

MANY KINDS OF FISH SWIM AT THE EXPOSITION

Variety of Interesting Features Is Contained in Government Fisheries Exhibit

TO VISIT the Fisheries building at the Lewis and Clark Exposition is to become convinced that American waters are responsible for some exceptionally queer creatures. There is every conceivable shape, size and color of fish, from the quick, flashy little sunfish to the big, sluggish sturgeon, and from the sportive mountain trout to the indolent mudsucker. There are fish that have almost human faces and fish that seem to have no heads at all. There are fish that look like saws and floating logs, and fish that have eyes half as large as themselves, and fish to fit almost any simile you might wish to devise.

Keeping thousands of these creatures, which are used to varying environments, is a delicate job. Constant attention and the very best facilities are required, and even then a considerable loss cannot be avoided. The only possible remedy is to keep the stock of fish constantly replenished. As soon as one dies off its place is immediately taken by another.

Close Care Is Required.

The very closest care, combined with the most favorable conditions, have kept the losses at the Fisheries building down to a minimum. Seven to a dozen a day is the average up to this time. In order to keep up the stock and add new specimens to the glass-fronted aquariums of the building, a special tank car is kept constantly plying between the Fisheries building and various points along the Coast where certain varieties of fish are found. Trout are secured from the Clackamas and other streams in Oregon. It is also a fact that several hundred fine fish have been taken from Gull's Lake, on the Exposition grounds and in the immediate vicinity of the Fisheries building. The attaches of the department found, shortly after their arrival here that the lake is alive with carp, black bass, catfish. Several men were at once detailed with boats and nets. The result is that four big cases are filled with fish from the Exposition's lake, some of them weighing as high as ten pounds.

Fish From Many Streams.

Every section of the country is represented, and every fish stream and lake of any importance in the country has contributed to the aquarium from its finny denizens. There are goldfish, sea bass, black bass, crappie, pike, sheepshead, chinook salmon, whitefish, golden ide, carp, suckers, chub, sturgeon, lamprey eel, rock bass, drumfish, dogfish, gar pike, albino salmon, terrapin, shad, perch, codfish, flounders, mackerel, grayling. Then, by way of variety, there are a couple of young alligators from Florida, some diamond-back terrapins, a delicious variety of very few multimillionaires indulge in at dinner now and then, turtles, crabs and lobsters. These are confined to a big open tank near the main entrance of the Fisheries building.

Fish Like Bull Run Water.

To Bull Run water, Special Agent Baldwin, in charge of the department, attributes the low death rate and flourishing condition of the finny tribe. A constant supply of fresh Bull Run is supplied to the tanks, which are seven feet long by three and a half feet high and weigh

