

A Roberts
DEPARTMENT OF COMMERCE
BUREAU OF FISHERIES
HUGH M. SMITH, Commissioner

FISHERY INDUSTRIES OF THE UNITED STATES

REPORT OF THE
DIVISION OF STATISTICS AND METHODS
OF THE FISHERIES FOR 1919

By LEWIS RADCLIFFE
Assistant in Charge

APPENDIX X TO THE REPORT OF THE U. S. COMMISSIONER
OF FISHERIES FOR 1919



Bureau of Fisheries Document No. 892

PRICE, 20 CENTS

Sold only by the Superintendent of Documents, Government Printing Office
Washington, D. C.

WASHINGTON
GOVERNMENT PRINTING OFFICE
1920

DEPARTMENT OF COMMERCE
BUREAU OF FISHERIES
HUGH M. SMITH, Commissioner

FISHERY INDUSTRIES OF THE UNITED STATES

REPORT OF THE
DIVISION OF STATISTICS AND METHODS
OF THE FISHERIES FOR 1919

By LEWIS RADCLIFFE
Assistant in Charge

APPENDIX X TO THE REPORT OF THE U. S. COMMISSIONER
OF FISHERIES FOR 1919



Bureau of Fisheries Document No. 892

PRICE, 20 CENTS

Sold only by the Superintendent of Documents, Government Printing Office
Washington, D. C.

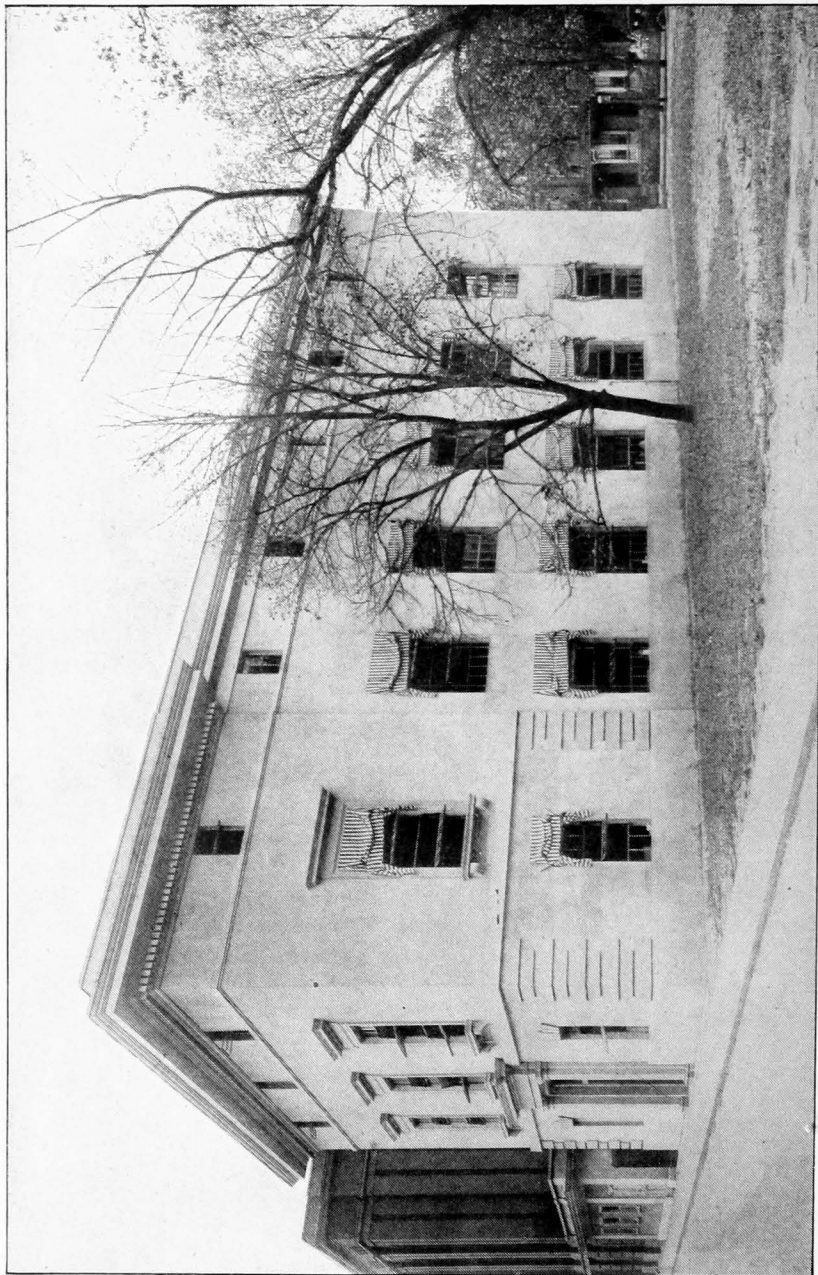
WASHINGTON
GOVERNMENT PRINTING OFFICE

1920

CONTENTS.

	Page.
Introduction.....	5
Summary of operations.....	5
Aid in development of fishery for black drum.....	7
Increasing the use of fish as food.....	7
Demonstrations in fish cookery.....	7
Groupers.....	8
Increasing the use of by-products of the fisheries.....	9
Fish oils.....	10
Fish scrap.....	11
Fish meal.....	11
Fish leather.....	13
Shark fins.....	13
Technological investigations.....	13
Determination of principles of preservation of fish with salt.....	14
Freezing fish in brine.....	15
Investigations in canning fishery products in southern California.....	16
New England vessel fisheries.....	17
Vessel fisheries at Seattle, Wash.....	44
Fishery products received at Municipal Fish Wharf and Market, Washington, D. C.....	47
Shad fishery of the Hudson River.....	49
Shad and alewife fishery of the Potomac River.....	51
Fisheries of the Great Lakes, Lake of the Woods, and Rainy Lake in 1917.....	52
Earlier publications.....	52
Common and scientific names of fishes of the Great Lakes.....	53
General statistics.....	53
Fisheries of Lake Superior.....	60
Fisheries, by States and counties.....	60
Fisheries, by apparatus.....	65
Wholesale fishery trade.....	68
Fisheries of Lake Michigan.....	69
Fisheries, by States and counties.....	70
Fisheries, by apparatus.....	77
Wholesale fishery trade.....	89
Fisheries of Lake Huron.....	89
Fisheries, by counties.....	90
Fisheries, by apparatus.....	94
Wholesale fishery trade.....	99
Fisheries of Lake St. Clair and St. Clair River.....	100
Fisheries, by counties.....	100
Fisheries of Lake Erie.....	100
Fisheries, by States and counties.....	101
Fisheries, by apparatus.....	105
Wholesale fishery trade.....	112
Fisheries of Lake Ontario and certain tributaries.....	112
Fisheries of Lake Ontario.....	112
Fisheries, by counties.....	113
Fisheries, by apparatus.....	114
Fisheries of St. Lawrence River.....	117
Fisheries, by counties.....	117
Fisheries of Niagara River.....	117
Fisheries, by counties.....	117
Fisheries considered by States.....	118
Fisheries of Michigan.....	122
Fisheries of Wisconsin.....	125
Fisheries of New York.....	126
Fisheries of Lake of the Woods, Rainy Lake, and Lakes Kabetogama and La Croix.....	127

	Page.
Fisheries of the Gulf States in 1918.....	129
Earlier publications.....	129
Common and scientific names of fishes of Gulf States.....	129
General statistics.....	130
Fisheries of Florida.....	138
Fisheries, by counties.....	139
Fisheries, by apparatus.....	148
Notes on certain fisheries.....	158
Wholesale fishery trade and canning industry.....	161
Fisheries of Alabama.....	161
Fisheries, by counties.....	162
Fisheries, by apparatus.....	163
Wholesale fishery trade.....	165
Fisheries of Mississippi.....	165
Fisheries, by counties.....	165
Fisheries, by apparatus.....	167
Wholesale fishery trade.....	169
Fisheries of Louisiana.....	170
Fisheries, by parishes or counties.....	170
Fisheries, by apparatus.....	175
Wholesale fishery trade.....	180
Fisheries of Texas.....	180
Fisheries, by counties.....	181
Fisheries, by apparatus.....	185
Wholesale fishery trade.....	191



FISHERY PRODUCTS LABORATORY, WASHINGTON, D. C.

FISHERY INDUSTRIES OF THE UNITED STATES.

REPORT OF THE DIVISION OF STATISTICS AND METHODS OF THE FISHERIES FOR 1919.

By LEWIS RADCLIFFE, *Assistant in Charge.*

INTRODUCTION.

On the basis of canvasses of the fisheries made in the last decade, the present annual production of fishery products in the United States, including Alaska, is estimated to be about two and one-half billion pounds, valued at approximately 80 million dollars to the fishermen,¹ an industry employing more than 200,000 persons. For the fiscal year ended June 30, 1918, the value of the imports of fishery products was \$26,268,014 and of exports, \$57,017,427.

Among the important functions of the Division of Statistics and Methods of the Fisheries of the Bureau of Fisheries in its relations with the commercial fisheries are the following: (1) Studies of the methods of conducting fishing operations for the purpose of effecting improvements and revealing the use of unnecessarily destructive or unprofitable methods; (2) the development of improvements in the methods of handling, distribution, and marketing of fishery products; (3) technological investigations of the underlying scientific principles governing the preservation of fishery products in order to standardize methods and effect improvements and economy of operation, to determine feasibility of preserving fishery products by untried methods, and to discourage the use of unsatisfactory, wasteful, or uneconomical practices; (4) to introduce useful foreign methods or processes of capture, preservation, and utilization of fishery products; (5) to develop the use of the by-products of the fisheries and the unutilized products of the sea to the greatest economic advantage; (6) to increase the demand for the little used or neglected fishes and fishery products for food; (7) to collect the statistics of the fisheries and fishery industries; (8) to study the vessels and boats employed, for the purpose of effecting improvements; (9) to study and develop fishing grounds and fisheries for hitherto unutilized fishes; and (10) to disseminate information bearing on the commercial fisheries. For the conduct of its work in these fields during the fiscal year beginning July 1, 1919, Congress appropriated \$15,000.

SUMMARY OF OPERATIONS.

During the year the Bureau has aided in the development of fisheries for black drum, sharks, and porpoises and in increasing the

¹ The value of Alaska's fishery products in 1918 as prepared for market was \$59,154,859, but the estimated value of the fish to the fishermen was only about \$11,000,000, which is the amount included in the estimate given above.

use of black drum, grouper, mussels, red drum, whale meat, and other neglected fishery products for food. By means of practical demonstrations and lectures, many persons have been more fully acquainted with the dietetic qualities of fish, have been encouraged to use this wholesome food in larger quantities, and have been shown that certain of their prejudices against its use were without foundation.

Efforts to increase the use of the by-products of the fisheries to the most economical advantage have been continued. The more extended use of fish and shrimp waste, its manufacture into fish meal as an animal feed, the use of the hides of sharks, porpoises, and other unutilized aquatic animals for leather, the drying of shark fins for the oriental trade, and the like have been encouraged. Analyses have been made of the liver oils of several species of sharks, of tuna oil, etc., to determine more definitely their individual properties and the uses to which they appear best suited.

The construction of the Fishery Products Laboratory in Washington, begun in December, 1918, was completed the following June, and the equipment of it is practically complete. Various important investigations have been inaugurated, such as a technological study of the methods of salting fish, experiments in the recovery of old salt and brine for reuse, a preliminary examination of some of the features of foreign methods of freezing fish in brine, development of possible methods for the production of essence d'Orient from the scales of native fishes, and some preliminary tests of the practicability of putting noncommercial sponges to commercial uses. At its experimental laboratory at San Pedro, Calif., methods of canning the Pacific coast mackerel have been developed, considerable attention has been given to canning other local fish, such as barracuda, bonito, and rockfishes, and the fishing industry of that coast has been given all possible assistance.

Detailed statistics of the vessel fisheries centering at Boston and Gloucester, Mass., Portland, Me., and Seattle, Wash., have been collected and the results published in the form of monthly and annual bulletins for trade use. A statistical canvass of the coastal fisheries of the South Atlantic and Gulf States for the calendar year 1918 was begun early in 1919 and nearly completed by the end of the year. In addition, canvasses of the shad fishery of the Hudson River for 1919 and of the shad and river herring fishery of the Potomac River, also for 1919, have been made. With the exception of the coastal fisheries of the South Atlantic States, the present report contains the results of these canvasses, together with the detailed tables of the canvass of the fisheries of the Great Lakes for the calendar year 1917 and the fishery products received at the Municipal Fish Wharf and Market, Washington, D. C., for 1919. Statistics of Alaska fisheries are collected annually and published in the Bureau's annual report on Alaska Fisheries and Fur Industries.

The inadequacy of the present personnel for this division's part of the Bureau's work has called for the maximum of service from its members to complete the program outlined above. This has been given loyally at a time when higher compensation and much more adequate returns for their labor could have been obtained elsewhere.

Aid in Development of Fishery for Black Drum.

The black drum (*Pogonias cromis*) is a predacious fish, very destructive of oysters, particularly on cultivated beds, where the oysters occur singly and may the more readily be seized and crushed. This species is quite common on the South Atlantic and Gulf coasts, migrating northward along the coasts of the Middle Atlantic States in summer. It not uncommonly reaches a weight of 60 pounds or more. Complete data as to the movements of the fish and the possibility of establishing a regular fishery have been lacking, and the demand for the fresh fish has been insufficient to care for the catch. In fact, the fishermen frequently avoid taking it in their nets. An examination of samples of canned black drum indicates that it is excellent for this purpose, resembling the meat of poultry.

Wishing to provide persons interested in the development of the fishery with more detailed information as to localities in which the fish might be taken in commercial quantities and as to seasons of abundance, an assistant was detailed to visit the principal fishing centers on the Gulf coast. On the Florida coast south of Tampa the black drum is reported to be plentiful for about four months of the year, beginning with April, and at Cedar Keys, throughout the year, being taken principally in Withlacoochee Bay, on Port English, and Waccassassee and Suwanee Bars. Cedar Keys would, therefore, appear to be the most promising point on the Florida coast for a fishery. To the westward conditions are less favorable, the fish being very scarce at Pensacola. At Mobile, Ala., the fish is said to be plentiful throughout the year, but up to the present season there had been no demand for it. At Biloxi and Gulfport, Miss., it is scarce; in Louisiana waters some are taken throughout the year, but no large schools are observed. At Galveston, Tex., a few are taken in all months. Corpus Christi supports a fishery, but the demand has lately fallen off as a result of publicity wrongly intimating that the fish were unfit for food. At Point Isabel about 70 per cent of all fish taken are reported to be drum. These are taken throughout the year with pocket nets; that is, drag seines provided with pockets. The seines are 300 to 500 feet long of No. 24 cotton twine, $1\frac{3}{4}$ -inch bar mesh. Point Isabel appears, therefore, to be the most promising place on the Gulf for a fishery. Fish from this point and from Mexico are re-iced and shipped to market from Brownsville, Tex., the fishermen receiving about 2 cents per pound for the catch.

Increasing the Use of Fish as Food.

Demonstrations in Fish Cookery.

In previous reports attention has been called to the practical demonstrations and lectures in fish cookery initiated by the Bureau in May, 1918. These were intended to extend the use of cheaper, more abundant species in each locality, to introduce appetizing, inexpensive methods of cooking fish while conserving labor and eliminating the use of expensive cooking fats and oils, and to encourage the use for food of parts of the fish usually discarded. At the beginning of 1919, the holdings of fish in the cold storages of the country were about double normal, with the result of imminent danger that large quantities of these fish saved during the war period would have

to be destroyed for lack of markets. On this account demonstrations on the west coast were brought to a close in January, 1919, and the demonstrators detailed to the middle west, giving a series of demonstrations in St. Louis, Chicago, Minneapolis, St. Paul, Cincinnati and Cleveland. At these meetings special attention was directed to the value of frozen fish for food, particularly to the little-known varieties with whose merits the average housewife was unacquainted.

A successful series of demonstrations was later given in Boston and Cambridge, Mass. To enable local agents of the States Relations Service of the Department of Agriculture to profit from training in this field and extend its benefits to their respective communities, one of the Bureau's assistants gave demonstrations in Key West, Miami, West Palm Beach, Titusville, and St. Augustine, Fla.; in Savannah, and Valdosta, Ga.; at the Agricultural and Mechanical College of Mississippi; and before a gathering of State agents in Washington, D. C.

It is the consensus of opinion, as attested to verbally and by letter by those attending the demonstrations, that the housewives are very grateful to their Government for its interest in their problems of providing wholesome protein food at low cost. The value to the trade, as evidenced by reports of increased demand for fish in places in which demonstrations have been given, is well vouched for. During the year in which this work was conducted more than 125 demonstrations were held, by means of which approximately 15,000 persons were reached directly and many more indirectly.

In reviewing the work, consideration should be given to the fact that protein is the high-priced element of food; that fish compares favorably in protein content and digestibility with meats; that our estimated annual per capita consumption of meat is more than 160 pounds, while that of fish is only about 18 pounds; and that our fisheries annually yield millions of pounds of food fishes which are not so marketed, due in large part to lack of demand by the consuming public. Although the value of these demonstrations has been attested by the consumers, home demonstration agents, the trade, and others, and although the Bureau has been urgently requested to continue this work, it was compelled to abandon it in June for lack of funds.

In addition to the practical demonstrations in the field, experiments have been made to determine the best methods of preparing various fishery products for the table. This has been confined largely to products with which the housewife was little acquainted. Such information has been supplied directly to the trade or used in the preparation of economic circulars. A cookbook on fishery products has been prepared, but will be broadened in scope before it is published.

GROUPERS.

The groupers occur in abundance on the east coast of Florida and on the snapper banks in the Gulf of Mexico, where they outnumber the more highly prized red snappers. Until quite recently the snapper fishermen were required to limit their catch of grouper to from 10 to 25 per cent of the fare because of lack of demand. Gradually this percentage was increased until during the war period, when the number of vessels operating and men engaged were considerably reduced,

the demand equaled or exceeded the catch. With the return of men and vessels to the fishery, production again exceeded demand.

With the object of preventing needless waste of these fish and increasing efficiency of operations with reduction in cost of product to the consumer, the Bureau undertook to develop larger markets which would absorb the entire catch. For this purpose it issued an illustrated placard recommending these firm, white-meated fish and an economic circular containing recipes for preparing them for the table, and detailed an assistant to aid in encouraging the use of these fish in cities in the South. In this campaign particular attention was given to encouraging dealers to handle the groupers, to instructing them in the best methods of preparing the fish for sale, and to increasing their use by restaurants and cafés. Groupers are usually shipped headed and gutted. For sale to the consumer it appears desirable to skin the fish and remove the fins. They are then suitable for filleting. These operations, as described in Economic Circular No. 44, follow:

Lay the fish on its side, with the head end pointing toward you and the back toward the knife hand (the hand with which the operator uses the knife). Insert the knife to a depth of 1 to 1½ inches behind the end of the back fin and draw the length of the fish, cutting close to the fin, thus severing the skin and the flesh from tail to head.

Turn the fish end for end, laying it on its other side, and repeat as above, drawing the knife along the length of the fin from the head to the tail. Using a piece of burlap to prevent the hand slipping, or a pair of pliers, catch the back fin at the front end and pull it out.

Turn the fish, tail pointing from you and the belly toward the knife hand. Grasp the pectoral fin, the fin just back of the gills, in the free hand and thrust the knife into the fish just back of it and cut both ways. The collar bone, which is thus cut loose, is removed by pulling on the fin. The small, thin bone remaining, which connects the hide and meat, is removed with a stroke of the knife. Repeat the operation on the other side.

Turn the fish, tail pointing toward you and the belly toward the knife hand. Complete the splitting of the fish, and remove the belly fins. With pliers or a piece of burlap catch the corner of the hide at the head end nearest the back and strip off by pulling toward the tail. Repeat the process for the other side and complete the removal of the skin and tail by a stroke of the cleaver at the base of the tail fin.

It appears that the results which the Bureau expected to accomplish have in a measure been negatived by other factors, such as labor difficulties.

INCREASING THE USE OF BY-PRODUCTS OF THE FISHERIES.

The development of uses for the by-products of the fisheries and the unutilized products of the sea to the greatest economic advantage represents one of the most promising fields for research and for increasing the Nation's resources open to the Bureau. Although handicapped through lack of provision for the permanent employment of an adequately trained technologist and for funds, it has continued its efforts in this field in so far as its limited facilities will permit and has achieved results cited in the following pages which indicate the importance of the work and the possibilities of saving fishery products possessing a value many times the cost of the service. Among its activities mention should be made of the results of its efforts to increase the use of fish waste and waste fish for conversion into oil and scrap for fertilizer, to encourage the production of fish and shrimp meal as an animal feed, the use of the hides of fishes and other unutilized aquatic animals for leather, the development of a fishery for sharks, and the reestablishment of fisheries for porpoises, sea lions, hair seals, and other unutilized aquatic animals.

FISH OILS.

The demands and uses for fish oils are increasing and the prices are unusually high. Among the various uses are the following: Drying oil in paints and varnishes, stuffing grease for leather, in soap-making lubricating compounds, tempering steel, screw-cutting, and cordage manufacture, for medicinal and illuminating purposes, in the manufacture of rubber substitutes, top dressings for automobile tops, awnings, tents, and the like, in lard substitutes, etc., after hydrogenation.

In recent years the annual production of fish oils has ranged from about 5 to 6 million gallons. Of this, more than half is menhaden oil, whale, sperm, and herring oil being produced in appreciable quantities with smaller amounts of other oils, such as cod liver, shark liver (including dogfish), salmon, tuna, sardine, porpoise blubber and jaw oils, seal, and walrus. Imports entered for consumption for the fiscal year ended June 30, 1918, amounted to 4,881,982 gallons, valued at \$3,638,749, and exports in that year were 455,629 gallons, valued at \$446,589.

Realizing the importance of determining more definitely the special properties of those oils for which such information was lacking, to indicate the uses to which they are best suited, the Bureau has made analyses of the body and liver oils of species of sharks, of skate-liver oil, tuna and yellowtail oil, and has furnished the educational bureau of the Paint Manufacturers' Association of the United States various samples of fish oils for analysis and trial as to suitability for use in the manufacture of paints and varnishes.

Albacore or tuna (*Germo alalunga*) oil is particularly interesting because of its excellent drying qualities. It possesses very little unsaponifiable matter and little odor and is pale in color. Drying tests made by the director of the educational bureau of the Paint Manufacturers' Association of the United States showed that it dries even more rapidly than linseed oil. The 1919 production of albacore (*Germo alalunga*), yellowfin tuna (*G. macropterus*), and bluefin tuna (*Thunnus thynnus*) oil in southern California is estimated to exceed 100,000 gallons. An analysis of the albacore oil gave the following results: Specific gravity at 15.5° C., 0.9298; acid value, 0.24; saponification value, 195.9; iodine value (Hanus), 184; refractive index (40° C.), 1.4755; titer test of fatty acids in degrees centigrade, 20.8°; neutralization value of fatty acids, 182.5; mean molecular weight of fatty acids, 307; total unsaponifiable matter 0.80 per cent. Tests with the oil of the yellowtail (*Seriola dorsalis*) indicated that it was fully as satisfactory for the manufacture of paints as menhaden oil, but not as good as the albacore oil. Its color was light and its odor not strong.

There is need for more exhaustive investigations of fish oils, for determining definitely the qualities of the oils of various species of sharks, skates, and other fishes serving as sources of supply of fish oils; for determining more definitely the possibilities of hydrogenating fish oils for use for edible purposes, their nutritive values based on investigations by experts in vitamins, etc. On the subject of hydrogenation, Bulletin No. 769 of the United States Department of Agriculture, February 10, 1919, page 39, states:

Recently a refining process in which hydrogen instead of steam is used to blow the oil has been developed. It appears that it is now possible to remove the disagreeable

or and flavor from some kinds of fish oils and render them suitable for food. For several years whale and possibly some fish oils have been hardened by hydrogenation in Norway and Germany, and within the last six months a lard substitute made in this way from Pacific coast herring has appeared on the American market.

Before the war whale oil was being hydrogenated in Norway, the Netherlands, and Germany, and a plant is now in operation in England capable of caring for all whale oil likely to arrive. The hardened fat is white, odorless, and tasteless. It is used as a substitute for tallow and the best quality for margarine.

FISH SCRAP.

The annual production of scrap for fertilizer will approximate 9,000 tons. In 1918, on the basis of available data, the production of menhaden scrap amounted to nearly 50,000 tons, that of sardine, salmon, tuna, etc., on the west coast, including Alaska, to more than 300 tons (exclusive of fish meal), and that of the Alaska whale fishery to 850 tons. Additional material is produced in New England, especially in connection with the fishery for sardines and herring; in the States bordering on the Gulf of Mexico, principally from shrimp waste; on the Great Lakes, etc. The use of sardines for conversion into oil and scrap or meal on the coast of southern California appears to be on the increase, over 33 million pounds having been reported so used in 1919. It is reported that a ton of sardines will yield up to 25 gallons of oil and 500 pounds of meal or scrap.

Persons in the fisheries have been encouraged to save their fish waste and have been furnished information regarding methods and machinery. To care for the comparatively small quantities of waste, there appears to be need for an efficient and inexpensive plant—one that is capable of reducing the oil content of the scrap to a low percentage.

FISH MEAL.

To meet the increasing demand for protein feeds for hogs, cattle, and poultry, the Bureau has continued to urge upon the manufacturers employing fish waste the importance of using such of their products as are suitable for manufacture into fish meal. As the menhaden industry affords the greatest prospective source of supply, particular attention has been given to this field. The shrimp fishery of the south Atlantic and Gulf States is another promising field, in which until recently not more than 50 per cent of the waste has been used. One of the Bureau's assistants who visited this field during the year estimates that this industry is capable of yielding from 7,500 to 10,000 tons of raw waste, equivalent to from 1,500 to 2,000 tons of scrap or meal per annum. At the time of his visit, this waste was not being utilized in the Apalachicola and Fernandina (Fla.) districts, or in the St. Marys and Brunswick (Ga.) section, districts which should supply about three-eighths of available material. The bulk of that now saved is in the Baratavia Bay district, the center of the shrimp-drying industry, in which the shrimp are sun-dried on large wooden platforms. The heads and shells are a by-product. It is believed that the successful solution of the problem will require the use of rotary driers, and at least three companies made provision during the year for the saving of this material.

Samples of shrimp meal analyzed contain from 43 to 56 per cent protein. Following is an analysis of one sample:

	Per cent
Moisture.....	5.
Ash.....	29.
Fat (ether extract).....	3.
Protein.....	47.
Undetermined.....	15.

The Bureau of Animal Industry of the United States Department of Agriculture has cooperated very effectively with the Bureau of Fisheries in this field in the conduct of feeding experiments with fish and shrimp meals to hogs and in directing the attention of hog growers to the value of these products as feeds, thus rendering material aid in assuring those in the fisheries of a market for their product. In an experiment of the Bureau of Animal Industry, conducted at the Government Experiment Station, Beltsville, Md., in which two lots of 15 pigs were fed fish meal and shrimp meal for a period of 91 days the results indicated that shrimp meal was fully the equal of fish meal. It is believed that elements other than the proteins, such as the mineral elements, vitamins, etc., tend to enhance the value of this material.

Grayfish meal has been furnished the Bureau of Animal Industry for a feeding test, the results of which were comparable to those obtained by feeding with menhaden meal. Although the grayfish meal contained a high percentage of oil, no flavor of fish could be detected in the flesh of the hogs killed at the end of the feeding experiment. Arrangements are being made for additional feeding tests to ascertain more definitely the safety with which meals containing a high oil content or made from decomposed materials may be used.

The American consul at Odense reports that in Denmark a shell fish meal made from the blue mussels which are found in large numbers along the Danish coast is now on the market in that country as a poultry feed and has proved very satisfactory for increasing egg production. An analysis of the dried meal made at an agricultural experiment station quoted from Commerce Report No. 3, February 7, 1919, follows:

Lime (in the form of ashes), 71.41 per cent; sugar, starch, and other organic matter, 13.21 per cent; nitrogenous matter, 11.64 per cent; fats, 1.68 per cent; and water, 2.06 per cent.

Comparatively little fish meal was produced in this country prior to 1914. Beginning with that year the production on the west coast has steadily increased, the 1918 production of the coastal States and Alaska being about 8,684 tons. An assistant who visited the principal centers of production in southern California during the year reports no differences in character of material or process of manufacture of meal or scrap except in a few instances in which the ground scrap is called meal. Until more detailed information is available regarding the results of feeding fish meal it is believed that only fresh waste should be used in its manufacture and badly decomposed waste made into scrap for fertilizer. Some kinds of meal do not require grinding. This is stated to be the case for meal made from sardines in which the steam, or so-called batch, drier is used. If a hot-air drier is employed, grinding may be necessary to reduce the material

the proper degree of fineness and to break up any small, sharp-pointed bones or spines. This was found necessary for menhaden meal. The most practical type of grinder for breaking up such bones appears to be the swing-hammer type, in which swinging hammers revolving at about from 2,500 to 3,000 revolutions per minute knock the material against a screen.

As evidence of the results of the Bureau's efforts, it may be added that in the menhaden and shrimp industries about 2,500 tons of meal were produced in 1919 and no difficulties in marketing it at reasonable prices reported. It is believed that the present annual production of meal from fishery products approximating 10,000 tons may be doubled without difficulty and with improvements which will keep menhaden fresh until they reach the factory at least doubled. It may be noted that a classification for fish meal is in effect in the three classification territories of the railway companies, and class rates on this commodity between given points are obtainable on application to the proper railroad officials.

FISH LEATHER.

The work of the Bureau in encouraging the development of a fish-leather industry has resulted in important progress in this field. The tanning of the hides of sharks and rays into leather which is soft and pliable and of ample strength for many uses is now an established fact, and keen interest is being shown in the development of fisheries of these forms to make available regular supplies of basic materials in quantity production. The use of the hides of porpoises, whales, sea lions, and other unutilized aquatic animals is also increasing. One tannery is now devoted to the production of fish leather, a second is in course of construction, and others are preparing to engage in the industry.

SHARK FINS.

The Bureau has been instrumental in the saving and drying of shark fins, which are a delicacy highly prized by orientals. In one city in this country the demand now exceeds the supply, the best grades commanding from 65 to 75 cents per pound.

The trade is furnished with descriptive matter for the preparation of the various by-products, oils, scrap, meal, hides for the tanner, and fins, and with information as to where the various commodities may be marketed.

TECHNOLOGICAL INVESTIGATIONS.

In the 1918 report attention was called to the construction and equipment of a Fishery Products Laboratory in Washington for the conduct of technological investigations in the fisheries. Although activities have been greatly restricted by the limited personnel and provision for the work, the results achieved in the investigations regarding the salting of fish, the studies of fish oils, recovery of used lime and salt, preliminary studies of the production of essence Orient from fish scales, and the different methods of refrigeration, the direction of the investigations in the canning of fish in southern California, and provision for the proper handling of minor problems, have emphasized the need for the conduct of such work on a larger

scale. The sundry civil appropriation act of July 19, 1919, contains provision for an additional assistant for the Fishery Products Laboratory, but in the examination held before the end of the calendar year no applicant qualified.

DETERMINATION OF PRINCIPLES OF PRESERVATION OF FISH WITH SALT

Recent reports have contained reference to the technological investigations on the preservation of fish with salt, initiated for the purpose of determining the basic principles governing this method of preservation, to effect improvements in present practices, and to develop satisfactory methods of salting fish at higher temperatures and therefore in warm climates. The preliminary investigation has been completed and the results published in Bureau of Fisheries Document No. 884, "Some Considerations Concerning the Salting of Fish," by D. K. Tressler. A brief summary of some of the results follows:

On the assumption that the more rapidly salt penetrates the flesh of fish the sooner will decomposition be stopped, the first work aimed to determine the rate of penetration of salts of different qualities into the flesh, the squeteague being used. Small amounts of calcium chloride or magnesium chloride retarded the rate of penetration of pure salt (sodium chloride), but produced a firmer, whiter fish than the pure sodium chloride. Other impurities, such as the sulphates, had a similar though less noticeable effect. In this connection it may be of interest to note that analyses of commercial salts reveal the fact that they vary greatly in purity. Solar salts are of lesser purity than salts prepared by evaporation in open or vacuum pans, and most domestic salts are of greater purity than foreign salts available in large quantities. The purest brands obtainable at reasonable cost contain between 99.5 and 99.75 per cent of sodium chloride.

As the rate of penetration in itself was an insufficient index of the keeping qualities it was considered essential to provide some means of measuring the amount and rate of decomposition of protein in order to determine the amount of decomposition taking place in the course of salting any lot of fish, and thus test the value of the various methods. Having salted fish with prepared salts containing different amounts of the common impurities (calcium, magnesium, and sulphates), the rate of protein decomposition was estimated by determining the amounts of amino-acid nitrogen formed. In this manner the preservative action of the various salts on the protein of the fish was estimated. Calcium and magnesium salts and sulphates cause an increase in decomposition and therefore produce a less perfect preservation of the fish during salting. This reveals the importance of selecting brands of salt low in these impurities for salting fish in warm climates. For salting at temperatures below 50° F. it is possible to exercise a measure of control in producing fish of the desired quality by the use of salts having a high percentage of calcium and magnesium if a hard, white fish is desired and pure salts if a soft, pliable fish is wanted. The degree of fineness of the salt is considered of little importance save in a physical way.

A comparison was made as to the relative efficiency of the two general methods of salting fish, viz. by the use of dry salt or brine and salt, by determining the rate of penetration of salt into the flesh of fish salted by each method and the rate of protein decomposition. These experiments showed that the salt penetrates more rapidly into the dry-salted fish than in the fish in pickle and that more amino acid was formed by the brine method. The dry-salt method is apparently the more economical of both salt and labor.

In addition, experiments were made to determine the effects of a more thorough cleaning of the fish before salting, the rate of formation of amino-acid nitrogen being used to indicate the rate of protein decomposition. River herring cleaned by various methods were salted at high temperatures. All except those from which all roe and milt and blood had been removed spoiled, the thoroughly cleaned fish being successfully salted at 88° F. From these experiments it was concluded that the chief cause of spoilage during salting is due to the decomposition of the blood remaining in the flesh.

The rate of penetration of salt into skinned fish was found to be about double that in the unskinned fish, thus revealing the importance of splitting fish before salting.

Experiments made in salting fish of various degrees of staleness showed that the length of time a fish may be kept before salting depends upon the temperature to which the fish are subjected before and during the salting period, and that at some temperature between 50 and 60° F., or higher, fish spoil very quickly. The following are important considerations in the salting of fish in warm climates: The viscera and blood should be removed in cleaning, large fish should be split, the fish should be in a fresh condition, no brine should be added, and salts low in calcium should be selected.

At the close of the year plans were being perfected for the practical application on a somewhat larger scale of the results obtained in these small-scale laboratory experiments to determine more definitely the manner in which these results may be applied with profit to the industry. These plans include the salting of river herring at points in Florida where usual practices have previously proved a failure. In addition to the work outlined above, some attention has been given to the chemical changes in the fat content of fish.

FREEZING FISH IN BRINE.

Refrigeration as a means of preserving fish promises to play an increasingly more important rôle in the fishing industry. In this connection there exists a feeling that more of our energies hitherto expended in perfecting refrigeration machinery and methods should be applied to effecting improvements in the quality of the product and in educating the consumer to its merits, its care, and preparation. In Europe the process of freezing fish in brine has of late been receiving considerable attention, and the use of the method is increasing. Brief mention of the subject may therefore be of interest to those engaged in the industry in this country.

Fundamentally the process consists of immersing the article to be frozen in a strong brine which has previously been cooled to, or nearly to, the point where mush ice begins to form in the solution. That the freezing temperature of brine is lower than that of water and that the freezing temperature of the brine is lowered as its saturation point is approached is well known. At present there are at least two processes employing the brine method, one known as the Dahl method, originated by Nekolai Dahl at Trondhjem, Norway, and the other the Ottesen method, by A. Ottesen, Thisted, Denmark.

By the Dahl process, the fresh fish are packed in the shipping boxes before being frozen. Cold brine, which has had its temperature lowered, by contact with crushed ice, to a point approaching its freezing point is pumped through the boxes of fish, flowing back through the ice for recooling. By this means the fish are frozen quickly and the boxes may be headed and put in transit at once. The plant consists of (1) a chamber for cracked ice, with compartments so arranged that the brine passes through ice always in a downward direction into a brine compartment; (2) a centrifugal pump which receives the cold brine and discharges it through a delivery hose into the boxes of fish; (3) a freezing platform on which the boxes rest, provided with troughs for conducting the brine back to the ice chambers for recooling.

In the Ottesen plant the fish are placed in perforated, galvanized-iron baskets, which are submerged in the brine, or, if the fish are of large size, they may be suspended in the brine chamber until frozen. In its simplest form the equipment consists of an insulated iron

freezing tank holding the brine and provided with a propeller (or agitator) and guide plates with sluices for circulating the brine; also a carbon-dioxide refrigerating unit; metal baskets for holding the fish in the brine and galvanized-iron ice cans and wash tank complete the equipment.

Among the advantages claimed for the brine-freezing method mention may be made of the following: (1) Fish can be frozen much more quickly—in one-tenth of the time or less—than in air freezing; (2) brine-frozen fish retain the flavor, appearance, and other qualities of fresh fish; (3) in slow air freezing the tissues are partially broken down through the formation of large ice crystals while in rapid freezing the ice crystals formed are so small as not to disrupt the muscle fibers; (4) there is no loss of weight in freezing through evaporation; (5) the equipment takes up little space, without the necessity for a special freezing room, and is adaptable for use on fishing vessels; and (6) there is no tendency for the brine to penetrate the fish or for its juices to enter and weaken the brine.

As the Bureau has not conducted exhaustive experiments in the brine freezing of fish it is not prepared to express an opinion with regard to the value of the method or as to its probable place in the industry. The Bureau's Fishery Products Laboratory in Washington is equipped for conducting proper investigations in air and brine freezing to determine the relative merits and defects of the two methods. It is desirous of doing this investigative work as soon as adequate provision can be made therefor.

