

yet I do not consider he is justified in producing this fact as an evidence of the speedy exhaustion of our salmon fisheries. These alternate periods of scarcity and abundance of these fish on our coast are not the development of any new feature in their habits; old residents and fishermen inform me that such periods have occurred from the early settlement of the country, and with these people a scarcity of salmon for a season or two is considered of no importance as they confidently look for an abundance to follow. Just why these seasons of scarcity and abundance occur, I am unable to inform you, but am under the impression that salmon, like cod, mackerel, herring and other deep sea fish, are governed in their migrations from coast to coast by the abundance of food to be obtained on any particular coast, their food being principally smaller fish and their produce. When any coast is visited by large numbers of salmon as sometimes occurs, the destruction of these smaller food fish becomes abnormal and beyond their powers of recuperation, hence a scarcity of food occurs, and if this unusual destruction continues for two or more seasons, this particular coast becomes denuded and continues so until by the natural process of reproduction another supply accumulates; in the meantime, the salmon or other fish are compelled to seek food elsewhere, causing a scarcity on one coast and an abundance on another. In applying this idea to salmon, I am aware I conflict with the accepted theory that every salmon has its particular river in which to breed, that being the river in which it was bred, consequently can never visit any but the one coast, but I am being gradually convinced that this theory, as well as many others regarding salmon, is incorrect, or at least not entirely with practice. To illustrate my idea, take a salmon hatched and bred, say in the Miramichi River, when the age for reproduction arrives this fish will return to that river to deposit its ova if it has been feeding on that coast during the summer of feeding season; but suppose that owing to a scarcity of food on that coast that this fish is compelled to go to some other coast, say Labrador, or Newfoundland, in search of food, then I contend this fish will enter some river there for breeding purposes and return to its native river only when food can be obtained in its vicinity.

As to Mr. Venning's statements in regard to the results of fish-breeding at several of the hatcheries, and their failure to produce any good effects upon the coast fisheries, it must be admitted that artificial fish culture has not as yet met the promises made concerning it at its first introduction, but to now conclude that the scheme was a failure and of no benefit to the fisheries, would be, in my opinion, prejudging it. The efforts put forth by your Department, although no doubt as great as possible considering the many demands upon the revenue of our country, have been feeble when considered in the light of the many and great difficulties to be overcome. When the scheme was first adopted by your Department, I have no doubt the originator, having found it was possible to hatch young salmon and preserve them until six weeks of age, considered the problem of restocking our rivers with salmon already solved. The many and unfavorable changes which have taken place in most of our rivers and lakes, consequent upon the changes in the physical condition of the country, were not deemed such great obstacles to the speedy completion of the work as subsequent information has taught us to consider them. In my opinion, the greatest difficulty we have to contend with is the fact that very few of our rivers are now in a state of nature, and the change from their primeval condition has been such that many are not now suitable breeding grounds for the parent fish, and do not furnish the quantity or quality of food necessary for the development of the young fry produced by either the natural or artificial process. That salmon fry can be hatched and safely placed in the rivers, the most incredulous must admit, but the question may very fairly be asked, "of what avail is this if they are never seen again?" At first it would appear that this was a difficulty which could not be overcome, but I am of the opinion that a long step can be taken in the right direction by concentrating the efforts put forth at each hatchery upon one or two suitable rivers. Heretofore the desire has been to make the distribution as general and widespread in its nature as possible, hoping to benefit all sections alike; in doing this many thousands of young fry have been placed in rivers totally unfit for them, owing to the