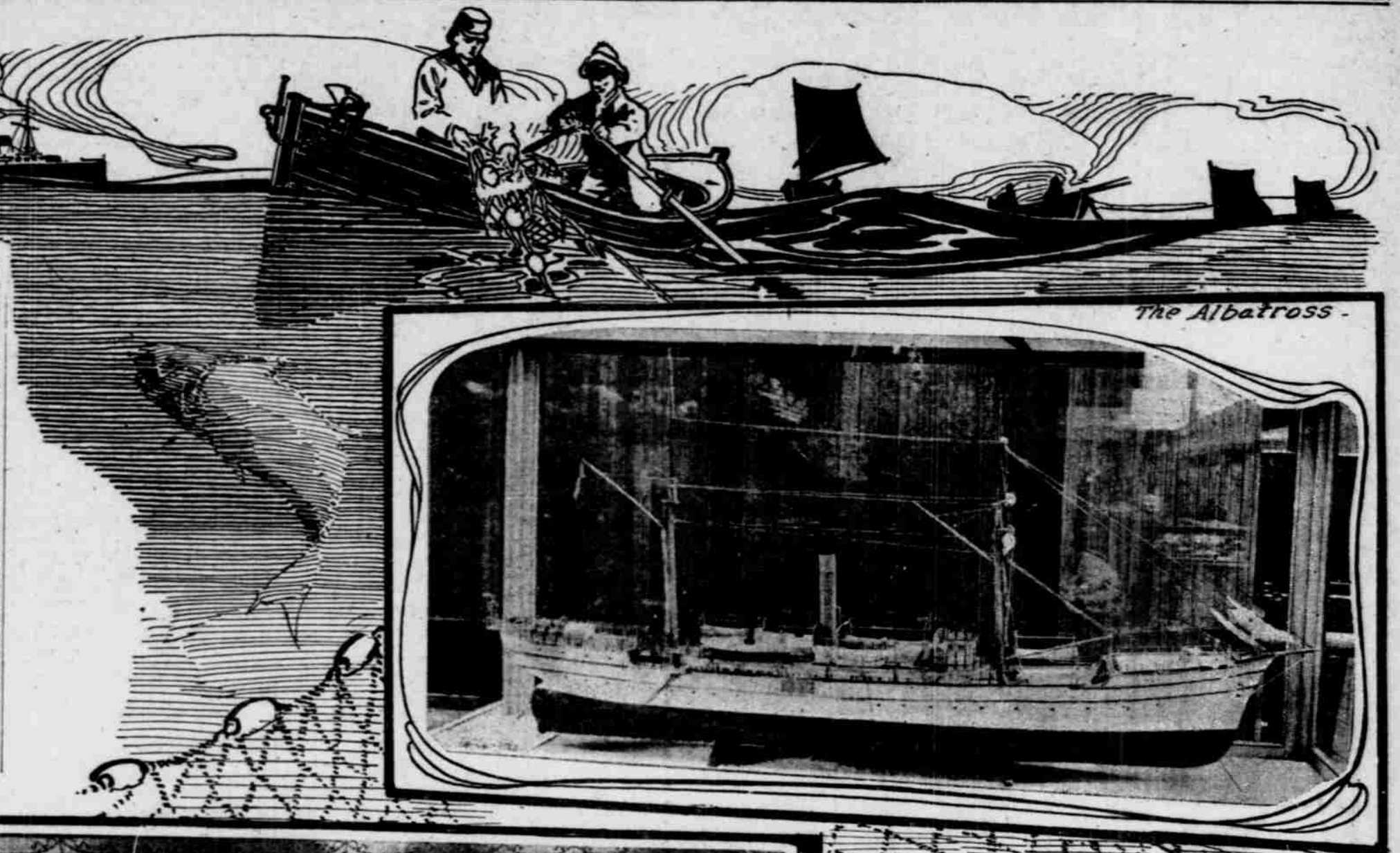
conducted on three general lines, viz., the propagation and distribution of food fishes; the scientific investigation of the seas, rivers and lakes and their inhabitants; the study of the economic fisheries and the collection of statistics thereof.

Propagation of Food Fishes.

The work of increasing the supply of food and game fishes by artificial means is conducted at 32 specially constructed hatcheries and 19 auxiliary stations, located and classified as follows: Three on the New England coast for the cultivation of marine species; eight on the Great Lakes; 17 on the Atlantic and Pacific rivers for the propagation of migratory fishes like salmon, shad and striped bass, and 22 in the interior regions for the cultivation of trout, basses and other game and food species of the rivers, lakes and ponds.

The number of species now regularly cultivated is about 50 fishes and one crustacean, and various others are from time to time propagated as circumstances permit or require. Among marine forms the most important species are the mackerel, cod, pollock, flounder and lobster; the whitefish, lake herring, lake trout and pike perch among the Great Lakes species; the Atlantic salmon, steelhead, chinook salmon, blueback salmon, silver salmon, shad, striped bass, white perch and yellow perch among the migratory fishes of the coastwise rivers; and the brook trout, rainbow trout, black-spotted trout, golden trout, landlocked salmon, grayling, black bass, rock bass, crappie, and catfish among the lake, stream and pond fishes.

Plants of fish are made gratis in suit.



The Albatross -



Models of Types of Deep Sea Fishing Boats -



Government Fish Hatchery

800 pounds. The water pours into the tanks at the rate of 200 gallons per minute. A small pump also keeps plenty of fresh air in the tanks. They are lined with rock and otherwise arranged to be as much in harmony with the accustomed surroundings of the different kinds of fish.

Aside from fish and aquatic animals, there are many things of interest in the Fisheries building. Near the entrance is a salmon hatchery where thousands of hatchling salmon find their way from yellowish eggs into active life every hour. In cabinets through the center of the building are models of all sailboats used by fishermen and the various kinds of nets and fishing tackle are also shown.

Work of the Bureau.

The Bureau of Fisheries is one of the important branches of the Department of Commerce and Labor. The bureau was practically established in 1871, when Congress passed a joint resolution authorizing the appointment by the President of a United States Commissioner of Fish and Fisheries, whose duty it should be to conduct investigations relating to the diminution of the supply of food fishes and to make recommendations regarding the matter. From this beginning, the work of the commissioner increased year by year in extent and scope, and the name Commissioner of Fish and Fisheries was applied to the bureau over which he presided, until June 30, 1892, when the Commission of Fish and Fisheries ceased its independent existence and the following day became a part of the Department of Commerce and Labor, under the title of Bureau of Fisheries.

