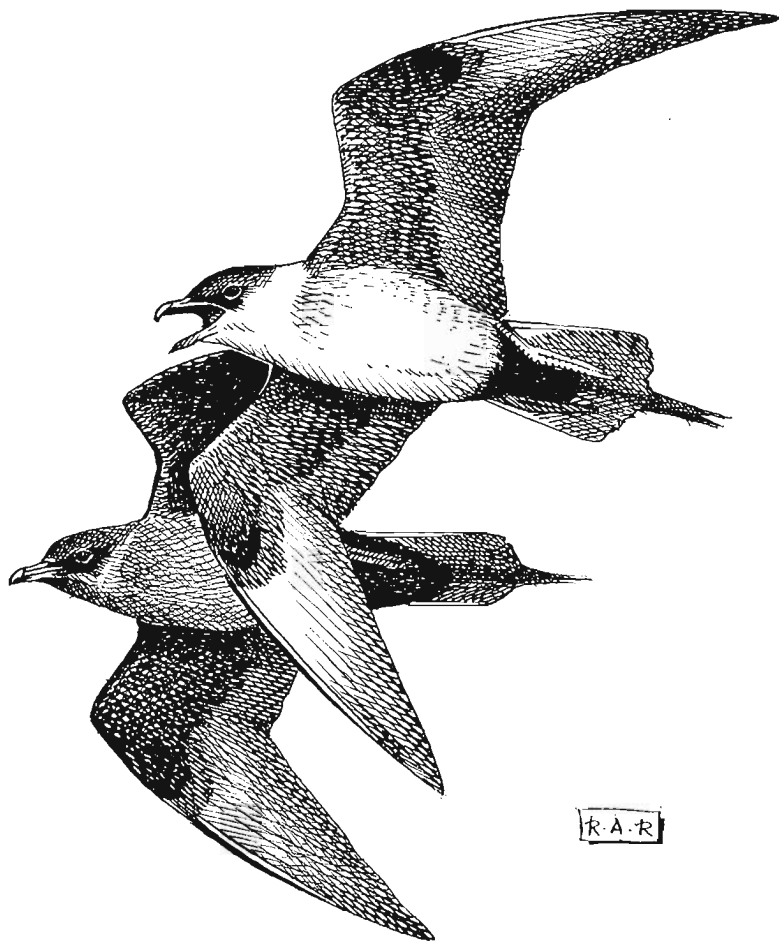


Fair Isle Bird Observatory

REPORT FOR 1968



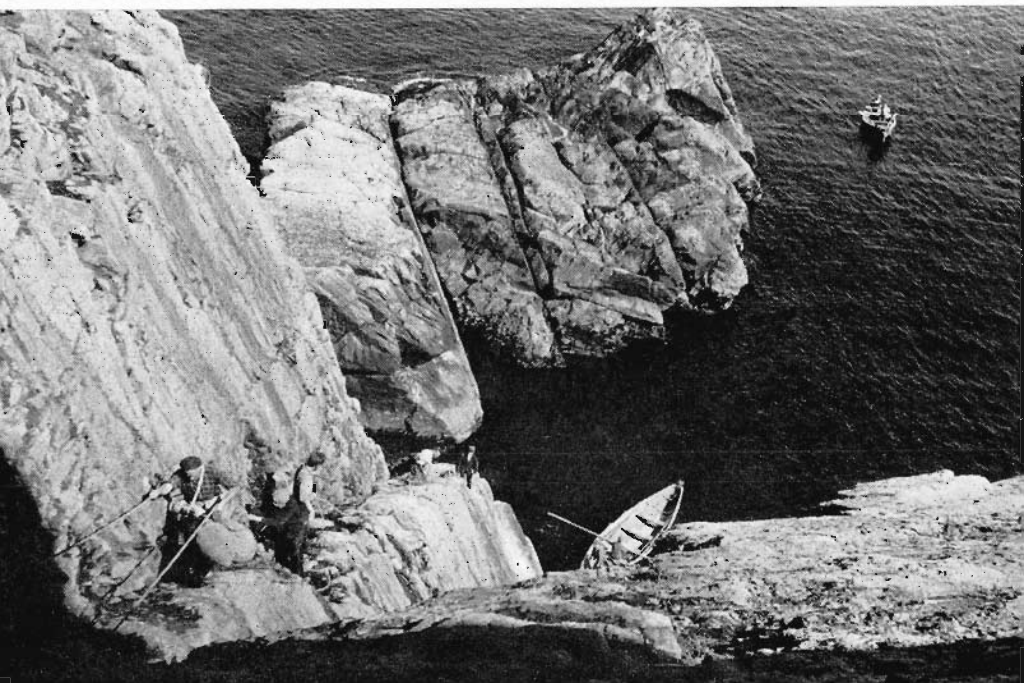
R.A.R.

PUBLISHED BY THE FAIR ISLE BIRD OBSERVATORY TRUST
21 REGENT TERRACE, EDINBURGH 7
for "Friends of Fair Isle"



Landing at Sheep Rock.

(Photos by Roy Dendr...



Fair Isle Bird Observatory

REPORT No. 21

1 9 6 8

Edited by the Warden: Roy H. Dennis

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THE FAIR ISLE BIRD OBSERVATORY ENDOWMENT FUND

With the generous help of the Pilgrim Trust, the Observatory Trustees have established an Endowment Fund for Ornithology and Bird Preservation in Scotland. The objects are: To establish the Fair Isle Bird Observatory on a permanent financial basis; to extend Fair Isle research methods to other stations in Scotland; and finally to develop Bird Sanctuaries and Bird Protection in general.

Capital subscribed to the Fund will be held as a permanent Endowment by the Trustees and cannot be spent. Income from the Fund will be carefully used by the Bird Observatory Executive Committee in keeping with the above objects.

Please write to the Hon. Secretary for particulars.

GEORGE WATERSTON,
Hon. Secretary.

21 Regent Terrace, Edinburgh 7

Foreword

THIS year's Report marks the end of an era at Fair Isle.

Since the Observatory Trust was founded twenty-one years ago, visitors to the Bird Observatory have been housed in a collection of naval huts built during the 1939-45 War at North Haven. These timber huts are now showing signs of age and wear—not surprisingly for buildings in a harsh climate.

Two years ago, the Trustees decided that they would try to replace these huts with a new purpose-built building giving better facilities for visitors and more economical to operate. This was a formidable undertaking, but it had become clear over the past decade that there was a future for a permanent Bird Observatory on Fair Isle. In the early years some of the Trustees, including myself, were doubtful of the success of a permanent Observatory on so comparatively remote and inaccessible a site—despite the incomparable situation for the study of bird migration in the field that the Isle offered. We were wrong. The remarkable increase in interest in birds and birdwatching, and the increase in leisure to indulge in such activities have assured us of a much greater public than we could have foreseen in the turmoil and uncertainty of the immediate post war years.

A young Dundee architect—Douglas Hamilton, DA, ARIBA—was asked to prepare plans. Eventually estimates were prepared and it was reckoned that the total cost would amount to £36,000 for building on the site of the existing huts on the north side of the road at the North Haven. An approach was made to the Highlands & Islands Development Board for financial assistance. As evidence of their faith in the improvements carried out on the island by the National Trust for Scotland, and the value to the island economy and social life afforded by the Bird Observatory Hostel, the Board made a generous offer of grant assistance of £16,500 and loan assistance of £9,500 over twenty years at 5½% interest. The above grants were made on the understanding that the FIBOT would raise £10,000 from other sources. This figure was achieved through generous grants from the National Trust for Scotland's Wildlife Fund, the Carnegie, the Dulverton, and Pilgrim Trusts, without whose help we could not have gone ahead. We must not forget too the great help we

have had from individual firms, our own 'Friends of Fair Isle' and well-wishers both at home and abroad.

Towards the end of 1968, we decided to change the site of the new building from North Haven to a pleasant sheltered site, with a magnificent view, at Mavor's Cup about 150 yards up the road from the existing huts. This meant that the existing huts could be used while the new building was being erected; the work of the Observatory would not be disorganised. It had been originally planned that the new building would be constructed with concrete blocks, using island labour. This proved to be impracticable. It was then that the Trustees decided on a system-built timber construction on Norwegian lines. On being put out to tender, the new estimated cost had risen to £51,000. We were faced with having to raise an additional £15,000. Our good friends the Highlands & Islands Development Board and the National Trust for Scotland's Wildlife Fund rallied round, and between them provided the necessary finance.

As I write, work is proceeding fast on the new building. The foundations have been completed, as you will see from the photographs in this Report. No doubt, by the time you read this, the superstructure will be erected. It is hoped that it will be ready for visitors by October, just in time for us to celebrate our 'Coming of Age'.

In closing, I would like to pay a warm tribute to the National Trust for Scotland, the owners of Fair Isle. We have always worked together in close accord in promoting the welfare of the island and its inhabitants. As the new building will play such an important part in the economic development of the island, the FIBO Trustees have asked the NTS to appoint two representatives to the FIBOT Executive Committee to ensure complete co-ordination of our mutual interests.

We have taken a big step forward. It remains for me to reiterate the plea in our Treasurer's Report; we need more 'Friends of Fair Isle' to support our work with annual subscriptions. Do see what you can do to interest others.

ARTHUR B. DUNCAN,

Chairman.

ACCOUNTS

See pp. 65-67

TREASURER'S REPORT

The year to 31st October 1968 has been remarkable for two reasons. In the first place the Hostel made a profit more than £600 greater than that of the previous year, which at the time I referred to as a great achievement in itself. At the risk of becoming repetitive, I must say once again how much the Trust is indebted to Roy and Marina Dennis for all their enthusiasm, hard work and loyalty under conditions which are certainly not ideal. Which brings me to my second point. The Chairman has already told you of the Appeal fund which, although not yet fully subscribed, has raised sufficient to enable us to embark on a new Hostel building with modern equipment and a lay-out which will make for far greater comfort and for easier management.

I. *Hostel Account.* The Board and Booking fees rose by over £800. Foodstuffs and Supplies were naturally up a little, from £845 to £1,022, but the remaining items, some slightly up, some down, were much as usual and the result was a profit of £981, a wonderful performance.

II. *Trust Revenue Account.* On the debit side, wages were up, as were most of the other items. Printing and Stationery and Expenses were higher, owing to the purchase of special folders by the Honorary Secretary for more convenient filing. This is a non-recurring expense. On the credit side, a satisfactory rise in Subscriptions and Tax recovered. But we still would have been running at a loss, had it not been for the Hostel, since the over all profit was £744.

As I said last year this gap, in the event of a bad Hostel season, can only be closed by more subscriptions from Friends of Fair Isle or by donations or legacies to increase the Endowment Fund and therefore its income. Anyone who can help, please do so.

III. *Balance Sheet.* You will see that the Appeal fund assets had increased, as at 31st October last year, to £6,163. The money is placed on short term deposit with one or another of the Corporations where it can be available, as required, and still earn a high rate of interest. For the rest, I have little comment, except to say that as usual in October, there is a debit balance owing to Messrs J. & F. Anderson, £501 this year, which is squared off as soon as possible.

IV. *Endowment Fund.* Little change here. We shall probably hold the Grimsby Corporation stock to the redemption date in 1972. The balance on Capital to be reinvested.

IAN R. PITMAN.

WARDEN'S REPORT FOR 1968

ROY H. DENNIS

My family and I arrived by Loganair aircraft on 2nd March only one and a half hours after leaving Inverness-shire, where we wintered. The Observatory was then open until 30th November. 17 visitors were due to arrive on 2nd April but the boat was delayed for a week so our first visitors actually arrived on 23rd April and the last ones left on 5th November. In this time, 272 visitors stayed at the hostel for a total of 310 visitor-weeks. We feel a great sense of achievement that the island continues to be so popular and the number of visitors to the Observatory increases annually. The annual totals for the last five years have been:—

<i>Year</i>	1964	1965	1966	1967	1968
No. of visitors	154	138	154	203	272
No. of visitor/weeks	183	173	190	252	310

The autumn has always been the busiest period of the year, but in the last two years spring and summer have been just as busy. It is very welcome for the hostel and the islanders that the season has been extended in this way.

Visitors who stayed at the Observatory included Joe Eggeling, George and Irene Waterston (all F.I.B.O. trustees) in October. Douglas Hamilton (architect) and his wife came in during the summer and surveyed Maver's Cup for the new Observatory building. Visitors from overseas included nine from France, four from Belgium, three each from Sweden and Australia, two from Norway and singles from Canada, Germany and the U.S.A.

Staff. My wife, Marina, continued to be responsible for the running of the hostel, bookings, etc. We were extremely fortunate to have the same staff as last year; Catriona Pennie cooked from 2nd May to 28th October and Tony Mainwood was my assistant from 20th March to 5th November; he returned on 19th November to look after the welfare of the introduced Sea Eagles during the winter. We are very grateful to them both for the excellent work they did during our busiest season ever. As neither of them will be with us in 1969 we wish them every success in the future. Catriona has married Stewart Thomson and they have settled at Quoy while Tony has moved to Fetlar to be warden of the Snowy Owl reserve. Finally, we would like to thank Anne Sinclair, Margaret Norris, Michael Brooke and John Oakshott, who all acted as temporary assistants.

Island Events. Sixty-five persons were resident on the island during the year including five youngsters attending school in Lerwick; 27 of this total were lighthouse keepers, bird observatory staff, school-teacher and dependants. Jimmy Wilson's eldest son, Brian, returned to live on the island and worked for the National Trust for Scotland and Cdr. Angus Wood came to live in the Haa House. Mrs Jackie Wilson (Houll) was unwell during the summer and left to stay in the Old Folks' Hospital in Lerwick. Anne Thomson was married in Lerwick and settled down there and in September Gerald Wilson started full-time veterinary studies at Edinburgh. During the year, sons were born to Mr and Mrs James Stout (jun) and Mr and Mrs Tommy Stout.

The main work on the island was the rebuilding of the Haa croft, the islanders and members of the International Voluntary Service, who lived in the renovated fish-store, working on this project. The islanders suffered a bad lambing season because of the April blizzard but the crops were very good. Three boats fished for lobsters but there was plenty of competition from outside boats. The presence of the I.V.S. was much enjoyed especially at dances and football matches.

The National Trust for Scotland cruise ship 'Meteor' visited the island on 25th May; the 'Earl of Zetland' was chartered by the Shetland Archaeological and Natural History Society on 9th June and made a day-trip to Fair Isle; finally the 'Orcadia' made day-trips from Orkney in July and August. Exhibitions of the Observatory's work were displayed in the common room on all these occasions. A Tall Ships sailing race from Scandinavia circumnavigated the island in the summer. The Loganair charter plane came about once a month to the island and an agreement was made for the evacuation of hospital cases by air-ambulance—a very welcome improvement to the medical facilities.

Fieldwork. All the usual routine studies and instruction carried out by the Observatory were continued in 1968. Much time was spent on the Sea Eagle project which has proved successful to date. I did not visit Shetland during the year but Tony went to Mousa in July to trap Storm Petrels as part of our ringing study. Two teams of geologists visited the island during the year; a short report of their work is included in this report. Dennis Coutts came to the island on five occasions and made a colour film of the Sea Eagle project for the R.S.P.B. Three different programmes were made by visiting B.B.C. personnel and we helped with these recordings. I did some lecturing in the winter as usual and in December made a ten-day lecture tour of Holland for the Netherlands-England Society.

Acknowledgments. Once again we are very grateful to all our friends on the island who have given us help throughout the year and allowed us to examine their crofts for migrants. We are very grateful to Tommy and Katie Russell for looking after our wader traps at the North End and to Gordon Barnes, who again helped us greatly with our work. We are indebted to the Royal Scottish Museum who continued to loan us a useful collection of bird-skins. I would like to thank Richard Richardson and Stewart Wilson for the delightful vignettes they provided for this report.

Ornithology. 190 species were recorded on the island during the year, only the third time this record has been achieved. No new species were recorded. The monthly totals of species recorded on the island were:

	J	F	M	A	M	J	J	A	S	O	N	D
No. of species	46	56	74	110	124	118	78	97	127	122	78	64

The more exciting species recorded were 2 Leach's Petrels (trapped), Honey Buzzard, Gyr Falcon, 2 Marsh Harriers, Spotted Crake, a pair of Red-necked Phalaropes, at least one Long-tailed Skua, 2 Hoopoes, 6 Short-toed Larks, 2 Golden Orioles, 2 Nightingales, Booted and Arctic Warblers, Red-throated Pipit, 2 Woodchat Shrikes, Serin, Yellow-breasted and 3 Little Buntings.

Neither migration was exceptional for quality or quantity but the year was marked by certain species occurring in unusual numbers or circumstances. Noteworthy were:

- record numbers of Red-backed Shrikes in spring;
- an exceptionally early and large influx of Fieldfares in July and August;
- good numbers of Barred Warblers in late August;
- an invasion of northern Great Spotted Woodpeckers in September;



- a fantastic 'fall' of continental Song Thrushes on 26th September;

- more Pinkfeet in autumn than every previously recorded;
- at least a dozen northern Bullfinches in October and November;
- an arrival of at least 16 Goosanders in December.

The breeding birds had a successful summer. The Peregrines had their first chick for three years and a pair of Curlew reared young, for the first time ever. No Corncrakes nested and although three Collared Doves were resident they did not nest.

Spring Migration

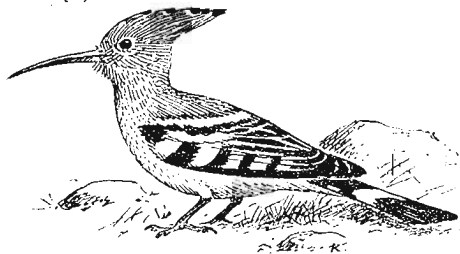
When I arrived on 2nd March the early migrants, like Oystercatchers, Lapwings and Skylarks, had already arrived and the first Shags were collecting nest materials. During the month we saw just a few interesting birds; for instance, Long-eared Owl on 22nd and Stonechats on 22nd and 24th. The Wheatears were earlier than usual and the first one, which arrived on 26th, was followed by two more on 29th. Our first day of real migrant activity was 29th March; the rain cleared at 9 a.m. and soon there were Blackbirds everywhere. Many were in the trapping area and by nightfall Tony and I had caught and ringed 162 of them; we also caught one which had been ringed on 29th October 1966 in Essex. A Chiffchaff was caught in the Gully during the day and it was the earliest record since the Observatory started in 1948. 20 Puffins were ashore in the evening and this was also rather early for Fair Isle.

Next day, the wind had veered to NW and by 1st April was strong NE and the island was covered in snow. After the mild weather in March, the birds found it difficult to survive in these bitterly cold conditions. We saw a few Wheatears and Chiffchaffs searching for insects in the seaweed on South Haven Beach and other birds were foraging where the sheep and hens were being fed near the crofts. At Barkland, there was a flock of Snow Buntings, some of them immaculate males in very white and black plumage, and in their midst was a ♂ Lapland Bunting in summer plumage.

It snowed all that night and by next day we were isolated from the rest of the islanders. We walked to the shop over the snow-drifts which in the worst place at Duttfield covered nearly a hundred yards of road to a depth of eight feet in places. The traps were badly damaged by the weight of the snow. After clearing snow from the roof of the Gully trap we went to Vaadal only to find the top end of the trap collapsed under a huge drift. It was three days before we opened the road to the village, only to find a gigantic drift

at Lower Stoneybreck. 'Uncle' Willie told us it was the worst he had ever seen there.

The wind slowly abated and the snow melted during the week. At last on 8th April, the Good Shepherd got away to Shetland after a week's delay but this was too late for our 17 visitors who had been stormbound in Shetland. Spring weather returned on 9th and new birds included 2 Wigeon and 3 Red-breasted Mergansers that day, a Little Grebe on 10th, Great Grey Shrike on 11th and 11 Lesser Black-backed Gulls on 12th. There was a sprinkling of new migrants during the next week of mainly E winds but nothing exciting until 17th when we saw a Hoopoe. Other new summer visitors included Corncrake, Yellow Wagtail, Tree Pipit, Redstart, Whitethroat and Willow Warbler, and there had been a good fall of Wheatears (250+), Robins (60), Chiffchaffs (25) and Ring Ouzel (9).



Presumably the same Hoopoe was near the North Light next day and we also found a Black-headed Bunting at Schoolton. A Nightingale was trapped in the Gully after another night of SE winds, but there were fewer birds next day except 160 Fieldfares. 21st April was fine and sunny, with light S winds; we saw 6 Swallows and 13 Sand Martins as well as Grasshopper and Sedge Warblers. This spring weather was followed by a really miserable foggy day on 22nd but we did catch another Nightingale (the 7th record for F.I.: after the two birds this year this species is now commoner than Thrush Nightingale at Fair Isle!). Our first visitors for 1968 arrived on 23rd but there were not many bird migrants for them to see until 29th when another Hoopoe arrived and we saw a Swift (the earliest F.I. sighting by one day).

