

Scottish Birds



*The Journal of
The Scottish Ornithologists' Club*

THE BIRDS OF FOULA

By E. E. JACKSON

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Spring 1966

FIVE SHILLINGS

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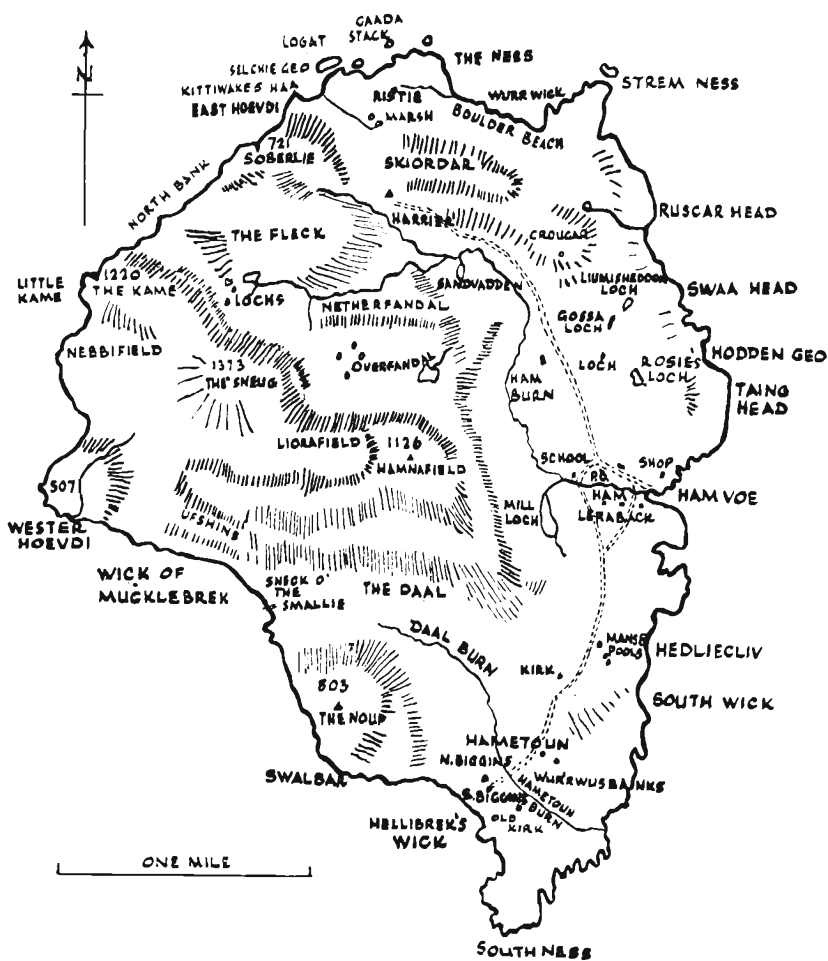
E. E. JACKSON

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Introduction

Low (1879) wrote regarding the birds seen on Foula in 1774, "It is the number not the variety that amazes one, and indeed all the flights I had before seen were nothing to this: as far as the eye can stretch, the whole precipice swarms, the sea around is covered, and the air in perpetual motion, flocking either to or from the rock. This puts one in mind of a capital city to which the whole kingdom resorts once a year. Here they are in perpetual motion, passing and repassing, going and returning; everything is noise and uproar, bustle and hurry reigns, every creature attentive to the great law of nature, hastening to perform its function before the return of winter when it knows it must take its departure."



MAP 1. MAP OF FOULA

General Description

Foula is a small island situated in the North Atlantic 26 miles west of Scalloway and 14 miles from the nearest point of the Shetland Mainland. It lies just north of the sixtieth parallel, which passes through Cape Farewell in Greenland, and Oslo in Norway. Foula is over 100 miles from the north coast of Scotland and 45 miles NNW from Fair Isle. The island is $3\frac{1}{2}$ miles from north to south, $2\frac{1}{2}$ miles from east to west, and almost 4000 acres in area (map 1).

To the east the ground is comparatively flat (plates 4, 7) but it rises steeply to the west, where the four hills—Soberlie (721 ft), the Kame (1220 ft), the Sneug (1373 ft) and Hamnafield (1126 ft)—dominate the rest of the island. The Noup (803 ft) in the southwest is separated from the other hills by the broad glaciated valley of the Daal which runs approximately east to west across the south end of the island. The cliffs between Wester Hoevdi and East Hoevdi, a distance of over two miles, are never less than 500 ft and often over 1000 ft. They reach their peak at the Kame of Foula where there is a 1220 ft sheer drop into the sea. These cliffs clearly show the stratification of the old red sandstone with horizontal ledges, which in places, especially near the sea, are sufficiently weathered to provide breeding ledges for numbers of Kittiwakes* and auks, especially Guillemots. The main cliff faces however are characterised by vast expanses of flat vertical rock. Wester Hoevdi (plate 5) and Nebbifield especially are sheer walls and, like the unbroken faces of the North Bank, provide very few ledges even for Fulmars to get a foothold. The higher parts of the North Bank and the Kame are broken up with grassy ledges and in some places, such as the Little Kame, with long grass slopes. These are colonised by large numbers of Fulmars and countless Puffins. In places the cliffs do not drop sheer into deep water, but erosion and cliff falls have resulted in the accumulation, at their base, of considerable quantities of detritus, which forms an ideal habitat for such species as Shag and Black Guillemot. The talus on the south side of the Noup provides secure nest sites for Manx Shearwaters. Storm Petrels are also numerous here, amongst a jumble of boulders and steep grassy slopes.

Most of the island is composed of old red sandstone. In the extreme northeast, however, the rock is composed of highly metamorphosed pre-Cambrian strata which now appear as greenish grey micaceous schists through which are intruded veins of pinkish granite. Boulder clay is also present in places, and particularly near the Ness. The sandstone gener-

*Scientific names are given in the classified list of species.

ally dips southeastwards at an angle of about 35°. This dip causes landslips at the south end where the strata dip seawards. On the north coast there is a fine series of razor-edged stacks where the strata dip landwards. Some of these stacks are penetrated by caves and natural arches as a result of unequal erosion in strata of varying hardness. The stacks, with the exception of the Gaada Stack, are not important breeding areas, but are used as roosting places, particularly by gulls. The shore line drops below 50 ft only at South Ness, and from Ham Voe to Taing Head, and for short stretches north and south of Strem Ness. Waders are largely confined to these seaward-sloping ledges along the east coast, and to lochans and marshy areas inland. Geos, deep narrow inlets due to erosion along vertical joint and fault lines, are features of the coastline which provide rather more shelter than elsewhere and usually hold more concentrated numbers of breeding birds.

The inland surface of the island (plate 6) has been well smoothed, probably by ice, and is covered either with very thin stony soil with poor grass, or with peat. The peat is a major feature of the island and is still being actively formed. In most areas it has accumulated to a depth of many feet. Drainage is generally poor and the resulting areas of damp and marshy ground are particularly favoured by the breeding skuas. Lochs or lochans are situated in numerous places and, whilst some are only tiny pools, the Mill Loch (plate 2) is about 300 yards long.

Extensive grazing on the island by sheep, cattle and rabbits has modified the natural vegetation. Information regarding the flora of Foula may be found in Turrill (1929) and Messenger and Urquhart (1959).

The ground has been influenced by man's activities for generations. In some places, such soil as there was has been removed to improve cultivated plots, and in others the land has been drained by ditching. The ditches however have not been maintained and in many places they are now choked with reeds. The small areas of arable land are still largely cultivated by hand, and whilst some machinery is now used its value is hardly worth the capital expenditure to the crofter. Oats and barley were once major items in the islanders' diet, being ground either by hand querns or in the clack mills situated along the Ham and Daal Burns. Some oats are still grown for cattle and hens, but none are ground now, and flour is bought from the mainland. The main crops today are vegetables, particularly potatoes.

There are numerous stone enclosures known as 'plantie-

crubs' (plate 4) in which young plants (e.g. kale) could be grown, with protection from the wind, until their rooting systems were sufficiently well developed to allow transplanting into the rigs. Most are now unused for their intended purpose, but many shelter flowers not growing so profusely in more exposed situations. Since there are not many gardens (plate 1), and few trees (none being higher than the stone walls that shelter them), it is the arable areas which provide most cover for migrant passerines. The plantiecrubs, reedbeds, and sheltered areas such as Ham Voe and the Sneck of the Smallie are also favoured.

Human settlement has been confined to the land suitable for crofting on the east side, with concentrations at Hametoun in the south, at Ham in the centre, and at more isolated places in the north, many of which are now abandoned. The shop, school, post office (plate 1), and only suitable landing place (plate 8) are at Ham. The kirk and the manse are to the south of Ham.

Each township is enclosed by a stone wall within which are the cultivated plots and the hay. Within the infield animals are tethered. The crofts (many are now in ruins) are normally situated around the perimeter of the enclosed areas, inside the surrounding wall. Beyond are the peat workings and free grazing land.

In 1790 the population was 143 and this had risen to 267 by 1881. Since then there has been a steady decline, with 175 in 1911, 118 in 1931, 73 in 1953, and 35 at the present time. The occupant of Breckans, the last inhabited Black House in Shetland, died in hospital in Lerwick in December 1964 after being taken from Foula only a short time before. The friendliness and hospitality of the islanders is a byword among people who have visited Foula. They are deeply attached to their island home and it would be a sad day were the possibility of evacuation ever to become a reality.

Ornithologists on Foula

Ornithological visitors to Foula have been infrequent owing to the island's remoteness, the danger of the crossing in bad weather and the unreliability of sailings to and from the mainland. Prolonged periods of work have also been prevented by the general lack of facilities and accommodation available to visitors. Records are few, and scattered in various publications and private notes. The object of this paper is to collect together all available information, which I hope will serve as a useful basis for future workers on the island.

A few of the eighteenth and nineteenth century naturalists

made their way to Foula, but, although their accounts make interesting reading, detailed information on the status of the birds is usually lacking. Evans and Buckley (1899) do however quote a number of the older records. In the present century the first regular observations were made by W. H. Greenaway, schoolmaster on Foula for a number of years from 1917. Unfortunately his observations were never fully written up, though some of his notes survive. After Greenaway there were only very occasional visits by ornithologists until Pennie (1948) published a brief paper following 16 days stay on the island. Venables and Venables (1955) brought up to date the previous work by Evans and Buckley and included a number of fresh references to Foula.

C. K. Mylne has contributed an Appendix on 'The significance of Foula as a migration station' and also a great number of valuable records as a result of his eighteen-month stay on Foula from April 1954 as schoolmaster-missionary. Were it not for his observations, recent records for the period from mid September to May would be almost non-existent.

Since 1956 the Brathay Exploration Group has been visiting Foula and using an old croft as a base camp for three fortnightly expeditions each year. The first expedition normally arrives in the last week of July. These expeditions have an organised programme of field studies which embraces many aspects of biology and geography. Ornithology is a major study and experienced people are appointed to each expedition to supervise this aspect of the work. The author first visited Foula with the Exploration Group in 1959, and has returned each year since, both with the group and independently, for periods of up to six weeks. Since 1960, parties of ornithologists connected with Brathay have been able to visit the island throughout July, but though some cover has been maintained in May and June a fully continuous cover throughout the breeding season has not yet been achieved.

No mention of ornithologists on Foula could be complete without reference to the islanders themselves. They are very keen and knowledgeable about their birds and have been responsible, in the first instance, for a good many of the records that follow.

Some breeding birds

Separate articles below deal with four of the more important breeding species—Fulmar, Great Skua, Arctic Skua and Kittiwake. All other species are discussed in the classified list which follows.

Fulmar

During the residence of Saxby in Shetland (1859-71) this species was commonly seen out to sea, but at that time the only British breeding station was St Kilda. On 4th June 1878 about twelve pairs were found nesting on the Kame, making Foula the second known breeding area. In 1879 the number had increased to about 20 pairs (Garriock 1879). A stranded dead whale which the first-comers discovered, is said to have been the immediate attraction to the island. The same story is told of birds in other places. In 1887 at least 16 pairs were breeding and in 1890 there were between 60 and 100 pairs in two groups about a mile apart. In 1898 there were 'multitudes' on the Kame, and on other cliffs, the increase having been very remarkable. Large numbers of birds were present in 1919 (Fisher 1952). Many authorities consider that the spread is more likely to have come from Iceland and the Faeroes than from St Kilda.

Attempts to reach accurate figures for the breeding population in several recent years have resulted in our realising how cautious one must be in accepting single counts as reliable. Fisher and Venables estimated a little over 10,000 occupied sites in July 1938, and Stewart reached the same conclusion in 1939. In each year from 1959 to 1961 a census was made by dividing the island coastline into sections. The method used was direct counting from the land of all apparently occupied Fulmar sites. Four early July counts all agreed to within 500 sites, and suggested a total population of a little over 8,000 pairs. Three late August counts agreed to within 300 sites and suggested a figure of 4,000 pairs. At the time of the August counts the young birds had not started to leave the nest. During the early part of the breeding season large numbers of non-breeding birds occupy sites on the cliffs, but they move away as the season progresses. In the vast majority of cases it is quite impossible to tell whether a bird occupying a site is in fact a breeding bird. In July 1961 it was discovered that a considerable number of Fulmars left the cliffs just after dusk and returned again at dawn. The sites were left abandoned for several hours and therefore most probably belonged to non-breeding birds. There was no way of making a reliable overall estimate of the proportion of these birds, but in Ham Voe (which cannot be regarded as

typifying other areas) 26 pairs occupied sites during the daytime; only six pairs were actually breeding and, at the time when these six sites were always attended throughout the night by one or both of the adults, the remaining 20 sites were usually, but not always, deserted at night.

Apart from the early departure of non-breeding birds, such factors as mortality and desertion will also contribute towards the drop in numbers during the breeding season. Birds which have left their sites for these reasons will clearly not be included in the late-season estimates of 4,000 pairs.

