

Canada's Fish Fauna

Canada has a varied and rich fish fauna for the country borders on three oceans, has the longest coastline of any country in the world, and has over one quarter of the world's supply of fresh water. In these many waters, from sparkling mountain torrents to unlit deepsea depths, are known 770 living species, 190 of which occur in fresh water. The fish fauna is far from being thoroughly explored and several species are added to the known fauna each year. At present over 150 species of fossil fishes are known in Canada; about 20,000 species are known altogether in the world.

What is a fish? It is a cold-blooded vertebrate animal, breathing with gills throughout its life and having limbs, if any, in the form of fins. Salamanders have foot-like limbs and whales are warm-blooded so that these forms are not fishes. Three major groups of fishes are found in Canada—the lampreys, the sharks and the bony fishes—the first having only 12 species, the second 49 and the bony fishes the remainder. Each of the three groups is as distinct (or more so) as the groups of birds and of mammals and each species is placed in its own class.

Canada's fish vary in size from the 45-foot-long basking shark to such pygmies as the least darter which seldom exceeds $1\frac{1}{2}$ inches. They vary in form from the flattened rays and skates and the ball-like spiny lumpsucker to the slender elongate quillfish. Structures varied and remarkable are found. The electric ray has organs in its wings capable of giving a considerable shock, the lantern fish has rows of tiny light organs that may be equipped with lenses and reflectors, the deepsea dreamer possesses an illuminated lure for attracting prey, the seasnail has a sucking organ below for clinging to rocks, the herring has tubes from its gas bladder running forward to its inner ear, increasing the sensitivity of its hearing.

It is not only in structure that they vary. Intriguing behaviour patterns include nest-building in the stickleback, burrowing through the sand in the sand lance, flying through the air in the flying fishes, hitching rides on sharks in the remoras. Atlantic salmon tagged in Canada have been caught near Greenland. Chum salmon spawn in Teslin Lake in northern British Columbia after travelling about 2,000 miles up the Yukon River system from Bering Sea. However, much is yet to be learned of the species and habits of the piscine inhabitants of 'inner space' from the point of view of economic utilization of fisheries, of recreation and of advancing man's knowledge of the world around him.

Canada's waters are renowned for their sport fishes. In fresh waters there are at least 50 kinds to tempt the angler. The rainbow trout, native to the west and decorated by an iridescent band along its side, is famed for its head-shaking, lure-throwing jumps. In northern waters the Arctic grayling, resplendent in royal purple, and the orange-spattered Arctic charr await the angler. In the east are found the voracious muskellunge and spunky large and smallmouth basses. The sunfishes and yellow perch are widespread favourites of the young. On the East Coast the Atlantic salmon is considered by its devotees to be the finest gamefish in the world. It rises well to the dry fly and is known to attain weights of over 50 lb.

In the sea waters, too, a host of species awaits the angler or skin diver. On the West Coast are the chinook and coho salmons—the chinook is the mightier, reaching 126 lb., but pound for pound the coho is just as game. The powerful ling cod, attaining lengths of up to five feet, is a worthy quarry for skin divers. Near kelp beds and reefs await a dozen kinds of rockfish painted in hues of red, brown, yellow and green. On the Atlantic Coast is found the bluefin tuna—one caught off Nova Scotia weighed 977 lb. In winter, near river mouths, the tomcod attracts the ice fisherman.

Research on Canadian fishes is undertaken by several organizations. Most provincial governments study and administer their own freshwater sport fisheries, while Quebec includes both marine and freshwater fishes. The federal Department of Fisheries regulates the marine and commercial fisheries, and the Fisheries Research Board of Canada conducts scientific research for it. Canada belongs to several international fishery com-