

**FISHERIES RESEARCH:** During the past two years the North Pacific Ocean has been literally under a microscope.

Scientists and technologists of the Fisheries Research Board of Canada, in co-operation with research agencies of the United States and Japan, have carried out the largest scale exploratory fishing ever undertaken as a single project. The Board's experimental fishing, water sampling and subsequent laboratory work in this connection fulfills Canada's commitment to the International North Pacific Fisheries Commission.

Reports of the directors of the Board's Biological Station at Nanaimo, B.C., and its Technological Station at Vancouver contain details of the findings of fisheries scientists, oceanographers and technologists which will form the basis for future measures to conserve the fisheries and at the same time maintain their productivity and quality.

The reports contain much evidence of the diversity of the Board's ever-expanding activities in the realm of fisheries, from salmon spawning beds deep in the interior of British Columbia to the trackless depths of the ocean, and from the fish or shellfish just as it is taken from the water until its ultimate destination on a dining table.

Tagging and marking programmes, sometimes extended for years, have enabled staff members of the Board to draw up maps and charts showing the density and distribution of stocks of salmon, herring and other species. This vital information is gathered by research methods, which trace the fish from birth to adulthood. On occasion nature is given a helping hand, as at Jones Creek, B.C., where the Department and the Research Board planted millions of salmon eggs in an artificial spawning bed constructed in association with a power development. The scientists were thus able to observe the complete cycle of a race of salmon, because the experiment was successful and the salmon

hatched there ultimately returned to their man-made spawning ground offering prospects for establishment of new runs in this manner.

One phase of the Board's technological work on the Pacific coast may result in a method other than that ordinary ice being used for preserving fish aboard the catching or transporting vessels. Successful experiments have been carried out with tanks of refrigerated sea water in which fish have been kept at sea in excellent condition for periods of more than two weeks. This method of preserving quality could eliminate almost entirely the use of crushed ice, and simplify problems of loading and unloading. Some commercial fishing concerns in British Columbia are now installing storage tanks in their vessels like those developed by the Board.

The use of chlortetracycline (aureomycin) in various phases of fish preservation, pioneered at the Vancouver Technological Station by Dr. Tarr, is of far reaching importance. Successful trials have been made with various types of fish in which over 1,000 tons of ice have been treated with minute quantities of the antibiotic to extend the keeping time of fish, and further experiments are under way. Preservation of fish with this antibiotic was recently legalized by the Food and Drug Directorate of the Department of Health and Welfare.

The Research Board concerns itself with all phases of the fishing industry, including the gear used by fishermen. One of the current investigations is a series of experiments with nets made of synthetic materials. Samples of web and twine made in Canada, the United States, Japan, Germany, the United Kingdom and The Netherlands are being tested to see if they have suitable properties and can be used with more advantage than conventional types in the manufacture of nets. The results of these tests are to be made available to fishermen in a practical handbook as soon as reliable conclusions have been reached.