There has been little evidence of predation on the Fulmar. Some islanders occasionally take the eggs for food but the number taken is insignificant. On 8th August 1961 a Great Skua was seen to take a partly grown youngster from its nest near Hedliecliv and hold the bird underwater until it had drowned. In 1963 two similar occurrences were noted beneath the North Bank during late August.

Away from the cliffs, nests can be found in ruined crofts, plantiecrubs and amongst boulders both on the hillside and at beach level. Forty of these inland sites were recorded in 1961. Dead Fulmars are often found in the plantiecrubs which are too small in diameter to allow the birds sufficient lift to escape once they have alighted inside. This used to be a serious nuisance as the birds broke the cabbage plants in their efforts to get out. The plantiecrubs were covered with a net to keep the Fulmars out, but since very few cabbages are now grown in this way a net is no longer necessary.

The majority of young hatch during the second and third weeks of July, leaving the cliffs in early September.

By the end of September there are few birds left on the cliffs, but many can be seen offshore. The ledges are reoccupied in late October and November. In spring there is a period when the birds which have been on the ledges all winter depart in large numbers for about three days, just before laying. This decrease in numbers was recorded on 11th-13th May 1954, and 12th-14th May 1955, with marked increases on 14th May 1954, and 17th-19th May 1955. From this time the birds settled in to breed without further interruption.

Dark-phase birds have been recorded on only four occasions, twice in March 1955 and in August 1957 and 1958.

Ringed Recovered

pull.	4.8.56	106.63	Foula (found dead)
pull.	21.8.56	143.58	off Newfoundland, 49°N, 50°W; 210 mls WSW.
pull.	4.8.58	315.63	Hirtshals, Jutland, Denmark.
pull.	29.8.60	189.62	North Sea, 54°36'N, 0°12' E.
ad.	12.7.60	206.65	Seahouses, Northumberland; 315 mls S.

Great Skua

The first mention of the Great Skua on Foula is for 1774, when six pairs were present on Liorafield, with possibly some on the Sneug (Low 1879). At this time the Bonxie was greatly favoured by the islanders. Low wrote "In Foula there is a privileged bird, no man will dare shoot it, under the penalty of 16s. 8d. sterling, nor destroy its eggs: when they meet it at sea, whatever fish they have in the boat Skua always gets a share, and all this out of gratitude for beating off the Eagle, who dares not venture to prey on the island during the whole of the breeding season. Skua is not so strong as the Eagle, but much more nimble: strikes at him without mercy, with such effect that he makes the other scream aloud, and his retreat is so sudden as to avoid all danger from the Eagle."

At the turn of the century there were about a dozen pairs, and in 1804 Foula was described as the principal breeding place in Shetland with about 30 pairs (B&R)*. Vetch (1822) said that Bonxies were in exclusive possession of the Sneug above 1300 ft and nowhere else, with probably no more than 30 pairs.

In 1806 Laing (1815), 1809 (Edmonston 1809) and at the beginning of the 1880s (Barrington 1890 a, b) the only breeding places for Bonxies in the British Isles were said to be on Unst and Foula. A colony to the north of Ronas Hill, Mainland, is however mentioned by Dunn (1837) who shot several birds there.

Bonxies were greatly persecuted during the nineteenth century and had become so rare in 1831 when Dr L. Edmondston began to protect the Unst colony that its total extinction seemed inevitable. In 1872 "numbers" were shot on Foula by Bullock (E&B), and in 1874 the colony was "cruelly thinned down" (Saxby 1874).

At about this time the islanders were reported to be taking most of the eggs, and excursion steamers visited the island for the express purpose of shooting skuas. Fortunately John Scott of Melby, then laird of Foula, introduced some measure of protection and even employed a man to follow strangers into the hills. As a result of this protection Saunders (1880) and Russell (1887) said that the skuas were now tolerably safe although a few eggs were still being taken and sold surreptitiously. John Scott was later awarded the silver medal of the Council of the Zoological Society of London for his efforts towards skua protection (Clarke 1892).

There were either 16 or 60 pairs in 1884 (E&B), 60 pairs in

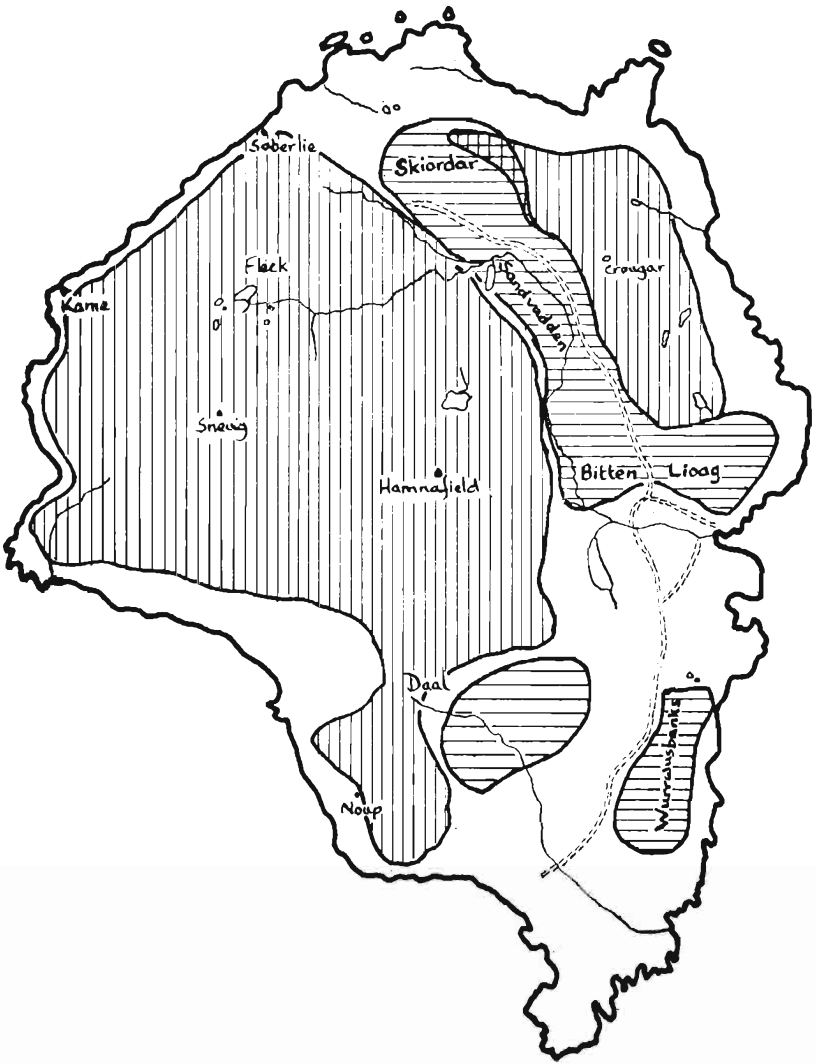
*A key to abbreviated references is given with the classified list of species.

1887 (E&B), 84 in 1889 (Barrington 1890), and 50-100 in 1890. All first and second layings were taken that year and only 35-40 young of third layings were reared (Barrington 1890a; Traill 1890). John Scott's protection was now no longer in effect and persecution had resumed. From 100 pairs in 1891 all first layings were taken except for six eggs, but 60 young were reared from 40 second layings (E&B). 1892 was a very successful year with 120 pairs breeding, but in 1893 the eggs were taken and probably no young reared at all (E&B).

In spite of a gradual increase in numbers, great concern was shown about the future of Bonxies on Foula. Harvie-Brown and Traill both condemned the shooting and egg collecting in letters to the *Zoologist*. Lord Lilford in a letter to R. Scott Skirving (2nd President Edinburgh Naturalists Field Club) dated 25th February 1892, was concerned about the preservation of the Great Skua from extinction. He complained that the absurd sums offered for skins and eggs were too great a temptation to a poor population, and feared that little could be done unless the owner had legal power to prohibit the use of firearms and also to punish for egg stealing. His concern was so great that he was apparently even prepared to consider purchasing the island (which was up for sale at the time) to protect the colony either himself or in cooperation with other subscribers (this letter is now in the possession of the Scottish Ornithologists' Club at Regent Terrace, Edinburgh).

No further information has been traced until "about 1920" when the Noup was first colonised by one pair; there were 30-35 pairs here in 1948 (V&V). In 1938 the total population was estimated at about 300 pairs (V&V). Islanders reckon that the low-lying ground to the north of Ham was first colonised about 1940. 400-500 pairs in 1948 included many non-breeders. Eggs were still being taken for food (V&V). From 1956 to 1959 various estimates by the Brathay Group gave between 500 and 700 pairs. In 1963 careful counts of nests suggested a breeding population of about 900 pairs, but this figure was thought to be reduced in 1964 (map 2). The numbers of the non-breeding population have not been estimated.

The Bonxie is now widespread and numerous as a breeding species in Shetland and has extended its range to Orkney, the Outer Hebrides (including St Kilda), Handa, and the mainland of Scotland. In some quarters it has been suggested that the Bonxie should no longer be afforded the protection it receives under the 1954 Protection of Birds Act. In Shetland it is accused of driving out other birds, and of



MAP 2. The main skua territories on Foula in 1963. The breeding area of the Arctic Skuas is shown by horizontal shading, and that of the Great Skuas by vertical shading. Note the small area of overlap in the north of the island.

causing a serious decline in the numbers of Kittiwakes, Puffins and Arctic Skuas. While it is unquestionably guilty of attacks on these species, it is by no means certain that it has in fact caused any decline in numbers. It may be that Great Skua numbers have increased parallel with, or subsequent to, an increase in the numbers of the prey species. Vetch (1822) recorded that Kittiwakes nested only in Kittiwakes Haa. They now use suitable places all round the island. This apparent increase in Kittiwakes may have led to a subsequent increase in skuas which could rob them and in some cases prey on them.

The increase of the Bonxie in the British Isles has resulted in statements relating to its abundance which should also be subject to more critical examination. Andrew (1964 a, b) suggests that the Atlantic population has increased by a factor of ten in the present century. This has been challenged by Dickens (1964) who suggests that the increase in the southeastern part of its range may well be balanced by the drastic decrease in Iceland. The entire Atlantic population breeds in Iceland, Faeroe and northern Britain. The great increase in Shetland and Faeroe, first noted in the 1930s, seems to coincide with the decrease in Icelandic numbers.

A probable shift of the centre of population from Iceland to Shetland (for reasons not immediately apparent) has given some people the idea that a population explosion has occurred. The evidence suggests that this is not true, and that the Bonxie remains one of the rarest sea birds in the North Atlantic.

Bonxies arrive on Foula from the beginning of April onwards, 27th March 1891 being the earliest recorded date.

There is a marked preference for nesting about the hill-tops and on peat moors, often in damp situations. Most of the island surface exhibiting these features has now been colonised.

Courtship has been observed from as early as 1st May to as late as 6th August. Egg laying is at its peak during the latter half of May, and, following (on average) 30 days for incubation and 45 days for fledging, the young fly during early August. Adults often dive at newly flying young and force them to the ground. This possibly has some survival value in that it prevents the young from straying into territories of other skuas where fatal injuries are sometimes received.

Birds begin to leave the island from mid August, though some remain throughout September. The latest record is of one on 9th October 1954.

At one time the islanders collected Bonxie eggs for food.

Though the practice has been less common in recent years Mylne gives an interesting account for 1954. The first collecting was done on 16th and 17th May, and according to tradition a second excursion to the hills was made a fortnight later to collect the eggs freshly laid in the same nests. The colony from which the collecting was made later produced large numbers of young. On 26th July many young were still in down and some not more than two weeks old. These were probably the chicks of parents whose eggs had been collected twice and had not laid again until mid June. The half-fledged chicks at this date were probably from nests which had been robbed once in mid May, and where incubation of the second clutch had not started till early June, with a hatching date in early July. The first flying young were also seen on 26th July and these probably represented eggs which had escaped the collectors and were laid in mid May.

It is unlikely that the collection of Bonxie eggs would have much effect on the breeding success of the skuas themselves, since replacement layings may take place even after the second or third clutches have been taken. It is interesting however to speculate on the possible effects on the prey species. The collecting of the eggs may mean four or five weeks postponement in the breeding season. This means that the maximum requirements for food to satisfy growing young coincide with the period when young Kittiwakes are leaving their ledges and young Puffins their burrows. In an uninterrupted season the skuas would presumably select a food supply more readily available at an earlier date. Observations have shown that young skuas are fed at first almost entirely on fish, but later (particularly when the skuas have a late breeding season) birds, especially young Kittiwakes and Puffins, become an important part of their diet. The corpses found on Bonxie territory vary from one year to another. From 1956 to 1959 adult Puffins were particularly numerous; in 1960 young Kittiwakes predominated; but from 1961 to 1964 relatively few bird corpses were found, and in these years fish remains were much more in evidence than previously.

Comparatively few of the characteristic piratical attacks made to obtain fish have been seen immediately offshore. There is a marked passage of skuas to and from Shetland and presumably much food is collected on these journeys, possibly from the Shetland Gannets. If any boats are gutting fish offshore large numbers of Bonxies quickly collect and are so greedy that they will almost take offal from the hand.

