MARINE FOOD FISHES.

Baird, however, led the way on this side the Atlantic ; and he and his colleagnes, after a long and patient struggle with obstacles and difficulties, won a brilliant victory, and demonstrated to the world that the food fishes of the sea were as amenable to control as the anadromous and fresh water fishes, and could be artificially multiplied to an indefinite extent. A vastly greater field of usefulness was thus thrown open to lish-culturists. Not only so, but Professor Baird was able to formulate the great law of fish-life on which the new departure rested, and thus to remove it from the region of empiricism, and give it a solid scientific foundation. This great law he stated in the following terms : "In regard to the sea fisheries, one important principle should be carefully borne in mind, and that is that every fish that spawns on or near the shores has a definite relationship to a particular area of sea-bottom; or in other words, that as far as we can judge from experiment and observation, every fish returns, as nearly as possible, to its own birthplace to exercise the function of reproduction, and continues to do so, year after year, during the whole period of its existence. A second law equally positive, with a great variety of fish, is, that they pass from their spawning grounds to the sea by the shortest route that will take them out into the deeper waters where they spend the winter, and that coming and going to and from a given locality, they follow a determinate and definite line of migration."

Having established this important law by a long series of careful observations, Professor Baird deducted from it the following corollary: "The supply of fish in a given bay, or along a certain stretch of the coast, may be reduced to a considerable degree, and although it may be perfectly true that the sea is practically inexhaastible of its fish, yet when the fish of a particular region are cleaned out, there is no hope that others will come in from the surrounding localities to their places, since those already related to a given undisturbed area continue in that relationship, and have no inducement to change their ground. It should therefore be understood that the exhaustion of a local fishery is not like dipping water out of a bucket, where the vacancy is immedistely filled from the surrounding body, but is more like taking lard out of a keg where there is space left that does not become occupied by anything else."

The latest and most advanced investigators of the biology of the sea strongly confirm Professor Baird's views, and establish the law which he expressed in the foregoing terms. More and more it becomes evident that the migrations of fish which spawn near the shore are of a limited character, being mainly from deep to shallow water and vice versa; that they are local, in the sense of "having a definite relationship to a particular area of sea-bottom," and that they return to the waters in which they had birth, and in which their early days were spent, to perform the most important function of their existence. The objection, therefore, so frequently raised, that it is useless to attempt stocking artificially an area of sea, whether in bays or coastal fishing-grounds, as the young fry will disappear in the wide ocean, falls to the ground. The notion that these fishes are wild ocean-rangers, constantly engaged in extensive migratory journeys, must be discarded. No doubt there are pelagic fish which spawn in the open sea, far from shore ; but all, or nearly all our valuable food fishes are local. Hence, by artificial means, we can multiply their numbers in any given locality suited to their existence.

Another mistaken view must also be got rid of, namely, that exhausted fishing grounds have only to be allowed to remain unfished for a time and they will recuperate