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A REVIEW OF THE STATUS OF THE COMMON SEAL, *PHOCA VITULINA*, IN SCOTLAND

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ABSTRACT

A series of surveys carried out between 1970 and 1977 has investigated most of the Scottish coastline. All the major localities where seals are regularly to be found have been visited and an estimate has been made of the numbers present. Hunting statistics for the Common seal in Scotland are given and the effect of hunting in the various areas is noted.

INTRODUCTION

While both Common seals, *Phoca vitulina*, and Grey seals, *Halichoerus grypus*, are found in Scotland, the latter species has attracted far more attention from both fishermen and researchers. The status of the Grey seal is well documented (Summers, Vaughan & Witthames, 1975; Summers, Bonner & Van Haaften, in press) but the Common seal stock is less well known. In 1970 a postal survey was initiated in the hope of locating the more important centres of population. This produced some useful data but left a great many gaps in the knowledge of the distribution of the species. In 1971 the first of a series of surveys was made in Shetland and in the following years the rest of Scotland was surveyed. The most recent area covered was the West coast in 1977. These preliminary surveys involved visiting all of the coastline to locate seal sites, but further surveys will be restricted to those areas known to be important Common seal localities. Seal hunting has taken place throughout most of the areas (see below).

METHODS

Many of the surveys have been carried out from inflatable boats as described in Bonner, Vaughan & Johnston (1973), although the East coast of Scotland was almost exclusively surveyed from the air (Vaughan, 1971). Most places were visited on only one occasion so that the counts obtained are necessarily minimum figures.

Time-lapse photography has been used in Orkney to determine how the counts vary in relation to tidal cycles but this work has not been applied to seal populations elsewhere because recent boat counts on the West coast showed no significant differences between high and low tides. All figures quoted therefore are actual counts with no allowance made for tidal state.

Hunting statistics have been compiled from official records where possible, although prior to 1971 there was no legislation referring to the Common seal and therefore no legal requirement for hunters to make any declaration of their catch.

RESULTS AND DISCUSSION

The Scottish Common seal populations may conveniently be divided into five geographically defined groups, as shown in Figure 1. Table 1 shows the most

recent survey data for each area and the hunting statistics are given in Table 2. The percentage of pups in the total counts (Table 2) will be an underestimate since, in most localities, only one visit was possible and, therefore, pups born later in the season would have been missed. Surveys of Orkney and the East coast were not carried out over the breeding season and no pup counts are available.

	AREA	YEAR	MAXIMUM TOTAL COUNT	PERCENTAGE OF PUPS
I	Shetland	1973	1800	16%
II	Orkney	1972	2200	-
III	Outer Hebrides	1974	1300	18%
IV	West Coast	1975/77	4500	21%
V	East Coast	1975	800	-
		TOTAL	<u>10600</u>	

TABLE 1. Counts of Common seals

	Shetland	Orkney	O/Hebrides	W. Coast	E. Coast	Total
1971	241	12	0	250	58	561
1972	0	116	0	200	61	377
1973	0	198	0	250	59	507
1974	0	198	15	235	87	535
1975	0	86	50	190	50	376
1976	0	96	42	208	104	450
* 1977	0	17	39	211	44	311

\* 1977 - Figures provisional at time of writing

TABLE 2. Number of pups reported killed by hunters

1. Shetland Shetland was surveyed in 1971 as a direct result of concern about the status of Common seals and the very high level of hunting (Tickell, 1970). In the years 1960 to 1970 an average of almost 700 pups was killed annually

and it was thought that by the end of this period some 90% of the pups born each year were being taken by hunters. The 1971 survey found very few pups surviving in September. A second survey was carried out in 1973, the second year of a total ban on hunting which is still in force, and showed a higher proportion of pups present (Anderson, 1974). It is probable that this recovery is being maintained and a further survey is planned for 1978.

2. Orkney. Orkney was first surveyed fully in 1972, although a few observations had been made the previous year during an aerial survey of Grey seal breeding islands. A total of 2200 animals was counted during the 1972 survey, which covered all of the suitable areas in Orkney. Some pup hunting takes place in Orkney but only on a small scale, and is unlikely to have any measurable effect on population size.

3. Outer Hebrides. This area was surveyed in 1974 and although principally known as a major breeding area for the Grey seal (Summers, Vaughan & Witthames, 1975), there are two important breeding localities for Common seals. The Sound of Barra in the south and the Sound of Harris about 70 km to the north have about 35% of the total Common seals, and the area bounded by these two Sounds holds 90% of all the Common seals in the Outer Hebrides. Hunting has taken place since 1974 but only small numbers of pups are taken.

4. West Coast. This is by far the largest area and has the largest Common seal population. The coastline is very much indented and extends to more than 3000 km. Most of the Common seals are found in the more sheltered sea lochs. Information on this stock has been collected between 1970 and 1977 but two major surveys in 1975 and 1977 have provided most of the data. A total of 4200 seals was counted, which included a high proportion of pups (26%). Over 200 are taken annually under licence but, by analogy with the hunting of Common seals in the Wash (Summers & Mountford, 1975), the population is large enough to sustain this cropping level.