The Bureau of Fisheries is peculiarly American in its conception, and its prototype exists in few other countries. It labors directly for the preservation and increase of useful water animals, and in conjunction with many of the states, has placed certain branches of the fisheries on a permanent basis. It has achieved a world-wide reputation for originality of method and magnitude of operations, and has given the United States first place among the nations in all matters relating to the enrichment of the aquatic food supply by artificial means. The bureau has participated in all the large exhibitions at home and many of those abroad, and has received numerous awards for the originality and excellence of its work. The operations of the bureau are now

able public or private waters, on the receipt of applications indorsed by a United States Senator or Representative or by the State Fish Commissioner. The bureau also transfers to the state hatcheries large numbers of fish eggs in various stages of incubation. In the transportation of fish for long distances, six specially constructed railway cars are employed.

The Work of Inquiry.

To this division of the service belong the investigations and researches addressed to the physical and chemical characters of the seas and fresh waters in their relation to aquatic life; the life histories, habits, food, abundance, distribution, enemies and diseases of food fishes and other economic animals, as well as the minor forms of life which, while not directly important, are indirectly valuable to man because they furnish food to the higher animals. This branch also makes inquiries regarding the causes of the decrease of food fishes, points out the remedies therefor, studies particular species and regions in the interest of fish culture, conducts the necessary biological investigations antecedent to the establishment of hatcheries, explores the fishing grounds of the coast and interior, and in numerous other ways labors for the promotion of the commercial fisheries and artificial propagation.

One of the most valuable adjuncts of the scientific work is the steamer Albatross, of which an excellent model is on exhibition. It is a twin-screw iron vessel of over 1000 tons displacement, and was especially constructed and equipped for exploration of the seas and is the best known and most efficient vessel of her class. She has conducted investigations in all parts of the world; surveyed the fishing grounds of our east and west coasts, Alaska, Hawaii, etc.; made over 10,000 deep-sea soundings, more than 400 dredgings, and brought up from the bottom of the sea hundreds of tons of fishes and other creatures never before seen by man. The greatest depth at which the Albatross found life was 4175 fathoms; the deepest sounding made was 4313 fathoms; the greatest ocean depth known is 10,925 fathoms, ascertained by the U. S. S. Albatross while using apparatus belonging to the Albatross.

Since the establishment of the bureau, the collection of fishery statistics has been a part of its work, as it is only by means of specially collected data that

the effects of fish culture, the influence of legislation, and the trend of different branches of the industry can be determined. In this division there is a small corps of trained agents who visit all fishing communities and obtain reliable information regarding the number of persons engaged, the quantity and value of the property used, and the amount and value of the catch. This division also makes a study of the apparatus and methods employed in fishing, the manner of utilizing and preparing the catch, the financial relations of the fishermen, the wholesale fish trade of the larger cities, and various other matters connected with the commercial fisheries; and, by means of correspondence and printed reports, disseminates among the fishing population useful information concerning the utilization of new or waste products, the best ways of preparing the catch, the most approved methods of other countries, the opportunities for extending markets, etc.

Recent canvasses of the various coast and interior sections of the country show that the United States fisheries give employment to 250,000 persons, who have over \$3,000,000 invested and who take water products valued at more than \$12,000,000.

The most valuable of American fishery products is the oyster, worth upwards of \$5,000,000. Second in importance are the salmon, valued at \$1,750,000. The rank and value of other leading species are cod, \$1,500,000; shad, \$1,350,000; mackerel, \$1,250,000; lobsters, \$1,200,000; menhaden, \$1,000,000; aquaculture, \$1,000,000; haddock, \$900,000; lake herring, \$800,000; sea herring, \$300,000; halibut, \$250,000; and bluefish, \$250,000.

