was c.45% lower than in 1981; the possible effects of the severe winter of 1981/82 as a contributory factor are discussed.

Postscript In 1983 the study area was re-surveyed and 196 pairs of breeding waders were found, representing approx. 88% of the 1981 total and indicating a good recovery from the low level of 1982. The number of pairs of each species recorded was : Oystercatcher 34, Ringed Plover 2, Lapwing 110, Snipe 7, Curlew 20, Redshank 12 and Common Sandpiper 11.

References

- CLARK, N. A. 1982. The effects of the severe weather in December 1981 and January 1982 on waders in Britain. *Wader Study Group Bull.* 34 : 5-7 ■ FULLER, R. J. 1978. Breeding populations of Ringed Plover and Dunlins in the Uists and Benbecula, Outer Hebrides. *Bird Study* 25 : 97-102 ■ FULLER, R. J. 1981. The breeding habitats of waders on North Uist Machair. *Scot. Birds* 11 : 142-152 ■ FURNESS, R. W. 1982. Breeding waders of the Yarrow Valley; effects of agricultural change and a cold winter. Abstract, *Wader Study Group Conf.* Durham, Oct. 1982 ■ GALBRAITH, H. & FURNESS, R. W. 1981. Censusing breeding waders on agricultural land in Scotland. *Wader Study Group Bull.* 33 : 12-13 ■ GALBRAITH, H. & FURNESS, R. W. 1983. Breeding waders on agricultural land. *Scot. Birds* 12 : 148-153 ■ GREEN, G. H. Changing agricultural practice, Scotland and breeding waders. *Wader Study Group Bull.* 29 : 5 ■ HALE, W. G. 1956. The lack of territory in the Redshank. *Ibis* 98 : 398-400 ■ JACKSON, R. & JACKSON, J. 1980. A study of Lapwing breeding changes in the New Forest, Hampshire. *Bird Study* 27 : 27-34 ■ LISTER, M. D. 1964. The Lapwing habitat enquiry 1960-61. *Bird Study* 11 : 128-147 ■ NETHERSOLE-THOMPSON, D. & NETHERSOLE-THOMPSON, M. 1979. *Green-shanks*. Poyser ■ SMITH, K. W. 1981. Snipe censusing methods. *Bird Study* 28 : 246-248 ■ SWANN, R. L. 1984. Highland Oystercatchers. *Highland Ringing Group Report* 5.

John and Catrina F. Barrett, c/o 114 Etherington Road,
Hull, North Humberside, HU6 7JP

The status of the Mute Swan in the Lothians

A. W. BROWN and L. M. BROWN

This paper reports on the numbers and breeding performance of Mute Swans in the Lothians in 1977-82 and compares the current population with estimates made in 1955 and 1961. The total population in 1982 was 55% below the 1961 level, with non-breeding birds showing the greatest decrease.

An apparent decrease since the early 1960's in the number of Mute Swans breeding in the Lothians prompted a census there in 1977 (Vick, unpub.). The following year a national census of the Mute Swan in Britain was organised by the British Trust for Ornithology in conjunction with the Wild-fowl Trust (Ogilvie 1981); this was based on a random sample of 10 km squares but in the Lothians full coverage was achieved. Annual censuses have continued in the Lothians and since 1982 have contributed to a wider study of the Mute Swan in East Scotland.

Earlier surveys had taken place in the Lothians in 1953, 1954, 1955 and 1956 (Rawcliffe 1954, 1955 & 1958) and in 1961 (Eltringham 1963), the last three as part of national censuses. In addition, breeding numbers in Edinburgh were surveyed in 1957 and 1958 (Macmillan 1958) and in East Lothian in 1961 (Roy & Skene, unpub.). Although there have been several recent studies of Mute Swans in England (eg Bacon 1980, Coleman & Minton 1980, Hardman & Cooper 1980, Perrins & Ogilvie 1981), the only recent Scottish data are from the Uists (Spray 1981).

Study area and methods

The study area is based on the old county boundaries for West, Mid and East Lothian, enabling comparison with previous work. All known former breeding sites were visited, as were all the main rivers, the Union Canal, lochs, ponds and reservoirs. Observers were asked to locate breeding or territorial pairs during April and to follow their success by noting the number of small cygnets produced, the number of large cygnets in August, and the number reaching the fledging stage in September. It was not possible to collect data on clutch size, hatching dates or number of cygnets hatched, since this would have required too great a commitment from

observers. Counts of non-breeding birds were recorded on dates in early and late April, except in 1977. It is possible that in 1977 the information for West Lothian was incomplete; a search of the available records suggests, however, that only one or two pairs may have been overlooked and that since 1978 coverage has been complete. Although not a direct outcome of this study, information on moulting and wintering flocks has been included for the sake of completeness.

Results

Territorial and breeding birds Table 1 summarises the numbers of breeding pairs and their success in 1955, 1961 and during the study period. (A detailed site list has been deposited in the Waterston Library). Although pairs on enclosed waters tended to remain at their breeding site at least until their cygnets fledged, some pairs on the River Tyne moved down-river within a few weeks of hatching, while others disappeared with their young from a breeding territory only to re-appear at a later date. This highlighted the need for regular visits by observers throughout the breeding season.

Table 1. Summary of Mute Swan breeding data for the Lothians, 1955, 1961 and 1977-82

	1955	1961	1977	1978	1979	1980	1981	1982
No. of territorial pairs		59	20	20	24	26	28	30
No. of breeding pairs	35	52	20	15	20	23	26	26
No. of pairs producing young	23	43	8	8	16	18	17	19
No. of small cygnets	107	176	42	37	76	92	84	102
No. of large cygnets		168	42	34	71	81	76	75
No. of large cygnets/breeding pair			2.1	2.27	3.55	3.52	2.92	2.88
No. of fledged cygnets							72	75
No. of fledged cygnets/breeding pair							2.77	2.88

Notes

1. Figures for 1955 and 1961 are extracted from Rawcliffe (1958) and his unpublished data; some discrepancies were found between the raw data for 1961 and the figures published by Eltringham (1963).
2. No. of breeding pairs refers to pairs that built nests.
3. No. of small cygnets is a minimum figure as hatching success was not determined. In a few instances, especially in 1977, the small cygnets figure was not available, and has been based in the table on large cygnets; it will again reflect a minimum figure.
4. No. of large cygnets is based on mid-August data.

The re-occupation of sites in East Lothian accounted for most of the steady increase in the number of territorial and breeding pairs from 1977 to 1982. The proportion of breeding pairs failing to hatch young ranged from 20-60%, and averaged 34%; failure at this early stage in the breeding cycle appears to be of more significance than the loss of young after hatching. Production, as measured by the number of large cygnets per breeding pair, fluctuated around a mean of 2.87. In 1981 and 1982 an average of 2.82 cygnets fledged per breeding pair, indicating that losses were small in the month prior to fledging.

Table 2. Breeding habitats of Mute Swans in the Lothians, 1955, 1961 and 1977-82

	1955	1961	1977	1978	1979	1980	1981	1982
Canal	11	12	1	1	1	1	1	1
Coastal	0	0	0	0	0	0	1	1
Ponds, lochs and reservoirs	19	21	9	10	15	18	19	21
Rivers	5	26	10	9	8	7	7	7

Notes

1. The information for 1961 was extracted from the original raw data and shows a discrepancy in the number of breeding pairs compared to the figure published by Eltringham (1963).
2. Examination of the raw data for 1955 suggests that the river habitat, in particular the River Tyne, was not thoroughly surveyed.

The numbers of territorial pairs on different types of habitat (Table 2) show a decreasing use of rivers but a steady increase in the occupation of ponds, lochs and reservoirs.

Non-territorial birds Table 3 shows that non-territorial birds comprise up to 46% of the current total of about 115 Mute Swans in the Lothians. The bulk of the non-breeding population is found on the Tyne estuary (Table 4); smaller flocks

Table 3. Mute Swan population in the Lothians, 1955, 1961 and 1978-82

	1955	1961	1978	1979	1980	1981	1982
Non-breeding population	145	132	76-78	47-54	65-70	65-67	51-53
Territorial population	70	117	40	48	50	56	60
Total population	215	249	116-118	95-102	115-120	121-123	111-113

Notes

1. Non-breeding counts refer to April except for 1955 when the data were collected in May/June.
2. The 1961 figures were extracted from the original raw data and show some discrepancy from the published data (Eltringham 1963).
3. The 1955 figure for territorial population refers to breeding pairs only.

Table 4. Early (e) and late (l) April counts of the main non-breeding flocks of Mute Swans in the Lothians 1978-82

	1978		1979		1980		1981		1982	
	e	l	e	l	e	l	e	l	e	l
Musselburgh	3	8	0	0	8	0	0	9	15	21
Tyne Estuary	59	54	45	44	59	63	57	46	19	17
Water of Leith, Leith	9	7	2	5	7	0	0	1	6	4

occur on the River Esk at Musselburgh and on the Water of Leith at Leith or in Leith Docks; and the remainder are widely distributed at sites not used on a regular basis. The Musselburgh flock tends to increase in May and in 1974 held 57 birds; however, since 1978 it has not exceeded 25. Following the severe winter of 1981-82 the non-breeding flock normally present at the Tyne estuary was much reduced. It is impossible to say whether this was due to dispersal to other (unrecorded) sites within the Lothians, to emigration from the Lothians altogether, or to a real drop in numbers. There was no evidence, however, of increased mortality. The slight decrease in the total population in 1979 probably reflected the poor breeding success of the two preceding years (Table 1) and the effects of the cold winter of 1978-79.

