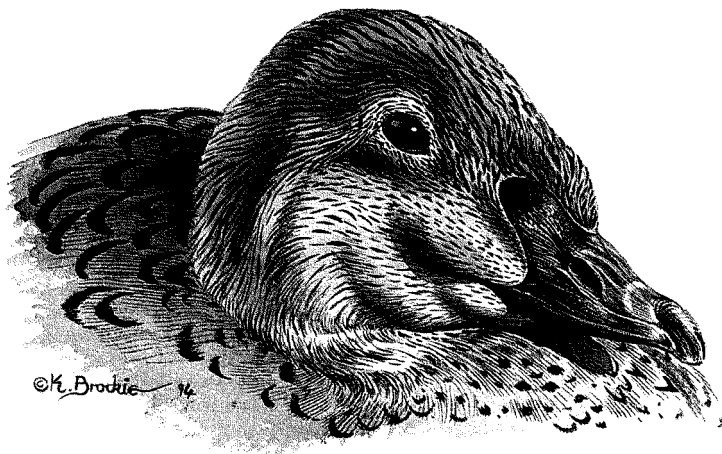


# King Eiders in Britain and Ireland in 1958-90: occurrences and ageing



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**T**he King Eider *Somateria spectabilis* is a widespread breeder across most of the High Arctic coastline and islands of the Holarctic, but is largely absent from Iceland, southern Greenland and arctic Scandinavia. The population from western Siberia and adjacent islands winters from the White Sea to arctic Norway, occasionally to the northern Baltic. South of this area, King Eiders are rare (Madge & Burn 1988).

Within Britain and Ireland, the King Eider is a rare but regular visitor. The majority of records have been in the Shetland, Highland and Grampian regions, though individuals have been seen recently as far south as Cornwall. In almost every case, King Eiders have associated with flocks of Common Eiders *S. mollissima* and remained with these flocks over the years. For the purposes of this paper, it is necessary, therefore, to look at the distribution of Common Eider populations around the coast.

This paper attempts to reassess the occurrences and numbers of King Eiders in Britain and Ireland during 1958-90, based on the distribution of Common Eider populations. We consider that the minimum number of different individuals estimated here is a more realistic total than that of 153 published in 'Rare Birds in Great Britain in 1990' (*Brit. Birds* 84: 463).



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### Common Eider populations

In Britain and Ireland, Common Eiders are at the southern edge of their European range and are relatively sedentary (Cramp & Simmons 1977; Owen *et al.* 1986). In summer, they are distributed around the coast mainly north of a line from Northumberland to Northern Ireland, although during the winter their distribution is extended farther south, in small numbers, along the east and south coasts of England (Sharrock 1976; Lack 1986).

During the winter, Common Eiders generally form flocks of varying sizes, then during the spring most adults disperse to their breeding grounds, leaving smaller flocks consisting of immatures and non-breeders. The breeding males, often joined by non-breeding individuals, begin flocking again from July onwards, to moult. These flocks can often be very large, with up to 11,000 off Murcar in Grampian, and often exceeding 1,000 individuals at sites elsewhere. By October, the moult is complete and the eiders disperse back to their wintering grounds.

Common Eiders are found around the whole coast of Scotland, but remain as relatively sedentary populations within distinct geographical areas, with infrequent interchange between them (although there is movement within the 'populations' between breeding, moulting and wintering sites). Since 80% of the records of King Eider are from Scotland, only the six Scottish 'populations' of Common Eiders are discussed here.

Numbers refer to areas shown in fig. 1 on page 420.