INVESTIGATIONS IN CANNING FISHERY PRODUCTS IN SOUTHERN CALIFORNIA.

For years the Bureau has been impressed with the need for rendering those engaged in the preservation of fish by canning a large measure of service, work which promised to make larger supplies of wholesome protein food available to the consumer and to reduce the cost of that which was being produced. In the summer of 1918 it concluded to initiate such investigations on the coast of southern California and to equip a small plant for the purpose. The immediate object of the work was to develop suitable methods for canning some of the neglected or little-used fishes occurring in abundance in that region and to aid the packers in solving their problems and difficulties. After a study of the principal fishing centers it was decided to start the work at San Pedro, where suitable quarters for housing the equipment were obtained, the necessary equipment provided, and the work begun about May 1, 1919.

A study of canning methods in commercial practice revealed wide differences in the processes used. For example, it was found that the time period and temperature of retorting varied in the different plants. Some used compressed air in the retort when cooling; others did not. Some employed superheated steam exhaust boxes; others no exhaust at all. In some instances large driers of considerable length, equipped with traveling chain-belt conveyors, high-power fans, and an elaborate air-distribution system, were in operation; in others short driers, making use of high temperatures were employed. One canner holds his pack for a period for ageing another ships the goods as soon as they are put up. The practice

have been developed in many cases at heavy cost without a definite understanding of the underlying principles and adequate control of the results. These factors do not make for uniformity of pack and have added materially to the cost of production and therefore to the price of the product to the ultimate consumer. In addition, some species of fishes which were abundant were not being canned for the lack of development of suitable methods. The two major functions of the work were, therefore, to develop new methods and to establish standard methods which will yield standard products.

The Pacific coast mackerel (*Scomber japonicus*) is present in large numbers on the southern California coast, being particularly abundant from June to December, inclusive. The principal fishing centers are Monterey, San Pedro, and San Diego. Because of the lack of demand, little attention has been given to the development of the fishery, considerable quantities of that brought in going to the reduction works. In 1918 the Bureau conducted experiments in salted this fish, which indicated that in color and flavor it was hardly the equal of the usual run of salt mackerel on the market. Because of its abundance, favorable food qualities, and lack of demand for it for food purposes, the laboratory has given more attention to perfecting methods of canning this fish than to any other. More than 80 different packs have been put up for examination and several methods of promise developed. The packers have been interested in the results achieved to such an extent as to urge the release of the better methods. This has been granted with the understanding that final tests have not been completed. The California pack of mackerel in 1919 exceeded 9,000 cases, and the increasing interest and tendency of the packers to handle this fish indicate a much larger pack in the future.

In addition to the experiments with mackerel, bonito, barracuda, silchard, sea bass, smelt, the tunas, and yellowtail have received attention, and several hundred packs of the various species are being held in storage for examination at fixed intervals. Among the problems needing solution are the development of means for overcoming the unpleasant odor and taste encountered in packs of bonito and the detinning of the cans in packs of such fishes as the barracuda. The work done and the interest shown by the trade seem but to accentuate the need for a continuation of investigations in this field.

NEW ENGLAND VESSEL FISHERIES.

The vessel fisheries centering at Boston and Gloucester, Mass., and Portland, Me., were in a prosperous condition during the past year, although the total number of trips and the catch were not so large as in the previous year. The decrease in the number of trips was largest at Gloucester. The products landed at Boston fell off 5.55 per cent in quantity and 28.45 per cent in value, at Gloucester 3.78 per cent in quantity and 29.94 per cent in value, and at Portland less than 1 per cent in quantity and 21.76 per cent in value. The fisheries were affected to some extent, no doubt, by the economic changes following the war period and also by unsettled labor conditions. A strike of the fishermen in July and August resulted in a large falling off in the catch landed by the fishing fleet in those months as com-

pared with that usually landed at that time of year. Statistics of these fisheries have been collected by the local agents and published in monthly bulletins, showing, by species and fishing grounds, the quantities and values of fishery products landed by American and Canadian fishing vessels during the year at these ports. Two annual bulletins have been issued, one showing the catch by months and the other by fishing grounds.

The fishing fleet which landed fish at these ports during the calendar year 1919 numbered 523 sail, steam, and gasoline screw vessels including 25 American and 2 Canadian steam trawlers. These vessels landed at Boston 2,754 trips, aggregating 103,391,370 pounds of fish, valued at \$4,713,350; at Gloucester, 2,965 trips, aggregating 71,370,957 pounds, valued at \$2,145,592; and at Portland, 2,550 trips, aggregating 21,718,943 pounds, valued at \$689,441. The total for the three ports amounted to 8,269 trips, aggregating 196,481,270 pounds of fresh and salted fish, having a value to the fishermen of \$7,548,383. This total includes 39 trips, 26 at Boston and 13 at Portland, landed by 9 Canadian fishing vessels, amounting to 3,296,147 pounds of fresh fish, valued at \$106,261. Of this quantity 1,191,845 pounds, valued at \$53,653, were landed at Boston, and 2,104,302 pounds, valued at \$52,608, at Portland. There was a decrease of 12 vessels, 21 trips, and 2,306,602 pounds in the quantity and \$112,364 in the value of the products as compared with the previous year. These fish were landed in accordance with an arrangement with the Canadian Government as an emergency war measure granting reciprocal privileges to fishing vessels, by which Canadian fishing vessels were permitted to land their fares at American ports direct from the fishing grounds. Canadian fishing vessels began to utilize this privilege in April, 1918, and the arrangement is still in operation.

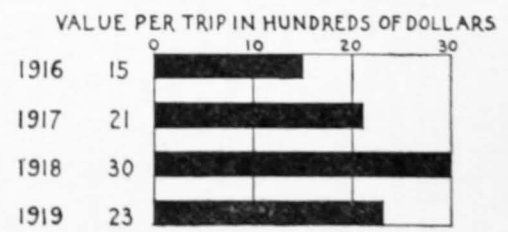
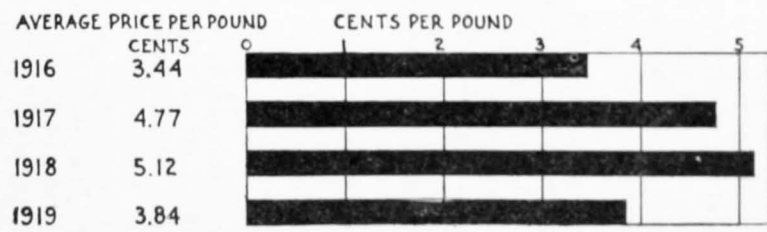
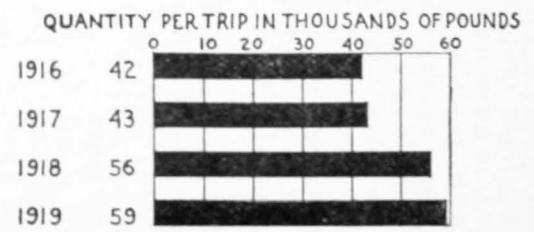
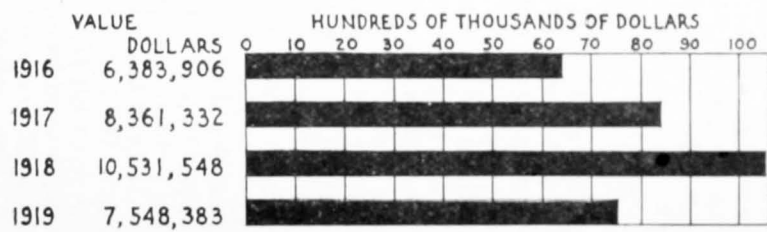
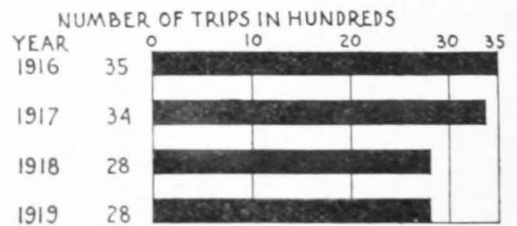
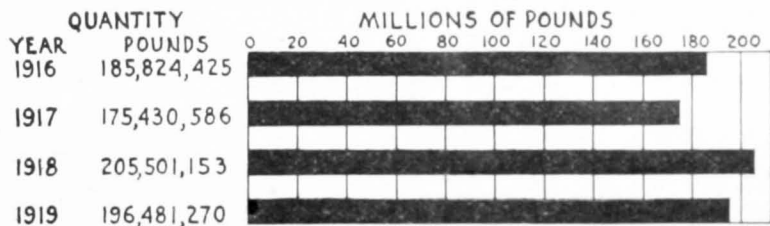
During the year 1919, 24 American fishing vessels landed 29 trips, amounting to 434,486 pounds of fish, at Canadian ports on the Atlantic coast, of which 8 trips by 8 vessels, amounting to 312,036 pounds, were landed at Halifax, Nova Scotia; and 173 American fishing vessels landed 915 trips, amounting to 12,258,522 pounds at Canadian ports on the Pacific coast, of which 889 trips by 154 vessels, amounting to 10,804,522 pounds, were landed at Prince Rupert, British Columbia.

Compared with the previous year, there was a decrease of 481 trips, or 5.49 per cent, in the total number landed by the fishing fleet at Boston, Gloucester, and Portland, and of 9,019,883 pounds, or 4.38 per cent, in the quantity, and \$2,983,165, or 28.32 per cent, in the value of the fish landed. The only important species showing an increase in catch over that of the previous year were haddock and halibut. The catch of haddock increased 16,044,644 pounds, or 24.06 per cent, in quantity, but decreased \$405,338, or 12.66 per cent, in value, while the catch of halibut increased 333,657 pounds, or 18.73 per cent, in quantity and \$84,911, or 28.09 per cent, in value. The cod catch decreased 6,450,007 pounds, or 8.98 per cent, in quantity and \$1,034,024, or 28.58 per cent, in value; hake, 941,353 pounds, or 17.82 per cent, in quantity and \$92,032, or 33.70 per cent, in value; pollock, 7,808,653 pounds, or 29.39 per cent, in quantity and \$581,570, or 60.44 per cent, in value; cusk, 595,062 pounds, or 22.38 per cent, in quantity and \$40,862, or 39.65 per cent, in value; mackerel, 4,445,271 pounds, or 43.75 per cent, in quantity and \$641,682, or

53.97 per cent, in value; herring, 4,637,077 pounds, or 30.92 per cent, in quantity and \$220,894, or 47.94 per cent, in value; swordfish, 151,664 pounds, or 14.66 per cent, in quantity and \$10,890, or 4.87 per cent, in value; tilefish, 265,910 pounds, or 88.80 per cent, in quantity and \$18,772, or 92.71 per cent, in value; and the various other species combined, 103,187 pounds, or 2.43 per cent, in quantity and \$22,012, or 12.12 per cent, in value. The catch of Newfoundland herring decreased 2,885,047 pounds, or 45.17 per cent, in quantity and \$142,090, or 42.81 per cent, in value. The quantity of tilefish landed at Boston was very small, amounting to only 33,510 pounds, valued at \$1,474, as compared with 299,420 pounds, valued at \$20,246, the previous year.

The following graphs present the quantities and values and average price per pound of fishery products landed at Boston and Gloucester, Mass., and Portland, Me., by fishing vessels, and also the number of trips and the average quantity and value of fishery products per trip for the years 1916 to 1919, inclusive.

The following tables present in detail, by fishing grounds and by months, the products landed at Boston and Gloucester, Mass., and Portland, Me., by American and Canadian fishing vessels, for the calendar year 1919. The weights of fresh and salted fish given in these statistics represent the fish as landed from the vessels, and the values are those received by the fishermen. The grades, or sizes, given for certain species are those recognized in the trade.



1.

2.

Fig. 1.—Quantities, values, and average price per pound of fishery products landed at Boston and Gloucester, Mass., and Portland, Me., by fishing vessels for the years 1916 to 1919 inclusive.

Fig. 2.—Number of trips, average quantity and value per trip of fishery products landed at Boston and Gloucester, Mass., and Portland, Me., by fishing vessels from fishing grounds, exclusive of "Shore general," for the years 1916 to 1919 inclusive.

QUANTITIES AND VALUES OF CERTAIN FISHERY PRODUCTS LANDED AT BOSTON AND GLOUCESTER, MASS., AND PORTLAND, ME., BY AMERICAN AND CANADIAN FISHING VESSELS, CALENDAR YEAR 1919, BY FISHING GROUNDS.

Fishing grounds.	Number of trips.	Cod.											
		Large (10 pounds and over).				Market (under 10 and over 2½ pounds).				Scrod (1 to 2½ pounds).			
		Fresh.		Salted.		Fresh.		Salted.		Fresh.		Salted.	
LANDED AT BOSTON.													
<i>East of 66° W. longitude.</i>													
By American vessels:		<i>Pounds</i>	<i>Value.</i>	<i>Pounds.</i>	<i>Value.</i>	<i>Pounds.</i>	<i>Value.</i>	<i>Pounds.</i>	<i>Value.</i>	<i>Pounds.</i>	<i>Value.</i>	<i>Pounds.</i>	<i>Value.</i>
La Have Bank.....	39	655,500	\$40,548			368,948	\$13,594			8,435	\$217		
Western Bank.....	154	3,523,120	180,958			601,715	20,089			1,570	24		
Quereau Bank.....	4	62,900	2,491			11,865	356						
Grand Bank.....	4	34,600	4,852										
Off Newfoundland.....	1												
Cape Shore.....	61	203,850	11,953			138,803	5,707			22,949	530		
St. Anns Bank.....	2	56,000	4,480			95,000	4,750						
By Canadian vessels: Western Bank	2	33,305	2,025			31,200	1,218			250	4		
<i>West of 66° W. longitude.</i>													
By American vessels:													
Browns Bank.....	89	1,377,935	83,822			771,831	30,444			25,190	605		
Georges Bank.....	628	11,314,234	528,419			4,170,126	139,646			66,160	1,399		
Cashes Bank.....	3	9,559	718			4,000	144						
Fippenies Bank.....	1	9,500	294			9,500	228			200	2		
Middle Bank.....	138	99,070	6,677			46,930	3,059			11,711	329		
Jeffreys Ledge.....	80	34,902	3,289			28,505	1,733			5,080	156		
South Channel.....	395	1,035,811	64,330			1,309,269	46,952			69,574	1,302		
Nantucket Shoals.....	31	55,703	3,046			180,550	4,866			2,215	41		
Off Highland Light.....	6	22,000	990			1,750	48			1,000	10		
Off Chatham.....	335	1,017,710	66,348			938,236	36,966			158,095	2,911		
South.....	9												
Shore, general.....	748	427,762	24,918			123,694	5,650			6,020	153		
By Canadian vessels: Georges Bank.	24	161,128	9,062			206,090	5,984			6,895	105		
Total.....	2,754	20,134,589	1,039,220			9,038,012	321,434			385,344	7,788		

QUANTITIES AND VALUES OF CERTAIN FISHERY PRODUCTS LANDED AT BOSTON AND GLOUCESTER, MASS., AND PORTLAND, ME., BY AMERICAN AND CANADIAN FISHING VESSELS, CALENDAR YEAR 1919, BY FISHING GROUNDS—Continued.

Fishing grounds.	Number of trips.	Cod.											
		Large (10 pounds and over).				Market (under 10 and over 2½ pounds).				Scrod (1 to 2½ pounds).			
		Fresh.		Salted.		Fresh.		Salted.		Fresh.		Salted.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	
LANDED AT GLOUCESTER.													
<i>East of 66° W. longitude.</i>													
By American vessels:													
La Have Bank.....	6	39,390	\$1,260			32,890	\$871			1,860	\$28		
Western Bank.....	192	9,730,135	283,839	2,011,225	\$109,532	4,875,219	128,328	969,528	\$48,710	82,755	1,233	50,725	\$2,198
Quereau Bank.....	35	2,226,441	63,240	463,281	25,138	1,271,670	30,569	312,688	11,886	8,900	134	27,948	1,156
Green Bank.....	2	21,820	698	10,800	702		23	470	28	180	3		
Grand Bank.....	15	610,350	18,081	180,688	10,188	84,045	2,182	77,464	2,105	970	15	5,844	261
St. Peters Bank.....	2			382,235	25,295			195,910	11,755			9,985	462
Burgeo Bank.....	2	9,630	284	370	19	2,035	48	525	24				
Off Newfoundland.....	14												
Cape Shore.....	37	209,094	6,249	1,035	51	89,057	2,358	105	5	5,305	84		
Gulf of St. Lawrence.....	2												
<i>West of 66° W. longitude.</i>													
By American vessels:													
Browns Bank.....	4	59,500	1,831			12,720	333			600	12		
Georges Bank.....	162	3,971,037	129,515	13,785	827	1,850,918	54,326	2,290	126	30,266	594		
South Channel.....	30	302,570	9,230	2,360	121	304,185	8,178	3,790	172	3,685	50		
Nantucket Shoals.....	104	16,890	508			91,296	2,257			3,000	45		
Seal Island.....	1	39,360	1,086										
Shore, general.....	2,357	1,272,295	51,486			1,900	53			280	4		
Total.....	2,965	18,508,512	567,307	3,065,779	171,873	8,616,805	229,526	1,562,770	74,811	137,801	2,202	94,502	4,077

LANDED AT PORTLAND.

East of 66° W. longitude.

By American vessels:													
La Have Bank	9	72,385	2,527		30,450	785			3,300	34			
Western Bank	11	469,720	10,855		136,030	3,196			475	12			
Quereau Bank	1												
Grand Bank	3	3,000	135		1,775	53							
St. Peters Bank	2	6,000	260										
Cape Shore	3	4,475	166		4,175	115			345	7			
St. Anns Bank	3												
By Canadian vessels:													
La Have Bank	3	44,915	1,142		18,500	489			1,335	17			
Western Bank	7	451,175	9,946		82,000	1,713			1,375	21			
Cape Shore	1	2,210	133		7,450	234			685	10			
<i>West of 66° W. longitude.</i>													
By American vessels:													
Browns Bank	1	2,000	90										
Georges Bank	29	143,627	3,616		44,030	998			60	1			
Cashes Bank	34	99,885	5,862		38,659	1,248			6,655	83			
Platts Bank	25	28,830	1,643		13,330	380			1,260	19			
Jeffreys Ledge	49	39,963	2,155		27,535	1,130			5,700	97			
South Channel	12	133,639	2,913		15,900	427							
Shore, general	2,355	1,354,923	89,729		455,101	20,876	208	6	77,226	1,790			
By Canadian vessels:													
Browns Bank	1												
Georges Bank	1												
Total	2,550	2,856,747	131,202		874,935	31,644	208	6	98,416	2,091			
Grand total	8,269	41,499,848	1,737,729	3,065,779	171,873	18,529,752	582,604	1,562,978	74,817	621,561	12,081	94,502	4,077

QUANTITIES AND VALUES OF CERTAIN FISHERY PRODUCTS LANDED AT BOSTON AND GLOUCESTER, MASS., AND PORTLAND, ME., BY AMERICAN AND CANADIAN FISHING VESSELS, CALENDAR YEAR 1919, BY FISHING GROUNDS—Continued.

Fishing grounds.	Haddock.						Hake.							
	Large (over 2½ pounds).				Scrod (1 to 2½ pounds).		Large (6 pounds and over).				Small (under 6 pounds).			
	Fresh.		Salted.		Fresh.		Fresh.		Salted.		Fresh.		Salted.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
LANDED AT BOSTON.														
<i>East of 66° W. longitude.</i>														
By American vessels:														
La Have Bank.....	809,530	\$35,324			1,650	\$83	59,170	\$3,536			62,550	\$2,245		
Western Bank.....	2,230,200	84,479			15,500	346	15,030	913			67,055	2,937		
Quereau Bank.....							24,585	963						
Cape Shore.....	571,723	33,181			3,400	118	12,540	730			17,285	794		
St. Anns Bank.....	59,000	4,130												
By Canadian vessels: Western Bank..	115,600	4,418			19,500	536								
<i>West of 66° W. longitude.</i>														
By American vessels:														
Browns Bank.....	1,564,245	70,530			6,640	299	11,340	454			37,840	1,461		
Georges Bank.....	17,481,210	611,385			1,010,778	31,657	37,780	1,567			62,380	2,469		
Cashes Bank.....	320	6					800	58			5,420	232		
Pippenies Bank.....	7,925	315												
Middle Bank.....	859,345	54,585			19,430	956	65,008	5,333			232,705	14,498		
Jeffreys Ledge.....	235,520	18,600			6,745	319	21,110	1,939			152,035	8,150		
South Channel.....	23,656,183	875,841			1,080,091	20,920	334,963	13,666			502,372	16,177		
Nantucket Shoals.....	538,140	13,421			1,215	13	4,080	163			4,995	134		
Off Chatham.....	6,813,869	290,716			47,225	1,471	209,695	9,879			309,468	13,860		
South.....											2,105	113		
Shore, general.....	149,112	7,926			2,965	103	12,278	505			41,718	1,650		
By Canadian vessels: Georges Bank..	465,028	23,294			76,115	3,065								
Total.....	55,556,950	2,128,151			2,291,254	59,886	808,379	39,706			1,497,928	64,720		

LANDED AT GLOUCESTER.													
<i>East of 66° W. longitude.</i>													
By American vessels:													
La Have Bank.....	82,685	1,447					18,635	358					
Western Bank.....	4,548,244	88,349	133,125	\$5,449	245,391	2,871	257,069	5,373	16,570	\$562	500	8	
Quereau Bank.....	812,013	16,416	15,823	566			25,590	513	13,800	414			
Grand Bank.....	108,640	1,901	5,694	206	36,085	541	47,405	1,026	8,000	261			
St. Peters Bank.....			70	3									
Cape Shore.....	131,655	2,696					17,520	347					
<i>West of 66° W. longitude.</i>													
By American vessels:													
Browns Bank.....	115,105	1,850											
Georges Bank.....	6,373,318	129,025			128,535	1,544	136,410	3,035	700	32			
South Channel.....	1,658,785	35,606	450	16	22,630	226	5,225	131					
Nantucket Shoals.....	688,845	11,423			105,780	1,536	3,165	55					
Seal Island.....							10,550	185					
Shore, general.....	2,631,087	107,436					224,528	13,107					
Total.....	17,150,377	396,149	155,162	6,240	538,421	6,718	746,097	24,130	39,070	1,269	500	8	
LANDED AT PORTLAND.													
<i>East of 66° W. longitude.</i>													
By American vessels:													
La Have Bank.....	144,320	4,087			5,775	63	1,265	37			4,130	159	
Western Bank.....	1,972,624	44,485			15,875	159					7,930	172	
Grand Bank.....							1,675	50					
St. Peters Bank.....							1,165	34					
Cape Shore.....	540	16					530	21			2,800	71	
By Canadian vessels:													
La Have Bank.....	105,830	2,697			280	4					2,320	46	
Western Bank.....	1,285,585	28,390			1,265	19	860	43			1,250	38	
Cape Shore.....	27,475	893			380	6	210	4			975	20	
<i>West of 66° W. longitude.</i>													
By American vessels:													
Georges Bank.....	1,052,442	22,238					365	33			7,755	348	
Cashes Bank.....	8,672	578			1,060	22	16,087	1,015			60,530	2,425	
Platts Bank.....	2,849	178					12,413	743			113,746	3,851	
Jeffreys Ledge.....	321,325	11,866			13,613	321	10,675	722			113,230	4,459	
South Channel.....	1,281,829	29,315					3,120	125			3,800	95	
Shore, general.....	751,272	50,440			31,009	1,017	140,522	9,107			739,699	27,587	
Total.....	6,954,764	195,183			69,257	1,611	188,887	11,934			1,058,165	39,271	
Grand total.....	79,662,091	2,719,483	155,162	6,240	2,898,932	68,215	1,743,363	75,770	39,070	1,269	2,556,593	103,999	
												450	15

By American vessels:												
Browns Bank.....	610	11			42,195	886						
Georges Bank.....	143,244	2,905			124,065	2,974			11,578	2,115		
South Channel.....	21,525	477			420	11						
Nantucket Shoals.....	3,128,700	42,904										
Seal Island.....	310	5			2,300	52						
Shore, general.....	10,738,588	191,958			8,270	152			50	13		
Total.....	14,598,786	248,205	55,101	1,400	608,957	13,373	37,962	1,658	357,460	54,820	12,600	1,770
LANDED AT PORTLAND.												
<i>East of 66° W. longitude.</i>												
By American vessels:												
La Have Bank.....	2,755	62			21,540	659			67,498	13,219		
Western Bank.....	81,095	1,147			4,240	122			50,692	8,430		
Quereau Bank.....									19,970	5,041		
Grand Bank.....									67,864	14,492		
St. Peters Bank.....									59,017	11,952		
Cape Shore.....	80	2			2,590	56			741	96		
By Canadian vessels:												
La Have Bank.....	535	12			17,165	377			3,940	647		
Western Bank.....	9,780	104			745	15			1,464	232		
Cape Shore.....	110	2			7,240	142			3,629	647		
<i>West of 66° W. longitude.</i>												
By American vessels:												
Browns Bank.....									20,191	4,145		
Georges Bank.....	1,805	59			10,430	283			83,635	14,222		
Cashes Bank.....	6,711	172			110,883	3,032			17,012	3,356		
Platts Bank.....	840	21			71,688	1,982			1,503	366		
Jeffreys Ledge.....	18,158	671			62,158	2,258			1,212	207		
South Channel.....	3,495	42							2,266	515		
Shore, general.....	971,420	23,565	515	15	370,946	15,225			12,583	2,602		
Total.....	1,096,784	25,859	515	15	679,625	24,152			413,217	80,169		
Grand total.....	18,696,351	379,100	55,616	1,415	2,025,236	60,511	37,962	1,658	2,100,061	385,101	14,600	2,090

QUANTITIES AND VALUES OF CERTAIN FISHERY PRODUCTS LANDED AT BOSTON AND GLOUCESTER, MASS., AND PORTLAND, ME., BY AMERICAN AND CANADIAN FISHING VESSELS, CALENDAR YEAR 1919, BY FISHING GROUNDS—Continued.

Fishing grounds.	Mackerel.												
	Large (over 2½ pounds).				Medium (1½ to 2½ pounds).				Small (under 1½ pounds).				
	Fresh.	Salted.	Fresh.	Salted.	Fresh.	Salted.	Fresh.	Salted.	Fresh.	Salted.	Fresh.	Salted.	
Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
LANDED AT BOSTON.													
East of 66° W. longitude.													
By American vessels; Cape Shore.	1,031,977	\$118,300	166,000	\$13,556	60,288	\$3,617							
West of 66° W. longitude.													
By American vessels:													
Georges Bank.....	8,350	1,678			14,450	1,301							
Middle Bank.....	7,125	1,069											
South Channel.....	24,635	3,597											
Nantucket Shoals.....	30,851	6,495											
Off Highland Light.....	59,560	10,352			16,260	1,616							
Off Chatham.....	60,380	4,079			19,200	808							
South.....	498,203	91,991			68,930	6,557							
Shore, general.....			166,000	13,556									
Total.....	2,621,081	237,742	166,000	13,556	179,125	13,899							
LANDED AT GLOUCESTER.													
East of 66° W. longitude.													
By American vessels:													
Cape Shore.....	65,381	5,639	1,094,763	89,784									
Gulf of St. Lawrence.....			34,000	6,246									
West of 66° W. longitude.													
By American vessels:													
Nantucket Shoals.....	1,232	98	46,996	5,037									
Shore, general.....	154,316	28,474	8,200	1,156									
					1,035	98				6,400	\$950		
												3,218	129
												18,680	25,000
												9,288	1,698
												3,200	9,288
												108,019	3,200
												442	442

By American vessels: Cape Shore . . .	19,785	1,032	3,000	240								
<i>West of 66° W. longitude.</i>												
By American vessels: Shore, general.	168,265	28,849	1,559	187	12,800	1,461			5,874	955	20	2
Total	188,050	29,881	4,559	427	12,800	1,461			5,874	955	20	2
Grand total	3,030,260	301,834	1,354,518	116,206	192,960	-45,458	6,400	950	1,091,550	109,812	37,508	2,982

Cape Shore.....					591,697	18,792	1,095,903	89,840	1,687,600	108,632
Gulf of St. Lawrence.....							34,000	6,246	34,000	6,246
<i>West of 66° W. longitude.</i>										
By American vessels:										
Browns Bank.....					230,730	4,923			230,730	4,923
Georges Bank.....	36,292	6,918			12,805,663	332,951	16,775	985	12,822,438	333,936
South Channel.....					2,319,025	53,909	6,600	309	2,325,625	54,218
Nantucket Shoals.....					4,042,126	58,955	71,996	6,735	4,114,122	65,690
Seal Island.....					52,520	1,328			52,520	1,328
Shore, general.....	77,517	2,497			15,128,746	395,987	23,888	2,946	15,152,634	398,933
Total.....	113,809	9,415	3,501,777	189,783	61,621,587	1,587,000	9,749,370	558,592	71,370,957	2,145,592
LANDED AT PORTLAND.										
<i>East of 66° W. longitude.</i>										
By American vessels:										
La Have Bank.....	17,653	2,268			371,071	23,900			371,071	23,900
Western Bank.....	595	11			2,739,277	68,589			2,739,277	68,589
Quereau Bank.....					19,970	5,041			19,970	5,041
Grand Bank.....					74,314	14,730			74,314	14,730
St. Peters Bank.....					66,182	12,246			66,182	12,246
Cape Shore.....					36,061	1,582	3,000	240	39,061	1,822
St. Anns Bank.....	15,479	3,734			15,479	3,734			15,479	3,734
By Canadian vessels:										
La Have Bank.....					194,820	5,431			194,820	5,431
Western Bank.....					1,835,499	40,521			1,835,499	40,521
Cape Shore.....					50,364	2,092			50,364	2,092
<i>West of 66° W. longitude.</i>										
By American vessels:										
Browns Bank.....					22,191	4,235			22,191	4,235
Georges Bank.....	191,961	42,967			1,536,110	84,795			1,536,110	84,795
Cashes Bank.....	1,586	23			367,740	17,816			367,740	17,816
Platts Bank.....	1,750	21			248,209	9,204			248,209	9,204
Jeffreys Ledge.....	13,878	338			627,447	24,224			627,447	24,224
South Channel.....	5,695	100			1,449,744	33,532			1,449,744	33,532
Shore, general.....	6,943,454	59,537			12,035,094	332,740	2,752	225	12,037,846	332,965
By Canadian vessels:										
Browns Bank.....	9,751	1,288			9,751	1,288			9,751	1,288
Georges Bank.....	13,868	3,276			13,868	3,276			13,868	3,276
Total.....	7,215,670	113,563			21,713,191	688,976	5,752	465	21,718,943	689,441
Grand total.....	11,894,990	423,026	3,513,177	190,068	186,543,548	6,974,723	9,937,722	573,660	196,481,270	7,548,383

¹ Herring. Other items under "Miscellaneous" include bluebacks, 27,450 pounds, value \$304; bonito, 780 pounds, value \$57; butterfish, 11,312 pounds, value \$1,132; catfish or wolfish, 98,378 pounds, value \$2,893; eels, 310 pounds, value \$12; flounders, 2,451,856 pounds, value \$103,050; goosefish, 200 pounds, value \$3; herring, 6,858,108 pounds, value \$50,095; horse mackerel, 560 pounds, value \$50; redfish, 54,685 pounds, value \$1,516; salmon, 7 pounds, value \$2; shad, 222,612 pounds, value \$8,643; sharks, 26,786 pounds, value \$837; skates, 11,930 pounds, value \$252; smelt, 27,012 pounds, value \$2,503; sturgeon, 3,058 pounds, value \$582; swordfish, 882,727 pounds, value \$212,368; tilefish, 33,510 pounds, value \$1,474; whiting, 43,110 pounds, value \$231; porpoise, 70 pounds, value \$2; lobster, 172 pounds, value \$63; shrimp, 300 pounds, value \$39; livers, 895,595 pounds, value \$25,315; sounds, 127 pounds, value \$3; spawn, fresh, 242,135 pounds, value \$11,635; spawn, salted, 11,400 pounds, value \$285; and tongues, 2,200 pounds, value \$55.

QUANTITIES AND VALUES OF CERTAIN FISHERY PRODUCTS LANDED AT BOSTON AND GLOUCESTER, MASS., AND PORTLAND, ME., BY AMERICAN AND CANADIAN FISHING VESSELS DURING 1919,¹ BY MONTHS.

Fishing grounds.	Number of trips.	Cod.											
		Large (10 pounds and over).				Market (under 10 and over 2½ pounds).				Scrod (1 to 2½ pounds).			
		Fresh.		Salted.		Fresh.		Salted.		Fresh.		Salted.	
		Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
LANDED AT BOSTON.													
January.....	244	1,305,953	\$95,998			673,614	\$36,726			75,056	\$1,946		
February.....	207	2,602,759	115,003			494,167	19,178			27,535	601		
March.....	242	4,388,311	169,499			696,206	25,471			19,145	398		
April.....	232	2,180,083	116,679			557,993	21,400			50,543	860		
May.....	243	1,622,654	68,263			989,033	24,705			41,900	579		
June.....	253	1,502,250	77,476			1,397,223	39,249			46,885	509		
July.....	119	526,835	23,532			301,120	7,971			5,605	60		
August.....	120	140,259	13,963			224,155	13,481			13,755	477		
September.....	323	1,620,836	94,578			1,034,702	36,876			23,645	568		
October.....	322	1,889,581	104,120			1,074,160	34,720			33,305	696		
November.....	246	1,528,525	96,757			896,674	32,976			22,162	504		
December.....	203	826,543	63,352			698,965	28,681			25,808	590		
Total.....	2,754	20,134,589	1,039,220			9,038,012	321,434			385,344	7,788		
LANDED AT GLOUCESTER.													
January.....	156	69,311	3,757	90	\$7	62,255	2,441	25	\$2	3,340	67		
February.....	100	453,870	15,476			52,385	1,571			480	8		
March.....	254	1,906,571	62,593	7,670	349	257,175	6,970	1,200	42	11,250	301		
April.....	430	4,634,207	44,229	16,530	909	480,525	12,071	2,040	92	11,601	217		
May.....	317	4,634,207	132,907	25,290	1,084	1,925,971	47,538	6,245	243	25,255	390		
June.....	148	3,420,819	94,268	958,765	51,894	2,102,140	53,448	420,575	20,772	57,665	850	9,085	\$358
July.....	84	2,551,921	70,803	400,073	21,666	1,010,628	25,159	257,653	11,765	5,710	81	21,659	873
August.....	8	69,930	2,100	751,447	33,574	51,260	1,398	441,586	15,459	260	3	33,101	1,444
September.....	102	1,317,933	47,405	429,485	28,304	1,265,955	34,808	247,160	14,764	4,620	64	25,985	1,182
October.....	600	2,009,975	67,756	444,759	32,028	1,088,515	36,242	183,986	11,534	7,770	93	4,672	220
November.....	530	605,527	21,603	11,340	737	239,981	6,626	400	24	3,970	54		
December.....	236	100,350	4,410	20,330	1,321	50,015	1,254	1,900	114	5,880	74		
Total.....	2,965	18,508,512	567,307	3,065,779	171,873	8,616,805	229,526	1,562,770	74,811	137,801	2,202	94,502	4,077

LANDED AT PORTLAND.

January	182	103,379	6,429			69,171	4,829			17,653	593		
February	183	100,853	4,703			64,597	2,741			9,944	224		
March	251	233,323	8,376			71,100	3,170			8,992	175		
April	295	223,820	10,084			333,964	8,695			13,616	256		
May	286	577,498	14,199			47,459	1,050			5,057	56		
June	275	801,219	23,851			68,224	1,685			4,648	54		
July	273	368,959	28,600			26,427	1,039			3,838	49		
August	262	206,494	19,062			47,469	2,363			2,792	55		
September	145	80,054	5,134			17,264	712	208	6	2,951	50		
October	202	68,028	3,849			42,206	1,382			4,037	67		
November	97	38,156	2,246			30,738	1,107			5,336	87		
December	99	54,964	4,669			56,316	2,871			19,552	425		
Total	2,550	2,856,747	131,202			874,935	31,644	208	6	98,416	2,091		
Grand total	8,269	41,499,848	1,737,729	3,065,779	171,873	18,529,752	582,604	1,562,978	74,817	621,561	12,081	94,502	4,077
Grounds E. of 66° W. long.	617	18,470,015	646,122	3,049,634	170,925	7,883,697	216,678	1,556,690	74,513	140,689	2,373	94,502	4,077
Grounds W. of 66° W. long.	7,652	23,029,833	1,091,607	16,145	948	10,646,055	365,926	6,288	304	480,872	9,708		
Landed at Boston in 1918	2,830	21,849,086	1,453,212			12,674,977	635,575	35,000	1,400	1,397,026	34,055		
Landed at Gloucester in 1918	3,414	17,059,266	701,261	1,945,048	138,727	10,806,656	341,717	1,386,633	88,961	376,608	7,596	115,235	7,895
Landed at Portland in 1918	2,506	2,745,657	143,071	2,105	163	1,242,403	57,580	1,712	146	185,900	5,786	1,115	60

¹ These statistics for 1919 include 39 trips landed by Canadian fishing vessels, 26 at Boston and 13 at Portland, amounting to 3,296,147 pounds of fish, value \$106,261.

QUANTITIES AND VALUES OF CERTAIN FISHERY PRODUCTS LANDED AT BOSTON AND GLOUCESTER, MASS., AND PORTLAND, ME., BY AMERICAN AND CANADIAN FISHING VESSELS DURING 1919, BY MONTHS—Continued.

