

The United States of America have surpassed all competitors in the liberality, intelligence and success of their fish cultural operations; but other nations have given the matter considerable attention, and many are now awakening to its great importance. Before recrossing the Atlantic a glance may be made at the work done, and still being carried on by Canada. Here there are twelve large hatcheries or stations, which reared and distributed throughout Canadian waters, from the commencement of their operations, in 1869, to 1884, nearly 400,000,000 of fry, and this work has since been continued at the rate of over 100,000,000 eggs hatched every season. The results of this have been a very marked improvement of the Dominion fisheries, especially in fresh waters. A notable example is the Fraser River, which, having been depleted of salmon to an alarming extent through reckless over-fishing, stimulated by the demands of the canneries, has been again rapidly restocked through cultural operations. She has likewise bestowed much attention on the arrest of destructive lobster and oyster fishing, and to the restoration and future protection of these valuable fisheries. At Dildo, Trinity Bay, Newfoundland, 5,000,000 young lobsters, which had been reared on cod livers, were recently turned into a newly-erected fish farm. This farm has been prepared for the hatching and rearing of young cod, 200,000,000 millions of which it is capable of holding at a time; but having been completed too late last season for this purpose, is temporarily used to rear these five millions of young lobsters.

Among European nations greater attention has been given to fishery questions by Germany, France, Norway and Holland, than by others. There is a German Fishery Union, devoting itself chiefly to fish propagation, and a German Fish Commission, supported by Government, whose functions are chiefly investigatory of sea fisheries. In Germany the domestication of carp, goldfish, &c., has been practised for many centuries, and is turned to commercial profit as well as household use. Many of the greater landowners—among whom Prince Bismarck may be instanced—derive a considerable profit from this source. Very successful revivals of carp culture in ponds and small waters have been made in the United States, and elsewhere, from introductions of German stock. The chief seat of German pisciculture is at Huningen, in Alsace, now by the fortunes of war a German possession, but which was originally established by the French Government in 1850 under Professor Coste. Here public fish culture was first systematically practised, and here are raised supplies for replenishment of the rivers of the Fatherland.

The sea fisheries of France are of great extent. At Boulogne alone it is calculated that the annual yield of fish is equal to the flesh of 40,000 bullocks; but for political and perhaps other reasons French fish culture has for some time been in rather a languishing condition. Formerly France took the lead; but she has been deprived of her leading establishment at Huningen, and though she has founded another at Epinal in the Vosges Mountains which promises well, further time is needed for its development. In France great attention is now being given by means of the allotment system to ostriculture, and the results so far are very encouraging. French fishermen are among the most intelligent of their class. A slight but significant instance of this is the attachment of small electric lamps to their gill-nets for the attraction of fish. Here is an idea which is probably destined to considerable extension, since it is well known that fish are readily attracted and deluded by artificial lights.

In Norway, Sweden, Holland, Denmark, Austria, Italy, Switzerland, Poland and Russia attention has for long been more or less bestowed on pisciculture, and the subject is at the present time more or less active, mainly in proportion to the extent and situation of available fishing grounds. In the last-named country M. Wrassky, the discoverer of the dry method of fecundation of fish eggs, superintends an important fish cultural establishment, under Government auspices, at Nikolsk in Novgorod, which is capable of hatching about 2,000,000 ova every season.

In China and Japan primitive methods of fish culture have been practised for time out of memory; but now, in the latter country at least, the annual value of whose fishings is about £7,000,000, or nearly three times that of Scotland, all the modern methods of fish culture have been imported, and are being worked on a commercial scale with the encouragement and aid of the Government.

Finally, we come to the condition of the fisheries and of the fish culture in our own country. The scarcity and dearth of fish are with us matter of frequent complaint, and here, if anywhere, it might be thought every effort would be made, through public as well as private channels, to maintain and extend the productiveness of our public fisheries. It has been shown by convincing proofs that fish of every useful species can and are being by artificial help propagated and multiplied elsewhere for public needs. It is equally true that though now and then there may be a brief glut of fish in this or that local market, due to an accidental, or it may be, a culpable cause, the masses in this country are still most inadequately provided with this form of food. Here, surely, is a clear and imperative national duty, yet our Government has hitherto been almost wholly indifferent to it. By prohibitory legislation we have laboured to keep the herring on our coasts and the salmon in our rivers, and have only produced a state of matters in which offshore and inshore fishermen are in deadly opposition to each other, with diminishing takes and dwindling returns as the result. But of scientific investigation into the decay or stagnation of our marine fisheries, or of enlightened measures for their recuperation and extension, we have as yet done nothing of practical value. We do not possess a single public hatchery or nursery for the propagation and distribution of fish. We have, within the past few years, established two or three small marine laboratories, poorly equipped, and scarcely seconded at all by skilled observations at sea, as they ought to be. Some feeble attempts at scientific investigation of certain fishery problems have been recently made by the Scotch Fishery Board, but little practical good has come, or could come, from an enterprise so very poorly furnished.

It is a saddening reflection that we can afford every year, with never a doubt or grudge, many millions of money for purposes of war, and so very little to render the first necessities of life more abundant and accessible. We have at last a Department of Agriculture, languishing and ineffective though it may be, but in the hardly less important domain of aquaculture we may be said to be nationally doing nothing. Could we devote the price of a single warship to the development of our fisheries upon lines lying reasonably within the sphere of government, how great would be the stimulus to these national interests and how immense the benefit to the people. Surely the time may not be far distant when there shall be a revival of legislation directed to full satisfaction of the elementary wants of our race, and when, as one of the foremost results of this, the question of a full and cheap supply of wholesome fish for food will receive wise and adequate treatment from the national Executive.