

formerly. Such obstructions as snags in the river bottom are less common—many of them having been broken off or taken up by the nets and put out of the way, or covered by sediment, so that a wider and longer sweep may be taken by the drifting net. Altogether, the salmon is sure to be exterminated, fight he ever so persistently, unless we help him. Surely the State can afford to guard him effectually one month in the year. The cupidity of the fish speculator, who only cares for the greatest number of cases he can pack and ship, should not be allowed to influence the statement of that time. Let it be somewhere between the 10th of August and the 1st of October. By the way, it seems to me that at the extreme upper waters, on the spawning grounds, the fish should be protected during their entire stay, excepting as needed solely for the purpose of artificial hatching. But of this you are a better judge than I can be.”

20. While not agreeing with this intelligent fisherman as to the propriety of shortening the close season, we fully concur as to the absolute necessity of a patrol to prevent unlawful fishing while the salmon are passing up to their spawning grounds. We also concur in his suggestion that the salmon should be protected on their breeding beds. The most important spawning ground left in this State is the McCloud river, in Shasta County. Its banks are mainly composed of lava and limestone, and, so far as known, they contain no mines. By some inadvertence or intentional manipulation, this county was exempted from the law creating a close season for salmon, and the fish are persistently taken in this county for market, while in the act of reproduction on their spawning beds. We respectfully urge that Shasta County be re-incorporated in the law, and that no salmon be allowed to be taken there during the close season, except for purposes of artificial propagation.

21. The Chinese and others continue to use nets of a mesh much finer than is allowed by law, and the young of all kinds of salt water fish that spawn in the bays and estuaries, are persistently caught, dried, and shipped to China. The records of the Custom House show that there were shipped to China, from San Francisco, during the year ending 1st July, 1877, dried fish and dried shell fish valued at 293,971dols.

22. We have caused several arrests to be made for violations of this law, but it is impossible for the Commissioners to act as local police on all parts of the bay and rivers, and we see no remedy except in increasing the penalties for violations of the law, involving even, if necessary, the destruction of the nets, when used out of season. Unless in some way the wise provisions of the statute are compelled to be observed, we can see no reason why our present abundance of fish will not decrease, as they have decreased in other States, in consequence of the disregard of wise enactments made for their preservation and increase. Ordinarily, salmon should reach their spawning grounds on the McCloud and Little Sacramento by the 20th of August. As will be seen by the statistics heretofore stated, the catch was never so great as during the past fishing season. At the commencement of the close season, 1st August, the river was filled with fish, yet they were not permitted to reach their spawning places. Mr. Myron Green, the deputy in charge of the United States fish hatching establishment on the McCloud, reported 15th September, that there were ten salmon in the McCloud in 1876, to one in 1877. Up to that time but 5,000,000 eggs had been taken, while nearly 10,000,000 had been taken in a corresponding period in 1876. The fish were, in the Lower Sacramento, more numerous than ever before, but they were caught, canned, salted and smoked, in defiance of the law. It is estimated that the “canneries” took 50,000 after the 1st of August, and that there were salted and smoked on the banks of the sloughs and other bye-places, at least 100,000 more. If this is to continue, the Government hatching works will have to be removed to the Columbia, and we will be compelled to import eggs from some other State, even to keep up a partial supply of salmon in the Sacramento river.

23. In addition to making the penalties more severe for violations of the law, we would recommend that the law be so amended that it shall be made a misdemeanor to fish for salmon with nets or traps between sunset on Saturday and sunrise on Monday of each week. This would give the salmon the freedom of the river one day in the week, do no injury to the fisherman, and go far towards continuing the supply in our rivers.

Whitefish (Coregonus alba).

24. In January last we received from the United States Fish Commissioner a donation of 300,000 eggs of the whitefish. These were successfully hatched under the superintendence of Mr. J. G. Woodbury, at the State hatching house at Berkeley, and the young fish were distributed as follows: 75,000 in Donner lake; 50,000 in Sereno and other lakes near the Summit, in Placer County; and 175,000 in Lake Tahoe. Including 25,000 placed in Clear lake in 1873, and 25,000 in Tulare lake in 1875, there have been planted in the waters of this State, 350,000 of these valuable food fish. We believe they have lived in Clear lake, also in Tulare. It was reported in a Lake County paper, that a whitefish was taken in Clear lake on 10th April, 1876, which measured a foot in length. We have no positive information that they have found a congenial home in Tulare lake, but have heard reports that a few have been seen. As these fish can only be taken with a net, and as these are rarely used on these lakes, their waters will have an opportunity to become fully stocked before they are extensively fished. There can hardly be any doubt but they will succeed in Tahoe and other lakes near the summit of the Sierra—the climate, water, and food being not dissimilar to those of lakes Michigan, Huron, and Superior, in which they are indigenous. These fish live upon small crustacea, found on the rocky and gravel bottoms of lakes. They grow to weigh an average of one and a half pounds, and constitute the most important food fish of the people living near the great lakes. Professor Baird, in his report to Congress, says: “Few fishes of North America will better repay efforts for their multiplication.” We are promised a further supply of eggs during the present winter, and shall continue receiving eggs, and hatching and distributing these fish to all the mountain lakes that are accessible during the wintermonths.

Catfish (Pimelodus catts).

25. The seventy-four Schuykill catfish imported in 1874, and placed in lakes near Sacramento have increased to a vast extent. They already furnish an important addition to the fish food supply of the City of Sacramento and vicinity. From the increase we have distributed 8,400 to appropriate waters, in