Bonxies undoubtedly kill large numbers of the island's birds, but it is still questionable whether they cause any

serious depletion in populations. There are three main methods of attack. The commonest is where a Bonxie selects an individual bird and pursues it with incredible agility. Unlike the occasions when it is pursuing for fish the skua repeatedly drives straight into its victim, striking it with feet, breast or wings until it has been forced to ground (or water), where it quickly kills its prey with a few well directed blows of its powerful bill. Quite often a bird coming down on land is not further attacked, but those brought down on the sea almost invariably are. The fury of these aerial attacks is sometimes so great that the skua itself may be injured (broken wings sometimes result), and other skuas quickly move in and take advantage of the damaged bird. It is on such occasions that cannibalism amongst adults takes place. In the second method the skua waits at the entrance to a burrow for a bird to emerge. A well directed blow with the bill at the base of the skull of the prey is sufficient. Thirdly, a skua sometimes swoops along the cliffs passing close to Puffins gathered on the slopes. The Puffins take to flight and wheel round in dense flocks before relanding. The skua climbs to a height above a chosen flock, and with half-closed wings dives like a hawk into the concentration of flying Puffins. Sometimes after the first dive, but usually after a few attempts, a Puffin is struck and, if not caught in flight, falls to the sea below, where, if not already dead, it is killed by the skua. Bonxies occasionally work in groups to obtain their food (see under Arctic Skua). They will attack almost any species, and successful killings noted on Foula have included Storm Petrel, Fulmar, Eider, Oystercatcher, Lapwing (young), Arctic and Great Skuas (adults and young), Herring Gull, Arctic Tern, Black Guillemot, rabbit and hedgehog. Red-throated Diver and Heron (see under Heron) have also been subjected to fierce attacks, but ultimate killings have not resulted.

In May and June 1958 Dr A. C. Perdeck visited Foula with other Dutch ornithologists. Results of his studies relating to skua behaviour were published in *Ardea* (Perdeck 1960, 1963).

Non-breeding or off-duty birds spend a great deal of their time either in the Bonxie 'clubs'—traditional sites where they rest and display—or in bathing parties. The Bonxie is particularly fond of bathing in fresh water, and at almost any time of the day parties may be seen splashing, diving and rolling in the water. Most lochs are used for bathing, but Overfandal Loch, the Fleck Lochs, and particularly the Mill Loch, are the favourites (plate 3). Bathing parties are at their largest at about midday, especially on warm sunny days. The largest party on record is of 175 birds at Mill Loch.

Recoveries of Great Skuas ringed as chicks on Foula

	Recovered in						Total
	First Winter	Second Winter	Second Summer	Third Winter	Third Summer	Fourth Summer	
Greenland			6				6
Faeroes					1	1	2
British Isles	6		1	1	1	1	10
Denmark	7(4)						7
Germany	6(5)						6
Holland	8(5)						8
Belgium	1						1
U.S.S.R.	1						1
Poland	1(1)						1
Austria	2(2)						2
France	13(6)			1			15
Spain	4	2		2			8
Portugal	4	2					6
Tunisia			1				1
	53(23)	5	8	4	2	2	74

Figures in brackets indicate birds involved in the 1963 'wreck'; 17 of these were recovered between 2nd and 25th October 1963, some of them far inland.

3464 Great Skuas—all pulli—have been ringed on Foula since 1954.

Selected Great Skua recoveries

Ringed	Recovered		
31. 7.59	28.12.59	at sea off W coast of Ireland,	52°45'N, 12°00'W.
29. 7.60	20. 6.63	at sea NW of Faeroe Islands,	62°30'N, 8°00'W.
1. 8.61	16. 6.63	Jakobshavn, Greenland,	69°10'N, 51°00'W.
1. 8.61	10. 5.63	Gabes, Tunisia,	33°52'N, 10°06'E.
14. 7.62	1. 9.62	Cherven, Minsk, U.S.S.R.,	52°41'N, 28°30'E.
2. 8.63	3. 9.64	off Sezimbro, Portugal (2 birds),	38°26'N, 9°06'W.
(the two birds were caught together in fishing tackle)			
26. 7.63	9.11.63	Aix les Bains, France,	45°41'N, 5°55'E.
27. 7.63	2.10.63	near Glogow, Poland,	51°40'N, 16°06'E.
6. 8.63	10.10.63	Jochenstein, Germany (released),	48°31'N, 13°43'E.
and again	10.10.63	Niederkappel, Austria,	48°28'N, 13°53'E.
26. 8.63	18.10.63	Hard, Lake Constance, Austria,	47°29'N, 9°42'E.

Arctic Skua

Barrington (1890a, b) estimated the colony at about 60 pairs. Pennie (1948) reckoned the adult population at about 250 individuals but said they were diminishing in numbers owing to the ravages of the Bonxies, "practically none of the young being allowed to reach maturity." Estimates of breeding birds made in mid June by Dickens and Rushforth, and in early July 1960 by Bell and Jackson, gave a total of about 130 pairs. Similar figures were obtained in 1961 and there was no apparent change in 1962 or 1963 (map 2). An incomplete survey made by Mylne in 1955 gave comparable figures for the area covered.

Bonxies kill a few of the unfledged Arctic Skuas, normally by two or more birds diverting the attention of the parents while another one moves in to make the kill. Many young birds are killed when making their early flights. Once they fly from their own territory and the immediate protection of their parents they may fall easy prey to the Bonxie. In 1960 mortality in newly fledged birds was high, with probably as many as 20% falling victims to Bonxie attacks. Venables frequently found tarsi of Arctic Skua chicks in Bonxie castings during June 1948. The proportion killed clearly varies from one year to another. In 1961, after 117 young Arctic Skuas had been ringed, a search was made to see if remains of any of the ringed birds could be found. Only three of the ringed young were found killed. It would appear that the species is still as numerous as in 1948. Over the period 1959-64, however, the Bonxies have encroached on the Arctic Skua territory to the north of Ham, and the total area occupied by the Arctic Skuas is slowly being reduced. A continuation of this process might well lead to a reduction in numbers of Arctic Skuas. Probably the largest single factor contributing towards this encroachment is that the Bonxies, now in larger numbers, arrive on the breeding ground and take up territory well before the Arctic Skuas. Newly matured or other Bonxies seeking a new nesting site move into the fringe area of the main colony. When the Arctic Skua arrives back at its old nesting place it may find that a Bonxie is already present and well established, and will not be moved. It remains to be seen whether a balance of populations will be reached, or whether the present trend will continue and the Arctic Skua be ultimately driven out.

The main date of arrival on Foula for the summer is variable and probably dependent on weather conditions. Greenaway recorded first arrivals on 27th, 26th, 30th, and 28th April in the years 1917-20 respectively. Mylne gives the following details:

- 1954—1 on 23rd April, then 4 on 29th, 13 on 3rd May, 20 on 4th, with main arrival on 5th-8th May.
- 1955—1 on 23rd April, 2 on 24th, over 30 on 26th, and main arrival from 27th April to 1st May.

Cootion has been observed on 10th May and eggs are laid towards the end of this month. In 1919 Greenaway recorded the first young on 20th June, and for 1954 and 1955 Mylne gives his first dates as 19th and 15th June. Nearly all the young are on the wing by the end of July.

Once the Arctic Skua has taken up its territory it becomes very aggressive towards any intruders. Bonxies flying over the Arctic Skua's territory are harried unmercifully, some-

times by half a dozen birds, and generally come off worse for the encounter. Gulls and crows are seldom seen over skua territory, but when they or birds of prey are about, they are attacked with equal ferocity. In addition the Arctic Skua will attack human beings, cows, sheep, dogs, rabbits and even hedgehogs. There are two records of dogs catching skuas when being attacked by them.

Non-breeding birds congregate round the lochs on the lower part of the island and parties of up to 30 or more can frequently be seen. These birds generally leave at the beginning of August, the breeders moving off, more or less overnight, shortly afterwards. The breeding grounds are almost deserted by early September and the latest record of an Arctic Skua is of one on 23rd September 1955. Unfledged young are occasionally deserted when the adults leave. There is one winter record of a bird seen on 21st November 1892 (E&B).

An extremely tame dark-phase Arctic Skua returned to Leraback every summer for 31 years, eventually being found dead near its nest with a broken wing in 1941. Its partner continued incubation for about a week and then secured a new mate. In June 1938 James Fisher and L. S. V. Venables were amused to see Robina Isbister of Leraback feeding this bird with the remains of the breakfast porridge. In 1948 the old tradition still continued and both birds came for their morning porridge. James Rattar of Broadfoot also had a 'tame' dark bird which had come to his house for food every summer for 12 years (V&V). In the years 1956-65 a tame bird still visited several of the crofts for scraps.

A phase count at dawn on 15th July 1961 of all Arctic Skuas other than birds of the year, but including non-breeders, gave the following results (map 2):

Number of Arctic Skuas of each phase			
Area	Light	Intermediate	Dark
Daal	15	13	18
Wurrwusbanks	47	48	77
Bitten	13	12	13
Lioag	14	26	39
Sandvadden	4	17	15
Skiordar	10	12	30
	—	—	—
	103	128	192

Of a total of 423 birds 24.3% were light-phase. From a sample of 134 birds in 1955 Mylne counted 34, or 25.3%, light-phase, and in 1960 Bell and Jackson counted 50, or 23.9%, light-phase out of a sample of 209 birds.

Ringed		Recovered	
pull. 7. 7.60	Foula	26. 6.62	Bressay; 40 mls E.
pull. 18. 7.56	Fair Isle	16. 7.61	Foula; 45 mls NNW.

Kittiwake

Vetch (1822) recorded Kittiwakes Haa as being the only breeding place of this species on Foula. There are now colonies at North Bank, Kittiwakes Haa, Selchie Geo, Hodden Geo, South Ness, Noup, Wester Hoevdi and Nebbifield. In 1961 the total breeding population was estimated to be between 5000 and 8000 pairs. Great difficulty was experienced in counting the more remote colonies and it was impossible to produce a more precise result. Venables says that "the number of Kittiwakes breeding on Foula becomes less every year, this being mainly due to the Bonxies which prey on the adults all the summer and take eggs and chicks from the nests." In recent years it has become apparent that the great majority of Kittiwakes killed by Bonxies are immature birds and that the number of adults killed or nests robbed is quite small.

Foula used to be famous for its Kittiwake flight from the breeding cliffs to the Mill Loch at Ham. The islanders tell how the string of singing birds was never broken. The Isbisters of Leraback said that sometimes they could hardly hear themselves speak, but they did not mind; it was so "light-some" hearing the birds. Powell (1938) says that when he was on Foula in 1936 he saw Kittiwakes bathing in one end of the loch. L. S. V. Venables found very few using Mill Loch in 1938, and ten years later they had been completely ousted by the Bonxies. On 20th May 1955 Mylne saw a large flock heading towards the Mill Loch, but was not able to confirm whether they were allowed to use their traditional bathing place.

Rosie's Loch is now the regular bathing place for Kittiwakes and parties of up to 1000 birds may be seen here throughout the breeding season. After bathing they frequently remain preening and resting on the rocks at Taing Head. They pay little attention to the skuas nesting all round Rosie's Loch, and the skuas have not been seen to make any attacks on the bathing Kittiwakes.

Greenaway recorded arrival dates of 29th April 1917 and 3rd April 1919. Mylne recorded most Kittiwake activity in early May. Birds from the cliffs flew down to Rosie's Loch and the Manse pools in noisy parties of up to 200 to bathe and gather nesting material. They formed a continuous procession to and from the cliffs and gathered mud and peat 'mould' in large beakfuls. The cliffs begin to be deserted in mid July and by mid August very few birds are to be seen. The latest record in recent years is of a single bird on 23rd October 1954.

Classified List

The list which follows includes all species for which there is a positive record for Foula. Other species have been reported but, since details were lacking or the evidence insufficient, I have considered it necessary to exclude them completely from this paper.

References to published records are given in the text. Much information has never been published and, unless otherwise stated, all records for which no reference is given are from notes by W. H. Greenaway 1917-20, C. K. Mylne 1954-56, and the Brathay Exploration Group 1956-65. Ornithologists working on Foula with the group since 1956 have included J. F. W. Bruhn, J. V. Boys, M. Bell, R. F. Dickens, R. W. W. Dawe, J. C. Gittins, D. B. Iles, E. E. Jackson, A. E. Land, A. R. Mainwood, D. A. Rushforth and W. C. Wakefield. D. R. Wilson has also worked on Foula in some recent years, and his records are included. Records coming within the scope of the *British Birds* Rarities Committee have all been accepted except for 1961 Pectoral Sandpipers and 1961 and 1965 Scarlet Grosbeaks which, as indicated in the text, are still being considered as this supplement goes to press.

The following abbreviations are used in the text:

B&R—Baxter and Rintoul, 1953. *The Birds of Scotland*.

E&B—Evans and Buckley, 1899. *A Vertebrate Fauna of the Shetland Islands*.

V&V—Venables and Venables, 1955. *Birds and Mammals of Shetland*.

Local names, often ambiguous, exist for many of Shetland's birds. Those which have been heard in use by the Foula people are included after the scientific name.

RED-THROATED DIVER *Gavia stellata*. Rain Goose. Summer resident. Breeds. Recorded breeding as early as 1829 (B&R), but none in 1899 (E&B). Several islanders recall breeding starting again in the 1930s, indicating that breeding had ceased for a number of years previously. The name of a favourite breeding loch, Loomieshun or Liumisheddon, indicates a long history of breeding. This name is applied to several other similar lochs throughout Shetland, and means loma-tjorn, or tarn of the diver (Jakobsen 1936). Breeding is now regular at most small lochans, with up to 7 pairs in some years. From 45 eggs laid in the period 1959-63 18 young birds reached the flying stage. Birds leave breeding sites by the end of August or early September.

GREAT CRESTED GREBE *Podiceps cristatus*. One on 27th May 1963.

SLAVONIAN GREBE *Podiceps auritus*. One in October 1895 (E&B).

LITTLE GREBE *Podiceps ruficollis*. One on 1st November 1895 (E&B).

LEACH'S PETREL *Oceanodroma leucorhoa*. Present in small numbers in summer. Probably breeds. Nests are said to have been found by islanders in the past, but the evidence is not conclusive (Wilson 1958). Thirteen birds caught in 1965 all had brood patches.

It is difficult to assess the significance of a Foula-ringed bird recovered on North Rona in the following breeding season.

