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NEW ZEALAND SEA LIONS, *PHOCARCTOS HOOKERI*, ON THE SNARES ISLANDS*

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ABSTRACT

New Zealand sea lions, *Phocarcctos hookeri* (Gray, 1844), on Main Island of the Snares Islands (48° S) are restricted to the eastern coastal region between Molly Bay and Punui Bay. In the 1970-71 summer, a maximum of 47 sea lions (36 ♂, 11 ♀) was counted in one day, 5 January 1971.

A female and pup were seen several times in January and February 1969, and a second mother-pup pair in January 1971. These sightings, with a similar record in 1907, show that small numbers of sea lions may breed on the Snares Islands, north of the main breeding area at the Auckland Islands (51° S).

INTRODUCTION

The New Zealand or Hooker's sea lion, *Phocarcctos hookeri* (Gray, 1844), is commonly found only on the Auckland, Campbell, and Snares Islands, but is an occasional visitor to Macquarie Island and southern New Zealand (King 1964). Breeding has been recorded only at Carnley Harbour and Enderby Island in the Auckland Islands group (Scheffer 1958) and on Campbell Island (Bailey and Sorensen 1962), giving a restricted breeding range of 51-53° S. The Snares Islands (48° S) are generally considered to be outside the breeding range of *P. hookeri*, although a mother and pup were seen there in 1907 (Waite 1909).

The distribution and abundance of sea lions on the main Snares Island were studied in the 1970-71 summer and the results are given in this paper. Also described here are sightings of two mother-pup pairs, in January and February 1969, and January 1971.

THE SNARES ISLANDS

The Snares Islands (48° S, 166° E) lie about 105 km south-west of Stewart Island. Both Main Island and the smaller Broughton Island have granite cliffs (150 m high) on the west and south, but fall to a much lower eastern coastline.

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TABLE 1—Vegetation on Transects 1–5 in the sea lion study area on the east coast of Main Island, Snares group

Transect	Vegetation
1. Punui Bay–Skua Pt Seal and Skua Pts Station Cove Station Pt Boat Harbour Ho Ho Bay South of Ho Ho Bay	<i>Poa astonii</i> , <i>Hebe elliptica</i> <i>P. astonii</i> , <i>H. elliptica</i> , bare rock <i>Olearia lyalli</i> <i>O. lyalli</i> , <i>P. astonii</i> , <i>H. elliptica</i> <i>O. lyalli</i> <i>Stilbocarpa robustum</i> , <i>P. tennantiana</i> <i>Senecio stewartiae</i>
2.	<i>P. astonii</i> , <i>H. elliptica</i> , <i>O. lyalli</i>
3.	<i>P. astonii</i> , <i>H. elliptica</i> , <i>O. lyalli</i>
4.	<i>P. astonii</i> , <i>P. tennantiana</i> , <i>O. lyalli</i> , <i>S. stewartiae</i>
5.	<i>O. lyalli</i>

TABLE 2—Counts of sea lions, *Phocartos hookeri*, along transects on Main Island, Snares group, November 1970–January 1971

Date	Transect										Totals
	1		2		3		4		5		
	♂♂	♀♀	♂♂	♀♀	♂♂	♀♀	♂♂	♀♀	♂♂	♀♀	
25 November 1970	19	2	3	1	1	0	4	3	2	2	37
1 December 1970	11	0	2	1	1	0	6	3	0	0	24
4 December 1970	23	0	3	1	1	0	6	2	2	3	41
21 December 1970	21	3	5	2	0	0	6	3	1	2	43
5 January 1971	24	4	3	1	1	1	7	4	1	1	47

An extensive forest of *Olearia lyalli* forms a canopy 5 m high over the centre of Main Island and stands of *Senecio stewartiae* are present on the east coast. Meadows of *Poa tennantiana* and *P. astonii* cover the region between the bush line and the cliff tops. The only shrub present is *Hebe elliptica* which forms impenetrable thickets, mainly on the east coast.

The summer climate is mild (13–18°C) with moderate rainfall and prevailing north-westerly winds.

DISTRIBUTION AND ABUNDANCE

The limits of the distribution of sea lions on Main Island were determined by careful search in November 1970 and five transects, 80 m apart, were then temporarily marked out within the study area (Fig. 1).