The wind backed to NE on the last day of the month and stayed there until 6th May; the winds were cold and gale force at times. There were few migrants and the most interesting were 45 Ravens which flew in high from the S, croaking continually as they whirled about over the island before drifting away towards Shetland.

On 10th, the wind returned, at last, to SE and once the early morning rain had cleared, we found a very good 'fall'

of continental migrants, including 14 Swallows, 75 Willow Warblers, 15 Whitethroats, 25 Tree Pipits and 40 Reed Buntings as well as Long-eared Owl, Swift, Wryneck, Bluethroat, 2 Red-backed Shrikes and 2 Ortolans. Unfortunately, the wind returned to N next day. On 13th May, there were a few new birds including a Marsh Harrier; next day I caught a Golden Oriole in the Gully. It was the first we had ever ringed and even though it was a female, it was still most colourful in the hand. Another Marsh Harrier flew over on 17th. A Short-toed Lark was found feeding on new sown oats at Setter on 20th May and in the evening we trapped it along with some Twites. More Swallows were seen on 21st as well as a ♂ Grey-headed Wagtail and a Bluethroat. The weather started to warm up as the wind moved S of E and there was a small arrival of summer visitors, including a Wood Warbler on 22nd and a ♂ Rose-coloured Starling on 23rd. The latter was a splendid bird but when we trapped it on South Haven beach, we considered that it was probably an escaped cage-bird because of the state of its plumage. On the same day, two of our visitors saw a bat flying about over the beach at Kroga Geo but we failed to find and identify it in the afternoon. These stray bats to the northern isles are always worth examining carefully because they might easily prove to be a rare species rather than a common wanderer from Scotland. In fact, a bat found dead in Shetland in early summer 1968 was subsequently identified as a Leisler's Bat *Nyctalus leisleri*; this species, it appears, had not previously been reported in Scotland.

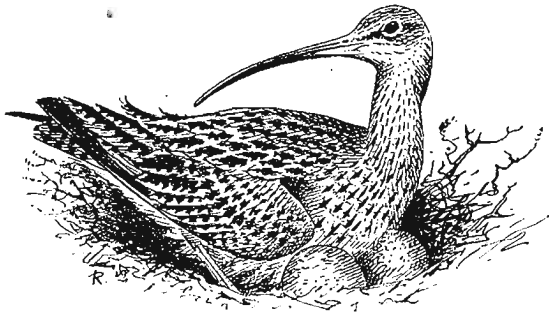
The 'Meteor' visited Fair Isle on 25th May and as the members were disembarking a ♀ Red-breasted Flycatcher appeared in the Observatory trap and was duly ringed. Earlier a ♀ Scarlet Grosbeak was seen at Setter and 7 Red-backed Shrikes were still on the isle. There was a Nightjar on 26th, Icterine Warbler on 27th, another Nightjar on 30th May (an emaciated bird caught by hand at the Post Office) and a similar bird was caught on 31st. On 4th June, with continued SE winds, a Woodchat Shrike and a Hobby arrived; we mist-netted the shrike and nearly caught the Hobby as well. Next day, a Goldfinch was caught in the Gully, only the 3rd ever ringed here. Goldfinches were also recorded in Shetland and Orkney at this time. On 6th June we trapped a rather late Long-eared Owl and saw a Marsh Warbler and another Scarlet Grosbeak. The Marsh Warbler was netted and was the 81st species ringed in 1968.

It was foggy on 14th June, but when the sun broke through at mid-morning, Katie Russell phoned from the North Light with news of two Red-necked Phalaropes on Golden Water; they were a pair in breeding plumage and displayed as we

watched them. These phalaropes are surprisingly rare at Fair Isle considering they nest nearby in Shetland. While we were watching them at the loch, a Golden Oriole flew over our heads. There were a few stragglers after this date but nothing really exciting and our work changed to seabirds and other summer studies. Ringing had progressed well during the spring; we caught 221 birds in March, 321 in April, 355 in May and 833 in June.

Summer

Fair Isle had a wonderful summer in 1968; day after day it was hot and sunny with no wind and calm seas. In fact, we (the residents not the visitors) complained about the lack of rain. Some of the islanders ran out of water when their reservoirs dried up, while the island's roads turned into dust tracks. The long spells of calm weather allowed us to use our boat more often than usual and we landed in all the geos during our seabird work. Mist-netting at night for Storm Petrels on the cliffs was also most profitable because of the lack of wind.



Curlews had never been recorded nesting on the island and our first excitement of the breeding season was the finding of a nest containing four eggs near the airstrip: all four eggs hatched. In late June, a Long-tailed Skua attached itself to a pair of Arctic Skuas in Homisdale and on several days we had excellent views of it in flight just above our heads and perched on 'planticrubs'. It is interesting that it was with the whitest Arctic Skua that we have in the colony. Two pairs of Peregrines were again resident at Lerness and Shaldi Cliff. There was no indication of nesting until late in June when we saw a chick in an eyrie on the cliff-face opposite Shaldi Cliff. It was ringed on 23rd June and was about 10-14 days old. It was successfully reared and appears to have been the only Peregrine chick in the whole of Shetland in 1968. For the first year, we managed to find Rock Dove's nests

on the west side and on 12th July we looked into 2 nests (one c/2 and the other had 2 small chicks) and caught an adult as it flew out of a small cave.

During the summer, we mist-netted over 600 Storm Petrels on the cliffs, mostly at Malcolm's Head and Millens Houllan but we found that Gunnawark was also a good place for them. Some of the birds had already been ringed at Foula but our most exciting control was one we netted at Malcolm's Head on 31st July which had been ringed in the Faeroes on 27th July! Another great excitement during this work was the capture of our first ever Leach's Petrel on 13th July at Gunnawark; this was followed by another netted at Malcolm's Head on 4th August and we saw at least two more. None were heard calling and it is likely that they were just 'visitors' like the majority of the Storm Petrels, although this year I did find a Storm Petrel incubating an egg at Wester Lothar.

All the rest of the breeding birds had a successful season and reared good numbers of young, although we did find Fulmar chicks suffering from the very hot weather in July/August; some were even found dead. We ringed very good numbers of seabirds. One of our best periods for ringing was between 10th and 13th July, when we ringed 191, 140, 174 and 140 birds on successive days.

A Honey Buzzard at Wirvie on 20th July was our rarest migrant but that day also saw the start of a spectacular arrival of young Fieldfares. Numbers built up in July and August to a peak of 300 birds. They lived on the island and while here many of them completed their post-juvenile moult. Other summer migrants included three Crossbills and a Greenshank which was ringed. Three Collared Doves, a Blackbird and a Song Thrush summered on the island.

Autumn Migration

The Fieldfares, which started to arrive in July, were joined by others during the first half of August but there were few other migrants. A sprinkling of warblers included an Icterine on 6th, 2 Icterines and 2 Barreds on 9th and an Arctic Warbler on 12th. The weather was fine and calm during this period and it seemed likely that these were birds on reverse migration. A few new arrivals on 16th included Pied Flycatcher, Wood and Barred Warblers and next days there were 15 Willow Warblers, 4 Garden Warblers and a Wryneck.

On 18th August, we had our first real day of rain for a long time but next day it was sunny again, in fact such a

good day that the islanders made their annual visit to Sheep Rock and we went along to help take off the young sheep. On the way to South Harbour we saw two Whinchats and a Wood Warbler was caught in the Gully; it was the 99th species ringed in 1968. The wind was SE, force 4 to 6, on 20th August with rain clearing in the morning; classic conditions for a 'fall' of continental migrants but much to everyone's disappointment none arrived. Next day there was a Hobby at Setter and this was followed by Wryneck, Red-backed Shrike and some warblers on 22nd. Early on 23rd August, after the departure of the Good Shepherd, I saw a young Rose-coloured Starling near the North Light and after breakfast we all saw it well as it fed with a local flock of Starlings. There were new birds in the crofting area; the best were 5 Barred Warblers and we also saw 2 Ruffs, 2 Lesser White-throats, 5 Whinchats and a Swift, as well as some commoner species.

Five new Barred Warblers were seen next day and this pattern was repeated on 25th when another three were recorded; the only other migrants arriving at this time were 15 Pied Flycatchers and a young Ortolan Bunting. On 28th, we caught three new Barred Warblers and a Wryneck. The weather continued fine. On 29th the wind was very light N to NE and the skies were clear, but even so a Bluethroat and a Scarlet Grosbeak arrived. The wind was SW on 30th August and a decrease in continental migrants coincided with an increase in Wheatears and Meadow Pipits, presumably from Iceland, and Merlins were also more in evidence. Two Lapland Buntings arrived on 1st September, 15 Ruffs on 2nd and there were more continentals on 3rd, including Ortolan Bunting, Red-backed Shrike and 2 Wrynecks. A Pomarine Skua flew N past the Observatory on 4th.

A Short-toed Lark was located at the summit of Ward Hill on 5th September and stayed there several days; it was a sandy bird of one of the southern races which usually come here in spring. Black Redstart, Icterine and Barred Warblers and Scarlet Grosbeak were seen on 6th and there were 3 Grosbeaks and 6 Lapland Buntings next day. The most interesting event of 7th September was the arrival of at least 10 Great Spotted Woodpeckers; they were young birds of the northern race. Warblers increased during the morning of the 8th, especially Blackcaps and to a lesser extent Garden and Willow Warblers. At the Observatory we found a Booted Warbler feeding by the hen-house and it was quickly mist-netted and ringed. Later in the day, a Richard's Pipit was found near the Kirk and the woodpeckers were still very much in evidence, although looking rather pathetic climbing telegraph poles. Wrynecks peaked at four next day but

woodpeckers were down to one. A Glaucous Gull was feeding with the Observatory's chickens.

Although the wind remained mainly SE, only a trickle of migrants passed through and the next good bird was a Red-breasted Flycatcher sheltering near the South Light on 12th. On 13th September, the wind backed to NW and it was a fine quiet day. A Yellow-browed Warbler and a Yellow-breasted Bunting arrived on the isle as well as more woodpeckers and the first Snow Buntings of the autumn. Next day, there was rather little of note but on 15th we trapped a Red-throated Pipit. It was ideal for inter-island migration on 16th and we recorded a total of 120 Cormorants flying south to Orkney in the light N winds; White Wagtails and Meadow Pipits were also more numerous. The wind remained NW but even so there was a general increase in Blackcaps, Garden Warblers and Lesser Whitethroats. A young Woodchat was netted at Setter on 18th and a Bluethroat and a Scarlet Grosbeak were seen.

A large flock of Pinkfeet passed over on 21st in strong ENE winds, Blackcaps increased to 60 and there were 10 Ring Ouzels. The most impressive 'fall' of Song Thrushes at Fair Isle occurred on 26th September. The wind was SE, force 2-3, with rain which cleared at 9 a.m.; a few Blackcaps and Song Thrushes were caught on the pre-breakfast drive of the traps. At 10 a.m. the wind decreased and veered to SW, and as the sky cleared, Song Thrushes started to pour on to the island. They were everywhere and we had some good catches in the traps. After lunch Tony went over the hill and I visited Vaasetter and the crofting area while our visitors manned the traps. Between us we decided we had seen at least 2000 Song Thrushes and they were well distributed over the island. Ring Ouzels were also plentiful and we recorded 165 for the day, another Fair Isle record. Other new birds included 200 Redwings, 25 Blackcaps, 11 Willow Warblers, 20 Tree Pipits, Yellow-browed Warbler and Little Bunting. At dusk, as we finished the last drive of the traps, we watched the thrushes leave the island and they all unhesitatingly set off in the same direction, about SSE; the sky was clear and the brightest stars were already visible. Next day, we found only 300 left on the island and most species had decreased. More geese passed over on 29th and we recorded at least 120 Pinkfeet and 12 Greylags; next day there were 23 Greylags and 4 Whooper Swans. Twites and Meadow Pipits were island-hopping in the clear calm weather on 1st October and a Serin, seen by Gordon Barnes at Easter Lothar soon after dawn, must have passed on with the Twite.

On 2nd October, thick sea-fog cleared at mid-day and in a SW wind, there was a big 'fall' of thrushes; totals were 1000

Fieldfares, 600 Redwings, 300 Song Thrushes, 40 Ring Ouzels and 40 Blackbirds; three Yellow-browed Warblers and a Buzzard were seen. Most species decreased overnight but there were more Blackbirds and Bramblings. 39 Barnacle Geese flew over on 5th and Common Gulls increased during the day to 600+ (they had been rather scarce earlier in the autumn); small birds included four woodpeckers, 2 Barred Warblers and an Ortolan. On the following day, two Yellow-browed Warblers were seen and a Black-bellied Dipper was caught in the Gully. Two eastern Short-toed Larks and a Bullfinch arrived on 9th. We had a good day's bird-watching on 11th October, when there was a big 'fall' of continentals with SE winds. The major participants were 1300 Bramblings, 600 Blackbirds and 500 Redwings with smaller numbers of Robins, Goldcrests and Dunnock. We also saw 5 Great Grey Shrikes, Shorelark, 2 Richard's Pipits, Red-breasted Flycatcher and Little Bunting. Bramblings decreased next day to 1100 and we found a Scarlet Grosbeak and another Short-toed Lark. The next week saw a general decrease in most species but there were a few new arrivals including Bullfinches, Great Grey Shrikes, Waxwings and Richard's Pipit; 600 Blackbirds were present on 20th October.

On 23rd, the wind was NE and once the early morning drizzle had cleared we saw that several species had arrived; there were more Chiffchaffs, Garden Warblers and Blackcaps, 11 Greenfinches, 2 Black Redstarts and single Bullfinch, Barred Warbler, Yellow-browed Warbler and Little Bunting. Larger birds included 110 Greylags, 5 Barnacle Geese and 2 Whooper Swans. Next day, the numbers of Fieldfares, Blackbirds and Redwings doubled and we saw 60 Lapwings, 40 Snipe, 100+ Woodcock, 22 Pinkfeet and 9 Whitefronts. Woodcock numbers remained high but there was a general decrease of migrants during the last week of October and the month ended on high note with the capture of a Spotted Crake in the outbuildings at Shirva.

November was rather quiet, with no noticeable 'falls' of migrants but the following were seen during the month: Iceland Gull on 12th, several Long-eared Owls with a peak of 3 on 18th, a Woodlark from 11th and another on 22nd, the resident Dipper was joined by another, Richard's Pipits on 6th-7th and 23rd, Waxwing on 6th, Great Grey Shrikes on 6th (2) and 17th-20th, about 6 Bullfinches, Corn Bunting on 24th and finally, a Hen Harrier on 27th. Well after the close of the usual 'migration season' Fair Isle experienced an interesting and unusual movement which was almost certainly an extensive cold-weather exodus from Scandinavia and the Baltic. In the second week of December, the following were recorded: 2 Pochards, 16 Goosanders, Lapwings, Turnstones,

Common Gulls, Fieldfares, Redwings, Ring Ouzels, Black-birds, Chiffchaff and Goldcrest.

SEA EAGLES

Without doubt, the outstanding ornithological event of the year at Fair Isle was the arrival on the island of four young Sea Eagles from Norway. These birds made headline news at the end of June and I expect all 'Friends of Fair Isle' have heard about our experiment and many have read the account in the RSPB magazine of the events leading up to this re-introduction. The whole project was financed by the Royal Society for the Protection of Birds and organised by their Assistant Director (Scotland), George Waterston, who has long had the ambition to see these magnificent birds once more established in Scotland.

Fair Isle was chosen for the project because of its remoteness, the abundance of prey species on the island and the fact that the experiment could be conducted by the resident Observatory staff. With an experiment of this nature, where an attempt is being made to re-establish a large predatory bird, it is essential that the conservationists in charge of the experiment should have a good working relationship with the crofting-islanders and the land-owners. It was a great boost to us when both the Fair Islanders and the National Trust for Scotland gave us their blessing to proceed with the experiment.

Once all the paper arrangements were completed, the actual field work started and the collection of the eagles fell on the able shoulders of Dr Johan Willgoos, who is the authority on the species and has written a thesis on his studies of the bird in Norway. Sea Eagles, along with other large raptors, have been habitually destroyed in Norway, much to the concern of the conservationists, and Willgoos advocated that these birds should be protected. (Recently the law in Norway has been changed and they are now protected; it is nice to think that the experimental reintroduction at Fair Isle helped to influence this decision).

The Norwegian Government gave permission for the birds to be collected and exported to Scotland, so Johan Willgoos, and his wife Einy, visited eyries in northern Norway in the spring and returned in mid-June to procure 4 young eagles, 2 males and 2 females. On 24th June, they flew to Orkney with 3 eaglets and arrived a little later on Fair Isle in the Loganair 'Islander' plane. The fourth eaglet had been delayed by the late arrival of a coastal ferry boat in Norway and was sent

on later, finally reaching Fair Isle on the Good Shepherd on 9th July.

Earlier in the year, Tony and I had built four large wire-mesh cages, each being 12 ft square and 6 ft high. Two of them were placed side by side on Roskilie while the others were just north of Erne's Brae on Ward Hill. Erne was the old name for the Sea or White-tailed Eagle and this Fair Isle place name is a memento of the days when eagles used to nest on the island. They last bred on Fair Isle in 1840. As soon as the birds were unloaded from the plane, we took a pair to Erne's Brae; each bird had travelled in a large cardboard box so we uncrate them and put them in their 'temporary eyries'. These two birds had been named Ingrid and Jesper by the Willgohs and the third eaglet which was taken to Roskilie was called Torvaldine.

Each cage contained a small roosting shed, a shelter, a log of wood and a centre perch. That first evening we fed all the birds by hand with fish and pieces of rabbit and it was soon evident that each bird had a different nature. Torvaldine was a noisy and bold female, fed readily from our hand and was able to tear up large pieces of food; Ingrid was quieter and would pick up and eat pieces of fish placed in front of her while Jesper (the male) adopted a cowering posture and refused to have anything to do with us. We forced food into his bill but we soon found that if we left food in his cage, it had all been devoured before we returned next day.

During this settling-in period when the birds were viewing their new surroundings from inside the cages, we decided that they must have two basic requirements: plenty of food and as little human disturbance as possible. Of course, we could have gone to them often and fed them by hand but we did not want them to become tame but rather to stay wild and shy so that when they were released they would be truly wild birds. As soon as they were able to tear up fish and dead rabbits, we started to cut down on our visits. We gave each eaglet about $1\frac{1}{2}$ to 2 lbs of meat or fish per day but we found that usually they didn't eat it all. In the first few weeks they spent a lot of their time lying down in the shelters or lying in the sun. They roosted in their boxes at night and were in them well before dusk; in fact we often put 2 or 3 days' quota of food in each cage at dusk so that the birds wouldn't see us and get used to our presence.

By 7th July, the first eaglet was seen perching freely on its log; on 13th July Jesper was doing wing-flapping exercises and he made his first flight across the cage on 20th. By the last week of July the three older birds were flying well although Johan (2nd male) who arrived later was younger and less

advanced. They became more shy when they started to fly and Torvaldine stopped calling at us when we approached. At this time, we became worried about them flying across the cages and crashing against the wire-netting in case they damaged their feathers. Fortunately, this particularly restless period only lasted about a fortnight and then they settled down and spent most of their time preening and watching as they perched in the centre of their cages. Johan soon caught up with the others.