Moulting flocks During July and August non-breeding and failed breeding Mute Swans tend to flock when undertaking their annual moult. Sites in East Scotland with large moulting flocks include Loch Leven (c.200 birds), Montrose Basin (c.350), and the Loch of Strathbeg (c.350), with Berwick Harbour (up to 650) holding an honorary Scottish position (C. J. Spray pers. comm.). There are no such sites in the Lothians at present although some failed breeders moult in their territory and a few birds remain at the Tyne Estuary and Linlithgow Loch. From at least 1953 until 1973 the Water of Leith at Leith held a moult flock which peaked at 145 birds in 1957 and 1958 (A. T. Macmillan, C. P. Rawcliffe and G. L. Sandeman, unpub. data). This flock rapidly decreased after 1969 when the lock gate within the docks was closed and the river was no longer tidal. Little is known about the origins of the birds forming the moulting flocks but there have been recoveries in the Lothians of birds ringed during the moult period at Loch Leven (Allison, Newton & Campbell 1974, Edinburgh Ringing Group 1978 and M. A. Ogilvie, pers. comm.) and Montrose Basin (A. J. Clunas, pers. comm.). During August 1980, 253 birds were caught and ringed at Montrose Basin (C. J. Spray, pers. comm.) and 7 of these were subsequently found breeding in the Lothians in 1982. One of the aims of the East Scotland Mute Swan Study is

to obtain further information on the moulting movements of swans and the dispersal of cygnets; extensive colour ringing to facilitate such studies was begun in 1982.

Wintering flocks Many of the breeding birds and their young remain within their territory throughout the winter, departing only when severe weather restricts feeding. Wintering flocks comprise immatures, non-breeding adults, failed breeders, and pairs with young which have vacated breeding sites. The main areas for such flocks in the Lothians have been the Water of Leith at Leith, the River Esk at Musselburgh, and the Tyne Estuary; the last site is currently the most important, holding c.50 birds most winters and a maximum of 108 in December 1963 (R. W. J. Smith, pers. comm.). The Water of Leith held a substantial flock when the river was tidal (eg 177 in January 1958 and January 1963) but the peak figure had dropped to 65 in 1969 and to less than 20 by the winter of 1979-80. Examination of unpublished data (A. T. Macmillan, C. P. Rawcliffe, G. L. Sandeman & R. W. J. Smith) shows no evidence of movement of the Water of Leith flock to Musselburgh or the Tyne Estuary and it must be presumed that the birds now winter outside the Lothians. Since 1973-74 a small flock, rarely exceeding 15 birds, has been recorded at Musselburgh.

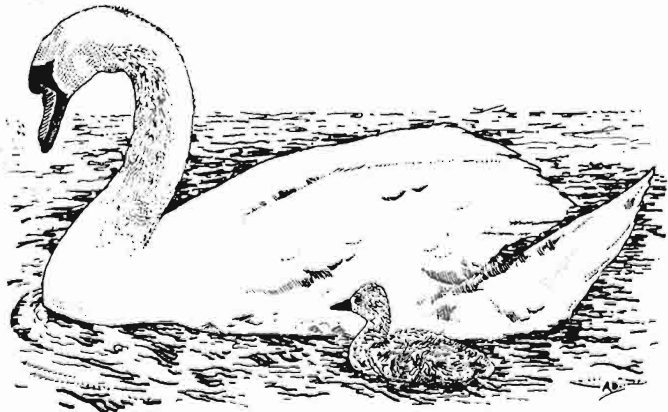
Discussion

In the 1955 census the data on breeding sites and non-breeding birds were collected mainly during May, June and July and are therefore not directly comparable with those obtained in the present study. The Lothians population was then estimated as 215 birds, with pairs holding territory but not breeding apparently included with the non-breeders (Rawcliffe 1958). In 1961, 248 birds were recorded, comprising 51 breeding pairs, 9 territorial birds (4 pairs and 1 single) and 137 non-breeders (Eltringham 1963). These figures suggest a fairly stable or perhaps slightly increasing population at that time. Since the 1960's, however, there has been a very marked decline (Tables 1 & 3), with the total population in 1982 about 55% below the 1961 level. The number of breeding pairs has declined by c.50%, a substantially greater decrease than the 8-15% suggested by Ogilvie (1981) for the British population as a whole since 1955-56. The loss of the non-breeding flock at the Water of Leith, which peaked at 128 birds in April 1958 (A. T. Macmillan, C. P. Rawcliffe & G. L. Sandeman, unpub. data) has also contributed to the overall decline in the population.

It is difficult to determine the reasons for the decline in the Lothians breeding population. Previous surveys indicated

that most pairs nested on or in the vicinity of waterways, namely the Union Canal, Water of Leith and River Tyne (Table 2). The numbers using these waterways have decreased substantially; the Union Canal and Water of Leith, which held up to 15 pairs from the mid-1950's to 1961, now hold only one, and numbers on the River Tyne have dropped from 18 pairs to six. The Water of Leith was severely polluted until recently yet it held far more Mute Swans 20-25 years ago than it does today; the Union Canal now suffers from severe eutrophication and this may have contributed to the decline there. It is known that mink occur extensively on most waterways in the area but their impact, if any, on breeding swans is not known.

Lead poisoning is a cause for concern in some areas of Britain (Nature Conservancy Council 1981) but there is no evidence to indicate that this is a problem in the Lothians. Of 17 dead swans found at the Tyne Estuary from April 1979 to February 1982 and submitted for analysis only 2 had probably lethal lead levels (A. J. Clunas, pers. comm.); 48 blood samples taken from 11 breeding adults and 37 cygnets in the Lothians in 1982 also indicated blood lead levels were low compared to those found on the River Thames (C. J. Spray, pers. comm.).



MUTE SWAN
A. Dowell

The results of the present study suggest that the Mute Swan breeding population in the Lothians may have been significantly affected by recent increases in disturbance and deliberate vandalism, especially along the waterways where public access is encouraged. The majority of successful pairs today are found on ponds in private estates where public access is restricted. Breeding success, as measured by the number of cygnets fledged per breeding pair, is high in the

Lothians: 2.82 young per pair compared with 2.24 in the Oxford area, the highest figure of 4 study areas in England (Bacon 1980) and 1.48 for the isoated Scottish population in the Uists (Spray 1981).

The distribution of the Mute Swan in the Lothians is uneven, with the majority of birds being found in East Lothian throughout the year. Although the number of territorial pairs increased during the study this species must be regarded as an uncommon breeding bird in the Region. While many former breeding sites remain apparently suitable, it seems unlikely, in view of increasing human disturbance, that the population will recover to the level of the late 1950's or early 1960's in the foreseeable future.

Acknowledgments

We wish to thank the following observers without whose help this study would not have been possible: D. J. Bain, J. H. Ballantyne, Dr A. W. Barker, S. F. Barstow, D. J. Bates, J. G. Bennie, P. D. Black, D. Boomer, Dr B. J. Clark, W. A. Clark, A. J. Clunas, J. Corbett, D. C. Davidson, H. E. M. Dott, R. F. Durman, D. F. Ferro, E. Ferro, P. R. Gordon, E. P. Leven, M. R. Leven, T. Lumsden, P. McInnes, D. Macleman, J. Main, D. B. Mitchell, R. G. Nisbet, J. M. A. Osborne, Lt. Col. C. B. Ponsonby, E. S. da Prato, S. R. D. da Prato, G. Prest, M. J. Richardson, B. Robertson, G. L. Sandeman, S. W. T. Livingston Group (per J. Oliver), E. M. Smith, G. D. Smith, R. W. J. Smith, Prof. T. C. Smout, A. Stewart, M. M. Stewart, Dr B. E. H. Sumner, J. Tweedie, Dr L. L. J. Vick, A. Walker, D. Walkinshaw, R. Weatherhead, J. E. Wilcox and Y. O. C. Edinburgh (per M. D. Porteous). Apologies to anyone who has been omitted. In addition we are grateful to D. G. Andrew, A. J. Clunas, F. D. Hamilton, A. T. Macmillan, J. H. B. Munro, C. P. Rawcliffe, G. L. Sandeman and R. W. J. Smith for provision of unpublished data. We are grateful also to the Edinburgh branch of the S.O.C. for a contribution to our organising costs. Finally, we wish to thank Dr M. A. Ogilvie, R. W. J. Smith and Dr C. J. Spray for their very helpful comments on an earlier draft of this paper, and Mrs M. A. Dewar for typing the final manuscript.

Summary

A census of Mute Swans in the Lothians from 1977-82 has shown a decline of c.50% in the population since 1961 from a total of 249 birds to c.115, including a reduction in territorial pairs from 59 to 30. The main wintering and non-breeding flocks occur at the River Tyne Estuary and since the ending of tidal conditions at Leith there is now no moulting flock in the Lothians. The number of territorial pairs has increased from 20 to 30 in the period 1977-82. The main breeding sites are on freshwater ponds, lochs and reservoirs in areas of restricted public access, while the river and canal nest sites have declined in importance. It seems likely that the bird will remain an uncommon breeding species in the area.

References

- ALLISON, A., NEWTON, I. & CAMPBELL, C. 1974. *Loch Leven National Nature Reserve*. WAGBI ■ BACON, P. J. 1980. Status and dynamics of a Mute

Swan population near Oxford between 1976 and 1978. *Wildfowl* 31 : 37-50 ■ COLEMAN, A. E. & MINTON, C. D. T. 1980. Mortality of Mute Swan progeny in an area of south Staffordshire. *Wildfowl* 31 : 22-28 ■ EDINBURGH RINGING GROUP. Sixth Report, 1978 ■ ELTRINGHAM, S. K. 1963. The British Population of the Mute Swan in 1961. *Bird Study* 10 : 10-28 ■ HARDMAN, J. A. & COOPER, D. R. 1980. Mute Swans on the Warwickshire Avon - a study of a decline. *Wildfowl* 31 : 29-36 ■ MACMILLAN, A. T. 1958. Mute Swan nests in Edinburgh in 1957 and 1958. *Edinburgh Bird Bulletin* 8 : 78-79 and 99 ■ NATURE CONSERVANCY COUNCIL. 1981. Lead Poisoning in Swans ■ OGLLVIE, M. A. 1981. The Mute Swan in Britain 1978. *Bird Study* 28 : 87-106 ■ PERRINS, C. M. & OGLLVIE, M. A. 1981. A study of the Abbotsbury Mute Swans. *Wildfowl* 32 : 35-47 ■ RAWCLIFFE, C. P. 1954. Breeding of Mute Swans in the Lothians 1953 and 1954. *Edinburgh Bird Bulletin* 4 : 70-71 ■ RAWCLIFFE, C. P. 1955. Breeding of Mute Swans in the Lothians 1953 and 1954. *Edinburgh Bird Bulletin* 5 : 25 ■ RAWCLIFFE, C. P. 1958. The Scottish Mute Swan Census 1955-56. *Bird Study* 5 : 45-55 ■ ROY, I. B. & SKENE, W. M. 1961. Mute Swan Investigation 1961 : East Lothian. Unpublished report ■ SPRAY, C. J. 1981. An isolated population of *Cygnus olor* in Scotland. *Proc. 2nd International Swan Symposium*, Sappiro, Japan, Feb. 1980, 191-208 ■ VICK, L. L. J. 1977. Survey of breeding Mute Swans in Midlothian and East Lothian in 1977. Unpublished report.

