THE UNITED STATES FISH COMMISSION

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EXPRESSED in official language, the duties assigned to the United States Commissioner of Fish and Fisheries consist in the investigation of the causes of the decrease in the supply of useful fishes of the United States, and of the various factors entering into the problem, and the employment of such active measures as may seem best calculated to stock or restock the waters of the rivers, lakes, and the sea. Nothing can be more important than the words which act of Congress of February 9, 1871, explained what the functions of the Commissioner of Fish and Fisheries are; hardly anything more complex than the fulfillment of his duties. Stripped of official language, what the United States instructs the Commissioner to do can be condensed into three words, "Produce more fish." Make more meat or more bread might have been similar requests. All the factors for multiplying cattle or increasing grain are known. There might have been some difficulties at first, but it is supposed that they would have been readily overcome. More beef would have been a commercial problem. With fish it was different. Fish are free nature. Scientifically, as biologists, all about the structure of the fish was known, but that knowledge would have produced one more shark or salmon. Fish culture twenty-five years ago was tentative. Lessons were being taught in China. There had been waiting for facts in medieval fishponds. About 1859 practical thought, good because commercial, had been given more particularly to works. "Produce more fish." Make more meat or more bread might have been similar requests. All the factors for multiplying cattle or increasing grain were known. There might have been some difficulties at first, but it is supposed that they would have been readily overcome. More beef would have been a commercial problem. With fish it was different. Fish are free nature. Scientifically, as biologists, all about the structure of the fish was known, but that knowledge would have produced one more shark or salmon.

Before the existence of the Fish Commission the fish was unknown on the western side of the North American continent. Today, Alaskan salmon is plentiful in the rivers emptying into the Pacific, and the area seems to be increasing from natural causes independent of man's exertions. Before long the striped bass, it is quite possible, will become abundant in those same Pacific rivers. From over-fishing, salmon are getting scarce in the Columbia River. It is now the business of the Commission to stock this and other rivers, establishing in the Pacific States and Territories hatcheries for the native salmon. There having been felt the want of fresh-water fish in certain Southern rivers, the German carp was introduced some time ago, and in a few years they will have become abundant. It is the duty of the Commission to study every method which serves for the capture of the fish, whether native or foreign. If the apparatus used by our fishermen proved what was best, due to ingenuity and mechanical skill, there might be ways of using these implements in other countries which gave better results. Methods in one instance for the netting of cod have been copied after the ways of Norwegian fishermen, and actually increased the take of cod.

The subject, the manufacture and trade in the apparatus of the fisheries, is an important one, having not alone to do with the fashioning of nets, hooks, lines, etc., but with ship and boat building. What are the elements sought in a fishing craft? Speed and safety. It happens that in the off-shore fishing the New England fishing craft finds most temperatures seas. Speed and safety are not correlated. It is of great advantage to make a short trip in a ship under the same conditions as those found in the bow. The observer, in the bow, found the water more than 1000 feet deep, and the ship was 2000 tons, worth $28,000,000. In 1884 the Commission instituted inquiries as to the losses in Gloucester covering the period between 1874 and 1883. During that time Gloucester had an average of 600 fishing vessels, carrying according to the season, from 4000 to 4800 men, and in the 22 years ending in 1884 2145 men lost their lives. Instead of a decrease, there was a terrible increase in loss of life. This might not arise entirely from the foundering of the vessels, but from fishermen lost small boats or dories. It was probable that 75 per cent of the vessels which had foundered met their doom from having been built too shallow. During a gale in December, 1867, not less than five Gloucester schooners were knocked over and barely escaped. In this storm many vessels were never heard of afterward. In 1883, in a single gale, 16 Gloucester vessels foundered, and 20 men were lost. It is the mission of these having the fishing in