Fishing grounds.	Haddock.								Hake.							
	Large (over 2½ pounds).				Scrod (1 to 2½ pounds).				Large (6 pounds and over).				Small (under 6 pounds).			
	Fresh.		Salted.		Fresh.		Salted.		Fresh.		Salted.		Fresh.		Salted.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
LANDED AT BOSTON.																
January	4,362,153	\$273,283			353,035	\$16,722			35,628	\$4,411			243,170	\$16,386		
February	5,127,677	207,402			169,513	5,497			8,580	922			65,010	4,480		
March	8,032,356	244,703			353,810	8,374			10,835	645			67,265	2,779		
April	6,019,243	161,535			589,560	13,130			8,120	436			74,580	2,830		
May	3,594,553	108,012			269,986	3,417			18,780	837			82,935	2,403		
June	3,370,891	95,818			185,485	2,646			19,965	569			95,335	2,797		
July	919,570	23,905			22,525	322			54,255	1,789			20,820	561		
August	1,830,845	85,735			26,160	1,114			48,375	2,677			70,850	3,496		
September	5,368,750	177,110			60,710	1,718			103,633	4,228			117,483	4,434		
October	7,385,364	229,089			170,095	4,294			290,185	10,318			256,637	7,830		
November	4,581,570	249,716			71,175	1,948			144,903	8,710			257,415	9,998		
December	4,963,978	271,843			19,200	704			65,120	4,164			146,428	6,726		
Total	55,556,950	2,128,151			2,291,254	59,886			808,379	39,706			1,497,928	64,720		
LANDED AT GLOUCESTER.																
January	104,423	4,066							700	21			335	\$15		
February	450,022	21,243							215	4						
March	2,500,942	74,133			48,335	611			1,384	28		1,200	36			
April	2,635,398	62,106			18,145	181			4,290	86		2,620	79	500.	8	
May	1,710,289	31,073			184,560	2,642			73,305	1,375						
June	1,960,125	34,624	11,070	\$387	255,356	2,964			32,665	567		2,140	59			
July	827,785	14,470	17,657	617	32,025	320			87,185	1,526		155	4			
August	64,480	1,451	25,691	954					1,265	32		3,800	133			
September	3,479,268	78,069	64,015	2,876					122,785	3,021		980	45			
October	3,064,825	66,062	36,729	1,406					185,105	4,116		25,860	839			
November	286,535	5,731							187,863	10,597		980	29			
December	66,285	3,121							49,335	2,757		1,000	30			
Total	17,150,377	396,149	155,162	6,240	538,421	6,718			746,097	24,130		39,070	1,269	500	8	

LANDED AT PORTLAND.

January.....	170,011	16,614			7,850	390		11,510	1,278			67,661	3,981		
February.....	261,223	12,712			9,496	272		18,626	1,834			147,580	7,517		
March.....	1,105,627	29,889			18,220	335		16,518	1,268			130,377	4,918		
April.....	1,430,030	33,321			3,516	77		24,283	1,629			160,186	6,087		
May.....	1,961,603	45,483			1,777	31		18,423	771			94,984	2,044		
June.....	1,308,603	30,236			1,803	40		11,833	323			55,827	974		
July.....	426,512	10,635			17,220	211		22,343	1,171			56,832	1,939		
August.....	17,548	1,458			1,261	40		14,687	944			84,727	3,228		
September.....	32,008	1,729			1,885	28		11,152	627			51,359	1,712		
October.....	103,180	3,389			1,695	26		22,990	1,052			100,902	2,788	450	\$15
November.....	49,562	2,768			1,170	36		7,852	516			69,033	2,653		
December.....	88,857	6,949			3,364	125		8,670	521			38,697	1,430		
Total.....	6,954,764	195,183			69,257	1,611		188,887	11,934			1,058,165	39,271	450	15
Grand total.....	79,662,091	2,719,483	155,162	6,240	2,898,932	68,215		1,743,363	75,770	39,070	1,269	2,556,593	103,999	450	15
Grounds E. of 66° W. long.....	13,005,665	352,909	154,712	6,224	345,101	4,746		483,249	13,948	38,370	1,237	166,795	6,490		
Grounds W. of 66° W. long.....	66,656,426	2,366,574	450	16	2,553,831	63,469		1,260,114	61,822	700	32	2,389,798	97,509	450	15
Landed at Boston in 1918.....	46,140,828	2,449,932			6,044,978	225,335		986,743	67,897			2,015,567	103,706		
Landed at Gloucester in 1918.....	7,924,068	249,512	52,853	2,645	461,590	14,808	15,639	\$856	533,499	17,319	33,767	1,385	150	3	460
Landed at Portland in 1918.....	5,959,531	253,142			72,054	3,046		314,036	22,463	740	33	1,395,867	60,254		

QUANTITIES AND VALUES OF CERTAIN FISHERY PRODUCTS LANDED AT BOSTON AND GLOUCESTER, MASS., AND PORTLAND, ME., BY AMERICAN AND CANADIAN FISHING VESSELS DURING 1919, BY MONTHS—Continued.

Fishing grounds.	Pollock.				Cusk.				Halibut.			
	Fresh.		Salted.		Fresh.		Salted.		Fresh.		Salted.	
LANDED AT BOSTON.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
January.....	98,480	\$7,441			149,978	\$6,200			28,093	\$9,903		
February.....	69,202	4,450			23,848	1,098			74,619	17,753		
March.....	32,226	1,830			23,100	939			59,672	13,973		
April.....	90,729	3,555			134,660	3,067			260,115	42,662		
May.....	348,181	8,875			61,445	1,424			246,976	35,409		
June.....	263,587	9,556			14,780	351			154,391	25,500		
July.....	30,213	917			28,890	899			114,594	17,422		
August.....	75,642	5,897			3,550	147			7,222	1,337	2,000	\$320
September.....	496,620	18,886			39,250	1,458			108,649	20,385		
October.....	571,492	14,619			50,907	1,645			216,570	49,946		
November.....	794,784	25,028			62,960	1,794			31,556	7,861		
December.....	129,625	3,982			143,286	3,964			26,927	7,961		
Total.....	3,000,781	105,036			736,654	22,986			1,329,384	250,112	2,000	320
LANDED AT GLOUCESTER.												
January.....	475,445	29,886			3,187	98			35,889	6,747		
February.....	29,390	1,842			4,305	109			56,789	8,358	85	3
March.....	71,273	3,773			920	19	400	\$12	12,780	2,055		
April.....	155,815	5,024	1,135	\$26	92,100	1,785	275	10	72,531	11,743		
May.....	2,992,329	41,346	45	1	144,865	2,926			56,447	6,599	635	29
June.....	96,605	1,284	18,880	472	10,265	212	530	16	9,808	1,093	2,010	311
July.....	198,710	2,389	3,560	103	119,375	2,568	640	22	58,611	8,087	1,722	269
August.....	3,356	113	16,956	234			1,517	56			2,911	448
September.....	179,520	4,324	7,985	360	94,430	2,330	31,745	1,429	8,508	1,640	2,285	366
October.....	5,015,795	76,620	6,540	204	89,340	2,226	2,055	77	320	37	2,952	344
November.....	4,157,215	61,314			39,465	874	65	3	24,441	4,490		
December.....	1,223,333	20,290			10,705	226	735	33	21,336	3,971		
Total.....	14,598,786	248,205	55,101	1,400	608,957	13,373	37,962	1,658	357,460	54,820	12,600	1,770

LANDED AT PORTLAND.												
January.....	24,530	1,007			44,825	2,862			420	91		
February.....	23,501	1,386			101,480	3,744		4,046	714			
March.....	30,573	1,387			72,300	3,254		2,085	390			
April.....	355,906	7,449			157,977	4,453		8,304	1,794			
May.....	121,207	1,539			50,120	1,057		7,244	1,207			
June.....	114,640	1,397			32,711	1,015		132,339	21,398			
July.....	26,259	767			38,843	1,077		47,495	8,101			
August.....	39,490	2,083			23,417	1,055		3,329	881			
September.....	60,594	1,994	515	15	47,464	1,577		65,341	13,632			
October.....	274,322	5,410			52,226	1,534		106,256	22,520			
November.....	18,668	589			29,500	1,168		891	154			
December.....	7,094	251			28,762	1,356		35,467	9,287			
Total.....	1,096,784	25,859	515	15	679,625	24,152		413,217	80,169			
Grand total.....	18,696,351	379,100	55,616	1,415	2,025,236	60,511	37,962	1,658	2,100,061	385,101	14,600	2,090
Grounds E. of 66° W. long.....	1,008,782	21,139	55,101	1,400	735,617	17,957	37,962	1,658	1,190,495	215,671	12,600	1,770
Grounds W. of 66° W. long.....	17,687,569	357,961	515	15	1,289,619	42,554			909,566	169,430	2,000	320
Landed at Boston in 1918.....	4,291,471	250,269			1,088,403	44,682			686,955	134,654		
Landed at Gloucester in 1918.....	20,747,802	661,812	53,258	2,092	677,598	20,305	13,940	593	771,664	110,508	10,931	1,240
Landed at Portland in 1918.....	1,468,089	47,912			878,319	37,451			311,454	55,878		

QUANTITIES AND VALUES OF CERTAIN FISHERY PRODUCTS LANDED AT BOSTON AND GLOUCESTER, MASS., AND PORTLAND, ME., BY AMERICAN AND CANADIAN FISHING VESSELS DURING 1919, BY MONTHS—Continued.

Fishing grounds.	Mackerel.											
	Large (over 2½ pounds).				Medium (1½ to 2½ pounds).				Small (under 1½ pounds).			
	Fresh.		Salted.		Fresh.		Salted.		Fresh.		Salted.	
LANDED AT BOSTON.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
January.....												
February.....												
March.....												
April.....												
May.....												
June.....	2,087,895	\$132,131	166,000	\$13,556	26,300	\$1,841			24,650	\$1,703		
July.....	14,473	2,735			95,870	5,668			135,480	6,489		
August.....	99,990	20,698			6,000	240			11,351	1,279		
September.....	43,397	7,043			50,955	6,150			863,614	91,894	3,200	\$442
October.....	203,839	38,996							28,683	6,654		
November.....	171,487	36,229										
December.....												
Total.....	2,621,081	237,742	166,000	13,556	179,125	13,899			1,063,778	108,019	3,200	442
LANDED AT GLOUCESTER.												
January.....												
February.....												
March.....												
April.....												
May.....												
June.....	65,381	5,639	1,094,763	89,784	835	75					5,700	338
July.....	1,232	98	46,996	5,037					21,898	838	25,000	1,698
August.....												
September.....	1,500	210	7,400	1,036			1,000	\$140			388	54
October.....	68,976	12,727	800	120	200	23	5,400	810			3,200	448
November.....	84,040	15,537	34,000	6,246								
December.....												
Total.....	221,129	34,211	1,183,959	102,223	1,035	98	6,400	950	21,898	838	34,288	2,538

LANDED AT PORTLAND.												
January.....												
February.....												
March.....												
April.....												
May.....	4	1										
June.....	23,356	1,399	4,369	404	467	37					20	2
July.....	2,274	348			7,628	816			1,351	187		
August.....	80,964	14,338			3,348	341			4,293	730		
September.....	67,417	10,610			457	87			90	16		
October.....	10,155	2,487	190	23	900	180			140	22		
November.....	3,880	698										
December.....												
Total.....	188,050	29,881	4,559	427	12,800	1,461			5,874	955	20	2
Grand total.....	3,030,260	301,834	1,354,518	116,206	192,960	15,458	6,400	950	1,091,550	109,812	37,508	2,982
Grounds E. of 66° W. long.....	2,017,143	124,971	1,297,763	109,826	60,285	3,617						
Grounds W. of 66° W. long.....	1,013,117	176,863	56,755	6,380	132,675	11,841	6,400	950	1,091,550	109,812	37,508	2,982
Landed at Boston in 1918.....	4,995,826	549,741	174,400	23,988	1,261,360	171,509	30,220	4,479	308,427	31,287	9,400	1,504
Landed at Gloucester in 1918.....	98,972	13,491	1,374,558	155,299	243,701	12,570	912,175	141,119	200	27	25,900	3,908
Landed at Portland in 1918.....	443,743	49,311	49,400	4,988	106,241	14,345			123,944	11,358		

QUANTITIES AND VALUES OF CERTAIN FISHERY PRODUCTS LANDED AT BOSTON AND GLOUCESTER, MASS., AND PORTLAND, ME., BY AMERICAN AND CANADIAN FISHING VESSELS DURING 1919, BY MONTHS—Continued.

Fishing grounds.	Miscellaneous. ¹				Total.				Grand total.	
	Fresh.		Salted.		Fresh.		Salted.			
LANDED AT BOSTON.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
January.....	486,283	\$23,356			7,811,443	\$492,372			7,811,443	\$492,372
February.....	416,197	15,458			9,079,107	391,842			9,079,107	391,842
March.....	440,095	16,010	11,400	\$285	14,123,021	484,621	11,400	\$285	14,134,421	484,906
April.....	481,874	14,641			10,447,500	380,795			10,447,500	380,795
May.....	443,521	9,755			7,746,264	265,520			7,746,264	265,520
June.....	214,195	11,387			9,473,402	405,360	166,000	13,556	9,639,402	418,916
July.....	382,986	84,407			2,563,366	171,249			2,563,366	171,249
August.....	205,624	24,179			2,808,733	180,540	2,000	320	2,810,733	180,860
September.....	450,844	50,380			10,332,133	509,558	3,200	442	10,335,333	510,000
October.....	398,952	15,929			12,569,770	518,856			12,569,770	518,856
November.....	268,046	11,381			8,831,257	482,902			8,831,257	482,902
December.....	376,894	23,165			7,422,774	415,132			7,422,774	415,132
Total.....	4,565,511	300,048	11,400	285	103,208,770	4,698,747	182,600	14,603	103,391,370	4,713,350
LANDED AT GLOUCESTER.										
January.....	23,475	851	3,024,157	167,207	778,025	47,934	3,024,607	167,231	3,802,632	215,165
February.....	17,865	802			1,065,321	49,413	85	3	1,065,406	49,416
March.....					4,810,630	150,483	10,470	439	4,821,100	150,922
April.....	6,612	29			4,845,615	137,479	22,600	1,116	4,868,215	138,595
May.....	17,800	178			11,765,028	260,974	32,215	1,357	11,797,243	268,331
June.....					8,011,664	195,024	2,525,518	164,391	10,535,182	359,415
July.....	30,292	6,918			4,981,372	133,257	775,115	42,054	5,756,487	175,311
August.....					190,551	5,097	1,277,009	52,302	1,467,560	57,399
September.....					6,474,519	171,871	818,428	50,556	7,292,947	222,427
October.....					11,530,821	265,902	716,953	48,030	12,247,774	313,932
November.....					5,629,037	120,826	46,785	7,039	5,675,822	133,865
December.....	11,765	637	477,620	22,576	1,539,004	36,740	501,585	24,074	2,040,589	60,814
Total.....	113,809	9,415	3,501,777	189,783	61,621,587	1,587,000	9,749,370	558,592	71,370,957	2,145,592

LANDED AT PORTLAND.											
January.....	23,570	784			540,580	39,458				540,580	39,458
February.....	24,926	788			766,272	36,635				766,272	36,635
March.....	51,752	1,514			1,740,867	54,676				1,740,867	54,676
April.....	125,419	1,432			2,837,021	75,277				2,837,021	75,277
May.....	1,140,030	10,233			4,025,406	77,671				4,025,406	77,671
June.....	3,620,314	18,086			6,175,984	100,495	4,389	406		6,180,373	100,901
July.....	1,091,066	40,895			2,137,047	95,835				2,137,047	95,835
August.....	239,466	20,486			769,285	67,064				769,285	67,064
September.....	367,335	12,979			895,371	50,887	723	21		806,094	50,908
October.....	469,161	4,956			1,256,198	49,662	640	38		1,256,838	49,700
November.....	57,298	1,084			312,084	13,106				312,084	13,106
December.....	5,333	326			347,076	28,210				347,076	28,210
Total.....	7,215,670	113,563			21,713,191	688,976	5,752	465		21,718,943	689,441
Grand total.....	11,894,990	423,026	3,513,177	190,068	186,543,548	6,974,723	9,937,722	573,660		196,481,270	7,548,383
Grounds E. of 66° W. long.....	187,776	26,727	3,501,777	189,783	45,695,309	1,653,348	9,799,111	561,413		55,494,420	2,214,761
Grounds W. of 66° W. long.....	11,707,214	396,299	11,400	285	140,848,239	5,321,375	138,611	12,247		140,986,850	5,333,622
Landed at Boston in 1918.....	5,485,374	404,529			109,227,021	6,556,383	249,020	31,371		109,476,041	6,587,754
Landed at Gloucester in 1918....	2,300,704	45,402	6,232,624	321,529	62,002,478	2,196,331	12,173,021	866,274		74,175,499	3,062,605
Landed at Portland in 1918.....	6,547,303	114,202			21,794,541	875,799	55,072	5,390		21,849,613	881,189

¹Includes herring from Newfoundland, 3,501,777 pounds salted, value \$189,783.

The fishery products landed at Boston and Gloucester, Mass., and Portland, Me., by fishing vessels each year are taken principally from fishing grounds lying off the coast of the United States. In the calendar year 1919, 71.72 per cent of the quantity and 70.64 per cent of the value of the catch landed at these ports by American and Canadian fishing vessels were taken from these grounds; 2.93 per cent of the quantity and 4.61 per cent of the value, consisting largely of herring, from fishing banks off the coast of Newfoundland, and 25.33 per cent of the quantity and 24.74 per cent of the value from fishing grounds off the Canadian Provinces. Newfoundland herring constituted 1.78 per cent of the quantity and 2.51 per cent of the value of the fishery products landed at these ports during the year. The herring were taken on the treaty coast of Newfoundland, and the cod, haddock, hake, halibut, and other species from that region were obtained from fishing banks on the high seas. All fish caught by American fishing vessels off the coast of the Canadian Provinces were from offshore fishing grounds. The catch from each of the regions is given in detail in the following table:

QUANTITY AND VALUE OF FISH LANDED BY AMERICAN AND CANADIAN FISHING VESSELS AT BOSTON AND GLOUCESTER, MASS., AND PORTLAND, ME., IN 1919 FROM FISHING GROUNDS OFF THE COAST OF THE UNITED STATES, NEWFOUNDLAND, AND CANADIAN PROVINCES.

Species.	United States.		Newfoundland.		Canadian Provinces.		Total.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Cod:								
Fresh.....	34,117,400	\$1,466,155	775,275	\$26,634	25,758,486	\$839,625	60,651,161	\$2,332,414
Salted.....	22,433	1,252	864,291	50,839	3,836,535	198,676	4,723,259	250,770
Haddock:								
Fresh.....	69,210,257	2,430,043	144,725	2,442	13,206,041	355,213	82,561,023	2,787,661
Salted.....	450	16	5,764	209	148,948	6,015	155,162	6,222
Hake:								
Fresh.....	3,639,362	159,146	50,245	1,110	610,349	19,513	4,299,956	179,769
Salted.....	1,150	47	8,000	261	30,370	976	39,520	1,227
Pollock:								
Fresh.....	17,687,259	357,956	3,124	59	1,005,968	21,085	18,696,351	379,100
Salted.....	515	15	2,669	98	52,432	1,302	55,616	1,400
Cusk:								
Fresh.....	1,287,319	42,502	10,952	251	726,965	17,758	2,025,236	60,500
Salted.....			4,707	177	3,325	1,481	37,962	1,600
Halibut:								
Fresh.....	909,566	169,430	400,488	76,206	790,007	139,465	2,100,061	385,100
Salted.....	2,000	320	2,453	392	10,147	1,378	14,600	2,000
Mackerel:								
Fresh.....	2,237,342	298,516			2,077,428	128,588	4,314,770	427,100
Salted.....	100,663	10,312			1,297,763	109,826	1,398,426	120,100
Herring:								
Fresh.....	6,858,108	50,005					6,858,108	50,000
Salted.....			3,501,777	189,783			3,501,777	189,700
Swordfish: Fresh.....	777,320	188,716	315	110	105,092	23,542	882,727	212,300
Tilefish: Fresh.....	33,510	1,474					33,510	1,400
Miscellaneous:								
Fresh.....	4,038,276	156,104			82,369	3,075	4,120,645	159,100
Salted.....	11,400	285					11,400	200
Total.....	140,934,330	5,332,294	5,774,785	348,571	49,772,155	1,867,518	196,481,270	7,540,300

COD.—In 1919 the fishing fleet landing fish at Boston, Gloucester, and Portland was about the same size as in the previous year. There were 9 vessels in the salt-bank fishery and 111 in the market fishery landing their fares of cod and other ground fish at these ports during the year, while large quantities of cod were also landed by vessels fishing on the shore grounds. The total catch of cod landed at these ports during the year amounted to 65,374,420 pounds, valued at

\$2,583,181, of which 4,723,259 pounds, valued at \$250,767, were salted. Cod ranked second in importance among the various species landed.

HADDOCK.—The catch of haddock for the year ranked first in both quantity and value, being considerably larger than that of cod. The quantity of haddock landed at these ports by fishing vessels during the year amounted to 82,716,185 pounds, valued at \$2,793,938, all of which was landed fresh except 155,162 pounds, valued at \$6,240. The greater part of the catch was taken on Georges Bank and in South Channel.

HAKE.—The catch of hake amounted to 4,339,476 pounds, valued at \$181,053, all landed fresh except 39,520 pounds salted, valued at \$1,284. There was a decline of 941,353 pounds, or 17.82 per cent, in the quantity and \$92,032, or 33.70 per cent, in the value as compared with the previous year. The yield of this species has fallen off very much in the past few years. In 1916 over 13,000,000 pounds of hake were landed at these ports, and in 1910 the receipts at Boston and Gloucester were nearly 20,000,000 pounds.

POLLOCK.—The catch of pollock amounted to 18,751,967 pounds, valued at \$380,515, all landed fresh except 55,616 pounds salted, valued at \$1,415. There was a falling off in the catch of this species of 7,808,653 pounds in quantity and \$581,570 in value as compared with the previous year.

CUSK.—The quantity of cusk landed was only 2,063,198 pounds, valued at \$62,169, of which 37,962 pounds, valued at \$1,658, were salted. The yield of this species was 595,062 pounds less in quantity and \$40,862 less in value than in the previous year.

HALIBUT.—The catch of halibut amounted to 2,114,661 pounds, valued at \$387,191, all landed fresh except 14,600 pounds salted, valued at \$2,090. There was an increase in the catch of halibut of 333,657 pounds in quantity and \$84,911 in value as compared with the previous year.

MACKEREL.—The total catch of fresh mackerel taken by the American fishing fleet in 1919 was 53,992 barrels, compared with 69,314 barrels in 1918, a decrease of 15,322 barrels. The total catch of salted mackerel was 7,007 barrels, compared with 13,030 barrels the previous year, a decrease of 6,023 barrels. The quantity of mackerel landed at Boston, Gloucester, and Portland by the fishing fleet during the year was 5,713,196 pounds, valued at \$547,242, of which 4,314,770 pounds, valued at \$427,104, were fresh and 1,398,426 pounds, valued at \$120,138, were salted. These were all landed by American fishing vessels.

Mackerel were reported schooling in southern waters the latter part of April, and prospects for mackerel fishing appeared to be good; but the mackerel seiners were delayed in sailing by a strike of the crews with regard to the pay of engineers. The first seiners arrived at New York with fares of mackerel April 25, one vessel landing 32,000 pounds and another 18,000 pounds. These fish weighed from 1½ to 3 pounds, although most of them did not exceed 2 pounds, and sold for 25 cents per pound. The southern mackerel fleet numbered 30 sail of seiners and 150 sail of netters. Both the seiners and the netters had a comparatively good season. The best stock made by a seiner was \$13,232, the crew sharing \$330 each. The mackerel landed by the southern fleet were mostly large and medium

fish, and sold from 8 to 18 cents per pound, according to market conditions.

The first fare of mackerel from the Cape Shore was landed on June and amounted to 50,000 pounds of large and medium fish, which sold for 6.35 cents per pound. All of the Cape Shore fleet landed good trips of mackerel and stocked from \$4,000 to \$10,000 each. The fleet numbered 32 vessels compared with 38 the previous year. The total catch of mackerel from the Cape Shore was 2,119,000 pounds fresh and 6,275 barrels salted, compared with 1,689,000 pounds fresh and 7,558 barrels salted in 1918. The fresh mackerel sold from 6 to 7 cents per pound, the salted from \$16 to \$18.50 per barrel.

Tinker mackerel were present in small schools along the shore from Cape Ann to Chatham during the latter part of June.

The total catch of mackerel up to July 1 was 38,787 barrels fresh and 6,452 barrels salted, compared with 29,259 barrels fresh and 8,079 barrels salted the previous year.

SWORDFISH.—The quantity of swordfish landed during the year was 882,447 pounds, valued at \$212,302. The number of vessels engaged in this fishery was 56, or 19 more than in the previous year, but there was a considerable falling off in the catch.

FLOUNDERS.—The catch of flounders in the vessel fisheries amounted to 2,451,856 pounds, valued at \$103,050, an increase of 182,000 pounds in quantity and \$9,250 in value over the previous year. The catch taken by boats under 5 tons net tonnage is not included in these statistics.

HERRING.—The catch of herring amounted to 10,359,885 pounds, valued at \$239,788. Of this quantity, 6,858,108 pounds, valued at \$50,005, were taken off the coast of the United States and landed fresh, and 3,501,777 pounds, valued at \$189,783, were salted Newfoundland herring.

VESSEL FISHERIES AT SEATTLE, WASH.

In the vessel fisheries at Seattle, Wash., there has been considerable decrease in both the quantity and value of products landed by the fishing fleet, but an increase in the products landed by collecting vessels as compared with the previous year. Statistics of the vessel fisheries at Seattle have been collected by the local agent and published as monthly and annual statistical bulletins, giving the quantity and value of fishery products landed by American fishing and collecting vessels at that port.

In 1919 the fishing fleet at Seattle landed 670 trips, aggregating 13,651,020 pounds of fish, having a value to the fishermen of \$1,530,280. This catch was taken from the fishing grounds along the coast from Oregon to Albatross Bank, Alaska. The fishing areas from which the greater part of the products was obtained were Grays Harbor Grounds, Flattery Banks, West Coast of Vancouver Island, Heceta Strait, and Yakutat Grounds. The products included halibut 11,110,720 pounds, valued at \$1,422,519; sablefish, 1,553,600 pounds, valued at \$74,290; "lingcod," 723,000 pounds, valued at \$24,430; and rockfishes, 263,700 pounds, valued at \$9,042. Compared with the previous year, there was a decrease of 164 trips by fishing vessels and of 3,440,675 pounds, or 20.13 per cent, in quantity, and \$357,360 or 18.93 per cent, in the value of the products landed. The catch of

halibut increased 866,520 pounds, or 8.46 per cent, in quantity, but decreased \$106,327, or 6.95 per cent, in value. Sablefish decreased 2,801,350 pounds, or 64.32 per cent, in quantity, and \$196,877, or 72.60 per cent, in value; "lingcod," 1,061,600 pounds, or 59.48 per cent, in quantity, and \$37,859, or 60.77 per cent, in value; and rockfishes, 357,070 pounds, or 57.52 per cent, in quantity, and \$13,857, or 60.51 per cent, in value. The falling off in the catch of these species may be attributed largely to a smaller demand than in the previous year.

The fishery products taken in Puget Sound and landed at Seattle by collecting vessels during the year amounted to 11,809,450 pounds, valued at \$983,819. These products included salmon, 10,387,703 pounds, valued at \$902,717; pilchard, 150,000 pounds, valued at \$2,250; steelhead trout, 173,630 pounds, valued at \$21,034; smelt, 296,041 pounds, valued at \$14,723; rockfishes, 120,490 pounds, valued at \$7,632; cod, 104,500 pounds, valued at \$2,305; flounders, 99,940 pounds, valued at \$2,613; sole, 104,200 pounds, valued at \$3,972; crabs, 239,758 pounds, valued at \$21,866; and other species amounting to 133,188 pounds, valued at \$4,707. There was an increase in the products landed by collecting vessels over the previous year of 1,204,127 pounds, or 11.35 per cent, in quantity, and \$71,221, or 7.80 per cent, in value. The quantity and value of fishery products landed at Seattle by fishing and collecting vessels in 1919 are given in detail in the following table:

QUANTITIES AND VALUES OF CERTAIN FISHERY PRODUCTS (FRESH) LANDED AT SEATTLE, WASH., BY AMERICAN FISHING VESSELS, CALENDAR YEAR 1919.

	Number of trips.	Halibut.		Sablefish.	
		Pounds.	Value.	Pounds.	Value.
BY FISHING GROUNDS.					
Oregon coast.....	21	852,000	\$93,446	41,000	\$1,890
Columbia River grounds.....	6	275,000	31,493	.....	.....
Grays Harbor grounds.....	48	813,300	110,444	337,000	16,255
Flattery Banks.....	292	1,951,700	268,624	482,200	21,829
West coast, Vancouver Island.....	108	1,075,200	152,679	200,900	9,537
Queen Charlotte Islands grounds.....	3	55,000	9,040	.....	.....
Hecate Strait.....	157	4,040,500	514,116	391,800	19,547
Coronation Island.....	2	39,000	5,305	.....	.....
Cape Ommaney.....	1	65,000	8,043	.....	.....
Yakutat grounds.....	28	1,622,300	195,799	81,200	4,310
Portlock Bank.....	3	224,120	21,100	3,500	107
Albatross Bank.....	1	97,600	12,430	16,000	815
Total.....	670	11,110,720	1,422,519	1,553,600	74,290
BY MONTHS.					
January.....	7	124,900	22,000	31,500	2,450
February.....	14	97,800	16,532	7,000	350
March.....	41	360,300	51,995	51,000	2,631
April.....	70	871,000	112,300	14,000	745
May.....	102	977,200	113,648	42,000	1,530
June.....	120	2,186,200	257,938	16,000	640
July.....	99	2,035,220	219,707	64,000	3,117
August.....	72	1,511,800	187,900	385,500	19,475
September.....	51	860,400	126,994	633,000	30,185
October.....	54	647,400	125,216	220,400	8,957
November.....	14	283,000	49,959	46,700	2,280
December.....	26	1,157,500	138,330	42,500	1,930
Total.....	670	11,110,720	1,422,519	1,553,600	74,290

QUANTITIES AND VALUES OF CERTAIN FISHERY PRODUCTS (FRESH) LANDED AT SEATTLE, WASH., BY AMERICAN FISHING VESSELS, CALENDAR YEAR 1919—CONT

	"Lingcod."		Rockfishes.		Total.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
BY FISHING GROUNDS.						
Oregon coast.....	14,000	\$105	8,000	\$205	915,000	\$9
Columbia River grounds.....					275,000	3
Grays Harbor grounds.....	61,000	1,750	21,000	600	1,232,300	12
Flattery Banks.....	344,200	10,673	83,500	2,702	2,861,600	30
West coast, Vancouver Island.....	211,000	8,620	84,700	3,300	1,571,800	17
Queen Charlotte Islands grounds.....	15,000	900			70,000	
Hecate Strait.....	68,000	2,165	64,500	2,155	4,564,800	53
Coronation Island.....	1,500	60			40,500	
Cape Ommaney.....			2,000	80	67,000	
Yakutat grounds.....	7,000	105			1,710,500	20
Portlock Bank.....					227,620	2
Albatross Bank.....	1,300	55			114,900	1
Total.....	723,000	24,433	263,700	9,042	13,651,020	1,530
BY MONTHS.						
January.....	15,500	1,225	9,000	810	180,900	26
February.....	97,000	5,155	22,200	1,250	224,000	23
March.....	76,000	2,355	36,000	1,180	523,300	58
April.....	146,700	3,934	86,000	2,332	1,117,700	119
May.....	155,500	2,619	39,500	680	1,214,200	118
June.....	50,000	2,060	9,000	360	2,261,200	260
July.....	21,000	875	1,000	40	2,119,220	223
August.....	42,000	1,550	29,000	1,080	1,968,300	210
September.....	46,800	1,875	14,000	560	1,554,200	159
October.....	22,000	980	10,000	430	899,800	135
November.....	10,000	400			339,700	52
December.....	40,500	1,405	8,000	320	1,248,500	141
Total.....	723,000	24,433	263,700	9,042	13,651,020	1,530

FISHERY PRODUCTS TAKEN IN PUGET SOUND AND LANDED AT SEATTLE, WASH., COLLECTING VESSELS DURING 1919, BY MONTHS.

Species.	January.		February.		March.		April.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Herring.....	12,000	\$260			34,000	\$340		
Pilchard.....	150,000	2,250						
Salmon:								
Chum or keta.....	140,000	13,800						
King or spring.....	8,000	1,200					31,500	\$3
Miscellaneous.....	8,000	1,200					62,000	7
Trout: Steelhead.....	60,000	9,000	8,500	\$1,275			6,200	
Smelt.....	18,400	1,200						
Rockfishes.....	12,000	720	8,000	320	8,500	595	3,000	
"Lingcod".....					22,000	1,320	16,000	
Cod.....			86,000	1,720	18,500	585		
Flounders.....	6,000	120	14,200	426	11,000	280	7,000	
Sole.....	14,600	468	12,500	500	18,600	744	8,600	
Crabs.....	30,800	2,100	24,000	1,680			39,710	2
Total.....	459,800	32,318	153,200	5,921	112,600	3,864	174,010	15

FISHERY PRODUCTS TAKEN IN PUGET SOUND AND LANDED AT SEATTLE, WASH., BY COLLECTING VESSELS DURING 1919, BY MONTHS—Continued.

Species.	May.		June.		July.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Sturgeon.....			1,480	\$84	1,588	\$75
Salmon:						
King or spring.....	312,800	\$31,280	1,412,100	155,331	889,000	92,600
Coho or silver.....			83,910	8,390	21,480	2,960
Sockeye or red.....			42,780	4,705	5,500	585
Miscellaneous.....	63,660	6,366				
Trout: Steelhead.....	28,000	2,800	34,260	3,426	12,300	1,476
Rockfishes.....	8,000	560	4,250	136	7,600	532
" Lingcod ".....			4,600	92		
Flounders.....	8,870	176	12,420	248	4,520	90
Sole.....	2,200	88			1,500	60
Other fish.....					10,210	102
Crabs.....	13,612	928	10,340	1,240		
Total.....	437,142	42,198	1,606,140	173,652	953,698	98,480

Species.	August.		September.		October.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Sturgeon.....	2,850	\$256	3,600	\$216	3,600	\$288
Salmon:						
Humpback or pink.....	592,400	35,544	516,800	31,008		
Chum or keta.....	485,948	24,297	457,040	27,420	662,389	33,119
King or spring.....	406,312	40,631	608,000	60,800	90,470	9,047
Coho or silver.....	163,880	9,932	1,233,600	123,360	244,424	24,424
Sockeye or red.....	34,930	3,493	6,300	63		
Trout: Steelhead.....	3,510	351			8,090	809
Smelt.....	116,461	5,823	135,080	6,400		
Perch.....					8,000	480
Rockfishes.....	6,000	420	14,300	1,001	12,840	898
" Lingcod ".....	2,130	42	7,000	210		
Flounders.....	9,530	336			4,000	80
Sole.....	11,600	464	4,000	160	12,000	480
Crabs.....					21,020	1,060
Total.....	1,835,551	121,589	2,985,720	250,638	1,067,433	70,745

Species.	November.		December.		Total.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Sturgeon.....					13,118	\$919
Herring.....					46,000	600
Pilchard.....					150,000	2,250
Salmon:						
Humpback or pink.....					1,109,200	66,552
Chum or keta.....	957,750	\$47,887	709,000	\$88,625	3,412,127	235,148
King or spring.....	23,100	2,310	20,770	2,590	3,802,052	398,939
Coho or silver.....	93,860	9,380			1,841,154	178,446
Sockeye or red.....					89,510	8,846
Miscellaneous.....					133,660	14,786
Trout: Steelhead.....	12,170	1,217			173,630	21,034
Smelt.....	26,100	1,300			296,041	14,723
Perch.....					8,000	480
Rockfishes.....	20,000	1,400	16,000	840	120,490	7,632
" Lingcod ".....			4,130	142	55,860	2,606
Cod.....					104,500	2,305
Flounders.....	9,800	246	12,600	436	99,940	2,613
Sole.....			18,600	664	104,200	3,972
Other fish.....					10,210	102
Crabs.....	74,976	10,215	25,300	1,725	1,239,758	21,866
Total.....	1,217,756	73,955	806,400	95,022	11,809,450	983,819

1 11,005 dozen.

FISHERY PRODUCTS RECEIVED AT MUNICIPAL FISH WHARF AND MARKET, WASHINGTON, D. C.

Through the courtesy of the health department of the District of Columbia the Bureau has continued to receive daily reports of the quantity of fishery products received at the Municipal Fish Wharf and Market, Washington, D. C. These products, which are sold to the

retail markets of the city and also to some extent at retail at this market it is estimated, represent about 60 per cent of the receipts for the city of Washington. In the following table, in which the statistics are given by months, it will be noted that the five most important products in terms of quantity are: Oysters, 2,146,107 pounds; squeteagues or "sea trout," 2,097,569 pounds; shad, 1,227,459 pounds; river herring, fresh and salted, 1,163,847 pounds; and croaker 824,047 pounds; a total of 7,459,029 pounds, or 69.49 per cent of the entire receipts for the year, which amounted to 10,733,086 pounds. Such well-known forms as butterfish, carp, catfish, cod, croaker, eels, flounders, haddock, halibut, mullet, perch, pollock, squeteague or "sea trout," striped bass, clams, oysters, and crabs, including crab meat, were received during each of the 12 months. March, April and May were the months of the largest receipts; July and August of the smallest.

FISHERY PRODUCTS RECEIVED AT MUNICIPAL FISH WHARF AND MARKET, WASHINGTON, D. C., IN 1919.

