

104.—ARTIFICIAL PROPAGATION OF ROCKFISH AND EELS.

By E. R. NORNY.

Most of the breeding rockfish that are caught in seines are caught here at my place, and the season for them is nearly over. We do not get as many as we did some ten years ago, but I think they are more numerous than they were a few years since. This is to be accounted for by there not being so many sturgeon nets fished on the spawning grounds as formerly. The rock are not mature when we get them; hence our failure with them some nine years back. The only way to succeed is by putting the fish in a pond until mature, and then hatch the eggs. I have a pond of half an acre within 60 feet of where the seine is hauled. I placed a 60 pound fish in this pond on the 1st of May, a few years ago, and by the 11th of May it had passed the spawning time, thus showing that when they make their appearance here they are within from ten to fourteen days of spawning. We begin to get them uniformly about the 12th of April, and they leave about the 1st of May; they are not numerous, but a very few would make some millions of young. The water could be let out of this pond in summer, and it could be made of a uniform depth, and a trunk to lead from it to the bay, to furnish fresh water every tide; I do not think the expense would exceed \$300. I would put all the breeding fish we get in this pond, and then if you would send your steamer here about the 1st of May and strip the fish as they mature, you could make a success of hatching these fish. The water is brackish in summer; we use it for an ice pond only; if it had a trunk to it to furnish fresh water, I should this season put in both male and female, and leave them there to see if they would breed naturally. If you would like to make this experiment the work should be done in August, as there are rarely any tides at that time of the year to interfere with the work.

EELS.—I think I have solved the eel problem. Our fishermen opened two just after they came out of the mud a few weeks since, and they both had clear and distinct roe in them in two lobes; the eggs were very small. At the same time, the flats here at low water, just at the water's edge, when the sun shone warm, showed myriads of young eels, not larger than a cambric needle. It is clear that they hibernate in the winter to breed, the roe forms and matures during this period, and the young are hatched just at the end of this period. Hence no roe is found in them during the summer and fall. Their migration in summer to head-waters is for food; their return in fall to salt water is for breeding purposes.

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