Once all 4 eaglets had been successfully reared to the flying stage, plans were made for releasing them. It was decided that one should be released and allowed to settle down on the isle before another should be set free. We also decided to wait until the skuas had left for the winter because they would relentlessly mob a young eagle flying across the hill and might drive it from the island before it had time to find its way about. Before releasing them we gave each eagle a distinctive colour ring so that we could recognise it when it was freed. It was a tough job to catch and hold these large birds for ringing; both Tony and I were needed to control each bird. We also weighed and measured them. While handling them we were struck by the fact that their legs, feet and bills were distinctly warm. I have handled many species for ringing but I cannot remember one with such warm legs and feet. The following table gives the weights, measurements and colour rings of the four young Sea Eagles:

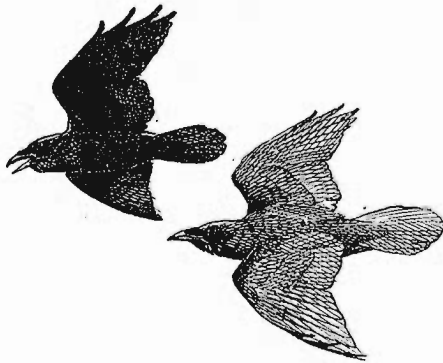
Details of the Fair Isle Sea Eagles

Eagle	1	2	3	4
Name & Sex	Ingrid ♀	Jesper ♂	Torvaldine ♀	Johan ♂
Date examined	14 Sep	14 Sep	30 Aug	30 Aug
Colour ring	red right	orange right	green left	blue left
combination	BTO left	BTO left	BTO right	BTO right
Wing (mm)	690	655	725	620
" on arrival	440	445	410	—
Bill from cere (mm)	57	50	59	47
Bill depth	38	31.5	39	33
Tarsus	112	108	111	108
Tail	380	350	380	340
" on arrival	190	220	—	—
Weight (Kgm)	5.8	4.4	5.5	4.4
Arrival weight	5.2	4.2	5.5	—

The table shows a definite difference between the weights and measurements of the sexes; the length and depth of the bill is a good example. It will be seen that the birds had near enough reached their maximum weight on arrival (7 to 8 weeks old) and the latter part of the growth period was mainly concerned with moulting and the growth of the feathers. The

eaglets showed remarkably few starvation marks on their feathers except for a few small ones corresponding with the time when they were first collected from the eyries. Ingrid (eagle 1) lost a tail feather on 16th July which was badly marked but by 14th September when we examined her in the hand, the replacement feather was nearly full-grown and equal in length to the older retrices.

16th September was a fine clear day with no rain so just after dawn we released Ingrid from the Erne's Brae cage. On the previous evening we had fixed a release mechanism on the side of the cage with a pull-cord running across the Mire of Vatnagard to a hide, so that we could pull away one side of the cage and allow her to come out of her cage on her own accord without being frightened. After pulling away the side of the cage not long after dawn on 16th September, the eagle looked at the opening for five minutes before walking out. Instead of flying off she walked slowly up the hill, stopping for short rests to survey the scene. 25 minutes later, she reached the top of the rise, about 100 yards from her cage, when a Raven arrived and landed beside her. The Raven flew off almost immediately and the eagle followed; the two of them soared about over the hill for several minutes before the eagle landed rather clumsily in the same place. Ten minutes later she was off again and soared over Skinner's Glig only to be mobbed by a Peregrine and chased towards North Felsigeo. She spent the next two days sitting around on the Toor o'da Ward Hill before starting to move around the island.



Ravens and Hooded Crows persistently mobbed her in flight and on the ground during the first few weeks while Fulmars just glided beside her as she flew along the cliffs. Rabbits showed no fear as she soared over them and we saw rabbits running and feeding within a few feet of the eagle as she perched on the cliff top. We did not see her try to catch

any animals or birds although on 21st September she was seen eating a freshly killed Oystercatcher but it was not known how this bird died. She did not come back to the cage for food but soon started to search the beaches for carrion and was seen eating Great Black-backed Gulls that had been shot by the islanders. By 22nd October we saw her striking with her talons at Ravens which had mobbed her in flight and she was looking very much at home on the wing.

On 2nd October, the solitary eagle on Ward Hill was released and next day, Jesper had joined up with Ingrid. On 4th, the male at Roskilie was released and next day, all 3 eagles started to return to Roskilie to feed, in or beside the empty cage, on carrion left for them. Johan was missing for a week, probably hiding in the west cliffs, but he returned to feed at the cage on 18th beside the last captive bird. This last eagle, Torvaldine, was released on 20th October and immediately they all stopped coming back for food and we had to move the food-dump to Wirvie. All the eagles came for food at this site until the end of the month when very strong NE gales moved them across to the sheltered west cliffs.

The weather was particularly wet and windy in the third week of October and after this date we only saw 3 eagles at any one time; Johan disappeared at this time. We did not see any of the eagles kill their own prey but on 29th, Torvaldine was very close to an injured Greylag Goose and it seemed likely she was trying to attack it. This goose was destroyed because it had been badly shot and the carcass was left for the eagles; later in the day, we found that the whole goose had been carried away by an eagle. From this date we observed that the eagles preferred to carry away their food and eat it in the cliffs rather than at the food-dump.

Throughout November and December, the three eagles spent most of their time in the west cliffs, especially from Lerness north, and food-dumps were established at Erne's Brae and Toor o'da Ward Hill. They were supplied with dead rabbits and gulls during the winter months by Tony Mainwood and he saw them most days in December. It appeared that they were finding some of their own food on the beaches, for instance one eagle pellet collected on the west cliffs contained fish bones. From mid-December the eagles started to call as they soared and played together in the air; the call was long and shrill, rather like a young Razorbill. They gave tremendous flying displays, especially on the cliff-edge and even in the strongest winds. It is most encouraging that the experiment has gone so well to date and we look forward to new developments in 1969, when these huge magnificent birds should give enjoyment to many visitors to the island.

SYSTEMATIC LIST FOR 1968

GREAT NORTHERN DIVER *Gavia immer*. Singles on 9th June and 14th November.

RED-THROATED DIVER *Gavia stellata*. Singles on 21 days between 25th May and 16th August, but 2 on 9th and 12th June.

SLAVONIAN GREBE *Podiceps auritus*. One from 10th to 25th October; mainly seen in North Haven.

LITTLE GREBE *Podiceps ruficollis*. One in Hesti Geo on 10th April: 5th record in Observatory period.

LEACH'S PETREL *Oceanodroma leucorhoa*. Singles mist-netted on the nights of 13th July and 4th August at Gunnawark and Malcolm's Head; singles also seen at night on 14th July and 5th August at the Toor o'da Ward Hill and Gunna-wark. These two are the first ever ringed at Fair Isle; the only previous onshore record was at night on 17th July 1964 at Malcolm's Head. The presence of these birds on the cliffs of Fair Isle is not evidence of breeding; instead they might be "visitors" from as far as North Rona or Faeroes, (compare Faeroese ringed Storm Petrel controlled on Fair Isle). One was seen on the crossing on 3rd June.

STORM PETREL *Hydrobates pelagicus*. Seen ashore at night from 1st June to 23rd September: larger numbers than ever caught on the cliffs and more than usual seen from the Good Shepherd on the twice-weekly crossings to Grutness. The monthly totals were:

	June	July	Aug	Sep	Oct
Numbers ringed	14	267	327	7	
Seen on crossing	54	72	70+	17	10

Only two birds were heard calling from burrows and these were close together at Wester Lother; one bird could be seen incubating an egg. The occupants of both these nests were killed by feral cats during the summer. Despite control, feral cats are widespread on the cliffs where they prey on sea-birds and rabbits; they are efficient at catching petrels, probably in the air as well as on the ground, and we counted 18 pairs of wings in one lair. A bird ringed in Faeroes on 27th July was controlled at Malcolm's Head on 31st July. Finally, a juvenile was attracted to the South Light on the night of 23rd September.

MANX SHEATWATER *Procellaria puffinus*. Two seen flying past on 31st August. Two seen on the crossing on 21st June and singles on 5th July and 9th August.

SOOTY SHEARWATER *Procellaria grisea*. A total of 17 seen flying past the island between 4th August and 15th October, maxi-

mum 7 on 31st August. A total of at least 75 seen on crossings between 20th August and 5th November; maxima being 20+ on 23rd August, 10 on 13th and 25 on 29th September and 8 on 1st October.

FULMAR *Fulmarus glacialis*. There were birds ashore on 71% of the days in January, 62% in February, 87% in March and 93% in April. The breeding population ashore in full strength from 10th April and pre-egg-laying dispersal from 5th to 15th May. First egg seen on 18th May and most with eggs by 21st. Population probably still increasing slightly; none nesting inland but one egg was laid on low cliffs in Kirki-geo for the first time. A blue phase nested in Skinner's Glig. The islanders said the summer was the hottest, driest and most sunny for 30 to 40 years and we noticed that nestling Fulmars, especially those on sheltered south facing cliffs, were suffering from the heat. Many were panting and stretched out on their nest-ledges and from 4th August we found some dead or dying; we thought their death was due to the unusual heat. On 9th August, I found six dead chicks below the south facing cliff of Hesswalls and one out of twelve chicks on the Hesswalls stack was dead in its nest. We saw at least 20 dead chicks in the first three weeks of the month, either on the nest-ledge or below the cliffs; it is likely that others were eaten by gulls and crows as soon as they died or fell off the cliffs. I have not observed this before but our summers are usually cooler with more cloud cover. Blue phase birds offshore from 24th September, when 4 off South Light. Ashore most days to end of year although scarcer in December.

GANNET *Sula bassana*. Monthly maxima offshore were:

Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2	8	8	8	6	60	60	40	50	2

CORMORANT *Phalacrocorax carbo*. Small numbers (max. 4) on spring migration 11th March-9th June. Autumn passage south from 30th August to 8th October, mainly 15th to 22nd September when daily census totals were:

15th	16th	17th	18th	19th	20th	21st	22nd
25	120	35	8	57	14+	1	17

Stragglers to 4th November.

SHAG *Phalacrocorax aristotelis*. Nest building from 2nd March; first eggs seen 11th April and first chicks on 11th May; last young chicks seen on 11th August. Breeding numbers as usual.

HERON *Ardea cinerea*. One on 13th February and 1-2 on 21st-24th March. Small numbers from 22nd June but main passage from 2nd August to 5th November with peaks of 8 on

- 9th August, 10 on 5th, 27 on 13th, 12 on 14th and 13 on 26th September. A straggler on 19th November.
- MALLARD** *Anas platyrhynchos*. Scattered records (max. 6 in day) in first half of year; one drake summered. Autumn passage from 22nd August; peaks of 7 in August, 4 in September, 10 on 5th and 16 on 19th October and 18 on 5th November; fewer in December.
- TEAL** *Anas crecca*. Small spring passage 15th March-29th May; maxima 5 on four days in early May. A duck 21st June to 8th July. Autumn passage from 23rd August to 20th December with peaks of 7 on 10th and 9 on 16th September, and 11 on 5th October.
- WIGEON** *Anas penelope*. 17 sightings between 6th March and 28th May. 7 on 5th July. Autumn passage from 26th August to 24th October; peaks of 14 on 27th August, 5 on 5th September and 8 on 7th October. 5 between 10th and 17th December.
- PINTAIL** *Anas acuta*. A ♀ on 9th to 11th June; (one or two a year is about average).
- SHOVELER** *Spatula clypeata*. A pair on 18th August, (normal for a year).
- TUFTED DUCK** *Aythya fuligula*. A ♂ on 29th April, two pairs on 25th and one pair 26th May, a ♂ on 1st to 8th and 12th June and a ♀ on 3rd-4th September.
- POCHARD** *Aythya ferina*. A pair on 7th December, the ♀ to 10th. (Only one previous WINTER record).
- GOLDENEYE** *Bucephala clangula*. A pair on 5th May. Small numbers from 5th October to end of year; max. 4 on 3 days in October and 6 on 30th October.
- LONG-TAILED DUCK** *Clangula hyemalis*. A few from 23rd January to 30th April; max. 4 on 6 occasions. A duck from 6th May to 12th June, joined by a second ♀ on 11th and 13th May. Rather scarce in autumn between 17th and 31st October; peaks only 3 on 17th and 7 on 30th.
- VELVET SCOTER** *Melanitta fusca*. Two on 31st August.
- COMMON SCOTER** *Melanitta nigra*. A ♂ 19th-20th May, ♀ 12th-13th June, ♂ 20th June joined by 2 ducks on 24th; last seen on 5th July. A ♂ 11th-20th December.
- EIDER** *Somateria mollissima*. First pair on land on 16th April but most from 6th May; first nest found 27th May. The old faithful was incubating on North Gavel on 29th May; she was first ringed when incubating in the same area in 1958. First brood seen on the sea on 10th June. Very few chicks reared as usual but autumn flock maximum of 460 on 30th October.
- RED-BREASTED MERGANSER** *Mergus serrator*. Singles on 25th-

26th February, 2nd and 8th-14th March. Three on 15th April. One or two from 1st to 6th June; three on 2nd and one on 3rd and 4th July. Small numbers between 20th September and 4th November; max. 3 on 26th October.

GOOSANDER *Mergus merganser*. An unprecedented influx in December, when 13 on 10th and 13 on 11th (3 of them new birds); numbers decreased to 11 on 12th, 6+ on 13th, 4 on 14th and one on 15th and 16th. All but one were drakes and they were in poor condition as several were found dead. (Only 14 previous records for Fair Isle; all being single birds).

SHELDUCK *Tadorna tadorna*. One on 22nd February, two on 9th April and one 26th-29th May.

GREY-LAG GOOSE *Anser anser*. 6 on 1st, 1 on 4th and 11 on 8th January. Singles on 9th, 19th and 30th May, 4 on 2nd and one 7th-8th June. Strong autumn passage from 29th September with peak days of 12 on 29th and 23 on 30th September; 30+ on 1st, 30 on 7th, 110 on 23rd, 70 on 24th and 50 on 31st October; small numbers in last two months but 15+ on 28th November.

WHITE-FRONTED GOOSE *Anser albifrons*. 9 on 24th October; one adult Greenland bird shot 28th October.

PINK-FOOTED GOOSE *Anser brachyrhynchus*. One 8th April and one "resident" from 10th May to 2nd June. The best ever autumn with 75+ on 21st and 120+ on 29th September; 5-6 on 1st and 2nd October, 2 on 3rd and 4th and 7th, 22 on 24th and 14 on 30th October. (33 is the previous best day's total at Fair Isle).

BARNACLE GOOSE *Branta leucopsis*. 39 on 5th and 5 on 23rd October. (39 is the largest flock ever recorded at Fair Isle).

WHOOPEE SWAN *Cygnus cygnus*. One on 18th March, 2 on 10th, 5 on 11th and 15 on 15th April. Rather scarce in autumn; 4 on 30th September; 29 individuals in October, best days 7 on 14th and 8 on 31st; one on 2nd and 3rd and 7 on 4th November; one on 10th-11th December.

BUZZARD *Buteo buteo*. One in Vaassetter area on 2nd October.

SPARROWHAWK *Accipiter nisus*. Four in spring; one 16th and 2 on 17th April, one flew in from SE on 21st April and one 14th-15th May. Four in autumn; one 24th-25th October, a ♂ on 3rd found dead on 7th and a ♀ on 5th November, finally one on 28th November.

HONEY BUZZARD *Pernis apivorus*. One around the North End on 20th July.

HEN HARRIER *Circus cyaneus*. Single ♀ ♀ on 3rd May and 27th-28th November.



MARSH HARRIER *Circus aeruginosus*. A ♀ at Setter and on the hill on 13th and 14th May; another ♀ flew south over the island on 17th May. (2nd and 3rd records—the first was recorded at Setter in 1967).

HOBBY *Falco subbuteo*. Singles at Bull's Park on 4th June and Setter on 21st August.

GYR FALCON *Falco rusticolus*. One mobbing a Peregrine at Setter on 16th January, also seen on 17th and probably 18th. Considered to be a ♀ of the Scandinavian form (G. J. Barnes).

PEREGRINE *Falco peregrinus*. Two pairs resident and an immature seen in April. First of all, it appeared that both pairs had failed again but in late June it was discovered that the east coast pair were feeding young. The eyrie was in the south facing cliff of Klaver Geo and on 23rd June, the solitary 10-14 day-old chick was ringed. It flew successfully and we saw it regularly later in the summer with its parents. (First chick reared on the island since 1965).

MERLIN *Falco columbarius*. 17 sightings in first five months; one on 6th and 7th July. Autumn passage from 25th August to 19th November with peaks of 4 on 30th August, 4 on 4 days in September and 5 on 28th September; more in October when 7 on 1st, 10 on 2nd, 7 on 3rd and 8 on 24th; 5 on 2nd November; a wintering bird from 13th December.

KESTREL *Falco tinnunculus*. Singles on 14th January, 14th and 29th March. 1-2 seen on 23 days between 9th April and 20th June. One on 30th July. Singles in August from 9th and autumn migrants to 28th November; max. 5 on 13th September and 2nd October. One 5th-31st December.

QUAIL *Coturnix coturnix*. Scarce. One on 4th July, one singing on 9th and two seen on 11th July.

WATER RAIL *Rallus aquaticus*. Singles on 7 days in January and 4 days in April. Singles on 18th days between 30th

September and 13th December but 2 on 7th, 20th and 25th October and 14th November.

SPOTTED CRAKE *Porzana porzana*. An immature was trapped by Stewart Thomson in his cow-byre at Shirva on 29th October; it was ringed and released at the Observatory. (2nd record for Fair Isle although another was caught in Shetland and released on the island in 1952).

CORNCRAKE *Crex crex*. Scarce and none bred. (One pair in 1966 is only breeding record in last five years). Singles seen on 17th, a new one 18th and 19th April, 1st, 14th and 15th May, 5th, 6th and 23rd August, 1st, 16th and 29th September.

MOORHEN *Gallinula chloropus*. Two on 19th and one 22nd-25th April; one 1st-5th and 15th June. Autumn singles on 3rd, 13th and 19th October and 8th November.

OYSTERCATCHER *Haematopus ostralegus*. First seen on 1st February, main arrivals from 26th and further increases in early March. Breeding population as normal; first eggs (c/2) at Furse on 26th April; most eggs in early May; first flying young on 29th June. Departure from late July; numbers decreased from 20 in September to 3 in October but 6 on 24th and 4 on 25th October; a rather bedraggled individual wintered, joined by a second on 11th and 12th December.

LAPWING *Vanellus vanellus*. Four on 23rd January; spring passage and arrivals of summer birds from 13th February; small numbers up to 20 in March but 36 on 13th; similar numbers in April but 55 on 11th and 38 on 20th; thereafter 12. About 4 pairs nested; first eggs found on 17th April; poor fledging success and all breeders gone by 11th July. Autumn passage from 21st July; peaks of 30 on 18th and 42 on 23rd August, 25 on 5th October, 60 on 24th-25th and 35 on 26th October, up to 4 in November. A small influx in December (hard weather movement) when 7 on 12th, 16 on 13th and 17 on 16th.

RINGED PLOVER *Charadrius hiaticula*. Two on 17th January; breeders returned from 25th February. About three pairs nested, Bunness and South Green; first eggs 21st April. Autumn passage from 8th July (14); further peaks of 35 on 24th and 40 on 29th August, 30 on 1st decreasing to 11 on 11th September; two from 23rd to 7th October and one stayed to end of year, briefly joined by other singles on 28th October, 14th November and 9th-11th December. (Wintering is unusual).

GREY PLOVER *Charadrius squatarola*. Singles on 20th June, 5th August and 26th September. (About 3 is average for a year, but the June bird is only 4th spring record for Fair Isle and 5th August is earliest autumn record).

GOLDEN PLOVER *Charadrius apricarius*. Small passage from 25th March to 27th May; max. 9 on 30th April and 13 on 7th May. Singles on 5 days 30th June-27th July. Autumn passage from 30th July to 30th October; peaks of 15 on 5th and 40 on 24th August, 27 on 14th September and 30 on 2nd-7th October. Two on 13th and one on 15th December.

TURNSTONE *Arenaria interpres*. Usual small numbers wintered; spring peaks of 25 on 18th March, 40 on 4th and 20 on 17th April; latest sighting 3 on 3rd June. Return passage from 27th June; peaks of 20 on 12th and 26 on 31st July, 45 on 26th August, 27 on 26th September, 40 on 13th October and 24 on 13th December.

SNIFE *Capella gallinago*. Small numbers wintered; song-flights from 8th March; 2-4 pairs nested and young chicks found on 4th June Gilsetter and 8th July Hornisdale. Autumn passage noted from mid-August; peaks of 20 on 8th and 25 on 14th September, up to 15 in October but 40 on 24th; thereafter small numbers.

JACK SNIFE *Lymnocyptes minimus*. None in spring. Autumn migrants from 3rd September to 14th November; mainly October when 4 on 5th and 2 on 4 other days. One on 16th December.

WOODCOCK *Scolopax rusticola*. Small numbers (1-2) on 4th-18th January, 19th-22nd February and on 11 days 29th March-7th May. Singles 4th June and 5th July. Autumn passage from 1st October to 17th November, mainly 18th-26th October; peaks of 150+ on 24th, 100+ on 25th and 75 on 26th; scattered records to end of year.

CURLEW *Numenius arquata*. Small numbers in first half of year; peaks 12 on 29th March and 20 on 20th April. **ONE PAIR NESTED** and hatched 4 chicks; eggs found 30th May west end of airstrip (1st ever breeding record for Fair Isle). Autumn passage from 27th June; peaks of 20 on 3rd, 40 on 4th and 5th and 56 on 6th July, up to 10 rest of month, 24 on 15th August, 12 on 6th September, 6 on 5th and 10th October; stragglers to end of year but more (max. 6) between 11th and 27th December.

