

Fisheries Bulletin No. 9, "Trout Fisheries in New Zealand--Their Development and Management," has been distributed during the year. A free allocation was made to acclimatization societies against the needs of councillors, staff, and honorary officers. In addition, substantial quantities were made available through societies to anglers at the concession rate of 2s. 6d. a copy before the need to husband remaining stocks compelled reversion to the issue price of 4s. for paper-bound and 12s. 6d. for cloth-bound copies. Early indications are of a very favourable reception of this work overseas. There has been a heavy demand for copies for fisheries staffs and libraries in several countries, and a gratifying feature has been the request for the work from several universities, which propose to use it for instructional purposes in their schools of fisheries or in their divisions of economic zoology.

Local Administrative Policy.—The Council of South Island Acclimatization Societies has responded immediately to suggestions for improvement of local administration made in Bulletin 9 and has officially adopted the recommendations made in it as a broad basis for future policy. Already consultations are proceeding with a view to bringing about greater uniformity of fisheries effort as between financially weak and strong districts.

FRESH-WATER RESEARCH

The research programme which has been outlined in earlier publications has been actively pursued during the year. While it has not yet been possible to obtain additional permanent scientific staff, two temporary Biologists were employed during the University summer vacation and gave valuable assistance. There has been a considerable increase in technical assistant staff at the Laboratory, and this is now adequate to present needs. The increase is largely the result of the action of the Department of Internal Affairs, which is making a contribution to the upkeep of fisheries research by seconding junior officers to serve as assistants in the Laboratory for a few years.

Eels.—The investigations on eels which deal with populations, relations with trout, and methods of trapping have been continued. The data collected in Southland in 1947-48 have been fully analysed, and further field-work has been undertaken in the Wellington and Auckland districts. It has been found that conventional methods of trapping take relatively few eels less than 25 in. in length. Since eels begin to feed freely on trout at a size only slightly greater than this, fairly frequent retrapping is necessary if their predations on trout are to be significantly reduced. Present evidence suggests that trapping at least every third year is required for this purpose, even where almost all the takeable eels are removed each time. In rivers of medium size a gang of twenty pots skilfully operated can probably remove 90 per cent. of the trappable eels from one and a quarter miles of water in a five-day week. The investigations show wide differences from stream to stream in the extent to which eels have been feeding upon trout, even in cases where trout are equally abundant. The differences seem to depend upon the nature of the cover and on the quantity of other foods, such as koura, which are available.

Erosion and Flooding.—The study of the effects of flooding and erosion on the supply of trout-food in the Horokiwi has been completed, and the results are now being analysed and prepared for publication. The results support the belief that this factor may in some cases have played an important part in the deterioration of trout stocks, since the amount of fish-food present may be seriously reduced in this way. Some preliminary studies were also undertaken on the Ashley River, in North Canterbury, regarding the direct effects of the same factors on the numbers of trout by the disturbance of redds and the destruction of eggs.

Angling Data.—The 1947-48 season was the first in which an attempt was made to organize a Dominion-wide scheme for the collection of information by means of angling diaries and rangers' reports. The results varied widely in different districts, but although some societies were unable to obtain any records, a satisfactory response was received in other areas, particularly in the South Island, and a total of about 180 diaries was available for study. In the most successful district about 10 per cent. of