

upon one another was, no doubt, a provision of nature. The various kinds were given powers of reproduction and by the devouring of the young of one by the matured of another kind a natural equilibrium was maintained, and so this would have continued as long as a state of nature continued. But a change took place; as the country became settled and civilization advanced, then the equilibrium was disturbed to the injury of the better kinds.

In illustration of this, take the case of the salmon and trout *vs.* eel and perch; the early settler preferred a salmon or trout to an eel or perch, as an article of diet, consequently greater efforts were put forth to catch the former than the latter; as the population increased the demand for the better fish grew far faster than that for the inferior article and an unnatural drain was made upon the supplies of salmon and trout. The obstructing of the rivers by mill dams and other introductions of man rendered the reproductive powers of these fish less vigorous, while it did not so affect the eels and perch. In this way, while the better fish had decreased in numbers, the poorer have increased, so that at this time the destruction of the young of the salmon families by eels and perch is far in excess of the destruction of eels and other fish in the same water. It is a well known fact that eels and perch are becoming more numerous in our lakes and rivers than formerly, and, as they are not much sought after, they must continue to increase and ultimately all other fish will be destroyed by them; this is the history of the lakes in the older settled portions of the neighboring states, and must be repeated here unless some determined effort is made to restore our salmon and trout to their past strength. We have, then, at this time, the following conditions as regards salmon and trout and eels and perch. The reproductive powers of the salmon and trout are seriously impaired by the demands for these fish for food, while the reproductive powers of eels and perch, which are immensely greater, are increased by their having almost absolute possession of our lakes and rivers; the destructive powers of the young salmon (if it can be applied at all against eels or perch) is lessened in proportion to their reduced numbers, while the destructive powers of the eels and perch are becoming greater as their numbers increase. This, then, may be fairly stated as an unnatural condition of things as regards the salmon family and calls for extensive and vigorous action on the part of the Government, if it be the desire to maintain even the present supply of these valuable fish.

Sufficient evidence has already been afforded by the returns which have been quoted to prove the powerful influence which artificial fish breeding, even on the small scale now in operation in Nova Scotia, has brought to bear upon the salmon fisheries and should warrant the extension of those operations to the fullest degree.

In endeavoring to show to the Department of Fisheries the good effects of artificial culture upon the fisheries, I am responding to a demand upon the part of the public for some evidence of a pecuniary return for the expenditure incurred upon this work in the past, and I hope my feeble efforts to comply with their requests will convince them that satisfactory returns have already been received, and induce further studying of the statistics on their part before condemning a scheme which so far has hardly gone beyond an experiment.

#### EVIDENCE OF THE BENEFIT FROM MAGOG HATCHERY, QUEBEC.

“Regarding the quantity of fish in Lake Memphremagog and the effect which the hatchery at Magog has had upon their increase, the undersigned beg leave to say that we are old residents and have fished more or less of our time for many years in the waters of said lake. Previous to the erection of fish breeding establishments, there were no whitefish or bass in Lake Memphremagog. They are now found in large numbers and are rapidly increasing. There have always been lunge or salmon trout in this lake, consequently the evidence of increase is not so marked. We know that there are more salmon trout than formerly, and believe that the increase is due to artificial propagation and protection. We are also of the opinion that a greater appropriation should be made to pay for more guardians during the