

The chief points of interest about the 1929–30 fishing season appear to be as follows. Early in the season good catches were frequently made by trolling in the usual place at the outlet of the Waiau River from Lake Te Anau. Later in the season this fishing became somewhat uncertain and blank fishing days were not infrequently experienced. The practice of fishing pools in the river between Te Anau and Manapouri, which had been tentatively tried with some success the previous year, has been further developed, and has frequently given very satisfactory results. It is hoped that this more interesting and more sporting method of taking Atlantic salmon may be further developed and facilitated.

The total catch of Atlantic salmon during the fishing season is estimated at between 1,000 and 1,200. Increased catches of salmon in the tidal waters of the Waiau River have been reported at the beginning of this season. It would thus appear that more salmon are running up from the sea.

The statement has been frequently made during the past fishing-season that the Te Anau salmon are deteriorating in condition. Apparently the average size of fish caught is below that for previous years; precise data are unfortunately lacking. Very conflicting views are held as to the probable cause. Some think there are too many salmon in Te Anau for the food-supplies; others hold that the declining sizes are evidences of overfishing at the same spot—the “champions of the pool” being allowed a very brief period of domination before they are hauled out by an angler: the best feeding-station (and therefore the best fishing-place) thus being occupied by diminishing sizes of fish. This seems to be a cogent explanation of, at any rate, some part of the observed facts. The food-supplies of the lake and river—and there is overwhelming evidence that many, though not all, Atlantic salmon do feed and grow to maturity in fresh water in New Zealand—are, of course, subject to variation, and indeed are liable to depletion if their natural propagation is exceeded by the numbers abstracted from the stock by enemy depredations. Both food and fishing will each factor in affecting the average sizes of fish, but it is obvious that underfeeding would be mitigated by overfishing. The only conclusion we can come to is that many more scientific observations—I may include here the observations of anglers so long as they are systematic and comprehensive—are necessary before any satisfactory conclusion or any practical policy can confidently be adopted with regard to the administration and development of the Atlantic salmon fishing.

Attention may be drawn to one unquestionable fact, and that is that a considerable proportion of the fish taken in the early part of the fishing-season are kelts (spent fish) and inferior both for sport and for eating. It has been suggested that no fishing in the lake should be allowed in October, and that the River Upokororo and an area off its mouth should be closed for a longer period. This, I think, is a desirable measure which should be brought about before next fishing-season opens. The river and its threshold should also be a sanctuary during the later portion of the fishing-season so that ripe or nearly ripe fish may be saved for reproduction. Since ripe fish are to be found throughout the period from April to the end of August the problem of protecting gravid or spent individuals is admittedly difficult. It is probable that the early spawning individuals are of most value and should be preserved for propagation as far as possible. This is a question, however, which calls for special investigation. Our information about the occurrence and habits of the species is still too limited to enable us to form any comprehensive ideas as to the present conditions either from the biological or fishing standpoint. The collection of scales and other biological material is being continued, and such observations are made as there are opportunities to make. In this connection we must acknowledge our indebtedness to the Southland Acclimatization Society's officers for co-operation. To obtain anything like complete light on salmon problems or to arrive at anything like definite conclusions needs systematic and sustained work, and it is to be hoped that this will be made possible in the near future.

The importations of ova made in 1908 to 1911 to the number of approximately two million, of which the fry from about 1,800,000 were introduced into the Upokororo River, served to stock this river and Lake Te Anau into which it empties itself, and in no other river but the Upokororo has there yet been an appreciable run of spawning fish, although odd fish have been known to run into the Clinton at the north end of Te Anau, rather more into the Eglinton which enters the lake 17 miles north from the mouth of the Upokororo, and there have been one or two fish taken in trout-traps at the mouths of the Maroroa and Wairaki, which flow into the Waiau between Manapouri and the sea. On the whole, it may be said that the rule of returning to parent river has been observed, and there has been no tendency for the species to spread over the Waiau system generally. In future, with the co-operation of the Southland Acclimatization Society, it is intended to extend the stock more generally throughout the Waiau watershed, and not leave the Upokororo alone to provide for propagation and the nurture of the young fry and parr stages. It seems doubtful whether this can be done expeditiously with the ova obtainable for cultural operations from the existing stock, especially if any further consignments are to be sent north. And in view of the importance of demonstrating conclusively whether acclimatization in the Wanganui River is possible or not, I think the planting operations in that system should be continued over a ten-year period (to 1932) provided that 50 per cent. of the Te Anau hatchery output will afford a quota of sufficient numbers to warrant the transportation. I would recommend that at the earliest opportunity a further importation of Atlantic salmon ova from Britain should be made and that the resultant fry should be introduced into the Waiau system for the recruitment of that stock which could then be used for the stocking of further rivers. Those for which successful acclimatization of *Salmo salar* appears most probable are the rivers flowing into the sea on the south and east coasts of the South Island.

WHITEBAIT.

In last year's report the whitebait-fishing season of 1928 was summed up as generally poor. Our sources of reliable information as to these widely distributed fisheries are not so representative as could be desired, but, so far as our information goes, it is evident that the 1929 season was better than the previous one. This applies particularly to the West Coast fisheries, where, although the actual fishing-season was short, some very big runs of whitebait were seen and heavy catches secured. In the Manawatu River the season was a very poor one this year.