Ringed	Recovered	
ad. 6.8.57	6.7.58	North Rona; 150 mls WSW.

STORM PETREL *Hydrobates pelagicus*. Ala Moutie. Summer resident. Breeds. Undoubtedly very numerous on the island. In the nine years 1957-65 a total of 3216 birds have been trapped inland and at points around almost the entire coastline. Greatest numbers occur between South Ness and Wester Hoevdi. Their breeding sites are mostly still unknown which, considering the nature of the terrain, is not surprising. Hewitson (1832) found them breeding in great numbers "in holes in the cliff at a great height above the sea." Evans and Buckley mention a few pairs breeding between Ham and the Ness; and at Hellibreks Wick the species occupied a series of burrows on some green ledges 30 feet from the top of the island—Pennie found a nest here in 1948 though the site now seems to be occupied entirely by Puffins. Islanders have reported nests on the Sneug, the Kame and Hamnafield. In the last few years a

number of nests have been found near the Sneck of the Smallie and at the back of the Noup. The number of birds captured in these areas suggests that sizeable colonies may exist.

Ringed	Recovered	
ad. 18.8.62	22.6.64	Fair Isle; 45 mls SSE.
ad. 15.8.63	5.8.64	Fair Isle; 45 mls SSE.
ad. 12.7.60	30.6.61	Mousa; 36 mls ESE.
ad. 3.8.61	31.8.61	Garderhouse, Mainland; 30 mls ENE.
ad. 28.8.63	2.2.64	False Bay, South Africa, 34°08'S, 18°25'E.

MANX SHEARWATER *Procellaria puffinus*. Leerie. Summer resident. Breeds. Dunn (1837) said that "considerable numbers" bred in the island. Evans found nests in 1887 (E&B), probably on the Noup, but Drosier (1831) suggests nesting high up on the Kame. When the Venables visited Foula in 1938 they found quite an extensive colony on the Noup but this was considerably smaller when they revisited the island in 1948. R. Isbister of South Biggins said that shearwaters were becoming less numerous every year and their burrows were being taken over by Puffins. It seemed to him that Puffins were actually driving out shearwaters for, apart from the nests on the Noup, there used to be an extensive breeding colony on Leerie Heads up to about 1910. This locality is now occupied only by Puffins. He gave 50 pairs as a very rough estimate of the total Foula breeding population in 1948, mostly on the Noup but with a few pairs on the South Ness and about the Sneck of the Smallie. In 1956 Wilson estimated the colony at possibly 30-40 pairs, and in 1963 Bell and Jackson considered numbers to be much the same.

On many evenings in July and August 1961 the shearwaters collected into a flock of up to about 50 birds and could be seen flying around the island before coming in to their burrows on the Noup. This flocking has not been recorded in other years.

SOOTY SHEARWATER *Procellaria grisea*. Occasional visitor in early autumn. Since 1959 up to 3 birds have been recorded off the coast every year except 1960, between 11th August and 13th September.

FULMAR *Fulmarus glacialis*. Maalie. Breeds. Abundant throughout the year. See separate article.

GANNET *Sula bassana*. Solan. Common offshore, especially in late summer. Usually in small numbers but with anything up to about 250 birds present. Adults have been seen pat-

rolling the cliffs in recent years, though there has been no evidence of breeding.

CORMORANT *Phalacrocorax carbo*. Lorin. Occasional visitor. "Evans observed an occasional specimen, but the bird must be rare in that quarter as Mr F. Traill, who lived on Foula, reported it only once." (E&B). The species seems to be no more numerous today as only occasional birds have been recorded in recent years. Most occurrences have been of single birds in August and September, when they come to fish on Mill Loch. A bird at Mill Loch on 9th March 1955 disgorged three trout when disturbed, and left two others killed, but not eaten, at the side of the loch. On most days in July and August 1963 a bird could be seen off Hedliecliv.

SHAG *Phalacrocorax aristotelis*. Scarf. Abundant throughout the year. Breeds in vast numbers around the coast, and nests can be found anything up to 300 ft above sea level. The largest colony is in the Wick of Mucklebrek where approximately 1000 pairs were breeding in 1961 and 1962. In 1955 birds were carrying nesting material by 13th March, the first eggs were reported on 19th April and young on 20th May. In bad weather flocks of over 300 birds can frequently be seen gathered on the headlands.

Rafts of over 1000 birds were gathered off the east coast in August 1963 and 1964, presumably fishing for the mackerel and piltock (young saithe) which were extremely abundant at the time.

Recoveries of Shags ringed as chicks on Foula

	Recovered in					Total
	First Winter	First Summer	Second Winter	Second Summer	Fourth Summer	
Shetland	50	16	10	3	1	80
Orkney	2	1	1			4
Scotland	10	2		1		13
Norway	2					2
Denmark	1					1
	65	19	11	4	1	100

3132 Shags—all but 17 were pulli—have been ringed on Foula since 1954.

Selected Shag recoveries

Ringed Recovered

10. 8.57	11.10.57	near Golspie, Sutherland; 160 mls SSW
12. 8.57	13.10.57	Peterhead, Aberdeenshire; 180 mls S.
10. 8.59	5. 3.60	Loch Eynort, S. Uist, Outer Hebrides; 270 mls SW.
12. 8.63	8. 4.64	Monifieth, Angus; 255 mls S.
14. 8.61	15.10.61	Voersa, Jutland, Denmark; c.450 mls SE.
11. 8.61	2.12.61	Batalden Isle, Sogn og Fjordane, Norway; c.250 mls E.

HERON *Ardea cinerea*. Haignie. A regular passage migrant,

especially in late summer and autumn. Up to six annually between 4th July and 13th November. One frequented the Ham Burn in December 1954.

A bird flying high over Hamnafield on 25th August 1963 became the object of a vicious attack by a Great Skua. Once the Heron had been driven to the ground the skua soon lost interest but almost an hour elapsed before the Heron moved off.

MALLARD *Anas platyrhynchos*. Stock Duck. An occasional visitor, especially in late autumn. Thought to have bred in 1948 (Pennie 1948). In recent years small numbers have occurred from late July to November, with a maximum count of 9 on Mill Loch from 17th to 23rd October 1954. Odd birds also occurred on 24th-27th March 1955, 13th-16th June 1961, and 4th-7th July 1965.

TEAL *Anas crecca*. Summer visitor. Breeds. Up to four pairs have bred each year since 1954. Venables (1955) suggested that breeding was not regular on the island. On 23rd June 1955 four ducks were seen with a total of 20 ducklings.

WIGEON *Anas penelope*. Seen in winter in the 1890s, but never stayed long (E&B). Since 1954 up to 8 birds between 3rd May and 17th September.

PINTAIL *Anas acuta*. One duck on 26th May 1954. A pair on 29th April 1955 attempted to land on Mill Loch but was disturbed by Great Skuas and flew off to the south. A male in eclipse plumage was on the pools by the kirk on 6th September 1962, and one was on Fleck Lochs on 11th-15th August 1963. Noted singly on 6th July and 4th September 1965.

[**MANDARIN** *Aix galericulata*. One, doubtless an escaped bird, on 15th and 16th June 1942 (V&V).]

SCAUP *Aythya marila*. Two drakes on 7th August 1957, another on Mill Loch from 4th September 1958 until observers left on 8th, and one from 21st to 26th June 1965.

TUFTED DUCK *Aythya fuligula*. A pair in late November 1892 and two in 1895 (E&B). A drake on 27th May 1955, and a duck on Mill Loch from 27th July to 2nd August 1961. One on 17th July 1965.

POCHARD *Aythya ferina*. One on 6th September 1964.

GOLDENEYE *Bucephala clangula*. A drake on 17th and 18th and a duck on 30th October 1954.

LONG-TAILED DUCK *Clangula hyemalis*. Calloo. Although a regular winter visitor to Shetland there are very few records for Foula. Frank Traill saw only one in the winter of 1892-

93. Up to five, mostly drakes, were recorded between 20th September and 14th November 1954.
- VELVET SCOTER** *Melanitta fusca*. An adult drake in Ham Voe on 22nd July and a duck there on 9th August 1963.
- COMMON SCOTER** *Melanitta nigra*. Surprisingly uncommon summer visitor. Six, four drakes and two ducks, on 10th June 1955, one on 31st August 1959, and one on 7th July 1960.
- EIDER** *Somateria mollissima*. Dunter. Resident. Breeds. No estimate of numbers before a count of about 30 breeding pairs in 1960, and no apparent change since then. Nests are found not only near the shore but frequently on Overfandal and in the Fleck Loch area at heights up to 650 ft. Females with young chicks can usually be seen scattered along the coast into early September. Many of the young are taken by skuas and gulls and breeding success is probably very low. There is a large non-breeding population, and total numbers of Eiders are usually between 350 and 500 during August, when males outnumber females three to one.
- RED-BREADED MERGANSER** *Mergus serrator*. Eight records of single birds, mostly off Ham Voe between 13th May and 24th October, all since 1954.
- SHELDUCK** *Tadorna tadorna*. One from 30th July to 5th August 1964.
- GREY LAG GOOSE** *Anser anser*. One on 1st May 1954 was reported by islanders to have been there since the previous autumn, consorting with domestic geese. Up to 16 from 24th June to 30th July 1965.
- BEAN GOOSE** *Anser arvensis arvensis*. One on 15th June 1955.
- PINK-FOOTED GOOSE** *Anser arvensis brachyrhynchus*. One wintered in 1955 and another, which had apparently been frequenting the island since December 1958, was seen in August 1959. One caught at Liumisheddon on 15th August 1962. Twelve grey geese flying NW on the evening of 3rd September 1959 were probably of this species.
- WHOOPEE SWAN** *Cygnus cygnus*. An occasional winter visitor to Mill Loch. One on 9th April 1955, two on 18th June 1955, and one from mid June until 26th July 1962. All other records fall between 15th August and 8th November, with most from mid October. Birds have been recorded arriving from the west and passing over Foula towards the Mainland. The maximum recorded is 7 on 30th September 1954.
- WHITE-TAILED EAGLE** *Haliaeetus albicilla*. Erne. The first mention of breeding on Foula was in 1809 (B&R). Drosier

recorded breeding in 1830, Hewitson in 1832 and T. Edmonston in 1843. There is no evidence when the eyrie was last occupied, but a clutch of two eggs was taken in 1900 and again in 1901 (B&R). The last occurrence on Foula is reputed to be of a dead bird which was washed ashore in 1903 with its claws embedded in a halibut, too large for it to lift.

HEN HARRIER *Circus cyaneus*. On 19th February 1955 two were seen by Peter Rattar chasing Starlings near his croft, and later in the day Mylne saw a male flying south over the snow. On the following day a male flew south off Ham Voe while the Christmas mail was being unloaded from a relief boat. One on 25th June 1965.

PEREGRINE *Falco peregrinus*. Stock Hawk. Evans recorded one, possibly two, pairs breeding in 1877 (E&B), and a pair was reported screaming on the Noup in 1955. The islanders say that odd pairs nested, but not in every year. Single birds have been seen on occasions from July to September in each year from 1957 to 1963 by Brathay parties, but not in 1964 or 1965, and there is no evidence of breeding in these recent years.

MERLIN *Falco columbarius*. Maalin. Passage migrant. There has been no evidence that the species breeds at all since Venables (1955) stated that "we do not know whether breeding is regular or only sporadic in Foula." In 1954 and 1955 up to 3 birds were recorded between 9th February and 28th May. Autumn occurrences in recent years have been between 18th July and 18th October. In 1954 Merlins were noted on 23 days between 15th September and 18th October, but since 1960 single birds only have been seen and none was noted in 1964 or 1965.

KESTREL *Falco tinnunculus*. A spring and autumn migrant in small numbers. Four spring records of single birds between 1st and 14th May in 1954 and 1955. One or two birds every autumn 1954-64 (except 1956 and 1964) between 28th July and 19th October, with the majority in late August and early September.

QUAIL *Coturnix coturnix*. Deadchick. Occasional summer visitor. Records since Venables have been of one calling between 9th June and 7th July 1955; one seen on 3rd August 1958 which had apparently been present for most of the summer; one bird certainly, and a second possibly, calling on 13th June 1960— islanders reported that birds had been present for about three weeks previously; and one seen in his crops by John Holbourn on 19th August 1964. One on 28th June 1965.

WATER RAIL *Rallus aquaticus*. A passage migrant and regular winter visitor (V&V). On 29th April 1954 one was caught at South Biggins when there were several in ditches at the south end. Single birds were seen until 10th May.

SPOTTED CRAKE *Porzana porzana*. One was well seen at close range in a roadside ditch above the School on 4th September 1961.

CORNCRAKE *Crex crex*. Formerly bred. Eggs were taken in 1897, but long since extinct as a breeding species. There are a few records for recent years. One male present in early June 1948, and up to 4 in five years since 1954, between 4th May and 27th August.

MOORHEN *Gallinula chloropus*. Has bred. Scarce passage migrant. A pair or so used to breed on Foula but they are recently extinct (V&V). On 1st September 1959 two partly-grown young and two or more adults were seen in the Hametoun Burn. Other records presumably refer to birds of passage: 12 around Hametoun on 24th April 1955, single birds on 31st August and 1st September 1958, on 18th August 1961 and on 12th August 1965.

COOT *Fulica atra*. An injured bird present during the spring of 1963 was cared for by Ken Gear.

OYSTERCATCHER *Haematopus ostralegus*. Shelder. Summer resident. Breeds. Passage migrant. No estimates made of breeding population before 1960. From 1960 to 1963 between 12 and 20 pairs breeding, with rather more in 1963 than in the three previous years. Parties of non-breeding birds are present each summer and frequently number 50+ birds. About 110 were at the Boulder Beach on 10th August 1959. In 1954 six birds remained until December. None was seen subsequently until 15 on 13th March; numbers increased to 30 by 21st.