A. W. Brown & L. M. Brown, 232 Rullion Road,
Penicuik, Midlothian, EH26 0NB.

Birdwatching in Inverness

ROY DENNIS

Twenty-three years ago on a beautiful spring morning I first visited Inverness; my friend Bill Sinclair took me to the top of the Leachkin to view the town nestling round the mouth of the River Ness. To my right the Great Glen fault ran away to Loch Ness, south were moorlands stretching to Strathspey, half left the inner Moray Firth guarded in the distance by Fort George and Chanonry Ness while to the east was the Black Isle reached by the Kessock ferry at the narrows of the Beaully Firth. The town has grown, the ferry-boat has gone and a new bridge spans the narrows but the birding is still as good as on that first day when I watched the Dippers in the river below the Castle.

Inverness is a great place for birdwatching and I mean within the town boundary rather than just as a base for exploring the Highlands. Starting in the town centre, bird life is rather slummy—Herring Gulls raid refuse bags in the early morning streets and roosting Starlings upset the townsfolk with their droppings in winter. There are many small birds in the green spaces and Swifts overhead in summer, but a birdwatcher really feels first at home on the banks of the Ness. In winter and spring Goldeneye and Goosanders swim upriver and the

latter can be seen to perfection, even under water, below the Greig Street pedestrian bridge. Following the river downstream to the Black Bridge, we come to a favourite haunt of Iceland Gull, at least one usually winters among the local gulls and Mallards.

Inverness harbour can hold small numbers of Tufted Duck, Goldeneye and Scaup; Goosanders are frequent and gulls are plentiful. In times of plenty the fishing boats off-load their catches of sprats and Kessock herring in the outer harbour, surrounded by Common, Great Black-backed, Herring and Black-headed Gulls. Iceland and Glaucous Gulls have been seen there and for many winters an Iceland Gull frequented the sewage-pipe outfall. At Thornbush the river meets the small Inverness estuary; in mid-river the channel markers often sport roosting Cormorants. A small shingle spit sticks out at the mouth of the river and it is possible to walk to the end, where another outfall attracts a regular and easily watched flock of Goldeneye; occasionally we've seen a Smew at this point. The spit shelters a small bay used by roosting Tufted Ducks, possibly up to 400, and sometimes Scaup and Pochard and in severe weather, Coot. A short distance west is Kessock ferry slipway, once a regular birdwatching place for me as I sat in the queue waiting my turn on the car ferry.

The ferry carpark is good for birdwatching; to the west is the Beaully Firth with its flocks of wildfowl and waders. In winter, especially if it's a good year for fish, the firth is home to large numbers of fish-eating birds; Goosanders may reach a peak of 1500, looking their best cruising amongst the iceflows in really severe winters. Red-breasted Mergansers are common and have numbered over 2000; most of them fly out through the narrows in the evening and back after dawn. Cormorants are a common sight, flying into the firth in squadrons and reaching totals of 500 or more. Wigeon, Mallard, Teal and Shelduck are all common and one winter a drake Black Duck from North America commuted between North and South Kessock, thus putting itself in both the Ross-shire and Inverness-shire bird lists!

The tidal current at the Kessock Narrows creates a massive upwelling which is a favoured feeding place for gulls, at times the air is white while each evening many more flight into the firth to roost. Some winters large numbers of Guillemots fish in the firth and their growling calls are easily heard from the shore. In spring, terns fly in and even an occasional fishing Osprey may pass by. I've often watched Sparrowhawks crossing to the Black Isle after grabbing a passerine in Inverness, chased all the way back by Herring Gulls.



PLATE 1. Oystercatcher at nest with chick and chipping eggs. First in the 1983 Photographic Competition.

P. J. Newman

PLATE 2. Grey Herons at the nest. Second in the 1983 Photographic Competition.

A. D. Johnson

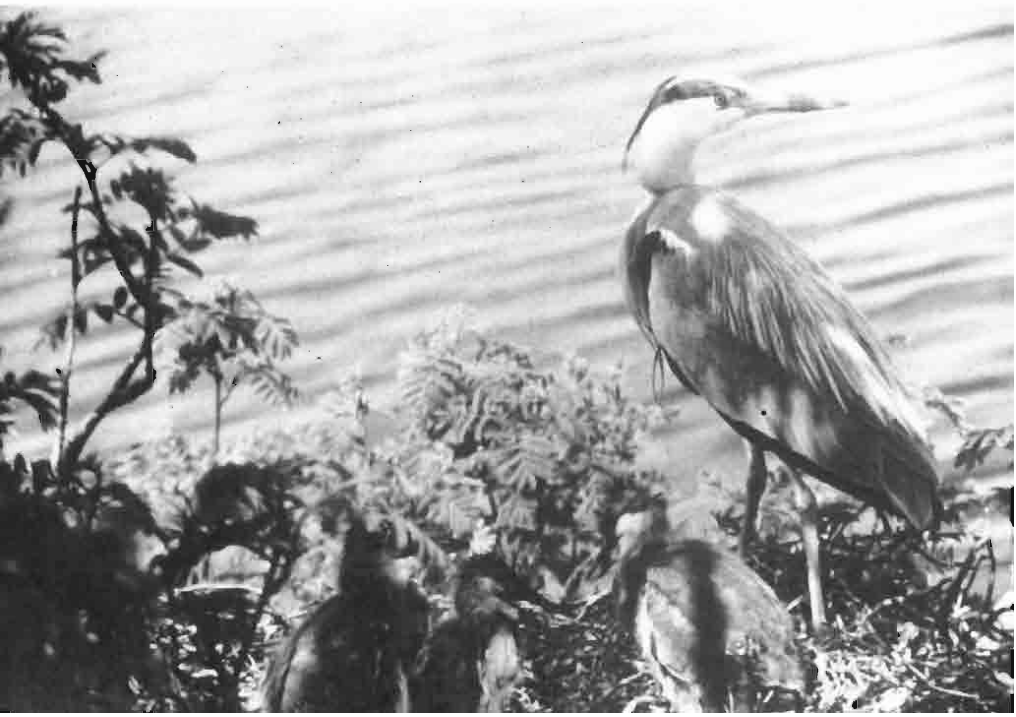




PLATE 3. Fulmar in flight. Third in the 1983 Photographic Competition.

Fiona Burton

PLATE 4. Lapwing uncovering brood patches prior to incubating.
(Plates 4-7 were also competition entries).

P. J. Newman





PLATE 5. Arctic Tern (a) in flight.
(b) at the nest.

P. J. Newman



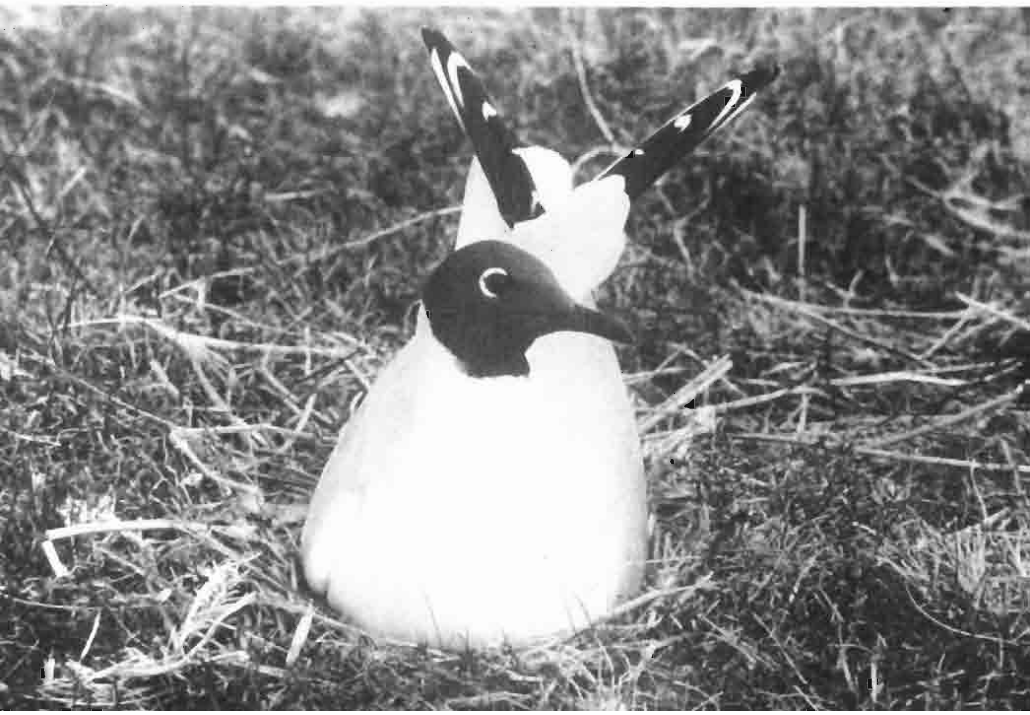


PLATE 6. Female Wheatear at nest entrance.

P. J. Newman

PLATE 7. Incubating Black-headed Gull.

A. D. Johnson



Rooks, Jackdaws and crows regularly fly across the narrows and soaring Buzzards can be seen over Ord Hill. In summer, the firth is relatively quiet, though a flock of Canada Geese from Yorkshire may pass to moult in the Beaully Firth. But soon the waders start to return—Oystercatcher, Redshank, Lapwing, Turnstone and Bar-tailed Godwit are frequent on the flats, with a small roost just below the car park. Sandwich Terns, with their young, from the East Coast fish the narrows in late summer.