5. East Coast. This area has been surveyed mainly from the air, although some counts have been made from the coast road. All figures must be regarded as strictly minimal. 800 seals were counted from aerial photographs in 1975 but this only represents one full count of the area. There is an extensive salmon net fishery on the East coast and seals are shot to protect it. Only those shot during the close season (1 June to 31 August) are reported, so that total numbers shot may be higher than indicated in Table 2.

In many parts of Scotland there are large scale developments in connection with the offshore oil industry, and although there are many environmental problems associated with these, it is not thought that any seal populations are currently at risk.

#### CONCLUSIONS

A series of surveys of the Common seal populations of Scotland suggests a minimum all age population of 10,600. Further detailed surveys and behavioural observations should make it possible to estimate these populations with greater accuracy. There are insufficient data to be able to determine any population trends at the present time. Hunting of the Common seal has been controlled by legislation since 1971. Under this protection the Shetland stock is recovering and with the exception of the East coast, where seals are shot to protect fisheries, other localities are open to controlled hunting on a sustainable yield basis.

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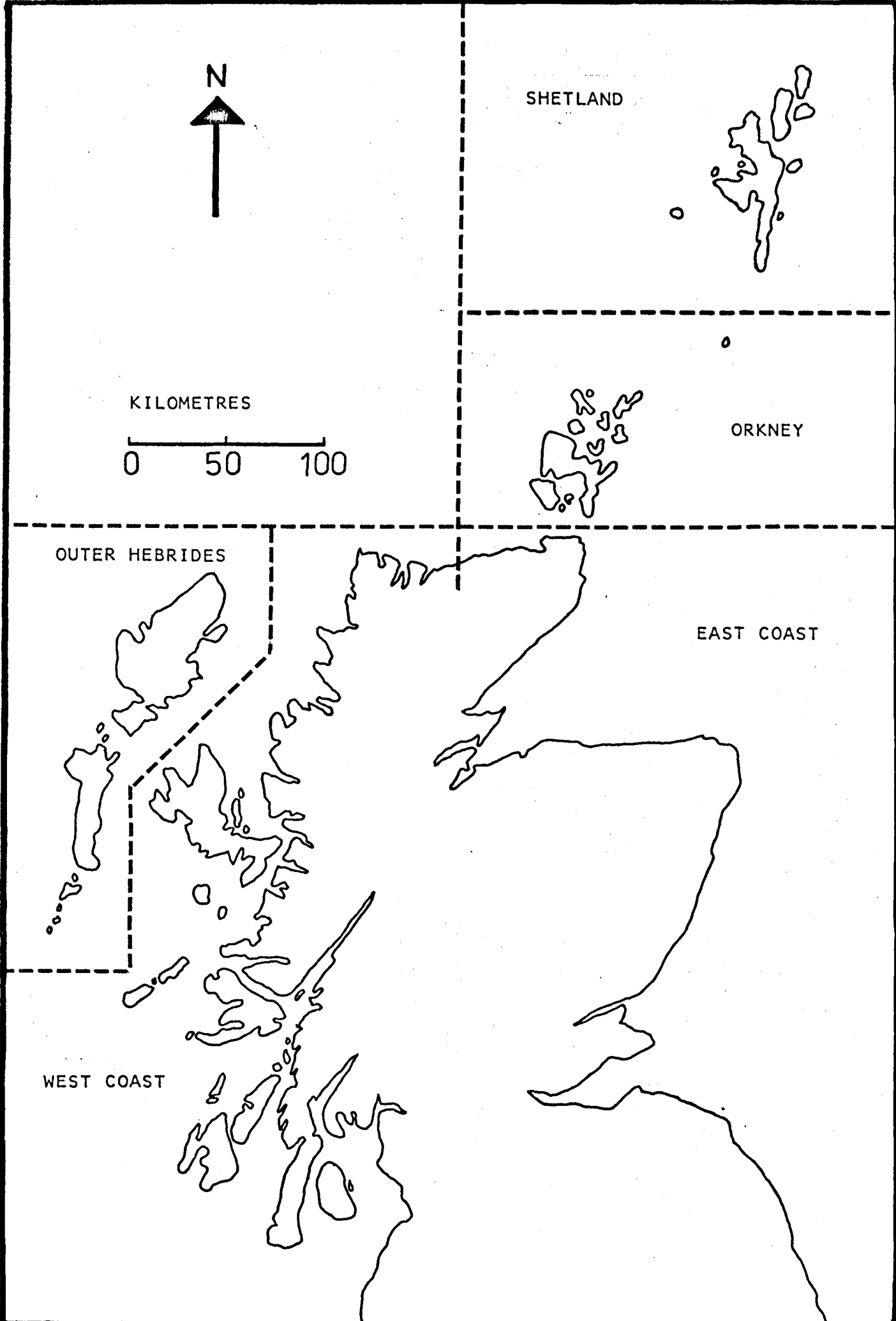


FIGURE 1. CENSUS AREAS FOR COMMON SEALS IN SCOTLAND