A tame bird known as Charlie, originally hand-reared by an island boy, returned to certain crofts each summer from 1954 to 1960. It was in the habit of taking shell fish, and even expedition biscuit from the hand. In its first winters, which it spent on the island, it came regularly into the crofts. At South Biggins it would keep the dogs away from its favourite place in front of the stove, and could be quite aggressive to humans as well. Later, this bird, which was recognisable by its tameness and an old break in one of its toes, was known to spend each winter in Lerwick.

Ringed	Recovered	
pull. 8.8.61	14.5.65	Karmoy Island, Norway, 59°20'N, 5°15'E.



PLATE I. Foula Post Office (flat-roofed building) and croft, showing limited cover in the walled area, the moor and peat workings, and the rock-strewn slopes of Hamnafield beyond.

Photograph by C. K. Mylne



PLATE 2. The Mill Loch, the largest stretch of fresh water on Foula, used for bathing by Bonxies, Fulmars and gulls, and as a feeding area by migrant waders. It contains brown trout and sea trout.

Photograph by E. E. Jackson



PLATE 3. Bonxies bathing in the Mill Loch. This is a familiar sight on Foula and up to 175 have been counted at once.

Photograph by C. K. Mlyné



PLATE 4. Ham Voe and the Mill Loch, showing planticrubs and peat workings (*bottom left*) and the layout of the central crofting area, on the east side of the island.

Photograph by E. E. Jackson



PLATE 5. Wester Hoevdi on the west side of the island, with auk and Kittiwake colonies. Though by no means the highest cliffs, being only about 500 ft at the lowest point shown, these are the sheerest.

Photograph by E. E. Jackson



PLATE 6. The Sneug and the Kame from the east across the moor; Bonxies breed throughout this area.

Photograph by E. E. Jackson



PLATE 7. The deserted north end of Foula, with a ruined croft, storm beach (or boulder beach) and stacks.

Photograph by C. K. Mylne



PLATE 8. A winter gale at Ham Voe, the island's only suitable landing place for the mailboat, which is drawn up the slipway for safety. The Haa and shop are beyond.

Photograph by C. K. Mylne

LAPWING *Vanellus vanellus*. Tieves Nicket. Breeds occasionally. Passage migrant. Only one breeding pair in 1948, but R. Isbister of South Biggins said there had previously been about six pairs (V&V). There was a large reduction over the whole of Shetland after the abnormally severe winter of 1946-47 and the population took several years to recover (V&V). In 1960 up to 10 pairs were seen regularly in June and early July, and the species was thought to breed at both north and south ends of the island. In 1961 four pairs were present throughout the summer, but only one pair reared any young. In July 1962 a single bird occupied territory in Ristie marsh where a second bird was found freshly killed. There was no attempt at breeding in 1963. On 24th March 1955 there was a considerable influx following an easterly gale. Birds were scattered all over the island, with about 100 round the school in the morning. Small migrating parties of up to 12 Lapwings have also been noted during the period July-October.

RINGED PLOVER *Charadrius hiaticula*. Sandi Loo. Summer resident and passage migrant. During the period 1960-63 from eight to twelve pairs bred each year along the northern and eastern sides of the island. Numbers build up during August and early September with maxima usually between 25 and 40 birds; 62 were present on 27th August 1960.

	Ringed	Recovered	
	pull. 1.8.57	28.7.58	Tresta, Mainland; 28 ml ENE.

GREY PLOVER *Charadrius squatarola*. Two on 11th August 1965.

GOLDEN PLOVER *Charadrius apricarius*. A passage migrant in both spring and autumn, with a few birds occasionally seen throughout the summer. Usually most numerous from mid August to early September, with up to 30-40 birds fairly regularly; 80 were present on 25th April 1954.

TURNSTONE *Arenaria interpres*. Ebb Pecker. A regular passage migrant and winter visitor, but with some summer records in recent years. Autumn birds usually begin to arrive in early to mid July and numbers build up steadily during August, reaching a peak towards the end of the month. The largest flock recorded is of 100 birds on 9th November 1954. By October Turnstones can be seen feeding regularly with Redshanks on the rigs, and during a period of bad weather in December 1954 birds were feeding freely inland in flocks of 40-50. There were frequent records during May 1954, with 5 as late as 29th and 6 on 26th June. In 1955 ten birds were in almost complete summer plumage on 27th April.

The last were seen on 6th May. Four were seen on 14th June 1961. Available information from islanders and Bra-thay observers suggests that a few birds spent the full summer of 1963 on the island.

SNIFE *Gallinago gallinago*. Snippick. Very common at all seasons. In early June 1960 about 30 pairs were estimated to be on the lower eastern half of the island, and later birds were found to be equally numerous on higher ground, particularly in the Overfandal and Fleck Loch areas. Three nests were found over 1000 feet. The island's breeding population was estimated at 60-70 pairs. In every year 1956-64 nests with eggs or small young have been found in August, with latest date for newly hatched young 25th August 1961.

Ringed	Recovered	
f.g. 9.9.61	27.11.62	Hareyo, Spain, 42°28'N, 3°34'W.

JACK SNIFE *Limnocyptes minimus*. Frank Traill reported this species as occurring in September and October (E&B). It is probably regular on passage in small numbers, and has occurred singly on 10th May 1954 and in the autumn of eight years since 1954 between 11th August and 26th November.

WOODCOCK *Scolopax rusticola*. A number occurred in the autumn of 1898 (E&B); 2 between 29th October and 26th November 1954; and several in the third week of January 1955 were probably only seen because of snow, making the birds more conspicuous; one on 18th July 1962.

CURLEW *Numenius arquata*. Whaup. Does not breed. Small parties of Curlews occur fairly regularly from May (earliest date 4th) to early July. From then until October they become much more numerous, with flocks of up to 40. A few birds were about the island from November 1954 to February 1955, and some 25-30 throughout March 1955, but none in April.

WHIMBREL *Numenius phaeopus*. Peerie Whaup. A regular summer visitor (extreme dates 29th April-9th September). Does not breed. Numbers are usually below 12, but flocks of 20-25 doubtless passage birds are occasionally seen, as on 17th August 1962 and 16th August 1963. A flock of 42 on 21st August 1963 was exceptional.

BAR-TAILED GODWIT *Limosa lapponica*. Occasional passage migrant. Recorded in five years since 1954, with up to 5 birds between 4th August and 24th September.

GREEN SANDPIPER *Tringa ochropus*. Venables lists only seven

occurrences of the species in all Shetland, yet since 1954 it has been noted on Foula in every year except 1963. There is one spring record for 30th April 1955, and about 40 autumn records between 13th July and 6th September. Records are usually of one or two birds about mid August; 6 were present on 23rd August 1962.

WOOD SANDPIPER *Tringa glareola*. Single birds on 25th May and 27th July 1954. A very tame bird fed by Gossa Loch from 30th August to 8th September 1958, and one was present on 5th-9th and 18th-23rd August 1962.

COMMON SANDPIPER *Tringa hypoleucos*. A few birds appear on passage in spring and autumn, though no more than 3 have been recorded at one time. Seen in each month from May to early September.

REDSHANK *Tringa totanus*. Ebb Cock. Does not breed. Seen regularly each year from early July with numbers seldom exceeding 30. The maximum recorded was 57 on 22nd August 1962. Mylne reported birds present in winter.

SPOTTED REDSHANK *Tringa erythropus*. Neither B&R nor V&V list this species for Shetland. Single birds have occurred on Foula from 27th August to 8th September 1958, on 1st September 1959, on 4th August 1962 (with 3 on dates between 5th and 10th), and from 7th to 15th August 1964.

GREENSHANK *Tringa nebularia*. Occurs regularly on autumn passage during August and early September, usually only one or two birds, but 4 were at Strem Ness on 25th August 1960. In 1961 one was present on 14th July.

KNOT *Calidris canutus*. Ebb Cock. Not recorded by F. Traill during his time on Foula (E&B), though it is now a regular autumn migrant in small numbers. On 17th July 1960 a bird in full breeding plumage was present and other red birds have been seen up to mid August. Numbers are usually small. Maxima in recent years have been 34 on 20th August 1959, 27 on 23rd August 1962, and 35 on 16th August 1963. Most have moved on by early September.

PURPLE SANDPIPER *Calidris maritima*. Ebb Sleeper. A regular winter visitor. F. Traill reported the species as "exceedingly abundant in the winter months, generally on the coast, but occasionally on lochs and burns." In the autumn storms of 1954 they were often seen feeding and resting on stubble and up on the rigs around the crofts. The earliest arrival date is 3rd July 1965, but birds are seldom seen regularly until August. In recent years there have been up to 33 birds present during August and Sep-

tember. The species was recorded all through October and November 1954, and from 23rd March 1955, with 20 on 4th May and the last one on 13th May. A few were present until late May 1963.

LITTLE STINT *Calidris minuta*. Three on 14th August 1963, and one or two from 22nd August to 12th September 1965.

TEMMINCK'S STINT *Calidris temminckii*. One on 10th and 11th June 1954.

PECTORAL SANDPIPER *Calidris melanotos*. Two birds frequented grassy pools near Ristie from 31st August to 7th September 1961. One was caught and ringed. One caught on 18th September 1965. The 1961 record is still being considered by the Rarities Committee.

DUNLIN *Calidris alpina*. Ebb Cock. Bred successfully in 1965; the first breeding record. Mostly seen in autumn, but there are several records for June in recent years and the species is probably regular at this time. The earliest autumn date is 20th July 1962 and after this birds are seen regularly. Numbers seldom exceed 6, but about 40 were seen on 22nd August 1965—a year in which the species was particularly numerous.

CURLEW SANDPIPER *Calidris testacea*. One in September 1896 (E&B). One on 9th September 1965.

SANDERLING *Crocethia alba*. Occurs regularly on autumn passage in small numbers, with the earliest date 19th July 1962. A maximum of 20 on 8th September 1954 is recorded. Birds are still on the island when Brathay observations finish in early September.

RUFF *Philomachus pugnax*. Regular autumn migrant. Recorded each year 1954-65 between 3rd August and 24th September, with a maximum of 9.

RED-NECKED PHALAROPE *Phalaropus lobatus*. One "procured" by Frank Traill on 28th August 1898 (E&B). Dr H. Holbourn recorded "one in autumn in the 1930s", and one was seen by Mrs D. M. Gear on 15th June 1961.

GREAT SKUA *Catharacta skua*. Bonxie. Summer resident. Breeds. See separate article.

ARCTIC SKUA *Stercorarius parasiticus*. Allan or Scootie-allan. Summer resident. Breeds. See separate article.

LONG-TAILED SKUA *Stercorarius longicaudus*. One was present in May and June 1958 (J. Gear).

IVORY GULL *Pagophila eburnea*. One was captured on 8th December 1892 and sent by Frank Traill to the Edinburgh Museum of Science and Art. It was caught by means of

a rod and line, the hook being baited with a bit of fish (Clarke 1893).

GREAT BLACK-BACKED GULL *Larus marinus*. Swaabie. Resident and visitor. Generally numerous in Shetland but not so on Foula. Drosier (1831) saw only a few pairs in 1828, Graves and Ralfe (1899) found them rather scarce in 1898, and Venables found very few breeding pairs in 1948. Careful estimates in 1960 put the breeding population at about 15 pairs. It has been suggested that the large number of skuas on Foula tend to keep down the number of breeding gulls. At the present time this would seem a reasonable argument, but it would not account for the situation in the 1800s when skuas were far less numerous. During July and August additional flocks of up to 300+ birds may be seen, especially after easterly winds; they seldom stay long. Great Blackbacks were considered more numerous during the colder months in Foula (E&B). In 1954 numbers increased up to 100 by mid October but decreased during November.

LESSER BLACK-BACKED GULL *Larus fuscus*. Saide Fool or Peerie Swaabie. Very few breed. Visitor in small numbers. No more than 2 or 3 pairs, all at the south end, in 1960, when one pair was nesting amongst Arctic Terns at South Ness. In 1963 P. J. Reay reported a Lesser Blackback × Herring Gull pair sharing incubation of a clutch of 4 eggs on Logat Stack. Totals of 30+ on 4th August 1957, up to 25 from 1st to 8th September 1961, and about 50 on 21st August 1965 would seem to have been exceptional.

One of the Scandinavian race *L. f. fuscus* on Wester Hoevdi on 25th August 1963.

HERRING GULL *Larus argentatus*. Maa. Scarce compared with the mainland distribution. In 1960 there were about 20 pairs along the east and south sides, with probably rather more on the west. Up to 200 birds recorded, but numbers are very variable and increases in the normal resident population have been noted in most months.

COMMON GULL *Larus canus*. Peerie Maa. Three pairs bred in 1954, and a pair attempted to nest near Loch Croft in 1955 but lost their eggs. In 1960 there were probably no more than 5 pairs nesting, all on the eastern side. Increases in the population are noted in August and September, with recent examples of 26 on 8th August 1954, about 40 on 11th August 1956, about 100 on 1st September 1958, and 4th August 1962, 30 from 1st to 7th August 1963, and about 300 on 16th August 1965. Smaller influxes have been noted in spring.

In the summer of 1955 a Great Skua with a broken wing, swimming on the sea, was attacked and hit by a Common Gull.

GLAUCOUS GULL *Larus hyperboreus*. Iceland Scorie. Regular winter visitor in small numbers. In the winter of 1892-93 Frank Traill reported some dozen birds frequenting the coast. One was seen on 25th August 1963, but most records are from late October with a maximum of 8.

An adult bird in full breeding plumage was seen from 8th to 16th May 1954, but died on this latter date. On dissection it was found that the bird had died of starvation as a result of having a sea urchin stuck in its gullet.

ICELAND GULL *Larus glaucoides*. Frank Traill records one in 1893 feeding on marshy ground inland (E&B). An immature bird was present from 10th to 13th July 1955, when it occasionally took scraps from the Voe.

