to be taken from specific areas, and with the expected increase in the spawning stock being tested by sampling the numbers of the deeply floating eggs.

Mollusk Fisheries.—There have been investigated: (1) The oysters of the Prince Edward Island region, almost eliminated in Malpeque Bay by a disease that started in 1914, but now brought back by cultural methods, with rapidly mounting annual yields; disease recently wiped out the fishery in other localities, but it has been brought back by the introduction of immune stock. (2) The scallop fishery of the Digby, N.S., region, which seems easily over-fished. (3) The clams of the Bay of Fundy, which it is hoped may be profitably 'farmed' in the future. (4) The quahaugs of the Prince Edward Island region. (5) The butter and little neck clams of Vancouver Island. (6) The native and the very large introduced Japanese oyster of Vancouver Island; for spawning the latter requires higher water temperatures (applied artifically in experiments) than usually occur in those waters.

Fisheries for Migratory River Fishes.—These include salmon and trout investigated as follows: (1) The sockeye salmon of the Fraser River, characterized by one very good year's fishing out of every four. (Means have been sought to bring back the cycle, which was interrupted by a rock slide in 1914.) (2) The sockeye salmon of the Skeena River. (3) The pink salmon of the Queen Charlotte Islands, for which no means have yet been found to obtain a good yield each year; every alternate year is very poor, although the actual year depends on the locality. (4) The various kinds of salmon and trout in the Cowichan River system of Vancouver Island. (5) Atlantic salmon; these fail to enter rivers sufficiently early to give good angling, and the numbers have decreased in recent years. (6) Speckled trout of the Maritime Provinces, both sea-run and purely freshwater types; these are in increasingly greater demand for angling as improved roads make the waters more accessible.

Biological Problems of Varied Nature.—Investigations cover: (1) The ship worm (*Teredo*) that attacks the piles of wharves, lobster traps, etc., in the waters of northern New Brunswick and Prince Edward Island. (2) The death of Atlantic salmon from high temperature in the Moser River, N.S. (3) The death of spring salmon at Sooke and of sockeye salmon in English Bay, B.C., through excessive growth of algæ. (4) The difficulties in rearing Atlantic salmon and speckled trout. (5) The fish-disease furunculosis that occurs in trout in British Columbia.

Problems in Handling Fish for Food and Commercial Uses.—For fresh (untreated) fish, a thorough study is being made of the changes associated with spoilage, which are not the same in freshwater fish as in sea fish. The possible advantages of incorporating various bactericidal substances in the ice used to keep fish fresh are being tested. For salted fish the prevention of 'red' and 'dun' has been given attention as well as the difficulties associated with the drying of salted fish for which unfavourable climatic conditions make artificial drying desirable. The possibilities in canning oysters and boneless cod have been tested, and other canning problems have been studied. Various fish oils have been investigated as to their vitamin content (as in cod-liver oil) and in connection with their use in the leather and paint industries. Fish enzymes are tested for use as bates in tanning. A start has also been made in determining the amounts of iodine in marine material.

Subsection 3.—Aspects of Industrial Research in Canada.*

No single industry can undertake to make use of a country's natural resources to the full and without waste. Science has shown that the waste products of farms,

* Prepared in the Research Plans and Publications Section of the National Research Council.