Strong north-east winds with poor visibility and rain is a good combination for birdwatching at Kessock. In these conditions sea birds find themselves at the apex of the Moray Firth; its arms stretching to Peterhead in the east and Wick in the north shepherding them inland. Kittiwakes come flashing by in tight flocks, only to find themselves five miles further on at the end of the Beaully Firth; after whirling in circles they attempt to fly back out at sea level. In these conditions skuas sometimes occur in outstanding numbers; my best day was on 27th September, 1979, when 186 Pomarine, 1 Long-tailed, 13 Arctic and 5 Great Skuas passed by in 2 hours—a truly memorable sight. Gannets, Fulmars, auks, shearwaters and divers are caught in the same way and one never quite knows what will fly by next.

Leaving the ferry it is possible to follow the sea-wall south to the Caledonian Canal and so back to town a different route; the sea-wall is thronged with bramble and rosehips and so a good place for finches and buntings, and also local specialities like Goldfinch and Waxwing. Two pools inside the canal sometimes hold a few waders, including Green Sandpiper and Ruff, and on one SOC outing a Citrine Wagtail!

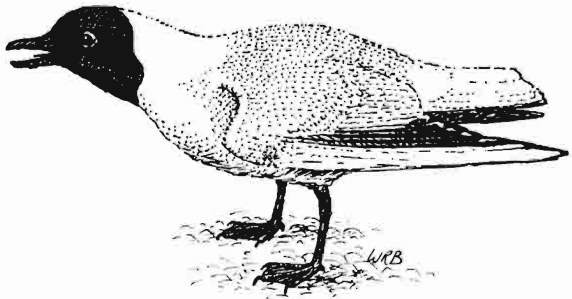
From the harbour you can also bear right and follow the east bank past the old clock tower and through the oil storage tanks to the mouth of the river. Unfortunately, the original ring road has become rather scruffy but it's still worth a visit. There's an obvious place to park and with the new bridge above you, it's possible to get fine views of wildfowl and waders. This is, at present, the best outfall for ducks and from October to April there's a regular flock of Goldeneye, usually several hundred plus, and also Tufted Ducks in similar numbers. Well worth a scan with the 'scope from the car as the duck flocks may contain Scaup, Pochard and Smew. Teal, Wigeon and Mallard frequent this bay and at low tide feed on the exposed mud flats. Mute Swans moult here along with one or two summering Whoopers. This is a good place for waders, Redshank, Oystercatcher, Lapwing, Bar-tailed Godwit, Curlew and Dunlin; the odd Black-tailed Godwit turns up—not to mention a Buff-breasted Sandpiper in 1975. Black-headed Gulls

gather here in considerable numbers; I haven't yet found my much searched for Mediterranean Gull (a real gap in my life-list) but the odd Little Gull has been recorded.

In the past, the ring road led to the Longman but now the car has to be taken into the Longman estate and then out on to the main road south. A pedestrian can walk up to the bridge; straight across for Longman Bay but why not walk over to the Black Isle? The inland side gives superb views up the firth to the mountains while the east pathway looks down the Black Isle coast towards Fort George. Keep an eye on the waters below as Bottle-nosed Dolphins and Porpoises are not infrequent.

Alas, the Longman has lost much of its former glory below the refuse of man's present day society—tin-cans, tyres and waste paper rot below top soil where once Shelduck and sea trout searched for food. It's still worth a look from the embankment of the new road—a massive feeding flock of large gulls with crows, Starlings and Sparrows rising each time the refuse carts disgorge their loads. Glaucous and Iceland Gulls are occasionally seen but our old white Herring Gull which foxed many a birdwatcher has gone after about 19 years of residence. Those areas of the dump which have grassed over and grown trees harbour a variety of birds—Linnet, Partridge, Sedge Warbler and Short-eared Owl; in fact, one might find anything. Longman Point has a moulting flock of Goosanders in summer but I'll always remember the more dramatic sight of over a thousand Gannets there, plunging for herring in the great fishery of 1966.

The bay itself still holds up to a thousand Wigeon, with reasonable numbers of Teal, Mallard and Shelduck, but the Pintail flock has dwindled to small numbers. Rare ducks have included American Wigeon and Green-winged Teal; it's also a great place to see Peregrine Falcon hunting. Redshank, Lapwing, Oystercatcher and Curlew still feed here and roost on



BLACK-HEADED GULL
W. R. Brackenridge

the last remnants of saltings which were once a great attraction to birds and birdwatchers.

Turning back into town, it's worth a walk up river past the Castle to the Ness Islands where Dippers nest and warblers sing. Hirundines and Swifts flick over the river in summer and occasional Kingfisher and Smew have been seen in winter. On the way back Common Gulls and wagtails run across the grass of the playing fields and if one has never seen a Waxwing then a car drive through the older parts of the town with their cotoneaster hedges is worthwhile in winter. So give Inverness a try, you may find it very rewarding and there are always the SOC evenings on the second Tuesday of the month, September to April.

*Roy Dennis, Landberg, North Kessock,
Inverness, IV1 1XD*

Numbers and spacing of summering Snow Buntings and snow cover in the Cairngorms

T. P. MILSOM and A. WATSON

Introduction

The Snow Buntings that summer in the Cairngorms are of special interest because they are rare and at the edge of the species' breeding range. Their numbers are unstable and little is known about the causes of the fluctuations (Nethersole-Thompson 1966). One popular suggestion is that snow on the hills in late spring attracts migrating Snow Buntings to settle, so that the greatest numbers are likely to occur in years with most snow cover. Accordingly, we tested for a positive correlation between the number of cock Snow Buntings and the extent of snow cover at the beginning of June over the years 1971-1977. Counts of hens over the same period are also reported, and changes in the spacing behaviour of cocks in relation to their density are described.

Study area and methods

The birds were studied on one main area which covered one of the principal breeding grounds in the Cairngorms, and on an adjacent area where breeding birds had been recorded only irregularly. Cocks were counted each year during visits between mid May when the birds settled, and mid July when

they usually stopped singing. They were generally found by hearing their songs, and their positions were then plotted on 1:10,000 scale maps, together with the routes of their song flights. Differences in their plumage were sketched to facilitate individual recognition. This was necessary to avoid over-estimating numbers, because a given cock sometimes used rocks several hundred metres apart as song posts. Hens were found by searching near the cocks, especially when the adults were feeding young at the nest.

Snow cover on the main area was recorded at the beginning of June each year, by estimating visually the proportion of ground covered by deep snow.

The Spearman rank test was used for calculating the correlation coefficients, which were corrected for ties.

Results

Cocks were present on the main area every year, their numbers varying considerably between years (Table 1). They occurred on the irregular area only when numbers were high on the main area, as in 1973 and 1974, or when deep snow on the main area was very extensive, as in 1977. Those cocks present on the irregular area in 1974 and 1977 were recorded on single dates only.

Table 1. Numbers of adult Snow Buntings in late spring, and snow cover

Year	Main area, 250 ha		Irregular area, 700 ha		% of main area covered by snow at beginning of June
	♂	♀	♂	♀	
1971	4	2	0	0	20
1972	7 ^a	5	0	0	75
1973	8	4	1	1	55
1974	9	3	1 ^b	0	35
1975	3	3	0	0	80
1976	2	1	0	0	30
1977	3	2	2 ^b	0	98

^a—one of these cocks invaded another's nest area, but did not appear to hold a territory in the main area

^b—recorded on one day only

The number of hens seen also varied much between years. Hens may have been overlooked occasionally because of their less conspicuous behaviour, so the figures must be regarded as minima. The increase of the cock population between 1971 and 1974 was not accompanied by a similar rise in the number of hens seen, so that a high proportion of the cocks apparently had no mate, notably in 1973 and 1974. However, this effect was partially offset in 1971 and 1972, in each of

which an unmated cock paired with a previously mated hen for a second brood. Despite the apparent shortage of hens, one instance of bigamy was noted in 1972.

There is a suggestion of a negative relationship between the number of cocks and snow cover on the main site, but the two years with least snow had relatively few birds, so the correlation overall was very poor ($r_s = -0.116$, not significant). However, the main conclusion from this comparison is that the idea of a positive correlation between the number of cocks and snow cover in late spring can be rejected.

Cocks patrolled areas of hill ground, usually singing from prominent rocks or groups of rocks. Song fighting was observed infrequently. Some cocks flew up to 500m to engage in song duels close to neighbouring cocks. Such forays made it difficult to determine the extent of cocks' defended areas or territories, so we use the term 'song range' instead.

The smallest song range during the study covered 3 ha and the biggest about 40 ha. However, there were not enough data to study differences in average range size between years.

Cocks used some areas of rocks much more frequently than others. Out of a total of 201 songs registered during the whole study, the numbers on the ten preferred areas were as follows: A(39), B(17), C(20), D(11), E(12), F(26), G(10), H(27), I(17), J(7).

Data on the cocks' usage of these preferred areas showed changes in their spacing between years. Cocks were seen singing on areas A, B and C in all seven years, on F, G and I in six, on D, E and H in five, and on J in one year only. Each area held no more than one cock in any year, but some cocks used more than one area during the same breeding season. Of the nine areas used regularly (A to I), at least seven were occupied in each year, except in 1976 when numbers were very low. In that year, the cocks' usage of the song areas was very different, five of the regular areas were left vacant, and one cock selected area J which was not used in any other year of the study. In 1974, when numbers were highest, nine areas of rocks held a different cock each, whereas in 1975, 1976 and 1977, when numbers were lowest, a high proportion of the cocks used more than one of these preferred areas. We do not give a map of the spacing, for the sake of security for this rare British breeder, but Table 2 shows the distribution of usage of the areas in different years. The median number of areas occupied per cock was inversely related to the number of cocks; thus the fewer the cocks, the more areas occupied per cock ($r_s = -0.878$, one-tailed $P < 0.05$).

Table 2. Usage of preferred areas of rocks in the main area by singing cock Snow Buntings

Year	Number of areas occupied by individual cocks				Total number of areas used per year	Median number of areas per cock
	1	2	3	4		
1971	2	0	2	0	8	2.0
1972	4	2	0	0	8	1.0
1973	7	1	0	0	9	1.0
1974	9	0	0	0	9	1.0
1975	1	0	0	2	9	4.0
1976	1	0	0	1	5	2.5
1977	0	2	1	0	7	2.0

This was confirmed by observations on cocks that were individually recognisable from detailed drawings of their distinctive plumage (the distinctive characters remained in different years), and three cocks so identified were seen in the main study area for more than one breeding season. Their song ranges varied considerably in size between years. One sang from areas B, C and I in 1971 and displayed over more than 30 ha, whereas in the following year it ranged to sing over less than 10 ha around A. Another cock occupied C and E in 1972 and patrolled at least 20 ha, but in 1973 it remained in 6 ha around C, where it was also seen in 1974. A third cock sang from F, G and H in 1971, but only on area F in 1972, where it stayed for three breeding seasons.