BLACK-HEADED GULL *Larus ridibundus*. Peck Maa. Frequent visitor. Many records of up to 4 (once 10) birds between 25th March and 30th September. One or two "in the middle of winter" 1892-93 (E&B). One on 26th-27th November 1954.

KITTIWAKE *Rissa tridactyla*. Waeg or Rippick Maa. Summer resident. Breeds. See separate article.

COMMON TERN *Sterna hirundo*. A pair at Ruscar Head between 5th and 26th June 1954, and 2 pairs there on 7th July 1955, are the only records.

ARCTIC TERN *Sterna macrura*. Tirrick. Summer resident. Breeds. The number of birds and situation of breeding colonies vary considerably from year to year. The main colonies are usually at Strem Ness, Wurrwusbanks and South Ness, but odd pairs can be found at almost any place along the east coast. From 1954 to 1964 the breeding population has varied erratically between 100 and 300 pairs. Birds usually begin to leave the island in late July and most have gone by mid August. In some years however they may still be at their colonies until the end of August. The latest record is of 4 at sea on 14th September 1955.

RAZORBILL *Alca torda*. Sea Craa or Wilkie. Summer resident in large numbers. No estimates have been made of the breeding population because many ledges are quite invisible from the cliff tops, and a considerable number of birds nest hidden amongst loose boulders at the foot of the cliffs. On a summer day in the 1930s, when large shoals of sand eels were in Gruting Voe, J. Peterson saw at least 3000 Razorbills fishing there and considered that most of these must have come from Foula (V&V). Greenaway re-

corded the arrival of Razorbills and Guillemots on 20th March 1919 and said they were "nesting on the east side of the island and fast increasing." Very few nest there now. Razorbills have not been recorded on Foula after 11th August.

LITTLE AUK *Plautus alle*. Rotchie. Winter visitor, probably numerous at times. The tide streams off Foula are one of the main Shetland wintering places of this species. Frank Traill reported Little Auks as numerous at sea in December 1892 and January 1893 (E&B), and the mail crew have often reported large numbers at sea in winter.

GUILLEMOT *Uria aalge*. Loom or Lung Wheeda. Summer resident in large numbers. More numerous than the Razorbill, with several thousand pairs breeding on the western cliffs. On 27th July 1960 many Guillemots and Razorbills were still present on their breeding ledges and yet the following morning they seemed to have vanished overnight, with only seven further records for either species up to 19th August. A similar overnight disappearance was recorded for 25th/26th July 1961. Frank Traill saw young at sea in the autumn and winter of 1892, and at the beginning of February 1893 a few individuals were noticed on the cliffs in the early morning (E&B).

Of 3418 birds counted in 1960 and 1961 on the northern and western cliffs, 715 were 'bridled', a proportion of 20.9%. Witherby *et al.* (1941) give the proportion of bridled birds on Foula as 24.2%.

BLACK GUILLEMOT *Cephus grylle*. Tystie. Common resident. Breeds all round the coast wherever there are suitable boulders. The main concentration of breeding birds is in the Boulder Beach of Wurr Wick and, though numbers are difficult to determine, 153 adults were counted here on 10th June 1960. Arctic Skuas frequently sit on the boulders in this colony waiting for birds entering their nest sites with butterfish *Centronotus gunnellus*, which appear to be the young Black Guillemot's commonest food. In 1959 young birds were being fed in at least one nest as late as 6th September. From late August rafts of over 100 birds can be seen off the east side and there has been no apparent decrease in numbers when observations cease in mid September.

Frank Traill records a bird which had attained full summer plumage by 30th January.

Ringed	Recovered	
pull. 9.9.61	30.9.61	Eshaness, Mainland; 30 mls NE.

PUFFIN *Fratercula arctica*. Norie. Abundant summer resident.

Countless thousands breed along the western cliffs with smaller numbers elsewhere. Until recently the species was thought to be increasing and many Manx Shearwater burrows had been taken over by the Puffin. In 1962 and 1963 it was noted that Puffins were absent or present in reduced numbers in some of the smaller colonies. It was also felt that the density of birds on the western cliffs was less than in 1959 and 1960. Both adult and young birds are frequently taken by Bonxies on Foula, but there is no evidence that this is the cause of any decrease, which may be following the pattern of similar decreases elsewhere. In 1955 the first birds of the season were seen on 2nd April. Most birds leave the cliffs during the last week of July and the first week of August, and very few remain by mid August. The latest record is of one on 5th September 1960. Two were seen during the winter of 1892-93 (E&B).

Rock Dove *Columba livia*. Doo. Resident in small numbers. Evans' and Buckley's statement that "Foula is hardly such a stronghold of the rock dove as might be expected from its nature and position" still holds good. The summer population seems to vary from 20 to 40 birds and, apart from the locality of one or two traditional nesting sites, there is no information about the breeding of the species in Foula. Flocks of up to 20 birds may often be seen, especially on newly sown corn on the rigs in spring, when they can be quite a menace to crofters who sow and harrow by hand. A maximum flock of 65 was recorded on 8th May 1954. Birds became scarce in December 1954 during bad weather, but numbers were back to normal in January.

Racing pigeons occur very occasionally on Foula but seldom stay for more than a few days. Some interbreeding has however occurred.

WOODPIGEON *Columba palumbus*. Occasional visitor. Sixteen records 1954-65, mostly in May and June, between 1st May and 8th November.

TURTLE DOVE *Streptopelia turtur*. Passage migrant in small numbers. Single birds recorded in spring on 5th July 1954, 1st June 1955, 7th June 1963 and 23rd-24th June 1965. More regular in autumn with up to 4 birds between 20th August and 15th September in all recent years.

COLLARED DOVE *Streptopelia decaocto*. One from 31st May to 2nd June 1963, and several records by islanders from May to August 1964 and 1965.

CUCKOO *Cuculus canorus*. Occasional visitor. Several spring records between 12th May and 10th June. In 1960 single

adults were at Ham on 9th and 10th June and islanders reported that 2 birds had been about; a juvenile was at Ham on 18th-20th July. The only two autumn records are of juveniles on 6th September 1958 and 25th August 1963.

BLACK-BILLED CUCKOO *Coccyzus erythrophthalmus*. On 11th October 1953 Mrs D. M. Gear found an exhausted bird which subsequently died and was sent to the British Museum (Sims 1953; Williamson 1954).

SCOPS OWL *Otus scops*. Of five Shetland records two come from Foula; one in late April 1900 (Clarke 1900), and one on 10th May 1926 (Greenaway 1926).

LONG-EARED OWL *Asio otus*. Occasional visitor. One was blown ashore after heavy gales a week before 27th October 1898 (E&B); Greenaway captured one on 19th June 1919; and one was seen from 9th to 12th May 1954. The islanders reported several in the autumn and winter of 1963-64.

SHORT-EARED OWL *Asio flammeus*. Catyogle. Occasional visitor.

1954—Single birds 31st May-2nd June, 9th August, 27th October and 12th-13th November.

1955—One on 31st May.

1958—One on 3rd August.

1959-60—One found with a broken wing at Hametoun by the Isbisters in early May 1959 was kept at South Biggins until August 1960, when it died.

Remains of others were found in August 1963 and 1964, and one was seen on 23rd August 1965.

NIGHTJAR *Caprimulgus europaeus*. Rare visitor. Greenaway recorded one on 29th May 1917 and watched one hawking for moths at midnight on 10th June that year. One was churring in the hills of Foula during the nights of 5th and 6th July 1924, and the species was reported to have been present during the two previous summers (Bishop 1931b). In 1955 single birds were seen at North Biggins on 10th June and near the Manse on 7th and 8th July.

SWIFT *Apus apus*. Frequently recorded from 4th May to 7th September. Greenaway was "amazed at this derelict" when he recorded one on 5th September 1919 on a warm sunny day. The majority of records are for August, and the maximum number recorded is about 30 on 27th August 1958. A bird flew from a hole on the northeast slopes of Soberlie hill on 27th July 1960—a year when odd birds were seen far more regularly than usual about this period

—though a subsequent search failed to reveal any signs of a nest.

HOOPOE *Upupa epops*. One seen on 10th June 1957 by G. H. Davenport.

GREAT SPOTTED WOODPECKER *Dendrocopos major*. Rare visitor. The islanders report that they have seen birds very occasionally in autumn, but no dates have been recorded. One was seen near the Hametoun Burn on 17th August 1963.

WRYNECK *Jynx torquilla*. Occasional visitor. One captured alive in a byre on 30th April 1898 (Traill 1898); since 1954, one spring record for 10th May 1954 and 9 autumn records between 24th August and 4th October.

WOODLARK *Lullula arborea*. One on 4th November 1954.

SKYLARK *Alauda arvensis*, Laverock. Breeding pairs are scattered all over the island making numbers very difficult to assess, but probably 20-30 pairs. Influxes have been noted during August and early September, particularly after periods of northwesterly winds. Many birds leave the island for the winter, although a few can usually be seen even then.

SWALLOW *Hirundo rustica*. Regular migrant in small numbers. On 6th July 1924 a nest was found on the beam of a stone out-building. The adult birds were hawking in the vicinity and the nest (which was not disturbed) was thought to contain young (Bishop 1931a). Up to 15 birds in a day have been recorded on many dates between 27th April and 19th October.

HOUSE MARTIN *Delichon urbica*. Regular migrant. R. Isbister reports the species as having nested once, and in 1958 House Martins attempted to breed in the old kirk but gave up when the nest collapsed. A regular migrant, usually in very small numbers, with extreme dates 3rd May and 3rd October. Appears to be more regular in spring than autumn. About 50 birds were seen on 2nd June 1955.

SAND MARTIN *Riparia riparia*. Single birds between 10th May and 29th June on five days in 1954, two days in 1955 and one in 1963. One on 29th August 1960 and one on 2nd September 1959. Eleven on 3rd and one on 4th September 1965.

RAVEN *Corvus corax*, Corbie. Two to three breeding pairs on the island up to 1960, but probably no more than one pair each year since then. The species is certainly less numerous than it used to be and is sometimes shot or the nests destroyed by the islanders. In the years 1956-59 up to 10 birds were frequently seen in a day, but it is now

quite exceptional to see more than half a dozen. It seems probable that parties of Ravens from Shetland occasionally visit the island. On 17th October 1954 there was a flock of 27 birds over Hamnafield and others were seen later. Smaller influxes have also been recorded on 24th March 1955 and 11th August 1963.

Ringed	Recovered	
juv. 11.6.60	18.1.61	Foula.

CARRION CROW *Corvus corone corone*. One from 15th to 17th May 1954, and one on 17th July 1965, when 2 freshly dead corpses were also found.

HOODED CROW *Corvus corone cornix*. Hoodie Craa. Resident in small numbers. One or two pairs breed in most years. Seldom more than five birds seen in a day; 13 on 14th September 1954 were considered not to be island birds.

ROOK *Corvus frugilegus*. An occasional visitor, usually after southerly winds. In the years 1917-19 Greenaway recorded birds on 5 occasions between 7th February and 12th May with a maximum of 50 on 29th March 1918. Ten arrived after a week of southeasterly gales on 26th November 1954, and were still present the following day. Two were at Ham on 19th March 1955.

JACKDAW *Corvus monedula*. One on 12th February 1918.

GREAT TIT *Parus major*. A single bird spent most of the 1959-60 winter about Ham (Mrs D. M. Gear).

WREN *Troglodytes troglodytes*. Robbie Cuddie or Stenkie. Resident. A not uncommon breeding species. In the summer months singing birds occur around crofts, along walls and among boulders, ranging from cliffs at sea level to the top of the Sneug. In December 1954 birds were apparently occupying the same territories as during the summer. The birds were badly affected by the severe weather of January-March 1955 and none was seen on inland territories, except on one occasion, until mid June. Numbers in cliff territories were also much reduced.

FIELDFARE *Turdus pilaris*. Regular migrant. Passes through in small numbers each spring. In 1954 this passage occurred from 3rd to 12th May (the latest spring date) with 50 on 7th. In 1955 birds were seen between 3rd and 9th May with a maximum of about 15 birds on any one day. In 1954 the first autumn birds appeared on 8th October, but there was no inrush until 17th-19th, when 300 were noted; about 200 on 27th had increased to about 1000 by the 29th, with a further increase on the 30th. These immigrants mostly left the island at dusk in flocks of 50+. This

was most noticeable at South Ness where flocks could be heard and occasionally seen climbing to gain height as they left in company with Blackbirds. One alighted in a field at Ham for a few minutes in thick fog on the exceptionally early date of 21st August 1959, and one occurred on 7th September 1962. First noted in September 1965 on 8th and over 300 on 27th.

SONG THRUSH *Turdus philomelos*. Occasional visitor. One which arrived on 27th February 1919 and stayed for several weeks was the only Song Thrush seen in 7 years on Foula by W. H. Greenaway. From 1954 to 1964, there were 14 records of single birds between 5th March and 28th October, with 2 on 26th, 7 on 27th and 5 on 28th September 1965.

REDWING *Turdus musicus*. A regular spring and autumn migrant. A typical autumn movement in 1954 started on 8th October with 300+, which had moved on by next day; the maximum number recorded was about 500 moving south on 16th October; smaller numbers were noted until the end of the month. In 1962 single birds were seen on 4th and 7th September. The last dates for spring birds in 1954 and 1955 were 11th and 13th May respectively.

Ringed	Recovered
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1st. W. 12.9.65 Fair Isle	14.9.65 Foula.
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RING OUZEL *Turdus torquatus*. On 29th April 1917 Greenaway recorded a flock of about 40 which stayed only one night after arriving on a northeast wind. A pair was seen on 7th June 1955. In 1960 several islanders reported that a bird had stayed for several weeks in May and June and had been in song near Mill Loch. One was seen on 31st August 1960. A singing male was recorded on 20th June 1963. One on 28th September 1965.

