provincial game authorities. The Canadian Wildlife Service also handles national and international problems relating to Canada's wildlife resources and co-operates with governmental and other agencies having similar interests and problems in Canada and elsewhere.

The Service issues permits for bird-banding in Canada and is the Canadian clearing-house for bird-banding information. It issues permits to qualified persons to take migratory birds for scientific purposes; to take and possess migratory birds for propagating purposes; to collect eiderdown; and to engage in the business of taxidermy.

The Canadian Wildlife Service plans and carries out research into the ecology, numbers, food, shelter, migration, reproduction, diseases, parasites, predators, competitors and uses of wild creatures in Canada. In certain of these investigations, e.g., the mid-winter waterfowl inventory, it works in close co-operation with the United States Fish and Wildlife Service and with federal, provincial and private agencies in Canada. The Service is responsible for the establishment and administration of bird sanctuaries under the Migratory Birds Convention Act. On Dec. 31, 1956, there were 90 bird sanctuaries in Canada with a total area of more than 1,800 sq. miles.

The Limnology Section of the Service is concerned with research leading to the maintenance and improvement of sport fishing, the control of aquatic and semi-aquatic insects, the control of algæ, and with other biological problems that arise in regard to water areas in the National Parks. It also acts in an advisory capacity to the Northern Administration and Lands Branch in connection with aquatic biological matters.

A series of special articles relating to the wildlife resources of Canada are being carried in the Year Book. Articles on Migratory Bird Protection in Canada, Game Fish in Canada's National Parks, The Barren-Ground Caribou, Migratory Bird Legislation, and Scientific Management of Game Fish in Canada's National Parks were carried in the 1951, 1952-53, 1954, 1955 and 1956 editions, respectively. The following article on the Musk-ox has been prepared by the mammalogical section of the Canadian Wildlife Service.

THE MUSK-OX

Canada shares with Greenland the distinction of harbouring native stocks of one of the most interesting of the Arctic animals, the musk-ox. This ruminant, or cud-chewing mammal, is found in certain areas of the Arctic mainland of Canada and on most of the larger Arctic islands. At first glance the musk-ox looks like a very hairy buffalo, but closer inspection reveals many important differences. Although it has a hump over the shoulders like a buffalo, the musk-ox is smaller, a large bull weighing up to about 900 lb. It has a long shaggy outer coat of hair and a very fine inner 'wool' to provide protection in winter.

The musk-ox is a survivor of ice-age times. It lived when the woolly mammoth roamed northern North America but, unlike the latter, it managed to survive after the disappearance of the vast glaciers which covered much of the country. In physical structure the musk-ox is closer to sheep or goats than to cattle. Its nearest living relative is the takin, an animal found only in mountainous Tibet.

At one time, before they began to be hunted, musk-oxen had a wide if sparse distribution throughout the barren-land regions of the Arctic mainland and Arctic islands of Canada. One exception is that there are no known records of musk-oxen on Baffin Island, possibly because of their extinction long ago by natives or because that island, for obscure reasons, was never colonized by musk-oxen.

However, records left by Samuel Hearne in the 1770's provide evidence that, even at that time, musk-oxen were restricted in numbers and distribution. Again, from 1862 to 1916 the Arctic mainland population was further drastically reduced. Musk-oxen were killed