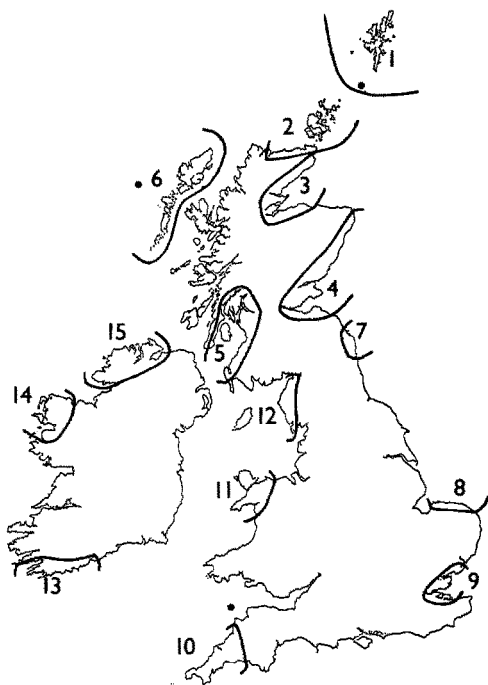
#### 1. & 2. Shetland and Orkney

Around Shetland, Common Eiders are much more dispersed in winter than during the moulting period. A study of wing-tagged individuals from Linga, Bluemull Sound, showed that those from this area moved throughout Shetland, mainly into Yell Sound and Sullom Voe, but none was reported outwith Shetland (Heubeck 1992).

The possibility of a link between the populations of the two island groups was raised by Jones & Kinnear (1979), but Heubeck (1987, 1993) considered the Shetland population to be largely resident. Evidence against movement between Orkney and Shetland is that there are few reports of Common Eiders seen from the ferry crossing from Fair Isle to Sumburgh Head (Dymond 1991) or of sightings during seawatches of eiders moving to and from the southern tip of Shetland, Fair Isle or North Ronaldsay, and the only ringing recovery is of a breeding female from Fair Isle found dead in Shetland during the MV *Braer* oil spill in January 1993 (Wildlife Response Co-ordinating Committee *in litt.*). Interchange between the island groups is apparently minimal.

Around Orkney, Common Eiders are much more dispersed during the moulting period than in winter. Although very little is known about the movements of the Orkney population, it is quite possible that there is interchange with the north coast of Scotland. Orkney and the north Highland coast have, therefore, been treated here as a single 'population'.

Fig. 1. Map showing discrete areas where King Eiders *Somateria spectabilis* have occurred in Britain and Ireland during the period 1958-90. Numbers refer to sequence in table 1 and Appendix 1



### 3. Moray Firth (east Highland to north Grampian coast)

Small numbers breed along the coast, with moult flocks occurring in the Dornoch Firth and off Brora. Large wintering numbers occur within the Moray Firth, Brora to Spey Bay, moving into the area from elsewhere along the coast. The main winter concentration is off the mouth of Loch Fleet (Campbell *et al.* 1986).

### 4. Grampian/Tayside/Fife/Lothian

Common Eiders breed along most of the coast, with the largest colony at the Sands of Forvie National Nature Reserve, Ythan estuary, Grampian. Generally, eiders move from the Ythan to the moulting area between Blackdog and the Don estuary, concentrating off Murcar, north of Aberdeen, then on to the wintering areas off the Tay and Forth, returning to the Ythan during March and April (Milne 1965; Baillie & Milne 1989). Those that remain to winter on the Ythan are resident throughout the year, although there is some movement into the area of Common Eiders breeding elsewhere and some are known to move to Scandinavia (Baillie & Milne 1989). Common Eiders off Fife are fairly sedentary, although there is some interchange with the Farne Islands (Pounder 1974; Baillie & Milne 1989).

### 5. Strathclyde/Dumfries & Galloway

Common Eiders form large moult flocks off Ayr and in Loch Ryan, after which they disperse throughout the area, although they are scarce along the Dumfries coastline (Thom 1986).

## 6. Western Isles

Wing-tagging studies suggest that the population is largely resident (Thom 1986).

**Assessing the records**

To assess King Eider records, we have used a geographical approach based on Common Eider populations (fig. 1). It was assumed that a King Eider which occurred within a 'population' of Common Eiders stayed within that 'population' unless there was evidence to the contrary. The assessment of numbers becomes more complex when a 'population' holds more than one King Eider, unless they are obviously of different age or sex. Evidence for different individuals could include:

- (i) individuals being seen at different places at the same time,
- (ii) described individual differences, and
- (iii) multiple records from the same place.

Unless there was a good reason, any series of records of a King Eider within a 'population' has been assumed to refer to the same individual, even if there was a considerable time or distance between the sightings. Thus, the number derived represents a minimum figure.