BLACKBIRD *Turdus merula*. Black Starrie. Breeds in small numbers. Passage migrant. Greenaway recorded a few, mostly single birds, in October and November 1917-20, with one on 27th February 1919. First bred 1930 (Greenaway 1930) and has continued ever since. Since 1954 about 12 pairs have nested each year. In 1954 autumn movements were noted on many dates from 8th October to 4th November with a maximum of 100 on 1st November.

Ringed	Recovered	
juv. 15.8.56	19.1.59	South Skeld. Mainland.
juv. 5.8.57	15.7.61	Retrapped Foula.

WHEATEAR *Oenanthe oenanthe*. Stanekhak or Steinkle. Summer resident and passage migrant. A common migrant in

spring and particularly in autumn, when numbers may rise to 200+ on some days in August. Breeding pairs scattered all over the island, but probably more numerous around the open peat banks. Most summer residents have left Foula by the end of July and those seen from August onwards are on passage through the island from the continent or the far north. The latest date in recent years is 4th October 1954, though Greenaway noted 6 on 14th October 1918.

Ringed	Recovered	
f.g. 6.9.62	18.10.63	Gironde, France, 44°34'N, 1°09'W.
f.g. 25.8.63	21. 4.64	Fair Isle (retrapped); 45 mls SSE.

STONECHAT *Saxicola torquata*. One on 1st May 1955.

WHINCHAT *Saxicola rubetra*. Passage migrant. A few records in spring between 2nd and 30th May. More regular in autumn when there are many records of up to 12 birds from 18th July to 28th September, with the majority during the latter half of August and early September.

REDSTART *Phoenicurus phoenicurus*. Passage migrant. Fairly regular as a spring and autumn migrant in small numbers, though some years pass without the species being recorded. First and last dates recorded in spring are 23rd April and 31st May, and in autumn 20th August and 24th October.

BLACK REDSTART *Phoenicurus ochruros*. Occasional visitor. Two on 31st May 1948 (Pennie 1948). Since 1954 there have been 7 records of single birds between 18th April and 29th October.

BLUETHROAT *Cyanosylvia svecica*. One on 29th September 1955 (Mrs J. Rattar).

ROBIN *Erithacus rubecula*. Migrant and winter visitor in small numbers. Has occurred on passage in autumn from 22nd September, and in spring to 6th May. One on 25th June 1963. Fifteen on 27th September 1965.

REED WARBLER *Acrocephalus scirpaceus*. One on 4th and 5th September 1964, and one on 16th August 1965.

SEDGE WARBLER *Acrocephalus schoenobaenus*. An occasional passage migrant recorded in spring from 10th May to 2nd June, and in autumn from 18th July to 1st September. Singing birds were recorded on 11th and 12th August 1958 and 18th July 1961.

ICTERINE WARBLER *Hippolais icterina*. One caught in Ham Voe on 7th August and another at Hametoun on 23rd August 1963. One, and probably another, present from 18th to 23rd August 1965.

BLACKCAP *Sylvia atricapilla*. Regular passage migrant in

small numbers. Recorded in spring from 23rd April to 13th June, and in autumn from 30th August to 7th October. Five were present on 21st September 1954.

BARRED WARBLER *Sylvia nisoria*. A regular autumn migrant in small numbers. It has occurred in most recent years between 14th August and 27th September, with a maximum of 4 birds at one time. All records are of juveniles.

GARDEN WARBLER *Sylvia borin*. Regular passage migrant. Up to 6 recorded in spring between 27th April and 15th June. More numerous in autumn, when they have been noted between 9th August and 16th October. The maximum was 30+ on 25th August 1963.

WHITETHROAT *Sylvia communis*. Regular passage migrant. A few in late May 1898 (Graves & Ralfe 1899). Spring and autumn dates 6th May to 7th June and 11th August to 24th September. A maximum of 6 birds is recorded.

LESSER WHITETHROAT *Sylvia curruca*. Passage migrant in small numbers. One or two in most years with extreme dates 7th May to 18th June and 11th August to 1st October. One caught on 7th May 1955 was of the Siberian race *S. c. blythi*.

WILLOW WARBLER *Phylloscopus trochilus*. Regular passage migrant. Bred successfully in 1949 (V&V). A common migrant in spring and autumn with extreme dates for passage birds of 27th April to 16th June and 7th August to 27th September. Numbers are usually small in spring, but in late August and early September up to 30 are recorded in most years. On 24th August 1963 it was estimated that over 90 were on the island.

CHIFFCHAFF *Phylloscopus collybita*. Single birds on 8th, 9th and 23rd September and 9th October 1954, and on 8th May 1955. One bird present from 29th July to 4th September, and another on 24th and 25th September 1965.

WOOD WARBLER *Phylloscopus sibilatrix*. One on 24th and 25th August 1954; one on 21st and 22nd August 1963, at least 4 on the 23rd, and single birds to 4th September.

GOLDCREST *Regulus regulus*. Greenaway recorded Goldcrests on 22nd October 1918 and 6th-8th October 1920. On this last date, after three days of heavy southeast gales, "Foula had an invasion of Goldcrests and they were scattered all over the isle. Many succumbed." Since 1954 single birds have occurred between 20th July and 17th October. Islanders reported the species as particularly numerous in autumn 1959.

SPOTTED FLYCATCHER *Muscicapa striata*. Irregular passage

migrant. Up to two birds seen in 6 years since 1954. Recorded in spring from 14th May to 13th June and in autumn from 7th August to 27th September.

PIED FLYCATCHER *Muscicapa hypoleuca*. Regular passage migrant. A few spring records between 4th May and mid June, but more regular in autumn with up to eight between 10th August and 28th September.

RED-BREASTED FLYCATCHER *Muscicapa parva*. An adult female was seen in Ham Voe on 21st September 1955; one on 5th September 1964.

DUNNOCK *Prunella modularis*. Single birds have occurred on 28th May 1955, 27th August 1958, and 8th August 1959.

MEADOW PIPIT *Anthus pratensis*. Teetick or Hill Sparrow. Summer visitor and passage migrant. Common as a breeding species, and pairs are scattered over the entire island. Probably between 30 and 50 breeding pairs. During August and September birds on passage are frequently seen. Some come down to rest on the island, as did about 300 on 23rd August 1963, but many fly on, sometimes at a considerable height. Such birds are nearly always moving in a south-easterly direction. The return passage in spring is not nearly so pronounced.

TREE PIPIT *Anthus trivialis*. One or more present on 22nd September 1954; recorded at North Biggins on 19th September 1955 (J. H. Hyatt); one caught at Hametoun on 25th August 1963; about 5 on 27th September 1965.

ROCK PIPIT *Anthus spinoletta*. Banks Sparrow. Very numerous as a breeding bird around the rocky coastline and some are to be found on the inland hills. Foula seems to be one of the few places in Shetland where the ranges of the Rock and Meadow Pipits overlap to some extent (V&V). Numbers appear to drop considerably during periods of bad weather in winter. On 19th March 1955 Mylne recorded the first bird for some considerable time at Ham. It is not known whether birds leave Foula for the mainland in severe conditions or whether they find more sheltered places where they are less easily observed.

WHITE WAGTAIL *Motacilla alba alba*. Kirk Sparrow.

PIED WAGTAIL *Motacilla alba yarrelli*. The majority of 'alba' wagtails identified on Foula have been *M. a. alba* though there are three records of *M. a. yarrelli*—two birds in Ham Voe on 4th May 1955, one near Ristie on 5th August 1960, and one in Ham Voe on 24th August 1961. There are a few scattered records of 'alba' wagtails in spring, but they become quite numerous each autumn, with up to 40

seen on one day. Extreme dates are 1st August-22nd October.

GREY WAGTAIL *Motacilla cinerea*. One on 19th May 1951. Up to three between 30th July and 31st August in 1959 and 1961-63.

YELLOW WAGTAIL *Motacilla flava*. Single 'flava' wagtails on 23rd-30th September 1954, 27th and 28th August 1958, 5th August and 5th September 1959, and 17th September 1965.

WAXWING *Bombycilla garrulus*. Islanders reported a few in autumn 1960, and said that Waxwings were numerous between 30th October and 30th November 1963.

GREAT GREY SHRIKE *Lanius excubitor*. One on 25th May 1963. A scarce migrant in autumn from late September to November. Islanders reported that a bird at Ham Voe in autumn 1959 fed mainly on Robins, Goldcrests and Siskins which were present at the time.

LESSER GREY SHRIKE *Lanius minor*. One from 8th to 12th August 1956 (Mylne 1957 a, b).

WOODCHAT SHRIKE *Lanius senator*. One on 28th May 1955 (Mrs A. J. Isbister).

RED-BACKED SHRIKE *Lanius cristatus collurio*. An adult male from 25th to 28th May 1954.

STARLING *Sturnus vulgaris*. Starn or Starrie. Common resident. In 1960 there were probably about 100 breeding pairs on the island, the majority nesting at the foot of walls and amongst boulders. Island-bred birds form small flocks from mid July and these build up to several-hundred-strong by the end of August, roosting in the boulder beach, among boulders on the hillsides, or in caves at Logat Head and elsewhere. A sudden increase in numbers in late August 1959 was apparently the result of immigration.

Ringed	Recovered
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ad. 9.5.49 Fair Isle	20.10 52	Foula.
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ROSE-COLOURED STARLING *Sturnus roseus*. Robertson (1907) saw 5 or 6 in the garden of the manse on 28th October 1906. Excellent views were obtained of an adult bird near the school on 10th and 12th August 1960. On 13th August the bird was caught by one of the islanders but died soon afterwards.

GREENFINCH *Chloris chloris*. One from 18th to 28th August 1962.

SISKIN *Carduelis spinus*. Reported by islanders as a regular autumn migrant, sometimes in large numbers. One on 7th

May 1954 and two from 10th to 13th July 1961; 2 on 14th September 1965 had increased to about 10 by 27th.

LINNET *Carduelis cannabina*. One on 3rd December 1954.

TWITE *Carduelis flavirostris*. Sistimoustie or Lintie. Common resident. Probably up to 15 breeding pairs in the years 1961-63, mostly in the crofting areas, but also in heather well up the slopes of Hamnafield. In 1955 birds were seen up to the hard weather in early January but were not recorded again until 29th April. Small influxes were noted in early May and complete clutches found in mid June. Every year the numbers increase during July and August, with up to 100 birds frequently recorded. These are all considered to be island birds, but of about 200 present on 9th September 1961 some were almost certainly immigrants.

Ringed	Recovered	
pull. 3.8.58	15.1.60	Westerskeld, Mainland; 25 mls F.

REDPOLL *Carduelis flammea*. One on 30th May 1955, two on 8th and 9th July 1962 and one on 9th and 14th May 1963. There are many records from 5th August to the end of September but comparatively few birds have been definitely attributed to a particular subspecies.

MEALY REDPOLLS *C. f. flammea* were identified on 18th (2) and 27th (8) September 1954 and 27th (1) to 28th (5) August 1959.

Single GREENLAND REDPOLLS *C. f. rostrata* were recorded on 16th September 1954 and 29th-30th August 1959. In summer 1961 Mrs J. Rattar of North Biggins had a bird of this subspecies which she had found injured the previous autumn. In 1955 there was a considerable invasion of Greenland Redpolls into Scotland, and many were observed on Foula. During the first week of September there were said to be many birds about the island, especially at the south end crofts, which had built up to at least 200 by the 16th. Numbers were reduced by 23rd September, after which no further influxes occurred (Williamson 1956).

Ringed	Recovered	
f.g. 15.9.55	12.10.55	Sundraquoy, Uyeasound, Unst; 55 mls NE.

SCARLET GROSBEAK *Carpodacus erythrinus*. Occasional autumn visitor. One from 16th to 21st September 1954, single birds on 16th and 23rd September 1955, one from 2nd to 5th September and another on 5th and 6th September 1959, one caught on 11th September 1961, one from 10th to

13th September 1965 and two from 14th to 16th. All records are of female or first-year birds. The 1961 and 1965 records are still being considered by the Rarities Committee.

CROSSBILL *Loxia curvirostra*. Irregular passage migrant. The first record for Foula is 16th August 1894 when birds arrived "after a strong breeze which blew from N.W. to N.E. during the two preceding days." There were 5 more birds on 3rd September. Since 1958 Crossbills have been seen in most years, between 7th July and 8th September, and occasionally in good numbers; 75 were on Hamnafield on 18th July 1962. In 1963 birds were seen from 13th July to 8th September with a maximum of 40+ on 16th August.

A straggler from the 1962 invasion remained on Foula, and in weakened condition was caught and kept in a bird cage. When released it returned to feed in the open cage every day and in bad weather even returned to roost in the croft. After a 12-month stay on the island it finally left, with other Crossbills, in September 1963.

Venables mentions Crossbills feeding on blaeberry fruits in the hills of Foula. In recent years birds have fed mainly on seeds of thrift, but ragwort and various grass seeds are taken, and one bird fed on ears of barley.

TWO-BARRED CROSSBILL *Loxia leucoptera*. An immature bird on 21st August 1959.

CHAFFINCH *Fringilla coelebs*. A common migrant elsewhere in Shetland but recent records for Foula have been few, partly because of lack of observers between late autumn and May. One or two birds on five dates in October and November 1954; two on 22nd April 1954; single birds from 29th July to 8th September with an additional bird on 4th and 5th September 1958; single birds on 13th June, 20th August, 1st and 2nd September 1960; two on 13th and one on 18th July 1961; and one on 10th August 1962. About 50 arrived on 27th September 1965.

BRAMBLING *Fringilla montifringilla*. In 1954 the first of the autumn was on 14th October with influxes of about 100 on 16th and about 50 on 28th; single birds were recorded on 4th and 7th May 1955, with two more on 11th; an adult male was present from 6th to 10th August 1957. The first in 1965 was on 3rd September, and about 20 were present when observations ceased on 28th September.

