to October 6. They all showed, if any, only slight marks, and no evident fungus. From that date on, from 15 to 30 per cent (2 to 4 out of every dozen) of the fish taken each day from three traps near the hatchery, of which records were kept, showed signs of the disease, and were rejected. The fish from a trap 2½ miles up the river showed twenty-six affected out of a total of fifty-two on October 6, twenty-two out of 40 on October 8, and three out of thirteen on October 11, apparently showing a steady improvement as if the infected fish had passed up the river. Up to nearly the 8th of October the salmon in the pond did not seem to be as active (jump as much) as in previous years, but since that date there has been a marked improvement.

"Last year (1914) there were 2,636 salmon in the pond. This year the pond has been enlarged and is from one-quarter to one-third larger than last year. The number of fish that had been placed in the pond previous to September 30 was 2,308.

"This disease has not been noticed in the salmon in any year previous to this, although salmon in the Gaspe region are reported to have had fungus disease last year."

From a comparison of the numbers of the fish and the sizes of the pond it is evident that there has been far less crowding of the fish this year than last. As to temperature, the Monthly Weather Reviews of the Meteorological Service show that at Chatham, 20 miles from the hatchery at the mouth of the Miramichi river, the mean monthly temperatures for the months of August and September, 1915, are only slightly (·6° and ·2°) above the averages for those months for the past forty years. And for the month of September both the mean temperature and the maximum temperature are lower than for the same month in 1914.

The temperature records for the water at the hatchery are incomplete. Temperatures were observed in the hatchery from August 30 to September 20. The records show a range from 50° to 68°F., with an average temperature of about 58°. Temperatures have been observed in the retaining pond from October 6 to 20, and show a range from 46° to 52°, the temperature remaining comparatively uniform during that period. Temperatures observed in the hatchery from October 14 to 20 show that on bright days the temperature in the pond is two to three degrees higher than in the hatchery, and on cloudy days about the same as in the hatchery. Judging from this, the temperature in the pond has at no time since fish were put in (September 11) been higher than 65°F. Temperature does not appear to have been a special causative factor in 1915. The gradual lowering of the temperature has doubtless helped to stop the spread of the disease, Mr. Sheasgreen stating that on October 20 no new diseased fish were appearing.

As to the place of origin of the disease, the presence of diseased fish among those caught in the traps over a considerable period of time indicates that the disease was present for some distance up and down the Northwest Miramichi river. Diseased fish were not noticed among those taken from the traps until one week after the disease had been observed in the pond. Mr. Sheasgreen states that he and his assistants buried all the fish removed from the pond. This obviates the possibility of fish from the pond having carried the infection to the fish in the river, although not the possibility of the pond having served as a source for the distribution of the infection up and down the river.

The avenue of infection appears to have been chiefly through abrasions of the skin. The principal parts seen to be affected in the early stages of the disease were: the tip of the snout, the margins of the jaws, the top of the head, and the middle line of the back, and the margins of the fins. These are the parts most liable to injury in the traps or in the cars used for transporting the salmon to the retaining pond. An examination of the fish caught in the traps and brought to the retaining pond on