**Occurrences during 1958-90**

The accepted records of King Eiders published annually in *British Birds* (vols. 53-86) have been divided into three periods: 1958-70, 1971-80 and 1981-90. Table 1 summarises the total of assumed new individuals and the percentage of males and females in each of the 15 geographical areas. Full details of all 1958-90 records are given in Appendix 1.

**Table 1. Totals and percentages of individual King Eiders *Somateria spectabilis* by 15 geographical areas (see fig. 1) in three periods during 1958-90**

Areas	1958-70		1971-80		1981-90		TOTAL	1958-90	
	♂♂	♀♀	♂♂	♀♀	♂♂	♀♀		%♂♂	%♀♀
1. Shetland	2	1	6	0	10	2	21	86	14
2. Orkney/Highland	0	0	3	0	1	1	5	80	20
3. Moray Firth	0	0	5	0	1	0	6	100	0
4. Grampian to Lothian	1	0	3	1	4	3	12	67	33
5. Strathclyde/Galloway	1	0	2	0	0	0	3	100	0
6. Western Isles	0	0	1	0	1	0	2	100	0
7. Northumberland	0	0	1	1	0	0	2	50	50
8. Norfolk	0	0	0	0	1	0	1	100	0
9. Essex	0	0	1	0	0	0	1	100	0
10. Cornwall	0	0	0	0	0	1	1	0	100
11. Gwynedd	0	0	0	0	0	1	1	0	100
12. Cumbria	0	0	1	0	0	0	1	100	0
13. Co. Cork	1	0	0	0	0	0	1	100	0
14. Co. Mayo	0	0	0	0	1	1	2	50	50
15. Co. Donegal/Co. Londonderry	0	0	2	0	0	0	2	100	0
TOTALS	5	1	25	2	19	9	61	80	20

## Discussion

The estimated minimum number of different King Eiders recorded in Britain and Ireland during 1958-90 was 61, Shetland having 34% of the total. It must be remembered that this is an estimate of the minimum number of different individuals, based on Common Eider populations being largely resident within an area and the assumption that each King Eider remained with a population unless there is evidence to the contrary (although they may not actually behave like that). Many of the records published in the annual 'Reports on rare birds in Great Britain' (*Brit. Birds* vols. 53-86) were referred to as 'assumed same individual' by the observers concerned (e.g. several of those in Shetland, the males in the Moray Firth, off east Grampian and Lothian, within the Clyde area and off Co. Donegal); therefore, it does seem reasonable to assume that most King Eiders remain within a 'population' of Common Eiders. In earlier years (1958-70), there were fewer observers and consequently less coverage, especially in the winter months. It is difficult to tell, therefore, whether a series of records does relate to one individual. For example, in Shetland, the reports of a male seen on six occasions from 1959 to 1968 may all relate to one individual that began appearing in Ronas Voe each spring from 1969 to 1972 or to anything up to five different individuals; but we have assumed that they relate to just one individual. This is also the case for the female first seen in Scalloway, Shetland, in 1969.

There was an apparent influx of new individuals during the three years 1973-75, which probably reflects an increase in the amount of fieldwork carried out by observers. During those years, seaduck monitoring began in areas where little fieldwork had been done previously (e.g. around the coast of Shetland, within the Moray Firth and off the coast of Grampian). Another apparent influx of new individuals occurred in 1986, when about 60% of the records related to first-summer/immature males. Approximately 46% of all individuals remained for two or more years, with some assumed to remain for up to 14 years. Eiders can live for about 20 years, the longevity record for Common Eider being 28 years (Mead & Clark 1991).

Apparently new individuals have been found in all months, but the majority have been located during the periods of January, September to November and March to May. One reason for this may be that King Eiders are relatively easy to identify at these times of year, but from June to August they are in eclipse plumage and are therefore not so easy to locate within a flock of moulting Common Eiders. Such flocks are also more sedentary, so chance observations are less likely.

