

is usually the most efficient remedy, in the absence of which nothing remains but copious additions of fresh water, which may be obtained in such an emergency by tapping the nearest brook or spring and placing brush wiers at intervals to prevent the ingress of predacious fishes and egress of the carp—or immediately capturing the carp and transplanting them. After the adaptability of the carp to many waters, and to our waters particularly, was discovered, and when the practicability of their successful propagation was demonstrated, and their excellence as a food-fish recognized, first among the philanthropic citizens of Oregon to introduce this valued fish to the people of our State was Captain John Harlow of Portland.

Impelled by motives of public worth, and impressed with the gratefulness the hearts of his fellow-men would bear, and anticipating the pleasures resulting from the successful cultivation of those prizes, Capt. Harlow appeared the one ordained to successfully inaugurate the cultivation of carp in Oregon.

A visit by the writer of this article to Troutdale, 16 miles east of Portland, on the Sandy River, some two weeks ago, revealed the fact that this culturist was considerably learned in the business. Possessing, unquestionably, the finest piece of land embracing, mountain, meadow, stream and dale, as was ever provided for the habitation of man by a Divine Providence, the remaining conveniences required by him in the proper pursuit of pleasure are but the resources of this combination developed. My pencil has attempted a portrayal of this rich estate; but it reveals its own inanity as a means of arranging that coherence of parts in glittering beauty, by conveying but the shadow of what is.

Three years ago Capt. Harlow had imported to this state a lot of genuine food carp. Upon the arrival of this consignment the total number of fish was 35. They were hurriedly transported by steamer to the mouth of the Sandy River, from whence they were carted to the ponds arranged for their reception on his farm. The fish were not then over three inches in length. To-day they will measure twenty, twenty-one and twenty-two inches. And from this lot some 5000 carps have been raised which are now occupying his ponds at Troutdale, and 4000 more,

which lot, unfortunately was lost last year through a break happening to his ponds. Orders for carp have been received by Capt. Harlow from all parts of the northwest; but he is not yet ready to enter upon the sale of this fish. It is his intention, I am informed, to go east this summer, upon which occasion he will visit the many piscatorial establishments, particularly that of Seth Green, where he will remain some four weeks getting a further knowledge of the business of artificial propagation of food fishes.

The object of artificial pisciculture is to make use of the spawn which nature provides in such rich profusion and to protect it against all deleterious influences in nature, as well as to provide the fish in a splendid manner with the food and protection they require for their complete development. Fish and other marine products form not only a palatable dish, but a pleasant and easily digestible food which, it is maintained, is also calculated to stimulate the mental activity. And to show with what gigantity pisciculture and food-fish traffic is carried on in the largest city in the world, I cite what is said of the wholesale fish-markets of Billingsgate, London, where a large fleet of vessels, carrying a greater supply of fish in *one day* than Germany draws from the inexhaustible harvest-fields of her sea, lakes and rivers during a whole year, supplying every night the daily demand for food-fish of a city inhabited by three million people. The attention now being bestowed upon pisciculture indicates that it will soon rank as one of the important industries of the country. And to supply the demand for knowledge upon the subject many works upon the science of fish breeding and culture have been published to which the reader is referred for such details as the want of time and space forbids being presented in this article.

OREGON AND WASHINGTON.

Henry Villard is given as authority for a recent statement that Oregon and Washington Territory will this year produce a wheat surplus of 250,000 tons, or 8,333,333 bushels, and that the surplus in 1883 and 1884 will reach 750,000 tons, or an average of 375,000 tons for each year. If this be true, we may reckon on a surplus for the Pacific coast next year and the year after:

	Bushels.
California.....	35,000,000
Oregon and Washington.....	12,500,000
Total.....	47,500,000

We are of opinion that the surplus of Oregon and Washington is rather under than overrated. There is no doubt that they have land in abundance to produce much more than this estimate. The only question is: Have they the means of transportation to the seaboard? If they have not now they will have by the end of the harvest year of 1883. The Oregon Railway and Navigation Company have now 306 miles of railway in operation, and expect to have 450 miles by the close of this year. This road, or roads, for there are many branches, will drain the wheat producing sections of Eastern Oregon and Washington, from the cascades of the Columbia to a point well up on Snake river, and tap the Grand Ronde valley in the Blue mountains, by way of Meacham pass. The main trunk of this system is being extended from the Cascades to Portland; and there it will connect with the Kalama road, which is to be speedily extended to Puget Sound by the Northern Pacific. The survey of this road has been made and the work is promised to be completed this year. The Willamette valley is already well provided with railways, both on the east and west sides, as far as Roseburg, south of the Calapooia mountains, in Umpqua valley. And it is given out that the Oregon and California and the California and Oregon companies have come to an agreement by which they are to meet on the line of the two States. The Oregon company intends to extend its road from Roseburg fifty miles south into Rogue river valley this year, and has a working force now engaged in grading for that purpose. Rogue river valley is a large and productive region, and when afforded railway facilities, will possibly be able to produce as much wheat as the Willamette. But the main dependence is, after all, the country east of the Cascade range of mountains, and that will not be fully developed till the Northern Pacific and its connections shall be completed to some point on Puget Sound. When this is accomplished, and the connection made with the California and Oregon road on the northern line of this State, Oregon and Washington together will have nearly as many miles of railway as California has now, and they will drain the produce of not less than six million acres of the best wheat land on the continent. Villard and his Northern Pacific Company now control all the railways north of California, and recent report credits them with unlimited cash means for the prosecution to completion of the entire system they have in contemplation.—*S. F. Chronicle.*