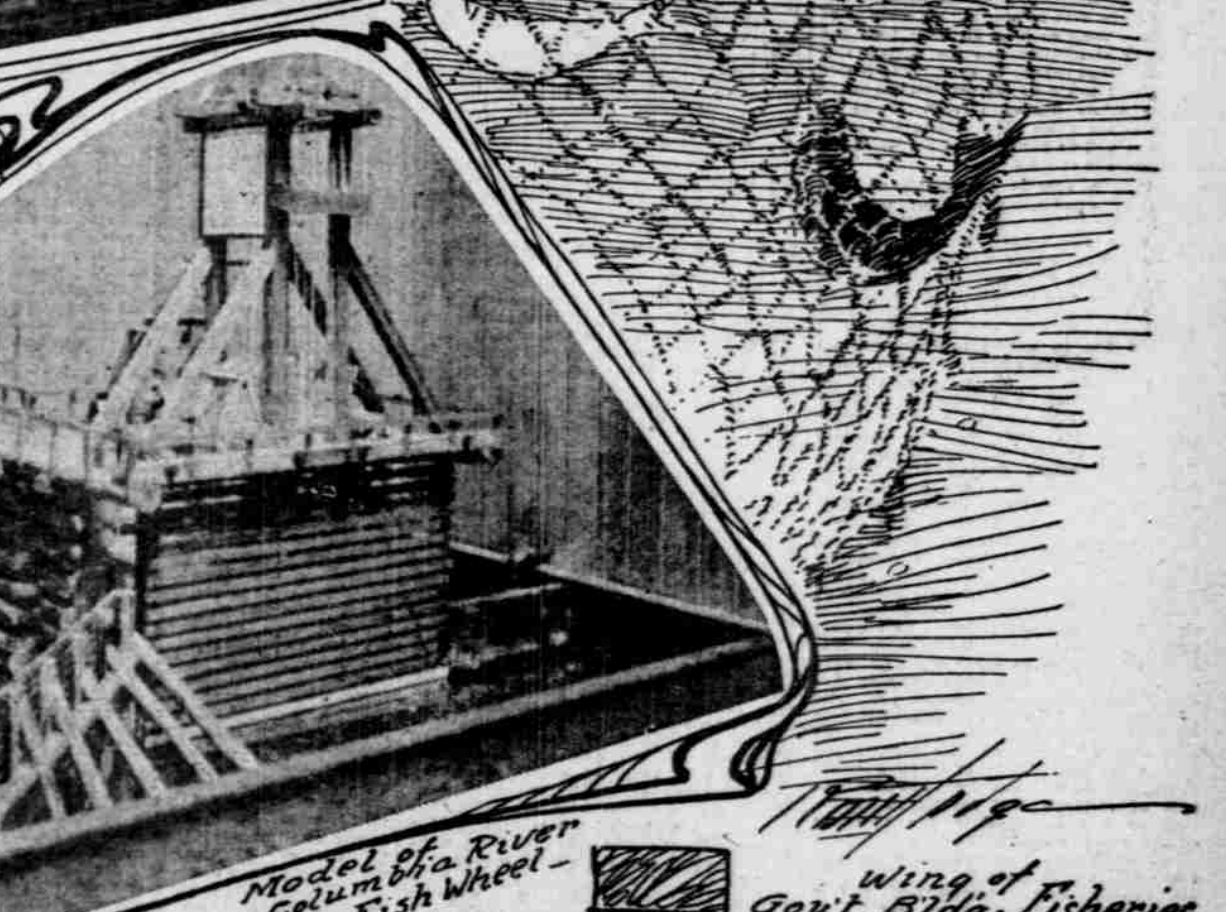
Bugs Cost \$755,000,000.

New Bedford Standard. We have the word of the statisticians that the chinch bug annually destroys crops valued at \$50,000,000; that the grasshopper eats up \$50,000,000 worth of the Hawaiian Ry \$50,000,000, the corn-root worm, the corn-eat worm, the cotton-bolt weevil, and the codling-moth of apple each \$20,000,000; the army worm \$15,000,000, the cotton-bolt worm, \$12,000,000, the grain weevil and San Jose scale \$10,000,000 each, the

cotton-leaf worm and the potato-bug \$5,000,000 each, and the cabbage worm \$5,000,000. This makes a total of \$258,000,000 worth of products that might have been expected to but never do get to market because of the ravages of these most numerous insects. And this is not the only loss charged to their account. Shortage of crops affects various industries and increases prices, and a deal of money is spent in fighting the pests. Taking into account all these things, the annual loss in this country from insect pests, distributed among the various products, is estimated as follows: Cereals, \$200,000,000; animal products, \$115,000,000; forest and forest products, \$111,000,000; truck crops and hay and forage, \$33,000,000; cotton, \$20,000,000; fruits, \$27,000,000; tobacco, \$1,300,000; sugarcane, \$1,000,000; miscellaneous crops, \$5,800,000, and products in storage, \$100,000,000, making a total of \$735,000,000.

Just Plain Crooks.

Chicago Evening Post. Mr. Dalrymple appears to have come to a conclusion. He thinks municipal ownership is a good thing for the honest Scot, but is sure to fail in America, where government by the people, for the people and of the people is so rotten that all the perfumes of Arabia could not sweeten it. And this is the end of our dreams! We entertain a gentleman only to learn that we are just plain crooks. Well, there is some satisfaction in the thought that if there is nothing more in it for us, there is a lot in it for the good old town of Chicago, in it for the good old town of Chicago, which will profit by Mr. Dalrymple's inspection of our electric advancements.



Model of Columbia River Fish Wheel -

Wing of Gov't Bldg. Fisheries