From table 1, it can be seen that records of males (80%) greatly outnumber those of females, one obvious explanation for this being that males are easier to identify. With greater observer coverage and identification awareness, however, the number of females found has increased, with 75% of females found during 1981-90. In addition, it is possible that male King Eiders move much farther from their natal breeding colony than do females, as has been

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Fig. 2. Plumages of captive male King Eiders *Somateria spectabilis* (Keith Brockie) Facing (page 423), top to bottom: two adult-winter males; adult-summer (eclipse) male; second-winter male (2nd January); second-winter male retaining some first-summer plumage (2nd January); bottom two, males in early stages of moult from first-summer (eclipse) to second-winter (2nd October)



shown for Common Eiders. Baillie & Milne (1989), studying Common Eiders at the Sands of Forvie NNR, found that at least half the males emigrated, with a female to male ratio of 2.5:1 returning to breed. Also, the preponderance of males amongst Forvie-ringed Common Eiders recovered in Scandinavia gives further evidence that a higher proportion of males than of females emigrate (Baillie & Milne 1989). So, if King Eiders behave in the same way, this and the relative ease of their identification would together explain the higher proportion of males than of females in Britain and Ireland.

For future assessments of the number of King Eiders, it would help greatly if observers were to take detailed plumage notes and age and sex each individual to see how many different individuals are within an area. For example, from detailed notes of two females off Donmouth, Grampian, in 1989, the observers concerned considered them different, whereas if these notes had not been available they would have been considered as the same individual. Detailed notes will also help to test the suggestion that individual King Eiders remain with a Common Eider population.

### **Ageing and sexing**

The identification and ageing of King Eider is well documented (Cramp & Simmons 1977; Madge & Burn 1988). Males in adult plumage are unmistakable, but females are very difficult at long range. Female King Eiders lack the triangular head shape of Common Eiders, having a shorter bill and more rounded head. Some female King Eiders often show a markedly pale head. At close range, an additional feature is the indented gape line which turns upwards from the bill, giving a 'smiling' appearance, which is especially accentuated by shadow in strong sunlight. This is quite different from the rather sombre expression of Common Eider. Other features of note are a pale area above the eye, which can also form a pale line running downwards behind the eye, and fine dark subterminal crescentic markings to the breast feathers. Most King Eiders show erect wing sails (modified rear scapulars), but these can also be shown by both male and female Common Eiders, especially during display.

Ageing King Eiders in the field is possible in some plumages. The ageing of males in winter plumage is not difficult, but the precise terminology is complicated because male eiders undergo an additional moult between juvenile and first-winter plumage. This plumage, called here 'post-juvenile', is not shown by female eiders or other ducks. Males can be aged in juvenile, post-juvenile, first-winter, first-summer and second-winter plumages, and females in juvenile, first-winter and adult plumages.

Juvenile King Eiders are a fairly uniform, dull grey-brown, with less contrasting dark and pale markings to the body feathers than those of first-winter and older females and with the pale areas on the head much less contrasting and less clearly defined. The bill is dark, initially slate-grey to dull black, but some males can develop a pale-orange base to the bill, and some females develop an olive-grey bill with a paler nail before the moult into first-winter plumage has progressed very far. Both sexes retain the juvenile wing, rump, belly and tail feathers until they moult into first-summer plumage.

As with Common Eider, the most reliable means of ageing females is by

the appearance of the tips of the greater coverts and secondaries, although there is a great deal of individual variation. On most second-winter and older females, the tips of most of the inner greater coverts and secondaries are white and quite broad, more so on the greater coverts, and very clearly defined. These features appear as two parallel, white bars on the wing, resembling those on the speculum of a Mallard *Anas platyrhynchos*, but the white bars are narrower than on Mallard or Common Eider. On juveniles, post-juvenile males and first-winters, the tips of the greater coverts and secondaries are only slightly paler than the rest of the feathers; they are either hardly noticeable or at most appear as two very narrow, poorly defined pale brownish bars. In addition, first-winter females usually show a darker head and breast than do older ones, but this is very variable between individuals of all ages.

Males moult almost continuously until their second winter. From juvenile plumage, they undergo a partial body moult in late summer and early autumn, replacing the feathers of the head, flanks, scapulars and breast, and appear basically sooty-black with a whitish breast. In addition, the base of the bill becomes orange-yellow. From this post-juvenile plumage, they undergo a further partial body moult into first-winter plumage, with individuals progressing at different rates, some moulting hardly at all, whilst others attain an almost completely grey crown, white cheeks, white mantle and circular, white thigh patches. The enlargement of the bill-shield is also very variable, but most males develop an obvious orange bill-shield and dusky-red bill. The diagnostic feature of all post-juvenile and first-winter males is that they retain the juvenile feathers of the wing, rump, belly and tail, so that the belly feathers and upperwing-coverts are brown with paler fringes and contrast with the rest of the basically black-and-white plumage.