CORN BUNTING *Emberiza calandra*. Formerly bred. Common in June 1890 (Barrington 1890b) but when Venables visited the island in 1948 the species had ceased to breed. The only recent record is for a single bird from 4th to 10th May 1954.

YELLOWHAMMER *Emberiza citrinella*. One on 7th April 1919.
One on 2nd April 1964 (Mrs J. Rattar).

RED-HEADED BUNTING *Emberiza bruniceps*. An adult male from 6th to 22nd August 1961 and another from 10th to 24th August 1963. A further bird was caught on 16th May 1964, whilst in a weakened condition, and kept in a cage until recovered. It was later ringed and released and was still present on 7th September. This species is now commonly kept in captivity and this is thought to be the reason for the great increase in the number of records of it in recent years. For the same reason the Rarities Committee has not considered the records although the species was still on its list in 1961.

ORTOLAN BUNTING *Emberiza hortulana*. One with House Sparrows on 12th May 1954, and an adult male from 5th to 9th September 1963.

REED BUNTING *Emberiza schoeniclus*. Occasional passage migrant. Four spring records between 23rd April and 27th May in 1954-55. One from 21st to 23rd August 1963, and 2 on 27th September 1965.

LAPLAND BUNTING *Calcarius lapponicus*. Passage migrant. One on 6th and five on 10th May 1954. The earliest autumn date is 27th August. Numbers have usually been small but about 50 were present on 6th September 1959.

SNOW BUNTING *Plectrophenax nivalis*. Snaa Fool. Common winter visitor and passage migrant. There is a rather doubtful account of breeding (E&B). In 1954 there were 3 on 1st May, 10-15 between 8th and 11th, and one or two until 18th. Two on 15th September were followed by 4 on 19th and they were regular from 21st. The chief arrivals were 10 on 25th September, about 30 on 6th, 24th and 30th October, about 150 increasing to about 350 from 1st to 3rd November, about 300 on 9th November and a maximum of about 1000 on 11th November. In spring 1955 birds were present until 24th May, and one was singing on 9th March. A few have been seen in most recent years, with the first of autumn noted as early as 5th September, and spring birds present until 25th June.

HOUSE SPARROW *Passer domesticus*. Kirk Sparrow. Resident. Common round crofts. Venables was told that House Sparrows were more numerous on Foula (and elsewhere in Shetland) before people plastered the outsides of their stone-built houses and thereby destroyed nesting sites.

In 1960 numbers were estimated at about 60 birds in early July, the majority being adults. Numbers increased in Aug-

ust, no doubt due to the presence of young birds. The population was thought to be rather less in 1963. There is an interesting account of a xanthochroic mutant "as yellow as a canary" which the islanders recall "many years ago."

Ringed	Retrapped
juv. 18.9.55	8.9.61

TREE SPARROW *Passer montanus*. One on 7th and 8th May 1955; up to 7 between 12th July and 15th August 1962, one amongst Crossbills on 20th August 1963, and one from 1st to 4th September 1965.

Acknowledgments

The Brathay Exploration Group first visited Foula in 1956 at the invitation of the laird, Mrs M. C. S. Holbourn. One of the Brathay leaders, Ioan Thomas, had met Mrs Holbourn while he was leading a Friends Work Camp in Edinburgh. Without this initial contact Brathay would probably never have visited Foula.

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Over 350 members of Brathay Expeditions have worked on Foula, and much credit and thanks must go to them for their efforts. No expedition can hope to carry out good field work unless its domestic arrangements regarding equipment and food have been scrupulously planned in advance. We have had first-rate people to do this job, and particular thanks must go to A. B. Ware, the Brathay Secretary, for doing the bulk of this work in the earlier years, and more recently to A. E. Land and P. J. Mawby.

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Appendix

The significance of Foula as a migration station

C. K. MYLNE

The recent growth of the bird observatory system in Britain, and the attention paid to islands as suitable places for the observation of migration, call for a brief discussion of the value of Foula as a station for recording migrants. The systematic list shows how many of the birds recorded on Foula have been passage migrants but it also shows how few of these species were recorded before 1954, before—in other words—observers were present on the island to record them. Since my own residence on Foula from April 1954 to October 1955 members of the Brathay Exploration Group have visited the island annually in summer and early autumn and other ornithologists have made occasional visits.

Only 45 miles to the southeast lies Fair Isle, where more bird species have been recorded than in any other single locality in Britain. It therefore seems worthwhile to establish, even with the rather sporadic observations so far, some sort of comparison between the two islands and to assess the value of Foula for any comparative study. All observers who have worked on Foula agree on one point, that it is really too large an island for accurate census work and that the numbers of birds recorded are directly related to the number of observers. Any strictly numerical comparison with Fair Isle is therefore of very limited value. Even the general rule that Foula seems to have far smaller numbers of most continental migrants has had notable exceptions with some surprising falls of autumn migrants in clear conditions. Several comparisons of migration schedules for the two islands have however been attempted for selected periods when observations on Foula were felt to be providing at least a sample count, and two examples are given below—one of a movement from the northwest and one of a typical incursion from the continent. It must be admitted that these are more interesting for the similarity they reveal in the species involved than for the marked difference in numbers, and undoubtedly they show little more than that Fair Isle probably had more birds and certainly more observers.

The observation of migration on Foula depends on several factors. These are worth listing as a warning of the difficulties of migration study there and the limitations on its value as a migration station:

(a) The physical difficulty of covering the area

Foula has almost twice the land surface area of Fair Isle and probably more than twice the cliff area, much of it inaccessible. The area of vertical rock face on the west cliffs and the North Bank is estimated at 150 acres.

(b) The nature of the landscape

Although Foula is generally treeless, which in one sense makes observation simpler, such cover as there is can conceal migrants over three miles of the east side in cultivated rigs, ditches and weed growth on disused crofts, sheltered gardens, and plantiercubs. Some patches of cover are surprisingly dense, and there are deeply indented cliff areas and geos. One or two 'kale yards' contain stunted trees or bushes up to the height of the dykes, including honeysuckle, roses, sycamore, currant bushes, and even tiger lilies. The main drainage area of the Hametoun has a lush growth of grasses where the secretive type of warbler or species like Quail or Corncrake can easily escape detection unless heard or accidentally flushed.

(c) The geographical position, unfavourable for continental immigrants

Fair Isle lies as part of a north-south chain of islands from Shetland through to Orkney and Caithness with the effect of a 'leading line' of visible landmarks by day and a series of lighthouses by night. Foula is 15 miles west of this line and has no lighthouses. It lies therefore in the shadow of Shetland from the continent, although it is the second highest point of Shetland. By day, migrants are only likely to make a landfall on Foula by chance, having missed Shetland in bad weather. By night, the chances seem even smaller, as the attraction of the lighthouses in poor weather is known to be strong, especially to tired disoriented birds in easterly weather and poor visibility, namely the drift migrants which make up the largest landfalls.

(d) Arrivals do not stay long unless grounded by bad weather and heavy overcast.

By day the whole west coastline of Shetland including Fair Isle can be seen and it is possible to see even Orkney 95 miles to the southwest from the summit of the Sneug in exceptionally clear weather. It was my experience that overnight arrivals were often only seen in the first few hours of daylight and had moved on later in the day. Re-orientated migrants, i.e. drift migrants which move on in

their 'preferred direction' in better weather, are seldom recorded on Foula even after heavy falls on the mainland of Shetland.

In contrast with these adverse factors Foula is clearly better placed for recording migrants from the northwest. Also, like any island, it is a rewarding place for trapping birds in isolated patches of cover. Ringing and measuring even a small sample can provide much information on the nature and size of any movement taking place and the species involved. My own observations were strictly limited in scope by my bachelor life, and necessarily restricted to the central area for my daily sample by my job, although Hametoun is in fact the area where most migrants have been seen. However, daily records of all birds observed were kept on migration schedules provided by the Fair Isle Bird Observatory. On very few occasions could the figures be considered as a census of the birds present except perhaps at weekends, but during the peak of the migration season the central area of the Ham Burn from Leraback down to Ham Voe was covered daily.

In the summer of 1954 a small Heligoland trap was constructed over the 'Foula jungle', the bushes in the Ham yard which are probably the thickest patch of leaf cover on the island. with wirenetting and other materials provided by Fair Isle through the good offices of Kenneth Williamson, and with the help of some of the islanders, the trap was completed by 1st October 1954. Clap-nets and small Chardonneret traps were used in the manse garden and other suitable places. The numbers trapped were never large—213 in twelve months—but in addition some 500 nestlings of resident species were ringed. Fair Isle record cards were completed for all birds trapped. Weighing provided information on the physical condition of some migrants. Since 1956 over 13,000 birds have been ringed by the Brathay Exploration Group.

Several comparisons were made between the migration schedules and those of the Fair Isle Bird Observatory over selected periods when my own records were based on more regular observations. Only one set of figures showed a significantly larger number of birds on Foula and then only of a very few species. This was a passage of northwestern species, mostly Greenland Redpolls, in September 1955. A maximum of 13 birds on Fair Isle compared with up to 200 round the Hametoun crofts on Foula. The Fair Isle birds included several at very low weights, indicating passage over a long distance, probably from Greenland (Williamson 1956). One bird ringed at Foula on 15th September 1955 was recovered at Uyeasound, Shetland, on 12th October, 50 miles north-

east. This type of onward passage was recorded both at Lerwick and at Fair Isle, where on 24th October the average weight of four birds trapped was nearly 18 gm, compared with weights as low as 10.7 gm on first arrival. The normal weight appears to be about 20 gm. In this same September movement ten Lapland Buntings were recorded on Foula on the 6th compared with only single birds on Fair Isle, though at the same time several species of continental migrants—Garden Warbler, Barred Warbler, Pied Flycatcher and Lesser Grey Shrike—turned up on Fair Isle but were not recorded on Foula.

Most comparisons show very much smaller numbers of northeastern immigrants though frequently the list of species was strikingly similar. In the period 26th-31st May 1955, for instance, 27 passerine species were recorded on Fair Isle in a typical late spring movement involving moderate numbers, after a very quiet spell. In this same period Foula produced 14 of these species but all except the hirundines were records of single birds. Where Fair Isle had four Whinchats Foula had two; 15 Whitethroats compared with two, and four Lesser Whitethroats with only one on Foula; 20 Willow Warblers with two and 25 Spotted Flycatchers with only one; Fair Isle had five Red-backed Shrikes and Foula had none; but a Woodchat Shrike was seen the following day. Several other examples could be quoted of this same pattern of events but the numbers would be too subject to observation factors to be worth detailing and further comparison seems pointless. The best example from my own experience of the obvious similarity between the records from the two islands was during the avalanche movement of 4th-5th September 1956 when I was fortunate enough to be on Fair Isle, for a change. There was an enormous influx of passerines, especially Redstarts, Tree Pipits, Whinchats, Willow Warblers and Pied Flycatchers, in poor conditions of mist and drizzle, when drifted birds might perhaps be as likely to turn up on one island as another. I was able to take advantage of the newly installed radio telephone on Foula to put through a call from Fair Isle on the first evening of the rush—probably the first ever telephone call between the two islands. It brought excited confirmation from Mrs Mima Gear of the largest number of migrants she had seen on Foula for many years with most of the dominant species the same as on Fair Isle.

NOTICE TO CONTRIBUTORS

All contributions should be sent to Andrew T. Macmillan, 12 Abinger Gardens, Edinburgh 12. Attention to the following points greatly simplifies production of the journal and is much appreciated.

1. Papers should if possible be typed with double spacing. All contributions should be on one side of the paper only.

2. Topical material for Current Notes should reach the Editors **before the end of March, June, September and December**, at which time they begin to compile this section. All other notes should be sent promptly but important items can be fitted in until a month or so after these dates.

3. Proofs will normally be sent to authors of papers, but not of shorter items. Such proofs should be returned without delay. If alterations are made at this stage it may be necessary to ask the author to bear the cost.

4. Authors of full-length papers who want copies for their own use **MUST ASK FOR THESE** when returning the proofs. If requested we will supply 25 free copies of the issue in which the paper is published. Reprints can be obtained but a charge will be made for these.

5. Particular care should be taken to avoid mistakes in lists of references and to lay them out in the following way, italics being indicated where appropriate by underlining.

DICK, G. & POTTER, J. 1960. Goshawk in East Stirling. *Scot. Birds* 1:329.
EGGELING, W. J. 1960. *The Isle of May*. Edinburgh and London.

6. English names should follow *The Handbook of British Birds* with the alterations detailed in *British Birds* in January 1953 (46:2-3) and January 1956 (49:5). Initial capitals are used for names of species (e.g. Blue Tit Long-tailed Tit) but not for group names (e.g. diving ducks, tits). Scientific names should be used sparingly (see editorial *Scottish Birds* 2:1-3) and follow the 1952 B.O.U. *Check-List of the Birds of Great Britain and Ireland* with the changes recommended in 1956 by the Taxonomic Sub-Committee (*Ibis* 98:158-68), and the 1957 decisions of the International Commission on Zoological Nomenclature (*Ibis* 99:369). When used with the English names they should follow them, underlined to indicate italics, and with no surrounding brackets.

7. Dates should normally be in the form "1st January 1962", with no commas round the year. Old-fashioned conventions should be avoided—e.g. use Arabic numerals rather than Roman, and avoid unnecessary full stops after abbreviations such as "Dr" and "St".

8. Tables must be designed to fit into the page, preferably not sideways, and be self-explanatory.

9. Headings and sub-headings should not be underlined as this may lead the printer to use the wrong type.

10. Illustrations of any kind are welcomed. Drawings and figures should be up to twice the size they will finally appear, and on separate sheets from the text. They should be in Indian ink on good quality paper, with neat lettering by a skilled draughtsman. Photographs should either have a Scottish interest or illustrate contributions. They should be sharp and clear, with good contrast, and preferably large glossy prints.

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