WHIMBREL *Numenius phaeopus*. Spring passage from 20th April to 23rd June; max. 7 on 12th May and 5 on 3 days in May and 3 days in June. Scarce in autumn 8th July-9th September; 1-3 seen on 26 days and 4 on 20th August.

GREEN SANDPIPER *Tringa ochropus*. Singles on 15th April, 10th, 11th and 13th May (song), 2 on 27th, one 29th and 2 on 30th May; one 1st-4th June. Autumn singles on 20th, 21st and 23rd August.

WOOD SANDPIPER *Tringa glareola*. One 25th April; one to two 25th-28th May and one 8th June.

COMMON SANDPIPER *Tringa hypoleucos*. Spring passage from 24th April to 24th June, mainly 10th-29th May; max. 4 on 10th, 11th and 13th. Scarce in autumn 30th July-29th September; max. 3 on 2nd and 5 on 3rd September.

REDSHANK *Tringa totanus*. Wintering numbers up to 8 in January and 11 in February. Spring peaks of 16 in March, 22 on 11th April and 4 in May. Few in June but 5 on 24th were probably returning migrants; autumn passage from 1st July with peaks of 30 on 12th and 25 on 31st July, 30 on 18th and 40 on 24th August, 60 on 7th September, 25 in October, 15 in November and 6 in December, except 20 on 13th.

GREENSHANK *Tringa nebularia*. Singles on 17th and 21st April, 16th, 25th and 26th May. Scattered records from 21st July to 21st September; mainly end-August when 3 on 26th and 3 on 5th September. A late bird on 2nd October.

KNOT *Calidris canutus*. One on 29th and two on 31st May. Autumn passage from 23rd July to 18th September; peaks of 5 on 7th, 12 on 8th and 5 on 24th August.

PURPLE SANDPIPER *Calidris maritima*. Small numbers wintered; a few more in spring up to 27th May; max. 10 on 21st April. One on 10th June. First autumn arrivals on 6th July (2), increasing to 15 on 28th and 22 on 31st July (these birds rapidly begin a moult, especially of wing-feathers). Monthly peaks of 30 on 24th August, 42 on 6th and 31 on 19th September; scarce in October max. 5, November max. 11 and December max. 12.

LITTLE STINT *Calidris minuta*. Singles on 26th August and 17th September.

DUNLIN *Calidris alpina*. Singles on 8th February and 29th-30th March; spring passage 24th April-26th June, mainly late May and early June, when max. of 5 on 20th May and 11 on 3rd June. Autumn passage from 3rd July to 24th October, mainly August-September; max. 8 on 2nd August and 6 on 11th September. A late one 8th-19th December.

SANDERLING *Crocethia alba*. One 27th May-3rd June and a second on 31st May. Two on 15th-21st July. Autumn passage between 1st August and 14th September; peaks of 7 on 25th August and 5 on 3rd September.

RUFF *Philomachus pugnax*. One on 26th July and two on 23rd August; 15 on 2nd and 3rd September, 10 on 4th, 17 on 5th, 16 on 6th, 7 on 7th and so to 4 on 10th; 2 on 13th, one on 14th, 5 on 21st and one on 23 September.

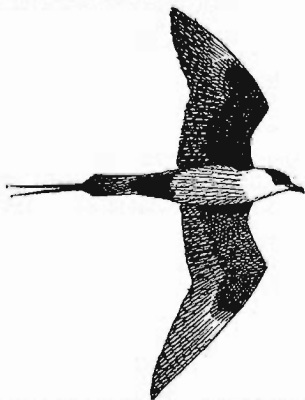
RED-NECKED PHALAROPE *Phalaropus lobatus*. A pair arrived at Golden Water on 14th June (foggy day); they were in summer plumage and displayed at times; they also fed on Easter Lother Water and twice during displays they flew off

to marshy ground at Wester Lother; they were still present next morning but left during the day (7th and 8th Fair Isle records and first pair ever recorded).

GREAT SKUA *Catharacta skua*. First seen 5th April, mainly from 12th and further increases on 17th and 19th. About ten pairs nested; first egg seen 1st June. Decrease from 12th August, down to 10 by 25th September; small numbers in October, except 12 on 24th, and last one on 25th.

ARCTIC SKUA *Stercorarius parasiticus*. First seen on 17th April, increases on 22nd and 30th-31st. Large numbers breeding as usual; first eggs seen 2nd May and first chick on 12th June. Decreases in August; last seen on 15th September but a straggler flew over on 30th September.

POMARINE SKUA *Stercorarius pomarinus*. One on crossing 17th May, one flew over Setter on 13th June and one flew north over Bunes on 4th September.



LONG-TAILED SKUA *Stercorarius longicaudus*. A sub-adult in the colony of Arctics from 27th June to 2nd July; it was mainly with the very pale bird of a pair of Arctic Skuas nesting at Homisdale plantigrubs. Another (or the same one) seen on the airstrip on 20th July.

GREAT BLACK-BACKED GULL *Larus marinus*. Roosting flock maxima of 1000+ on 17th January, 600 on 16th-17th March, 1000 on 31st June, 2000 on 31st October-2nd November and 2000+ on 14th and 15th November. These flocks, which rest ashore in bad weather, are from the offshore fishing fleets. Usual numbers bred.

LESSER BLACK-BACKED GULL *Larus fuscus*. First (3) on 23rd March, main arrival from 12th April. About 20 pairs nested; first eggs seen on 18th May; last birds seen 15th September.

HERRING GULL *Larus argentatus*. Roosting flock maxima of 1500+ on 17th January, 300+ on 4th February, 600 on 16th-

17th March, 1000 on 31st October-2nd November, and 2000+ on 14th-15th November. Breeding population as usual. A bird ringed as an adult in 1952 again bred in Mavers Geo.

COMMON GULL *Larus canus*. A few in January-March; spring passage peaks of 27 on 14th and 30 on 21st April, 25 on 10th and 28th May. Monthly max. of 20 in June and 23 in July. Rather fewer than usual on autumn passage; peaks of 60 on 17th August, 100 on 2nd, 400 on 8th and 180 on 11th September, 600+ on 5th, 150 on 10th and 300 on 30th October. Very small numbers (up to 10) in November and up to 4 between 10th and 16th December.

GLAUCOUS GULL *Larus hyperboreus*. 1-2 seen on 36 days between 7th January and 21st May but 7 on 20th February, 5 on 3rd and 3 on 13th March. Two on 19th June; one on 15th, 21st, 23rd and 28th July. Scarce in autumn; one on 9th-11th September, 4 sightings in October, 2 in November and 3 in December.

ICELAND GULL *Larus glaucoides*. A second-year bird on 20th April and an adult on 12th November.

BLACK-HEADED GULL *Larus ridibundus*. Very few January-March; spring passage from 8th April to 25th June; peaks of 15 on 21st and 20 on 26th April. Autumn passage from 3rd July to 20th October; first juveniles from 15th July; peaks of 20 on 20th July, 13 on 5th August and 12 on 2nd September. A few in November and December.

KITTIWAKE *Rissa tridactyla*. First ashore on 25th February, regularly from 18th March and full numbers from 10th April. First eggs on 11th May; good fledging success; 268 chicks ringed. Numbers ashore very low by mid-August and all gone by end of month. Numbers offshore quite high until 30th October, max. 500 on 11th October. A big passage to the east on 14th November.

COMMON/ARCTIC TERNS *Sterna hirundo* and *macrura*. Spring passage from 16th May; small numbers all summer but none bred; last seen on 6th October (2 Arctics). Arctics were identified on 64 occasions and Common Terns on 7 occasions.

RAZORBILL *Alca torda*. First ashore on 11th February, mainly from 20th February and continuously from 5th April. Numbers as usual; eggs by 9th May. Emigration from 11th July, mainly 17th-24th and last ashore on 31st July. One or two offshore in September.

LITTLE AUK *Plautus alle*. Seen on crossing in January and two ashore oiled in February. One on crossing on 25th September; regular from 5th November and 1000+ on 4th December.

GUILLEMOT *Uria aalge*. Ashore on fine days from 15th January, sporadically until 20th February and continuously from 5th

April. Population still increasing; first eggs in first week of May. Emigration from mid-July; very few left by third week and last seen ashore continuously on 25th; stragglers until 2nd September. Small numbers offshore in autumn; some birds returned to nest-ledges on 23rd October, 18th and 28th November, 1st and 31st December.

BLACK GUILLEMOT *Cephus grylle*. Numbers as usual; in summer plumage from 2nd February; average breeding success; 56 chicks ringed. Some rather weak individuals seen in autumn and numbers rather low.

PUFFIN *Fratercula arctica*. First one seen ashore on 28th March; small numbers on 29th but not ashore in big numbers until 10th April. First eggs on 2nd May; departures from 9th August; few left by 17th and last ashore on 27th. A few offshore until 7th September and one seen 18th/19th October.

STOCK DOVE *Columba oenas*. One 23rd September to 4th October; a small influx 11th-23rd October when max. of 4 on 17th and 3 on 13th, 18th and 23rd. (Unusually high numbers for Fair Isle).

ROCK DOVE *Columba livia*. Wintering flock up to 21; similar numbers in spring and summer. We found several nests in a large sea cave behind Malcolm's Head on 12th July, one nest contained 2 small chicks; the same day we found two more nests in a cave in the South Geo of Hoini, one nest contained c/2. Autumn flock max. of 29 on 15th September, 38 on 24th October, 42 on 7th and 50 on 14th November.

WOOD PIGEON *Columba palumbus*. Spring passage between 15th March and 1st April (max. 4 on 23rd) and 17th April and 16th June; peaks of 7 on 29th April, 2nd and 4th May; smaller numbers rest of month but 7 on 6th and 16th June and 8 on 8th June. One resident until 18th July; another 3rd and 4th July. One 27th September and autumn passage from 6th-30th October, max. 8 on 15th; one on 11th December.

TURTLE DOVE *Streptopelia turtur*. One 27th and 30th April; spring passage 10th May-7th June; max. 4 on 26th May, 1st and 2nd June. One resident from 19th June to 8th July and another 7th July. Singles on 11 days between 24th August and 14th September; 2 on 31st August and 2nd September, and 3 on 3rd September. Singles from 2nd to 23rd October and 2 on 25th.

COLLARED DOVE *Streptopelia decaocto*. 3 arrived on 25th April; 2 on 26th-28th and one 29th April; 2 on 13th May and thereafter a nearly continuous run of sightings; peaks of 4 on 24th, 17 on 5th and 6th, 10 on 7th and 6 on 14th June; up to

4 until 6th July then 3 until 9th November; they did not nest. Additional singles on 13th August, 8th, 9th and 20th October.

CUCKOO *Cuculus canorus*. Spring passage between 23rd May and 14th June; max. 3 on 28th and 4 on 4th. Autumn singles on 4th and 20th August.

LONG-EARED OWL *Asio otus*. Singles on 22nd March, 24th and 29th April, 10th, 13th and 24th May, 6th and 23rd June. Autumn birds on 9th and 14th October, 10th, 11th, 13th, 15th, 18th (3), 19th-21st (2) November, 7th, 12th and 27th December.

SHORT-EARED OWL *Asio flammeus*. Singles 8th and 11th January, and 13th April. 1-2 on 6 days between 13th May and 1st June. Autumn birds on 13th, 15th, 24th (4) and 25th October.

NIGHTJAR *Caprimulgus europaeus*. One at Restensgeo on 26th May; a ♂ caught in emaciated condition on 30th May and another ♂ in a similar state on 31st; both were fed on minced meat until 2nd June when they were sent to Lerwick and successfully released by Dennis Coutts in Seafeld wood.

SWIFT *Apus apus*. Singles on 29th April (earliest date) and 10th May; spring passage between 26th May and 21st June, max. 12 on 9th and 15 on 16th June. Summer movements on 1st-12th July, best days 33 on 1st, 50 on 5th, 30 on 9th and 70 on 10th; then one on 15th, 8 on 22nd and 30 on 31st July. Autumn passage from 23rd August to 7th September; max. 20 on 26th and 27th August.

HOOPOE *Upupa epops*. One at Setter and Hjon on 17th, was seen on Ward Hill later that day and at the North Light on 18th and 19th. Another at Easter Lother and Mopal on 29th April. (The first records for many years).

WRYNECK *Jynx torquilla*. Two on 25th May and singles on 10th, 11th, 13th-23rd, 26th and 27th May and 5th June. Autumn migrants between 17th August and 21st September; mainly 2nd-10th September, max. 3 on 2nd and 4 on 9th.

GREAT SPOTTED WOODPECKER *Dendrocopus major*. A strong invasion of northern birds (*D. m. major*); 10 on 7th, 9 on 8th, 1 on 9th, 5 on 10th, 4 on 11th, 3 on 12th, 11 on 13th and 8 on 14th September; 3 daily for rest of month but 4 on 18th and 4+ on 28th and one 29th-30th; two on 1st, one to 4th, 4+ on 5th, 2 to 9th and one to 13th October, the latter found dead. The great majority were juveniles. (Last invasion of this size was in 1962).



SHORT-TOED LARK *Calandrella cinerea*. One at Setter and Shirva from 20th May to 1st June; it was feeding on freshly sown seed-oats and during the latter part of its stay it was affected by the toxic dressings and was seen stumbling and flying erratically. Another southern bird on 5th-8th September and four individuals of the grey eastern race in October; two on 9th and singles 12th-15th and 20th. (The first eastern birds since 1960).

WOODLARK *Lullula arborea*. One "resident" at Setter (trapped and ringed) from 11th November to end of year (actually to 5th March 1969); another flew over on 22nd November.

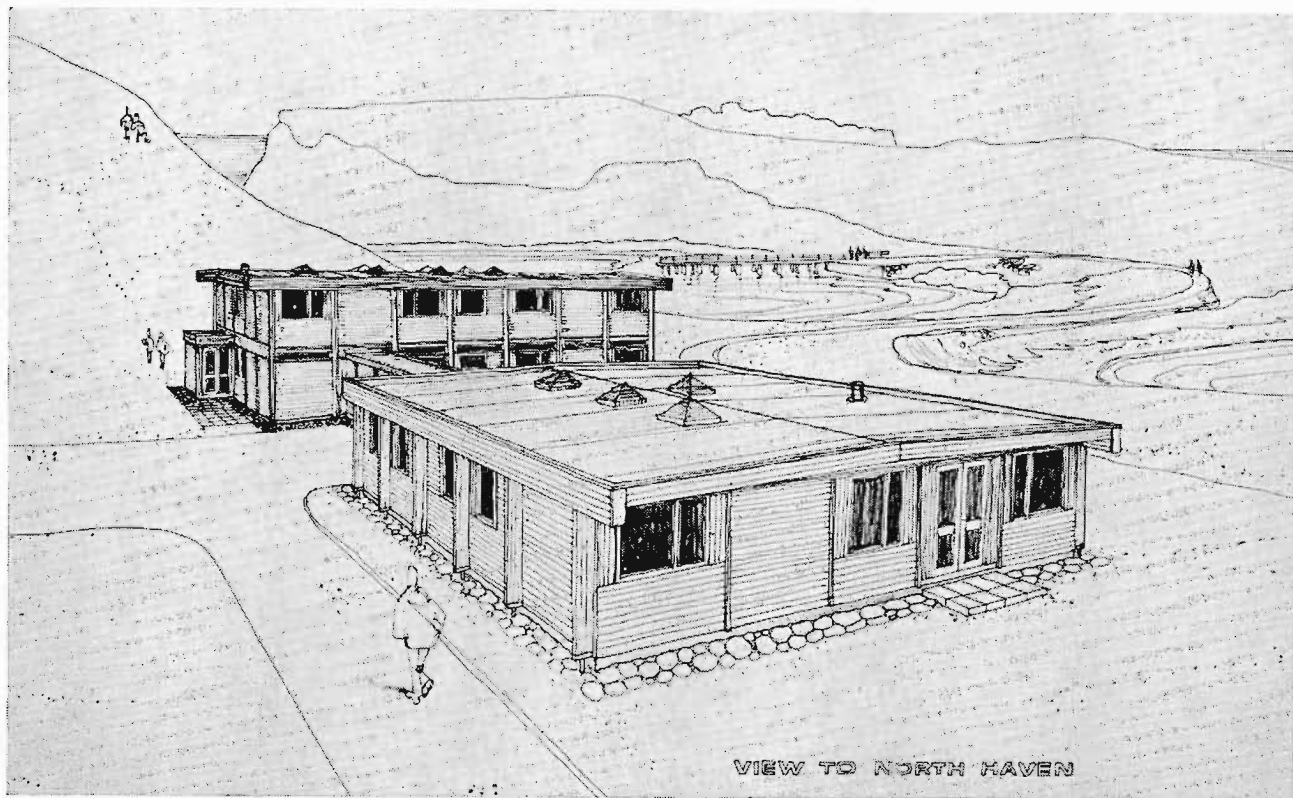
SKYLARK *Alauda arvensis*. Few winter records; main return from 21st February, increasing rapidly end of month and early March; a lot of passage in March with 300 on 13th and 500 on 14th. Unusual numbers breeding; first eggs on 23rd May (c/4). Movements from September; numbers low in November and December, except 100 on 17th November.

SHORELARK *Eremophila alpestris*. Singles on 11th and 22nd October.

SWALLOW *Hirundo rustica*. Spring passage from 21st April (6) to 20th July; over 20 daily between 22nd May and 4th June with 60 on 24th and 50 on 25th-26th. Seen on 16 days between 4th August and 14th October, max. 8 on 25th August.

HOUSE MARTIN *Delichon urbica*. One 25th April; small numbers (up to 4) 3rd-13th May; passage from 22nd May to 28th June, main movements 24th May-20th June with peaks of 60 on 27th-30th May, 1st and 3rd June; stragglers to 16th July. Only autumn records: 3 on 12th and 4 on 15th September, and one on 12th October.

SAND MARTIN *Riparia riparia*. Spring passage between 19th April and 7th June; peaks of 13 on 21st and 10 on 26th April, 6 on 3rd, 27th and 28th May. (13 is the highest day's total)



Architect's impression of new Bird Observatory building—D. A. Hamilton, DA, ARIBA.



Maver's Cup—the site for the new Bird Observatory.

(Photo by Roy Dennis)

Marina Dennis cuts the first sod for the new building.