In late spring and early summer, first-winter males undergo a partial body moult into first-summer (eclipse) plumage, when they appear generally sooty-brown with a mottled paler breast and sometimes a mottled paler mantle. The juvenile wing, rump, belly and tail feathers are, however, retained until they are replaced in a partial body and full wing moult in the next autumn.

Second-winter males differ from third-winter (adult) and older males principally in that the brown is a pale slate-grey, rather than powder-blue, the cheeks are whitish, rather than very pale green, the breast is whitish, lacking the deep-pink flush, and the bill-shield is sometimes smaller and paler. They often show a dark line running down the nape (Dawson 1994, commenting on Ellis 1994). They differ from exceptionally advanced first-winter males in having black bellies and at least partially white median coverts.

Males in eclipse (summer) plumage and those moulting from this into breeding (winter) plumage are more difficult to age, though only first-summer males show dark median coverts. Differentiation of second-summer males from older males is probably not reliable in the field.

The size, shape and shade of the orange bill-shield is so variable between individuals and at different times of year that it is not a reliable feature for ageing.

Ageing and sexing characteristics are portrayed in two especially painted colour plates by KB (figs. 2 and 3, on pages 423 and 426).





Fig. 3. Plumages of captive male and female King Eiders *Somateria spectabilis* (Keith Brockie)  
 Top to bottom: two males moulting from post-juvenile to first-winter, top individual is in a more advanced stage (both 1st December); first-winter female (1st October); two adult-winter females

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## Summary

The patterns of occurrence of all accepted records of King Eiders *Somateria spectabilis* in Britain and Ireland during 1958-90 were examined in comparison with those of 'populations' of Common Eiders *S. mollissima*. A minimum total of 61 different individual King Eiders was estimated. The accepted records are listed in Appendix 1. Criteria for ageing and sexing of King Eiders are also discussed.

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**Appendix 1.** All records during 1958-90 of King Eiders *Somateria spectabilis* in Britain and Ireland, arranged according to areas shown in fig. 1 and assessed as either new or same individuals.

**1. Shetland (including Fair Isle)** Minimum: 18 males, 3 females.

MALE: 1959, Bigton Wick, adult, 24 June.

MALE: 1962, Yell, 6 June to 5 July.

MALE: 1964, Lerwick, 19 October.

MALE: 1966, between Burra and Mainland, 19 April to 20 June; assumed same individual, Sumburgh, 6-9 September.

MALE: 1968, Moul of Eswick, 12 January to 19 April.

*All the above records may relate to the following individual:*

MALE: 1969, Ronas Voe, 18 April to 7 May; assumed same individual, 1970, Ronas Voe, 23 March to 9 April; 1971, Ronas Voe, 31 March to 5 April; 1972, Ronas Voe, adult, 14 March to 8 May.

MALE: 1969, Scalloway, 24 May to 28 June; assumed same individual, 1971, Trondra, 10 March to 14 April, Bixter Voe, 24-29 May, Seli Voe, 5 June; 1972, Trondra, adult, 8 March to 13 June; 1973, Trondra/Clift Sound, 11 March to 6 May, Mangaster Voe, 1-4 June, Muckle Roc, 6-7 June, Trondra, 13 November to 29 April 1974; 1976, Burwick, 22 January, Clift Sound, 16 April, Sandsound, 21 April to 7 June; 1978, Tresta/Sandsound, 28 February to 15 May.

FEMALE: 1969, Scalloway, 30 May to 9 June; assumed same individual, 1971, Bluemull Sound, 9 April; 1973, Walls, 25 February, Gulberwick, 1-3 April; 1974, Toft, 21 May to 22 June.