Species.	January.	February.	March.	April.	May.	June.	July.
	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>
Bass, black and sea	24,677	11,403	8,331	400	15,544	11,402	4
Bluefish	75			500	3,714	2,360	1
Bowfin	100						
Butterfish	16,912	3,375	8,990	4,775	39,750	49,860	73
Carp	8,986	6,743	8,984	19,354	21,903	6,645	4
Catfish	8,547	10,619	42,166	31,551	15,369	14,412	9
Cisco	500						
Cod	8,950	14,200	11,800	5,600	4,351	6,300	4
Crappie	5,007	800					
Crevalle	200						
Croaker	21,547	15,740	19,708	361,785	144,147	48,973	89
Drum, red		80					
Eels	83	553	3,355	2,569	1,878	500	
Flounders	21,965	9,670	10,777	18,786	18,028	10,372	6
Gizzard shad	10,291	2,503		350	50	30	
Haddock	19,700	24,275	23,150	11,950	10,350	9,400	8
Hake					100		
Halibut	2,168	10,857	3,850	4,800	3,625	3,125	5
Herring:							
River, fresh	31,133	79,278	281,011	491,501	116,389	285	
River, salted				6,750	98,750	28,750	
Hickory shad or "jacks"	2,335	5,487	4,076	2,184	169		
Kingfish				1,860	200		
Mackerel	88,000	48,100	5,300	7,000	14,846	57,160	7
Mullet	1,874	5,369	366	200	110	55	
Perch	20,542	29,558	62,500	35,073	12,518	5,327	4
Pigfish					300		
Pike or pickerel	3,003	3,409	1,643	511			
Pollock	10,725	3,725	350	4,550	3,150	4,050	4
Salmon	450					187	
Scup or porgy					225	500	
Shad	14,509	38,422	254,349	751,846	149,423	6,232	
Sheepshead	600	860	200	200			
Smelt	3,175	875	125				
Snappers						328	
Spot	2,400	200		2,200	4,980	1,926	23
Squeteagues or "sea trout"	108,346	38,064	23,547	81,749	569,236	353,521	91
Striped bass	2,692	5,275	65,638	37,479	8,078	17,542	14
Sturgeon	66		50	400	307	162	
Tilfish	2,275	1,500	2,550	3,925	1,975	450	
Whitefish	200						
Whiting	43,093	66,389	30,569		600	4,200	16
Clams, hard	5,664	5,376	7,360	11,552	17,792	13,184	14
Oysters:							
In the shell	193,907	130,319	143,297	51,086	8,239	1,722	
Opened	133,403	84,909	81,584	43,246	4,233		
Squid					100		
Crabs		75	180	6,015	21,450	48,935	94
Crab meat	3,925	4,205	6,175	9,400	16,545	20,555	15
Lobster						50	
Shrimp	1,690	1,650	650	450	1,550	1,218	
Terrapin	240						
Turtles	560				4,361	786	
Total	824,515	663,863	1,112,631	2,011,597	1,334,335	730,504	499

FISHERY PRODUCTS RECEIVED AT MUNICIPAL FISH WHARF AND MARKET, WASHINGTON, D. C., IN 1919—Continued.

Species.	August.	September.	October.	November.	December.	Total.
	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.
Black and sea.	356	914	10,905	14,355	27,328	130,610
Shad.	8,634	8,310	12,350	3,500	2,600	43,728
Trout.						100
Salmon.	50,525	31,664	23,000	6,900	350	309,496
Perch.	4,814	8,497	11,496	9,073	5,974	116,933
Crab.	7,880	18,654	35,930	21,277	10,687	226,340
Clam.	1,000	3,025	8,400	10,400	10,220	50,000
Scallop.						5,807
Crabapple.						200
Crab.	40,157	13,700	42,700	24,510	1,350	824,047
Crab, red.	400		1,200		300	1,900
Crab, white.	208	805	3,029	1,629	556	15,611
Crab, mixed.	3,558	9,068	9,147	16,015	11,172	144,927
Crab, hard shad.	1,094	5,465	5,972	10,334	13,156	49,640
Crab, dock.	4,025	17,725	12,350	11,800	13,600	166,910
Crab, white.			1,600	36,400	14,300	52,400
Crab, but.	3,528	2,400	1,200	4,320	4,775	50,423
Crab, ring:						
River, fresh.						999,597
River, salted.			30,000			164,250
Sea.			1,400		42,400	42,800
Crab, shad or "jacks".						14,251
Crab, fish.		200		200		2,460
Crab, kernel.	6,935	7,415	9,800	20,100	37,113	308,885
Crab, let.	287	858	1,233	4,769	953	16,202
Crab, sh.	4,512	3,184	7,714	16,451	12,560	214,714
Crab, sh.				1,600		1,900
Crab, e or pickerel.	15	357	5,969	2,348	3,810	21,065
Crab, c.	1,010	2,800	5,600	16,400	18,000	75,245
Crab, non.	152		3,000	5,150	800	9,889
Crab, p or porgy.	195	400				1,920
Crab, d.	1,094	3,440	4,120	3,774	250	1,227,459
Crab, pshead.						1,890
Crab, ft.					641	4,816
Crab, ppers.						328
Crab, eagueus or "sea trout".	5,392	28,377	37,300	6,200	600	113,118
Crab, ped bass.	195,446	243,108	239,287	104,700	48,915	2,097,569
Crab, rgeon.	7,984	25,833	37,788	28,676	12,056	263,511
Crab, fish.	112					1,097
Crab, na.			725	700	275	14,375
Crab, itefish.			460			460
Crab, iting.	1,000	2,800	100	49,000	51,147	800
Crab, ns, hard.	11,904	7,328	9,888	6,656	6,496	264,898
Crab, nters:						118,016
In the shell.	700	34,203	168,945	280,518	170,772	1,184,218
Opened.	2,568	34,716	121,789	235,245	220,196	1,961,889
Clops.			240	648	160	1,048
Cid.						100
Cbs.	47,640	20,985	4,170	75		244,025
C b meat.	12,595	1,190	6,660	8,035	4,555	109,660
Cster.			200		900	1,225
C imp.	326		2,980	900	200	11,614
C rapin.						240
C tles.	237		1,835	100	820	8,849
Total.	426,283	537,511	879,482	963,158	750,187	10,733,086

Smoked.
169,174 bushels. The oysters have been reduced to pounds on the basis of 7 pounds of meat to a bushel,
8½ pounds to a gallon.
116,592 gallons.

SHAD FISHERY OF THE HUDSON RIVER.

The Bureau has collected the statistics of the shad fishery of the Hudson River without interruption for the five-year period 1915 to 1919, inclusive. In 1919 there were 299 men engaged in this fishery, using 158 boats valued at \$6,700, 373 gill nets valued at \$15,269, and seines valued at \$1,700, and shore and accessory property valued at \$7,920, a total investment of \$31,589. The catch numbered 1,301 fish, or 374,974 pounds, valued at \$83,724. Of this quantity

76,501 shad, or 301,306 pounds, valued at \$60,690, were taken on the New York side of the river and 13,800 fish, or 73,668 pounds, valued at \$23,034, on the New Jersey side.

From the table of comparative statistics it will be noted that this fishery reached its lowest level in 1916, not only in the value of the catch but in number of men engaged and boat gear used. Compared with 1916 there was an increase in 1917 of 180 fishermen, or 151.26 per cent; of 88 boats, or 125.71 per cent; of 294 gill nets, or 372.15 per cent; of 9 haul seines, or 300 per cent; of 81,014 shad, or 872.33 per cent; and of \$78,259 in the value of the product, or 1,432 per cent.

The principal apparatus of capture is the gill net. Of the number of fish taken in 1915, 98 per cent were caught with gill nets; in 1916, 97 per cent; in 1917, 91 per cent; in 1918, 97 per cent; in 1919, 98 per cent. The average number of fish taken per run for the various years follows: In 1915, 181; in 1916, 114; in 1917, 156; in 1918, 247; and 1919, 242. The value of the factor—the average catch per gill net—as an index to the relative size of the runs of shad in the river is difficult to estimate. If this method is considered a reliable index, then the number of fish entering the river in 1917 was smaller than in 1916 and the runs for 1918 and 1919 were markedly larger than for the other years.

The results of the yearly canvasses are of considerable interest to those interested in the reestablishment of an extensive shad fishery in the Hudson River and in other rivers in which the supply has been seriously depleted as a source of possible light on the effect of protective measures which have been promulgated to afford better protection and to allow more fish to reach the spawning grounds.

SHAD FISHERY OF THE HUDSON RIVER, 1919.

Items.	New York.			New Jersey.			Total.	
	Number.	Pounds.	Value.	Number.	Pounds.	Value.	Number.	Pounds.
Fishermen.....	290			9			299	
Rowboats.....	154		\$6,205	3		\$375	157	
Gasoline.....	1		120				1	
Gill nets.....	359		13,469	14		1,800	373	
Seines.....	12		1,700				12	
Shore and accessory property.....			3,920			4,000		
Total.....			25,414			6,175		
Shad caught:								
With gill nets.....	75,060	296,259	59,544	13,800	73,668	23,034	88,860	369,927
With seines.....	1,441	5,047	1,146				1,441	5,047
Total.....	76,501	301,306	60,690	13,800	73,668	23,034	90,301	374,974

COMPARATIVE STATISTICS OF SHAD FISHERY OF THE HUDSON RIVER, 1915 to 1919.

Year.	Personnel and investment.						Catch.	
	Fishermen.	Rowboats.	Gas boats.	Gill nets.	Haul seines.	Investment.	Number.	Pounds.
1915.....	160	88	4	86	2	\$11,197	15,855	68,668
1916.....	119	67	3	79	3	7,845	9,287	40,173
1917.....	149	74	2	215	13	14,595	12,015	43,384
1918.....	227	123	2	273	15	20,107	67,403	234,602
1919.....	299	157	1	373	12	31,589	90,301	374,974

SHAD AND ALEWIFE FISHERY OF THE POTOMAC RIVER.

The results of a yearly canvass of the shad fishery of the Hudson River where no shad-cultural operations are being practiced is given above. Believing that data of value might result from annual canvasses for a river on which extensive shad-cultural operations are being conducted, a canvass of the shad and alewife fisheries of the Potomac River for 1919 has been made, and it is planned to continue this canvass.

In 1919 there were 789 persons engaged in this fishery, using 514 boats valued at \$80,685; 306 pound nets valued at \$159,810; 267 gill nets and one haul seine, the latter being operated in Maryland, valued at \$26,761; and shore and accessory property valued at \$610; a total investment of \$267,866. The catch of shad numbered 544,469, or 2,040,473 pounds, valued at \$332,397. Of this quantity 94,512 shad, or 342,988 pounds, valued at \$56,833, were taken by Maryland fishermen, and 449,957 shad, or 1,697,485 pounds, valued at \$275,564, by Virginia fishermen. The catch of alewives numbered 8,867,902, or 3,676,921 pounds, valued at \$61,016. Of this quantity, 1,488,583 alewives, or 772,867 pounds, valued at \$15,508, were taken by Maryland fishermen and 7,379,319 alewives, or 2,904,054 pounds, valued at \$45,508, by Virginia fishermen.

As shown by the table of comparative statistics, the catch of shad in 1919 was much larger than in any of the years since 1901 for which statistical canvasses have been made. Compared with 1915, there was an increase of 198.5 per cent in the number of fish taken and 360.8 per cent in value. Whereas some years ago the river channel was in places practically closed by pound nets and the continued existence of a commercial fishery threatened through the inability of sufficient fish to reach the spawning ground, at present such nets may be set out from shore at a distance not greater than one-third the width of the river.

SHAD AND ALEWIFE FISHERY OF THE POTOMAC RIVER, 1919.

Items.	Maryland.			Virginia.			Total.		
	Number.	Pounds.	Value.	Number.	Pounds.	Value.	Number.	Pounds.	Value.
Fishermen.....	227			562			789		
Rowboats.....	82		\$3,300	220		\$6,972	302		\$10,272
Gasoline.....	33		7,255	179		63,158	212		70,413
Pound nets.....	101		12,400	205		147,410	306		159,810
Gill nets and seines ¹	65		9,253	203		17,508	268		26,761
Shore and accessory property.....			25			585			610
Total.....			32,233			235,633			267,866
Shad caught:									
With pound nets.....	8,941	36,061	5,498	251,986	951,954	166,694	260,927	988,015	172,192
With gill nets and seines ¹	85,571	306,927	51,335	197,971	745,531	108,870	283,542	1,052,458	160,205
Total.....	94,512	342,988	56,833	449,957	1,697,485	275,564	544,469	2,040,473	332,397
Alewives caught:									
With pound nets.....	1,258,083	691,500	13,158	6,486,719	2,606,520	34,550	7,744,802	3,298,020	47,708
With gill nets and seines ¹	230,500	81,367	2,350	892,600	297,534	10,958	1,123,100	378,901	13,308
Total.....	1,488,583	772,867	15,508	7,379,319	2,904,054	45,508	8,867,902	3,676,921	61,016

¹ Includes one haul seine, with the catch, operated in Maryland.

COMPARATIVE STATISTICS OF PRODUCTS OF SHAD AND ALEWIFE FISHERY OF THE POTOMAC RIVER FOR VARIOUS YEARS FROM 1896 TO 1919.

Year.	Maryland.		Virginia.		Total.	
	<i>Number.</i>	<i>Value.</i>	<i>Number.</i>	<i>Value.</i>	<i>Number.</i>	<i>Value.</i>
Shad:						
1896.....	233,238	\$20,524	450,825	\$43,084	684,063	\$63
1901.....	146,000	14,800	648,462	104,566	794,462	119
1904.....	83,147	16,343	289,500	51,709	372,647	68
1909.....	31,158	9,232	172,813	44,500	203,971	53
1915.....	17,196	6,827	165,206	65,300	182,402	72
1919.....	94,512	56,833	449,957	275,564	544,469	332
Alewives:						
1909.....	4,883,000	10,369	24,601,040	42,854	29,484,040	53
1915.....	335,009	1,420	7,276,428	30,741	7,611,428	32
1919.....	1,488,583	15,508	7,379,319	45,508	8,867,902	61

FISHERIES OF THE GREAT LAKES, LAKE OF THE WOODS, AND RAINY LAKE IN 1917.

The statistics of the fisheries of the Great Lakes, and Lake of the Woods, Rainy Lake, and Lakes Kabetogama and Croix, Minn., presented in this report are for the calendar year 1917. The canvass of these fisheries was made by Winthrop Roberts and Rob Leon Greer, agents of this Bureau, and the statistics obtained have already been published in condensed form in Statistical Bulletin No. 436, and in "Fishery Industries of the United States. Report of the Division of Statistics and Methods of the Fisheries for 1918," Appendix X, Report, U. S. Commissioner of Fisheries, 1918, pages 42 to 47. The detailed statistics are published for the first time in the present report.

EARLIER PUBLICATIONS.

Earlier publications relating to the fisheries of the Great Lakes and published in Washington, D. C., are the following:

- The Fisheries of the Great Lakes. Elaborated from notes gathered by Mr. Ludwig Kumlien, by Frederick W. True. The Fishery Industries of the United States, 1887, Section II, A Geographical Review of the Fisheries Industries and Fishing Communities for the year 1880, pp. 631-673.
- The Fisheries of the Great Lakes, by Ludwig Kumlien. The Fishery Industries of the United States, 1887, Section V, vol. 1, pp. 755-769.
- Report on an Investigation of the Fisheries of Lake Ontario, by Hugh M. Smith. Bulletin, U. S. Fish Commission, Vol. X, 1890, pp. 177-215.
- Review of the Fisheries of the Great Lakes in 1885, compiled by Hugh M. Smith and Merwin-Marie Snell, with Introduction and Description of Fishing Vessels, by J. W. Collins. Appendix, Report of Commissioner, U. S. Commission of Fish and Fisheries, 1887, pp. 1-333.
- Report on the Fisheries of the Great Lakes, by Hugh M. Smith. Appendix, Report of Commissioner, U. S. Commission of Fish and Fisheries, 1892, pp. 361-462.
- Report of the Division of Statistics and Methods of the Fisheries, by Hugh M. Smith. Report of Commissioner, U. S. Commission of Fish and Fisheries, 1895, pp. 9-103.
- Report of the Joint Commission relative to the Preservation of the Fisheries of the Waters Contiguous to Canada and the United States, by Richard Rathbun and William Wakeham. House Executive Document No. 315, Fifty-fourth Congress, second session, 1897, pp. 1-178.
- Fisheries of Lake Ontario. Report of Commissioner, U. S. Commission of Fish and Fisheries, 1898, pp. CLII-CLVI.
- Statistics of Certain Fisheries of the New England and Middle Atlantic States and the Great Lakes. Report, U. S. Fish Commission, 1898, pp. CLXVI-CLXXV. (In this report the figures presented relate to the fiscal year 1897.)

Statistics of the Fisheries of the Great Lakes. Appendix, Report of Commissioner, U. S. Commission of Fish and Fisheries, 1901, pp. 575-657.
 Statistics of the Fisheries of the Great Lakes in 1903. Appendix, Report, U. S. Bureau of Fisheries, 1904, pp. 643-731.
 Fisheries of the United States, 1908. Special Report, Bureau of the Census, 1911.

COMMON AND SCIENTIFIC NAMES OF FISHES OF THE GREAT LAKES.

For the sake of clarity as to the species referred to in the tables and discussions of the fisheries of the Great Lakes, the following list of common and scientific names of fishes is appended, the common name being the first given in every instance.

Bowfin.....	<i>Amiatus calvus</i> .
Burbot.....	<i>Lota maculosa</i> .
Carp, Asiatic.....	<i>Cyprinus carpio</i> .
Catfish.....	{ <i>Ameiurus</i> (species). <i>Ictalurus punctatus</i> .
Ciscoes ¹	<i>Leucichthys</i> (species). ¹
Eel.....	<i>Anguilla chrysypa</i> .
Gold-eye.....	<i>Amphiodon alosoides</i> .
Muskellunge.....	<i>Esox masquinongy</i> .
Pike.....	{ <i>Esox lucius</i> . <i>Esox vermaculatus</i> .
Pike perch (blue pike).....	<i>Stizostedion vitreum</i> .
Pike perch (wall-eyed or yellow pike).....	<i>Stizostedion vitreum</i> .
Rock bass.....	<i>Ambloplites rupestris</i> .
Sauger.....	<i>Stizostedion canadense griseum</i> .
Sheepshead or drum.....	<i>Aplodinotus grunniens</i> .
Sturgeon.....	<i>Acipenser rubicundus</i> .
Suckers.....	Catostomidæ (species).
Sunfishes.....	Centrarchidæ (species).
Trout, lake.....	<i>Cristivomer namaycush</i> .
Trout, steelhead.....	<i>Salmo gairdneri</i> .
White bass.....	<i>Roccus chrysops</i> .
Whitefish, common.....	{ <i>Coregonus clupeiformis</i> . <i>Coregonus albus</i> .
Whitefish, menominee.....	<i>Coregonus quadrilateralis</i> .
Yellow perch.....	<i>Perca flavescens</i> .

GENERAL STATISTICS.

In presenting the detailed statistics of the fisheries of the Great Lakes it has been necessary to make some revisions of the preliminary statistics previously published, and the statistics of the fisheries of Lake of the Woods, Rainy Lake, and Lakes Kabetogama and La Croix are shown in separate tables.

The number of persons engaged in the fisheries of this entire region in 1917 was 9,416; the investment was \$10,732,879; and the products amounted to 106,436,392 pounds, valued at \$6,413,527.

In the fisheries of the Great Lakes in 1917 the number of persons engaged was 9,221, of whom 2,141 were on vessels fishing and transporting fishery products, 5,076 in the shore or boat fisheries, and 2,004 employed as shoresmen in the fisheries and wholesale fishery trade. In the fisheries of the various lakes the number of persons engaged was as follows: Superior, 1,348; Michigan, 3,313; Huron, 1,348; St. Clair and the St. Clair River, 64; Erie, 2,770; and Ontario, including the St. Lawrence and Niagara Rivers, 378. Compared with the returns for 1903, the year for which the last previous canvass was made by

¹ Includes lake herring, chub, longjaw, bluefin or blackfin, and tullibee.

the Bureau, there was an increase of 430 persons in Lake Superior, 72 in Lake Michigan, and 43 in Lake Erie, but a decrease of 356 in Lake Huron, 291 in Lake St. Clair and St. Clair River, and 10 in Lake Ontario, a total decrease of 112.

The investment in the fisheries and related industries amounted to \$10,555,669, apportioned among the lakes as follows: Superior, \$841,006; Michigan, \$4,038,927; Huron, \$1,188,705; St. Clair and St. Clair River, \$15,955; Erie, \$4,332,767; and Ontario, \$138,309.

The investment included 585 steam and gasoline vessels engaged in fishing and transporting fishery products, of 7,844 net tons, valued at \$1,512,983, with outfits valued at \$372,106; 3,354 sail, row, and power boats valued at \$536,763; fishing apparatus used on vessels and boats to the value of \$2,630,388; shore and accessory property valued at \$4,478,143; and cash capital amounting to \$1,025,280. The apparatus of capture consisted principally of 8,333 pound net and trap nets valued at \$1,179,256 and 153,277 gill nets valued at \$1,237,702. The investment, as compared with the returns for 1903, has increased in all the lakes except Lake St. Clair, the total increase being \$3,081,247.

The products of the fisheries amounted to 104,269,223 pounds, having a value to the fishermen of \$6,695,019. The yield of the various lakes was as follows: Superior, 15,547,432 pounds, valued at \$726,674; Michigan, 35,460,628 pounds, valued at \$2,270,859; Huron, 13,363,207 pounds, valued at \$857,478; St. Clair and the St. Clair River, 133,330 pounds, valued at \$11,852; Erie, 38,710,233 pounds, valued at \$2,327,299; and Ontario and the St. Lawrence and Niagara Rivers, 1,054,388 pounds, valued at \$100,857.

The principal species taken, including fresh, salted, and smoked fish, were carp, 7,563,347 pounds, valued at \$331,938; ciscoes, which include lake herring, chub, longjaw, bluefin or blackfin, and tullibee, 53,529,325 pounds, valued at \$2,609,917; pike perch, which include blue pike and wall-eyed or yellow pike, 4,599,524 pounds, valued at \$438,299; sauger, 3,929,172 pounds, valued at \$240,035; sheepshead or drum, 2,901,994 pounds, valued at \$70,936; suckers, 5,362,423 pounds, valued at \$204,881; lake trout, 13,344,139 pounds, valued at \$1,286,704; whitefish, common, including caviar, 6,192,123 pounds, valued at \$723,424; and yellow perch, 4,206,011 pounds, valued at \$245,223. Various other species were also taken in considerable quantities. Compared with the returns for 1903, there has been an increase in the products of the fisheries of the Great Lakes of 18,074,406 pounds in quantity and of \$3,549,518 in value. There has been considerable increase in both the quantity and value of the products in Lake Superior, Lake Michigan, Lake Huron, and Lake Erie, but a decrease in both quantity and value in Lake St. Clair, and a decrease in quantity with a large increase in value in Lake Ontario.

Compared with the returns for 1908, published by the Bureau of the Census, there was an increase of 8.06 per cent in the number of persons engaged, and of 119.27 per cent in the amount of capital invested, but there was a decrease of 2.21 per cent in the quantity with an increase of 67.10 per cent in the value of the products. There was a large increase in the catch of burbot, cisco or lake herring, sheepshead or drum, and lake trout, but a decrease in carp, pike, pike perch, whitefish, and a number of other species. Compared with the statistics for 1903, published by the Bureau, there was a decrease of

0 per cent in the number of persons engaged, but an increase of 22 per cent in the amount of capital invested, and of 20.96 per cent in the quantity, and 129.28 per cent in the value of the products. There was considerable increase in nearly all of the more important species except pike perch, lake trout, and yellow perch. The increase in burbot, and possibly some of the other species, is, no doubt, due to the work of the Bureau in encouraging the more extensive use as food of species heretofore little used for that purpose.

The following tables present by lakes the number of persons engaged, the amount of capital invested, and the quantity and value of the products of the fisheries of the Great Lakes in 1917, and also comparative statistics of the extent of these fisheries in various years from 1880 to 1917:

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF THE GREAT LAKES IN 1917.

Items.	Lake Superior.		Lake Michigan.		Lake Huron.		Lake St. Clair. ¹	
	Number.	Value.	Number.	Value.	Number.	Value.	Number	Value.
PERSONS ENGAGED.								
Vessels fishing.....	166		1,096		149			
Vessels transporting.....	51		81		29			
Shore fisheries.....	854		1,285		1,023		64	
Crewsmen.....	277		851		147			
Total.....	1,348		3,313		1,348		64	
INVESTMENT.								
Vessels fishing, steam.....	12	\$52,800	92	\$397,650	13	\$57,500		
Tonnage.....	302		1,795		266			
Outfit.....		11,080		122,885		22,450		
Vessels, fishing, gasoline.....	4	20,500	240	234,310	13	19,000		
Tonnage.....	104		2,113		113			
Outfit.....		5,550		56,636		5,540		
Vessels, transporting, steam.....	4	56,000			2	7,000		
Tonnage.....	194				24			
Outfit.....		17,880				500		
Vessels, transporting, gasoline.....	7	19,500	60	38,225	19	33,500		
Tonnage.....	68		495		169			
Outfit.....		3,915		4,515		4,750		
Land and row boats.....	417	10,220	428	9,943	310	8,020	60	\$1,640
Over boats.....	280	82,405	311	91,595	260	103,960	4	900
Apparatus, vessel fisheries:								
Gill nets.....	1,806	31,995	57,453	535,616	6,613	69,575		
Lines.....		960		25,733		3,844		
Apparatus, shore fisheries:								
Pound nets and trap nets..	204	26,262	1,134	242,570	1,731	207,904		
Gill nets.....	9,311	112,991	26,354	109,458	3,997	33,260		
Fyke nets.....			3,343	39,795	460	12,135		
Seines.....	5	325	61	18,120	77	7,960	6	1,365
Lines.....		4,813		2,135		2,095		50
Crawfish pots.....			6,400	1,600				
Other apparatus.....						1,520		
Tools and accessory property..		341,310		1,758,341		432,092		12,000
Investment in capital.....		42,500		349,800		156,100		
Total.....		841,006		4,038,927		1,188,705		15,955
PRODUCTS.								
	<i>Pounds.</i>	<i>Value.</i>	<i>Pounds.</i>	<i>Value.</i>	<i>Pounds.</i>	<i>Value.</i>	<i>Pounds.</i>	<i>Value.</i>
Walrus.....	2,675	170			200	4		
Burbot.....			166,785	1,436	2,174	51		
Perch, Asiatic.....			246,503	7,500	1,145,250	43,474	85,330	4,652
Trout and bullheads.....			164,466	6,627	33,329	3,295		
Salmon:								
Fresh.....	5,692,498	169,048	15,341,588	706,638	3,277,573	120,705		
Frozen.....	3,302,357	150,810						
Salted.....	3,258,227	139,959	2,917,766	139,344	2,100,792	94,957		
Smoked.....	5,400	432				3,000	120	
Skellunge.....						145	15	
Other.....	5,700	555	40,597	3,375	12,354	1,175		

¹ Includes St. Clair River.

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF THE LAKES IN 1917—Continued.

Items.	Lake Superior.		Lake Michigan.		Lake Huron.		Lake Erie.
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	
PRODUCTS—continued.							
Pike perch:							
Wall-eyed or yellow pike, fresh.....	27,979	\$3,774	132,024	\$18,445	994,642	\$119,231	48,000
Wall-eyed or yellow pike, salted.....					30	3	
Rock bass.....			1,714	137	4,283	208	
Sheepshead or drum.....			28,412	796	17,731	615	
Sturgeon.....			10,805	2,517	4,886	1,063	
Sturgeon caviar.....			346	904	227	495	
Suckers:							
Fresh.....	326,203	13,184	2,104,453	74,859	1,775,767	72,883	
Salted.....	15,850	560	14,110	625	1,000	50	
Sunfishes.....					1,650	68	
Trout, lake:							
Fresh.....	2,537,081	209,597	8,647,895	852,879	2,070,797	213,790	
Frozen.....	44,000	5,800					
Salted.....	7,272	576	2,820	259	8,658	784	
Trout, steelhead.....			21,950	3,349			
White bass.....			1,275	77			
Whitefish:							
Common, fresh.....	302,210	30,943	3,045,448	323,162	993,501	124,050	
Common, salted.....			1,945	201	3,350	330	
Common, caviar.....					1,375	257	
Menominee, fresh.....	12,080	682	100,332	4,829	46,457	2,191	
Menominee, salted.....	2,900	228	26,103	1,973	20,017	1,200	
Yellow perch:							
Fresh.....	5,000	356	2,361,071	116,419	844,019	56,464	
Salted.....			1,725	81			
Crawfish.....			80,495	4,427			
Total.....	15,547,432	726,674	35,460,628	2,270,859	13,363,207	857,478	133,333

Items.	Lake Erie. ¹		Lake Ontario. ²		Total.
	Number.	Value.	Number.	Value.	
PERSONS ENGAGED.					
On vessels fishing.....	517		2		1,930
On vessels transporting.....	48		2		211
Inshore fisheries.....	1,487		363		5,076
Shoresmen.....	718		11		2,004
Total.....	2,770		378		9,221
INVESTMENT.					
Vessels, fishing, steam.....	73	\$469,398			190
Tonnage.....	1,700				4,063
Outfit.....		93,679			
Vessels, fishing, gasoline.....	20	39,000	1	\$1,200	278
Tonnage.....	183		8		2,521
Outfit.....		7,986		20	
Vessels, transporting, steam.....	5	24,500			11
Tonnage.....	111				329
Outfit.....		5,200			
Vessels, transporting, gasoline.....	19	41,600	1	1,300	106
Tonnage.....	193		10		935
Outfit.....		9,455		65	
Sail and row boats.....	602	27,370	189	4,765	2,006
Power boats.....	414	178,815	79	17,130	1,348
Apparatus, vessel fisheries:					
Gill nets.....	38,007	272,577	3	40	103,882
Lines.....					
Apparatus, shore fisheries:					
Pound nets and trap nets....	5,011	681,060	353	21,460	8,433
Gill nets.....	9,571	57,055	162	15,135	49,395
Fyke nets.....	801	44,403	334	4,374	4,938
Seines.....	285	38,867	12	610	446
Lines.....		741		1,174	
Crawfish pots.....					6,400
Fishing machines.....			7	795	7
Other apparatus.....		10		6	
Shore and accessory property.....		1,884,165		50,235	4
Cash capital.....		456,886		20,000	1
Total.....		4,332,767		138,309	10

¹ Includes men and investment in the wholesale fish trade of Detroit.² Includes St. Lawrence and Niagara Rivers.

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF THE GREAT LAKES IN 1917—Continued.

Items.	Lake Erie.		Lake Ontario.		Total.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
PRODUCTS.						
Bowfin.....	5, 165	\$69	7, 046	\$350	15, 086	\$593
Burbot.....	652, 870	8, 027	61, 760	2, 388	883, 589	11, 902
Carp, Asiatic.....	6, 044, 792	274, 139	41, 472	2, 173	7, 563, 347	331, 938
Catfish and bullheads.....	628, 532	39, 232	47, 934	5, 935	874, 261	55, 089
Ciscoes:						
Fresh.....	17, 160, 852	1, 046, 862	460, 363	39, 991	41, 932, 874	2, 083, 244
Frozen.....					3, 302, 357	150, 810
Salted.....					8, 285, 694	375, 311
Smoked.....				8, 400		552
Eel.....			43, 007	3, 402	43, 007	2, 402
Gold-eye.....	10, 335	104			10, 335	104
Muskellunge.....					145	15
Pike.....	5, 666	550	16, 191	2, 149	80, 508	7, 804
Pike perch:						
Blue pike.....	2, 057, 073	135, 241	45, 730	4, 784	2, 102, 803	140, 025
Wall-eyed or yellow pike, fresh.....	1, 291, 456	149, 163	2, 590	458	2, 496, 691	298, 271
Wall-eyed or yellow pike, salted.....					30	3
Rock bass.....	100	5	7, 525	463	13, 622	813
Sauger.....	3, 929, 172	240, 035			3, 929, 172	240, 035
Sheepshead or drum.....	2, 855, 551	69, 502	300	23	2, 901, 994	70, 93
Sturgeon.....	28, 384	6, 064	51, 141	12, 057	95, 216	21, 701
Sturgeon, caviar.....	1, 018	2, 045	544	1, 232	2, 135	4, 676
Suckers:						
Fresh.....	1, 035, 934	36, 403	89, 111	6, 317	5, 331, 468	203, 646
Salted.....					30, 960	1, 235
Sunfishes.....			23, 885	1, 327	25, 535	1, 395
Trout, lake:						
Fresh.....	1, 922	201	23, 694	2, 818	13, 281, 389	1, 279, 285
Frozen.....					44, 000	5, 800
Salted.....					18, 750	1, 619
Trout, steelhead.....					21, 950	3, 349
White bass.....	286, 112	17, 212			287, 387	17, 289
Whitefish:						
Common, fresh.....	1, 755, 947	232, 761	88, 347	11, 720	6, 185, 453	722, 636
Common, salted.....					5, 295	531
Common, caviar.....					1, 375	257
Menominee, fresh.....					158, 869	7, 702
Menominee, salted.....					49, 020	3, 401
Yellow perch:						
Fresh.....	959, 357	69, 684	34, 839	2, 219	4, 204, 286	245, 142
Salted.....					1, 725	81
Crawfish.....					80, 495	4, 427
Total.....	38, 710, 238	2, 327, 299	1, 054, 388	100, 857	104, 269, 223	6, 295, 019

COMPARATIVE STATISTICS OF THE FISHERIES OF THE GREAT LAKES FOR VARIOUS YEARS FROM 1880 TO 1917.

PERSONS ENGAGED.

Lake.	1880	1885	1890	1893	1899	1903	1908	1917
Superior.....	414	914	653	916	613	918	792	1, 348
Michigan.....	1, 578	3, 379	2, 877	3, 928	3, 255	3, 241	2, 706	3, 313
Huron.....	470	892	726	944	1, 241	1, 704	1, 382	1, 348
St. Clair ¹	356	272	611	529	442	355	221	64
Erie ²	1, 620	4, 298	4, 482	3, 622	3, 728	2, 727	3, 142	2, 770
Ontario ³	612	600	389	241	391	388	296	378
Total.....	5, 050	10, 355	9, 738	10, 180	9, 670	9, 333	8, 539	9, 221

¹ Includes St. Clair and Detroit Rivers. There was no fishing in Detroit River in 1917.² Includes persons in wholesale trade of Detroit, Mich.³ Includes St. Lawrence and Niagara Rivers.

COMPARATIVE STATISTICS OF THE FISHERIES OF THE GREAT LAKES FOR VARIOUS YEARS FROM 1880 TO 1917—Continued.

APPARATUS AND CAPITAL EMPLOYED.

Lake and year.	Vessels and boats. ¹		Pound nets and trap nets.		Gill nets.		Seines.		Value of other apparatus. ²	Shore property and cash capital.	Total.
	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.			
Superior:											
1880.....	161	\$26,240	43	\$14,950	4,630	\$25,280	32	\$2,010	\$200	\$12,700	\$81,388
1885.....	519	100,735	230	67,520	7,557	78,082	43	2,920	1,155	177,521	427,932
1890.....	328	85,275	140	34,435	5,974	63,476	19	955	2,763	179,778	366,683
1893.....	447	139,035	276	63,415	8,899	87,680	14	500	1,565	209,512	529,024
1899.....	315	69,045	162	25,820	7,229	99,283	1	50	1,058	167,023	372,083
1903.....	378	141,109	218	27,793	10,169	127,238	8	335	815	299,032	596,322
1908.....		149,000							159,000	83,000	391,000
1917.....	724	241,425	204	26,262	11,117	144,986	5	325	5,773	383,810	802,581
Michigan:											
1880.....	836	133,375	476	185,425	24,599	124,740	19	2,040	1,455	104,100	551,135
1885.....	1,402	368,326	715	253,840	58,516	326,902	87	6,950	13,457	788,356	1,757,831
1890.....	1,102	266,331	844	244,880	40,896	215,914	30	3,480	13,460	693,159	1,437,224
1893.....	1,549	357,987	785	181,385	54,232	352,084	28	2,520	27,863	1,092,219	2,063,497
1899.....	1,178	281,968	805	186,349	49,857	288,395	11	510	29,285	2,087,829	2,915,241
1903.....	1,363	386,396	980	198,960	48,645	269,754	44	2,384	37,743	2,593,950	3,489,187
1908.....		692,000							753,000	519,000	1,964,000
1917.....	1,131	771,723	1,134	242,570	83,807	645,074	61	18,120	69,263	2,108,141	3,854,891
Huron:											
1880.....	111	20,905	189	49,425	3,360	20,609	28	5,600	3,500	3,709	103,730
1885.....	561	72,946	586	113,530	3,444	35,333			23,100	140,620	385,349
1890.....	417	36,898	551	88,515	2,206	21,665	6	600	7,155	254,025	408,858
1893.....	520	87,645	731	108,508	4,923	53,071	1	75	3,807	236,285	503,700
1899.....	539	87,585	996	111,839	5,676	54,384	9	673	8,188	203,989	474,953
1903.....	643	126,418	1,685	176,495	6,129	51,526	18	608	13,977	482,615	851,639
1908.....		185,000							281,000	267,000	733,000
1917.....	617	228,980	1,731	207,904	10,610	102,835	77	7,960	19,594	588,192	1,155,465
St. Clair: ³											
1880.....	52	8,000			180	1,080	42	6,000	1,500	24,000	40,580
1885.....	215	7,457	57	12,550	23	160	34	8,825	3,819	218,270	251,081
1890.....	166	28,775	34	9,450	814	9,418	28	6,240	5,589	150,682	210,145
1893.....	211	13,728	91	7,400	380	4,260	20	3,025	2,346	206,672	240,076
1899.....	188	3,770	5	1,050	60	600	13	1,255	915	46,945	54,535
1903.....	150	3,150					6	890	961	234,884	239,885
1908.....		10,000							8,000	28,000	46,000
1917.....	64	2,540					6	1,365	50	12,000	15,955
Erie:											
1880.....	602	83,880	758	233,690	5,775	22,500	18	2,800	8,645	163,675	515,100
1885.....	1,536	298,757	1,028	259,785	22,644	75,507	71	8,320	72,205	847,564	1,562,138
1890.....	1,449	520,033	1,893	548,100	49,320	169,513	44	5,305	70,601	1,502,750	2,816,392
1893.....	1,146	424,227	1,783	439,060	35,369	164,683	47	4,440	23,339	1,423,017	2,506,842
1899.....	980	435,566	1,724	329,500	41,678	229,182	104	8,390	19,362	1,614,677	2,720,554
1903.....	608	490,236	1,469	172,805	35,150	180,581	110	8,040	18,350	1,326,385	2,196,397
1908.....		603,000							615,000	426,000	1,644,000
1917.....	1,133	780,683	5,011	681,060	47,578	329,632	285	38,867	45,154	2,341,051	4,216,447
Ontario: ⁴											
1880.....	167	13,100	34	14,000	6,000	20,000	9	1,950		5,000	54,050
1885.....	467	29,448	350	19,445	4,722	23,952	69	3,177	12,627	56,100	135,749
1890.....	376	31,162	288	24,577	2,345	18,110	27	656	10,361	38,667	123,531
1893.....	177	9,619	77	2,310	1,185	8,794	7	175	2,240	32,550	56,131
1899.....	289	9,482	145	5,850	1,187	18,674	24	420	7,194	38,640	80,350
1903.....	234	15,457	176	9,945	1,796	13,862	8	205	9,303	52,220	100,992
1908.....		11,000							16,000	7,900	34,900
1917.....	270	24,395	353	21,460	165	15,175	12	610	6,349	70,235	138,224
All lakes:											
1880.....	1,929	285,500	1,500	497,400	44,544	214,200	148	20,400	15,300	313,175	1,345,975
1885.....	4,700	868,669	2,966	726,490	96,906	539,936	304	30,192	126,363	2,228,431	4,520,081
1890.....	3,838	968,474	3,750	949,957	101,555	498,096	154	17,236	109,920	2,819,061	5,362,774
1893.....	4,050	1,032,241	3,743	802,078	104,988	670,572	117	10,735	61,160	3,199,955	5,899,270
1899.....	3,489	887,416	3,837	660,408	105,687	690,518	162	11,298	66,002	4,159,103	6,617,716
1903.....	3,376	1,162,766	4,528	585,998	101,889	642,961	194	12,462	81,149	4,989,086	7,474,422
1908.....		1,651,000							1,831,000	1,332,000	4,814,000
1917.....	3,939	2,049,746	8,433	1,179,256	153,277	1,237,702	446	67,247	115,586	5,503,429	10,183,563

¹ In 1908 the outfit of the vessels is included in the value.² Includes all forms of apparatus in 1908.³ Includes St. Clair and Detroit Rivers. There was no fishing in Detroit River in 1917.⁴ Includes St. Lawrence and Niagara Rivers.