(Photo by Dennis Coutts)

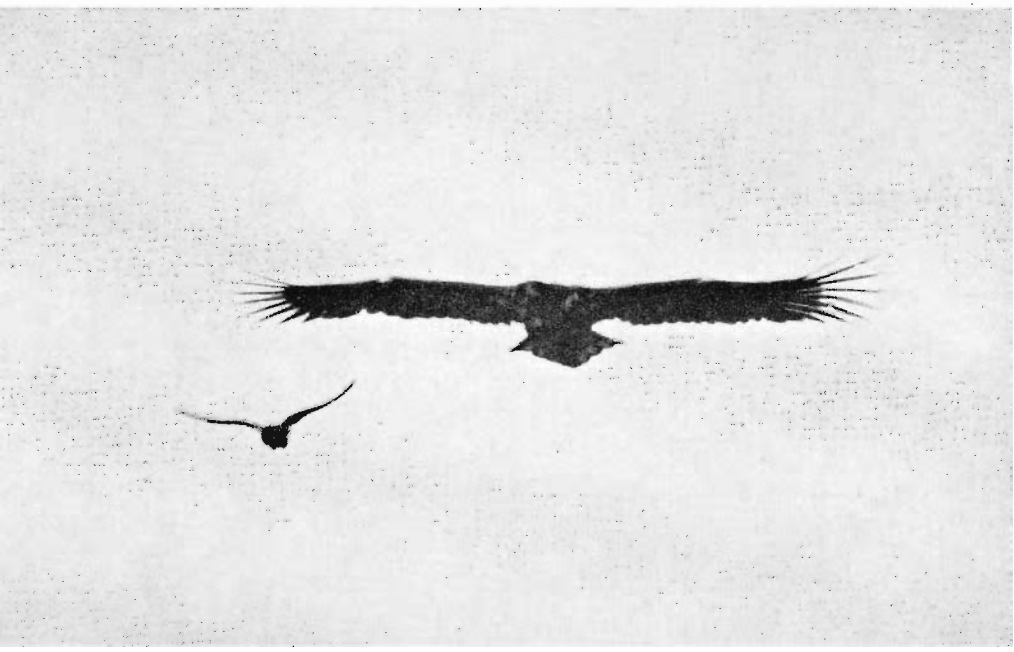


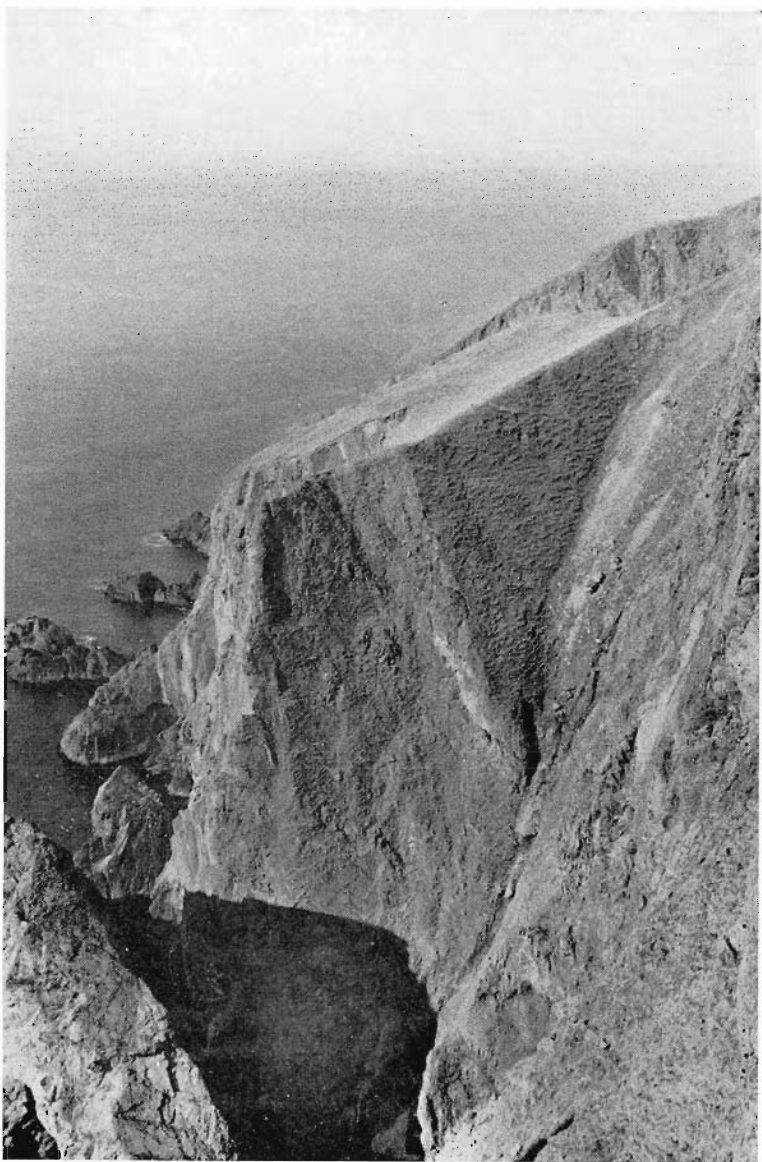


Progress with laying of foundation of new building, 2nd June, 1969. (Photo by Roy Dennis)

One of the Sea Eagles with a Hooded Crow.

(Photo by Roy Dennis)





Toor o' Ward Hill looking north—haunt of the Sea Eagles.

(Photo by Roy Dennis)

- for Fair Isle). Autumn singles on 13th and 22nd September.
- GOLDEN ORIOLE** *Oriolus oriolus*. A ♀ trapped in the Gully on 14th May; details were: wing 153 mm; bill from feather 26 mm; tarsus 25 mm; tail 87 mm; weight 58 gms. (First ringed at Fair Isle). Another ♀ near Golden Water from 14th to 17th June.
- RAVEN** *Corvus corax*. Usual resident numbers but evidence of migration on 3rd April when 15 in one flock, on 9th April when 29 flew over north and on 3rd May when a large noisy flock of 45 flew in from the direction of Orkney and passed over high towards Shetland.
- CARRION/HOODED CROW** *Corvus corone*. Resident population as usual; one hybrid present all year but did not breed. Small passage of Carrions between 5th May (5) and 5th June; one 29th-30th June and autumn singles on 19th September and 8th-10th December.
- ROOK** *Corvus frugilegus*. Three on 6th, 6 on 7th-10th February; one 28th February-22nd March when another arrived; 3 on 17th, one to 19th, 5 on 24th and one to 26th April. In autumn, one 12th November-13th December.
- JACKDAW** *Corvus monedula*. 6 on 20th, 9 on 21st-25th and 8 on 26th-27th October.
- WREN** *Troglodytes troglodytes*. Breeding numbers probably slightly lower than 1967.
- BLACK-BELLIED DIPPER** *Cinclus cinclus*. One from 6th October (ringed), another on 10th and 17th November and one of them stayed to the end of the year.
- MISTLE THRUSH** *Turdus viscivorus*. Singles on 11th-13th February and 3rd-5th March; 2 on 29th March; singles on 29th April, 16th-18th and 21st-28th May and 1st June. Autumn singles on 24th-26th September and 24th October.
- FIELDFARE** *Turdus pilaris*. Small numbers in first three months; spring passage from 14th April to 31st May; peaks of 12 on 19th, 160 on 20th-21st, 70 on 23rd and 15 on 24th April, 25 on 5th and 20 on 15th May. Stragglers between 9th and 22nd June. A most unusual return passage from 20th July. Numbers increased from one on 20th, to 4 on 22nd, 12 on 26th, 25 on 28th, 41 on 31st July; then 60 on 3rd, 75 on 8th, 100 on 11th and 300 on 14th August. Nearly all were juveniles; most of them arrived in partial juvenile plumage and completed their post-juvenile moult on the island; there was a bumper crop of crowberries *Empetrum nigrum* for them to feed on. (It is very unusual to see Fieldfares in this plumage on Fair Isle as the genus *turdus* generally moult before migrating). Numbers decreased during the latter part of the month and in September; although 120 on 5th

and 140 on 11th September were increases. The first main 'fall' after the early birds was 1000 on 2nd October. Numbers then fluctuated between 150-500 until 17th, then down to 50-120 to 23rd; 800 on 24th, 1200 on 25th, 600 on 26th; decreased to 40 by 31st; small numbers through November and December, but 25-35 on 10th-12th December.

SONG THRUSH *Turdus philomelus*. Small spring passage from 8th March to 13th May; peaks of 12 on 29th March, 35 on 17th and 25 on 19th April; stragglers to 31st May; singles on 6th June, 11th, 14th and 31st July, and 1st-9th August. Autumn passage from 10th September; 30 on 21st, 20 on 25th; a fantastic 'fall' of 2000 on 26th September (biggest number ever for Fair Isle), nearly all left at dusk on a SSE heading in clear skies; 300 on 27th-31st; numbers low in October, peaks of 300 on 2nd and 150 on 24th; stragglers in November and 3 singles in December.

REDWING *Turdus iliacus*. 3 on 16th January and one on 25th February; spring passage from 8th March to 26th April; numbers small and sporadic, max. 20 in March and 10 in April; stragglers to 23rd June. One from 14th August to 3rd September; autumn passage from 5th September; peaks of 30 on 21st, 200 on 26th; peaks in October of 600 on 2nd, 500 on 3rd, 80-200 until 500 on 11th, lesser numbers until 1200 on 24th, 800 on 25th, 400 on 26th, 100 on 27th; numbers fluctuating but small to 24th December, but 30-50 on 10th-12th December.

RING OUZEL *Turdus torquatus*. Small spring passage from 16th April to 7th June; 1-3 on 18 days but 9 on 17th April. Autumn passage from 21st September to 9th October; peaks of 10 on 21st, a large 'fall' of 165 on 26th (there were 2 on previous days), 15 on 27th-28th and 20 on 29th September, 40 on 2nd and 20 on 3rd October; stragglers until 25th October. Very late birds on 4th, 8th, 9th and 19th December. (165 is highest day's total for Fair Isle; previous best 70).

BLACKBIRD *Turdus merula*. Small numbers (up to 17) wintered; first 'fall' being 40+ on 25th February; small numbers in March until large 'fall' of 1000 on 29th, 200 on 30th and 75 on 31st; 20-45 daily in April until 80 on 10th; smaller numbers thereafter; last seen 17th June. A ♀ summered. Autumn passage from 17th September; small numbers until 40 on 2nd October, then peaks of 200 on 6th, 300 on 9th, 500-600 on 11th-14th, 600+ on 20th-22nd, 400 on 23rd, 800 on 24th, daily decrease to 30 by 1st November; similar numbers all month except 200 on 5th 10-25 in December except 40-60 on 10th-12th.

WHEATEAR *Oenanthe oenanthe*. First ♂ on 26th March, 2 on 29th then a standstill during early April snow; increase to

25 on 10th April, 50 on 15th and 250+ on 17th. Breeding numbers as usual; nest building from 7th May and eggs about 20th; first flying young on 19th June. Passage from 17th August through September; 20 on 1st October decreased to 2 by 14th and last stragglers to 26th October. A few Greenlanders 16th-31st May and large autumn birds from 28th August.

STONECHAT *Saxicola torquata*. A ♂ on 22nd, another ♂ on 24th and a ♀ 29th-30th March, and one 15th May.

WHINCHAT *Saxicola rubetra*. Spring passage from 29th April to 8th June, nearly all in May; peaks of 10 on 10th and 12 on 23rd. Autumn passage from 19th August to 2nd October; not plentiful and max. only 8 on 29th August, 12 on 3rd, 30 on 11th-12th and 35 on 13th September; singles on three days in October to 22nd.

REDSTART *Phoenicurus phoenicurus*. Spring passage from 17th April to 6th June, mainly May with peaks of 18 on 10th, 30 on 13th and 15 on 26th May. Sparse migration between 24th August and 29th October, peaks of 14 on 11th and 9 on 12th September, 8 on 6th and 14 on 11th October.

BLACK REDSTART *Phoenicurus ochrurus*. Spring birds on 30th April, 12th, 24th, 26th (2) and 27th May. Autumn birds on 6th-18th and 28th September, 13th, 20th, 21st, 22nd, 23rd (3) and 24th October.

NIGHTINGALE *Luscinia megarhynchos*. Singles trapped in the Gully on 19th and 22nd April; (6th and 7th records for Fair Isle).

BLUETHROAT *Cyanosylvia svecica*. May records: ♂ on 10th-12th, another ♂ on 13th. ♀ on 21st, 2 on 22nd, 3 (2♂♂) on 23rd, 3 (2♀♀) on 24th, 3 on 25th, one 26th, 2 on 27th, ♀ on 28th, another ♀ on 29th and ♂ on 31st; one on 5th June. Autumn passage from 30th August to 24th September; at least 7 individuals, max. 3 on 11th; one on 6th-13th October.

ROBIN *Erithacus rubecula*. 1-2 wintered; spring passage from 11th April to 23rd May, nearly all 17th-27th April when peaks of 60 on 17th, 40 on 18th and 30 on 19th; one on 8th June. Small numbers in autumn between 16th September and 16th November; mostly singles except in early October when 7 on 5th, 10+ on 10th and 25 on 11th. Two on 4th and singles on 15th and 17th December.

GRASSHOPPER WARBLER *Locustella naevia*. Singles seen on 11 days between 21st April and 15th May, and 3 on 29th April and 2 on 10th May.

REED WARBLER *Acrocephalus scirpaceus*. One on 5th-8th and another on 11th May. One on 24th August; singles on 9 days in September and one on 3rd October.

MARSH WARBLER *Acrocephalus palustris*. One at Schoolton ditch on 6th June.

SEDGE WARBLER *Acrocephalus schoenobaenus*. Small spring passage from 21st April to 8th June; peaks of 2 on 24th April, 3 on 10th, 5 on 25th-26th, 6 on 28th and 5 on 31st May; one on 17th-21st June. Autumn singles on 5th September, 6th and 9th October.

ICTERINE WARBLER *Hippolais icterina*. One on 27th, 2+ on 29th and one 31st May, one 1st, 2 on 2nd, one on 3rd and 8th June. One on 6th August, two new ones on 9th, one to 11th August (reversed migrants in fine weather?); one 6th and 7th September.

BOOTED WARBLER *Hippolais caligata*. One at the Observatory on 8th September; trapped and ringed (4th record for Fair Isle).

BLACKCAP *Sylvia atricapilla*. Spring passage from 29th April to 3rd June; small numbers, peaks of 5 on 10th, 3 on 12th-13th May and 3rd June; stragglers on 16th June and 5th July. An early and heavy autumn passage from 3rd September; numbers increased from 4 on 3rd to 17 on 8th; further peaks of 25 on 13th, 60 on 21st, 50 on 22nd, 40 on 23rd, 25 on 26th and 29th September; 20 on 1st and 2nd, 12 on 9th and 9 on 23rd October; stragglers to 28th November.

BARRED WARBLER *Sylvia nisoria*. Good numbers seen between 9th August (2) and 29th September; mainly 23rd August to 15th September; 5 on 23rd, 5 new birds on 24th, 3 new birds on 25th, 2 on 26th, 4 on 27th, 8 (4 new) on 29th August, numbers then lower but 3 on 1st, 3rd, 7th and 15th September; stragglers on 5th (2) and 23rd October. (Latest ever).

GARDEN WARBLER *Sylvia borin*. Singles on 21st-22nd April, 11th and 15th May; passage from 24th May to 9th June; peaks of 6 on 25th and 5 on 31st May, and 8 on 5th June; singles on 16th June and 2nd July. Autumn passage from 16th August to 1st November; mainly 25th August to 21st September with peaks of 33 on 5th and 35 on 8th.

WHITETHROAT *Sylvia communis*. Spring passage between 17th April and 12th June; peaks of 9 on 30th April, 15 on 10th, 25 on 26th, 15 on 27th, 20 on 29th and 15 on 31st May. In autumn, one or two on 20 days between 24th August and 25th September.

LESSER WHITETHROAT *Sylvia curruca*. Small passage from 20th April to 9th June; peaks of 3 on 29th April, 12 on 10th and 7 on 15th May. Autumn passage from 23rd August to 29th October; peaks of 4 on 27th and 30th August and 6 on 18th September; one or two on 11 days in October; Siberian birds on 17th and 30th September.

WILLOW WARBLER *Phylloscopus trochilus*. Spring migration

from 17th April to 7th June; peaks of 6 on 23rd April; small numbers early May (max. 6); a 'fall' of 75 on 10th, 20-50 until 15th, another peak of 18 on 24th, up to 12 until 29th; stragglers on 12th, 16th June (northern) and 4th-7th July. In autumn from 7th August to 6th October, mainly 17th August to 22nd September, peaks of 15 on 17th, 25 on 25th, 30 on 28th and 29th August, 25 on 8th and 10th and 15 on 19th September.

CHIFFCHAFF *Phylloscopus collybita*. Singles on 29th, 30th and 31st March and 1st April; after snowstorm, one on 11th and 16th, then 25 on 17th, 10-20 until 23rd; scattered records to 6th June. A few in September from 8th; numbers increasing in October from 4 on 5th to 15 on 6th, numbers high to 11th, then down to one on 18th, (these were all northern type birds); an influx of 10 on 23rd and 11 on 25th; stragglers on 5 days in November but 3 on 5th; a late bird on 9th December.

WOOD WARBLER *Phylloscopus sibilatrix*. Singles on 22nd, 24th, 25th and 31st May, 2nd and 3rd June. Autumn singles on 16th, 19th, 20th, 25th, 26th and 29th August and 8th September; an unusual run of records from 12th to 26th September, max. 3 on 18th and 23rd.

ARCTIC WARBLER *Phylloscopus borealis*. One trapped in Res-tensgeo bracken patch on 12th August, seen until 15th.

YELLOW-BROWED WARBLER *Phylloscopus inornatus*. One 13th, another 17th-18th, another 26th-29th September, 2 on 2nd, 3 (2 new) on 3rd, one 4th, a new one 5th, 2 on 6th, one new 7th and one 23rd October; eleven in all.

GOLDCREST *Regulus regulus*. Small numbers from 29th March to 27th April, mainly 10th-25th April; peaks of 3 on 31st March, 5 on 15th, 6 on 20th and 10 on 21st April. Autumn singles on 14th September and 2nd October; small passage from 9th October to 1st November; peaks of 14 on 9th, 20 on 11th, 8 on 13th and 15th and 4 on 24th; one on 11th December.

SPOTTED FLYCATCHER *Muscicapa striata*. Singles on 15th-18th and 19th May; passage between 23rd May to 13th June, peaks of 15 on 24th, 25 on 25th, 40 on 26th, 25 on 27th and 35 on 29th May, 10-20 until 6th June. Autumn singles on 12 days between 23rd August and 12th October, but 3 on 28th and 2 on 29th August, 15th-17th September and 11th October.

PIED FLYCATCHER *Muscicapa hypoleuca*. Small passage from 4th May to 2nd June, mostly singles but 4 on 15th-16th May. Autumn migration from 16th August to 16th September, peaks of only 15 on 25th and 10 on 28th August, and 8 on

7th September; stragglers on 21st, 22nd and 25th September, 1st and 13th October.

RED-BREASTED FLYCATCHER *Muscicapa parva*. A ♀ trapped at the Observatory on 25th May, (first spring record since 1963). Autumn singles on 12th and 20th September, and 11th October.

DUNNOCK *Prunella modularis*. One on 19th-20th March; scattered records between 12th April and 8th June, all singles except 2-3 on 16th-19th April. Autumn passage from 16th September to 16th November, nearly all 11th-31st October, peaks of 6 on 11th, 15 on 15th and 7 on 30th.

MEADOW PIPIT *Anthus pratensis*. Recorded from 20th March, numbers increased from 6 on 20th to 25 on 26th and 45 on 29th; passage in April. Usual breeding strength; first eggs 16th April. Autumn passage from 23rd August through September; decrease in October, stragglers to end of year.

RICHARD'S PIPIT *Anthus novaeseelandiae*. One from 8th to 22nd September, 2 on 11th, 2 on 15th-16th, one until 18th, one 22nd-24th October, one 6th-7th and the last on 23rd November.

TREE PIPIT *Anthus trivialis*. One on 17th-19th April; spring passage from 10th May to 8th June, peaks of 25 on 10th, 20 on 12th and 14th, 15 on 31st May. Small passage between 2nd September and 10th October, peaks of 6 on 5th-6th, 20 on 26th and 7 on 30th September.

RED-THROATED PIPIT *Anthus cervinus*. One trapped at Shirva on 15th September.

ROCK PIPIT *Anthus spinoletta*. Usual breeding strength; some passage noted from 23rd August through September.

WHITE WAGTAIL *Motacilla alba alba*. Spring passage from 17th April to 31st May, peaks of 6 on 27th and 29th April, 6 on 9th and 9 on 10th May. None bred. Autumn passage from 6th August to 19th October, peaks of 10 on 18th, 18 on 25th and 25 on 28th August, 25 on 4th and 24 on 16th September.

PIED WAGTAIL *Motacilla alba yarrelli*. Two on 10th-12th, 2 on 21st, one until 24th April and one on 6th May. One on 25th September.

GREY WAGTAIL *Motacilla cinerea*. Singles on 19th-20th May, 8th-14th October and 11th November.

YELLOW WAGTAIL *Motacilla flava*. Blue-headed Wagtail *M. f. flava*: small passage from 26th April to 5th June, peaks of 4 on 29th April and 1st May and 3 on 27th and 30th May. Autumn singles on 9th August, 3rd September and 5th October. Yellow Wagtail *M. f. flavissima*: 1-2 on 10 days between 17th April and 1st May. Grey-headed Wagtail *M. f. thunbergi*: 1-3 between 21st and 30th May.

