

Bear Island

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Source: *Journal of Animal Ecology*, Vol. 11, No. 2 (Sep., 1923),
pp. 216-233

Published by: British Ecological Society

Owing to the labour of collecting animals typical areas were selected, and these were worked out in detail.

Detailed experimental work was only possible at Klaas Billen Bay, and the division into communities therefore rests usually on more easily obtained superficial evidence. The account is in no way to be considered an attempt at a final classification of communities in the region.

II. BEAR ISLAND.

INTRODUCTION.

We propose to deal with Bear Island first because it is much smaller, has fewer species of plants and animals, and is therefore simpler than Spitsbergen. Also, in some ways, it is transitional between Arctic Europe and Spitsbergen.

Bear Island lies 240 miles north of Scandinavia, on the western edge of the shallow submarine bank of the Barents Sea, while to the west is the deep Greenland Sea. The island (Fig. 1) consists of two distinct portions—a flat northern area of sedimentary rocks, and a southern mountainous part composed mostly of the faulted and metamorphosed layers of the Hecla-Hook system. Mount Misery (1800 feet) is the highest point on the island.

Although 120 miles south of Spitsbergen the climate of Bear Island is in many respects somewhat more severe. The mean temperature in February is -12.0°C . while that of August is 4.5°C . The Gulf Stream drift here meets the cold polar current from eastern Spitsbergen, producing many fogs which give the island a bad reputation among seamen. This foginess affects the plant life especially, since it reduces the amount of direct sunlight available. This is of much more importance in the Arctic than is the mean air temperature (68, etc.).

Another important factor affecting life is the frequency of storms in winter. The result of these is the complete removal of the snow from many places, and their exposure to the low temperatures then occurring. This is well seen in the extreme frost weathering visible in the mountainous part of the island. The sea does not usually freeze in winter, but at times there is much drifted ice from the north around the island and this adversely affects the climate.

We were only able to study the region south of the broken line on the map (Fig. 1). This area consists of very varied rocks—limestones, slates, sandstones, etc., but the vegetation, on the whole, seems to be the same on the different rocks. The following classification of communities was arrived at:

(a) Land Communities.

1. Bird Cliffs.
2. "Fjaeldmark" as defined by Warming (68).
3. Herb-mat (with "Skua hummocks").
4. Moss Heath.