COMPARATIVE STATISTICS OF THE FISHERIES OF THE GREAT LAKES FOR VARIOUS YEARS FROM 1880 TO 1917—Continued.

PRODUCTS.¹

Lake and year.	Whitefish.	Trout.	Ciscoes.	Sturgeon.	All other.	Total.	
	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Value.
Superior:							
1880	2,257,000	1,464,750	34,000	60,875	3,816,625	\$118,370	
1885	4,571,947	3,488,177	324,680	182,760	8,825,980	291,523	
1890	3,213,176	2,613,378	199,121	47,482	6,115,992	220,968	
1893	2,732,270	4,342,122	660,272	62,052	8,096,927	252,107	
1899	693,191	3,118,169	1,125,478	4,415	5,429,654	150,862	
1903	794,022	4,954,830	4,742,805	13,137	13,205,013	343,671	
1908	910,100	2,752,200	5,587,600	67,600	10,195,500	342,000	
1917	302,210	2,588,353	12,258,482	398,387	15,547,432	726,674	
Michigan:							
1880	12,030,400	2,659,450	3,050,400	3,839,600	1,562,025	23,141,875	668,400
1885	8,682,986	6,431,298	3,312,493	1,406,678	3,684,693	23,518,148	878,788
1890	5,455,079	8,364,167	6,082,082	946,897	5,586,041	26,434,266	830,465
1893	2,330,060	8,216,920	11,580,895	311,780	8,308,100	30,747,755	828,611
1899	1,510,364	5,488,947	21,573,716	108,279	5,818,690	34,499,996	876,743
1903	1,972,594	9,049,299	13,863,617	56,420	8,637,568	33,579,498	1,090,550
1908	2,490,900	7,892,000	21,842,000	70,500	7,521,900	39,817,300	1,554,000
1917	3,047,393	8,650,715	18,259,354	10,805	5,492,361	35,460,628	2,270,859
Huron:							
1880	2,700,778	2,084,500	246,800	204,000	1,969,195	7,205,273	195,277
1885	1,425,380	2,539,780	1,265,650	215,500	6,010,860	11,457,170	276,397
1890	1,004,094	1,505,619	2,514,551	365,718	4,666,399	10,056,381	221,067
1893	1,178,271	3,439,575	2,758,628	79,553	4,608,311	12,064,338	306,381
1899	592,308	1,887,101	3,699,807	30,497	6,208,614	12,418,327	308,078
1903	692,863	2,108,632	4,640,967	34,343	6,978,404	14,455,209	450,318
1908	719,000	1,358,800	4,791,000	9,900	6,053,300	12,932,000	486,000
1917	996,851	2,079,455	5,381,365	4,886	4,900,650	13,363,207	857,478
St. Clair: ²							
1880	77,922	250,700	998,500	523,805	1,850,927	36,273	
1885	41,125	1,208,150	227,780	708,740	2,185,795	40,193	
1890	238,764	244,847	490,334	309,003	1,711,623	2,944,571	73,577
1893	50,950	72,000	140,112	54,106	1,497,143	1,814,311	46,030
1899	69,902	69,915	7,600	431,650	579,067	23,864	
1903	25,591	8,800	487,550	521,941	521,941	21,594	
1908		13,000	724,700	737,700	737,700	32,000	
1917		133,330	133,330	133,330	133,330	11,852	
St. Lawrence:							
1880	3,333,800	26,200	11,774,400	1,970,000	11,982,900	29,087,300	474,880
1885	3,531,855	106,900	19,354,900	4,727,950	23,734,912	51,456,517	1,109,096
1890	2,341,451	121,420	38,868,283	2,078,907	21,440,812	64,850,873	1,000,905
1893	1,292,410	203,132	20,931,076	793,800	19,747,907	42,968,325	800,979
1899	2,066,314	32,024	33,427,797	789,402	22,078,327	58,393,864	1,150,895
1903	302,805	15,127	8,788,625	500,103	13,781,896	23,188,556	780,015
1908	1,503,000	6,900	10,599,100	63,900	29,733,600	41,906,500	1,280,000
1917	1,755,947	1,922	17,160,852	28,384	19,763,133	38,710,238	2,327,299
Ontario: ³							
1880	1,064,000	569,700	611,217	545,283	849,800	3,640,000	159,700
1885	90,711	20,510	403,585	386,974	1,496,686	2,398,466	95,869
1890	148,771	41,010	598,978	541,752	2,115,937	3,446,418	124,786
1893	45,380	6,204	164,998	125,293	586,140	928,005	31,510
1899	161,935	15,432	86,778	189,155	1,953,032	2,406,332	100,997
1903	25,384	4,050	121,315	226,095	867,756	1,244,600	59,353
1908	56,000	14,000	35,000	37,000	679,800	821,800	74,000
1917	88,347	23,694	469,272	51,141	421,934	1,054,388	100,857
All lakes:							
1880	21,463,900	6,804,600	15,967,517	7,557,383	16,948,600	68,742,000	1,652,900
1885	18,344,004	12,586,665	25,869,458	7,147,642	35,894,307	99,842,076	2,691,866
1890	12,401,355	12,890,441	48,753,349	4,289,759	35,563,647	113,898,531	2,471,768
1893	7,629,341	16,279,953	36,235,981	1,426,584	35,047,812	96,619,671	2,270,618
1899	5,094,014	10,611,588	59,913,576	1,129,348	36,978,714	113,727,240	2,611,439
1903	3,813,259	16,131,938	32,157,319	638,898	33,453,393	86,194,817	2,745,501
1908	5,679,000	12,023,900	42,854,700	261,900	45,591,300	106,410,800	3,768,000
1917	6,190,748	13,344,139	53,529,325	95,216	31,109,795	104,269,223	6,295,019

¹ In this table caviar and other secondary products are omitted except in 1893, 1899, and 1903. In 1880, 1885, and 1890 bluefin, longjaw, and menominee in Lake Michigan and menominee in Lake Huron are included with whitefish. In 1893 and 1899 bluefin in Lake Superior, bluefin and menominee in Lake Michigan, and menominee in Lake Huron are included with "all other," and longjaw in Lake Michigan with ciscoes. In 1903, bluefin, menominee, longjaw, and steelhead trout are included with "all other." In 1908 and 1917 ciscoes (herring) include longjaw, bluefin or blackfin, and tullibee.

The statistics for 1908 in these tables are from data published by the Bureau of the Census.

² Includes St. Clair and Detroit Rivers. There was no fishing in Detroit River in 1917.

³ Includes St. Lawrence and Niagara Rivers.

FISHERIES OF LAKE SUPERIOR.

The number of persons engaged in the fisheries of Lake Superior in 1917 was 1,348, of whom 166 were on fishing vessels, 51 on vessels transporting fishery products, 854 in the shore or boat fisheries, 277 in the wholesale fishery trade and other occupations not connected with the fishery industries.

The investment amounted to \$841,006. This included 16 steam and gasoline fishing vessels, valued at \$73,300, with a net tonnage of 406 tons and outfits valued at \$16,630; 11 steam and gasoline transporting vessels, valued at \$75,500, with a net tonnage of 262 tons and outfits valued at \$21,795; 697 power, sail, and row boats, valued at \$92,625; fishing apparatus employed on vessels to a value of \$32,400; fishing apparatus employed on boats to a value of \$144,391; shore and accessory property valued at \$341,310 and cash capital amounting to \$42,500.

The principal forms of fishing apparatus were gill nets, pound nets, and trap nets. The number of gill nets used on vessels was 1,117, valued at \$31,995; and on boats 9,311, valued at \$112,991; a total of 10,428 in both fisheries of 11,117 nets, representing a value of \$144,986. The number of pound nets and trap nets in operation was 1,117, valued at \$26,262.

The products of the fisheries of Lake Superior amounted to 15,543,249 pounds, valued at \$726,674. Among the species of special importance were the following: Ciscoes, 12,258,482 pounds, valued at \$460,249, representing 78.85 per cent of total quantity of fish and 63.34 per cent of total value of fish taken in the lake; lake trout, 2,588,353 pounds, valued at \$215,973; suckers, 342,053 pounds, valued at \$13,744; and common whitefish, 302,210 pounds, valued at \$30,943.

Compared with the other lakes, Lake Superior ranked third in quantity of products and fourth in value of products, number of persons engaged, and amount of invested capital. Compared with 1916 there was an increase of 430, or 46.84 per cent, in the number of persons employed; \$244,684, or 41.03 per cent, in the amount of capital invested; and 2,342,419 pounds, or 17.74 per cent, in quantity, and \$383,003 or 111.44 per cent, in the value of the products.

FISHERIES, BY STATES AND COUNTIES.

The following tables show by States and counties the number of persons employed, investment, and quantity and value of the products of the fisheries in 1917:

STATISTICS OF THE FISHERIES OF LAKE SUPERIOR IN 1917, BY STATES AND COUNTIES.
PERSONS ENGAGED.

State and county.	On vessels fishing.	On vessels transporting.	Inshore fisheries.	Shoresmen.	Total.
Michigan:					
Alger.....			44	2	46
Baraga.....			30		30
Chippewa.....	20		43	15	78
Gogebic.....			10		10
Houghton.....			78		78
Keweenaw.....		3	53		56
Marquette.....	22		16	15	53
Ontonagon.....			17		17
Total.....	42	3	291	32	368
Wisconsin:					
Ashland.....			6	7	13
Bayfield.....	74		117	154	345
Douglas.....			9	3	12
Iron.....			2		2
Total.....	74		134	164	372
Minnesota:					
Cook.....			185		185
Lake.....		4	168		172
St. Louis.....	50	44	76	81	251
Total.....	50	48	429	81	608
Grand total.....	166	51	854	277	1,348

INVESTMENT.

State and county.	Vessels, fishing.								Vessels, transporting.			
	Steam.				Gasoline.				Steam.			
	Num-ber.	Ton-nage.	Value	Value of outfit.	Num-ber.	Ton-nage.	Value.	Value of outfit.	Num-ber.	Ton-nage.	Value.	Value of outfit.
Michigan:												
Chippewa.....	1	48	\$5,000	\$2,600	1	66	\$5,000	\$2,600				
Marquette.....	2	78	6,500	5,200								
Total.....	3	126	11,500	7,800	1	66	5,000	2,600				
Wisconsin:												
Bayfield.....	4	96	29,800	1,520	1	12	7,000	225				
Minnesota:												
St. Louis.....	5	80	11,500	1,760	2	26	8,500	2,725	4	194	\$56,000	\$17,880
Grand total..	12	302	52,800	11,080	4	104	20,500	5,550	4	194	56,000	17,880

STATISTICS OF THE FISHERIES OF LAKE SUPERIOR IN 1917, BY STATES AND TERRITORIES—Continued.

INVESTMENT—Continued.

State and county.	Vessels transporting—Contd.				Sail and row boats.		Power boats.		Apparatus of vessel fisheries.	
	Gasoline.									
	Number.	Tonnage.	Value.	Value of outfit.	Number.	Value.	Number.	Value.	Gill nets.	
									Number.	Value.
Michigan:										
Alger.....					9	\$190	18	\$8,625		
Baraga.....					17	290	8	1,850		
Chippewa.....					16	220	13	5,700	214	\$7,470
Gogebic.....					2	45	4	1,200		
Houghton.....					15	185	33	11,400		
Keweenaw.....	1	10	\$2,000	\$500	12	265	20	6,000		
Marquette.....					1	15	8	3,820	920	11,800
Ontonagon.....					2	20	5	2,200		
Total.....	1	10	2,000	500	74	1,230	109	40,795	1,134	19,270
Wisconsin:										
Ashland.....					2	35	3	675		
Bayfield.....					66	1,110	45	21,075	450	7,550
Douglas.....					5	75	2	800		
Iron.....							2	600		
Total.....					73	1,220	52	23,150	450	7,550
Minnesota:										
Cook.....					142	4,250	57	5,760		
Lake.....	1	8	4,000	500	81	2,270	32	6,975		
St. Louis.....	5	50	13,500	2,915	47	1,250	30	5,725	222	5,175
Total.....	6	58	17,500	3,415	270	7,770	119	18,460	222	5,175
Grand total..	7	68	19,500	3,915	417	10,220	280	82,405	1,806	31,995

State and county.	Apparatus of capture, shore fisheries.						Shore and accessory property.	Cash capital.	Total investment.	
	Pound nets and trap nets.		Gill nets.		Seines.					Value of lines.
	Number.	Value.	Number.	Value.	Number.	Value.				
Michigan:										
Alger.....	34	\$4,912	446	\$4,205	3	\$240	\$623	\$10,725	\$5,000	
Baraga.....	22	2,010	124	875			1,010	1,010		
Chippewa.....	80	7,490	546	5,375			325	45,425		
Gogebic.....			83	539				1,185		
Houghton.....	2	325	1,000	6,639	2	85	560	20,780		
Keweenaw.....	8	1,825	840	8,635			30	18,525		
Marquette.....	1	300	216	2,400			6	12,200		
Ontonagon.....	4	450	175	1,650			575	2,200		
Total.....	151	17,312	3,430	30,318	5	325	2,119	112,050	5,000	
Wisconsin:										
Ashland.....	4	450	65	750			140	7,375	5,000	
Bayfield.....	44	8,000	845	11,285			1,229	38,275	9,000	
Douglas.....			44	650				390	500	
Iron.....			12	175				100		
Total.....	48	8,450	966	12,860			1,369	46,140	14,500	
Minnesota:										
Cook.....			2,387	35,503			100	17,870		
Lake.....			1,536	21,865			125	11,900		
St. Louis.....	5	500	992	12,445			1,100	153,350	23,000	
Total.....	5	500	4,915	69,813			1,325	183,120	23,000	
Grand total..	204	26,262	9,311	112,991	5	325	4,813	341,310	42,500	

STATISTICS OF THE FISHERIES OF LAKE SUPERIOR IN 1917, BY STATES AND COUNTIES—Continued.

YIELD, BY SPECIES.

State and county.	Bowfin.		Ciscoes.									
			Fresh.		Frozen.		Salted.		Smoked.			
			Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.		
Michigan:												
Alger.....			4,100	\$195								
Baraga.....			95,200	4,030								
Chippewa.....			185,062	8,425								
Gogebic.....			17,060	680								
Houghton.....			179,600	7,966								
Keweenaw.....	2,675	\$170	73,825	3,484								
Marquette.....			325,109	12,835								
Ontonagon.....			44,090	1,556								
Total.....	2,675	170	923,986	39,171			500	23				
Wisconsin:												
Ashland.....			11,600	695								
Bayfield.....			1,645,805	30,528			68,000	2,340				
Douglas.....			69,000	2,065								
Iron.....			8,000	200								
Total.....			1,734,405	33,488			68,000	2,340				
Minnesota:												
Cook.....			1,375,239	43,658	1,651,178	\$75,405	1,593,925	67,948				
Lake.....			559,465	19,208	1,100,786	50,270	995,302	43,242				
St. Louis.....			1,099,403	33,523	550,393	25,135	600,500	26,406	5,400	\$432		
Total.....			3,034,107	96,389	3,302,357	150,810	3,189,727	137,596	5,400	432		
Grand total..	2,675	170	5,692,498	169,048	3,302,357	150,810	3,258,227	139,959	5,400	432		

State and county.	Pike.		Pike perch (wall-eyed or yellow pike).	Suckers.			
				Fresh.		Salted.	
				Pounds.	Value.	Pounds.	Value.
Michigan:							
Alger.....			243	\$40	23,165	\$980	
Baraga.....			60	6	3,200	133	
Chippewa.....	800	\$80	3,470	525	100,713	4,305	
Gogebic.....			50	5	1,000	25	
Houghton.....			500	20	1,600	76	
Keweenaw.....			231	59	5,464	218	
Marquette.....			325	26	21,271	695	
Ontonagon.....					18,835	684	
Total.....	800	80	4,879	681	175,248	7,116	
Wisconsin:							
Ashland.....	3,300	355	3,300	469	19,000	890	
Bayfield.....	1,600	120	19,800	2,624	104,900	4,100	15,850
Total.....	4,900	475	23,100	3,093	123,900	4,990	15,850
Minnesota:							
Cook.....					100	2	
Lake.....					1,000	55	
St. Louis.....					25,955	1,021	
Total.....					27,055	1,078	
Grand total..	5,700	555	27,979	3,774	326,203	13,184	15,850

STATISTICS OF THE FISHERIES OF LAKE SUPERIOR IN 1917, BY STATES AND COUNTIES—Continued.

YIELD, BY SPECIES—Continued.

State and county.	Lake trout.						Whitefish, common.	
	Fresh.		Frozen.		Salted.		Pounds.	Value.
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.		
Michigan:								
Alger.....	174,557	\$14,399					30,846	\$3
Baraga.....	10,500	1,069					2,525	
Chippewa.....	422,188	30,075					142,044	14
Gogebic.....	21,750	1,550					12,000	1
Houghton.....	170,325	16,206					19,080	1
Keweenaw.....	232,850	21,011					8,933	
Marquette.....	395,499	34,340					11,635	1
Ontonagon.....	109,182	8,734					15,199	1
Total.....	1,536,881	127,374					242,262	24
Wisconsin:								
Ashland.....	8,875	685					1,200	
Bayfield.....	573,720	46,459					41,295	4
Iron.....	12,500	1,000					380	
Total.....	595,095	48,144					42,855	4
Minnesota:								
Cook.....	83,642	8,710			3,700	\$268	1,047	
Lake.....	110,646	9,909			1,372	92	3,400	
St. Louis.....	210,847	15,460	44,000	\$5,800	2,200	216	12,646	1
Total.....	405,135	34,079	44,000	5,800	7,272	576	17,093	2
Grand total..	2,537,081	209,597	44,000	5,800	7,272	576	302,210	30

State and county.	Whitefish, menominee.				Yellow perch.		Total.	
	Fresh.		Salted.		Pounds.	Value.	Pounds.	Value.
	Pounds.	Value.	Pounds.	Value.				
Michigan:								
Alger.....							233,411	\$18
Baraga.....							111,485	5
Chippewa.....					3,000	\$235	857,277	57
Gogebic.....							51,800	3
Houghton.....	500	\$40					371,605	28
Keweenaw.....	430	48					324,408	25
Marquette.....	300	22					754,139	49
Ontonagon.....							187,306	12
Total.....	1,230	110			3,000	235	2,891,431	199
Wisconsin:								
Ashland.....							47,275	3
Bayfield.....	4,050	178			2,000	121	2,477,020	91
Douglas.....							69,000	2
Iron.....							20,860	1
Total.....	4,050	178			2,000	121	2,614,155	97
Minnesota:								
Cook.....	200	20	100	\$4			4,709,131	196
Lake.....	2,200	174					2,774,171	123
St. Louis.....	4,400	200	2,800	224			2,558,544	110
Total.....	6,800	394	2,900	228			10,041,846	429
Grand total..	12,080	682	2,900	228	5,000	356	15,547,432	729

FISHERIES, BY APPARATUS.

The catch of the vessel fisheries amounted to 3,259,811 pounds, valued at \$123,169, and of the shore or boat fisheries to 12,287,621 pounds, valued at \$603,505. In the vessel fisheries the catch of ciscoes, suckers, lake trout, and whitefish with gill nets amounted to 3,164,811 pounds, valued at \$116,369, the balance of the catch consisting of lake trout taken with set lines. In the shore fisheries 11,095,696 pounds consisting of bowfin, ciscoes, pike, pike perch, suckers, lake trout, and whitefish, valued at \$523,260, were taken with gill nets; 901,873 pounds, including ciscoes, pike, pike perch, suckers, lake trout, whitefish, and yellow perch, valued at \$63,610, with pound nets and trap nets; 177,300 pounds of lake trout, valued at \$15,708, with lines; and 12,752 pounds of ciscoes, suckers, lake trout, and whitefish, valued at \$927, with seines.

The following tables give the products of the vessel and shore fisheries, by States and counties, in 1917:

YIELD OF VESSEL FISHERIES OF LAKE SUPERIOR IN 1917, BY STATES, COUNTIES, APPARATUS, AND SPECIES.

Apparatus and species.	Michigan.					
	Chippewa.		Marquette.		Total.	
	<i>Pounds.</i>	<i>Value.</i>	<i>Pounds.</i>	<i>Value.</i>	<i>Pounds.</i>	<i>Value.</i>
Gill nets:						
Ciscoes.....	33,995	\$1,698	292,609	\$11,444	326,604	\$13,142
Suckers.....			8,471	255	8,471	255
Trout, lake.....	266,625	18,960	318,499	27,006	585,124	45,966
Whitefish—						
Common.....			9,487	1,187	9,487	1,187
Menominee.....			300	22	300	22
Total.....	300,620	20,658	629,366	39,914	929,986	60,572
Set lines: Trout, lake.....	75,000	4,800			75,000	4,800
Grand total.....	375,620	25,458	629,366	39,914	1,004,986	65,372

Apparatus and species.	Wisconsin.		Minnesota.		Grand total.	
	Bayfield.		St. Louis.			
	<i>Pounds.</i>	<i>Value.</i>	<i>Pounds.</i>	<i>Value.</i>	<i>Pounds.</i>	<i>Value.</i>
Gill nets:						
Ciscoes.....	1,273,105	\$21,246	800,000	\$23,712	2,399,709	\$58,100
Suckers.....					8,471	255
Trout, lake.....	13,595	1,359	148,125	9,480	746,844	56,805
Whitefish—						
Common.....					9,487	1,187
Menominee.....					300	22
Total.....	1,286,700	22,605	948,125	33,192	3,164,811	116,369
Set lines: Trout, lake.....	20,000	2,000			95,000	6,800
Grand total.....	1,306,700	24,605	948,125	33,192	3,259,811	123,169

YIELD OF SHORE FISHERIES OF LAKE SUPERIOR IN 1917, BY STATES, COUNTY APPARATUS, AND SPECIES—Continued.

Apparatus and species.	Michigan.									
	Alger.		Baraga.		Chippewa.		Gogebic.		Houghton.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Found nets and trap nets:										
Ciscoes—										
Fresh.....			82,800	\$3,410	5,000	\$200				1,000
Salted.....	500	\$23								
Pike.....					800	80				
Pike perch (wall-eyed or yellow pike).....	243	40			3,470	525				
Suckers, fresh.....	4,805	188	2,300	105	90,713	3,805				
Trout, lake.....	24,102	1,971	5,625	565	13,063	890				3,750
Whitefish, common.....	25,752	2,727	2,255	198	135,444	13,415				
Yellow perch.....					3,000	235				
Total.....	55,402	4,949	92,980	4,278	251,490	19,150				4,750
Gill nets:										
Ciscoes, fresh.....	3,600	170	12,400	620	146,067	6,527	17,000	\$980	174,800	7,000
Pike perch (wall-eyed or yellow pike).....			60	6			50	5	500	
Suckers, fresh.....	16,360	692	900	28	10,000	500	1,000	25	600	
Trout, lake, fresh.....	116,012	9,653	4,875	404	35,625	2,875	21,750	1,550	147,825	13,000
Whitefish—										
Common.....	810	71	270	25	6,600	659	12,000	1,000	18,480	1,000
Menominee, fresh.....										500
Total.....	136,782	10,586	18,505	1,173	198,292	10,561	51,800	3,260	342,705	23,000
Seines:										
Ciscoes.....	500	25								3,800
Suckers.....	2,000	100								1,000
Trout.....	568	45								
Whitefish.....	4,284	482								600
Total.....	7,352	652								5,400
Lines: Trout, lake.....	33,875	2,730			31,875	2,550				18,750
Grand total.....	233,411	18,917	111,485	5,451	481,657	32,261	51,800	3,260	371,605	26,000

Apparatus and species.	Michigan—Continued.							
	Keweenaw.		Marquette.		Ontonagon.		Total.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Found nets and trap nets:								
Ciscoes—								
Fresh.....	5,000	\$250	500	\$21			94,300	\$3,000
Salted.....							500	
Pike.....							800	
Pike perch (wall-eyed or yellow pike).....	166	37						3,879
Suckers, fresh.....	3,302	132	1,500	45			102,620	4,000
Trout, lake.....	65,725	7,811	3,125	310	7,500	\$600	122,890	12,000
Whitefish—								
Common.....	2,933	394	600	75	3,600	420	170,584	17,000
Menominee.....	355	38					355	
Yellow perch.....							3,000	
Total.....	77,481	8,662	5,725	451	11,100	1,020	498,928	39,000

YIELD OF SHORE FISHERIES OF LAKE SUPERIOR IN 1917, BY STATES, COUNTIES, APPARATUS, AND SPECIES—Continued.

Apparatus and species.	Michigan—Continued.							
	Keweenaw.		Marquette.		Ontonagon.		Total.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Gill nets:								
Bowfin.....	2,675	\$170					2,675	\$170
Ciscoes, fresh.....	68,825	3,234	32,000	\$1,370	44,090	\$1,556	498,782	21,927
Pike perch (wall-eyed or yellow pike).....	65	22	325	26			1,000	79
Suckers, fresh.....	2,162	86	11,300	395	18,835	684	61,157	2,436
Trout, lake, fresh.....	164,625	12,970	72,125	6,860	91,682	7,334	654,519	55,557
Whitefish—								
Common.....	6,000	585	1,548	193	11,599	1,219	57,307	5,398
Menominee, fresh.....	75	10					575	50
Total.....	244,427	17,077	117,298	8,844	166,206	10,793	1,276,015	85,617
Seines:								
Ciscoes.....							4,300	185
Suckers.....							3,000	150
Trout.....							568	45
Whitefish.....							4,884	547
Total.....							12,752	927
Lines: Trout, lake.....	2,500	230	1,750	164	10,000	800	98,750	8,299
Grand total.....	324,408	25,969	124,773	9,459	187,306	12,613	1,886,445	133,949

Apparatus and species.	Wisconsin.									
	Ashland.		Bayfield.		Douglas.		Iron.		Total.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Pound nets and trap nets:										
Ciscoes—										
Fresh.....	600	\$20	62,500	\$1,657					63,100	\$1,677
Salted.....			23,000	690					23,000	690
Pike.....	800	55	1,600	120					2,400	175
Pike perch (wall-eyed or yellow pike).....	2,800	399	16,300	2,142					19,100	2,541
Suckers—										
Fresh.....	12,000	515	95,500	3,735					107,500	4,250
Salted.....			15,000	525					15,000	525
Trout, lake.....	750	60	120,750	9,695					121,500	9,755
Whitefish—										
Common.....	600	56	26,895	2,745					27,495	2,801
Menominee.....			150	7					150	7
Yellow perch.....			1,700	103					1,700	103
Total.....	17,550	1,105	363,395	21,419					380,945	22,524
Gill nets:										
Ciscoes—										
Fresh.....	11,000	675	310,200	7,625	69,000	\$2,065	8,000	\$200	398,200	10,565
Salted.....			45,000	1,650					45,000	1,650
Pike.....	2,500	300							2,500	300
Pike perch (wall-eyed or yellow pike).....	500	70	3,500	482					4,000	552
Suckers—										
Fresh.....	7,000	375	9,400	365					16,400	740
Salted.....			850	35					850	35
Trout, lake, fresh.....	6,256	475	362,500	27,870			12,500	1,000	381,250	29,345
Whitefish—										
Common.....	600	56	14,400	1,400			360	40	15,360	1,496
Menominee, fresh.....			3,900	171					3,900	171
Yellow perch.....			300	18					300	18
Total.....	27,850	1,951	750,050	39,616	69,000	2,065	20,860	1,240	867,760	44,872
Lines: Trout, lake.....	1,875	150	56,875	5,535					58,750	5,685
Grand total.....	47,275	3,206	1,170,320	66,570	69,000	2,065	20,860	1,240	1,307,455	73,081

YIELD OF SHORE FISHERIES OF LAKE SUPERIOR IN 1917, BY STATES, COUNTIES, APPARATUS, AND SPECIES—Continued.

Apparatus and species.	Minnesota.								Grand total	
	Cook.		Lake.		St. Louis.		Total.			
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Pound nets and trap nets:										
Ciscoes—									157,400	\$5,
Fresh									23,500	
Salted									3,200	
Pike										
Pike perch (wall-eyed or yellow pike)									22,979	3,
Suckers—										
Fresh					12,000	\$480	12,000	\$480	222,120	9,
Salted									15,000	
Trout, lake									244,300	22,
Whitefish—										
Common					10,000	1,500	10,000	1,500	208,079	21,
Menominee									505	
Yellow perch									4,700	
Total					22,000	1,980	22,000	1,980	901,873	63,
Gill nets:										
Bowfin									2,675	
Ciscoes—										
Fresh	1,375,239	\$43,658	559,465	\$19,208	299,403	9,811	2,234,107	72,677	3,131,089	105,
Frozen	1,651,178	75,405	1,100,786	50,270	550,393	25,135	3,302,357	150,810	3,302,357	150,
Salted	1,593,925	67,948	995,302	43,242	600,500	26,406	3,189,727	137,596	3,134,727	139,
Smoked					5,400	432	5,400	432	5,400	
Pike									2,500	
Pike perch (wall-eyed or yellow pike)									5,000	
Suckers—										
Fresh	100	2	1,000	55	13,955	541	15,055	598	92,612	3,
Salted									850	
Trout, lake—										
Fresh	82,842	8,646	106,646	9,549	47,722	4,680	237,210	22,875	1,272,979	107,
Frozen					44,000	5,800	44,000	5,800	44,000	5,
Salted	3,700	268	1,372	92	2,200	216	7,272	576	7,272	
Whitefish—										
Common	1,047	147	3,400	350	2,646	288	7,093	785	79,760	7,
Menominee, fresh	200	20	2,200	174	4,400	200	6,800	394	11,275	
Menominee, salted	100	4			2,800	224	2,900	228	2,900	
Yellow perch									300	
Total	4,708,331	196,098	2,770,171	122,940	1,573,419	73,733	9,051,921	392,771	11,095,696	523,
Seines:										
Ciscoes									4,300	
Suckers									3,000	
Trout									568	
Whitefish									4,884	
Total									12,752	
Lines: Trout, lake	800	64	4,000	360	15,000	1,300	19,800	1,724	177,300	15,
Grand total	4,709,131	196,162	2,774,171	123,300	1,610,419	77,013	9,093,721	396,475	12,287,621	603,

WHOLESALE FISHERY TRADE.

The wholesale fishery trade of Lake Superior in 1917 was conducted by 15 establishments, of which 8 were at Duluth, 2 at Bayfield and 1 at each of the following places: Ashland, Bark Point, Po Wing, Superior, and Sault Ste. Marie. The total number of persons employed in these establishments was 249, to whom \$65,353 were paid in wages during the year; the investment in shore and accessory property amounted to \$210,400 and the cash capital utilized was \$42,500. Compared with 1903, there was a decrease of 1 in the number

ber of establishments and of \$100,200 in cash capital, and an increase of 150 employees, of \$6,773 in the amount of wages paid, and of \$103,986 in the value of the property.

The following table shows by localities the extent of the wholesale fishery trade of Lake Superior in 1917:

WHOLESALE FISHERY TRADE OF LAKE SUPERIOR IN 1917.

Cities and towns.	State.	Number of firms.	Persons engaged.	Wages paid.	Shore and accessory property.	Cash capital.
Duluth.....	Minnesota.....	8	77	\$35,742	\$146,350	\$23,000
Ashland, Bayfield, and Bark Point.	Wisconsin.....	4	140	19,125	21,325	12,500
Port Wing, Superior, and Sault Ste. Marie.	Wisconsin and Michigan.	3	32	10,486	42,725	7,000
Total.....		15	249	65,353	210,400	42,500

FISHERIES OF LAKE MICHIGAN.

In 1917 Lake Michigan ranked first among the Great Lakes in the number of persons employed in the fisheries and second in the amount of invested capital and the quantity and value of the products. The total number of persons employed in the fisheries of Lake Michigan was 3,313, of whom 1,096 were on fishing vessels, 81 on vessels transporting fishery products, 1,285 in the shore fisheries, and 851 shoresmen in the wholesale fishery trade, etc. Of the total number of persons engaged 1,537 were credited to Wisconsin, 1,145 to Michigan, 564 to Illinois, and 67 to Indiana.

The total investment in the fisheries of the lake amounted to \$4,038,927. The number of vessels fishing was 332, with a net tonnage of 3,913 tons, valued at \$631,960, and having outfits to the value of \$179,521; and of transporting vessels, 60 with net tonnage of 495 tons, valued at \$38,225, with outfits valued at \$4,515. The number of boats was 739, worth \$101,538. The fishing apparatus used on vessels was valued at \$561,349, and on boats at \$413,678. Shore and accessory property amounted to \$1,758,341 and cash capital to \$349,800. The investment was divided among the different States as follows: Wisconsin, \$1,514,295, or 37.49 per cent; Illinois, \$1,265,664, or 31.34 per cent; Michigan, \$1,179,143, or 29.19 per cent; and Indiana, \$79,825, or 1.98 per cent.

Gill nets were the most important apparatus of capture, 57,453, representing a value of \$535,616, being employed in the vessel fisheries, and 26,354, valued at \$109,458, in the boat fisheries, a total in both fisheries of 83,807, amounting in value to \$645,074. Lines valued at \$27,868 were employed in both the vessel and shore fisheries. Other apparatus used in the shore fisheries included 1,134 pound nets and trap nets, valued at \$242,570; 3,343 fyke nets, valued at \$39,795; 61 seines, valued at \$18,120; and 6,400 crawfish pots, valued at \$1,600.

The fishery products of Lake Michigan amounted to 35,460,628 pounds, valued at \$2,270,859. This total was divided among the different States as follows: Wisconsin, 21,453,679 pounds, valued at \$1,225,084; Michigan, 11,634,480 pounds, valued at \$883,301; Illinois, 1,356,294 pounds, valued at \$87,375; and Indiana, 1,016,175 pounds, valued at \$75,099. The more important species taken in

this lake were ciscoes, 18,259,354 pounds, valued at \$845,982; trout, 8,650,715 pounds, valued at \$853,138; common whitefish, 3,047,393 pounds, valued at \$323,363; yellow perch, 2,362,000 pounds, valued at \$116,500; and suckers, 2,118,563 pounds, valued at \$75,484.

As compared with 1903 there was an increase of 72, or 2.22 per cent, in the number of persons employed; \$549,740, or 15.76 per cent, in the investment in the fisheries; and 1,881,130 pounds, or 5.60 per cent, in quantity; and \$1,180,309, or 108.23 per cent, in the value of the products.

FISHERIES, BY STATES AND COUNTIES.

The following tables show by States and counties the extent of the fisheries of Lake Michigan in 1917:

STATISTICS OF THE FISHERIES OF LAKE MICHIGAN IN 1917, BY STATES AND COUNTIES.
PERSONS EMPLOYED.

State and county.	On vessels fishing.	On vessels transporting.	In shore or boat fisheries.	Shoresmen.
Michigan:				
Allegan.....			9	
Antrim.....			10	
Benzie.....	49	2	6	19
Berrien.....	38		33	2
Charlevoix.....	96	2	30	21
Delta.....	11		157	6
Emmet.....			28	
Grand Traverse.....		2	23	
Leelanau.....	50		34	7
Mackinac.....	16	2	75	
Manistee.....	16		11	2
Mason.....	26	2	15	
Menominee.....		22	61	36
Muskegon.....	8	1	30	
Oceana.....	6			
Ottawa.....	50		18	11
Schoolcraft.....	47		20	4
Van Buren.....	13		8	
Total.....	436	33	568	108
Indiana:				
Lake.....			10	
Laporte.....	21		21	3
Porter.....			12	
Total.....	21		43	3
Illinois:				
Cook.....	31		15	482
Lake.....	24		12	
Total.....	55		27	482
Wisconsin:				
Brown.....	53	22	200	107
Door.....	143	5	174	10
Kenosha.....	9		1	4
Kewaunee.....	33		6	
Manitowoc.....	42		22	20
Marinette.....	75	10	81	32
Milwaukee.....	77		24	26
Oconto.....	52	9	95	
Ozaukee.....	26	2	11	18
Racine.....	23		2	10
Sheboygan.....	51		31	31
Total.....	584	48	647	258
Grand total.....	1,096	81	1,285	851

STATISTICS OF THE FISHERIES OF LAKE MICHIGAN IN 1917, BY STATES AND COUNTIES—Continued.