- WAXWING *Bombycilla garrulus*. Four on 15th January. Scarce in autumn; one on 17th, 2 on 24th and one on 26th October, and one 6th November.
- GREAT GREY SHRIKE *Lanius excubitor*. Singles on 11th-12th, 25th-26th April and 23rd May. Autumn birds on 3rd October, 11 (5+), 12th (2), 14th-15th, 16th-17th October, 6th (2) and 17th-20th November.
- WOODCHAT SHRIKE *Lanius senator*. An adult trapped at Quoy on 4th-8th June and an immature trapped at Setter on 18th September.
- RED-BACKED SHRIKE *Lanius cristatus*. A record spring migration: seen between 10th May and 13th June, peaks of 3 on 14th, 4 on 22nd, 8 (5♂♂) on 23rd, 7 on 25th, 27th and 29th May and 4 on 2nd June. Autumn immatures on 22nd August and 3rd-5th September.
- STARLING *Sturnus vulgaris*. Passage in late March and April; lower numbers than usual bred; first chicks flying on 20th May; scarce as migrants in autumn.
- ROSE-COLOURED STARLING *Sturnus roseus*. An adult trapped at South Haven beach on 23rd May was judged to be an escaped cage-bird; present near North Light until 1st June. An immature at North Light on 23rd-25th August was undoubtedly a wild migrant.
- GREENFINCH *Chloris chloris*. One 19th-21st April. In autumn; 3 on 11th, 2 on 12th, 11 on 13th and 23rd October; small numbers 8th-27th November, peaks of 9 on 16th, 5 on 17th and 23rd; one on 1st-9th December.
- GOLDFINCH *Carduelis carduelis*. One trapped in Gully 5th June; present until 8th, (4th record for Fair Isle).
- SISKIN *Carduelis spinus*. Spring singles on 14th and 19th April. Autumn passage 8th-21st September, peaks of 19 on 12th and 25 on 17th; small numbers between 4th and 26th October, max. 14 on 11th.
- LINNET *Carduelis cannabina*. Five on 8th January; spring passage from 16th April to 8th June, peaks of 6 on 21st and 3 on 27th April, 2 on 9th-12th May and 5th-8th June. Autumn single on 19th November.
- TWITE *Carduelis flavirostris*. Spring flock up to 15; some evidence of toxic poisoning; no increase in breeding population; autumn flock maxima of 150 on 29th August and 117 on 20th September; all gone by mid-November.
- REDPOLL *Carduelis flammea*. 1-3 between 20th April and 11th May; one on 12th July and 2 on 22nd July (all probably Mealy Redpolls). 1-2 on 7 days between 29th September and 8th November.
- SERIN *Serinus canarius*. One at Easter Lothar with small par-

ty of Twites on 1st October; flew off with them towards Wirvie (G. J. Barnes). (4th record for Fair Isle).



BULLFINCH *Pyrrhula pyrrhula*. One on 18th January. Unusual numbers in autumn between 9th October and 24th November; singles on 15 days, two on 13th, 3 on 14th and 2 (not all the same) on 24th-29th October and 6th November.

SCARLET GROSBEAK *Carpodacus erythrinus*. Single ♀♀ on 25th-27th May and 6th June. Autumn birds on 29th August, 6th, 7th (3), 8th (2), 9th, 18th-20th September and 12th October.

CROSSBILL *Loxia curvirostra*. Only three records: singles on 6th, 12th and 15th-24th July.

CHAFFINCH *Fringilla coelebs*. Small numbers in winter, up to 7 in January, 8 in February and 7 in March; passage to 27th May with peaks of 10 on 19th April and 6 on 16th May. A ♀ on 8th-30th July and 31st August. Autumn passage from 12th September to 9th November; peaks of 10 on 29th September, 25 on 11th, 35 on 12th-13th and 15 on 23rd-24th October; stragglers on 24th November and 6th December.

BRAMBLING *Fringilla montifringilla*. One to four on 6th-16th January; passage from 29th March to 30th April and 10th May to 8th June; more in the first period when peaks of 32 on 17th, 40 on 19th-20th and 15 on 23rd April; small numbers, max. 6 in May. One or two early birds between 3rd and 21st August; autumn migration from 6th September to 2nd November, mainly 26th September-30th October; peaks of 100 on 2nd, 250+ on 3rd, 1300 on 11th, 1100 on 12th, 900 on 13th, 600 on 14th and 200 on 24th; one on 1st-11th December.

YELLOWHAMMER *Emberiza citrinella*. Singles on 22 days between 15th April and 6th June but 2 on 21st April and 3 on 23rd and 24th April. One on 26th September; passage

from 11th to 27th October when 4 on 11th, 6 on 16th, 5 on 17th and 5 on 25th; one 6th-17th November.

CORN BUNTING *Emberiza calandra*. Singles on 24th April and 24th November.

[BLACK-HEADED BUNTING *Emberiza melanocephala*. A ♂ in the crofting area from 17th to 26th April; it was trapped and from its condition we considered that it was probably an escaped cage-bird.]

[RED-HEADED BUNTING *Emberiza bruniceps*. A ♂ 1st June-10th July; other ♂♂ on 10th-12th June, 1st and 4th July.]

YELLOW-BREASTED BUNTING *Emberiza aureola*. One at Taing and Quoy from 13th-18th September.

ORTOLAN BUNTING *Emberiza hortulana*. Two on 10th-14th May. Autumn birds on 25th August, 3rd-5th September, 7th (new), 9th (new), 10th-11th, 13th, 14th (2), 22nd-26th and 28th September, and 5th October.

LITTLE BUNTING *Emberiza pusilla*. Singles at Setter on 26th-28th September (trapped), North Haven on 11th-14th October and Setter on 23rd-27th October.

REED BUNTING *Emberiza schoeniclus*. Scattered records 24th March-30th April, singles except 3 on 24th March, 4 on 17th, 3 on 18th and 2 on 23rd April; a 'fall' of 40 birds on 10th May, up to 20 until 14th then lower numbers to 30th May; one 3rd to 5th June. Autumn passage from 24th September to 30th October, mainly 6th to 24th October; peaks of 20 on 6th, 30 on 11th-13th and 10 on 23rd-24th; stragglers on 1st and 11th-17th November.

LAPLAND BUNTING *Calcarius lapponicus*. Single males on 1st April (trapped) and 7th May. Small numbers between 31st August and 22nd September and 1st-24th October; maxima of 6 on 7th September and 3rd October, 4 on 11th October.

SNOW BUNTING *Plectrophenax nivalis*. Winter max. of 24 on 8th January, 57 on 16th February; spring numbers peaking at 90 on 26th March and 8th April; numbers lower after 11th April (max. 6); several stayed until 22nd May. Autumn migration from 13th September (13), increased to 80 on 14th and 90 on 16th; peaks thereafter of 100+ on 22nd and 150 on 27th; numbers rather low in October, max. of 120 on 6th and 24th; similar numbers in November but 200 on 17th and 250+ on 28th; up to 30 in December.

HOUSE SPARROW *Passer domesticus*. Resident as usual.

TREE SPARROW *Passer montanus*. Scarce; one on 30th May; up to 7 on 2nd-13th June; one on 2nd and two on 4th-5th October.

RINGING

Once again we had a severe winter and the traps suffered damage, this time from the weight of snow which dragged down the wire-netting. The Vaadal was particularly damaged and major repairs were necessary before it was operational. The Plantation trap continued to improve as the trees in the Vaadal plantation continued to grow; the highest have now reached eight feet. We are now catching birds which go to roost there. All the permanent traps were in use and wader-traps were in operation at Easter Lothar and Golden Waters. Mist-netting was particularly successful for petrels in the summer, and for roosting birds at Vaadal. Clap-nets and dazzling were used as usual. The summer was so settled that we were able to venture round to the west side more often than usual in our boat and so we ringed good numbers of seabirds.

In 1968, 7335 birds of 134 species were ringed with F.I.B.O. rings. These totals include 9 birds of 4 species ringed in Unst by Magnus Sinclair; 910 birds of 6 species ringed by Bobby Tulloch, these were mainly Storm Petrels at Fetlar but included 3 Snowy Owls and 6 Manx Shearwaters from the same island; 382 birds of 7 species ringed by Tony Mainwood at Mousa, again mainly Storm Petrels; and 355 birds of 19 species ringed at North Ronaldsay by Eddie Wiseman, these were an autumn mixture including 2 Great Spotted Woodpeckers, 5 Waxwings and 2 Great Grey Shrikes as well as 157 Blackbirds and 93 Bramblings. Included in these totals but not included in the main species table are the four young Sea Eagles and 29 birds of 5 species ringed in Speyside by myself. The species table has been amended since 1967 and birds ringed on the Scottish mainland have been removed from the totals and are presented separately.

The monthly totals of birds ringed at Fair Isle in 1968 were as follows:

	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov/Dec
Number	221	321	353	833	1622	1082	499	631	87

The totals of the ten leading species in 1968 were Storm Petrel 1816, Blackbird 816, Shag 661, Fulmar 366, Wheatear 358, Kittiwake 335, Starling 317, Puffin 179, Rock Pipit 178 and Guillemot 173. Species ringed for the first time at the island were Leach's Petrel, Goosander, Golden Oriole and Black-headed Bunting, while Manx Shearwater was ringed at Fetlar. Other unusual species ringed were Spotted Crake, Greenshank, 3 Snowy Owls, 2 Nightjars, 7 Wrynecks, Short-toed Lark, Woodlark, 2 Nightingales, 4 Icterine Warblers,

Booted Warbler, Arctic Warbler, Red-breasted Flycatcher, Red-throated Pipit, 2 Woodchat Shrikes, Rose-coloured Starling, Ortolan and Little Bunting.

TABLE 1

Numbers ringed *Numbers recovered*
1948-67 1968 Total 1948-67 1968 Total

Slavonian Grebe	1		1			
Little Grebe	1		1			
Storm Petrel	1206	1816	3022	2	4	6
Leach's Petrel		2	2			
Manx Shearwater		6	6			
Fulmar	3032	366	3398	15	3	18
Gannet	232	2	234	3	1	4
Cormorant	5		5			
Shag	6013	661	6674	136	12	148
Heron	8		8			
Mallard	7		7	2		2
Teal	17	2	19	2		2
Wigeon	6	1	7			
Scaup	2		2			
Tufted Duck	5		5			
Goldeneye	2	1	3			
Long-tailed Duck	5		5			
Velvet Scoter	2		2			
Eider	42	7	49			
Goosander		2	2			
Red-breasted Merganser	1		1			
Greylag Goose	4		4	1		1
White-front	1		1			
Pink-foot	1		1			
Barnacle Goose	1		1			
Whooper Swan	9		9	1		1
Sparrowhawk	57	1	58	9		9
Peregrine	5	1	6			
Merlin	117	5	122	13		13
Kestrel	21	1	22	4		4
Red-footed Falcon	1		1			
Quail	2		2			
Water Rail	123	3	126	2		2
Spotted Crake	2	1	3			
Corncrake	24		24	2		2
Moorhen	37	1	38			
Coot	6		6			
Oystercatcher	542	19	561	26	2	28
Lapwing	211	4	215	3		3
Ringed Plover	203	18	221	3		3

Little Ringed Plover	1		1			
Golden Plover	10		10			
Dotterel	2		2			
Turnstone	44	1	45			
Snipe	103	2	105	3		3
Jack Snipe	22		22			
Woodcock	113	2	115	6		6
Curlew	24		24		1	1
Whimbrel	12		12			
Black-tailed Godwit	1		1			
Bar-tailed Godwit	8		8	2		2
Green Sandpiper	15		15			
Wood Sandpiper	7	1	8			
Common Sandpiper	25	2	27			
Redshank	99	7	106	1	1	2
Spotted Redshank	3		3			
Greenshank	3	1	4			
Knot	39	2	41			
Purple Sandpiper	67	11	78			
Little Stint	12		12			
Western Sandpiper	1		1			
Pectoral Sandpiper	3		3			
Dunlin	162	12	174	2		2
Curlew Sandpiper	1		1			
Sanderling	52	5	57			
Ruff	11	1	12	1		1
Red-necked Phalarope	3		3			
Bonxie	561	5	566	6	1	7
Arctic Skua	1099	6	1105	28		28
Pomarine Skua	1		1			
Great Black-back	418	10	428	19	2	21
Lesser Black-back	340	32	372	7		7
Herring Gull	684	80	764	19	3	22
Common Gull	83	3	86			
Glaucous Gull	11	2	13	1		1
Iceland Gull	1		1			
Black-headed Gull	46		46	3		3
Kittiwake	532	335	867	1	2	3
Common Tern	16		16			
Arctic Tern	113	1	114	1		1
Razorbill	565	85	650	22	2	24
Little Auk	4		4			
Guillemot	797	173	970	21	5	26
Black Guillemot	451	77	528	4	2	6
Puffin	3791	179	3960	8		8
Wood Pigeon	21	1	22	2		2
Rock Dove	3	1	4			
Turtle Dove	13	1	14			
Collared Dove	10		10			

Cuckoo	37	2	39	1		1
Snowy Owl	4	3	7			
Long-eared Owl	37	6	43	2		2
Short-eared Owl	1		1			
Nightjar	1	2	3			
Swift	7	4	11	1		1
Great Spotted Woodpecker	8	5	13			
Wryneck	46	7	53			
Short-toed Lark	2	1	3			
Shorelark	1		1			
Woodlark	1	1	2			
Skylark	380	18	398	2		2
Swallow	109	9	118	1	1	2
House Martin	39	19	58			
Sand Martin	2	2	4			
Raven	3		3			
Hooded Crow	23	4	27			
Rook	4		4			
Golden Oriole		1	1			
Great Tit	4		4			
Blue Tit	2		2			
Treecreeper	1		1			
Wren	373	24	397			
Dipper	7	1	8			
Mistle Thrush	10		10		1	1
Fieldfare	301	109	410			
Song Thrush	788	108	896	16		16
Redwing	3013	86	3099	37	2	39
Dusky Thrush	1		1			
Black-throated Thrush	1		1			
Ring Ouzel	132	18	150	1	1	2
Blackbird	9191	816	10007	170	19	189
Grey-cheeked Thrush	2		2			
Wheatear	8712	358	9070	45	1	46
Black-eared Wheatear	2		2			
Stonechat	15	2	17			
Whinchat	275	5	280	2		2
Redstart	681	60	741			
Black Redstart	40	1	41			
Nightingale	5	2	7			
Thrush Nightingale	4		4			
Bluethroat	89	5	94	1		1
Robin	2325	83	2408	15		15
Grasshopper Warbler	25	3	28			
Lanceolated Warbler	3		3			
Pallas's						
Grasshopper Warbler	1		1			
River Warbler	1		1			
Great Reed Warbler	2		2			

Reed Warbler	45	5	50	1		1
Marsh Warbler	20	1	21			
Paddyfield Warbler	1		1			
Thick-billed Warbler	1		1			
Sedge Warbler	151	10	161			
Aquatic Warbler	6		6			
Melodious Warbler	2		2			
Icterine Warbler	31	4	35			
Booted Warbler	2	1	3			
Blackcap	600	127	727	2	2	4
Barred Warbler	110	13	123			
Garden Warbler	886	123	1009			
Whitethroat	425	32	457			
Lesser Whitethroat	163	21	184			
Sardinian Warbler	1		1			
Subalpine Warbler	7		7			
Willow Warbler	1003	105	1108		1	1
Greenish Warbler	5		5			
Chiffchaff	182	18	200			
Wood Warbler	19	5	24			
Bonelli's Warbler	1		1			
Arctic Warbler	11	1	12			
Yellow-browed Warbler	31	3	34			
Dusky Warbler	1		1			
Goldcrest	464	12	476			
Spotted Flycatcher	202	27	229	1		1
Pied Flycatcher	375	17	392	3		3
Red-breasted Flycatcher	29	1	30			
Duncock	534	10	544	4		4
Meadow Pipit	4432	150	4582	33		33
Tree Pipit	199	13	212			
Olive-backed Pipit	2		2			
Petchora Pipit	2		2			
Red-throated Pipit	2	1	3			
Rock Pipit	3772	178	3950	10	1	11
Richard's Pipit	7		7			
Tawny Pipit	1		1			
Pied/White Wagtail	294	15	309	3		3
Grey Wagtail	5	1	6			
Yellow Wagtail spp.	8	1	9			
Citrine Wagtail	3		3			
Waxwing	14	5	19			
Great Grey Shrike	34	3	37			
Lesser Grey Shrike	5		5			
Woodchat Shrike	5	2	7			
Red-backed Shrike	43	12	55			
Starling	6059	317	6376	50	9	59
Rose-coloured Starling	1	1	2			
Greenfinch	15	3	18			

Goldfinch	2	1	3		
Siskin	121	5	126		
Linnet	24	5	29	1	1
Twite	1859	59	1918	3	3
Redpoll	134	1	135		
Arctic Redpoll	3		3		
Bullfinch	8	5	13		
Scarlet Grosbeak	21		21		
Crossbill	263	1	264	2	2
Parrot Crossbill	35		35		
Chaffinch	532	27	559		
Brambling	325	165	490	1	1
Yellowhammer	18	4	22		
Corn Bunting	2		2		
Red-headed Bunting	5		5		
Black-headed Bunting		1	1		
Yellow-breasted Bunting	2		2		
Ortolan	8	1	9		
Cretzschmar's Bunting	1		1		
Rustic Bunting	4		4	1	1
Little Bunting	11	1	12		
Reed Bunting	81	24	105	1	1
Song Sparrow	1		1		
White-throated Sparrow	1		1		
Lapland Bunting	36	1	37		
Snow Bunting	171	12	183	2	2
House Sparrow	814	28	842		
Tree Sparrow	29		29		
GRAND TOTAL	73790	7302	81092	795	79 874

Table two gives the numbers of birds ringed in Inverness-shire by RHD during recent winters, with FIBO rings.

TABLE 2

<i>Numbers ringed</i>			<i>Numbers ringed</i>		
	1968 Total			1968 Total	
Rook		1	Wren		1
Great Tit	2	15	Blackbird		4
Blue Tit	1	96	Robin		1
Coal Tit	1	60	Dunnock	1	2
Crested Tit		5	Chaffinch	23	35
Long-tailed Tit		11	Reed Bunting	1	1
Treecreeper		2	GRAND TOTAL	29	234

One interesting control has been reported.

LONG-TAILED TIT

AA 05280 Pj. 10.12.64 Aviemore (Inverness-shire)

v 19.10.68 Aviemore

RECOVERIES 1968

79 recoveries of ringed birds were received in 1968 and full details of these are given below; the most exciting ones are displayed on the map. The international code of symbols for the method of recovery is employed:

v—caught or trapped and released with ring;

+—shot or killed by man;

x—found dead or dying;

xA—found long dead;

(—caught alive and not released, or released but with ring removed;

/?/—method of recovery unknown.

Where the exact date of recovery is unknown, the date of the finder's report is given in brackets. Ringing details of each bird (ringed at Fair Isle unless otherwise stated) are given on the first line and the recovery details on the second. The distance, given in miles, and the directions are approximate. The abbreviations indicating age are as follows: pull. (pullus)—nestling or chick, not yet flying; juv.—young; 1st Y.—first year; pj.—post-juvenile; fg.—full-grown, age uncertain and ad.—adult. The coordinates of Fair Isle are 59°32' N 1°37'W.

STORM PETREL

676148 pj. 21.7.68

v 26.7.68 Fetlar (Shetland), 80 miles NNE.

676846 pj. 22.7.68 Fetlar (Shetland)

v 27.7.68 Fair Isle, 80 miles SSW.

BB 13134 pj. 29.8.66 Fetlar

v 3.6.68 Fair Isle.

BB 13136 pj. 29.8.66 Fetlar

v 31.7.68 Fair Isle.

FULMAR

AT 77288 pull. 10.8.61

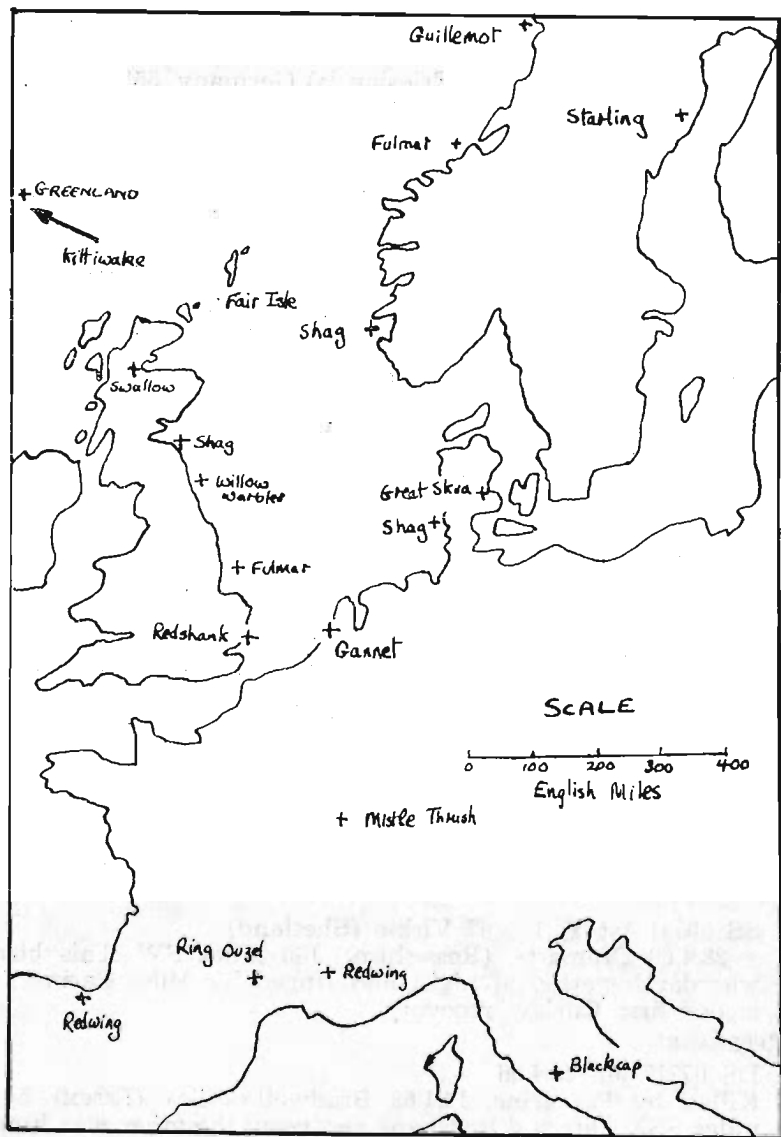
x (24.5.68) Sutton-on-Sea, Mablethorpe (Lincolnshire), 430 miles SSE.

