

I noticed the beginning of the heavy loss I subsequently met with. The first sign of addling which presented itself was on the under side of those eggs which were laying on and actually in contact with the zinc floors of the hatching trays; and when first noticed, was confined to two or three particular troughs. In three days it had spread through the whole building to such an extent that my stock was reduced in that short time to 150,000 fry and 100,000 eggs; the latter also died during the following week. The entire loss occurred while still in the egg stage, none having died after becoming free of the shell. Attributing the cause of addling to the poisonous action of the zinc, as soon as observed I removed all the eggs off the hatching trays and placed them in the bottoms of the troughs; this did not have the desired effect. A principal cause for the loss was the insufficient supply and sluggishness of the water passing through the hatching troughs allowing some deleterious substance to accumulate to such an extent as to injure the eggs. Had the current been more rapid the loss might not have taken place.

The plan on which this establishment was arranged, as well as the treatment of the ova, was precisely that adopted and introduced by Mr. Samuel Wimot at Newcastle, Ontario, but I find that on this particular stream for various reasons considerable modification is required.

The improvements I considered necessary I have effected during the past summer, they are as follows:—The construction of a new and more serviceable supply-pond, the increasing of the supply of water entering the reservoir by laying down two additional three-inch bored conducting pipes. I have also increased the rapidity of the current in the hatching troughs by giving each trough a descent of one and three quarter inches in every 12 feet, being an additional descent of three-fourths of an inch. In consequence of the foul nature of this stream I consider a filterer necessary. This would require to be erected outside of the hatching room in such a manner as to receive all the water from the conducting pipes, which after being forced through a series of tanks filled with gravel and sand would be relieved of all foul and deleterious matter it might contain before passing over the ova.

After removing all the dead and injured ova from the troughs, I found I had 150,000 strong and healthy fry left. When these had attained the age of five weeks they were distributed among the tributaries of the Miramichi. The instructions received from your Department concerning the proportions allotted to each river were, as far as possible, carried out.

My efforts towards obtaining a supply of ova for this establishment last autumn, were very unsuccessful. The means usually adopted for securing the parent fish was the setting bar-nets across the northwest Miramichi at a point immediately above the head of tide, and in past years no difficulty was experienced in taking all the fish required. These nets were placed in the river this season ten days earlier than in former years; they remained down twelve days, and during that time forty fish were caught. The heavy freshets now coming on, it was found impossible to use bar-nets any longer. The salmon already taken were transferred to the reception pond, from which they subsequently escaped during a freshet which carried away a portion of the dam. As the spawning season was close at hand, I found it necessary to adopt some strenuous measures to secure a sufficient number of parent fish. I accordingly equipped four different parties with seines and drift-nets. One was placed on the northwest branch, one on the southwest, one on Sabbis River and one which I accompanied on Cain's River. These parties were instructed to ascend the rivers as far as possible, and to spare no effort towards taking salmon. Each party was supplied with a proper box for transporting the salmon down the river to the ponds I had prepared for their reception. For some days after reaching their respective rivers nothing was done, as the extreme height of the waters rendered it impossible to cast a net; as soon as the flood had somewhat subsided fishing commenced, but resulted in a lamentable failure. The number of fish taken by all parties did not exceed fifty, only twelve of which still retained their ova. These fish being a portion of a run which entered the river early in September had