Discussion

There were three possible distributions in years of low numbers: (a) all preferred areas occupied, (b) only a small proportion occupied, the number of areas being equal to the number of cocks, (c) an intermediate situation. Possibility (c) applied here, and given that certain areas of rocks were favoured more than others, one can explore the distribution further. In years with low numbers, each cock tended to use one of the most favoured areas, but also to use other areas each of which held a cock in years of high numbers. This raises the question whether areas not used in years of low numbers are in some way inadequate, and whether this partly explains the low numbers. Alternatively, the numbers may be determined by something else, and if so, cocks in years of low numbers may use more areas of rock because of the lack of competition, but there may be no need for them to use all of the areas.

Acknowledgments

We thank C. D. Owen and A. Watson senior for assistance in the field, and J. Richardson, A. Tewnton and A. Watson senior for supplying unpublished observations. We are also grateful to D. Morris and D. Holland of the Nature Conservancy Council for their co-operation.

Summary

Snow Buntings summering in an area in the Cairngorms were counted over seven years from 1971 to 1977. Numbers of both sexes varied considerably between years although cocks were generally more numerous than hens. The idea of a positive correlation between the number of cocks and snow cover in late spring was tested and rejected. Cocks sang from some areas of rocks much more frequently than others. Their usage of these preferred areas varied between years, in that the median number of areas occupied per cock was inversely correlated with the number of cocks.

References

NETHERSOLE-THOMPSON, D. 1966. *The Snow Bunting*. Edinburgh and London.

T. P. Milsom, 5 Witton Hill, off Jacklyn's Lane,
Alresford, Hampshire, SO24 9PT
Dr Adam Watson, Institute of Terrestrial Ecology,
Banchory, Kincardineshire, AB3 4BY

Short Notes

Greenland White-fronted Goose census

The Greenland race of White-fronted Goose breeds exclusively in west Greenland, and winters in Ireland, Scotland and at one site in Wales. Because of its scattered and remote winter distribution, no complete census has ever been undertaken throughout the winter range. Numbers have fallen since the 1950's, and as part of a larger project supported by the SOC, WWF and other conservation bodies, a complete British census was undertaken during winter 1982/83. Simultaneous counts were undertaken in Ireland but have not yet been published.

The British total in 1982/83 was 7,200-7,300 birds. This is in line with the estimate for the mid-1970's British population of 6,630-7,590. However, whilst there appears to have been no major decline in the British population during the last decade, it is known that numbers in Ireland have fallen dramatically, with many traditional haunts now deserted. It thus seems likely that the world population may still be falling.

One of the most worrying aspects of the census was the very low number of young found. On the basis of the autumn figures, there were only 971 young in 329 families in Britain. When it is considered that this may be the reproductive output of up to half the world population of this race, these figures must give cause for concern. Although the Greenland White-front is now protected throughout Scotland, and for the next two winters in Ireland, there is need to consider further conservation measures on the wintering grounds and protection of key sites on the breeding grounds in Greenland.

The census will be continued on an annual basis to monitor the Scottish population and The Greenland White-fronted Goose Study (at School of Biological Sciences, University College of Wales, Aberystwyth, Dyfed) would welcome help from anyone in a position to count specific White-front sites.

DAVID A. STROUD

Work on Golden Eagle and Peregrine in north-east Scotland in 1983

This is the third annual summary by the North-East Scotland Raptor Study Group, and covers the same area as described in the 1982 summary (*Scottish Birds* 12, p. 159). For each species all known sites were visited and likely areas searched, and it is thought that all except one, at most two, breeding pairs of each species were located.

Note that the 1982 summary requires amending. Eagle: one young bird was raised in a range given as having only one adult present. Peregrine: "eggs probably robbed" was given for one pair which in fact reared 3 young at a new site.

Golden Eagle

A travelling grant provided by the SOC enabled one member of the Group to visit, during February and March, four ranges about which some doubt still remained at the end of the 1982 season. In two of these ranges, breeding behaviour was confirmed which was satisfying. In the other two ranges, pairs thought to have been present in 1982 were not located. However, a new pair was found in Angus, using a tree eyrie, the first time such a site has been recorded in that county. Unfortunately this pair failed after a muir burn came to within 25 m of the nest. In addition there was a strong possibility of a second new pair.

In all at least 26 pairs were located, of which 10, probably 12, pairs nested successfully, a poorer result than average. Bad weather was thought to be the main reason for the failures, rather than disturbance or interference. The autumn of 1982 was very wet, and then the cold, late wet spring proved the last straw in many cases. In spite of this, the number of young raised was about average, thanks to two young being raised by several pairs. Of interest is the pair with the highest-altitude range in the area. Not only did they raise two chicks, but these young were among the first to fly. In another traditional range a young bird was raised for the first time in 17 years.

1983 will be remembered as the year of excessive nest building, and for the high number of apparently non-breeding pairs. In many ranges, one or two really well built up nests were found in addition to the nest used. (By contrast, in 1982 it was rare to find a range with more than one built up nest). In 6 ranges it seemed that breeding just did not occur; 3 of these had well built up and lined but empty nests, while in the other 3 nests were at most only slightly touched up. Did these 6 pairs really not breed or was our checking inadequate? The question of non-breeding pairs is a vexed one.

In each of two old traditional ranges a pair of immatures was again present. In one of the ranges two new but very rudimentary eyries were found, and it is hoped that this pair at least will be breeding soon. The other pair still has a lot to learn. On one occasion the female was seen being chased by a roe deer, while on another, the immature King of Birds had his tail tweaked by a crow!

No eaglets were taken under licence for falconry purposes, and there

was no evidence that any eaglets had been removed illegally. Six young in 4 nests were ringed. For the first time in Britain, eaglets in two nests were wing tagged as part of a long term study of eagles being carried out by the Nature Conservancy Council. If you should see or hear of an eagle with coloured discs on its wings please contact Dr Jeff Watson, NCC, 12 Hope Terrace, Edinburgh EH9 2AS, and pass on as full details as possible.

Table Breeding in 1983

All rows except the last give no. of ranges/sites, not of eggs or young

	Golden Eagle	Peregrine
Home ranges/sites with bird(s) present	41*	70
Adult pairs	26-27	64
Eggs laid (probably laid)	20†(0/)	46(6)
Eggs failed to hatch (eggs or small young disappeared naturally)	8†(0)	17(6)
Fledged young seen (large young seen but fledging not proved)	10(2)	20(3)
No. of young fledged (probably fledged)	14(3)	39-41 at least x(2)

*Birds were seen in another 4 ranges but were considered or known to have come from an adjacent range. The smaller no. of ranges with birds present in 1983 than in 1982 is a reflection of the less intensive coverage than in the 1982 all-Scotland survey.

†One pair re-laid: their first clutch is not included in these totals.

/See text.

*Excluding one removed under licence for falconry.

As usual Red Grouse and mountain hares were the prey items most often recorded, with Ptarmigan and rabbits being taken by a few pairs as well. Bits of red deer calf were found at two eyries, and a water vole at another. Pellets were again collected and sent to the NCC.

Peregrine

1983 proved to be a very bad year, largely because of the cold, wet, late spring. Many pairs failed. Results were markedly worse in Grampian (only 23 out of 31 pairs laid or probably laid, and only 6 pairs reared young) than in east Tayside (24 out of 28 pairs laid, and 14 pairs reared young). Even the coastal pairs did badly. Two out of three pairs on the Grampian coast probably laid, and one inaccessible nest on the Angus coast was occupied, but all failed.

Although bad weather accounted for most failures, there were some cases of interference. In Tayside, there were signs of one bird having been shot near the nest, and another failure was at a site where rocks were dropped into the nest. A group of four closely-adjacent pairs in Tayside failed probably because of robbing, and two more in the study area were in this category. At one northern site which had large young over two weeks old, the young were killed and eaten, probably by a wild cat. One young bird was removed under licence, for falconry.

The usual food items of Red Grouse and domestic pigeons were commonly found. One glen site in Tayside had a Purple Sandpiper, a Turnstone, and a Red Grouse chick less than a week old. A surprising prey item at a Grampian nest was a hen Merlin, and a Crow was also recorded as prey in that area. Lower-altitude sites in Tayside had two Swifts, two Redshanks, a Great Spotted Woodpecker, and a Greenfinch.

The number of pairs is continuing to increase slowly, with four new pairs being found and an adult female occupying a new lowland site.

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

SANDY PAYNE, ADAM WATSON

Storm Petrel attacking Great Skua

The practice of a group of small birds "mobbing" a predatory bird is well known, but it was not until August 1983 that I had heard of a Storm Petrel attacking a Great Skua. During a journey from Sule Skerry to Scrabster, in very rough weather, Storm Petrels were much more numerous than is normal for that time of year. It was with some surprise that I noticed a solitary Storm Petrel making a very determined attack on a Great Skua, which was sitting on the sea. Several other Storm Petrels flew past, making no attempt to become involved, but the one petrel was so persistent that the Great Skua was eventually forced to take off. I pointed this behaviour out to one of the fishermen present and he told me that he had seen this happen many times in rough seas.

A. C. BLACKBURN

Melanic Black Guillemot in Shetland

A Black Guillemot (Tystie) in summer plumage but lacking any white on the wings, regularly fed in Lerwick harbour, Shetland, during spring 1982. The plumage lacked the metallic sheen of typical summer adults, being a matt chocolate-brown colour. Upper and under wing coverts were dark brown, with the only paler area being the greyish-brown shade to the under-side of the remiges. The legs and gape were bright red, suggesting that this individual was an adult rather than a first-year bird.

Following encounters with other Tysties on the feeding areas, the melanic bird was usually driven-off or directly attacked. The white wing patches of Tysties probably have an important signalling function during communal displays, pairing, and in determination of social status (Asbirk 1979). It is likely that the absence of these patches rendered this bird a subordinate individual, and may well have precluded it from any breeding activities, as extensive surveys failed to locate it at any breeding site.

