

Provincial Hatcheries.—Ontario operates 28 hatcheries and rearing stations and excellent results have been produced in the culture and distribution of the various species of both commercial and game fish. Hundreds of millions of fry and fingerlings, comprising whitefish, herring, pickerel, trout (lake, speckled, brown and Kamloops), maskinonge, bass and ouananiche are distributed annually. Three of the finest trout rearing stations on this continent are located in Ontario at Dorion near Port Arthur, at Sault Ste. Marie and at Hill Lake near Englehart.

Fisheries Research.—Research in Ontario is carried on in the Great Lakes where commercial fisheries problems are being investigated, and in inland waters where game fish populations are being studied. The Manitoulin Island station conducts studies relating to the removal and utilization of the less valuable species and the effects of this removal on stocks of the more valuable commercial and game species. In Algonquin Park a careful record of angling quality is kept for a number of test lakes to allow evaluation of management techniques. Certain of the more barren lakes are being treated with fertilizer to determine the effect on microscopic organisms and fish.

The habits of lake trout and eastern brook or speckled trout are being studied to provide additional information on the proper management of these species. Many authorities believe the increase in the sea lamprey and the drastic drop in production of lake trout in recent years in Lake Huron (including Georgian Bay and North Channel) to be directly related and this has led to considerable joint research by the Ontario and Federal Governments and the State Governments in the United States. Co-operation is maintained by the exchange of biological findings and, where practicable and feasible, the results are applied in an attempt to control this menace.

Established fish management principles are applied by biologists in the various forestry districts. The program includes such projects as biological surveys and investigations, bass harvesting, coarse fish removal, sea lamprey control, creel census studies, fish tagging and other related subjects.

Manitoba.—For the calendar year 1954 the freshwater commercial fisheries of Manitoba, made possible by nearly 27,000 sq. miles of lakes and streams in the Province, yielded a catch of 28,445,000 lb. of choice edible fish, the market value of which was \$5,435,000. Fourteen varieties of fish make up the commercial catch, the most important, according to value, being pickerel, whitefish, sauger, pike and perch. In addition to commercial production, sport fishing yielded a considerable unrecorded poundage of fish.

Besides providing a large harvest of rich protein food the fisheries of Manitoba materially assist the balance of trade by the export of freshwater fish: it has been estimated that 90 p.c. of the Manitoba catch is sold to United States dealers. Employment in the fisheries is another important benefit, as in the actual fishing operations over 6,000 men are employed and at least a similar number find total or partial employment in the many industries which are dependent wholly or in part on the fisheries.

Since the fishing industry began in Manitoba approximately 75 years ago, the fishing equipment has been improved and methods of handling fish have changed to meet modern demands for a packaged product ready to serve or convenient to cook. Oars and sail have given way to high powered internal combustion engines and boats which can lift nets in almost any weather. Coarse linen gill-nets have also disappeared in favour of the finest of nylon gill-netting. In marketing, whole fish packed in ice is being replaced, in part at least, with a packaged filleted product, or even a precooked item such as 'fish sticks'. Throughout the fishing industry there is a keen appreciation of the necessity of producing a first quality product, convenient to prepare, attractively packaged, which will appeal to the eye, palate and the cook. The city of Winnipeg, it is thought, has become the largest freshwater fish marketing centre on the continent and the Provincial Department maintains a city patrol service to ensure, as far as is possible, that only fish of first quality is marketed or offered to the consumer. This patrol operates in co-operation with officials of the Federal Department of Fisheries.