

it is evident that for the present at any rate no eels over 2 lb. are acceptable for an export trade, and only those of 1 lb. and under are likely to be in good demand for the London market, it is clear that of the seaward migrants, which are the most easily to be caught, only the males are required. Juvenile females could, of course, be taken in baited traps, but it seems doubtful whether they could be consistently caught in sufficient quantities for industrial purposes. It seems likely, however, that for canning the larger sizes would be acceptable and ultimately perhaps preferable to the smaller fish. Moreover the skins of large eels have a definite value as the raw material for making fine leather, for which at present there appears to be a growing demand.

With regard to prices, a record of the wholesale prices of eels in Billingsgate Market, London, for seven weeks in the autumn of 1930 shows that from 8s. to 30s. was paid per "draft" of 21 lb. of live eels. Frozen eels would fetch less—probably not more than 6d. per lb.—though the price would probably rise when the market became accustomed to the trade provided that the cleaning, packing, freezing, and transport were all that could be desired. One poor consignment would have a damaging effect on future demand. Prices in Hamburg realized for frozen Canadian eels in 1930 were from 12 to 15 cents per lb., and consignments were sent in 100 lb. and 55 lb. boxes. For New Zealand consignments transhipment from London for Hamburg would involve additional transport expenses.

The question is whether catching, cleaning, freezing (or canning), and transport to a European market can be carried out on a scale and at costs that would ensure profitable business. The best location for the depot or factory is the first point of practical importance. The lower Wairarapa (Onoke) Lake which is the one outlet to the sea—usually closed by Nature at the time of the eel-run, to the great convenience of the eel-catchers—for a very large system of rivers and streams and the extensive Lake Wairarapa, is one of the best, if not the best, of all eel-fishing sites in the Dominion, but it is known that there are other waters in both islands where large quantities of eels may be caught, although no precise data as to actual quantities are available.

The fact that active operations may have to be confined to three or at most four months out of the twelve, and for the rest of the year more labour, more time, and more travelling would be involved in order to get substantial catches, makes it unlikely that a factory on the spot would be the most satisfactory arrangement. It is in fact probable that an eel industry would have the best chance of success if it were run as a seasonal change in connection with the operations of an established fish merchant's depot already provided with refrigeration facilities and with a staff expert in handling fish and with proper facilities for the cleaning and packing operations. For canning, an existent whitebait, crayfish, or oyster cannery, if available, might introduce eel-canning as a possible side-line. It is evident that there is nothing of the nature of what is described in sporting parlance as a "snip" or "easy game" in this eel fishery, or a fortune to be made out of it, but so far as can be judged from the information available there does seem a possibility of providing a living for a few employees and a reasonable return for capital invested in a new minor industry that may add another item to our short list of exports of primary produce. The import duties recently imposed by Britain on foreign fish should be of some assistance.

A possible complication to be considered, especially in the North Island, is the difficulty that might arise from interference with special Maori eel-fisheries such as exist in certain places and have been used by the Natives for many generations, though not generally of the same essential importance to-day as they were in the old times. The obvious way to get over such a difficulty would be to employ only local Maoris for the catching of the eels for, though comprehensive information on this matter is not available, it seems likely that systematic fishery operations in a suitable locality would provide sufficient eels both for local consumption and for the trade. One of the national problems of to-day is to create industries that will provide Maoris with a means of earning wages, and it would appear that no occupation could be more suitable for the special aptitude of the Native people.

#### FRESH-WATER FISHERY RESEARCH.

The work carried on, from Canterbury College as headquarters, under the general direction of the Fresh Water Research Committee of the New Zealand Acclimatization Societies Association during the past year has been a continuation of the scheme projected when the Committee first met in November, 1929. The objects and methods of this research have been explained in previous reports and in Fisheries Bulletins already published, but it seems desirable, in addition to a review of the past year's work, to discuss briefly the general question of fresh-water fishery research in New Zealand.

Although, in common with most of our research institutions, the Committee has suffered from the cramping effects of a financial stringency that was not anticipated when the scheme was undertaken, there has been a continuous and gratifying increase in the work done. The Biologist, Mr. Parrott, has continued his investigations upon the growth and age of fish, especially trout, in various waters by the method of examination of scale samples, the majority of which have been collected by the voluntary assistance of anglers organized by local research committees set up by some of the acclimatization societies.

Up to September, 1933, the total number of scale samples received and examined was 5,700 from anglers and 4,650 from trapping and netting operations. For the 1933-34 fishing-season 1,130 further samples were received.

Two reports by Mr. Parrott were published during the year—"The Variability and Growth of the Scales of Brown Trout in New Zealand," in the "Transactions of the New Zealand Institute," Vol. 63, part 4 (January, 1934), and "Some Observations on the Brown Trout Population of the Kakanui River (North Otago)," in the *New Zealand Fishing and Shooting Gazette*, Vol. VII, No. 5 (March, 1934). The former paper is of fundamental interest in that it demonstrates the basis for the method of