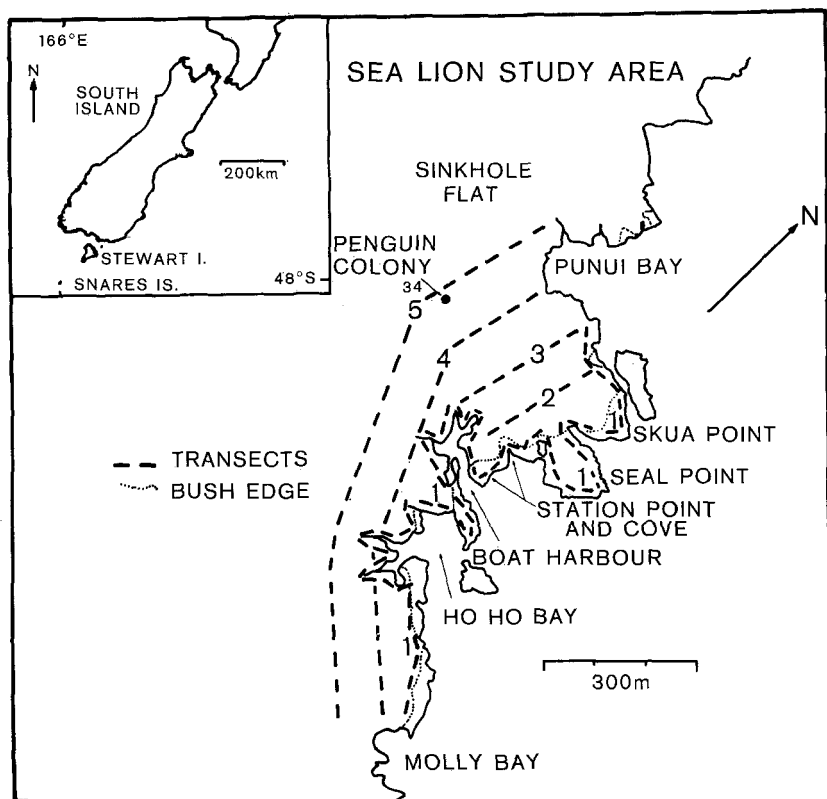


FIG. 1.—Sketch map showing transects on part of east coast of Main Island, and (inset) location of the Snares Islands.

The range of visibility from each transect varied as the vegetation and terrain changed (Table 1), but it is unlikely that sea lions were missed during counts, which were made in fine conditions between 0900–1500 h on five days (Table 2).

In the 1970–71 summer, sea lions on Main Island were confined to the eastern coastal region between Molly Bay and Punui Bay (Fig. 1). Sea lions seen by members of earlier expeditions were also in this region. As expected from observations in 1961 and 1967 (G. A. Knox, pers. comm.), there were small numbers of females in a predominantly male population in both 1968–69 and 1970–71. The sexes are easily distinguished as males are up to 3.5 m long, blackish brown, and have a well developed black mane; females are smaller (up to 2 m long), cream to light brown, and maneless.

Both males and females were seen up to 0.5 km inland showing that, like the Australian sea lion, *Neophoca cinerea* (Peron, 1816), they are quite at home on land despite their bulk (King 1964). Their restricted distribution on the island is probably a consequence of their need for flat, or gently sloping, rocks or beaches for access to the shore. Once ashore, they utilise penguin (*Eudyptes atratus*) trails and creek beds for moving inland, and also sometimes penetrate dense vegetation.

The maximum number of sea lions was counted on 5 January 1971 when 47 (36 ♂; 11 ♀) were seen; only 24 (20 ♂; 4 ♀) were present on 1 December 1970; other counts were intermediate between these (Table 2). Most sea lions were seen from the transect (1) nearest the coast, the proportions varying from 46% on 1 December to 60% on 5 January. This probably indicates truly the preference of sea lions for open rocks, tussock, and bush edge, but the results could be biased by the superior visibility from transect 1. The male to female sex ratio varied from 3.2 : 1 on 5 January 1971 to 6 : 1 on 4 December 1970.

Sea lions were most plentiful in the area between Boat Harbour and Seal Point where access to shore was easy, basking rocks were sheltered, and penguin trails provided easy routes into the bush. Another favoured locality was behind Ho Ho Bay where the slopes were covered by tussock and *Stilbocarpa robustum*.

OBSERVATIONS ON PUPS

Two mother-pup pairs have been seen on Main Island by expedition members. On 30 January 1969, a mother and pup were found in a patch of *Stilbocarpa robustum* within the *Olearia* forest, about 70 m above sea level. Because the pup was 75–100 cm long it had probably been born in December; on the main breeding grounds on Enderby Island pups are born in late December and in January, and suckling continues for several months (King 1964, Falla 1965). The pup was strikingly coloured: the top of his head, the nose, the tail and the base of the flippers were cream, in contrast to the darker grey of the rest of the body (Fig. 2).

On 3 February 1969, the same mother and pup were seen again, still high up in the bush but some distance away from the first location. On 10 February, an adult male joined the mother and pup in a small clearing near the Boat Harbour (Fig. 3). The male remained for five days and vigorously repelled intruding sea lions and humans. On 15 February, the three had disappeared and they were not seen again before the party left at the end of February.

The second mother-pup pair was seen on 13 January 1971 in a swampy area of *Olearia* forest near Sinkhole Flat. The male pup was about 90 cm long, its movements were unco-ordinated, and it bleated occasionally. The pair was re-sighted on 25 January in a clump of *Stilbocarpa robustum* near penguin colony 34; on this occasion the mother was calling to the pup.



FIG. 2—Pup of New Zealand sea lion (*Phocartos hookeri*) on Main Island, Snares group, February 1969. Note striking colour markings.

Photo: D. B. Cameron



FIG. 3—New Zealand sea lions (*Phocartos hookeri*) on Main Island, Snares group, February 1969. Lighter coloured female in the centre; male on the right, and pup on the left.

Photo: R. J. MacKay

CONCLUSIONS

On Main Island, during the summer at least, there is a small resident population of both mature and young bulls and cows. The bull sea lions do not appear to be territorially active, and no harems have been seen. At least two pups appear to have been born on the island.

Although pregnant females could have travelled to the Snares from the Auckland Islands, it is possible that some breeding occurs on the Snares. Collection of further data on distribution, abundance, sex ratio, presence of pups, and behaviour is needed to determine the status of the Snares Islands as a breeding ground of sea lions.

ACKNOWLEDGMENTS

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