IMMATURE MALE: 1973, Ulsta, 8-17 May; assumed same individual, 1974, north Fetlar, 10 May to 3 June, Gutcher, 10 October; 1975, Sullom Voe, 8 January to 13 March, Hascosay Sound, 18 December to 11 January 1976; 1976, Toft, 13 November, Sullom Voe, 17 November to 23 March 1977; 1977, Hascosay, 27 November; 1978, Hascosay, 8 February.

MALE: 1973, Fair Isle, 15-16 September; assumed same individual, 1974, Fair Isle, 2-4 June and 18 September to 6 November; 1975, Fair Isle, 3 April and 8 September to 2 October.

MALE: 1973, Cunningsburgh, 10 November; assumed same individual, 1974, Quendalc, late January, Mousa Sound, 16 March.

IMMATURE MALE: 1974, Toft, 16 May to 7 July.

IMMATURE MALE: 1975, Toft, 29 April; assumed same individual, 1976, Linga, sub-adult, 24-25 October; 1977, Burga Skerries, 28 February to 1 March.

IMMATURE MALE: 1975, Fair Isle, 4 November.

MALE: 1981, Sullom Voe, 3 March to 29 March 1982; assumed same individual, 1982, Holm of Heogland, 24 November; 1983, Colgrave Sound, 28 January.

MALE: 1981, Fair Isle, 15-20 October.

FEMALE: 1982, Lerwick, 31 January to 8 April; assumed same individual, 1983, Lerwick, 20 January to 26 February, Sumburgh Head, 25 August, Yell Sound, 10 November; 1984, Bluemull Sound, 20 January to 12 February, Lanna Ness, 17 April, Sneckan, Nesting, 31 August; 1985, Lerwick, 13-28 April; 1987, Lanna Ness, 23 February; 1988, Bluemull Sound, 8 February, Sumburgh Head, 14 June to 18 September; 1989, Sumburgh Head, 19 June to 28 August.

SECOND-WINTER MALE: 1982, Voe, 17-18 April.

MALE: 1985, Fair Isle, 22-25 May.

MALE: 1986, Sand Voe, 25 May to 7 June; assumed same individual, 1987, Reawick/Sandsound, 13 January to 21 June and 16 December to 16 June 1988; 1988, North Havra, 6 July, Westerwick, 20 August; 1989, Reawick/Tresta, 1 January to 6 June; 1990, Reawick/Tresta, January to 3 July and 21 November into 1991.

TWO FIRST-SUMMER MALES: 1986, Sumburgh Head, 4 July to 22 September, other 7-22 September; assumed same individuals, one or other (both second-winter), 1987, Bluemull Sound, 14 January, Yell Sound, 14-23 February, Lecbitton, 20 February, Eswick, 30 April to 19 June, Quendalc Bay, 5-27 June, Sumburgh Head, 6 July to 10 August; one or other (both adult), 1988, Haroldswick, 25 April, West Sandwick/Whalefirth, 25 April to 1 May; one or other, 1989, Ronas Voe, 4 April, West Sandwick, 6 April.

MALE: 1987, Whalsay, adult, 3-7 November.

FIRST-WINTER FEMALE: 1988, Ronas Voe, 5-8 November.

FIRST-SUMMER MALE: 1988, Fair Isle, 21 September to 15 November; assumed same individual, 1989, Fair Isle, 18 February to 10 May and 17 September to 5 November; 1990, Fair Isle, 19 July to 13 December.

IMMATURE MALE: 1989, Fetlar, 25 June.

**2. Orkney to north Highland** Minimum: 4 males, 1 female.

MALE: 1973, Holburn Head, 18 October and 31 December; assumed same individual, 1974, Thurso east, 9 March, Holburn Head, 12 October; 1975, South Walls, Orkney, 8 February.

MALE: 1973, Holburn Head, 18 October.

MALE: 1978, North Ronaldsay, Orkney, 19 October.

FEMALE: 1982, Kirkwall, Orkney, 10 December to January 1983.

MALE: 1986, Shapinsay, Orkney, 27 June; assumed same individual, 1987, Thurso Bay, 25-30 March; 1990, Deerness, Orkney, 27-29 May.

