

This paper not to be cited without prior reference to the author

International Council for
the Exploration of the Sea

CM 1977/N: 10

Marine Mammal Committee



A SURVEY OF COMMON SEAL STOCKS IN NORTH-EAST IRELAND

by

R. G. W. NAIRN

The National Trust, Murlough National Nature Reserve, Dundrum,
Newcastle, Co. Down, Northern Ireland.

ABSTRACT

A complete survey of the coast of Co. Down was carried out in July, 1977. A minimum all-age population of 611 common seals was counted, representing a 58% increase on the highest previous estimate made in 1956-58. This discrepancy is thought to represent a more intensive survey in 1977, rather than an actual increase in numbers. Strangford Lough is shown to be the most important breeding site in the area, but further work is required to place this in the context of the rest of Ireland.

INTRODUCTION

Common seals (Phoca vitulina) are found all around the Irish coast, although their present status is unknown. The most recent estimate is that of Lockley (1966), who noted numbers seen during a survey in the autumns of 1964 and 1965. He counted 841 common seals and estimated that the total population was at least 1,000, with a concentration of about one-third of this total in the north-eastern county of Down. This estimate incorporated the results of an earlier survey by Venables and Venables (1960). This was confined to the three north-eastern counties of Down, Antrim and Derry, in 1956-58, and gave a total of 367 common seals (of which 354 were recorded in Co. Down) for this area. Thus a population of common seals appeared to be centred on the coasts of Co. Down, with very small numbers to the north (Co. Antrim) and to the south (Co. Dublin).

Thompson (1856), in the earliest reference to common seals in Co. Down, noted a decrease in numbers in Belfast Lough but a continuing abundance in Strangford Lough and Carlingford Lough (Fig. 1). Other past references, summarized by Nairn (1977), have been of a general nature and refer only to one or other site within the area.

The Co. Down coastline was surveyed by boat in July 1977, to assess the present common seal stocks. Previous counts had been made at various sites on these coasts during 1975 and 1976. Those counts for Strangford Lough were described by Nairn (1977).

METHODS

The survey method was basically the same as that used by Bonner, Vaughan and Johnston (1973) in Shetland. Because some of the haul-out sites are on the seaward side of offshore rocks, most of the counting was done from fast boats with at least 20 h.p. engines. Local fishing boats were chartered to visit offshore islands. Some sections of the coastline, without any offshore islands or rocks, were surveyed from the land. For the purposes of the survey, the coastline was divided into five areas (Fig. 1), based on earlier observations of the main haul-out sites. Each area was surveyed within one day, at low tide \pm 2 hours, and the areas were arranged to avoid duplication of counting. The whole coastline was covered within the first eleven days of July. Weather conditions during this period were settled and favourable for a maximum count.

Groups of seals, hauled-out on rocks, were first of all counted from a distance. When the boat was brought within 50 metres of the rocks, the seals were disturbed and pups could be counted as they entered the water, after the adults. A check was made by counting seals in the water, the mother-pup pairs being very conspicuous. Grey seals (Halichoerus grypus) were counted wherever present.

Table 1. Summary of seal counts 1956-58 and 1977

Area	1956-58 [†]		1977			Grey Total	Date July
	Common		Common				
	Adult	Pup	Adult	Pup	% Pup		
A Belfast Lough	38	0	8	0	0	31	1
B Ards Peninsula	61	2	62	4	6	26	8
C Strangford Lough	132	6	258	90	26	0	7
D Dundrum Bay	81	6	99	21	18	2	11
E Carlingford Lough	21	1	59	10	15	6	9
Total	339	15	486	125	20.4	65	
		354		611			

[†] Venables and Venables (1960)

RESULTS

The total number of adult and pup common seals, together with the total number of grey seals observed, are given in Table 1. The figures for Dundrum Bay accord well with the results of the 1976 count, which was also made by boat. In all the other areas, the 1977 totals were the highest recorded, because previous counts had been made mostly from the land. Table 1 also gives pups as a percentage of the total number of common seals observed in each area. A total of 611 common seals ^{was} ~~were~~ counted on the whole coastline.