INVESTMENT.

State and county.	Vessels, fishing.								Vessels transporting.			
	Steam.				Gasoline.				Gasoline.			
	No.	Ton-nage.	Value.	Out-fit.	No.	Ton-nage.	Value.	Out-fit.	No.	Ton-nage.	Value.	Out-fit.
Michigan:												
Benzie.....	7	113	\$20,150	\$11,500	5	46	\$4,200	\$2,715	1	6	\$450	\$50
Berrien.....	5	153	32,700	4,890	2	15	1,500	125	.....	.....	.....	.....
Charlevoix.....	8	114	18,700	9,210	18	141	16,000	6,650	1	7	300	225
Delta.....	2	26	3,000	1,600	.....	.....	.....	.....	.....	.....	.....	.....
Grand Traverse.....	.....	.....	.....	.....	4	43	3,800	1,200	1	9	1,000	20
Leelanau.....	5	57	9,600	5,925	12	96	11,250	3,350	.....	.....	.....	.....
Mackinac.....	.....	.....	.....	.....	7	43	3,350	990	2	16	900	240
Manistee.....	.....	.....	.....	.....	7	49	7,000	3,435	.....	.....	.....	.....
Mason.....	2	21	4,000	415	9	79	6,550	2,115	2	16	850	95
Menominee.....	.....	.....	.....	.....	.....	.....	.....	.....	9	124	10,700	1,285
Muskegon.....	.....	.....	.....	.....	4	27	4,500	800	1	8	600	50
Oceana.....	.....	.....	.....	.....	3	23	2,950	1,000	.....	.....	.....	.....
Ottawa.....	8	143	31,100	9,875	.....	.....	.....	.....	.....	.....	.....	.....
Schoolcraft.....	4	100	10,500	6,500	6	53	4,250	1,675	.....	.....	.....	.....
Van Buren.....	2	31	4,700	2,125	1	6	600	150	.....	.....	.....	.....
Total.....	43	758	134,450	52,040	78	616	65,950	24,205	17	186	14,800	1,965
Indiana: Laporte.....	2	51	11,000	3,610	1	8	1,200	850	.....	.....	.....	.....
Illinois:												
Cook.....	.....	.....	.....	.....	8	73	17,200	4,095	.....	.....	.....	.....
Lake.....	.....	.....	.....	.....	5	55	13,500	3,100	.....	.....	.....	.....
Total.....	.....	.....	.....	.....	13	128	30,700	7,195	.....	.....	.....	.....
Wisconsin:												
Brown.....	1	9	1,000	200	23	192	14,800	1,300	22	140	10,350	875
Door.....	5	92	17,500	1,950	47	423	43,650	3,881	4	34	2,500	130
Kenosha.....	1	32	5,000	1,650	1	14	1,400	800	.....	.....	.....	.....
Kewanee.....	2	27	4,000	1,500	12	112	10,400	1,880	.....	.....	.....	.....
Manitowoc.....	2	51	5,500	2,785	11	149	15,900	6,550	.....	.....	.....	.....
Marinette.....	4	46	9,700	2,800	22	173	21,700	3,500	7	74	4,900	950
Milwaukee.....	13	254	83,000	20,000	4	33	3,800	2,450	.....	.....	.....	.....
Oconto.....	.....	.....	.....	.....	26	201	15,810	1,325	9	51	5,375	395
Ozaukee.....	4	100	30,500	9,500	1	15	2,000	200	1	10	300	200
Racine.....	5	118	31,000	7,250	.....	.....	.....	.....	.....	.....	.....	.....
Sheboygan.....	10	257	65,000	19,600	1	49	7,000	2,500	.....	.....	.....	.....
Total.....	47	986	252,200	67,235	148	1,361	136,460	24,386	43	309	23,425	2,550
Grand total.....	92	1,795	397,650	122,885	240	2,118	234,310	56,636	60	495	38,225	4,515

STATISTICS OF THE FISHERIES OF LAKE MICHIGAN IN 1917, BY STATES AND COUNTIES—Continued.

INVESTMENT—Continued.

State and county.	Sail and row boats.		Power boats.		Apparatus of capture, vessel fisheries.			Apparatus of capture, all fisheries.			
	No.	Value.	No.	Value.	Gill nets.		Value of lines.	Pound nets and trap nets.		Gill nets.	
					No.	Value.		No.	Value.		No.	Value.
Michigan:											
Allegan.....	5	\$115	4	\$750				7	\$1,475	146	\$1
Antrim.....	7	100	3	350				6	725	48	
Benzie.....	2	50	3	700	1,875	\$29,074		6	460	55	
Berrien.....	15	335	9	4,000	3,757	35,552		11	3,550	671	€
Charlevoix.....	6	85	18	6,625	6,702	61,048	\$1,500	31	6,005	633	€
Delta.....	66	1,053	35	10,115	880	5,300		136	16,090	2,938	19
Emmet.....	14	300	5	1,625				12	5,100	237	2
Grand Traverse.....	17	340	8	2,150	199	1,841		106	7,995	139	1
Leelanau.....	18	390	9	1,825	2,588	20,290		48	5,865	174	1
Mackinac.....	10	145	27	6,580	242	1,786	4	152	20,725	375	3
Manistee.....	9	165	5	550	890	8,600	1,535	13	1,180	156	
Mason.....	13	345			1,317	14,496	700	79	6,400	14	
Menominee.....	10	320	26	7,850				80	24,675	161	
Muskegon.....	24	519	2	750	269	2,748	600	39	5,800	133	1
Oceana.....					350	3,500	750				
Ottawa.....	16	361	3	900	7,275	54,200	1,650	19	2,425	112	1
Schoolcraft.....	5	115	8	2,975	1,677	15,045		42	5,950	253	2
Van Buren.....	4	90	3	550	1,812	14,248				171	1
Total.....	241	4,828	168	48,295	29,833	267,728	6,739	787	114,420	6,416	51
Indiana:											
Lake.....	4	125	6	1,200				5	1,100	210	4
Laporte.....	10	255	6	1,400	1,695	35,940	200	7	3,800	102	1
Porter.....	9	230	2	450				6	2,700	57	1
Total.....	23	610	14	3,050	1,695	35,940	200	18	7,600	369	7
Illinois:											
Cook.....	7	125	1	1,500	705	7,125				80	
Lake.....	2	70	3	1,300	1,650	13,100		8	3,000	110	
Total.....	9	195	4	2,800	2,355	20,225		8	3,000	190	1
Wisconsin:											
Brown.....	62	1,810	23	6,500	1,506	7,686		24	3,600	1,785	8
Door.....	14	545	43	11,750	8,730	76,330	7,324	97	23,450	14,315	21
Kenosha.....	1	20			597	4,500				4	
Kewaunee.....	1	30	3	700	1,080	9,530	6,650	3	900		
Manitowoc.....	6	120	8	2,875	1,507	16,248		29	25,500	31	
Marinette.....	9	250	13	3,900	5,365	46,675		43	15,800	2,070	8
Milwaukee.....	13	230	5	2,650	1,868	23,060		2	400	165	1
Oconto.....	34	995	18	5,400	1,373	9,529		93	17,900	954	8
Ozaukee.....			3	1,375	1,051	8,600	425	6	5,000	10	
Racine.....	1	20	1	150	58	865	1,000			20	
Sheboygan.....	14	290	8	2,150	435	8,700	3,395	24	25,000	25	
Total.....	155	4,310	125	37,450	23,570	211,723	18,794	321	117,550	19,379	49
Grand total.....	428	9,943	311	91,595	57,453	535,616	25,733	1,134	242,570	26,354	109

STATISTICS OF THE FISHERIES OF LAKE MICHIGAN IN 1917, BY STATES AND COUNTIES—Continued.

INVESTMENT—Continued.

State and county.	Apparatus of capture, shore fisheries—Continued.						Shore and accessory property.	Cash capital.	Total investment.	
	Fyke nets.		Seines.		Value of lines.	Crawfish pots.				
	No.	Value.	No.	Value.		No.				Value.
Michigan:										
Allegan.....							\$1,275	\$5,062		
Antrim.....					\$70		310	1,925		
Benzie.....							15,145	85,039		
Berrien.....			1	\$150	25		8,705	\$2,000 100,172		
Charlevoix.....							34,540	7,000 174,197		
Delta.....	27	\$5,395					14,040	2,500 78,903		
Emmet.....					250		1,675	11,395		
Grand Traverse.....					120		4,675	24,591		
Leelanau.....					40		21,835	81,440		
Mackinac.....							4,415	42,455		
Manistee.....							4,600	27,831		
Mason.....					70		2,975	39,161		
Menominee.....	30	1,000					97,961	80,000 224,745		
Muskegon.....							3,420	20,943		
Oceana.....								8,200		
Ottawa.....							34,865	32,000 168,496		
Schoolcraft.....							7,000	3,500 59,615		
Van Buren.....							800	24,973		
Total.....	57	6,395	1	150	575		258,236	127,000 1,179,143		
Indiana:										
Lake.....					60		1,250	8,195		
Laporte.....							5,075	1,000 65,860		
Porter.....							1,250	5,770		
Total.....					60		7,575	1,000 79,825		
Illinois:										
Cook.....					35		1,085,769	112,500 1,229,194		
Lake.....							1,600	36,470		
Total.....					35		1,087,369	112,500 1,265,664		
Wisconsin:										
Brown.....	2,771	27,710	48	15,500		6,400	\$1,600 160,169	79,500 341,525		
Door.....			5	1,250	800		20,385	6,500 239,010		
Kenosha.....							6,000	19,405		
Kewaunee.....					130		650	36,370		
Manitowoc.....			2	200			27,385	1,800 105,028		
Marinette.....	27	810					29,097	9,000 157,642		
Milwaukee.....					20		87,500	10,000 234,580		
Oconto.....	488	4,880	3	900			7,125	78,220		
Ozaukee.....					500		23,500	1,000 83,185		
Racine.....					15		7,400	47,950		
Sheboygan.....			2	120			35,950	1,500 171,380		
Total.....	3,286	33,400	60	17,970	1,465	6,400	1,600 405,161	109,300 1,514,295		
Grand total.....	3,343	39,795	61	18,120	2,135	6,400	1,600 1,758,341	349,800 4,038,927		

STATISTICS OF THE FISHERIES OF LAKE MICHIGAN IN 1917, BY STATES AND TIES—Continued.

YIELD, BY SPECIES.

State and county.	Burbot.		Carp, Asiatic.		Catfish and bullheads.		Ciscoes.			
							Fresh.		Pounds.	Value.
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.		
Michigan:										
Allegan.....			300	\$12			7,633	\$466		2,437
Antrim.....							14,520	832		
Benzie.....	4,870	\$89					176,920	10,268		
Berrien.....	2,870	66	400	16			475,171	30,384		
Charlevoix.....	8,739	195					244,476	12,312		
Delta.....	565	7					236,098	8,529		114,329
Emmet.....							3,168	170		
Grand Traverse.....	1,100	20					31,790	1,934		
Leelanau.....							262,617	13,532		
Mackinac.....							10,575	370		
Manistee.....							85,097	4,374		
Mason.....	6,820	204	130	5			187,531	12,239		
Menominee.....	300	3					217,919	8,280		402,960
Muskegon.....	200	6	410	16			138,707	8,904		
Oceana.....							24,000	1,440		
Ottawa.....	1,572	32	600	23			935,501	53,316		
Schoolcraft.....							26,226	1,071		
Van Buren.....							81,216	5,389		
Total.....	27,066	622	1,840	72			3,159,135	173,810		519,726
Indiana:										
Lake.....	625	13	400	16			86,500	5,085		
Laporte.....	2,164	107	650	26	120	\$17	641,730	43,353		
Porter.....	350	10	100	4			85,600	4,275		
Total.....	3,139	130	1,150	46	120	17	813,830	52,713		
Illinois:										
Cook.....	58	1					580,098	31,825		
Lake.....							435,720	22,315		
Total.....	58	1					1,015,818	54,140		
Wisconsin:										
Brown.....	86,886	435	213,453	6,404	148,577	5,979	1,078,433	35,049		58,360
Door.....	46,194	231					1,595,733	51,861		1,788,550
Kenosha.....							292,874	16,084		
Kewaunee.....							423,016	13,748		
Manitowoc.....			2,760	141			755,792	42,855		
Marinette.....	1,842	9			3,909	159	2,396,248	78,575		317,135
Milwaukee.....			200	12			1,069,310	61,420		
Oconto.....	1,600	8	26,500	795	11,800	472	1,445,931	46,992		233,995
Ozaukee.....							342,140	21,793		
Racine.....							20,400	1,150		
Sheboygan.....			600	30			932,958	56,448		
Total.....	136,522	683	243,513	7,382	164,346	6,610	10,352,805	425,975		2,398,040
Grand total..	166,785	1,436	246,503	7,500	164,466	6,627	15,341,588	706,638		2,917,766

State and county.	Pike.		Pike perch (wall-eyed or yellow pike).		Rock bass.		Sheepshead or drum.		Sturgeon.	
							Pounds.	Value.		Pounds.	Value.
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	
Michigan:										
Allegan.....			4,758	\$655			1,600	\$64		895
Berrien.....			1,100	126			300	12		3,520
Charlevoix.....										40
Delta.....	6,230	\$623	56,234	6,425						763
Emmet.....			75	9						
Grand Traverse.....										35
Mackinac.....										890
Manistee.....	519	27	5,585	818						943
Mason.....	900	90	11,775	2,553			200	8		68
Menominee.....	71	6	1,065	128						361
Muskegon.....	300	30	5,378	804			7,000	280		434
Ottawa.....			2,523	365			1,315	48		360
Schoolcraft.....			523	104						50
Van Buren.....										50
Total.....	8,020	776	89,016	11,987			10,415	412		8,409

STATISTICS OF THE FISHERIES OF LAKE MICHIGAN IN 1917, BY STATES AND COUNTIES—Continued.

YIELD, BY SPECIES—Continued.

State and county.	Pike.		Pike perch (wall-eyed or yellow pike).		Rock bass.		Sheepshead or drum.		Sturgeon.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Indiana:										
Lake.....	175	\$26	1,400	\$240			750	\$30	1,514	\$406
Laporte.....	50	4							482	162
Porter.....									400	112
Total.....	225	30	1,400	240			750	30	2,396	680
Wisconsin:										
Brown.....	3,518	281	18,289	2,743			16,929	338		
Door.....	8,972	717	662	99	1,714	\$137	318	16		
Marquette.....	6,562	505	1,618	221						
Oconto.....	13,100	1,048	21,039	3,155						
Sheboygan.....	200	18								
Total.....	32,352	2,569	41,608	6,218	1,714	137	17,247	354		
Grand total..	40,597	3,375	132,024	18,445	1,714	137	28,412	796	10,805	2,517
State and county.	Sturgeon caviar.		Suckers.				Trout, lake.			
			Fresh.		Salted.		Fresh.		Salted.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Michigan:										
Allegan.....	16	\$32	5,832	\$249			1,016	\$139		
Antrim.....			3,250	208			4,440	470		
Benzie.....			22,261	892			326,945	29,396		
Berrien.....	190	570	10,442	711			250,189	26,658		
Charlevoix.....			8,963	284	100	\$4	1,063,698	68,803		
Delta.....			577,334	24,597			138,664	11,539		
Emmet.....			3,600	149			96,398	7,456		
Grand Traverse.....			187,351	6,496			34,049	2,867		
Leelanau.....			47,639	1,921			434,587	32,213		
Mackinac.....			33,926	1,697			85,447	7,261	200	\$22
Manistee.....			29,381	1,178			168,168	16,903		
Mason.....			62,132	3,531			149,563	16,617		
Menominee.....			3,754	150	345	16	10,753	968	345	16
Muskegon.....	50	125	14,408	816			20,903	2,400		
Oceana.....							46,450	7,013		
Ottawa.....	25	62	1,302	51			240,753	29,447		
Schoolcraft.....			23,785	1,415	2,100	74	378,964	30,805		
Van Buren.....			1,442	100			63,271	7,481		
Total.....	281	789	1,036,802	44,445	2,545	94	3,514,258	298,436	545	38
Indiana:										
Lake.....	55	100	740	30			19,100	2,350		
Laporte.....	10	15	2,000	80			103,010	10,746		
Porter.....			450	22			1,300	130		
Total.....	65	115	3,190	132			123,410	13,226		
Illinois:										
Cook.....							515	37		
Lake.....			5,265	200			168,125	18,075		
Total.....			5,265	200			168,640	18,112		
Wisconsin:										
Brown.....			537,770	12,559	2,600	122				
Door.....			64,635	2,323	8,160	371	802,519	81,736	1,830	186
Kenosha.....							180,346	19,616		
Kewaunee.....			3,862	93			461,813	47,952	215	17
Manitowoc.....			18,763	799			452,220	41,546		
Marquette.....			212,899	8,938			134,690	12,465		
Milwaukee.....			2,105	88			1,075,831	110,677		
Oconto.....			209,912	4,897	805	38	15,144	1,575	230	18
Ozaukee.....			2,800	131			302,128	30,700		
Racine.....							527,125	72,800		
Sheboygan.....			6,450	254			889,771	104,038		
Total.....			1,059,196	30,082	11,565	531	4,841,587	523,105	2,275	221
Grand total..	346	904	2,104,453	74,859	14,110	625	8,647,895	852,879	2,820	259

STATISTICS OF THE FISHERIES OF LAKE MICHIGAN IN 1917, BY STATES AND TERRITORIES—Continued.

YIELD, BY SPECIES—Continued.

State and county.	Trout, steel-head.		White bass.		Whitefish, common.				White menom.
					Fresh.		Salted.		Fresh.
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.
Michigan									
Allegan.....			250	\$15	11,247	\$1,530			
Antrim.....					11,156	1,186			240
Benzie.....					693,388	73,988			30
Berrien.....					27,636	3,781			
Charlevoix.....					492,552	49,615	1,200	\$96	19,568
Delta.....					152,428	14,566			1,772
Emmet.....					42,587	4,786			3,000
Grand Traverse.....					41,268	5,812			
Leelanau.....					423,877	37,345			1,422
Mackinac.....					529,510	53,476	745	105	23,233
Manistee.....					29,352	3,558			
Mason.....					16,317	2,151			
Menominee.....					4,254	468			49
Muskegon.....	700	\$117	350	35	7,615	1,114			
Oceana.....					1,518	258			
Ottawa.....					6,862	832			
Schoolcraft.....					323,941	40,825			27,373
Van Buren.....					24,360	2,303			
Total.....	700	117	600	50	2,839,868	298,594	1,945	201	76,687
Indiana:									
Lake.....	19,200	2,880			300	42			
Laporte.....	900	180			3,550	637			
Porter.....	1,150	172			300	43			
Total.....	21,250	3,232			4,150	722			
Illinois, Lake.....					33,600	4,750			
Wisconsin:									
Brown.....			675	27	600	67			
Door.....					48,002	4,950			23,145
Kewaunee.....					1,000	112			
Manitowoc.....					42,582	4,451			
Marquette.....					26,672	2,805			
Milwaukee.....					4,680	571			
Oconto.....					14,344	1,607			
Ozaukee.....					5,040	545			
Sheboygan.....					24,910	3,988			500
Total.....			675	27	167,830	19,096			23,645
Grand total..	21,950	3,349	1,275	77	3,045,448	323,162	1,945	201	100,332

STATISTICS OF THE FISHERIES OF LAKE MICHIGAN IN 1917, BY STATES AND COUNTIES—Continued.

YIELD, BY SPECIES—Continued.

State and county.	Whitefish, menominee—Continued.		Yellow perch.				Crawfish.		Total.	
	Salted.		Fresh.		Salted.		Lbs.	Value.	Lbs.	Value.
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.				
Michigan:										
Allegan.....			1,148	\$91					37,132	\$3,600
Antrim.....									33,606	2,714
Benzie.....			1,300	112					1,225,714	114,746
Berrien.....			11,964	1,340					783,782	64,607
Charlevoix.....	7,400	\$553	52,088	3,170					1,898,824	136,227
Delta.....			176,204	12,035					1,460,621	83,020
Emmet.....			5,800	460					154,628	13,240
Grand Traverse.....			4,157	362					299,720	17,494
Leelanau.....	698	47	3,391	287					1,174,231	85,436
Mackinac.....	7,500	557	380	19					692,406	64,896
Manistee.....			9,815	295					328,860	27,297
Mason.....			5,013	511					440,479	37,925
Menominee.....			4,561	180	1,725	\$81			648,462	29,294
Muskegon.....			8,137	654					204,592	15,405
Oceana.....									8,711	8,711
Ottawa.....			21,818	1,703					1,212,631	85,987
Schoolcraft.....	9,700	776							792,662	76,078
Van Buren.....			3,823	338					174,162	16,624
Total.....	25,298	1,933	309,599	21,557	1,725	81			11,634,480	883,301
Indiana:										
Lake.....			18,300	1,785					146,734	12,707
Laporte.....			18,600	1,641					775,541	57,260
Porter.....			4,200	360					93,900	5,132
Total.....			41,100	3,786					1,016,175	75,099
Illinois:										
Cook.....			80,613	7,157					661,284	39,020
Lake.....			52,300	3,015					695,010	48,355
Total.....			132,913	10,172					1,356,294	87,375
Wisconsin:										
Brown.....			1,122,303	44,892			80,495	\$4,427	3,368,888	116,085
Door.....	805	40	135,232	5,410					4,526,471	235,391
Kenosha.....			6,360	474					479,580	36,174
Kewaunee.....			17,832	713					907,738	62,635
Manitowoc.....			15,968	1,380					1,288,055	91,172
Marinette.....			110,421	4,417					3,212,056	123,412
Milwaukee.....			117,360	8,974					2,269,486	181,742
Oconto.....			338,733	13,549					2,333,133	85,456
Ozaukee.....			2,500	195					654,668	53,364
Racine.....			5,950	445					553,475	74,395
Sheboygan.....			4,800	455					1,860,189	165,258
Total.....	805	40	1,877,459	80,904			80,495	4,427	21,453,679	1,225,084
Grand total.....	26,103	1,973	2,361,071	116,419	1,725	81	80,495	4,427	35,460,628	2,270,859

FISHERIES, BY APPARATUS.

Of the total product, 20,786,387 pounds, valued at \$1,493,914, was credited to the vessel fisheries, and 14,674,241 pounds, valued at \$776,945, to the shore or boat fisheries. In the vessel fisheries, gill nets and lines were employed and in the shore fisheries pound nets and trap nets, gill nets, fyke nets, seines, lines, and crawfish pots. The catch with these forms of apparatus was as follows: Gill nets, 22,346,654 pounds, valued at \$1,458,809; pound nets and trap nets, 8,735,445 pounds, valued at \$491,647; lines, 2,007,204 pounds, valued at \$231,563; fyke nets, 1,906,613 pounds, valued at \$72,875; seines, 384,217 pounds, valued at \$11,538; crawfish pots, 80,495 pounds, valued at \$4,427.

The products of the vessel and shore fisheries by States, court apparatus, and species in 1917 are shown in the following tables

YIELD OF VESSEL FISHERIES OF LAKE MICHIGAN IN 1917, BY STATES, COURT APPARATUS, AND SPECIES.

Apparatus and species.	Indiana.		Illinois.				
	Laporte.		Cook.		Lake.		Total
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.
Gill nets:							
Burbot.....	1,764	\$75	58	\$1			58
Ciscoes, fresh.....	573,330	39,973	525,258	28,835	309,000	\$15,935	834,258
Trout, lake.....	95,310	9,951	515	37	151,875	16,325	152,390
Whitefish, common, fresh.....	100	15					
Yellow perch.....			44,613	3,807	34,200	1,875	78,813
Total.....	670,504	50,014	570,444	32,680	495,075	34,135	1,065,519
Lines: Trout, lake, fresh.....	7,000	700					
Grand total.....	677,504	50,714	570,444	32,680	495,075	34,135	1,065,519

Apparatus and species.	Michigan.						
	Benzie.		Berrien.		Charlevoix.		Delta
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.
Gill nets:							
Burbot.....	4,870	\$89	2,770	\$63	7,742	\$172	
Ciscoes—							
Fresh.....	176,545	10,253	389,976	25,326	241,184	12,153	3,552
Salted.....							34,840
Suckers.....	11,011	412	1,125	90	7,896	244	2,097
Trout, lake.....	295,695	26,896	233,164	24,163	876,740	54,663	96,499
Whitefish—							
Common, fresh.....	678,988	72,668	10,068	1,437	409,354	40,908	26,063
Common, salted.....					1,300	96	
Menominee, fresh.....	30	1			6,305	381	
Menominee, salted.....					100	7	
Yellow perch.....			1,725	202	14,908	892	
Total.....	1,167,139	110,319	638,828	51,281	1,565,429	109,516	163,051
Lines: Trout, lake, fresh.....					80,581	6,347	
Grand total.....	1,167,139	110,319	638,828	51,281	1,646,010	115,863	163,051

Apparatus and species.	Michigan—Continued.						
	Grand Traverse.		Leelanau.		Mackinac.		Manistowic
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.
Gill nets:							
Burbot.....	1,100	\$20					
Ciscoes, fresh.....	7,320	354	230,659	\$11,985			75,405
Suckers.....			250	10	13,309	\$767	11,606
Trout, lake.....	12,000	884	378,500	27,722	32,969	3,044	139,542
Whitefish—							
Common, fresh.....	1,560	241	320,625	28,748	69,048	8,203	18,142
Common, salted.....					155	22	
Menominee, fresh.....					11,918	535	
Menominee, salted.....			698	47	5,900	442	
Yellow perch.....	987	86	36	3			
Total.....	22,967	1,585	930,768	68,515	133,299	13,013	244,695
Lines: Trout, lake, fresh.....					1,025	82	25,875
Grand total.....	22,967	1,585	930,768	68,515	134,324	13,095	270,570

YIELD OF VESSEL FISHERIES OF LAKE MICHIGAN IN 1917, BY STATES, COUNTIES, APPARATUS, AND SPECIES—Continued.

Apparatus and species.	Michigan—Continued.							
	Mason.		Muskegon.		Oceana.		Ottawa.	
	<i>Pounds.</i>	<i>Value.</i>	<i>Pounds.</i>	<i>Value.</i>	<i>Pounds.</i>	<i>Value.</i>	<i>Pounds.</i>	<i>Value.</i>
Gill nets:								
Burbot.....	5,850	\$169					1,522	\$31
Ciscoes, fresh.....	167,110	11,363	20,555	\$1,234	24,000	\$1,440	863,050	48,878
Pike perch (wall-eyed or yellow pike).....							40	6
Suckers.....	700	36	357	21				
Trout, lake.....	121,401	12,998	2,408	273	9,875	1,337	198,491	24,047
Whitefish, common, fresh.....	3,205	406	2,101	309	1,518	258	3,000	360
Yellow perch.....			4,942	396			1,000	70
Total.....	298,266	24,972	30,363	2,233	35,393	3,035	1,067,103	73,392
Lines: Trout, lake, fresh.....	27,465	3,530	13,466	1,526	36,575	5,676	38,981	5,021
Grand total.....	325,731	28,502	43,829	3,759	71,968	8,711	1,106,084	78,413

Apparatus and species.	Michigan—Continued.						Wisconsin.	
	Schoolcraft.		Van Buren.		Total.		Brown.	
	<i>Pounds.</i>	<i>Value.</i>	<i>Pounds.</i>	<i>Value.</i>	<i>Pounds.</i>	<i>Value.</i>	<i>Pounds.</i>	<i>Value.</i>
Gill nets:								
Burbot.....					23,854	\$544	32,230	\$161
Ciscoes—								
Fresh.....	13,891	\$557	80,016	\$5,303	2,293,263	132,860	573,702	18,645
Salted.....					34,840	1,398	43,138	2,027
Pike perch (wall-eyed or yellow pike).....	114	23			154	29		
Suckers.....	5,747	287	542	52	54,640	2,408	1,624	49
Trout, lake.....	347,412	28,328	60,871	7,197	2,805,567	233,333		
Whitefish—								
Common, fresh.....	203,575	28,635	14,360	2,101	1,761,607	189,733		
Common, salted.....					1,355	118		
Menominee, fresh.....	2,875	115			21,128	1,032		
Menominee, salted.....					6,698	496		
Yellow perch.....			623	62	24,221	1,711	70,144	2,806
Total.....	573,614	57,945	156,412	14,715	7,027,327	563,662	720,838	23,688
Lines: Trout, lake, fresh.....					223,968	24,762		
Grand total.....	573,614	57,945	156,412	14,715	7,251,295	588,424	720,838	23,688

Apparatus and species.	Wisconsin—Continued.							
	Door.		Kenosha.		Kewaunee.		Manitowoc.	
	<i>Pounds.</i>	<i>Value.</i>	<i>Pounds.</i>	<i>Value.</i>	<i>Pounds.</i>	<i>Value.</i>	<i>Pounds.</i>	<i>Value.</i>
Gill nets:								
Burbot.....	43,664	\$218					1,300	\$68
Carp, Asiatic.....								
Ciscoes—								
Fresh.....	852,098	27,693	292,874	\$16,084	265,573	\$8,631	752,522	42,693
Salted.....	58,918	2,846					5,213	259
Suckers.....	3,642	85	180,346	19,616	41,723	4,339	152,772	13,800
Trout, lake.....	285,784	29,722						
Whitefish—								
Common, fresh.....	21,338	2,390					108	19
Menominee, fresh.....	23,145	926						
Yellow perch.....	38,851	1,554			15,312	612	10,928	951
Total.....	1,327,440	65,434	473,220	35,700	323,358	13,600	922,843	57,790
Lines:								
Pike.....	5,756	460						
Trout, lake—								
Fresh.....	300,888	31,292			410,525	42,695		
Salted.....					215	17		
Total.....	306,644	31,752			410,740	42,712		
Grand total.....	1,634,084	97,186	473,220	35,700	734,098	56,312	922,843	57,790

YIELD OF VESSEL FISHERIES OF LAKE MICHIGAN IN 1917, BY STATES, COAST APPARATUS, AND SPECIES—Continued.

Apparatus and species.	Wisconsin—Continued.						
	Marinette.		Milwaukee.		Oconto.		Ozaukee.
	<i>Pounds.</i>	<i>Value.</i>	<i>Pounds.</i>	<i>Value.</i>	<i>Pounds.</i>	<i>Value.</i>	<i>Pounds.</i>
Gill nets:							
Burbot.....	1,842	\$9					
Ciscoes, fresh.....	1,868,107	65,372	965,870	\$56,461	675,458	\$21,952	309,680
Pike.....	2,000	140					
Pike perch (wall-eyed or yellow pike).....	700	84					
Suckers.....	166,218	7,849			6,089	142	
Trout, lake.....	99,528	8,808	1,029,581	105,051			177,128
Whitefish, common, fresh.....	21,056	2,176					
Yellow perch.....	68,114	2,725	71,360	5,224			
Total.....	2,227,565	87,163	2,066,811	166,736	681,547	22,094	486,808
Lines: Trout, lake, fresh.....							55,000
Grand total.....	2,227,565	87,163	2,066,811	166,736	681,547	22,094	541,808

Apparatus and species.	Wisconsin—Continued.						Grand total.
	Racine.		Sheboygan.		Total.		
	<i>Pounds.</i>	<i>Value.</i>	<i>Pounds.</i>	<i>Value.</i>	<i>Pounds.</i>	<i>Value.</i>	
Gill nets:							
Burbot.....					77,736	\$388	103,412
Carp, Asiatic.....					1,300	68	1,300
Ciscoes—							
Fresh.....	17,400	\$1,000	600,430	\$44,474	7,173,714	323,493	10,874,565
Salted.....					102,056	4,873	136,896
Pike.....					2,000	140	2,000
Pike perch (wall-eyed or yellow pike).....					700	84	854
Suckers.....					183,536	8,402	238,176
Trout, lake.....	64,375	8,500	238,000	29,500	2,269,237	237,936	5,322,504
Whitefish—							
Common, fresh.....					42,502	4,585	1,804,209
Common, salted.....							1,355
Menominee, fresh.....					23,145	926	44,273
Menominee, salted.....							6,698
Yellow perch.....					274,709	13,872	377,743
Total.....	81,775	9,500	838,430	73,974	10,150,635	594,767	18,913,685
Lines:							
Pike.....					5,756	460	5,756
Trout, lake—							
Fresh.....	462,750	64,300	406,300	48,430	1,635,463	192,717	1,866,431
Salted.....					215	17	215
Total.....	462,750	64,300	406,300	48,430	1,641,434	193,194	1,872,402
Grand total.....	544,525	73,800	1,244,730	122,404	11,792,069	787,961	20,786,387

YIELD OF SHORE FISHERIES OF LAKE MICHIGAN IN 1917, BY STATES, COUNTIES, APPARATUS, AND SPECIES.

Apparatus and species.	Michigan.									
	Allegan.		Antrim.		Benzie.		Berrien.		Charlevoix.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Pound nets and trap nets:										
Burbot.....							100	\$3	323	\$8
Carp, Asiatic.....	300	\$12					400	16		
Ciscoes, fresh.....	6,933	424	4,800	\$282			63,984	3,616		
Pike perch (wall-eyed or yellow pike).....	4,678	644					1,100	126		
Sheepshead or drum.....	1,600	64					300	12		
Sturgeon.....	795	179					1,720	443	40	5
Sturgeon caviar.....	16	32					190	570		
Suckers, fresh.....	4,249	186	3,250	208	10,000	\$440	1,550	111		
Trout, lake, fresh.....	351	46	625	70			867	104	31,835	2,291
White bass.....	250	15								
Whitefish—										
Common, fresh.....	4,435	576	9,794	1,051	2,400	220	9,775	1,289	62,332	6,543
Menominee, fresh.....									865	49
Yellow perch, fresh.....	574	45			900	76	3,500	335	32,627	1,944
Total.....	24,181	2,223	18,469	1,611	13,300	736	83,486	6,625	128,022	10,840
Gill nets:										
Burbot.....									674	15
Ciscoes—										
Fresh.....	700	42	9,720	550	375	15	21,211	1,442	3,292	159
Salted.....	2,437	142								
Pike perch (wall-eyed or yellow pike).....	80	11								
Sturgeon.....	100	26								
Suckers—										
Fresh.....	1,583	63			1,250	40	7,697	506	1,067	40
Salted.....									100	4
Trout, lake, fresh.....	665	93	2,565	270	31,250	2,500	16,158	2,391	74,542	5,492
Whitefish—										
Common, fresh.....	6,812	954	1,362	135	12,000	1,100	7,793	1,055	20,866	2,164
Menominee, fresh.....			240	18					12,398	760
Menominee, salted.....									7,300	546
Yellow perch.....	574	46			400	36	6,439	779	4,553	334
Total.....	12,951	1,377	13,887	973	45,275	3,691	59,298	6,173	124,792	9,514
Seines:										
Suckers.....							70	4		
Yellow perch.....							300	24		
Total.....							370	28		
Lines:										
Sturgeon.....							1,800	500		
Trout, lake.....			1,250	130						
Total.....			1,250	130			1,800	500		
Grand total.....	37,132	3,600	33,606	2,714	58,575	4,427	144,954	13,326	252,814	20,354

YIELD OF SHORE FISHERIES OF LAKE MICHIGAN IN 1917, BY STATES, COUNTY, APPARATUS, AND SPECIES—Continued.

Apparatus and species.	Michigan—Continued.									
	Delta.		Emmet.		Grand Traverse.		Leelanau.		Mackinac.	
	Pounds.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Pounds.	
Pound nets and trap nets:										
Burbot.....	565	\$7								
Ciscoes—										
Fresh.....	161,888	5,445			14,220	\$965	27,038	\$1,303	10,575	
Salted.....	46,341	1,576								
Pike perch (wall-eyed or yellow pike).....	10,039	1,297	75	\$9						
Sturgeon.....	763	94			35	3				890
Suckers, fresh.....	297,084	12,027	3,600	149	187,351	6,496	47,389	1,911	9,575	36,448
Trout, lake, fresh.....	16,985	1,557	11,225	985	7,174	594	35,845	2,743	36,448	
Whitefish—										
Common, fresh.....	40,688	3,327	20,400	2,510	37,588	5,335	97,041	7,973	428,103	
Common, salted.....										531
Menominee, fresh.....	823	42	3,000	210			114	9	7,589	1,600
Menominee, salted.....										
Yellow perch, fresh.....	49,520	3,305			200	16	2,489	214		
Total.....	624,696	28,677	38,300	3,893	246,568	13,409	209,916	14,153	495,311	
Gill nets:										
Ciscoes—										
Fresh.....	68,538	2,875	3,168	170	10,220	615	4,920	244		
Salted.....	33,148	1,536								
Pike.....	1,230	123								
Pike perch (wall-eyed or yellow pike).....	17,027	2,093								
Suckers, fresh.....	221,061	9,813								11,042
Trout, lake—										
Fresh.....	25,180	2,262	80,173	6,051	8,500	785	15,867	1,348	15,005	200
Salted.....										
Whitefish—										
Common, fresh.....	85,677	8,046	22,187	2,276	2,120	236	6,211	624	32,359	59
Common, salted.....										3,726
Menominee, fresh.....	949	53					1,308	82	3,726	380
Yellow perch.....	106,883	7,148	5,800	460	2,970	260	866	70		
Total.....	559,693	31,940	111,328	8,957	23,810	1,896	29,172	2,368	62,771	
Fyke nets:										
Ciscoes.....	2,120	84								
Pike.....	5,000	500								
Pike perch (wall-eyed or yellow pike).....	29,168	3,035								
Suckers, fresh.....	57,092	2,678								
Yellow perch.....	19,891	1,582								
Total.....	113,181	7,879								
Lines: Trout, lake.....			5,000	420	6,375	604	4,375	400		
Grand total.....	1,297,570	70,505	154,628	13,240	276,753	15,909	243,463	16,921	558,082	

YIELD OF SHORE FISHERIES OF LAKE MICHIGAN IN 1917, BY STATES, COUNTIES, APPARATUS, AND SPECIES—Continued.