There appear to be only two previous records of melanic Tysties in Britain: an all-dark bird with dark-greyish head (moulting?) seen near Fetlar, Shetland on 20th August 1975 (R. J. Tulloch, *pers. comm.*), and a sighting in the Sound of Harris, Outer Hebrides in summer 1894 (in Salomonsen 1944). Salomonsen (1941, 1944) gives details of 28 records of melanics known to him, the bulk, 17 individuals, coming from West Greenland.

The studies of Tysties in Shetland are commissioned and funded by the Shetland Oil Terminal Environmental Advisory Group.

References

- ASBIRK, S. 1979. Some behaviour patterns of the Black Guillemot *Cepphus grylle*. *Dansk orn. Foren. Tidsskr.* 73: 287-296 ■ SALOMONSEN, F. 1941. The Black-winged Guillemot *Uria grylle* mut. *motzfeldi* Benicken. Misc. notes on Greenland Ornithology V Meddr. Gronland 131, No. 6 ■ SALOMONSEN, F. 1944. The Atlantic Alcidæ. Goteborgs K. Vetensk.-o. Vittersamh. Handl. 108: 7, ser. B. 3(5).

P. J. EWINS

Reviews

Representations have been received from Dr P. O'Donald about the review of his book "The Arctic Skua" which we published at *SB* 12: 230. We have discussed these with the reviewer, Dr R. W. Furness, and jointly with him we make the following statement :

It has been represented that the final sentence of the review, and in particular the words "the author's habit of cloaking errors by deriving statistics to five or six significant figures", might be read as suggesting that the statistical results had been deliberately presented in a manner designed to mislead the reader as to their reliability, and consequently as casting doubts upon the author's integrity as a statistician and as a scientist. The reviewer wishes to make it clear that this was in no sense his intention, and we associate ourselves with the reviewer in expressing to the author our regret that any such adverse impression could have been created by the words used in this part of the review.

Eds.

Darwin's Finches by David Lack, with introduction and notes by Laurence M. Ratcliffe and Peter T. Boag; Cambridge University Press, Cambridge, 1983; 208 + Liii pp; 4 colour plates, 4 monochrome plates, and 27 text figures; £19.50 (boards), £7.95 (softback).

Darwin's Finches are closely related but ecologically diverse birds living in the Galapagos Islands. The major part of this book is a facsimile of the original text of 1947. At that time it was not widely accepted that the differences between related species were the result of natural selection or that competition between species was important in determining their evolution and co-existence. Lack's book not only promoted these views but established evolutionary ecology as an important biological discipline. Because it inspired so much more work, the 1947 text is now seriously out-of-date. The notes and list of recent references in this re-issue present modern knowledge clearly but they are so brief that the interested reader will wish to use them merely as a guide to modern ideas and literature. It is a pity that the opportunity was not taken to discuss modern ideas more fully, which would have made the book more useful to the general reader. Nonetheless, this is a useful publication. Unfortunately the price is such as to ensure poor sales in Britain.

J. J. D. GREENWOOD

The Return of the Sea Eagle by John A. Love; Cambridge University Press, Cambridge 1983; 227 pp.; 26 half-tones; 69 line drgs; 14 tables; £15.00.

John Love has written a book of high scholarship and no little charm. 'The Return of the Sea Eagle' is both exceptionally readable and intimately researched. Chapters 1-4 provide background information on the species throughout its range, and on its close relatives. Food habits are dealt with in Chapter 5, along with a detailed assessment of possible depredations by Sea Eagles on livestock. Such allegations seem to be largely unfounded. Nevertheless there is clear evidence that extermination of Sea Eagles in Britain can be attributed to human persecution. The historical perspective throughout the book and particularly in Chapter 6 is almost frightening in its thoroughness. It is a lesson to many who would dismiss as irrelevant all writings on birds pre-1900. The final chapters 7-10 give a detailed account of the background to, and instigation

of, the reintroduction project undertaken by NCC on Rhum since 1975. In 20 or 30 years time, when a thriving population of Sea Eagles may again grace the West Highland shores, this book will serve as a fitting reminder of the early stages of this pioneer project.

A few of the black and white photographs have been reproduced poorly. The line drawings by the author are delightful. Cambridge University Press are to be complimented on a belatedly more sensible pricing policy.

JEFF WATSON

Weather and Bird Behaviour by Norman Elkins; T. & A. D. Poyser, 1983; 239 pp; line illustrations by Crispin Fisher; £12.60.

The past ten or more years have brought home to most of us the effects of weather on birds, having experienced periods of record cold, wet, wind and drought. In the same period censusing and atlassing of bird populations have become better refined. Meteorological and ornithological data have now been combined by the author to produce this fascinating book. Basic information on weather patterns and their effects are described generally and in detail, as are aspects of flight, feeding and breeding. Migration and vagrancy are discussed and explained in relation to varying weather conditions, and there are chapters on extreme weather and seabirds.

Errors are very few and not obvious. The Holarctic Pectoral Sandpiper is regarded as purely Nearctic and recent work on the flight energetics of Canadian passerines is not mentioned. Some chapters are better argued than others. Students of migration will find the chapter on migrational drift and displacement particularly interesting. That on seabirds is somewhat lacking, probably due to the fact that the feeding ecology of many seabirds is imperfectly known outside of the breeding season, as is the effect of gastro-intestinal parasites which are probably the underlying reason for "wrecks" in individuals of species subject to that phenomenon.

The book has a high Scottish content and must be regarded as the best work now available on what is a highly complex subject.

BERNARD ZONFRILLO

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

Perthshire Bird Report for 1982. (14 pp). E. D. Cameron (ed) 1983. £1.00 post free from Perth Museum and Art Gallery, George St, Perth PH1 5LB.

Problems of censusing Long-tailed Tits by the Mapping Method. T. W. Dougall & P. W. North 1983. *The Ring* 10: 88-97. A study in north-east Fife.

Moulting Elders in eastern Scotland. L. H. Campbell & H. Milne 1983. *Wildfowl* 34: 105-107.

Numbers, age and sex of Greylag and Pink-footed Geese shot at Loch Leven National Nature Reserve, 1966-1981. G. Wright & H. Boyd. *Wildfowl* 34: 163-167.

Satellite view of bird migration between Iceland and Scotland. W. R. P. Bourne 1983. *Sea Swallow* 32: 80-82.

- The association of breeding Wrens and areas of timber brushings. T. Dougal 1983. *Quarterly J. Forestry* 77: 41-43.
- Dispersal of Sparrowhawks between birthplace and breeding place. I. Newton & M. Marquiss 1983. *J. Anim. Ecol.* 52: 463-477.
- Age structure and survival in a Sparrowhawk population. I. Newton, M. Marquiss & P. Rothery 1983. *J. Anim. Ecol.* 52: 635-645.
- The role of nest-site availability and territorial behaviour in limiting the breeding density of Kestrels. A. Village 1983. *J. Anim. Ecol.* 52: 635-645.
- The last three papers are all studies in Scotland.
- Shetland Bird Report for 1982.* (64 pp). £1.95 post free from SOC Bird Bookshop. Includes articles on bird ringing in Shetland, on Arctic Terns breeding in 1982, and on the Kittiwake in Shetland in 1981.
- Borders Bird Report for 1982.* (36 pp). £1.10 post free from SOC Bird Bookshop.
- Arran Bird Report for 1982.* (10 pp). This is the third annual report in this series.
- Dungavel Area Bird Report for 1981/82.* (19 pp). R. Morton & I. English. A species list for an inland area of Lanarkshire.

W. HARPER

Notices

Great Skuas in the Western Isles Information is sought on sightings of the Great Skua (or "Bonxie") in the Western Isles; both past and present distribution is wanted and as the survey is intended to run for a few years regular reports for the same area would be particularly helpful. Any information on locality, numbers, whether nesting or not, and (if possible) approx. date noted will be welcome. It would also be useful to note whether the birds are nesting in the vicinity of a gull colony etc. or if there is any **direct evidence** of them attacking lambs in the same area. Information should be sent **Dr Frank Rennie, 25 South Galson, Isle of Lewis.**

1984 Goosander Survey In association with the Nature Conservancy Council and the Zoology Department of the University of Durham, a survey of the Goosander on selected Scottish river systems is being organised. Additional water courses may be included subject to observer availability. Surveys will be undertaken during the periods 17th to 31st March and 8th to 22nd July, the first being to provide an estimate of the number of breeding pairs, and the second to estimate the number and size of broods present. Further information and details from: **Steven Carter, Zoology Dept., University of Durham, South Road, Durham DH1 3LE.**

Night Herons In August 1936 Edinburgh Zoo received six Night Herons from Canada; these first bred in 1938 and their descendants have done so ever since. In 1950 and 1951 some birds from the colony escaped and others were released. Although the activities of those continuing to breed within the Zoo have been regularly recorded, little is known of the movements and fate of those leaving the grounds. To help obtain such information a programme of colour ringing has been begun; Zoo birds have one red ring on the right leg and three different coloured rings on the left. Anyone seeing a ringed Night Heron is asked to send full details to **Dr M. F. Stevenson (Night Herons), Edinburgh Zoo, Murrayfield, Edinburgh EH12 6TS.** Any other records of observations in the region, past and present, are also requested.

The Sutherland Wildlife Research Fund was established in 1983 with the royalties from the sale of *Sutherland Birds*, with the aim of promoting wildlife research in Sutherland District. Applications for financial assistance for suitable projects should be submitted to **Stewart Angus, Proncy Farm Cottage, Dornoch, Sutherland IV25 3NA.**

Colour-ringed Rock Pipits Since 1982 Rock Pipits have been individually colour-ringed on the Isle of May, to help investigate movements and survival; up to 3 colour + BTO rings are used. Reports of sightings away from the isle will be welcome. Please send details of ring combination, locality and date to **M. W. Fraser, The Manse, Dirleton, East Lothian EH39 5EL.**

The Scottish Ornithologists' Club

SUMMER EXCURSIONS

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

LOCAL RECORDER

WEST LOTHIAN, FORTH ISLANDS (except May) MIDLOTHIAN. Please note the following change of address: A. W. & L. M. Brown have moved to 232 Rullion Road, Penicuik, Midlothian, EH26 9JL.

