

The accommodation previously occupied by the laboratory was barely adequate for the staff as it then existed and rendered any expansion completely impossible. After a search, new premises were found which required almost complete reconstruction internally, but were otherwise ideally suited for use as a fisheries laboratory, and these were occupied in February, 1947. The new premises provide adequate laboratory, office, and storage accommodation for both marine and fresh-water research staffs. They include an enclosed yard and open sheds suitable for the handling of nets, as well as a garage to house the mobile laboratory.

The use of cars and trucks from the Government pool has often been unsatisfactory on account of the bulk of much fisheries gear, and lack of facilities for delicate work in the field. A special vehicle was therefore designed to be equipped as a miniature laboratory and fitted to carry all types of research equipment. This has been built on a chassis specially suited for work in rough country. This mobile laboratory will enable most types of work to be carried out at the water's edge under almost all conditions.

In order to make good use of the improved facilities, a programme has been drawn up covering most major fisheries problems, and work has been begun on most points in this. This programme was laid before the Fresh-water Fisheries Advisory Council at its second meeting, and the Council expressed its approval of the proposals.

Among the research subjects on which work is being undertaken are the following :—

*Eels.*—Previous investigations carried out by officers of this Department have shown that the long-finned eel has important relationships with trout, both as a competitor when small and a predator when large. Thus, it appears that the destruction of eels is probably beneficial to trout fisheries. The actual amount of damage done by eels must determine what expenditure upon eel-destruction is economically justifiable. To investigate this it is planned to measure the amount of food eaten by individuals and the density of the eel population of various types of trout waters. The examination now being made of the results of the large-scale trapping of eels for UNRRA in Southland last season will yield useful information on the latter point.

*Erosion.*—The influence of erosion upon fish stocks is a matter much debated at present, and it is therefore desirable that accurate information should be obtained as to the nature and importance of its effects. It is known that severe flooding may have harmful effects, as may instability of river-beds, and the influence of these factors have already been considered in previous investigations by the Department. A distinction must, however, be made between harmful effects which may occur due to natural conditions and those arising from man-made accelerated erosion, which may be corrected. It is therefore planned to carry out long-term observations on rivers in areas where erosion is being checked and the land restored. A preliminary survey in this connection has already been made of the rivers on the Molesworth Station.

*Horokiwi Investigation.*—Progress has been made with the final analysis of the data accumulated during the intensive study of this stream. The collection and analysis of information regarding anglers' catches has been continued during the present season.

*Development of Improved Research Methods.*—Work is being undertaken on the development of improved methods of sampling both fish populations and food-supply. The object of this work is to enable estimates of these very important factors to be made more speedily and with greater accuracy.