Apparatus and species.	Michigan—Continued.									
	Manistee.		Mason.		Menominee.		Muskegon.		Ottawa.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Pound nets and trap nets:										
Burbot.....			1,000	\$35	100	\$1	200	\$6	50	\$1
Carp, Asiatic.....			130	5			410	16	600	23
Ciscoes—										
Fresh.....	7,688	\$402	19,121	811	120,406	4,575	109,977	7,172	58,419	3,565
Salted.....					402,960	18,922				
Pike.....	25	1	900	90			300	30		
Pike perch (wall-eyed or yellow pike).....	5,088	748	11,475	2,508	751	90	4,528	677	2,483	359
Sheepshead or drum.....			100	4			7,000	280	1,315	48
Sturgeon.....	158	35	48	10	361	72	434	104	360	108
Sturgeon caviar.....							50	125	25	62
Suckers, fresh.....	4,344	178	60,432	3,445			7,411	404	1,302	51
Trout, lake—										
Fresh.....	2,094	208	597	77	8,063	726	4,229	503	2,865	326
Salted.....					345	16				
Trout, steelhead.....							500	81		
White bass.....							350	35		
Whitefish—										
Common, fresh.....	10,519	1,212	12,612	1,670	4,254	468	4,499	661	3,812	467
Menominee, fresh.....					49	4				
Yellow perch—										
Fresh.....	4,945	191	3,513	391	3,461	136	650	55	4,040	210
Salted.....					1,725	81				
Total.....	34,861	2,975	109,928	9,046	542,475	25,091	140,538	10,149	75,271	5,220
Gill nets:										
Burbot.....					200	2				
Ciscoes, fresh.....	2,004	83	1,300	65	97,513	3,705	8,175	498	14,032	873
Pike.....	494	26								
Pike perch (wall-eyed or yellow pike).....	497	70	300	45			850	127		
Sheepshead or drum.....			100	4						
Sturgeon.....	785	109	20	6						
Suckers—										
Fresh.....	13,431	590	1,000	50	3,754	150	6,640	391		
Salted.....					345	16				
Trout, lake, fresh.....	657	64	100	12	2,690	242	800	98	416	53
Trout, steelhead.....							200	36		
Whitefish, common, fresh.....	691	80	500	75			1,015	144	50	5
Yellow perch.....	4,870	104	800	64			2,545	203	16,778	1,423
Total.....	23,429	1,126	4,120	321	104,502	4,115	20,225	1,497	31,276	2,354
Fyke nets:										
Pike.....					71	6				
Pike perch (wall-eyed or yellow pike).....					314	38				
Yellow perch.....					1,100	44				
Total.....					1,485	88				
Lines: Yellow perch.....			700	56						
Grand total.....	58,290	4,101	114,748	9,423	648,462	29,294	160,763	11,646	106,547	7,574

YIELD OF SHORE FISHERIES OF LAKE MICHIGAN IN 1917, BY STATES, COUNTY, APPARATUS, AND SPECIES—Continued.

Apparatus and species.	Michigan—Continued.						Indiana.		
	Schoolcraft.		Van Buren.		Total.		Lake.		Lape
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.
Pound nets and trap nets:									
Burbot.....					2,338	\$61	125	\$3	406
Carp, Asiatic.....					1,840	72	400	16	650
Catfish and bullheads.....									120
Ciscoes—									
Fresh.....					605,049	28,930	65,000	3,800	59,000
Salted.....					449,301	20,498			
Pike.....					1,225	121			175
Pike perch (wall-eyed or yellow pike).....	400	\$80			40,617	6,538			1,400
Sheepshead or drum.....					10,315	408			750
Sturgeon.....					5,604	1,177	914	256	482
Sturgeon caviar.....					281	789	40	70	10
Suckers—									
Fresh.....	15,600	1,031			653,137	27,046	540	22	1,500
Salted.....	2,100	74			2,100	74			
Trout, lake—									
Fresh.....	16,162	1,274			175,365	14,284	100	10	600
Salted.....					345	16			
Trout, steelhead.....					500	81	200	30	900
White bass.....					600	50			
Whitefish—									
Common, fresh.....	107,427	10,842			855,679	85,692	300	42	3,300
Common, salted.....					531	75			
Menominee, fresh.....	15,250	610			27,690	1,402			
Menominee, salted.....	9,700	776			11,300	891			
Yellow perch—									
Fresh.....					106,419	6,918	6,300	565	6,500
Salted.....					1,725	81			
Total.....	166,639	14,687			2,951,961	195,204	73,919	4,814	75,787
Gill nets:									
Burbot.....					874	17	500	10	
Ciscoes—									
Fresh.....	12,335	514	1,200	\$86	258,703	11,936	21,500	1,285	9,400
Salted.....					35,585	1,678			
Pike.....					1,724	149			
Pike perch (wall-eyed or yellow pike).....	9	1			18,763	2,347			
Sheepshead or drum.....					100	4			
Sturgeon.....	50	6	50	13	1,005	160			
Suckers—									
Fresh.....	2,438	97	900	48	271,863	12,309	200	8	500
Salted.....					445	20			
Trout, lake—									
Fresh.....	15,390	1,203	2,400	284	292,358	24,503	19,000	2,340	100
Salted.....					200	22			
Trout, steelhead.....					200	36	19,000	2,850	
Whitefish—									
Common, fresh.....	12,939	1,348	10,000	1,202	222,582	23,169			150
Common, salted.....					59	8			
Menominee, fresh.....	9,248	277			27,869	1,442			
Menominee, salted.....					7,300	546			
Yellow perch.....			3,200	276	157,058	11,222	12,000	1,220	12,100
Total.....	52,409	3,446	17,750	1,909	1,296,688	89,568	72,200	7,713	22,250
Fyke nets:									
Ciscoes.....					2,120	84			
Pike.....					5,071	506			
Pike perch (wall-eyed or yellow pike).....					29,482	3,073			
Suckers, fresh.....					57,092	2,678			
Yellow perch.....					20,901	1,626			
Total.....					114,666	7,967			

YIELD OF SHORE FISHERIES OF LAKE MICHIGAN IN 1917, BY STATES, COUNTIES, APPARATUS, AND SPECIES—Continued.

Apparatus and species.	Michigan—Continued.						Indiana.			
	Schoolcraft.		Van Buren.		Total.		Lake.		Laporte.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Seines:										
Suckers.....					70	\$4				
Yellow perch.....					300	24				
Total.....					370	28				
Lines:										
Sturgeon.....					1,800	500	600	\$150		
Sturgeon caviar.....							15	30		
Trout, lake.....					17,000	1,554				
Yellow perch.....					700	56				
Total.....					19,500	2,110	615	180		
Grand total.....	219,048	\$18,133	17,750	\$1,909	4,383,185	294,877	146,734	12,707	98,037	\$6,546

Apparatus and species.	Indiana—Continued.				Illinois.					
	Porter.		Total.		Cook.		Lake.		Total.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Pound nets and trap nets:										
Burbot.....	150	\$6	675	\$41						
Carp, Asiatic.....	100	4	1,150	46						
Catfish and bullheads.....			120	17						
Ciscoes, fresh.....	80,000	4,000	204,000	10,640			9,600	\$555	9,600	\$555
Pike.....	50	4	225	30						
Pike perch (wall-eyed or yellow pike).....			1,400	240						
Sheepshead or drum.....			750	30						
Sturgeon.....	400	112	1,796	530						
Sturgeon caviar.....			50	85						
Suckers, fresh.....	400	20	2,440	102			5,265	200	5,265	200
Trout, lake, fresh.....	1,300	130	2,000	224			16,250	1,750	16,250	1,750
Trout, steelhead.....	1,075	161	2,175	371						
Whitefish, common, fresh.....	250	36	3,850	673			33,600	4,750	33,600	4,750
Yellow perch, fresh.....	1,500	150	14,300	1,320			2,100	125	2,100	125
Total.....	85,225	4,623	234,931	14,349			66,815	7,380	66,815	7,380
Gill nets:										
Burbot.....	200	4	700	14						
Ciscoes, fresh.....	5,600	275	36,500	2,100	54,840	\$2,990	117,120	5,825	171,960	8,815
Suckers, fresh.....	50	2	750	30						
Trout, lake, fresh.....			19,100	2,351						
Trout, steelhead.....	75	11	19,075	2,861						
Whitefish, common, fresh.....	50	7	200	34			16,000	1,015	36,000	2,365
Yellow perch.....	2,700	210	26,800	2,466	20,000	1,350				
Total.....	8,675	509	103,125	9,856	74,840	4,340	133,120	6,840	207,960	11,180
Lines:										
Sturgeon.....			600	150						
Sturgeon caviar.....			15	30						
Yellow perch.....					16,000	2,000			16,000	2,000
Total.....			615	180	16,000	2,000			16,000	2,000
Grand total.....	93,900	5,132	338,671	24,385	90,840	6,340	199,935	14,220	290,775	20,560

YIELD OF SHORE FISHERIES OF LAKE MICHIGAN IN 1917, BY STATES, COUNTIES, APPARATUS, AND SPECIES—Continued.

Apparatus and species.	Wisconsin.									
	Brown.		Door.		Kenosha.		Kewaunee.		Manitowoc.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Found nets and trap nets:										
Burbot	8,500	\$43	2,530	\$13						
Catfish and bullheads	600	24								
Ciscoes—										
Fresh	123,930	4,028	543,111	17,651			157,443	\$5,117		
Salted			1,717,403	82,951						
Pike	600	48	3,216	257						
Pike perch (wall-eyed or yellow pike)	300	45								
Rock bass			1,714	137						
Sheepshead or drum	1,920	38								
Suckers—										
Fresh	538	13	48,176	1,930			3,112	75		
Salted			8,160	371						
Trout, lake										
Fresh			121,531	11,667			1,238	119,298,198	\$27,611	
Salted			1,830	186						
Whitefish										
Common, fresh	600	67	26,664	2,560			1,000	112	41,274	4,302
Menominee, salted			805	40						
Yellow perch, fresh	11,223	449	36,792	1,470			2,520	101	740	69
Total	148,211	4,755	2,511,892	119,233			165,313	5,524	340,212	31,982
Gill nets										
Burbot	28,237	141								
Carp, Asiatic									500	23
Ciscoes										
Fresh	380,801	12,376	200,524	6,517					3,240	162
Salted	15,222	735	12,259	591						
Pike perch (wall-eyed or yellow pike)	1,914	287	662	90						
Sheepshead or drum			318	16						
Suckers, fresh	2,142	50	12,817	308					7,300	295
Trout, lake, fresh			70,196	6,739					1,250	135
Yellow perch	210,432	8,417	50,214	2,009	6,360	\$474			4,300	360
Total	638,748	22,006	346,960	16,279	6,360	474			16,590	975
Fyke nets:										
Burbot	17,919	90								
Carp, Asiatic	27,464	824								
Catfish and bullheads	147,977	5,955								
Pike	2,918	233								
Pike perch (wall-eyed or yellow pike)	16,075	2,411								
Sheepshead or drum	15,000	300								
Suckers—										
Fresh	483,993	11,293								
Salted	2,600	122								
White bass	675	27								
Yellow perch	824,904	32,996								
Total	1,539,534	54,251								
Selines:										
Carp, Asiatic	185,989	5,580							960	50
Suckers	49,473	1,154							6,250	245
Whitefish									1,200	130
Yellow perch	5,600	224								
Total	241,062	6,958							8,410	425
Lines:										
Trout, lake			24,120	2,316			8,327	799		
Yellow perch			9,415	377						
Total			33,535	2,693			8,327	799		
Crawfish pots: Crawfish	80,495	4,427								
Grand total	2,648,050	92,397	2,892,387	138,205	6,360	474	173,640	6,323	365,212	33,382

YIELD OF SHORE FISHERIES OF LAKE MICHIGAN IN 1917, BY STATES, COUNTIES, APPARATUS, AND SPECIES—Continued.

Apparatus and species.	Wisconsin—Continued.									
	Marinette.		Milwaukee.		Oconto.		Ozaukee.		Racine.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Pound nets and trap nets:										
Carp, Asiatic.....			200	\$12	100	\$3				
Catfish and bullheads.....	3,969	\$159			1,800	72				
Ciscoes—										
Fresh.....	305,732	7,643	4,800	235	428,342	13,921	30,000	\$1,200		
Salted.....	317,135	15,318			233,995	11,302				
Pike.....					4,000	320				
Pike perch (wall-eyed or yellow pike).....	276	41			4,441	666				
Suckers—										
Fresh.....	18,320	427	900	45	32,944	769	900	42		
Salted.....					805	38				
Trout, lake—										
Fresh.....	25,461	2,648	625	76	15,144	1,575	20,000	1,700		
Salted.....					230	18				
Whitefish, common, fresh.....	3,778	423	4,680	571	14,344	1,607	5,040	545		
Yellow perch, fresh.....	24,510	980	8,000	650	201,680	8,067	800	68		
Total.....	699,181	27,639	19,205	1,589	937,825	38,358	56,740	3,555		
Gill nets:										
Burbot.....					1,600	8				
Ciscoes, fresh.....	222,409	5,560	98,640	4,724	342,131	11,119	2,460	105	3,000	\$150
Suckers, fresh.....	19,716	460	1,205	43	4,992	116	1,900	89		
Trout, lake, fresh.....	9,701	1,009	41,250	5,000						
Whitefish, common, fresh.....	1,838	206								
Yellow perch.....	9,896	396	38,000	3,100	2,600	104	1,700	127	3,500	270
Total.....	263,560	7,631	179,095	12,867	351,323	11,347	8,060	321	6,500	420
Fyke nets:										
Carp, Asiatic.....					400	12				
Catfish and bullheads.....					10,000	400				
Pike.....	4,562	365			9,100	728				
Pike perch (wall-eyed or yellow pike).....	642	96			10,823	1,623				
Suckers, fresh.....	8,645	202			65,887	1,537				
Yellow perch.....	7,901	316			134,453	5,378				
Total.....	21,750	979			230,663	9,678				
Seines:										
Carp, Asiatic.....					26,000	780				
Pike perch (wall-eyed or yellow pike).....					5,575	866				
Suckers.....					100,000	2,333				
Total.....					131,575	3,979				
Lines:										
Trout, lake.....			4,375	550			50,000	4,400		
Yellow perch.....									2,450	175
Total.....			4,375	550			50,000	4,400	2,450	175
Grand total.....	984,491	36,249	202,675	15,006	1,651,586	63,362	112,800	8,276	8,950	595

YIELD OF SHORE FISHERIES OF LAKE MICHIGAN IN 1917, BY STATES, COUNTIES, APPARATUS, AND SPECIES—Continued.

Apparatus and species.	Wisconsin—Continued.				Grand total.	
	Sheboygan.		Total.		Lbs.	Value.
	Lbs.	Value.	Lbs.	Value.		
Pound nets and trap nets:						
Burbot.....			11,030	\$56	14,043	\$158
Carp, Asiatic.....			300	15	3,290	133
Catfish and bullheads.....			6,369	255	6,489	272
Ciscoes—						
Fresh.....	332,528	\$11,974	1,925,886	61,769	2,744,535	101,894
Salted.....			2,268,533	109,571	2,717,834	130,069
Pike.....			7,816	625	9,266	776
Pike perch (wall-eyed or yellow pike).....			5,017	752	47,034	7,530
Rock bass.....			1,714	137	1,714	137
Sheepshead or drum.....			1,920	38	12,985	476
Sturgeon.....					7,400	1,707
Sturgeon caviar.....					331	874
Suckers—						
Fresh.....	150	4	105,040	3,305	765,882	30,653
Salted.....			8,965	409	11,065	483
Trout, lake—						
Fresh.....	245,471	26,108	727,668	71,504	921,283	87,762
Salted.....			2,060	204	2,405	220
Trout, steelhead.....					2,675	452
White bass.....					600	50
Whitefish—						
Common, fresh.....	24,910	3,988	122,290	14,175	1,015,419	105,290
Common, salted.....					531	75
Menominee, fresh.....					27,690	1,402
Menominee, salted.....			805	40	12,105	931
Yellow perch—						
Fresh.....	100	5	286,325	11,859	409,144	20,222
Salted.....					1,725	81
Total.....	603,159	42,079	5,481,738	274,714	8,735,445	491,647
Gill nets:						
Burbot.....			29,837	149	31,411	180
Carp, Asiatic.....			500	23	500	23
Ciscoes—						
Fresh.....			1,253,205	40,713	1,720,368	63,564
Salted.....			27,451	1,326	63,036	3,004
Pike.....					1,724	149
Pike perch (wall-eyed or yellow pike).....			2,576	386	21,339	2,733
Sheepshead or drum.....			318	16	418	20
Sturgeon.....					1,005	160
Suckers—						
Fresh.....	4,700	175	54,772	1,536	327,385	13,875
Salted.....					445	20
Trout, lake—						
Fresh.....			122,397	12,883	433,855	39,737
Salted.....					200	22
Trout, steelhead.....					19,275	2,897
Whitefish—						
Common, fresh.....			1,838	206	224,620	23,409
Common, salted.....					59	8
Menominee, fresh.....	500	27	500	27	28,369	1,469
Menominee, salted.....					7,300	546
Yellow perch.....	4,500	425	331,502	15,682	551,360	31,735
Total.....	9,700	627	1,824,896	72,947	3,432,669	183,551
Fyke nets:						
Burbot.....			17,919	90	17,919	90
Carp, Asiatic.....			27,864	836	27,864	836
Catfish and bullheads.....			157,977	6,355	157,977	6,355
Ciscoes.....					2,120	84
Pike.....			16,580	1,326	21,651	1,832
Pike perch (wall-eyed or yellow pike).....			27,540	4,130	57,022	7,203
Sheepshead or drum.....			15,009	300	15,009	300
Suckers—						
Fresh.....			558,525	13,032	615,617	15,710
Salted.....			2,600	122	2,600	122
White bass.....			675	27	675	27
Yellow perch.....			967,258	38,690	988,159	40,316
Total.....			1,791,947	64,908	1,906,613	72,875

FIELD OF SHORE FISHERIES OF LAKE MICHIGAN IN 1917, BY STATES, COUNTIES, APPARATUS, AND SPECIES—Continued.

Apparatus and species.	Wisconsin—Continued.				Grand total.	
	Sheboygan.		Total.			
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
ines:						
Carp, Asiatic.....	600	\$30	213, 549	\$6, 440	213, 549	\$6, 440
Pike.....	200	18	200	18	200	18
Pike perch (wall-eyed or yellow pike).....			5, 775	866	5, 775	866
Suckers.....	1, 600	75	157, 323	3, 807	157, 393	3, 811
Whitefish.....			1, 200	130	1, 200	130
Yellow perch.....	200	25	5, 800	249	6, 100	273
Total.....	2, 600	148	383, 847	11, 510	384, 217	11, 538
ines:						
Sturgeon.....					2, 400	650
Sturgeon caviar.....					15	30
Trout, lake.....			86, 822	8, 065	103, 822	9, 619
Yellow perch.....			11, 865	552	28, 565	2, 608
Total.....			98, 687	8, 617	134, 802	12, 907
rawfish pots: Crawfish.....			80, 495	4, 427	80, 495	4, 427
Grand total.....	615, 459	42, 854	9, 661, 340	437, 123	14, 674, 241	776, 945

WHOLESALE FISHERY TRADE.

The wholesale fishery trade of Lake Michigan in 1917 was carried on by 75 establishments, of which 38 were in Chicago, 7 in Green Bay, and the same number in Milwaukee, the principal centers of the wholesale trade, and the remaining 22 distributed in Michigan and Wisconsin towns. The number of persons employed was 752, to whom \$792,927 were paid in wages; the value of the shore and accessory property utilized was \$1,444,826; and the cash capital amounted to \$349,800.

The following table shows the extent of the wholesale fishery trade of Lake Michigan in 1917:

WHOLESALE FISHERY TRADE OF LAKE MICHIGAN IN 1917.

Cities and towns.	State.	Number of firms.	Persons engaged.	Wages paid.	Shore and accessory property.	Cash capital.
Chicago ¹	Illinois.....	39	485	\$624, 821	\$1, 082, 919	\$113, 500
Grand Haven, Charlevoix, and St. Joseph.....	Michigan.....	5	24	27, 178	40, 105	41, 000
Manitowish, Fairport, Manistique, and Naubinway.....	.....do.....	4	10	3, 460	7, 300	6, 000
Menominee.....	.....do.....	3	36	18, 100	65, 961	80, 000
Green Bay.....	Wisconsin.....	7	107	82, 504	153, 694	79, 500
Sturgeon Bay, Detroit Harbor, and Two Rivers.....	.....do.....	4	18	6, 564	15, 710	8, 300
Marquette.....	.....do.....	3	32	14, 700	16, 687	9, 000
Milwaukee.....	.....do.....	7	26	10, 900	58, 000	10, 000
Port Washington and Sheboygan.....	.....do.....	3	14	4, 700	4, 450	2, 500
Total.....		75	752	792, 927	1, 444, 826	349, 800

¹ Includes one firm at Michigan City, Ind.

FISHERIES OF LAKE HURON.

The total number of persons employed in the fisheries of Lake Huron in 1917 was 1,348. Of this number, 149 were on fishing vessels, 29 on transporting vessels, 1,023 in the shore or boat fisheries, and 147 shoresmen in the wholesale establishments and other shore activities.

The total investment in the fisheries amounted to \$1,188,705, which included 26 steam and gasoline fishing vessels of 379 net tons, valued at \$76,500, and their outfits valued at \$27,990; 21 transporting vessels of 193 net tons, valued at \$40,500, and outfits valued at \$5,250; 570 boats valued at \$111,980; fishing apparatus used in the vessel fisheries to the value of \$73,419 and in the shore or boat fisheries to the value of \$264,874; shore and accessory property with a value of \$432,092; and cash capital amounting to \$156,100. Gill nets and lines were employed in both vessel and shore fisheries. The number of gill nets used in the vessel fisheries was 6,613, representing a value of \$69,575, and in the boat fisheries 3,997, valued at \$33,260, a total of 10,610 nets with a value of \$102,835. The use of pound nets, trap nets, fyke nets, seines, and spears was confined to the shore fisheries. The number of pound nets and trap nets operated was 1,731, valued at \$207,904.

The products of the fisheries of Lake Huron in 1917 aggregated 13,363,207 pounds, valued at \$857,478. The more important species were ciscoes, 5,381,365 pounds, valued at \$215,782; lake trout, 2,079,455 pounds, valued at \$214,574; suckers, 1,776,767 pounds, valued at \$72,933; carp, 1,145,250 pounds, valued at \$43,474; common whitefish, 998,226 pounds, valued at \$124,637; pike perch, 994,672 pounds, valued at \$119,234; and yellow perch, 844,019 pounds, valued at \$56,464.

In comparison with the other lakes in 1917 Lake Huron ranked third in the number of persons engaged, investment, and value of the products and fourth in the quantity of products taken. Compared with 1903 there has been a decrease of 356, or 20.89 per cent, in the number of persons engaged; an increase of \$337,066, or 39.57 per cent, in the investment and \$407,160, or 90.42 per cent, in the value of the products; and a decrease of 1,092,002 pounds, or 7.55 per cent, in the quantity of the products.

FISHERIES, BY COUNTIES.

The number of persons engaged, investment, and quantity and value of the products of the fisheries in 1917, by counties, are shown in the following tables:

STATISTICS OF THE FISHERIES OF LAKE HURON IN 1917, BY COUNTIES.

PERSONS ENGAGED.

County.	On vessels fishing.	On vessels transporting.	In shore or boat fisheries.	Shoresmen.	Total.
Alcona.....			20		20
Alpena.....	54	1	66	14	135
Arenac.....			91		91
Bay.....		2	220	46	268
Cheboygan.....	19	12	73	8	112
Chippewa.....	5	6	49	4	64
Huron.....	38	2	246	52	338
Iosco.....	9		67	11	87
Mackinac.....		5	89	4	98
Presque Isle.....	24		20	5	49
St. Clair.....		1	18	3	22
Sanilac.....			42		42
Tuscola.....			22		22
Total.....	149	29	1,023	147	1,348

STATISTICS OF THE FISHERIES OF LAKE HURON IN 1917, BY COUNTIES—Continued.

INVESTMENT.

Items.	Alcona.		Alpena.		Arenac.		Bay.		Cheboygan.	
	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.
Vessels, fishing:										
Steam.....			6	\$29,500					1	\$2,500
Tonnage.....			154						9	
Outfit.....				12,650						1,400
Gasoline.....			1	3,000					4	5,500
Tonnage.....			8						35	
Outfit.....				250						1,530
Vessels transporting:										
Steam.....									1	5,500
Tonnage.....									13	
Outfit.....										300
Gasoline.....			1	1,000			1	\$2,800	9	15,700
Tonnage.....			10				9		78	
Outfit.....				100				475		2,010
Sail and rowboats.....	8	\$240	32	695	13	\$345	51	1,465	29	840
Power boats.....	5	975	16	2,860	14	3,450	44	16,900	15	4,675
Apparatus, vessel fisheries:										
Gill nets.....			2,758	31,460					1,130	10,215
Lines.....				800						
Apparatus, shore fisheries:										
Pound nets and trap nets	39	2,750	108	8,385	81	19,856	240	33,330	276	12,825
Gill nets.....	70	600	223	1,542	6	60	19	700	455	4,490
Fyke nets.....					10	400	122	4,325		
Seines.....					11	1,470	27	3,125		
Lines.....		50								
Spears.....					25	200	90	720		
Shore and accessory property		4,000		37,825		17,250		115,672		16,125
Cash capital.....				37,000				41,500		20,000
Total.....		8,615		167,067		43,031		221,012		103,610

Items.	Chippewa.		Huron.		Iosco.		Mackinac.		Presque Isle.	
	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.
Vessels, fishing:										
Steam.....	1	\$2,000	4	\$22,500	1	\$1,000				
Tonnage.....	9		80		14					
Outfit.....		400		6,200		1,800				
Gasoline.....			2	3,600	1	700			5	\$6,200
Tonnage.....			22		8				40	
Outfit.....				700						3,060
Vessels transporting:										
Steam.....							1	\$1,500		
Tonnage.....							11			
Outfit.....								200		
Gasoline.....	3	6,700	1	1,500			3	3,300		
Tonnage.....	28		7				30			
Outfit.....		935		400				530		
Sail and rowboats.....	20	415	74	2,000	15	385	38	855	13	300
Power boats.....	16	7,700	68	31,625	23	12,900	28	11,925	4	900
Apparatus, vessel fisheries:										
Gill nets.....	100	1,000	1,330	12,800	300	2,600			995	11,500
Lines.....				2,344		300				400
Apparatus, shore fisheries:										
Pound nets and trap nets	184	9,150	397	65,383	75	18,850	223	15,395	22	1,480
Gill nets.....	743	5,522	588	4,384	819	7,956	579	4,064	74	702
Fyke nets.....			309	6,830	9	450				
Seines.....			30	2,915	4	180				
Lines.....				1,435		165		80		100
Spears.....			75	600						
Shore and accessory property		10,750		147,432		28,050		9,630		10,150
Cash capital.....		2,000		25,600		10,000		10,000		5,000
Total.....		42,572		338,248		85,336		57,479		39,792

STATISTICS OF THE FISHERIES OF LAKE HURON IN 1917, BY COUNTIES—Continued.

INVESTMENT—Continued.

Items.	St. Clair.		Sanilac.		Tuscola.		Total.	
	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.
Vessels fishing:								
Steam.....							13	\$57,500
Tonnage.....							266	
Outfit.....								22,45
Gasoline.....							13	19,000
Tonnage.....							113	
Outfit.....								5,540
Vessels transporting:								
Steam.....							2	7,000
Tonnage.....							24	
Outfit.....								500
Gasoline.....	1	\$2,500					19	33,500
Tonnage.....	7						169	
Outfit.....		300						4,750
Sail and rowboats.....	3	95	9	\$220	5	\$165	310	8,020
Power boats.....	6	1,200	15	6,900	6	1,950	260	103,960
Apparatus, vessel fisheries:								
Gill nets.....							6,613	69,575
Lines.....								3,844
Apparatus, shore fisheries:								
Pound nets and trap nets	13	2,300	42	14,400	31	3,800	1,731	207,904
Gill nets.....	90	265	281	2,975			3,997	33,260
Fyke nets.....					10	130	460	12,135
Seines.....					5	270	77	7,960
Lines.....		100		135		30		2,095
Spears.....							190	1,520
Shore and accessory property		11,153		18,555		5,500		432,092
Cash capital.....		5,000						156,100
Total.....		22,913		43,185		11,845		1,188,705

YIELD, BY SPECIES.

Species.	Alcona.		Alpena.		Arenac.		Bay.		Cheboygan.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Bowfin.....					200	\$4				
Burbot.....							200	\$4	350	\$7
Carp, Asiatic.....					15,008	636	219,105	8,297	850	34
Catfish and bullheads.....			21	\$1	850	62	13,538	1,245	450	22
Ciscoes:										
Fresh.....	182,050	\$5,390	395,366	27,297	168,594	4,695	345,762	5,919	44,499	2,333
Salted.....			2,480	105	174,855	9,242	207,585	9,341		
Smoked.....			3,000	120						
Muskellunge.....			45	5						
Pike.....	300	32	510	47	100	10	1,150	97	925	76
Pike perch (wall-eyed or yellow pike), fresh.....	7,100	855	12,622	2,238	51,059	5,337	283,199	29,903	24,857	2,497
Common, salted.....					300	12	800	48	833	34
Sheepshead or drum.....					300	12	600	18		
Sturgeon.....	193	25	665	133	70	21	200	50	260	59
Sturgeon caviar.....			23	46			12	24		
Suckers, fresh.....	37,825	1,497	118,458	6,202	59,131	1,806	413,447	12,221	377,751	15,686
Sunfish.....					300	12	800	32		
Trout, lake:										
Fresh.....	16,850	1,737	509,995	60,392	140	14	2,400	244	136,515	13,616
Salted.....			4,475	448						
Whitefish:										
Common, fresh.....	2,600	349	188,512	26,620	21,255	2,691	45,877	4,649	162,662	19,940
Common, salted.....			850	130						
Common, caviar.....							300	60		
Menominee, fresh.....	11,200	279	15,691	694					5,605	372
Menominee, salted.....			1,800	90					14,417	787
Yellow perch.....	2,000	150	10,312	1,020	60,182	3,636	444,511	26,384	20,856	1,482
Total.....	260,118	10,314	1,264,825	125,588	552,344	28,190	1,979,486	98,536	790,830	56,945

STATISTICS OF THE FISHERIES OF LAKE HURON IN 1917, BY COUNTIES—Continued.

YIELD, BY SPECIES—Continued.

Species.	Chippewa.		Huron.		Iosco.		Mackinac.		Presque Isle.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
rainbow trout					824	\$24	800	\$16		
brook trout			861,976	\$32,574	200	8				
rock bass			14,493	1,505	300	30				
perch and bullheads	1,077	\$178								
perch										
rock bass										
perch (wall-eyed or yellow pike)										
Fresh	101,300	5,065	747,798	26,180	492,389	12,857	10,200	414	275,481	\$15,173
Salted			1,243,019	53,355	125,700	7,542	61,000	2,495		
skullunge	100	10								
perch	6,000	600	2,419	241	200	16	750	56		
perch (wall-eyed or yellow pike)										
Fresh	29,998	4,280	374,691	51,908	117,816	11,424	3,092	339	1,050	113
Salted									30	3
rock bass	2,000	100								
perch head or drum			5,850	176						
perch			930	187	650	160	240	49		
perch caviar					20	40	20	50		
perch										
Fresh	241,712	13,609	130,096	3,953	46,322	1,870	291,896	13,782	28,777	1,161
Salted							1,000	50		
perch	200	10								
perch, lake										
Fresh	146,667	12,348	582,708	61,891	433,000	38,424	87,933	9,341	97,977	9,831
Salted	900	90	2,235	90			1,000	150	48	6
perch										
perch	17,113	1,883	184,784	21,624	159,011	17,558	141,371	19,030	30,922	3,816
perch, salted							2,500	200		
perch, caviar			1,075	197						
Menominee, fresh	650	52			136	6	9,475	513	3,700	275
Menominee, salted							3,800	323		
low perch	24,371	2,225	178,184	13,226	8,695	617	55,183	4,348	200	19
Total	572,088	40,450	4,330,258	267,107	1,385,263	90,576	670,260	51,156	438,185	30,397

Species.	St. Clair.		Sanilac.		Tuscola.		Total.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
rainbow trout							200	\$4
brook trout							2,174	51
rock bass			1,800	\$72	46,311	\$1,853	1,145,250	43,474
perch and bullheads			200	16	2,400	236	33,329	3,295
perch								
rock bass								
perch (wall-eyed or yellow pike)								
Fresh	45,914	\$1,289	443,257	13,298	24,963	795	3,277,573	120,705
Salted			286,053	12,873	100	4	2,100,792	94,957
Smoked							3,000	120
skullunge							145	15
perch							12,354	1,175
perch (wall-eyed or yellow pike)								
Fresh	26,320	3,980	19,010	2,594	43,828	3,763	994,642	119,231
Salted							30	3
rock bass			50	2	300	12	4,283	208
perch head or drum	10,181	382	200	6	600	21	17,731	615
perch	1,218	287	460	92			4,886	1,063
perch caviar	122	268	30	67			227	495
perch								
Fresh	6,481	426	4,404	168	19,467	502	1,775,767	72,883
Salted							1,000	50
perch			50	2	300	12	1,650	68
perch, lake								
Fresh	1,242	143	42,429	4,515			2,070,797	213,790
Salted							8,658	784
perch								
perch	2,107	296	37,014	5,556	273	38	993,501	124,050
perch, salted							3,350	330
perch, caviar							1,375	257
Menominee, fresh							46,457	2,191
Menominee, salted							20,017	1,200
low perch	731	74	6,958	972	31,836	2,311	844,019	56,464
Total	94,316	7,145	841,915	40,233	170,378	9,547	13,363,207	857,478

FISHERIES, BY APPARATUS.

The vessel fisheries of Lake Huron in 1917 were credited with 2,675,783 pounds, valued at \$258,297, and the shore or boat fisheries with 10,687,424 pounds, valued at \$599,181. In the vessel fisheries, the principal form of apparatus was the gill net, the catch of all species amounting to 2,350,721 pounds, with a value of \$224,787. The principal species were lake trout, 1,094,301 pounds, valued at \$116,925; ciscoes, 826,537 pounds, valued at \$53,125; and common whitefish, 410,475 pounds, valued at \$53,716. The catch with lines, consisting of lake trout, was 325,062 pounds, valued at \$33,510.

The principal apparatus of capture used in the shore or boat fisheries was pound nets and trap nets, the catch amounting to 7,936,249 pounds, consisting principally of ciscoes, pike perch, suckers, common whitefish, and yellow perch, valued at \$420,409. The catch with other forms of apparatus in the shore fisheries was as follows: Gill nets, 994,759 pounds, principally ciscoes, lake trout, and common whitefish, valued at \$88,257; seines, 1,306,502 pounds, principally carp, valued at \$56,474; fyke nets, 263,999 pounds, principally yellow perch, suckers, carp, and pike perch, valued at \$14,108; lines, 106,655 pounds, consisting of catfish, lake trout, common whitefish, and yellow perch, valued at \$10,644; and spears, 79,260 pounds, consisting of carp, pike, pike perch, lake trout, and yellow perch, valued at \$9,289. The total catch with gill nets in both vessels and shore fisheries amounted to 3,345,480 pounds, valued at \$313,044, and with lines, 431,717 pounds, valued at \$44,154.

The following tables give the products of the vessel and shore fisheries of Lake Huron in 1917:

YIELD OF VESSEL FISHERIES OF LAKE HURON IN 1917, BY COUNTIES AND APPARATUS.

Apparatus and species.	Alpena.		Cheboygan.		Chippewa.		Huron.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Gill nets:								
Burbot.....			300	\$6				
Carp, Asiatic.....							75	\$3
Ciscoes.....	314,232	\$24,074	29,704	1,492	54,000	\$2,700	162,420	9,978
Pike perch (wall-eyed or yellow pike).....	1,000	91	155	19			206	36
Sturgeon.....			60	15				
Suckers.....							100	2
Trout, lake.....	489,041	58,220	72,187	7,192	15,000	1,500	192,354	21,983
Whitefish—								
Common.....	165,463	23,762	89,345	11,027			82,755	10,536
Menominee.....	8,460	338	750	35				
Yellow perch.....			221	27			1,571	188
Total.....	978,196	106,485	192,722	19,813	69,000	4,200	439,481	42,726
Lines:								
Trout, lake—								
Fresh.....	4,500	450					292,193	30,518
Salted.....							2,235	90
Total.....	4,500	450					294,428	30,608
Grand total.....	982,696	106,935	192,722	19,813	69,000	4,200	733,909	73,334

YIELD OF VESSEL FISHERIES OF LAKE HURON IN 1917, BY COUNTIES AND APPARATUS—Continued.

Apparatus and species.	Iosco.		Presque Isle.		Total.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Nets:						
Burbot.....					300	\$6
Carp, Asiatic.....					75	3
Ciscoes.....			266,181	\$14,881	826,537	53,125
Pike perch (wall-eyed or yellow pike).....	2,160	\$173			3,521	319
Sturgeon.....					60	15
Suckers.....	3,250	33			3,350	35
Trout, lake.....	236,450	18,916	76,328	7,820	1,094,301	116,925
Whitefish—						
Common.....	45,650	5,021	27,262	3,370	410,475	53,716
Menominee.....			1,100	55	10,310	428
Yellow perch.....					1,792	215
Total.....	287,510	24,143	370,871	26,126	2,350,721	224,787
es:						
Trout, lake—						
Fresh.....	10,000	1,000	16,134	1,452	322,827	33,420
Salted.....					2,235	90
Total.....	10,000	1,000	16,134	1,452	325,062	33,510
Grand total.....	297,510	25,143	387,005	27,578	2,675,783	258,297

YIELD OF THE SHORE FISHERIES OF LAKE HURON IN 1917, BY COUNTIES AND APPARATUS.

