

The oyster industry is rapidly passing from the hands of the fishermen into those of oyster-culturists. The oyster, being sedentary, except for a few days in the earliest stages of its existence, is easily exterminated in any given locality, since, although it may not be possible for the fishermen to rake up from the bottom every individual, wholesale methods of capture soon result in covering up or otherwise destroying the oyster banks or reefs, as the communities of oysters are technically termed. The main difference between the oyster industry of America and that of Europe lies in the fact that in Europe the native beds have long since been practically destroyed, perhaps not more than 6 or 7 per cent. of the oysters of Europe passing from the native beds directly into the hands of the consumer. It is probable that from 60 to 75 per cent. are reared from the seed in artificial parks, the remainder having been laid down for a time to increase in size and flavor in the shoal waters along the coasts.

In the United States, on the other hand, from 30 to 40 per cent. of all the oysters consumed are carried from the native beds directly to market. The oyster-fishery is everywhere carried on in the most reckless manner, and in all directions oyster-grounds are becoming deteriorated, and in some cases have been entirely destroyed. It remains to be seen whether the governments of the States will regulate the oyster-fisheries before it is too late, or will permit the destruction of these vast reservoirs of food. At present the oyster is one of the cheapest articles of diet in the United States, while in England, as has been well said, an oyster is usually worth as much as, or more, than a new-laid egg. It can hardly be expected that the price of American oysters will always remain so low as at present; but, taking into consideration the great wealth of the natural beds along the entire Atlantic coast, it seems probable that a moderate amount of protection will keep the price of seed oysters far below the present European rates, and that the immense stretches of submerged land along our coasts especially suited for oyster-planting may be utilized and made to produce an abundant harvest, at a much less cost than that which accompanies the complicated system of culture in France and Holland.

223.—BRIEF NOTES UPON FISH AND THE FISHERIES.

By CHAS. W. SMILEY.

[Mainly extracts from the official correspondence.]

FISH-CULTURE IN OREGON.—Mr. B. F. Dowell, writing from Jacksonville, Oreg., August 30, 1884, says: The yearling trout at my ponds near East Portland are from 6 to 8 inches long, and those hatched this spring from 1 inch to 1½ inches long. I now have about 7,500 lively fry. All are doing well. Two of my neighbors have commenced rais-

ing fish. I can get salmon eggs enough next season from the canneries at the mouth of the Columbia to feed my fish very cheaply. So far I have been feeding my trout on eggs from that place, and on liver from Portland. I am satisfied I can raise trout to perfection. I am now engaged in making the third pond.

Klamath Lake, Goose Lake, Back Lake, Crater Lake, Toule Lake, in this vicinity, and many smaller lakes in the Cascade range of mountains, are well calculated to raise large quantities of black bass and whitefish. The black bass particularly would be suitable to stock Toule Lake, Link River, and Lower Klamath Lake, where great quantities of suckers now abound. They would feed on the suckers and cause them to decrease. The black bass would increase very rapidly.

The German carp is a big, thrifty, bony fish, just like the big Indian suckers which now fill Toule Lake, and which run up Lost River in the spring into Oregon to its head. It is a good fish to supply food for the millions on a large and cheap scale; but the salmon, the black bass, grayling, trout, and whitefish, will always command a better price.

The Oregon legislative assembly has made two or three small appropriations for a fish ladder at Oregon City. It will take \$12,000 or \$15,000 to make a good permanent one, blasted out of the solid rock, and after the McDonald patent. The increase in the Upper Willamette would be worth four times the money in three years. There is no place on the Pacific coast better for salmon than the Willamette above the falls, but not a salmon can now ascend above Oregon City to spawn. The completion of this ladder and the introduction of black bass and whitefish into Oregon would be a lasting benefit to the citizens of Oregon. In time these three things would feed millions of people with the best of food. But few carp will be eaten when there is plenty of salmon, black bass, whitefish, and trout.

DECREASE OF GRAYLING IN AU SABLE RIVER.—Mr. D. H. Fitzhugh of Bay City, Mich., writing September 22, 1884, says the graylings put into Au Sable river some years ago are about exhausted. It is a very fine trout stream.

TO DESTROY MUSKRATS.—Dr. Hessel has been greatly annoyed by these pests. He has destroyed many. His mode is to suffocate them, as follows: Four pounds of sulphur mixed with half a pound of saltpetre finely pulverized, set on flat stones or a piece of sheet iron, say half a pound, or a pound to a hole (as it costs but a few cents), and placed in the holes; after burning a few minutes, close the holes with sods. The saltpetre insures the combustion of the sulphur, which is certain death to all within. Others have also tried it with success.

A LARGE BASS FROM THE POTOMAC.—September 20, 1884, Mr. J. C. Clagett, of Frederick, Md., caught in the Potomac, at Point of Rocks, a small-mouthed black bass, which was shown at the Health Office, and measured $23\frac{3}{4}$ inches in length, $14\frac{3}{4}$ inches around behind the gills, $16\frac{1}{2}$ inches at the dorsal fin, and weighed 6 pounds 10 ounces.