Moulting eiders in eastern Scotland

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Introduction

Populations of moulting seaducks, unlike those occurring in winter, have tended to receive only limited attention from ornithologists. Although Milne (1965) and Pounder (1974) both considered some aspects of the moult distribution of the Common Eider *Somateria mollissima* in parts of eastern Scotland, Hope-Jones and Kinnear (1979) in Orkney and Shetland were the first to survey comprehensively a major region. This paper presents the results of three extensive surveys which provide a similar assessment of the numbers and distribution of moulting eiders off the east coast of mainland Scotland.

The surveys were carried out in 1971, 1977 and 1979 during August when the majority of males were in full moult and most females had left the breeding grounds. Counts were made from the shore in 1971 and 1979 and mainly from an aircraft in 1977. In 1971 over 80% of the whole coastline between Brora and Dunbar was surveyed, only the most inaccessible cliffs not being visited. The 1977 survey by air covered the whole coast from Balmedie to Dunbar. In 1979 all known major and subsidiary sites were visited south of Fraserburgh and the whole Moray Firth was covered as far north as Brora.

Numbers and distribution

The results are summarised in Table 1. No attempt has been made to subdivide totals by sex or age since at most major sites it was impossible to distinguish reliably between females and males in eclipse plumage. Whilst ducklings have been excluded, it is possible that some larger ones may have been inadvertently included in the totals.

Between 70-80% of moulting eiders were restricted to only four sections of coast: Balmedie-Aberdeen (Murcar), Inverbervie-Johnshaven (Gourdon), Gosford-North Berwick (Eyebroughty) and North Berwick-Dunbar (Tantallon). Most of the remainder were in localised flocks of a few hundred and less than 10% of the total were found north of Fraserburgh.

No significant new moulting sites were recorded during these surveys. Although there are few published data, peak counts at three major sites are shown in Table 2. No consistent trends are evident although it is clear that numbers at each site may vary considerably

Table 1. Summary of extensive moulting eider surveys.

	1971	1977	1979
Brora-Portmahomack	620	–	460
Rattray Head	670	–	200
Cruden Bay	–	–	570
Forvie	–	850	900
Murcar	2110	4500	4200
Gourdon	1560	1890	1500
Tay-St. Andrews	810	90	710
Largo Bay	150	30	580
Port Seton-North Berwick (Eyebroughty)	3890	3550*	6870
North Berwick-Dunbar (Tantallon)	930	40	1560
Other sites	1430	2270	580
Total counted	12170	13220	18130

* Land count 3550: air count on same day 2440.

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from year to year. The exceptional numbers at Murcar in 1977 and 1978 are difficult to explain but variability at Eyebroughty almost certainly reflects the artificiality of the southern limit of the study area. Large numbers of eiders breed down to the coast as far as Amble (Northumberland), at least 120 km to the south and it is likely that a variable proportion of these moves into the Forth each year to moult.

Estimates of population size

Allowing for differences in coverage, which probably accounted for 1000-2000 eiders in each survey, the moulting population was estimated to be between 14,000 and 20,000. The upper limit (1979) appears to be due mainly to high numbers in the Forth, whilst 1971 and 1977 were both 'low' years in that area (Table 2).

Contemporaneous and more recent estimates of the breeding and wintering population in the same area fall within the same range (unpublished data) and fall short of the previous estimate of 25-30,000 given by Milne & Campbell (1973). This latter estimate of the winter population included unusually large numbers in the Firth of Tay in the early seventies, which have subsequently declined.

Discussion

No detailed study has yet been made of the factors determining moult site selection. Murcar is a sandy, dune-backed shore but the other three major sites are predominantly low rocky shores. Although, in common with much of the east coast of Scotland, subject to a moderate degree of recreational disturbance, all four sites are relatively inaccessible to vehicles and free from housing or industrial development. When undisturbed, large numbers of moulting eiders are found loafing on the beach, rocky shore or offshore islands even at high tide, and the presence of safe loafing areas does appear to be of major importance. The role of particular food resources is difficult to assess but moulting eiders are conspicuously inactive when compared with wintering or breeding flocks. The moulting population on the east coast of Scotland is of a similar size to that recorded in Shetland (Hope-Jones & Kinnear 1979) and also tends to be concentrated into only a few sites, which tend to be quite distinct from those used at other times of year. Thus, as argued for both Orkney and Shetland, moulting eiders are particularly vulnerable to the effects of accidental spillage of oil, especially within the Firth of Forth where there is regular tanker traffic to and from the oil terminal at Hound Point,

Table 2. Peak counts of moulting eiders at 3 main sites.

	Murcar	Gourdon	Eyebroughty
1961		2860	
1962	3500		
1970			4760
1971	2110	1560, 2100*	3890
1972		3000	
1973			7000**
1974			6000**
1975			6000**
1976	4500**		4720
1977	4500, 10250**	1890	3550
1978	10500**		
1979	4200	1500	6870

* Pounder 1974. ** Scottish Bird Reports.

All other counts were made by the authors.

near Edinburgh. An additional threat, which is probably less acute in the northern isles, is that posed by increased recreational activity on already popular beaches. It is to be hoped that boating activity can be directed away from the main eider moulting sites.

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Summary

August surveys of moulting Eiders *Somateria mollissima* off the east coast of mainland Scotland were carried out in 1971, 1977 and 1979. Over 70% of the 14,000-20,000 recorded were concentrated at only 4 different sites. Recreational pressures and oil pollution were identified as major threats.

References

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