

greatly developed jaw covered with powerful teeth. Body short in proportion to the height, owing to the great depth of the body in front of the dorsal fin, like a humpback salmon. Anal fin and lower part of caudal fin much lacerated, almost as if they had been gnawed away. Viscera crushed and engorged with blood, as if the fish had been artificially stripped. The crushed remains of the organs could not be recognised. Flesh lean and pale in colour. Pyloric cœca numerous, but exhausted and without any enveloping fat; evidently a kelt or male fish exhausted and mutilated by spawning struggles.

II.—A female, evidently of the same species as I, but slightly smaller, 22 in. long and 5½ lb. weight. Very elegant in form, with fine conical snout, and slender jaws with moderate teeth. Scales silvery, and not deeply embedded. Ventral and caudal fins much torn and destroyed. Viscera engorged with blood, with no ova present in the abdominal cavity, apparently having been discharged or stripped. Pyloric cœca small, ½ in. long, and over one hundred and twenty in number. General condition of fish lean, and quite unfit for food; flesh pale pink.

III.—A small male, 1½ lb. in weight and 17 in. in length. Head and body silvery, but darker on the back. Testes 6 in. in length, fully developed, and full of milt, which issued freely from the vent on pressure. Pyloric cœca numerous (over one hundred and twenty), but very small and without fat. General condition of body lean; flesh light coloured. Lower edge of caudal slightly abraded. Scales much rubbed off. A handsome little fish of the same appearance, except the absence of silvery scales, but more mature than the grilse I described in December last, which was caught at the mouth of the Waitaki.

The fishes I and II I judge to be in their fourth year, and No. III in its third year, but with all the three it is probably the first season in which they have made a run up the river to spawn. The specimens were too much damaged for preservation.

George Allport, Esq., Secretary for Marine.

JAMES HECTOR.

Wellington, 25th May, 1906.

As instructed by you, I have made further inquiry with regard to the result of the importation of salmors and whitefish, and I enclose herewith a report on the matter from the manager of the Hakataramea Salmon Station, and attached thereto a letter from the Secretary for the Waitaki Acclimatisation Society, also a letter from the Collector of Customs at Oamaru.

It would seem that quite a number of fish said to be similar to the one sent to the Department for identification have been caught last angling season in the Waitaki River, and some by fishermen in Oamaru Bay.

The information the manager gives about the specimen of sockeye salmon which he found caught against the *upper side* of the pound-net in the Hakataramea River on the 22nd instant is most encouraging and interesting. These salmon when mature would run up the rivers to spawn in the autumn months. I should think that the end of March and through April would be their spawning season in this hemisphere, and they would return down stream as "spent" fish in May. The fact that this fish had been up stream spawning proves that it had been to sea. The manager's emphatic statement that it is a sockeye salmon can, I think, be accepted as correct, for he has had a good many years experience with these fish. After I have had an opportunity of examining the specimen I will, however, report again to you about this fish.

With regard to whitefish, it is too soon to expect a definite result from the fish planted in Tekapo and Kanieri Lakes, and the fish will not be large enough yet to prove whether they are in the lakes by netting-tests. I may say that reports are current at Lake Kanieri similar to those mentioned by the manager about Tekapo—viz., that strange fish have been seen, and from the description given resembling whitefish. At Kanieri Lake these fish are reported as having been seen in the shallow water near the foot of the lake. From the evidence we have now there would seem to be no doubt that there are a good many quinnat, and possibly sockeye salmon, in the Waitaki River, and possibly round the coast; and we should expect to be able next season to handle several specimens.

With regard to whitefish, I have no doubt that a number of our lakes are suitable for this fish and that we shall be successful in acclimatising them.

The Secretary, Marine Department, Government Buildings.

L. F. AYSON.

SIR,—

Hakataramea Salmon Station, 22nd May, 1906.

In accordance with your instructions of the 8th instant, I have the honour to report on the results which have been obtained from the salmon and whitefish which have been liberated during the last five years, and I enclose herewith a letter from Mr. H. Mackintosh, Secretary of the Oamaru Acclimatisation Society, to whom I wrote for such information as might be in possession of his society. I might mention that these people, situated as they are, have greater opportunities for obtaining information on this subject than I have, and this letter bears out what has from time to time been published in the local papers.

As no doubt you are aware, rumours of supposed salmon being caught are frequent during the fishing season; as for the truth of some of these I have doubts, although in many cases it is quite possible that they are true salmon of some species. The two specimens in possession of the Oamaru Acclimatisation Society are, on the authority of Sir James Hector, sea-run quinnat salmon (*O. tshawytscha*).

While cleaning the pound-net which I have set at the mouth of the Hakataramea River to-day I caught on the top side of the net a fish about 16 in. in length, and which would if in proper condition weigh about 5 lb. This fish is undoubtedly a sockeye salmon (*O. Nerka*) which has been up the river for the purpose of spawning and was returning down stream. The fish was in a dying condition, being greatly covered with fungus. I now have it in formalin at the station. This, I think, should now set at rest all doubts as to them returning from the sea to spawn.