

Lake county, last fall, and which at that time measured from one to three inches in length, are found to have grown rapidly; some have been caught within a few weeks that measured ten inches. Sturgeon fishing or spearing is being pursued extensively, as reported, in the Mokelumne river, at Athearn's ford. It is a quite frequent occurrence to capture specimens weighing from fifty to one hundred pounds.

The young trout with which the streams of Santa Cruz county have been stocked are natives, coming from the McCloud river. This species is regarded as the most vigorous, and frequently attains the weight of five pounds. It is said to have a growth of ten inches in one year. It is reported that the Commissioners in charge of the Yo Semite valley have decided to plant the McCloud river trout in the streams of the Yo Semite reservation. The experiments with the brook trout of the Atlantic States in the streams of the coast range, have not been satisfactory; this is owing, quite likely, to two causes: first, too high a mean temperature in the waters of said streams; and second, through the impurities they contain, which must be especially obnoxious to so dainty a fish during the fall months when the streams are low, muddy and warm, and the water flavored more or less by the bituminous shales through or over which they frequently flow, and out of which ooze numerous small springs, often covered with an oily slime or scum. Experiments with eastern trout are much more likely to meet with success in the loftier regions of the Sierra Nevada, in the clear cold waters of a granitic formation, nearer the line of almost perpetual snow.

Santa Cruz fishermen sometimes catch a few mackerel and shad in the neighboring waters of the bay. The former are a native, the latter an introduced fish, but yet scarce. For some reason the mackerel do not strike in toward the shore to any considerable extent. In consequence of this, the few that are sent to the San Francisco market are sold at fancy prices.

Salmon commenced running in Puget Sound about the 25th of March.—*Robt. E. C. Stearns.*

NOTES ON THE APPLE-WORM.—Mr. J. Savage, of Lawrence, Kan., in a recent number of Colman's *Rural World* remarks upon the freedom of Michigan apples from the work of the apple-worm (*Carpocapsa pomonella*). This same freedom was generally noticed in 1878, not only in Michigan but in many parts of New York, and it doubtless obtained elsewhere. It will be well for us to endeavor to arrive at the reasons. To my mind the following, first stated by me in the *New York Tribune*, may very properly be urged: 1st. The very general failure of the apple crop in 1877, as exemplified in the reports for that year, which we find both in the Proceedings of the Michigan Pomological Society and in those of the American Pomological Society. This failure

was in many localities so nearly total that scarcely any apples were grown, and it follows, as a consequence, that very few codling moths were produced to perpetuate the species the following year. A second reason, so far as Michigan is concerned, may be found in the fact that in no State in the Union have more intelligent and persevering efforts been made to prevent its ravages. Through the columns of the agricultural and horticultural journals as well as in the pages of their pomological transactions, the simple methods of fighting this pest that have been reported and recommended in the Missouri reports have been persistently kept before the people, while Prof. Beal, of the Agricultural College, has, perhaps, done more good than any one else by showing that it cost him no more than four cents per tree to keep the bands around the trunks, changing them every nine days in the warm months, from the first appearance of the worms until the end of August, in an orchard of two hundred and fifty trees. I agree with him when he asserts that "if a man will not take the trouble to keep his fruit from the worms, he deserves to eat wormy apples."

Missouri apple growers should take courage from these facts. Since my connection with the Department of Agriculture there have been sent to me four different kinds of patent bandages to be used as traps for this apple-worm, but I can find no advantage in any of them over the simple paper bandages first recommended by me in 1872, and since very generally employed.—*Prof. C. V. Riley before the Mo. State Hort. Soc., 1879.*

DOES THE SNOWY OWL BREED IN THE UNITED STATES?—The snowy owl (*Nyctea nivea*) is a common winter visitant, near Chicago. It frequents the haunts of rabbits and various members of the grouse tribe. On the borders of Lake Ontario, in the great wooded marshes, these birds find thousands of rabbits roaming in night time in the frozen tracts. They are caught here in large numbers, and the author recalls the capture of fifteen of these during the winter of 1875, near Mexico, New York. The manner in which they are captured is of no little interest. During the day they take to the open lots adjoining the marshes, but in the night ravage the woods. They are seldom known to leave the small area selected for their depredations, unless driven away. In the day area they have but three or four places on which they alight, and when they are disturbed are sure to fly to one or other of these places, often moving in a circuit for hours. A high stake being placed in the center of the open lot, and a small steel-trap placed thereon they will speedily take to the stake in preference to other resorts, and are consequently caught. No bait is placed in the trap, the bird being caught by making simple use of the peculiarity of their habits. Their white plumage gives them the appearance of the snow beneath them, so that they may