DISCUSSION

It can be seen from Table 1. that there was a considerable variation in the observed pup : adult ratio in the different areas and, most notably, that over a quarter of the seals observed in Strangford Lough, were pups. Overall however, pups made up 20.4% (or 1:4.9) of the common seals observed on the Co. Down coast. Bigg's (1969) life-table for P. vitulina ricardi, in British Columbia, suggests a ratio for pups to total stock of 1:4.5. Direct counting of common seal pups usually underestimates the total annual production because the birth period stretches over several weeks and both post-natal mortality and late births (ie. females still pregnant at the time of the count) are bound to depress the number of pups seen in a single count.

Thus Strangford Lough not only contained 72% of the pups, observed on the Co. Down coasts, but it also appeared to have a higher than average ratio of pups to total seals, compared with any of the other areas surveyed. This suggests that the sheltered waters of Strangford Lough may be crucial for the breeding success of the common seal population in north-east Ireland.

Comparisons between this survey and the 1956-58 survey (Venables and Venables, 1960) are difficult, for several reasons. The earlier counts were made over a three year period and mostly in the interval between 14th and 25th June. At this time, most of the pups would have been unborn, which accounts for the extremely low number of pups observed (Table 1). Because pup production is now regarded as the most reliable index of population size (Summers and Mountford, 1975) no valid comparison may be made on this basis.

Comparison of the counts of adults in 1956-58 and in 1977, show similar figures for Ards Peninsula and Dundrum Bay, but large discrepancies for the other areas (Table 1). These discrepancies are thought to represent a more intensive survey of the loughs in 1977, rather than an actual increase in numbers over the twenty year interval.

Bonner (1976) concluded that common seal stocks on the British coasts as a whole, have not shown any great changes, and there are no apparent local reasons why the population in north-east Ireland should have changed notably over the past twenty years. There are no important salmon rivers in Co. Down, so there is little shooting of seals in this area, in contrast with parts of the west of Ireland. There is no commercial seal-hunting in Northern Ireland, although the Conservation of Seals Act 1970, which controls hunting of the common seal in Great Britain, does not extend to Northern Ireland. Despite the lack of legal protection for this species, two of the main breeding sites in Strangford Lough are protected as National Nature Reserves, and one as a refuge of the National Trust Strangford Lough Wildlife Scheme. This may prove important in the future, in controlling the effects of human disturbance on the breeding success of common seals in north-east Ireland.

It is impossible to determine the trends in this population, until a further survey, using the same methods, is carried out. It would

also be useful to know, in the context of the whole of Ireland, whether the concentration of common seals on the north-eastern coasts is apparent or real. It is hoped that a joint survey of the whole coastline of Ireland will be carried out in the near future.

ACKNOWLEDGEMENTS

Thanks, for help with the survey, are due to R. J. Bleakley, E. Chapman, J. Fisher, A. Irvine, A. McKitterick and W. Nairn. The survey was supported by a grant from the Praeger Committee of the Royal Irish Academy.

REFERENCES

- BIGG, M. A. 1969. The harbour seal in British Columbia. Bull. Fish. Res. Bd. Can., 172: 1-33.
- BONNER, W. N. 1976. Stocks of grey seals and common seals in Great Britain. NERC Publications Series C No. 16: 1-16.
- BONNER, W. N., VAUGHAN, R.W. and JOHNSTON, L., 1973. The status of common seals in Shetland. Bio. Con. 5: 185-190.
- LOCKLEY, R. M. 1966. The distribution of grey and common seals on the coasts of Ireland. Ir. Nat. J. 15: 136-143.
- NAIRN, R. G. W. 1977. Common seals in Strangford Lough, Co. Down. Ir. Nat. J. 19: 43-45.
- SUMMERS, C. F. and MOUNTFORD, M. D., 1975. Counting the common seal. Nature 253: 670-671.
- THOMPSON, W., 1856. The Natural History of Ireland. Vol. IV: Mammalia &c.. London.
- VENABLES, U. M. and VENABLES, L. S. V., 1960. A seal survey of Northern Ireland 1956-57. Proc. zool. Soc. Lond., 133: 490-494.