BRANCH SECRETARY

Please note that the Thurso Branch Secretary is now: E. W. E. Maughan, Burnside, Harbour Road, Reay, Thurso, Caithness.

WILDFOWL COUNT REGIONAL ORGANISERS

A revised list is given following page 32; please note that it includes several changes.

SOC ANNUAL CONFERENCE - 1984

The next conference and AGM will be held in the Marine Hotel, North Berwick, East Lothian, from 2-4 November 1984. 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.

1983 RAFFLE

The draw for the annual raffle took place after dinner at the conference on 5 November 1983. This year the net profit was £771, just £31 less than last year. With the arrangement, started last year, of sending a book to every club member we have to print 30,000 tickets. The printing bill was however slightly smaller than last year and we are again greatly indebted to a benefactor for helping to reduce its actual cost. A total of £1101 worth of tickets were sold but costs, including printing and the £50 first prize, amounted to £330. We are very grateful to all who bought and sold tickets and especially to those who kindly donated the prizes. The latter included two firms, three branches and several individual members. This is a fine result and a great help to club funds.

ANNUAL CONFERENCE

The Thirty Sixth Annual Conference Friday 4th November 1983 saw a goodly number of SOC members, of all ages, converging on North Berwick in remarkably pleasant weather. On arrival at the Marine Hotel there was the usual pleasure of meeting with old friends, but it was not long before we discovered that sadly, owing to illness, Alastair Peirse-Duncombe was absent from his accustomed place at the helm. It was obvious, however, that all his earlier hard work had ensured that the Conference would run as smoothly as usual, with the Assistant Secretary and Bookshop Manager, Miss Maureen Doran, taking his place most efficiently. John Davies, who succeeds Alastair as Secretary in January 1984, was over from Ireland for the weekend and was able to give Maureen a helping hand too. It was good to have an opportunity to meet and greet him and we wish him and his wife and family every happiness in their new home.

What a nice surprise it was to see Ruby Smillie (who is of course retired now), together with her husband Jimmy, helping out in the Conference Office beside her successor as Membership Secretary, Miss Pat Webster.

The Friday night slide show was more orderly than last year, as it was made clear to the contributors by Don Smith that they must keep to their allotted time. The varied programme, which included the prize-winning slides in the photographic competition, was much enjoyed.

On Saturday morning, after President Ivan Draper had officially opened the Conference, we were entertained and educated by a Wetlands programme: from the Tropics with James Hancock, via Leighton Moss with John Wilson, to Scotland with Malcolm Ogilvie.

During the whole weekend there was as usual much "going on" in the lounges and corridors of the hotel. The SOC bookshop presented a wonderful feast of a different kind to the excellent hotel catering. Then there were binoculars and telescopes to look through—and even buy, research exhibits and artwork to see, and of course lots to talk about to lots of old and new friends. Saturday afternoon was still fine and dry though colder, and many of us ventured along the shore for a brisk walk and a quiet bird-watch. Back in the hotel at the AGM we were heartened to find that Daphne had driven Alastair down from Edinburgh so that he could receive his retiral presentation in person—but we missed them at the Annual Dinner later in the evening.

Every year some of us declare that we are really "too old for dancing" but then when the dinner is cleared away and the music starts up we eventually succumb to the general jollity and join in for a dance or two. Despite all this late evening activity the Sunday morning talks were well received. Before coffee we heard about current ornithological research being carried out in Scotland from Bob Swann, Brian Etheridge and Roy Dennis. And the final lecture of the weekend, by Nick Riddiford, Warden of Fair Isle Bird Observatory, put the finishing touches to a really excellent Conference.

NORAH ARMSTRONG

FOOTNOTE

Reminders : SBR 1982 and index for Vol. 12 should be available shortly—order now! Entries for the 1984 Photographic Competition should be submitted by 30 September (details in SB 12: 173 or from 21 Regent Terrace).

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, Houss, East Burra, Shetland, via local recorders, at the end of March, June, September and December. The period October to December is covered here.

Before fizzling out completely, what passed for autumn migration did produce two outstanding rarities, a **Black-eared Wheatear** and a **Pallas's Grasshopper Warbler**—both on Out Skerries in the first week of October. The weather was exceptionally mild—and exceptionally uninteresting in most areas as far as unusual birds were concerned.

October/November brought assorted wildfowl reports: **Bewick's Swans** in East Lothian and Orkney; both blue and white phase **Snow Goose** and a **Canada Goose** of one of the small races on Islay; at Dunbar a party of 800 **Barnacles** en route from Spitzbergen to the Solway; and **Brent Geese** on Islay (36 pale- and 12 dark-bellied) and in East Lothian. Other noteworthy records were an **American Wigeon** on Loch Ryan from 13 Nov-31 Dec, single **Garganey** at Paisley and Edinburgh, and a **Blue-winged Teal** on North Ronaldsay. The Loch Insh **Ring-necked Duck** reappeared, as did **King Eiders** at Port Glasgow and Golspie, where there were also 2 male **Surf Scoters**; a female **King Eider** in Yell and a **Surf Scoter** off Musselburgh in November were more unusual.

Two **White-tailed Eagles** appeared in Shetland in December, one without a wing tag so possibly not originating from Rhum. A **Red Kite** at Huntly on 9 October was the only other unusual raptor record. The long-staying **Crane** finally left Orkney in October, when there was a **White-rumped Sandpiper** there and a **Long-billed Dowitcher** on Fair Isle. Scotland's third **Killdeer** was on South Uist in December. Peterhead had 43 **Pomarine Skuas** in October and 13 in November, and there was a **Mediterranean Gull** at Aberdeen, a 1st winter **Ring-billed Gull** at Aberlady, and a **Ross's Gull** at Thurso. Dead **Cory's Shearwater** and **Brünnich's Guillemot** were found on the same Shetland beach.

Many of the more interesting passerine reports were from Orkney: an estimated 50,000 birds, mostly **Redwings**, at North Ronaldsay light on 9/10 November; an adult male **Red-breasted Flycatcher** in full plumage on 1 October; a wandering **Long-tailed Tit** in November; and a **Parrot Crossbill** trapped on 2 October. The only **Pallas's Warbler** of 1983 (53 in 1982!) was caught on the Isle of May on 11 October.

STOP PRESS. Birders hoping to see a **Killdeer** in Ayrshire on 22 January found a **Little Bunting** instead. Is that good or bad?

PETE ELLIS

RECENT RSPB STAFF CHANGES

Recent changes among RSPB staff Pete Ellis moved to Shetland in January to help with the increasing workload there, and has been replaced at Scottish HQ by David Dick. Roger Broad became Strathclyde Officer in the autumn, and Roy's assistant in the Highlands is now Colin Crook. And Ian Bainbridge has been appointed Conservation Planning Officer (Forestry), based in Edinburgh but with responsibility for the whole of the UK. We wish all five every success in their new posts.

South Uist

●
Spend an enjoyable holiday among the birds of moorland and machair... an excellent area for birdwatching all the year round.

B & B, packed lunch and evening meal; all home cooking. Parties catered for.

Open all year round.

Write for details or phone

Mrs C. MacAskill

Drimisdale House
Lochboisdale, SOUTH UIST
at 08705 231



New Branch in Edinburgh

- Expert Service
- Binoculars
- Telescopes
- Repairs

See main advertisement
for details.

UNIVERSITY OF EDINBURGH
STUDY TOUR: 12-21 JUNE 1984

*

"Birds and Flowers in Wales"

Have YOU seen a Red Kite?

Your chances are high if you join this small party for 10 fascinating days in Wales. Jointly led by Mike Phillips (birds) and Mike Scott (flowers), the tour is based in the beautiful Valley and offers you the chance to see kites, crows, redstarts, pied flycatchers, nuthatches and many more in congenial company.

Tour price £245 includes all transport from and to Edinburgh.

*

DETAILS:
Extra-Mural Department
11 BUCCLEUCH PLACE, EDINBURGH
031-667 1011

ISLE OF MULL

STAFFA COTTAGES
GUEST HOUSE
TOBERMORY

Get away from it all . . .

beautiful scenery, good birding and comfortable accommodation at Staffa Cottages. Quiet situation looking across the Sound of Mull to Morvern. SAE for colour brochure.

Proprietors:

Richard & Elizabeth Coomber

Telephone (0688) 2464

**WAULKMILL
LODGE**
Orkney

Holiday accommodation in secluded licensed Guesthouse overlooking Bay and adjoining Hobbister reserve.

Central position for touring island and seeing bird specialities such as Hen Harrier, Red-throated Diver, etc.

WAULKMILL LODGE,
Waulkmill Bay, Orphir, Orkney
Tel. Kirkwall (0856) 2427

BOOKS
on
BIRDS
and
ISLANDS

**St Kilda, Orkney, Shetland,
Hebrides and Natural History
especially Ornithology**

Books and libraries bought. Collection can usually be arranged during my visits to Scotland and the Highlands and Islands.

DAVID WILSON

95 Worlds End Lane
Weston Turville
Aylesbury, Bucks.
(Stoke Mandeville 2247)

**This space
only costs
£8.50 to fill**

For advertising rates
apply to :

Business Editor
21 Regent Terrace, Edinburgh
EH7 5BT

For Sale

Binoculars

8 x 32 B

LEITZ TRINOVID

Excellent condition

£190

WITH CASE

Tel. 041 - 952 9076

WILDFOWL COUNTS IN SCOTLAND

THE National Wildfowl Counts, instigated in 1947 and organised by the Wildfowl Trust at Slimbridge, cover ducks, geese, swans, Great Crested Grebes and Coot. As many wetland localities—coastal or inland—as possible are visited by volunteer observers each month from September to March.

The counts in Scotland are organised through the SOC, formerly by a succession of dedicated individual members (Miss Rintoul and Miss Baxter, Miss Garden and Miss Valerie Thom) and latterly by a network of Regional Organisers, who deal direct with the Wildfowl Trust. These are appointed by the SOC, who maintain a copy of all Scottish counts in the Club's Reference Library in Edinburgh.

A current list of Regional Organisers is given below, and anyone who is interested in helping with the counts is asked to write to the Organiser for their area.

