

river and the western parts of Missouri and Arkansas. It draws birds from central Alaska and Yukon, Alberta, Saskatchewan, and various western States, including the Bear River marshes in Utah. The wintering grounds are chiefly in Texas.

The Pacific Flyway presents some peculiarities. The route along the British Columbia coast is followed chiefly by the cackling goose (*Branta canadensis minima*), the black brant (*Branta nigricans*), and some of the sea-ducks. A large number of the black brant breed on the Western Arctic coast and islands of Canada, and with the Pacific eider (*Somateria v-nigra*) and king eider (*S. spectabilis*) perform a curious and noteworthy east-west migration along the coasts of the Northwest Territories, Yukon and Arctic Alaska via Point Barrow and Bering strait. The eiders mostly winter in Bering sea and the gulf of Alaska, but the black brant follow the Pacific Flyway along the coasts of British Columbia and States of Washington, Oregon, and California. Most of the other geese, including the little Ross's goose (*Chen rossii*), and ducks which use the United States part of this route, come from eastern Alaska, the Mackenzie valley, and other interior points. Starting in Alaska, Yukon and Mackenzie, this route is used in common with many birds which follow other flyways, going southward through the Prairie Provinces. The route branches somewhere near the International Boundary, and while some birds continue south-eastward into the Central and Mississippi Flyways, some turn southwestward across northwestern Montana and the Panhandle of Idaho, follow the Snake and Columbia River valleys, turning southward across central Oregon to the great interior valleys of California. Another important contingent of birds, particularly the redheads which winter in California, crosses the mountains from the Bear River marshes of Utah, and curiously enough sends some ducks along the Central and Atlantic Flyways as well. The breeding grounds of interior British Columbia continue to supply a fairly good number of waterfowl, nearly all of which winter in the Puget Sound region and seldom go south of the State of Washington.

Distribution of Mammal Faunas.

Next to the plant species, the mammals probably present the best indicators of life zones in Canada. With the exception of a few species of bats, which migrate to more southern climes, and some of the grazing mammals which move limited distances in search of winter forage, and a few predators which follow their prey, nearly all our Canadian mammals are resident and stay in the same region throughout the year, even if they have to hibernate and sleep all or part of the winter. As the mammals are comparatively sedentary and are subject to the same environment throughout the year, they have developed into many local races which are still being brought to light as new areas are explored scientifically.*

The introduction of domestic animals has always accompanied the immigration of man into a new region, but the number of species is small and largely under control. House rats and mice have been brought in accidentally by human transport, and although not native, have acclimated themselves in most settled parts of the country. European hares have been planted in parts of southern Ontario and become established as part of the wild fauna. A few species of wild mammals have come in as immigrants from the United States, as the Nebraska cottontail rabbit (*Sylvilagus floridanus similis*) which according to Bailey¹⁷ had extended its

* Harlan¹⁴ listed about 100 species of mammals known in the whole of North America in 1825. Richardson¹⁵ in 1829 recorded 82 species in British North America, and Tyrrell¹⁶ in 1888, listed 122 species and 15 varieties of these—a total of 137 forms known in Canada at that time. The writer prepared a card list of Canadian mammals in 1928 listing 464 different forms, and increased this list to 540 by 1936, some records being added and almost as many eliminated on account of lack of authentic records. Hardly a year passes without several new names being added to the list of mammalian fauna of Canada.