**3. Moray Firth** Minimum: 6 males.

MALE: 1973, Loch Fleet, 17 November to 24 July 1974; assumed same individual, 1974, Loch Fleet, 24 November to throughout 1975, 1976 and 1977; 1980, Dornoch, September, October and 13 December; 1981, Golspie/Embo, all year; 1982, Loch Fleet/Embo, 21 January to 13 April and 23 October to 29 December; 1985, Embo, 3 March to 10 May; 1986, Loch Fleet/Embo, 15 April.

IMMATURE MALE: 1974, Loch Fleet, 20 April to 2 May.

MALE: 1975, Loch Fleet, 14 April to 4 June; assumed same individual, 1976, Nigg Point, 3 February, Lossiemouth, 14-15 February, Loch Fleet/Golspie, 7 March to 30 April; 1977, Loch Fleet/Golspie, 9-13 April, Skerray, 5-6 July, Loch Fleet/Golspie, 24 November throughout 1978; 1979, Loch Fleet/Golspie, 18 February, Lossiemouth, 17-24 March, Loch Fleet, 12 October and 1 December to 4 June 1980; 1980, Dornoch, September, October and 13 December; 1981, Loch Fleet, 19-20 March, Golspie/Embo, 14 November; 1982, Loch Fleet/Embo, 21 January to 13 April and 23 October to 29 December; 1983, Brora to Dornoch, 8 February to 29 December; 1984, Loch Fleet, all year; 1985, Embo, 3 January to 16 February and 3 March to 10 May and 1 June and 7-29 August; 1986, Loch Fleet/Embo, 11 January to 27 April, Lothbeg Point, 9 June, Loch Fleet, 24 September to 30 November; 1987, Brora to Loch Fleet, 1 January to 25 February, Loch Fleet, 30 December; 1988, Loch Fleet/Embo, 14 February to 6 April and 8 November to 3 December; 1989, Loch Fleet/Embo, 20 May to 9 June and 11 October to 10 December.

MALE: 1975, Loch Fleet, 14-19 April; assumed same individual, 1976, Loch Fleet/Golspie, 7 March to 30 April; 1977, Loch Fleet/Golspie, 9-13 April.

IMMATURE MALE: 1978, Loch Fleet/Golspie, 11 December to 24 February 1979.

FIRST-YEAR MALE: 1987, Wick, 25 January to 26 February.

**4. East Grampian to Lothian** Minimum: 8 males, 4 females.

MALE: 1967, Newburgh, 24 May; assumed same individual, 1968, Ythan, 5 October.

MALE: 1974, Murcar, 13 October; assumed same individual, 1975, Murcar, 4-11 October; 1976, Ythan, 8 June to 14 July; 1977, Collieston, 13-16 March.

MALE: 1974, Culross, 10 March to 15 December; assumed same individual, 1976, Torry Bay/Crombie Point, 3 January to 15 February and November and December; 1977, Torry Bay, 3-28 January.

FEMALE: 1975, Murcar, 23 September to 2 October.

IMMATURE MALE: 1977, Murcar, 17 September.

MALE: 1981, Black Dog, 11-23 June; assumed same individual, 1982, Ythan and Murcar, 23 April to 11 July, Black Dog, 4 July; 1983, Ythan, 30 April to 14 May, Black Dog/Murcar, 8 June to 6 September; 1984, Ythan, 19 May to 4 June, Black Dog, June, Peterhead, 6 November; 1986, Tayport, 8 January to 16 March, Broughty Ferry, 8 February, Ythan, 24 May to 3 June; 1987, Peterhead/Ythan, 28 April to 20 June, Tayport, 6 October and 21 November; 1988, Tayport, 19 February to 14 April, Ythan, 17 May to 28 June, Bridge of Don, 28 August, Donmouth, 20 September; 1989, Tayport, 10 January to 6 April, Broughty Ferry, 8 January to March, Ythan, 1-6 June, Murcar, 16-21 July; 1990, Tayport, intermittently until 31 March, Ythan/Donmouth, 1 April to 10 June and 19 July to 13 October, Tayport, 28 November.

IMMATURE MALE: 1986, Burghhead, 3 February.

FEMALE: 1988, Aberlady Bay, 13-17 July.

FIRST-SUMMER MALE: 1989, Ythan, 16 May to 2 June, Donmouth, 26 October to 24 November.