SS 05717 pull. 8.8.63.

x 26.6.88 Isle of May (Fife), 230 miles S.

SS 39248 pull. 11.8.65

+ 10.6.67 Sandstad (Sor-Trondelag) Norway, 63°31'N 9°06' E.



SHAG

1052295 pull. 8.6.65

+ 9.9.68 Ramsholmer (Rogaland) Norway, ca. 59°30'N 5°10' E.

xA 9.8.68 Eday (Orkney), 45 miles SW.

1055598 pull. 4.7.66

v 3.9.66 North Sea, west of North Friesian Islands, 54°35'N 8°10'E.

x 15.12.67 Insel Sylt (N. Friesian Is) Germany, 55°01'N 8°26'E.

1057489 pull. 21.6.67

x (10.5.68) Vidlin (Shetland), 60 miles NNE.

1058121 pull. 27.6.67 East Neap (Fetlar)

x 12.1.68 Whalsay (Shetland), ca. 20 miles SSW.

1058330 pull. 26.6.67

xA 6.10.68 South Ronaldsay (Orkney), 70 miles SW.

1058398 pull. 2.7.67

x 17.4.68 Shapinsay (Orkney), 55 miles SW.

1058715 pull. 15.7.67

x 4.5.68 Eday (Orkney), 45 miles SW.

1058868 pull. 22.7.67

x 9.6.68 Dunbar (East Lothian), 245 miles S.

1058933 pull. 17.7.67 Sumburgh (Shetland)

x 0.1.68 West Burra (Shetland), 17 miles N.

1068206 pull. 28.6.68

+ 5.9.68 Voe (Shetland), 60 miles NNE.

1068325 pull. 7.7.68

x 21.11.68 Aith, Bixter (Shetland), 60 miles N.

GANNET

1058040 pull. 29.6.67 Hermaness (Shetland)

v-oiled, 27.1.68 's-Gravenzande (Zuid Holland), Netherlands, 52°00'N 4°10'E. This is our 3rd recovery from Hermaness; the others were reported from France and Spain.

OYSTERCATCHER

AT 90097 pull 4.7.62

x (29.1.68) Dunfermline (Fife), 250 miles SSW.

SS 61883 pull. 18.6.67

x 27.12.67 Aberthaw, Barry (Glamorgan), 565 miles SSW.

CURLEW

SS 50531 1st Y. 13.8.67 Virkie (Shetland)

x 28.4.68 Cromarty (Ross-shire), 180 miles SW. This bird was dazzle-netted at night and ringed by Mike Carins; it is our first Curlew recovery.

REDSHANK

DS 07717 ad. 23.4.66

Killed by Peregrine, 14.1.68 Bradwell-on-Sea (Essex), 545 miles SSE. Our 2nd Redshank recovery; the other was from North Germany.

GREAT BLACK-BACKED GULL

419983 ad. 6.11.66

x 12.7.68 Cava (Orkney), 70 miles SW.

HW 07778 1st Y. 26.10.67

x 10.12.67 Saltburn (Yorkshire), 340 miles S.

HERRING GULL

- GM 61114 pull. 13.7.67
 + 16.3.68 Kemnay, Kintore (Aberdeenshire), 160 miles S.
 GM 63512 pull. 13.7.67
 x 27.1.68 Whitley Bay (Northumberland), 310 miles S.
 GM 63594 1st Y. 7.11.67
 v landed on fishing boat in snow, 16.2.68. At sea, east of Shetland, 60°25'N 0°30'E.

KITTIWAKE

- ED 28857 pull. 10.7.68
 x 31.8.68 Beadnell (Northumberland), 275 miles S.
 ED 57120 ad. 12.7.68
 + 25.9.68 Godthabsfjorden (Godthab) Greenland, ca. 64°10'N 51°40'W. Chicks ringed in 1939 and 1964 were recovered in Newfoundland in 1941 and 1964.

GREAT SKUA

- HW 04932 pull. 29.7.68
 x 22.11.68 Lohals (Langeland) Denmark, 55°08'N 10°55'E.

RAZORBILL

- AT 90129 pull. 3.7.62
 x oiled (29.1.68) Westerhever (Schleswig-Holstein) Germany, 54°23'N 8°40'E.
 SS 68655 pull. 18.6.68
 + 24.10.68 Flekkeroy (Vest Agder) Norway, 58°05'N 8°03'E.

GUILLEMOT

- AJ 47877 ad. 5.7.65
 xA (10.2.68) Aberdeen, 165 miles S.
 GM 40243 pull. 12.7.67
 caught in fishing net, 9.12.67 Stokksund (Sor-Trondelag) Norway, 64°03'N 10°05'E.
 GM 63673 pull. 17.7.67 Sumburgh (Shetland)
 x (fishing net) 10.12.67 Nordarnoy (Nordland) Norway, 67°10'N 14°00'E.
 SS 68570 pull. 18.6.68
 + 8.9.68 off Alvoy (Hordaland) Norway, ca. 60°40'N 4°40'E.
 SS 68597 pull. 18.6.68
 + 31.8.68 off Alesund (More & Romsdal) Norway, ca. 62°30'N 6°00'E.
 AJ 45877 is our third recovery of a bird ringed when adult, all have been reported from northern Scotland. The other four follow the usual pattern of young birds being killed in their first winter in Norway.

BLACK GUILLEMOT

- ED 57342 pull. 22.7.68
 x 29.8.68 St Ninian's Isle (Shetland), 35 miles NNE.
 ED 57359 pull. 27.7.68

x 2.9.68 Weisdale Voe (Shetland), 55 miles NNE.

Our first recoveries from Shetland; previously we have had birds ringed as pull. recovered in Essex and three in Orkney.

SWALLOW

HJ 52471 ad. ♂ 26.4.68

x 5.5.68 North Kessock (Ross-shire), 170 miles SW. This was presumably a migrant which had overshot its breeding range and returned south. Our only other Swallow recovery was an adult male ringed at Fair Isle in July 1953 and found breeding near Thurso in July 1954 and 1955.

MISTLE THRUSH

CV 59023 ad. 13.4.66

+ 11.11.68 Grand (Vosges) France, 48°23'N 5°29'9.

Our first recovery but only ten have ever been ringed on Fair Isle!

REDWING

CS 43038 1st Y. 23.9.67

+ (1.1.68) Zatauz (Guipuzcoa) Spain, 43°17'N 2°10'W.

CV 59357 1st Y. 30.9.66

x 0.12.67 Sault (Vaucluse) France, 44°05'N 5°25'E.

RING OUZEL

CV 59011 pj. ♂ 12.4.66

+ 16.10.67 Causse Noir (Aveyron) France, ca. 44°10'N 3°10'E. This is our 2nd Ring Ouzel recovery, the other was also from France in October. Note that this bird was ringed the day before the Mistle Thrush and both were recovered in France.

BLACKBIRD

Eighteen Blackbirds ringed at Fair Isle were recovered as follows:

	Ringed		Recovered
701574 ♂	1.4.60	x	28.8.68 Norway 62°57'N 8°05'E.
CK 27547 ♂	8.11.62	v	(29.2.68) Navan (Meath) 455m. SW.
CR 51263 ♀	20.10.68	x	2.11.68 Burray (Orkney) 70m. SW.
CS 43265 ♂	9.11.67	x	20.4.68 Norway 60°09'N 12°04'E.
CS 43457 ♂	9.11.67	x	15.1.68 Grantham (Lincs) 445m. SSE.
CS 43522*♂	29.3.68	x	18.7.68 Norway 63°11'N 8°06'E.
CS 43761*♂	22.3.68	x	27.5.68 Norway 62°25'N 5°38'E.
CS 43762*♀	23.3.68	x	15.5.68 Norway 62°12'N 6°08'E.
CS 43776 ♂	29.3.68	+	14.9.68 Norway 60°28'N 5°25'E.
CS 43891 ♂	3.10.68	x	(23.11.68) Barvas (Lewis) 190m. WSW.
CS 44197*♀	26.10.67	x	(22.1.68) Whittingham (E. Loth) 245m. S.
CV 59703 ♂	10.10.66	x	5.9.68 Norway 63°03'N 9°45'E.
CV 98185 ♂	14.4.67	v	9.4.68 Norway 62°03'N 9°45'E.
CX 03817*♂	20.3.68	+	25.6.68 Norway 60°36'N 5°22'E.
CX 33921*♂	29.10.64	+	1.1.68 Tullamore (Offaly) 480m. SW.

CX 46293 ♀ 26.3.65 x (26.6.68) Ballyshannon (Don) 425m. SW.
 CX 95101 ♂ 22.10.65 + early.4.68 Norway 61°04'N 6°35'E.
 CX 95156 ♂ 23.10.65 + ca.25.9.68 Norway 58°55'N 5°45'E.

* ringed as adult; the remainder ringed as first-year

Finally one bird was recovered in unusual circumstances.

CX 16981 ad. 3.11.63

Ring found in food pellet (raptor?) summer 1965 Alesund (More & Romsdal) Norway, 62°28'N 6°09'E.

Note CS 43761 and CS 43762 ringed on consecutive days and both found dead two months later only 25 miles apart in Norway.

WHEATEAR

BE 48678 juv. 14.7.68

v 31.8.68 Isle of May (Fife), 230 miles S.

BLACKCAP

HJ 52900 1st Y. ♂ 19.9.67

x 10.12.67 Carbognano (Viterbo) Italy, 42°20'N 12°15'E. This is only the second British recovery in Italy; this bird had probably been displaced well to the west and was one of a population with a south-east orientation in autumn.

HR 74263 1st Y. ♀ 13.9.68

v 21.9.68 North Ronaldsay (Orkney), 30 miles WSW.

WILLOW WARBLER

PC 4061 1st Y. 18.8.68

v 22.8.68 Fair Isle

v 27.8.68 Low Hauxley, Amble (Northumberland), 290 miles S.

Our first recovery from 1100 Willow Warblers.

ROCK PIPIT

BE 48098 1st Y. 30.8.67

v 28.11.67 Deerness (Orkney), 55 miles SW.

STARLING

Nine Starlings ringed at Fair Isle were recovered as follows:

	Ringed	Recovered
CK 21587*♀	26.10.62	x (1.3.68) Sunderland (Durham) 320m. S.
CS 43105 ♀	23.10.67	x (17.2.68) Alford (Lincs) 440m. SSE.
CS 43378 ♂	16.11.67	x ca. 10.1.68 Bigton (Shetland) 30m. NNE.
CV 59039*♂	16.4.66	+ 1.8.68 Norway 59°10'N 5°16'E.
CX 03705*♂	12.3.63	x (23.2.68) Maud (Aberdeen) 140m. S.
CX 14713*♂	27.3.63	x 0.6.67 Sweden 64°03'N 20°05'E.
CX 33508*♂	27.7.64	x (13.1.68) Hillswick (Shetland) 70m. N.
CX 46611 ♂	29.8.65	x (1.7.68) Orphir (Orkney) 75m. SW.
CX 46719 ♂	20.9.65	x 10.2.68 Sanday (Orkney) 40m. SW.

* ringed as adult; remainder ringed as first-year.

CX 14713 is our 2nd recovery from Sweden; the other was at Uppsala.

RINGED STRANGERS IN 1968

In 1968, Storm Petrels were mist-netted and ringed at Mousa by Tony Mainwood and at Fetlar by Bobby Tulloch as well as at Fair Isle by the Observatory staff. Most of the controls of ringed strangers in 1968 refer to Storm Petrels and they are listed in a shortened form below, with the exception of the long distance control from Faeroes.

STORM PETREL

Denmark 9196434 pj. 27.7.68 Mykinesholmur, Faeroes, 62°06' N 7°40'W.

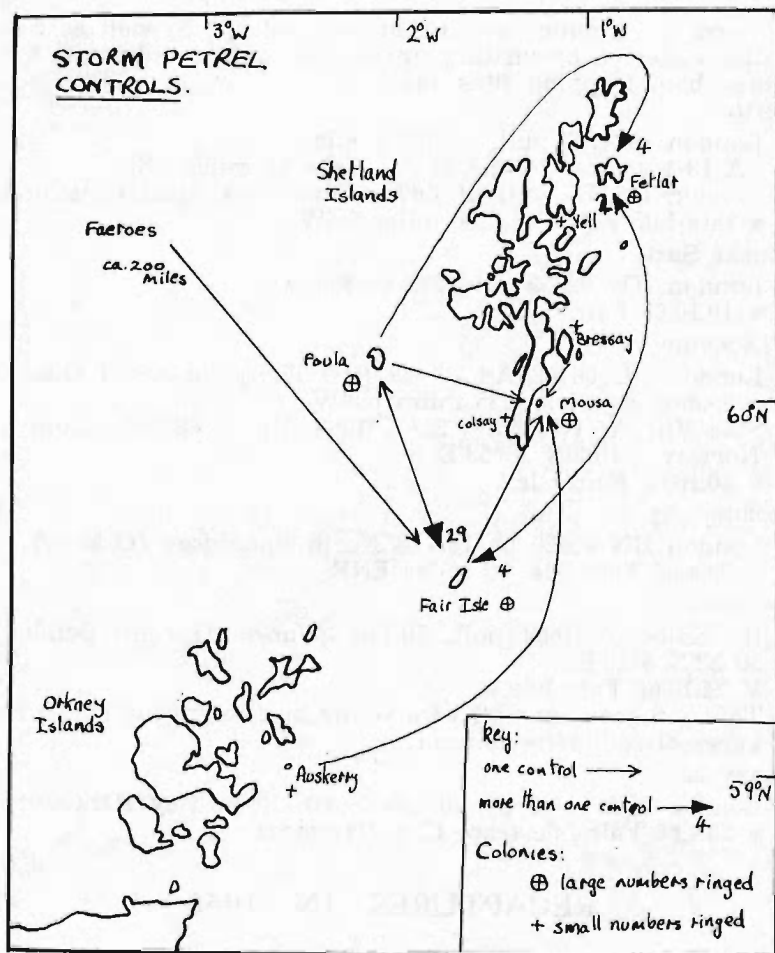
v 31.7.68 Fair Isle.

Ringed		Controlled	
Foula 31450S	4.8.61	27. 7.68	Fair Isle 45m. SSE.
Foula 649878	16.8.64	28. 7.68	Fetlar 55m. NE.
Foula 653899	15.8.65	31. 7.68	Fair Isle
Foula 658532	16.7.66	31. 7.68	Fair Isle
Foula 658745	3.8.66	31. 7.68	Fair Isle
Foula 658783	4.8.66	3. 8.68	Fair Isle
Foula 658817	7.8.66	3. 8.68	Fair Isle
Bressay BB13403	25.8.66	8. 7.68	Mousa 10m. SSW.
Foula 666180	11.6.67	13. 7.68	Fair Isle
Foula 666571	3.8.67	14. 7.68	& 3. 8.68 Fair Isle
Foula 666575	3.8.67	27. 7.68	Fetlar
Foula 666615	8.8.67	21. 7.68	Fair Isle
Foula 666771	11.8.67	17. 6.68	Fair Isle
Foula 666857	14.8.67	17. 6.68	Fair Isle
Foula 666956	27.8.67	23. 7.68	Fetlar
Foula 666972	27.8.67	31. 7.68	Fair Isle
Auskerry 668259	10.9.67	8. 7.68	Mousa 80m. NE.
Fetlar 672075	15.7.67	13. 7.68	Fair Isle 75 mm. SSW.
Foula 666944	1.8.68	3. 8.68	Fair Isle
Foula 684017	5.8.68	17. 8.68	Fair Isle
Foula 684232	16.8.68	19. 9.68	Fair Isle

All ringed as adult or post-juvenile

Fair Isle Bird Observatory now has 45 controls, either controlled by F.I.B.O. ringers or ringed by them and controlled elsewhere. All these controls refer to "visiting" between Storm Petrel colonies off the north of Scotland, including Faeroes and they are illustrated on the following map. The arrows point in the direction from ringing site to control site.

This is a fascinating specimen to study and an examination of the map immediately poses some interesting problems. For instance, we have caught 29 Foula ringed birds on Fair Isle but only one of our Fair Isle ringed birds has been reported from Foula, and we have controlled four birds from Fetlar but none from the well worked colony on Mousa. These differences cannot be explained simply by the relative numbers of bird ringed and retrapped at the different islands. Instead, some islands appear to be used for breeding and others used



for "visiting", although there is much overlap. Fair Isle would appear to be mainly a "visiting" island although some pairs do breed here.

Visiting occurs through the whole Shetland group and to some extent Orkney and Faeroes. We would like to know the area of activity of our Storm Petrels in the breeding season as well as the relative amount and seasonal variation of "visiting" between colonies and the frequency of individual visits. These data as well as the relative percentage of retraps at different islands might help to indicate the size of the breeding colonies; a near enough impossible task at present. We intend to continue our ringing study and we will be very

pleased to examine data, (their own retraps as well as controls), collected by visiting ringers and to offer advice to visitors about trapping sites, etc.

SHAG

London 1924743 pull. 15.7.65 Foula

xA (3-4 weeks old) 2.7.68 Fair Isle, 45 miles SSE.

London 1054517 pull, 18.7.67 Clibberswick, Unst (Shetland)

x late-1.68 Fair Isle, 100 miles SSW.

GREAT SKUA

London HW 02359 pull. 28.7.65 Foula

x 19.10.68 Fair Isle.

BLACKBIRD

London CB 90442 Ad. ♂ 29.10.66 Thorpe-le-Soken (Essex)

v 29.3.68 Fair Isle, 535 miles NNW.

Stat. Vilt As (Norway) SV 701003 Ad. ♂ 23.3.67 Akeroya,

Norway, 59°02'N 10°53'E.

v 30.10.68 Fair Isle.

ROBIN

London HN 46420 fg. 18.4.68 North Ronaldsay (Orkney)

v 23.4.68 Fair Isle, 30 miles ENE.

BLACKCAP

Bruxelles 5V37658 pull. 10.7.68 Wanze (Liege) Belgium

50°32'N 5°13'E.

V 24.10.68 Fair Isle.

This is a good example of a young bird migrating in the reverse direction in autumn.

REDPOLL

London HN 46435 pj. 20.4.68 North Ronaldsay (Orkney)

v 25.4.68 Fair Isle (race *C. f. flammea*).

RECAPTURES IN 1968

During the year, many birds were retrapped which had been ringed at Fair Isle in previous years. The following table sets out in a simplified form some of the information gathered although the full data is stored in the Observatory's retrap files.

