would mean two fish per week; 'very scarce,' two fish per day; 'scarce,' six fish per day; 'not scarce,' eighteen per day; 'plenty,' thirty-six per day; 'very plenty,' seventy-two per day. There are times in the height of the run, when a greater number than is here named might be caught with ease, but these are exceptional. In the great run three years ago, three hundred salmon per day might be caught with ease; but in no other year, since the Anglo-American occupation, has there been such a run. It must not be understood that salmon can be caught at all times by fishing for them, even in the most limited numbers above stated. There are times when one could not be caught in a month, if life were at stake upon it. I only intend to give a fair idea of the average business. You will readily deduce from it that there are not more than two months, during the spring run, when fish can be caught in excess of the demand for home consumption. After the subsidence of the spring run in July, they are often found in great numbers near the confluence of the Feather river with the Sacramento. They have a taste for variety, it would seem, and the marked difference between the cool, muddy water of the former, and the warmer, limpid and clear stream of the latter, affords them great satisfaction. During the first half of August the mature seed fish start for the spawning grounds. All along the line, from the ocean to the most advanced posts along the river, the word (if fishes have words—if not, then wag) is onward and upward. They are on business, and on time; they do not shy much, nor stop for trifles; they rush at a drifting gill net determined to do or die, and, of course, generally die if the net is sound. The run of August and September I have before described. As for the few belated fellows that are about in October, they might as well be caught as not—and so, my year is out."

7. At the time our last report was made, Mr. Charles Crocker had requested us to cause to be hatched, at his expense, and placed in streams that do not reach the ocean, a half million of Sacramento salmon. One half of these we determined to put in Kern river, which empties into Buena Vista and Tulare lakes, and the other half in the Truckee river, which empties into Pyramid lake, in the State of Nevada. The quarter of a million of eggs sent to Kern river, where their hatching was to be completed, unfortunately were lost. At the point of the river selected for hatching, the water contains too much alkali, it is supposed, and all the eggs died within twenty-four hours from the time they were placed in the hatching troughs. The other quarter of a million sent to the Truckee, were successfully hatched out and turned into that stream. They will go to Pyramid lake the present season. They should return during the summer of 1878, and we are confident they will be taken in the Truckee weighing five or six pounds. Pyramid lake is a body of water forty miles long, and averaging ten miles in width, and has no outlet. It contains an abundance of food. This experiment will demonstrate how large the Sacramento salmon will grow, with plenty of food, when confined entirely to fresh water.

8. Since the organization of the Commission, we have caused to be hatched and placed in the streams of this State 8,350,000 young salmon. These include 1,000,000 paid for in 1875, and presented by ex-Governor Leland Stanford. As the salmon is our most important food fish, we deemed it of the most importance to keep up the supply. The numbers of fishermen are yearly increasing, as are also the numbers of persons who are consuming the fish. As railroad facilities are increased, and reach new points, the market becomes extended. The sea lions and seals at the outlet of the bay, being preserved and protected by law, are also increasing. They now number thousands, and as each requires from ten to thirty pounds of fish daily, it was a serious question whether we could keep up the supply by the addition of 2½millions artificially hatched each year. Since our last report, a salmon "cannery" has been established on the Sacramento, at Collinsville, and another opposite the City of Sacramento. This Collinsville canning establishment reports as having canned this year 8,542 cases, of four dozen cans in a case, equivalent to 34,168 fish, weighing 546,688 pounds.

Under the enlightened superintendence of Professor Spencer F. Baird, United States Fish Commissioner, the Sacramento salmon is being widely distributed to streams throughout the United States. The government establishment on the McCloud river annually hatches from six to ten million eggs. These are distributed to all States having appropriate waters, whose Legislatures have appointed Fish Commissioners. From this source the State of California has received, as a donation, a half million fish each year since 1874. In addition, we have expended a large part of our appropriation annually, in payment for the hatching of one or two million young fish, which, through the kindness of Professor Baird, have been furnished at the actual cost of hatching. The introduction of more than 8,000,000 young salmon into the headwaters of the Sacramento, since the organization of the Commission, in addition to the natural increase, has had the effect to keep up the supply, and reduce the local market price of these fish. It is reported that the "cannery" at Collinsville has purchased all the salmon it could consume during the past season at from 25 to 40 cents each.

9. Over-fishing, the absence of any close season, and no effort at artificial increase, has at last had an effect on the salmon of the Columbia river, in Oregon, and complaint is made that this river, once thought inexhaustible, has begun to fail in its accustomed supply. This decrease has been so marked during the season, that the "canners" have been compelled to pay from 30 to 50 cents each for salmon. In the absence of legislation, the canning companies on this river have subscribed 20,000dols., which have been placed under the control of Mr. Livingston Stone, Deputy United States Fish Commissioner, to be expended in artificial hatching, and restocking that stream. Fortunately, intelligent legislation in California made provision for continuing the supply of fish in the Sacramento before there was any marked decrease by over-fishing. It is not disputed that the salmon were more numerous in the Sacramento before their spawning grounds on the American, Yuba, Feather, and other rivers had been destroyed by mining. After the fish were destroyed in these tributaries, the supply of the State had to come from the other tributaries of the Sacramento and San Joaquin, on which there was no mining, and these latter streams furnished the normal supply. Before these became exhausted, the natural increase was supplemented by artificial hatching.

10. In this connection a fact, of much practical as well as scientific importance, may be stated as showing the advantages in numbers to be obtained by artificial hatching in comparison with the increase by natural methods. In 1876, Mr. Myron Green, foreman for Mr. Livingston Stone, United States Deputy Fish Commissioner, at the McCloud river, having observed in the river a favorite gravel bed