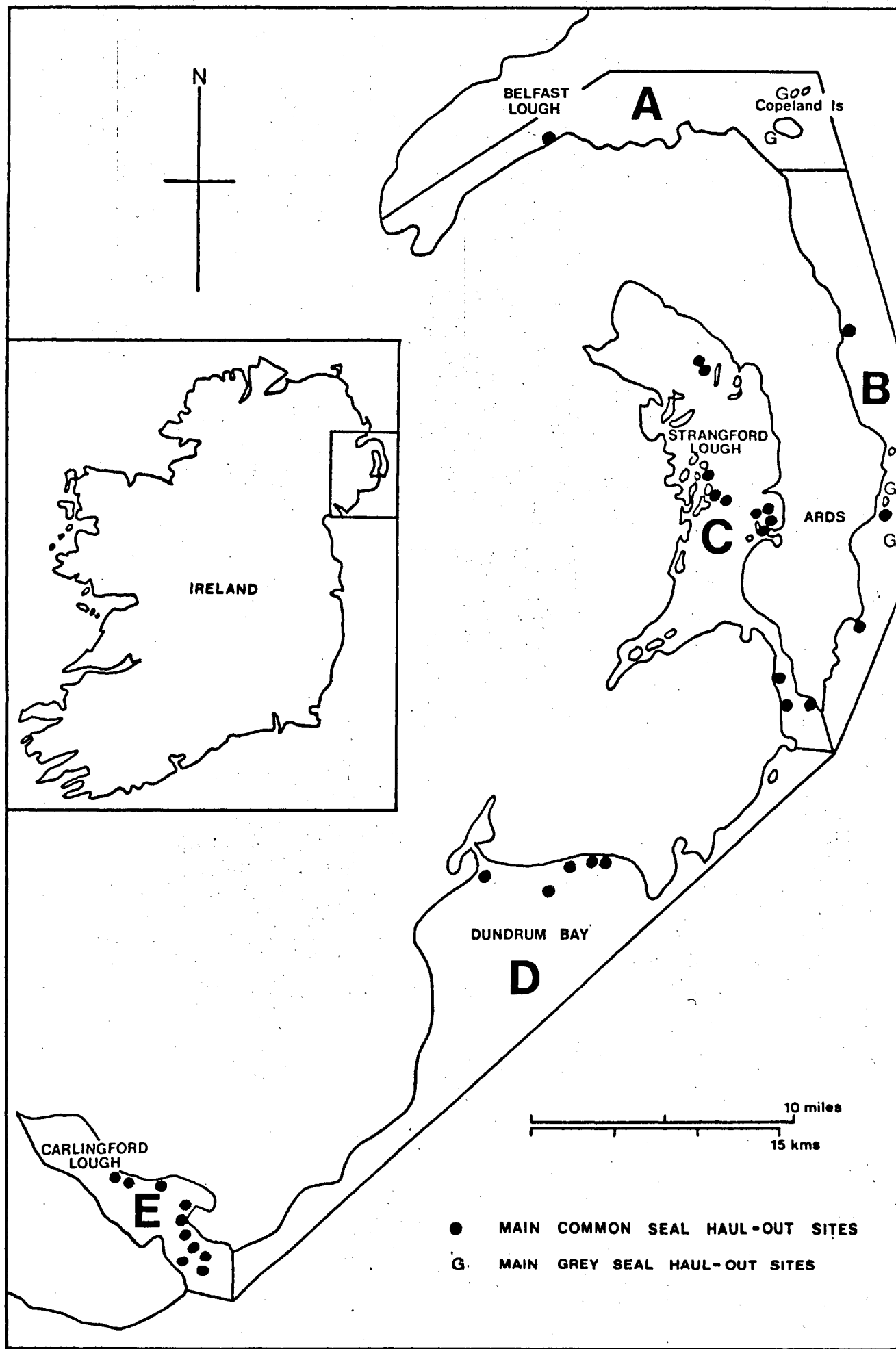


Figure 1. Common seal survey Co. Down July 1977