- Shetland** D. P. P. Eva, 6 Westerloch Brae, Lerwick.
- Orkney** P. Reynolds, Berrybank, Evie, Orkney.
- Wester Ross and Skye** A. Currie, Glaiseilean, Broadford, Isle of Skye, IV49 9AQ.
- Outer Hebrides** N. Buxton, 4 Sand Street, Coulregrein, Stornoway, Isle of Lewis, Western Isles.
- Caithness** S. Laybourne, Old Schoolhouse, Harpsdale, Halkirk, Caithness, KW12 6UN.
- Inverness-shire, Easter Ross, Sutherland (East)** C. G. Headlam, Dallachie, Fearn, Ross-shire IV20 1TN.
- Banffshire, Morayshire, Nairnshire** J. Edelsten, 12 Durn Avenue, Portsoy, Banffshire.
- Aberdeenshire, Kincardineshire** A. Duncan, 12 Cairncry Avenue, Aberdeen, AB2 5DS.
- Angus** B. Pounder, 64 Forfar Road, Dundee, Angus.
- Perthshire (East)** E. D. Cameron, Strathclyde, 14 Union Road, Scone, Perth, PH2 6RZ.
- Argyllshire and Inner Hebrides (South)** S. Newton, Fell Cottage, 12 Compton Street, Ambleside, Cumbria, LA22 9DP.
- Fife, Kinross-shire** Mrs J. A. R. Grant, Brackmont, Crail, Fife.
- Central Region** D. Thorogood, 4 Archers Avenue, Stirling, FK7 7RJ.
- Bute** J. B. Simpson, Estate Office, Rothesay, Bute.
- Dunbartonshire and Renfrewshire** A. Young, 76 Liddel Road, Ravenswood, Cumbernauld, G67 1JE.
- Strathclyde South East** A. Wood, 47 Kilberry Road, South Carbrain, Cumbernauld.
- Lothians** Miss J. Wilcox, 18 Howdenhall Gardens, Edinburgh, EH16 6UN.
- Ayrshire** A. G. Stewart, 31 St Andrews Avenue, Prestwick, Ayrshire, KA9 2DY.
- Borders** A. Bramhall, 28 Blakehope Court, Tweedbank, Galashiels, Selkirkshire, TD1 3RB.
- Dumfriesshire, Kirkcudbright, Wigtownshire** P. Shimmings, 1 Jeanville, Lochmaben, Dumfriesshire, DG11 1PA.

THE SCOTTISH ORNITHOLOGISTS' CLUB

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

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

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

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

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

APPLICATION FORM

Date.....

Name(s)

Address

Date of birth if under 21 or student under 25
(or nominated child under 18 on family membership)

Type of membership

I enclose cheque/postal order/cash for £.....

Signature

Proposed by

Seconded by

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

Please detach and send with your subscription to The Club Secretary, Scottish Ornithologists' Club, 21 Regent Terrace, Edinburgh, EH7 5BT.

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.

Situated not five minutes drive from the famous Aberlady Bay Nature Reserve

THE MALLARD HOTEL

nestles on Gullane's famous golf links. We are a family run hotel well experienced in the special needs of ornithologists and golfers alike. Why not come and spend a weekend or longer with us ? Let our area's natural resources stimulate you by day whilst our fine table and cellar revive you from dusk. Log fires and candle light soothe all cares away. Special party rates.

Ring 0620 843288 for details

HERTS OPTICAL SERVICES

*We are main stockists of the superb range of KOWA binoculars and
spottingscopes*



TS1 - 60mm objective, angled eyepiece £134.32

TS2 - 60mm objective, parallel eyepiece £115.97

TS7 - 60mm objective, angled eyepiece, 360 deg. rotating head £95.45

Interchangeable eyepieces available : 15x, 20x, 40x, 60x, zoom 25x-50x.

KOWA binoculars and spottingscopes have no equivalent... their superior optical clarity and resolution must be seen to be believed.

Over 200 instruments to choose from. Part exchanges, mail order, repairs. Callers welcome at our retail shop. Catalogue sent on request.

ALL LEADING MAKES STOCKED

Dept. SB, 102a VICTORIA STREET - ST ALBANS - HERTS

Telephone (0727) 59392



PEREGRINE Holidays

1984 - 85

Special Interest Tours



Directors

RAYMOND HODGKINS MA(OXON)

PATRICIA HODGKINS MTAI

NEVILLE WYKES FAAI



Fully Bonded

WITH GUEST LECTURERS AND A TOUR MANAGER: BY AIR and Inclusive

•Provisional

- SPRING IN CRETE** 15-29 Mar Birds, Flowers **£445**
This follows the now familiar pattern of 2 weeks at a super hotel—the Minoas Beach, Aghios Nikolaos and an attractive programme of Optional Excursions arranged by our friendly agent, John Papadakis. Led by Mont Hirons (Flowers) and Tim Dean (Birds).
- SPRING IN ARGOLIS** 22-31 Mar Sites, Flowers **£355**
At the Minoa Hotel, Tolon run by our old friends, the Georgidakis family. Optional Excursions to many sites of the area. Led by William Taylor (Sites), Dr Su Eden (Flowers).
- ROMANS IN AFRICA** 8-22 Apr Ruins, Sites, Flowers **£610**
This tour is the successor to our visit in 1981 and the tour of 1982, and as its name implies, has an itinerary based on the astonishing, huge and numerous Roman remains of Tunisia. Led by David Miles.
- PELOPONNESE & CRETE** 15-29 Apr Birds, Flowers **£630**
Itinerary visits—Athens, Corinth, Tolon, Epidaurus, Mycenae, Sparta, Mistra, Monemvassia, Kastelli, Chania, Omalos Plateau, Samaria Gorge, Akrotiri, Aptera, Heraklion, Knossos, Phaestos. With Dr Peter Lack (Birds), Mont Hirons (Flowers).
- SPRING IN CORFU** 23 Apr-3 May Birds, Flowers **£430**
"Stay-put" holiday at the Mega Hotel, Ipsos Bay run and owned by Spiros and Soula Kantaros. Optional Excursions include—Mt. Pantokrator, Lakes Antinioti and Korission, beauty spots such as Paleokastritsa and Kouloura, Caique trip to Kassiopi (lunch en route).
- NORTHERN GREECE** 8-23 June Mountains, Flowers, Butterflies **£650**
Itinerary visits—Delfi, Mt. Parnassus, Nafpaktos, Ioannina, L. Pambotis, Olympos, Tsangarada, Milo Potamis, Athens. Led by Dr Jeremy Holloway (Butterflies), Dr Su Eden (Flowers), and with luck also our old friend Petros Broussalis.
- SEYCHELLES** July 18-Aug 2 All Natural History **£1835**
This is the third time we have been lucky enough to have Dr David Bellamy leading our tours with his old friend and fellow scientist "Mont" Hirons. Centred on Praslin, Bird and Mahe, visits will be made to La Digue, Cousin, Round and possibly Aride.
- AUTUMN IN CRETE** Nov 1-15 Sites, Birds **£450***
- THE GAMBIA** Nov 28-Dec 5 Birds **£475***
- CHRISTMAS IN CRETE** Dec 20-Jan 3 Sites, Birds **£475***
- INDIA - RANN OF KUTCH** Feb 1985 Birds, Wildlife **£1700***
- S. TURKEY & SAMOS** Apr 12-25 Birds, Flowers, Ruins **£650***
- CEPHALONIA** Apr 26-May 10 Birds, Flowers **£450***

PEREGRINE HOLIDAYS at TOWN & GOWN TRAVEL

40/41 South Parade, Summertown, Oxford OX2 7JP

Tel. Oxford (0865) 511341

Bird Books



from

THE BIRD BOOKSHOP

at

21 Regent Terrace, Edinburgh EH7 5BT

HERE are just a few of the new titles available from the BIRD BOOKSHOP.

- BURTON (J. A.) **Owls of the World** 2nd rev. edn. 1984; 200 pp; illus.; 27 x 21 **£12.95**
- DUNN (J. L.) & BLOM (E. A. T.) **Field Guide to the Birds of North America** 1983; 464 pp; incl. 220 full col. pl.; 21 x 14 **£7.95 (S)**
- EVANS (P. R.) et al **Coastal Waders and Wildfowl in Winter** due 1984; c300 pp; 104 line drgs & illus; 23 x 15 **c£25**
- FLINT (V. E.) et al **A Field Guide to Birds of the USSR** 1984; 420 pp; 48 col. pl.; 71 line drgs; 303 maps; 23 x 15 **c£60**
- FRY (C. H.) **The Bee-Eaters** 1984; 304 pp; 16 pp col. pl.; over 100 line drgs; 23 x 16 **£19.80**
- HANCOCK (J.) **The Birds of the Wetlands** due 1984; 160 pp; 120 col. photos **£12.95**
- HAMMOND (N.) editor **RSPB Nature Reserves** 1983; 184 pp; maps & col. illus; line drgs; 22 x 16 **£9.95**
- HARRIS (M.) **The Puffin** due 1984; c256 pp; 24 pp col. illus **c£13**
- JOHNSGARD (P. A.) **The Cranes of the World** 1983; 300 pp; col & pl. illus; 28 x 22 **c£25**
- SMYTHIES (B. E.) **The Birds of Burma** 3rd edn. 1984; over 300 pp; 32 col. pl.; maps; 28 x 21 **£32**
- SVENSSON (L.) **Identification Guide to European Passerines** 3rd edn. 1983; 310 pp; 400 drgs **£9**
-

Write now for a free booklist and details on some new books we are offering at reduced prices.

Remember that books are sent post free to members of the SOC.



Owls of Europe

by HEIMO MIKKOLA

illustrated by Ian Willis

The 13 owls breeding in Europe and the 4 additional species from lands adjoining the Mediterranean are reviewed by Dr Mikkola in this major work under three main headings. Part I: Special Characteristics of Owls – origins, taxonomy, anatomical features, pellets. Part II: Species Descriptions – the 17 species described in detail plus voice, behaviour, food, breeding and distribution (34 maps). Part III: Ecological Relationships – largely concerned with interactions between owl species and with other birds of prey. There are 8 colour plates and numerous drawings and diagrams by Ian Willis, and 75 photographs.

*24 × 16 cm, 400 pages plus 8 colour plates and
32 pages photographs, £16.80 net*

T & A D POYSER

Calton, Waterhouses, Staffordshire ST10 3JX