BIRDS RINGED IN PREVIOUS YEARS RETRAPPED IN 1968

[illegible]

Species	Year when ringed										
	57	58	59	60	61	62	63	64	65	66	67
Oystercatcher						1					1
Ringed Plover					1 (pull)						1
Redshank											1
Purple Sandpiper								1			
Herring Gull							1				
Kittiwake								1(ad)			
Razorbill (ad)		1				4	5	4	1	4	
Guillemot (ad)			5	4	4	1	6	6	12	11	12
Guillemot (pull)							1		1		
Tystie (ad)				1				2	3	3	
Tystie (pull)						1					
Puffin (ad)			1			1					
Puffin (pull)	1	1				4	2	1			
Wren								1	1	1	
Wheatear									1		7
Robin											1
Meadow Pipit										1	3
Rock Pipit								2	1	2	2
Starling							4	2	4	4	2
Twite											1
House Sparrow											1

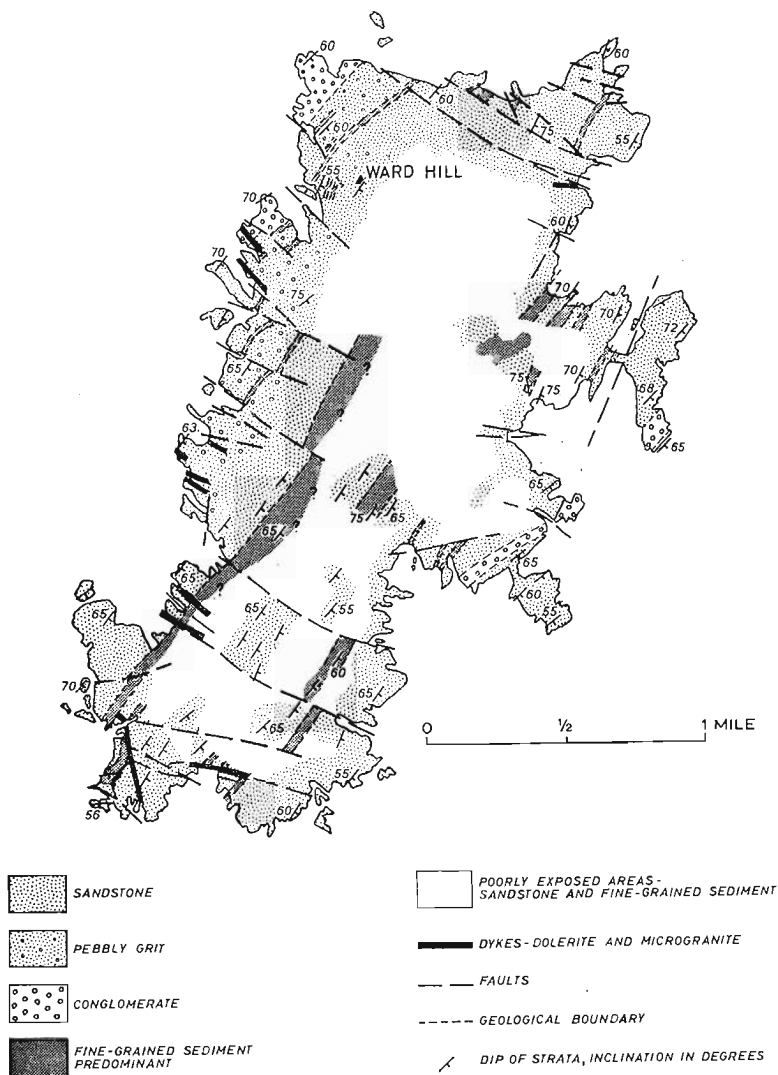
One Herring Gull ringed as adult in 1952 bred again at Maver's Geo; it can be recognised with a ring on one leg and a deformity of the other leg.

GEOLOGICAL INVESTIGATIONS ON FAIR ISLE

W. MYKURA (*Institute of Geological Sciences*)

During the summers of 1967 and 1968 a number of geologists from the Geological Survey of Great Britain (a division of the Institute of Geological Sciences) carried out a brief investigation of the rocks of Fair Isle, as part of their programme to produce a complete set of geological maps of the Shetland Islands. The evaluation of the results of this survey is not yet complete and the following notes are intended merely to give a general impression of the island's geology.

Fair Isle is made up almost entirely of sedimentary rocks of Middle Devonian age, which were deposited about 380 million years ago, partly by large rivers and partly in inland lakes. A thickness of about 8000 ft of strata is present in Fair Isle. The beds are lithologically similar to the sedimentary rocks forming the eastern part of South Shetland, which have yielded fine specimens of fossil fish. Unfortunately the Fair Isle sediments do not contain abundant well preserved fossils, upon which the determination of the age of sediments of this type still depends. Plants belonging to several genera have



been found along the north-east shore of Buness, in North and South Haven, at Roskilie and at South Harbour. Fish scales and plates were obtained from the east end of South Haven, and fish scales alone from North Haven and Maver's Geo. The crustacean *Estheria* sp. was found at both South Haven and Heswalls, near Field.

The sedimentary rocks of Fair Isle are predominantly grey

to buff (and locally red stained) medium-grained sandstones. Along the north-west coast of the island as well as at the South Gavel of Buness, Goorn and Vaasetter, these are interbedded with thick beds of conglomerate and pebbly grit. There are also several beds of fine-grained sediment, mainly dolomitic mudstone and siltstone, which range in thickness from less than 1 ft to over 100 ft at Furse and Eas Brecks. In the northern and eastern parts of the island these beds are soft and have an ochreous weathered surface, but in the south-west, where the strata are intensely distorted and hardened, possibly by a granite which may crop out just south-west of the island, they are hard, black and slaty.

As is shown on the map the sediments of Fair Isle are tilted to the east-south-east, their inclination ranging from 55° to 75° . The oldest strata are thus exposed on the north-west coast and the youngest are probably those forming Buness. The beds are cut by a suite of near vertical west-north-west trending faults and joints, the most important of which are shown on the map. Though these faults do not appear to have large displacements they form planes of shattered rock which can be readily removed by wave action and have thus given rise to the impressive geos on the west coast. In Devonian times the faults and joints were utilised by ascending magmas. A number of dykes of dolerite and three of microgranite are thus present within or close to the crush belts in the south and west of the island, but do not extend to the east coast. Shortly after dyke emplacement the dykes and crush belts, particularly in the south-west of the island, were utilised by ascending mineralizing solutions which produced networks of veins of the bluish-white, chalky weathering mineral scapolite, as well as white and pink calcite and dolomite and, later, quartz. At Copper Geo and South Reeva the scapolite-calcite veins contain small veins and patches of the copper ore minerals chalcopryite, chalcanthite and malachite.

Finally a note about the effects of the Ice Age. Like Shetland and Orkney, Fair Isle was overridden by ice sheets from the east, which at times originated in Scandinavia, but unlike Shetland and Foula, there is no indication that this island produced local glaciers after the eastern ice sheet had melted. Evidence of west-north-westerly ice movement over Fair Isle is provided by striated rock surfaces at the east end of South Haven and at Udi Geo, South Harbour, and, more spectacularly, by the ice-moulded west-north-west trending rock ridges in the southern half of the island on which most of the houses of Fair Isle are built. The deposit left by the ice sheets is a reddish brown sandy boulder clay, well exposed at the east side of South Haven and at South Harbour. This contains a high proportion of pebbles of relatively soft red sandstone,

suggesting that extensive outcrops of red sandstone are present on the North Sea floor just east of Fair Isle. After the final melting of the ice, Fair Isle, like the rest of Shetland, appears to have been sinking slowly into the sea, as is shown by the frequent occurrence of submerged peat deposits in Shetland and the complete absence of raised beaches.

"ISLAND - HOPPING"

NORMAN ELKINS

At about 5 a.m. on 29th June 1968, the 'Good Shepherd' sailed from North Haven with a load of half-awake islanders and visitors, bound for Foula—45 miles distant, and the loneliest inhabited island in Britain. The trip had been organised by Katie Russell of the North Light, and about 15 people boarded the boat for the long journey. There were four of us from the observatory—Alf Robb, Tony Mainwood, George Brown (an American) and myself. Loaded with sandwiches, cakes and thermoses made up by Catriona, the hostel's indefatigable cook, we set off on a relatively calm sea, with only a light SE wind and thin cloud. The trip was an uneventful 5 hours; very little bird life was seen once we were away from the teeming cliffs of Fair Isle. It was quite clear, and we could see the huge hump of Foula away on the horizon—it seemed to get no nearer until we were almost upon it. Shetland was also clear, and Fair Isle gradually receded into the distance astern.

We arrived at Foula about 10.30 a.m. and were surprised to see only one person to greet us, contrary to our departure, when it seemed the whole population was there to wave goodbye. The 'Good Shepherd' tied up in Ham Voe, her first visit to the island for 18 years. After disembarking, we sorted out the food, and then went our separate ways. Tony, of course, went visiting (being almost an islander himself after his previous stay of 14 months), and several of us went to the Post Office to send postcards, Foula P.O. being a remarkably shack-like affair with the posting-box just a hole in the wall!

It was a great ambition of mine to climb to the top of the Kame, so Alf and I set off along the track northwards towards the croft of Harrier. En route, we crossed the Arctic Skua territory, thus running a gauntlet of diving skuas. We saw some beautiful distraction displays, and by the bombardments we received, it was clear that we were continually on the territory of one pair or another. There were a few Bonxies

breeding in this area but they did not trouble us much—worse was yet to come!

We climbed up on to Soberlie and thence to North Bank, passing an 'inland' Fulmar colony on the small cliffs which border the burn running down into Ham Voe. As we climbed higher, we began to trespass on Bonxie territory, and there the dive-bombing commenced. Having experienced this many times before, we were not unduly worried, but to any newcomer to 'Bonxie-land' it must be a terrifying experience, the heavy birds striking us frequently if not warded off. As we reached the top of the North Bank, the Bonxies ceased to worry us. North Bank is a long flat-topped cliff falling sheer to the sea 700 feet below. The top of the Kame is reached by climbing 500 feet up the steep slope at its SW end. As I reached the top, I was treated to a stupendous view. The whole of Shetland was visible, as also was Fair Isle and the northern Isles of Orkney—70-odd miles away. The sea could not be heard as I looked over the edge—it was 1220 feet down!—the second highest cliff in Britain, even more impressive to me than Conachair on St Kilda, which is about 170 feet higher.

As time was running out, we did not linger, but set off back to Ham Voe along the foot of the Sneug and past Overfandals Loch. The Bonxie attacks were worst along here, and as we looked up, we could see large flocks of Bonxies circling over the hill-tops. With a couple of thousand pairs on the island it was not surprising that they are to be seen everywhere. We reached Ham Voe, and after a short wait to gather everybody together, we left to return to Fair Isle after spending about 4 or 5 hours on Foula.

This time we sailed north to circumnavigate the island, passing close under the Kame. The height was impossible to appreciate until one looked at the seabird colonies through binoculars, and then it took one's breath away. By now the sea was like a millpond in places, and on the return trip we enjoyed a display of unusual optical phenomena in the sky. From about 5 p.m. there appeared a white ring passing through the sun parallel to the horizon, and a little later a small arc like an inverted rainbow appeared high above the sun. The former—a parhelic circle, and the latter—a circumzenithal arc, are caused by the bending of the sun's rays through ice crystals high in the atmosphere under certain unusual conditions.

Again we saw little bird life on the way home, but at dusk we began to see a few Storm Petrels flitting past towards Shetland, no doubt heading for the colony on Mousa. We put in at North Haven about 9 p.m. thoroughly worn out after an unforgettable day.

RACING ROUND FAIR ISLE

TOM MONCRIEFF

In July 1968, a Sail Training Race was run from Gothenburg in Sweden round Fair Isle and back to Kristiansund in Norway. I took part in it on board the 300 ton schooner 'Malcolm Miller' and as navigation was my chief concern I visited Fair Isle in my own boat 'Valkyrie' in early June to gain some knowledge of the approaches to the island and have a yarn with the islanders about tidal currents and off-shore skerries around the isle.

I crossed to Sweden by car ferry from Immingham and the start of the race was most memorable. There were three square riggers, two Swedish schooners, the 'Sir Winston Churchill' and the 'Malcolm Miller' and two French schooners. The parade down the 17 miles of river from Gothenburg to the starting line took several hours and it was estimated that 100,000 people lined the banks and every vantage point. When we came to what should have been the open sea the sight was staggering. Craft of all shapes and sizes from 35 knot hydrofoils to dinghies were milling about in all directions. The line was formed by a destroyer at one end and a frigate one mile away at the other. I have not yet seen the frigate. The observers in the many helicopters overhead estimated that there were at very least 5000 spectator craft at the start and to crown all the huge German ship with full sail set was early for the start and had to plough his way back through the melee. I only saw one head on collision but there must have been many more.

We drifted around in the Kattegat and Skagerak for several days but once clear of Norway we got a good NNE breeze. When about 30 to 40 miles from the isle and still out of radar range, I optimistically went up the fore-mast and to my surprise saw a Swedish schooner tearing along on her way back. It was the 'Gladan.' I had told Captain Griffiths that most of Fair Isle was clean and I had marked in all the 'baas' on the map I had bought at the Bird Observatory so I hoped he would use this information to cut closely round the isle and gain a few miles from our rivals. It was my turn to be surprised when he scraped past the North Light close hauled with the tide pushing us fast to lee. Not only that but he ran down the back of the isle and gybed under full sail with the wind not less than force 6. The sight of J. Stout and a boat's crew at the line fishing impressed everyone on board with the hardships of living on a small island and having to fish in such weather. We scraped past the Skerry and set

course for Lindesnaes. During the next 24 hours we covered 224 miles, the best day's run by either the 'Miller' or the 'Churchill' to date. The 2½ inch nylon topsail sheet carried away that evening and it was a case of 'All Hands on Deck' to get it muzzled and stowed. I did not for a moment expect to see it set again that night but within 50 minutes it was set and drawing with a new terylene sheet.

At the finish next morning, 'Gladan' was 61 miles ahead, 'Falkan' 40 miles astern and 'Churchill' 84 miles astern. We were very glad to have beaten our sister ship and consoled that the Swedes got ahead during the drifting match in the Skagerak. The three big square-riggers never got to Fair Isle but were re-routed round an oil-rig halfway between Lindesnaes and the isle.

In discussions about Fair Isle after the race I noticed that those people who had seen the north, barren end of the isle first did not like it much but the Swedes and others who had first seen the white houses and green fields of the south half thought it was a lovely place.

ACCOUNTS

Fair Isle Bird Observatory Trust : Year ended 31st Oct., 1968

I. Hostel Revenue Account

1967

£40	To Livestock as at 1st November 1967	...	...	£40	0	0
845	„ Foodstuffs, Supplies, etc.	...	...	1022	1	1
42	„ Telephone	...	...	49	6	10
281	„ Wages and National Insurance	...	...	236	0	11
4	„ Sundry Payments	...	...	7	19	5
63	„ Insurance of Huts etc.	...	...	88	4	9
140	„ Fuel and Power	...	...	155	7	4
132	„ Repairs and Renewals	...	...	96	3	1
36	„ Postages	...	...	63	6	7
13	„ Motor Expenses	...	...	17	17	10
21	„ Depreciation	...	...	26	0	0
370	„ Profit for year	...	...	981	9	8
£1987				£2783	17	6

£1879	By Board and Booking Fees	...	...	£2697	11	0
68	„ Miscellaneous	...	...	46	6	6
40	„ Livestock at 31st October 1968	...	...	40	0	0
£1987				£2783	17	6

II. Trust Revenue Account

£692	To Wages and National Insurance	...	...	£813	9	1
8	„ Rent and Insurance	...	...	11	14	0
17	„ Interest paid	...	...	2	11	3
139	„ Travelling Expenses	...	...	184	14	0
57	„ Bird Rings, Nets etc.	...	...	54	3	0
133	„ Printing, Stationery etc.	...	...	310	6	6
47	„ Freight	...	...	68	3	5
5	„ Subscription paid	...	...	3	10	0
85	„ Expenses of Administration	...	...	131	5	10
181	„ Profit for year	...	...	743	16	4
<hr/>				<hr/>		
£1364				£2323	13	5
<hr/>				<hr/>		
£412	By Subscriptions etc.	...	...	£696	7	1
402	„ Income Tax recovered	...	...	436	1	0
11	„ Interest on Savings Bonds	...	...	11	6	4
169	„ Income from Endowment Fund	...	...	198	9	4
370	„ Profit on Hostel Account	...	...	981	9	8
<hr/>				<hr/>		
£1364				£2323	13	5

Balance Sheet as at 31st October, 1968

1967

LIABILITIES

Capital Account :

£2277	Balance at 31st October 1967	...	...	£2707	14	1
181	Profit for the year	...	...	743	16	4
250	Donation (Surplus from Cruise)	...	...	0	0	0
<hr/>				<hr/>		
£2708				£3451	10	5

Appeal Fund :

Balance at 31st October 1967	£117	10	3
Donations received	6172	1	4
Interest on deposits	5	13	1

 £6295 4 8

117 Less Expenses 131 18 7

 6163 6 1

Current Liabilities :

0	Sundry Creditors	...	...	£126	1	4
143	Due to Messrs J. & F. Anderson, W.S.	501	15	4		
0	Bank Overdraft—Trust Account	54	13	3		

 682 9 11

 143

 £2968

 £10297 6 5

ASSETS

Fixed Assets at written down values :

£371	Buildings, Traps etc.	...	...	£371	1	3
316	Furniture, Furnishings etc.	...	...	316	0	0
214	Scientific and Photographic Equipment	...	...	237	19	0
80	Motor Car	...	...	80	0	0

 £981

 £1005 0 3

Investment :

619	£642 3% Savings Bonds 1960-70	...	...	...	619	1	3
	(Market Value £595)						

Appeal Fund Assets :

Temporary Deposits	...	...	£5571	11	7	
Cash in Bank	...	...	591	14	6	
						6163 6 1

Current Assets :

150	Stocks	...	...	...	£157	0	0	
320	Sundry Debtors	...	...	...	756	1	0	
690	Hostel Bank Account	...	...	...	1596	13	10	
88	Trust Bank Account	...	...	...	0	0	0	
1	Cash on hand	...	...	...	0	4	0	
								2509 18 10
£1251								
£2968								£10297 6 5

Edinburgh, 27th January, 1969.—Examined and found correct.

HALDANE BROWN & CO., Chartered Accountants.

Fair Isle Endowment Trust: Funds as at 30th June, 1968

	Book Value	Value as at 31st October 1968
£4325 Grimsby Corporation 3½% Stock 1962-72	£3523 16 2	£3719 10 0
840 Whitbread & Co. Ltd. "A" Ordinary Shares of 5/- each	313 11 0	420 0 0
	3837 7 2	£4139 10 0
Heritable Property—21 Regent Terr., Edinburgh	3050 0 0	3050 0 0
	£6887 7 2	£7189 10 0
Add Sum at credit of Bank Account	144 1 4	
Consisting of:		
Balance of Capital on hand	£148 8 7	
Balance of Revenue overpaid	4 7 3	
	£144 1 4	
	£7031 8 6	£7189 10 0



CATHEDRAL ROCK



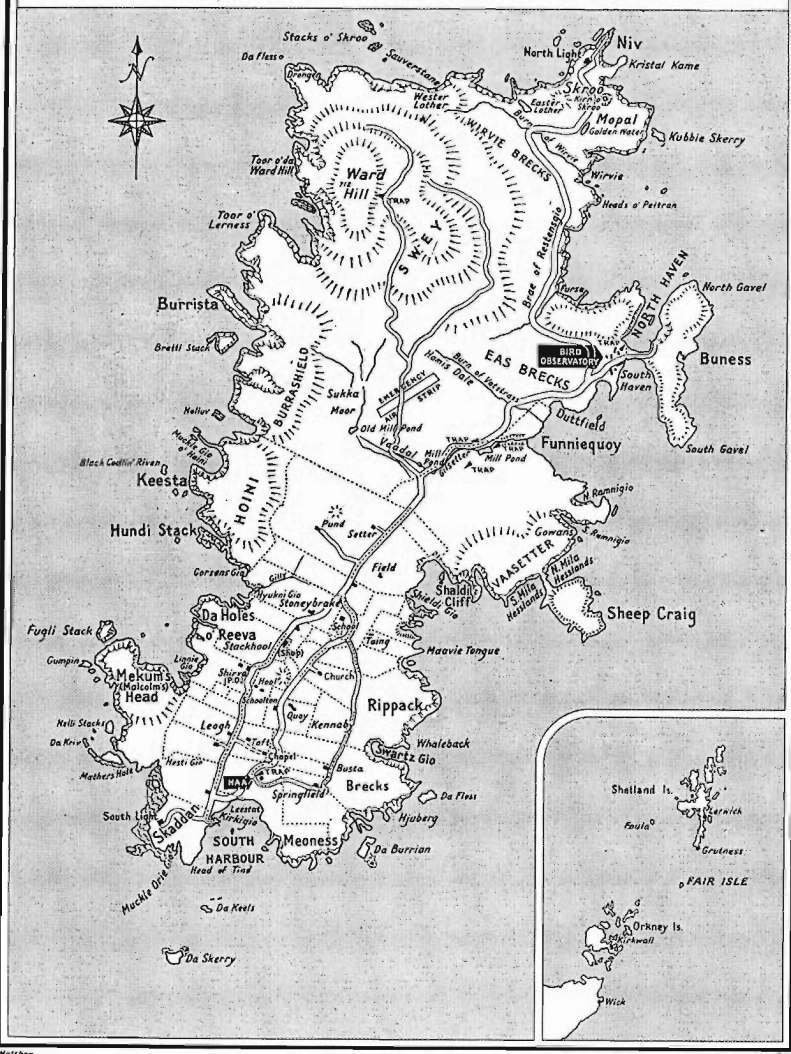
'Torvaldina' carrying rabbit.

(Photo by Roy Dennis)

FAIR ISLE BIRD OBSERVATORY

0 100yds. 440yds. 880yds. 1 mile

Roads Bird Trap Boundaries



Waltham

Edin

WALTER THOMSON
1910