

## 76.—LAWS OF INLAND WATERS.

By Hon. THEODORE LYMAN.

[Answer to questions of Monsieur de Lomenie.]

In dealing with the laws of the United States, it is important for a foreigner to remember that the rights of the States individually are sharply distinguished from those of the National Government as defined by the Constitution.

Within the limits of the States there is no such thing as a Federal river. Rivers of all sizes belong to the riparian proprietors, opposite proprietors owning *ad filum aquæ*. Their proprietorship on navigable rivers is subject to the easement of the passage of vessels. Furthermore, their ownership of the water, like that of the land, is subject to the eminent domain of the State (not of the United States). This ownership of the water carries with it that of the fisheries and such other privileges as may naturally accrue. The State, however, can regulate the time and manner of fishing for the general benefit.

In Massachusetts the proprietorship of ponds is not like that of rivers. If the pond does not exceed 20 acres in extent, it belongs to the riparian owners; but if it does exceed 20 acres, then it belongs to the State. To this law there are a few exceptions. They are ponds exceeding 20 acres in extent which were granted in Colonial times to individuals by royal charter.

As Massachusetts is one of the oldest States, her laws will illustrate those of many others. In the Sixth Annual Report of her commissioners of fisheries, sent herewith, in the appendix, will be found her laws on fisheries from the earliest times to 1871. On page 258 will be found a general act, which will give a good idea of the powers of the State. In the Fifth Annual Report, page 29, will be found the arguments and hearing in the case of the Commissioners of Inland Fisheries vs. The Holyoke Water-Power Company; and in the Eighth Annual Report, page 49, will be found the final decision of this case by the Supreme Judicial Court of the United States, affirming the decision of the Supreme Court of Massachusetts. This is one of the most interesting cases of its kind ever decided. It involves the rights of river fisheries, of water-power corporations, and of the eminent domain of the State over both.

The Holyoke Company got a charter from the State authorizing the construction of a dam across the Connecticut River to create water-power for manufacturing. This dam was so high that it would stop the passage of shad (*Alosa sapidissima*) and other fishes. The State imposed the condition that the company should pay for the fisheries thus destroyed above the dam. It did pay for them and erected the dam.

The common law enjoins on any owner of a dam which is high enough to stop the passage of fish to supply a suitable fishway to carry the fish over the dam. Under this law the commissioners of fisheries ordered the Holyoke Company to build a fishway. The company replied that it was exempt from the common-law injunction to build a fishway, because it already had paid for the fisheries destroyed above the dam, as laid down in its charter.

The court held, first, that what is not specially granted in the charter is specially withheld; second, that the company had injured the fisheries *below* the dam, besides destroying those *above* the dam; third, that it therefore was subject to the common law, and must build a fishway.

BROOKLINE, MASS., *May*, 1885.

**77.—HATCHING SALMON EGGS AT MONTPELLIER, FRANCE, AND TROUBLE WITH FUNGUS.**

**By Prof. VALÉRY-MAYET.**

[From a letter to Raveret-Wattel, secretary of the Acclimation Society.]

My salmon breeding, which began so well, has ended in complete failure. I wrote you on February 14 that the eggs had arrived in good condition. About the 25th hatching began, and was finished by the end of the month. During the first part of March all went well, but about the 10th a serious disease suddenly broke out, and nothing was able to stop this epidemic, which, I believe, has for its cause an aquatic fungus of the genus *Saprolegnia*. In short, by March 30 all were dead of this disease. The white threads of the fungus must have penetrated the gills, as I have noticed that the disease began in this region and that all the dead fish had their gills thus covered.

To what must we charge this failure? In order to avoid the high temperature of my grounds (an inclosure that had at noon between 20° and 30° C.), I placed my breeding-pans in a cellar where the thermometer ranges between 10° and 12° C. and the water never exceeded 12° C. In spite of a large opening, was that cellar too dark? This is possible, for the fungus grows more rapidly in a rather dark place. On the other hand, I could not think of putting my pans in the open air. My cellar, which was light enough for a place of that nature, had a regular outlet in a neighboring drain. The water has always run off in a suitable way, and I considered this sufficient.

I must add that this was the first time that I tried hatching salmon in March. Those eggs which you intrusted to me in former years, and which succeeded, were hatched in December and January, during very cold weather. March is a little late for a country where vegetation always starts by February, and sometimes earlier.

MONTPELLIER, FRANCE, *April 3*, 1885.