

The Board's studies of lobsters provide the basis for regulations on size limits and open seasons to allow as intensive an exploitation of this highly valuable resource as is consistent with maintaining or improving the available stocks. These studies are centred at the Board's Biological Station at St. Andrews, and field work is carried out in all the lobster areas of the Maritime Provinces.

Of importance as bait and of significantly present and potential value as food are the stocks of herring whose appearance and availability in specified areas cannot yet be foretold with any degree of confidence. The exploratory work under a federal-provincial Atlantic Herring Investigation Committee from 1944 to 1950* has been continued by the Board, though with somewhat less intensity. Supplies in the Gulf of St. Lawrence have been found but their exploitation would seem to depend on improved methods of locating commercial schools of these fish and on better means of capture than those now used. The stocks of small herring (sardines) in the Bay of Fundy area seem to appear fairly consistently in adequate numbers to maintain an active canning industry. The possible effect of a proposed tidal-power project in Passamaquoddy Bay is being studied by the Board and its United States counterparts.

When the Board started the study of oysters in Prince Edward Island in 1930 the stocks were at low ebb because of an endemic disease. In co-operation with the Department of Fisheries the Board's workers developed oyster farming methods to produce a disease-resistant strain as a basis for licensed farming. This strain has been used in recent years to restock areas in Nova Scotia and New Brunswick where oyster populations had been practically wiped out by the disease which had been prevalent in Prince Edward Island years before. Other bivalves under study include scallops, clams and quahaugs. The Board co-operates with the Department of National Health and Welfare by keeping close check on areas of production for any signs of incidence of toxicity in shellfish so that these areas can be closed to fishing until healthy conditions return.

Other studies in the Atlantic area include trout production in fertilized lakes, production of smelts, seaweeds and plankton, and various *ad hoc* projects as a service to the Department of Fisheries or the fishing industry.

ARCTIC AREAS

The Board's work in the Arctic areas is concerned mainly with discovering the extent of the aquatic resources there and recommending to the Government developments that may be undertaken by and for the benefit of the native populations in these areas. Since 1948 the Board's specially designed 47-foot Arctic research vessel, *Calanus*, which is fitted for various methods of fishing, has been carrying out exploratory fishing in most of the areas of the Eastern Arctic where there are Eskimo populations. Investigations of the Beaufort Sea and Western Arctic are conducted from smaller vessels. The studies of the aquatic resources include the life histories of walrus, seals and other marine mammals found in the Arctic and in the coastal areas off the Atlantic Provinces. Investigations into the environment of these resources include studies of plankton and hydrography.

FRESHWATER AREAS

The effect of a harmless parasite sometimes found in whitefish imported into the United States gave rise to an intensive study aimed at the eradication or control of this parasite. Investigations of many lakes uncovered infestation-free areas and various degrees of prevalence. Work centred at Heming Lake in Manitoba, a typically infested lake, and a study of the life history of the parasite showed that the pike was the host to the adult parasite and that reduction in the pike population could reduce the incidence of the parasite.

A survey of Great Slave Lake in 1944 and 1945 showed unexploited commercial supplies of lake trout and whitefish. This lake—the fifth largest in North America—was opened up to commercial fishing in 1946 on a controlled quota basis. The annual quota, periodically

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