

The system adopted for catching the parent salmon here is the same as that which is now used and first originated at the Newcastle establishment in Ontario: by having a reception house for the fish to enter just alongside or in connection with the hatchery.

The Dunk River presented facilities for applying this system, and arrangements were made accordingly in the erection of the breeding-house and in the building of the dam across the river, by which an extensive sluice-way or flume was attached to the latter structure, seventy feet in length by twenty feet in width. This is roofed in, and forms to all appearances a long, low shed or house, through which the whole or such portion of the water of the river can be made to run as may be found requisite to entice the salmon on their upward migration to enter it. The bottom of this long race-way or tank is floored over, and the interior is divided into several compartments made of wooden gratings or racks, which are placed in such a manner as to form a series of pens for impounding the salmon after they enter, and also for separating the males from the females for more ready trial and use when manipulating them.

The lower end or outlet of this building is arranged with two long racks, so placed as to form a cone like figure, or letter Δ upside down, leaving the small end just wide enough open to allow a salmon to pass through (upon the same principle as a rat-trap,) where, after their entrance, they become entrapped and cannot escape. Here they are obliged to remain until placed in the several compartments above described, by means of a small dip net.

The fish are confined in these pens until they become perfectly ripe for spawning, when they are operated upon, and immediately afterwards turned into the river below, down which they pass to the sea to recuperate themselves for another year's repetition of this journey, unless netted, or otherwise destroyed by their numerous enemies in the ocean. A plan showing the building, grounds, and appearance of the reception-house is appended. By this arrangement some seventy-five salmon entered the reception-house at the Dunk River hatchery; forty-five of these were females, from which were collected *four hundred and forty-five thousand eggs*. These, upon the report of Mr. Mowat, the officer in charge, are in very good condition, the loss being, so far, very trifling indeed.

In addition to this home supply of eggs, one hundred and fifty thousand were brought from the River Phillip, in Nova Scotia. These, in the transportation, or for lack of proper impregnation, met with a very serious loss, the greater part of them turning bad.

Total number of salmon laid down in the Dunk River hatchery, fall, 1879, 600,000.

PROVINCE OF ONTARIO.

NEWCASTLE FISH-BREEDING ESTABLISHMENT.

The building and the various kinds of hatching apparatus belonging to this establishment are in first-class condition. The dams, sluices and supply ponds are in good repair, and the general arrangements internally and externally attached to the institution present an orderly and systematic appearance.

No expenditure in the way of additions or improvements has been incurred during the past year, beyond the ordinary and necessary requirements for keeping an establishment of this kind in proper working order. Some little expense will require to be made next spring, in putting up a piece of fence in front of the building, the old one being quite unsightly, and giving way.

The improvement referred to in last year's report of renewing the foundation of the reception-house was only temporarily carried out. This will therefore require to be permanently done during the coming season.