MALE: 1989, Ythan, 25 November to 25 May 1990; assumed same individual, 1990, Murcar, 6 June and 16 July, Girdleness, 2-31 August and 6 October to 5 November, Donmouth, 22 November to 3 December, Ythan, 23 December into 1991.

FEMALE: 1989, Donmouth, 20 August to 17 September.

FEMALE: 1989, Donmouth, 4-22 November.

**5. Strathclyde/Galloway** Minimum: 3 males.

IMMATURE MALE: 1970, Kirkholm, 30 March.

MALE: 1971, Bute, 2 April, Irvine Estuary, 22 December to 15 April 1972; assumed same individual, 1972, Kintyre, 18-24 December; 1973, Barassie, 10 March, Skelmorlie, 15 April to May, Great Cumbrae, 29 May, Ballantrae, 8-14 July; 1974, Largs, 16-26 March, Great Cumbrae, 1 June, Innellan, 5 June; 1975, Great and Little Cumbrae, 22 April, 21 May and 19-20 June; 1976, Loch Ryan, 22 March and 26 December to 26 February 1977; 1977, Great Cumbrae, 24 April, Woodhall, 9 November, Loch Ryan, 27 November to 4 January 1978; 1978, Loch Ryan, 4 March, Arran, 25 March to 14 May, Bute, 3 April, Catacol Bay, 6 April, Troon, 12 April, Woodhall, 10-25 November, Loch Ryan, 2 December to 10 February 1979; 1979, Tayinloan, Argyll, 3 June, Loch Ryan, late 1979 to 20 January 1980; 1980, Loch Ryan, 10 February, Fimtry Bay, 23-30 March, Arran, 5 April to June, Bute, 31 May to 12 June, Port Glasgow and Greenock, 11-30 November; 1981, Port Glasgow, 14 November; 1982, Ardmore/Port Glasgow, 29 August to 9 January 1983; 1983, Bute, 28 April to 2 May, Woodhall, 13 November; 1984, Turnberry, 10-12 March, Wemyss and Meigle Bay, 10 December to 13 January 1985.

IMMATURE MALE: 1979, Gales, 19-20 February.

**6. Western Isles** Minimum: 2 males.

MALE: 1979, Harris, 19 November.

MALE: 1983, Kyles, Pabay, 28 March.

**7. Northumberland** Minimum: 1 male, 1 female.

MALE: 1972, Amble, 1 May to end of September.

FEMALE: 1974, Fenham Flats, dead, 11 January.

**8. Norfolk** 1 male.

MALE: 1986, Scolt Head, 5-15 September.

**9. Essex** 1 male.

MALE: 1977, Colne Point, 18 July.

**10. Cornwall** 1 female.

FEMALE: 1986, Portscatho, 17 January to 16 March.

**11. Gwynedd** 1 female.

FEMALE: 1989, Black Rock Sands, 28 January to 23 September, Aber Dyssini, 13 August.

**12. Cumbria** Minimum: 1 male.

MALE: 1979, South Walney, 10-23 June; assumed same individual, 1980, South Walney, 12 April to 2 May.

**13. Co. Cork** 1 male.

MALE: 1959, Baltimore, 29 January to 24 February.

**14. Co. Mayo** 1 male, 1 female.

FIRST-WINTER MALE: 1985, Belmullet, 17-18 March.

FEMALE: 1985, Belmullet, 17-18 March.

**15. Co. Donegal and Co. Londonderry** Minimum: 2 males.

MALE: 1971, Portstewart, 17 March to 15 May; assumed same individual, 1972, Portstewart, 1-4 April.

MALE: 1974, Rosbeg, 21 April; assumed same individual, 1976, Rosbeg, April and May; 1977, Rosbeg, 17 July; 1978, Rosbeg, 16-23 April; 1979, Rosbeg, 12-28 April; 1980, Rosbeg, March, April and December; 1981, Rosbeg, April and December; 1982, Rosbeg, April and May, Downhill, 11 June to 4 August.

*Anyone with evidence that records listed here as referring to one individual in fact relate to more than one (or that records listed here as referring to different individuals actually relate to the same bird) is invited to write with full details to the authors, who will welcome all relevant information.*