Apparatus and species.	Alcona.		Alpena.		Arenac.		Bay.		Cheboygan.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
and nets and trap nets:										
Burbot.....							200	\$4	50	\$1
Carp, Asiatic.....					2,927	\$138	19,871	720	850	34
Catfish and bullheads.....			21	\$1			6,300	564	450	22
Ciscoes—										
Fresh.....	181,550	\$5,360	69,934	2,715	168,594	4,695	339,262	5,644	7,295	360
Salted.....			300	12	174,855	9,242	207,585	9,341		
Cuskellunge.....			45	5						
Pike.....	300	32	510	47			450	37	825	66
Pike perch (wall-eyed or yellow pike).....	7,100	855	11,510	2,136	19,444	2,036	172,850	17,699	24,702	2,478
Rock bass.....					300	12	200	8	833	34
Sheepshead or drum.....					300	12	600	18		
Sturgeon.....	193	25	665	133	70	21	200	50	200	44
Sturgeon caviar.....			23	46			12	24		
Suckers, fresh.....	37,825	1,497	115,558	6,115	15,130	469	292,716	9,165	369,588	15,317
Unfish.....					300	12	400	16		
Trout, lake.....	1,300	170	8,369	938	140	14	2,400	244	1,600	160
Whitefish—										
Common.....	1,200	169	23,049	2,858	21,255	2,691	45,165	4,541	36,545	4,367
Common caviar.....							300	60		
Menominee.....	11,100	269							529	25
Yellow perch.....	2,000	150	8,812	910	48,989	2,980	360,432	20,934	13,073	924
Total.....	242,568	8,527	238,796	15,916	452,304	22,322	1,448,943	69,069	456,540	23,832
l nets:										
Cownfin.....					200	4				
Carp, Asiatic.....					400	16				
Catfish and bullheads.....					150	6				
Ciscoes—										
Fresh.....	500	30	11,200	508					7,500	481
Salted.....			2,180	93						
Smoked.....			3,000	120						
Pike.....									100	10
Pike perch (wall-eyed or yellow pike, fresh).....			112	11	400	40				
Suckers.....			2,900	87	1,000	20	2,000	40	8,163	369
Trout, lake—										
Fresh.....	15,200	1,525	8,085	784					62,728	6,264
Salted.....			4,475	448						
Whitefish—										
Common, fresh.....	1,400	180							36,772	4,546
Common, salted.....			850	130						
Menominee, fresh.....	100	10	7,231	356					4,326	312
Menominee, salted.....			1,800	90					14,417	787
Yellow perch.....			1,500	110	250	18	6,000	550	7,562	531
Total.....	17,200	1,745	43,333	2,737	2,400	104	8,000	590	141,568	13,300

YIELD OF THE SHORE FISHERIES OF LAKE HURON IN 1917, BY COUNTIES AND APPARATUS—Continued.

Apparatus and species.	Alcona.		Alpena.		Arenac.		Bay.		Cheboygan.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Fyke nets:										
Carp, Asiatic.							8,925	\$353		
Catfish and bullheads.							1,800	148		
Ciscoes, fresh.							6,500	275		
Pike perch (wall-eyed or yellow pike).							12,572	1,431		
Rock bass.							400	32		
Suckers.					423	\$13	54,544	1,514		
Sunfish.							200	8		
Whitefish, common.							500	80		
Yellow perch.					4,800	240	59,571	3,605		
Total.					5,223	253	145,012	7,446		
Seines:										
Carp, Asiatic.					11,681	482	190,309	7,224		
Catfish and bullheads.					700	56	5,438	533		
Pike.					100	10	700	60		
Pike perch (wall-eyed or yellow pike).					27,215	2,701	77,777	7,973		
Rock bass.							200	8		
Suckers.					42,578	1,304	64,187	1,502		
Sunfish.							200	8		
Whitefish, common.							212	28		
Yellow perch.					5,643	373	16,508	1,095		
Total.					87,917	4,926	355,531	18,431		
Lines: Trout, lake.	350	\$42								
Spears:										
Pike perch (wall-eyed or yellow pike).					4,000	560	20,000	2,800		
Yellow perch.					500	25	2,000	200		
Total.					4,500	585	22,000	3,000		
Grand total.	260,118	10,314	282,129	\$18,653	552,344	28,190	1,979,486	98,536	598,108	\$37,132

Apparatus and species.	Chippewa.		Huron.		Iosco.		Mackinac.		Presque Isle.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Pound nets and trap nets:										
Burbot.					824	\$24				
Carp, Asiatic.			20,700	\$828	200	8				
Catfish and bullheads.	1,077	\$178	4,473	437	300	30				
Ciscoes—										
Fresh.			557,028	14,866	488,389	12,777	9,500	\$380		
Salted.			1,243,019	53,355	125,700	7,542	61,000	2,495		
Muskellunge.	100	10								
Pike.	6,000	600	284	28	200	16	750	56		
Pike perch (wall-eyed or yellow pike).	19,072	2,779	337,833	46,932	112,242	10,848	2,896	299	500	\$5
Rock bass.	2,000	100								
Sheepshead or drum.			5,300	159						
Sturgeon.			930	187	650	160	240	49		
Sturgeon caviar.					20	40	20	50		
Suckers—										
Fresh.	228,412	13,170	60,411	1,560	39,117	1,695	280,396	13,237	25,877	1,061
Salted.							1,000	50		
Sunfish.	200	10								
Trout, lake.	9,187	919	9,465	701	12,829	1,190	23,929	2,706		
Whitefish—										
Common.	1,923	261	94,731	10,184	42,379	4,375	99,942	14,468		
Common caviar.			1,075	197						
Menominee.					136	6				
Yellow perch.	9,371	945	97,354	6,273	5,795	367	49,199	3,869	150	15
Total.	277,342	18,972	2,432,603	135,707	828,781	39,078	528,872	37,659	26,527	1,126

YIELD OF THE SHORE FISHERIES OF LAKE HURON IN 1917, BY COUNTIES AND APPARATUS—Continued.

Apparatus and species.	Chippewa.		Huron.		Iosco.		Mackinac.		Presque Isle.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
gill nets:										
3urbot							800	\$16		
Ciscoes, fresh	47,300	\$2,365	27,850	\$1,311	4,000	\$80	700	34	9,300	\$292
Pike perch (wall-eyed or yellow pike)—										
Fresh	10,926	1,501	13,508	1,394	1,789	216	196	40	550	63
Salted									30	3
Suckers	13,300	439	24,900	933	700	14	11,500	545	2,900	100
Trout, lake—										
Fresh	122,480	9,929	33,790	3,379	159,221	15,868	60,604	6,219	3,850	393
Salted	900	90					1,000	150	48	6
Whitefish—										
Common, fresh	15,190	1,622	7,298	904	67,787	7,749	41,353	4,557	3,660	446
Common, salted							2,500	200		
Menominee, fresh	650	52					9,475	513	2,600	220
Menominee, salted							3,800	323		
Yellow perch	15,000	1,280	22,082	1,750			5,984	479	50	4
Total	225,746	17,278	129,428	9,671	233,497	23,927	137,912	13,076	22,988	1,527
gill nets:										
Carp, Asiatic			3,500	139						
Catfish and bullheads			1,220	108						
Ciscoes, fresh			500	25						
Pike			135	13						
Pike perch (wall-eyed or yellow pike)			1,584	171						
Sheepshead or drum			50	2						
Suckers			44,685	1,458	300	7				
Yellow perch			44,052	3,636	2,000	160				
Total			95,726	5,552	2,300	167				
trawls:										
Carp, Asiatic			817,701	30,604						
Catfish and bullheads			800	80						
Pike perch (wall-eyed or yellow pike)					1,625	187				
Sheepshead or drum			500	15						
Suckers					2,955	121				
Whitefish, common					3,195	413				
Yellow perch			2,500	250	900	90				
Total			821,501	30,949	8,675	811				
seines:										
Catfish			8,000	880						
Trout, lake			53,656	5,110	14,500	1,450	3,400	416	1,665	166
Whitefish, common							76	5		
Yellow perch			2,675	200						
Total			64,331	6,190	14,500	1,450	3,476	421	1,665	166
Carp, Asiatic			20,000	1,000						
Pike			2,000	200						
Pike perch (wall-eyed or yellow pike)			21,560	3,375						
Trout, lake			1,250	200						
Yellow perch			7,950	929						
Total			52,760	5,704						
Grand total	503,088	36,250	3,596,349	193,773	1,087,753	65,433	670,260	51,156	51,180	2,819

YIELD OF THE SHORE FISHERIES OF LAKE HURON IN 1917, BY COUNTIES AND APPARATUS—Continued.

Apparatus and species.	St. Clair.		Sanilac.		Tuscola.		Total.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Pound nets and trap nets:								
Burbot							1,074	\$29
Carp, Asiatic			1,800	\$72	6,383	\$255	52,731	2,055
Catfish and bullheads			200	16	400	36	13,221	1,284
Ciscoes—								
Fresh	45,914	\$1,289	443,257	13,298	24,963	795	2,335,686	62,179
Salted			286,053	12,873			2,098,512	94,860
Muskellunge							145	15
Pike							9,319	882
Pike perch (wall-eyed or yellow pike)	26,320	3,980	19,010	2,594	43,278	3,708	796,757	96,394
Rock bass			50	2			3,383	156
Sheepshead or drum	10,181	382	200	6	300	12	16,881	589
Sturgeon	1,218	287	460	92			4,826	1,048
Sturgeon caviar	122	268	30	67			227	495
Suckers—								
Fresh	6,481	426	4,404	168	15,229	417	1,491,144	64,297
Salted							1,000	50
Sunfish			50	2			950	40
Trout, lake	192	23	3,011	320			72,422	7,385
Whitefish—								
Common	2,107	296	25,369	3,476	273	38	393,938	47,724
Common caviar							1,375	257
Menominee							11,765	300
Yellow perch	731	74	6,051	890	28,936	2,039	630,893	40,370
Total	93,266	7,025	789,945	33,876	119,762	7,300	7,936,249	420,409
Gill nets:								
Bowfin							200	4
Burbot							800	16
Carp, Asiatic							400	16
Catfish and bullheads							150	6
Ciscoes—								
Fresh							108,350	5,101
Salted							2,180	93
Smoked							3,000	120
Pike							100	10
Pike perch (wall-eyed or yellow pike)—								
Fresh							27,481	3,265
Salted							30	3
Suckers							67,363	2,547
Trout, lake—								
Fresh	250	40	19,885	2,100			486,093	46,501
Salted							6,423	694
Whitefish—								
Common, fresh			11,645	2,080			185,105	22,084
Common, salted							3,350	330
Menominee, fresh							24,382	1,463
Menominee, salted							20,017	1,200
Yellow perch			907	82			59,335	4,804
Total	250	40	32,437	4,262			994,759	88,257
Fyke nets:								
Carp, Asiatic					7,050	241	19,475	733
Catfish and bullheads							3,020	256
Ciscoes—								
Fresh							7,000	300
Salted					100	4	100	4
Pike							135	13
Pike perch (wall-eyed or yellow pike)					550	55	14,706	1,657
Rock bass					300	12	700	44
Sheepshead or drum					300	9	350	11
Suckers					4,238	85	104,190	3,077
Sunfish					300	12	500	20
Whitefish, common							500	80
Yellow perch					2,900	272	113,323	7,913
Total					15,738	690	263,999	14,108

YIELD OF THE SHORE FISHERIES OF LAKE HURON IN 1917, BY COUNTIES AND APPARATUS—Continued..

Apparatus and species.	St. Clair.		Sanilac.		Tuscola.		Total.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
ines:								
Carp, Asiatic.....					32,878	\$1,357	1,052,695	\$39,667
Catfish and bullheads.....							6,938	669
Pike.....							800	70
Pike perch (wall-eyed or yellow pike).....							106,617	10,861
Rock bass.....							200	8
Sheepshead or drum.....							500	15
Suckers.....							109,720	2,927
Sunfish.....							200	8
Whitefish, common.....							3,407	441
Yellow perch.....							25,551	1,808
Total.....					32,878	1,357	1,306,502	56,474
ines:								
Catfish.....					2,000	200	10,000	1,080
Trout, lake.....	800	\$0.80	19,533	\$2,095			93,904	9,359
Whitefish, common.....							76	5
Yellow perch.....							2,675	200
Total.....	800	80	19,533	2,095	2,000	200	106,655	10,644
pears:								
Carp, Asiatic.....							20,000	1,000
Pike.....							2,000	200
Pike perch (wall-eyed or yellow pike).....							45,560	6,735
Trout, lake.....							1,250	200
Yellow perch.....							10,450	1,154
Total.....							79,260	9,289
Grand total.....	94,316	7,145	841,915	40,233	170,378	9,547	10,687,424	599,181

WHOLESALE FISHERY TRADE.

In 1917 there were 23 establishments engaged in the wholesale fishery trade of Lake Huron, employing 147 persons, to whom \$95,648 were paid in wages. The value of these establishments with their equipment, etc., was \$262,507; and the cash capital utilized amounted to \$156,100. Compared with 1903 there was an increase of 7 in the number of establishments, 13 in the number of persons engaged, \$57,228 in wages paid, \$166,007 in the value of the establishments and their equipment, and \$60,600 in cash capital.

The following table shows the extent of the wholesale fishery trade of Lake Huron in 1917:

WHOLESALE FISHERY TRADE OF LAKE HURON IN 1917.

Cities and towns.	State.	Number of firms.	Persons engaged.	Wages paid.	Shore and accessory property.	Cash capital.
Bay City and East Tawas.....	Michigan.....	6	57	\$44,450	\$78,197	\$51,500
Alpena.....	do.....	4	14	7,300	34,300	37,000
Cheboygan and Rogers.....	do.....	3	13	11,280	19,100	25,000
St. Ignace and Detour.....	do.....	3	8	4,100	8,800	12,000
Sebewaing, Bayport, Harbor Beach, and Port Huron.....	do.....	7	55	28,518	122,110	30,600
Total.....		23	147	95,648	262,507	156,100

FISHERIES OF LAKE ST. CLAIR AND ST. CLAIR RIVER.

The fisheries of Lake St. Clair and St. Clair River in 1917 gave employment to 64 men. The number of boats in use was 64, valued at \$2,540. The apparatus of capture included 6 seines, valued at \$1,365, and hand lines to the value of \$50; and the shore and accessory property was valued at \$12,000. The products of the fisheries amounted to 133,330 pounds, valued at \$11,852, of which 85,330 pounds, valued at \$4,652, were carp taken with seines and 48,000 pounds, valued at \$7,200, pike perch caught with hand lines. Because of legal restrictions, the fisheries of the connecting waters between Lakes Erie and Huron are of much less importance than formerly.

FISHERIES, BY COUNTIES.

The following table shows, by counties, the number of persons employed, investment, and quantity and value of the products of the fisheries in 1917:

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS BY APPARATUS IN THE FISHERIES OF LAKE ST. CLAIR AND ST. CLAIR RIVER IN 1917, BY COUNTIES.

Items.	Macomb.		St. Clair.		Total.	
	Number.	Value.	Number.	Value.	Number.	Value.
PERSONS ENGAGED.						
Fishermen.....	10		54		64	
INVESTMENT.						
Row boats.....	3	\$215	57	\$1,425	60	\$1,640
Power boats.....	1	100	3	800	4	900
Seines.....	1	500	5	865	6	1,365
Hand lines.....				50		50
Shore and accessory property.....		2,000		10,000		12,000
Total.....	5	2,815	65	13,140	70	15,955
PRODUCTS BY APPARATUS.						
Seines: Carp.....	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Hand lines: Pike perch (wall-eyed or yellow pike).....	50,757	2,436	34,573	2,216	85,330	4,652
Total.....	50,757	2,436	82,573	9,416	133,330	11,852

FISHERIES OF LAKE ERIE.

In 1917 Lake Erie ranked first among the Great Lakes in the amount of capital invested and quantity and value of the products and second in the number of persons engaged. The fisheries gave employment to 2,770 persons, of which number 1,761 are credited to Ohio, 446 to Pennsylvania, 305 to New York, and 258 to Michigan. Of the total, 565 men were on fishing and transporting vessels, 1,487 in the shore or boat fisheries, and 718 shoresmen in wholesale establishments and other fishery industries on shore.

The amount of capital invested was \$4,332,767, which includes 93 fishing vessels of 1,883 net tons, valued at \$508,398, with outfits valued at \$101,665; 24 transporting vessels, of 304 net tons, valued at \$66,100, with outfits valued at \$14,655; 1,016 boats, valued at \$206,185; fishing apparatus used on vessels and boats to the value of \$1,094,713; shore and accessory property valued at \$1,884,165; and cash capital utilized in the fishery industries amounting to \$456,886. The investment in New York was \$655,062; in Pennsylvania, \$919,919; in Ohio, \$2,462,822; and in Michigan, \$294,964. The apparatus used in the fisheries of Lake Erie included 47,578 gill

nets, valued at \$329,632; 5,011 pound nets and trap nets, valued at \$681,060; 801 fyke nets, valued at \$44,403; 285 seines valued at \$38,867; and lines to the value of \$751.

The products aggregated 38,710,238 pounds, for which the fishermen received \$2,327,299. Of this quantity, New York is credited with 2,426,848 pounds, valued at \$167,358; Pennsylvania, with 3,151,241 pounds, valued at \$508,382; Ohio, with 26,442,993 pounds, valued at \$1,570,230; and Michigan, with 1,689,156 pounds, valued at \$81,329. Ciscoes are the principal species represented in the fisheries of Lake Erie in both quantity and value, the catch being 17,160,852 pounds, or 44.33 per cent of the total quantity, valued at \$1,046,862, or 44.98 per cent of the total value of all products. The pike perch, including sauger, ranked second, the yield being 7,277,701 pounds, valued at \$524,439; and carp, third, with a yield of 6,044,792 pounds, valued at \$274,139. Other important species include the common whitefish, 1,755,947 pounds, valued at \$232,761; sheepshead, 2,855,551 pounds, valued at \$69,502; suckers, 1,035,934 pounds, valued at \$36,403; and yellow perch, 959,357 pounds, valued at \$69,864. The catch of burbot, the use of which for food the Bureau has been encouraging, amounted to 652,870 pounds, valued at \$8,027.

In comparison with 1903 there was an increase of 43, or 1.58 per cent, in the number of persons employed; \$2,136,370, or 97.27 per cent, in the capital invested in the fisheries; 15,521,682 pounds, or 66.93 per cent, in the quantity, and \$1,547,284, or 198.36 per cent, in the value of the products.

FISHERIES, BY STATES AND COUNTIES.

The following tables show, by States and counties, the extent of the fisheries of Lake Erie in 1917:

STATISTICS OF THE FISHERIES OF LAKE ERIE IN 1917, BY STATES AND COUNTIES.
PERSONS ENGAGED.

State and county.	On ves- sels fishing.	On ves- sels trans- porting.	In shore or boat fisheries.	Shores- men.	Total.
New York:					
Chautauqua.....	65		61	18	144
Erie.....	15		37	109	161
Total.....	80		98	127	305
Pennsylvania: Erie.....	247	7	47	145	446
Ohio:					
Ashtabula.....	22		75	30	127
Cuyahoga.....	63		63	80	206
Erie.....	77	14	308	133	532
Lake.....		3	103	33	139
Lorain.....	21		30	4	55
Lucas.....	5	13	232	39	289
Ottawa.....		11	348	42	401
Sandusky.....			12		12
Total.....	188	41	1,171	361	1,761
Michigan:					
Monroe.....			112	10	122
Wayne.....	2		59	75	136
Total.....	2		171	85	258
Grand total.....	517	48	1,487	718	2,770

¹ Includes persons engaged in the wholesale fish trade of Detroit.

STATISTICS OF THE FISHERIES OF LAKE ERIE IN 1917, BY STATES AND COUNTIES—
Continued.

INVESTMENT.

State and county.	Vessels fishing.								Vessels transporting.			
	Steam.				Gasoline.				Steam.			
	Num-ber.	Ton-nage.	Value.	Value of outfit.	Num-ber.	Ton-nage.	Value.	Value of outfit.	Num-ber.	Ton-nage.	Value.	Value of outfit.
New York:												
Chautauqua.....	9	208	\$64,000	\$9,680	3	21	\$5,300	\$900	.....	.....	.....	.....
Erie.....	2	28	15,000	550	1	9	2,200	260	.....	.....	.....	.....
Total.....	11	236	79,000	10,230	4	30	7,500	1,160	.....	.....	.....	.....
Pennsylvania: Erie...	36	812	238,440	43,684	9	93	18,200	3,276	1	23	\$3,000	\$250
Ohio:												
Ashtabula.....	3	65	16,800	3,100	1	8	1,500	350	.....	.....	.....	.....
Cuyahoga.....	10	263	71,175	21,900	.....	.....	.....	.....	.....	.....	.....	.....
Erie.....	10	250	44,983	11,715	3	31	8,000	1,750	1	43	10,000	3,500
Lorain.....	3	74	19,000	3,050	1	6	1,000	350	1	17	3,500	150
Lucas.....	.....	.....	.....	.....	1	10	1,500	1,090	.....	.....	.....	.....
Ottawa.....	.....	.....	.....	.....	.....	.....	.....	.....	2	28	8,000	1,300
Total.....	26	652	151,958	39,765	6	55	12,000	3,540	4	88	21,500	4,950
Michigan: Wayne.....	.....	.....	.....	.....	1	5	1,300	10	.....	.....	.....	.....
Grand total.....	73	1,700	469,398	93,679	20	183	39,000	7,986	5	111	24,500	5,200

State and county.	Vessels transporting—Contd.				Sail and row boats.		Power boats.		Vessel fisheries.	
	Gasoline.				Num-ber.	Value.	Num-ber.	Value.	Gill nets.	
	Num-ber.	Ton-nage.	Value.	Value of outfit.					Num-ber.	Value.
New York:										
Chautauqua.....	.....	.....	.....	.....	3	\$75	22	\$16,100	6,286	\$45,137
Erie.....	.....	.....	.....	.....	10	285	9	2,575	1,184	8,640
Total.....	.....	.....	.....	.....	13	360	31	18,675	7,470	53,777
Pennsylvania: Erie...	.....	.....	.....	.....	17	765	14	7,200	20,154	141,273
Ohio:										
Ashtabula.....	.....	.....	.....	.....	29	2,300	23	13,850	2,192	15,320
Cuyahoga.....	.....	.....	.....	.....	13	210	24	14,300	3,052	18,312
Erie.....	4	39	\$11,500	\$2,750	53	1,040	117	42,465	3,974	34,016
Lake.....	1	31	4,500	300	39	1,250	37	22,950	.....	.....
Lorain.....	.....	.....	.....	.....	7	805	4	5,275	766	6,925
Lucas.....	8	58	15,100	3,880	111	5,890	47	16,025	395	2,900
Ottawa.....	6	65	10,500	2,525	258	13,225	89	30,635	.....	.....
Sandusky.....	.....	.....	.....	.....	6	90	.....	.....	.....	.....
Total.....	19	193	41,600	9,455	516	24,810	341	145,500	10,379	77,476
Michigan:										
Monroe.....	.....	.....	.....	.....	45	1,120	21	5,090	.....	.....
Wayne.....	.....	.....	.....	.....	11	315	7	2,350	4	51
Total.....	.....	.....	.....	.....	56	1,435	28	7,440	4	51
Grand total.....	19	193	41,600	9,455	602	27,370	414	178,815	38,007	272,577

STATISTICS OF THE FISHERIES OF LAKE ERIE IN 1917, BY STATES AND COUNTIES—
Continued.

INVESTMENT—Continued..

State and county.	Apparatus of capture, shore fisheries.									Shore and accessory property.	Cash capital.	Total investment.
	Gill nets.		Pound nets and trap nets.		Fyke nets.		Seines.		Value of lines.			
	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.				
New York:												
Chautauqua.....	2,919	\$22,376	.....	.....	.....	.....	8	\$240	\$698	\$27,691	\$23,000	\$215,197
Erie.....	403	4,075	30	\$2,820	.....	.....	.....	.....	.....	309,574	93,886	439,865
Total.....	3,322	26,451	30	2,820	.....	.....	8	240	698	337,265	116,886	655,062
Pennsylvania:												
Erie.....	362	2,214	69	16,930	.....	.....	.....	.....	8	366,679	78,000	919,919
Ohio:												
Ashtabula.....	420	3,172	457	72,945	.....	.....	3	65	.....	103,022	30,000	262,424
Cuyahoga.....	300	2,000	256	32,625	.....	.....	2	60	.....	171,935	22,500	355,017
Erie.....	1,962	10,696	1,557	207,980	97	\$3,070	32	6,975	30	286,895	41,000	728,365
Lake.....	20	180	641	86,200	.....	.....	7	290	.....	73,419	25,000	214,089
Lorain.....	222	325	50	11,900	.....	.....	1	25	15	60,010	2,000	114,333
Lucas.....	.....	.....	863	127,685	234	20,000	50	3,547	.....	155,780	22,000	375,397
Ottawa.....	2,932	11,902	1,002	113,800	192	4,090	117	21,110	.....	136,910	52,500	406,497
Sandusky.....	25	50	.....	.....	.....	.....	7	1,025	.....	5,535	.....	6,700
Total.....	5,881	28,325	4,826	653,135	523	27,160	219	33,097	45	993,506	195,000	2,462,822
Michigan:												
Monroe.....	5	25	86	8,175	222	16,718	41	3,575	.....	23,740	5,000	63,443
Wayne.....	1	40	.....	.....	56	525	17	1,955	.....	162,975	62,000	231,521
Total.....	6	65	86	8,175	278	17,243	58	5,530	.....	186,715	67,000	294,964
Grand total	9,571	57,055	5,011	681,060	801	44,403	285	38,867	751	1,884,165	456,886	4,332,767

YIELD, BY SPECIES.

State and county.	Bowfin.		Burbot.		Carp, Asiatic.		Catfish and bullheads.		Ciscoes.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
New York:										
Chautauqua.....	.....	.....	15,190	\$243	27,968	\$1,492	695	\$81	1,744,054	\$115,563
Erie.....	.....	.....	75	2	1,540	78	.....	.....	299,306	17,522
Total.....	.....	.....	15,265	245	29,508	1,570	695	81	2,043,360	133,085
Pennsylvania: Erie ..	.....	.....	148,719	1,541	22,427	718	990	61	7,381,256	447,744
Ohio:										
Ashtabula.....	.....	.....	69,623	717	7,939	315	2,498	241	630,234	40,406
Cuyahoga.....	.....	.....	171,929	1,720	19,441	961	5,370	287	3,536,647	209,030
Erie.....	3,375	\$50	129,037	1,656	965,156	43,821	278,109	14,410	2,806,913	169,092
Lake.....	.....	.....	99,832	1,993	45,851	1,960	11,991	637	62,193	4,048
Lorain.....	.....	.....	8,635	87	11,289	474	1,025	61	677,616	41,936
Lucas.....	.....	.....	.....	.....	907,638	36,345	56,781	3,138	9,467	571
Ottawa.....	1,790	19	9,830	68	2,571,774	127,544	270,748	20,291	12,066	900
Sandusky.....	.....	.....	.....	.....	60,030	2,700	325	25	.....	.....
Total.....	5,165	69	488,886	6,241	4,589,118	214,120	626,847	39,090	7,735,136	465,983
Michigan:										
Monroe.....	.....	.....	.....	.....	814,666	28,545	.....	.....	1,100	50
Wayne.....	.....	.....	.....	.....	589,073	29,186	.....	.....	.....	.....
Total.....	.....	.....	.....	.....	1,403,739	57,731	.....	.....	1,100	50
Grand total.....	5,165	69	652,870	8,027	6,044,792	274,139	628,532	39,232	17,160,852	1,046,862

^a Includes investment in the wholesale fish trade of Detroit.

STATISTICS OF THE FISHERIES OF LAKE ERIE IN 1917, BY STATES AND COUNTIES—
Continued.

YIELD, BY SPECIES—Continued.

State and county.	Gold-eye or moon-eye.		Pike.		Pike perch.				Rock bass.	
					Blue pike.		Wall-eyed or yellow pike.			
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
New York:										
Chautauqua.....					12,489	\$1,053	119	\$13		
Erie.....					7,155	616	5,679	706	100	\$
Total.....					19,644	1,669	5,798	719	100	5
Pennsylvania: Erie.....			1,238	\$148	162,878	13,049	3,214	412		
Ohio:										
Ashtabula.....					391,146	31,291	12,987	1,298		
Cuyahoga.....					312,164	14,226	11,773	1,387		
Erie.....					588,177	30,123	325,037	39,428		
Lake.....					187,138	14,915	17,932	1,970		
Lorain.....					54,899	2,882	14,072	1,407		
Lucas.....	10,335	\$104	4,428	402			370,843	48,274		
Ottawa.....					341,027	27,086	458,880	46,108		
Sandusky.....							50	5		
Total.....	10,335	104	4,428	402	1,874,551	120,523	1,211,574	139,877		
Michigan:										
Monroe.....							66,870	7,755		
Wayne.....							4,000	400		
Total.....							70,870	8,155		
Grand total.....	10,335	104	5,666	550	2,057,073	135,241	1,291,456	149,163	100	5

State and county.	Sauger.		Sheepshead or drum.		Sturgeon.		Sturgeon caviar.		Suckers.	
	Pounds.	Value.	Pounds.	Value.	Lbs.	Value.	Lbs.	Value.	Pounds.	Value.
New York:										
Chautauqua.....	77,598	\$3,879	55	\$3	7,563	\$1,720	18	\$45	28,604	\$1,867
Erie.....					14,576	3,427	1,000	2,000	18,384	721
Total.....	77,598	3,879	55	3	22,139	5,147	1,018	2,045	46,988	2,588
Pennsylvania: Erie.....	33,993	2,245	10,863	309	2,730	348			28,626	824
Ohio:										
Ashtabula.....	41,656	2,406	18,795	826	34	6			23,991	724
Cuyahoga.....	102,410	4,162	84,954	1,720	128	13			32,092	1,247
Erie.....	2,344,241	154,930	1,520,818	40,544	1,623	196			376,827	12,697
Lake.....	116,415	7,431	68,851	1,799	33	8			32,538	1,038
Lorain.....	20,362	1,368	33,383	674	500	85			5,865	120
Lucas.....	198,450	11,937	309,716	6,193	330	69			166,403	4,992
Ottawa.....	994,047	51,677	804,116	17,314	427	105			219,602	8,510
Sandusky.....			4,000	120						
Total.....	3,817,581	233,911	2,844,633	69,190	3,075	482			857,318	29,328
Michigan:										
Monroe.....					440	87			87,502	3,298
Wayne.....									15,500	365
Total.....					440	87			103,002	3,663
Grand total.....	3,929,172	240,035	2,855,551	69,502	28,384	6,064	1,018	2,045	1,035,934	36,403

STATISTICS OF THE FISHERIES OF LAKE ERIE IN 1917, BY STATES AND COUNTIES—
Continued.

YIELD, BY SPECIES—Continued.

State and county.	Trout, lake.		White bass.		Whitefish, common.		Yellow perch.		Total.	
	Lbs.	Value.	Pounds.	Value.	Pounds.	Value.	Lbs.	Value.	Pounds.	Value.
New York:										
Chautauqua.....	734	\$91	30	\$2	139,225	\$13,964	13,486	\$1,108	2,067,828	\$141,124
Erie.....	807	65	.....	.....	3,843	546	6,555	546	359,020	26,234
Total.....	1,541	156	30	2	143,068	14,510	20,041	1,654	2,426,848	167,358
Pennsylvania: Erie.....	120	13	1,323	118	300,293	37,015	52,571	3,837	8,151,241	508,382
Ohio:										
Ashtabula.....			7,354	586	95,295	14,128	46,903	3,610	1,348,455	96,554
Cuyahoga.....			13,307	577	98,046	13,655	33,701	2,072	4,421,962	251,057
Erie.....	261	32	89,272	6,010	240,253	30,876	349,911	23,002	10,019,010	566,867
Lake.....			2,040	144	61,795	9,257	27,981	2,238	734,590	47,438
Lorain.....			5,625	340	38,276	4,311	20,840	1,315	892,387	55,060
Lucas.....			101,470	6,088	316,137	44,262	141,950	11,375	2,593,948	173,750
Ottawa.....			65,591	3,340	435,509	61,046	182,729	12,639	6,368,136	376,647
Sandusky.....			100	7	.....	.....	.....	.....	64,505	2,857
Total.....	261	32	284,759	17,092	1,285,311	177,535	804,015	56,251	26,442,993	1,570,230
Michigan:										
Monroe.....					27,275	3,701	79,363	7,680	1,077,216	51,116
Wayne.....					.....	.....	3,367	262	611,940	30,213
Total.....					27,275	3,701	82,730	7,942	1,689,156	81,329
Grand total.....	1,922	201	286,112	17,212	1,755,947	232,761	959,357	69,684	38,710,238	2,327,299

FISHERIES, BY APPARATUS.

The catch of the vessel fisheries amounted to 17,151,247 pounds, valued at \$1,057,079, and of the shore or boat fisheries to 21,558,991 pounds, valued at \$1,270,220. The catch of the vessel fisheries was all taken with gill nets, the principal species being ciscoes to the amount of 15,497,879 pounds, valued at \$949,894; pike perch and sauger, 710,951 pounds, valued at \$43,508; common whitefish, 388,614 pounds, valued at \$45,914; burbot, 288,142 pounds, valued at \$2,881; and yellow perch, 174,837 pounds, valued at \$11,883.

The catch with the principal forms of apparatus used in the shore or boat fisheries was as follows: Pound nets and trap nets, 13,319,548 pounds, consisting principally of sauger, pike perch, sheepshead or drum, whitefish, ciscoes, and yellow perch, valued at \$840,640; seines, 5,505,997 pounds, mainly carp, valued at \$251,409; gill nets, 1,853,294 pounds, mainly ciscoes, valued at \$123,293; fyke nets, 857,176 pounds, consisting principally of carp, pike perch, sheepshead, suckers, sauger, and yellow perch, valued at \$51,971; and set lines, 20,976 pounds, consisting principally of catfish, bullheads, and sturgeon, valued at \$2,807.

The following tables give the products of the vessel and shore fisheries of Lake Erie, by States and counties, in 1917:

YIELD OF GILL-NET VESSEL FISHERIES OF LAKE ERIE IN 1917, BY STATES, COUNTIES AND SPECIES.

Species.	New York.						Pennsylvania.	
	Chautauqua.		Erie.		Tot.l.		Erie.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Burbot.....	12,542	\$126	75	\$2	12,617	\$128	136,162	\$1,38
Carp, Asiatic.....	348	14			348	14	20,127	61
Ciscoes.....	1,341,656	90,643	182,476	11,043	1,524,132	101,686	6,965,349	425,55
Pike.....							60	
Pike perch:								
Blue pike.....	4,152	333	1,945	161	6,097	494	134,776	10,77
Wall-eyed or yellow pike.....	119	13			119	13	381	4
Sauger.....	77,598	3,879			77,598	3,879	27,993	1,94
Sheepshead or drum.....	55	3			55	3	88	
Suckers.....	3,351	143			3,351	143	7,041	12
Trout, lake.....	451	38	807	65	1,258	103	102	1
White bass.....	30	2			30	2		
Whitefish, common.....	102,278	9,987	3,633	524	105,911	10,511	217,046	25,97
Yellow perch.....	5,191	419	2,690	199	7,881	618	35,502	2,48
Total.....	1,547,771	105,600	191,626	11,994	1,739,397	117,594	7,544,627	468,93

Species.	Ohio.							
	Ashtabula.		Cuyahoga.		Erie.		Lorain.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Burbot.....	266	\$5	94,129	\$940	44,868	\$423	100	\$
Carp, Asiatic.....	45	2			27	1	600	2
Catfish and bullheads.....					23	3		
Ciscoes.....	518,419	34,358	3,449,050	203,576	2,393,014	144,528	639,363	39,67
Pike perch:								
Blue pike.....	19,444	1,556	239,671	10,026	21,634	1,765	12,981	1,03
Wall-eyed or yellow pike.....	50	4			1,444	134	40	
Sauger.....	8,383	451			140,496	9,987	16,030	1,08
Sheepshead or drum.....	770	39			2,796	62	100	
Suckers.....	1,391	43	23,864	949	25,554	710	500	
Trout, lake.....					261	32		
White bass.....					10	1	100	
Whitefish, common.....	50,712	7,607	13,451	1,614	225	26	65	
Yellow perch.....	5,875	443	14,000	840	72,558	4,682	16,575	99
Total.....	605,385	44,508	3,834,165	217,945	2,702,910	162,354	686,454	42,84

Species.	Ohio—Continued.				Michigan.		Grand total.	
	Lucas.		Total.		Wayne.			
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Burbot.....			139,363	\$1,369			288,142	\$2,88
Carp, Asiatic.....			672	27			21,147	65
Catfish and bullheads.....	252	\$21	275	24			275	2
Ciscoes.....	8,522	515	7,008,398	422,652			15,497,879	949,89
Pike.....	376	38	376	38			436	4
Pike perch:								
Blue pike.....			293,730	14,381			434,603	25,65
Wall-eyed or yellow pike.....	338	45	1,872	188	500	\$50	2,872	29
Sauger.....	2,976	210	167,885	11,736			273,476	17,56
Sheepshead or drum.....	1,575	32	5,241	136			5,384	14
Suckers.....	120	3	51,429	1,713			61,821	1,98
Trout, lake.....			261	32			1,621	14
White bass.....			110	6			140	1
Whitefish, common.....	1,204	170	65,657	9,425			388,614	45,91
Yellow perch.....	21,946	1,775	130,954	8,737	500	40	174,837	11,88
Total.....	37,309	2,809	7,866,223	470,464	1,000	90	17,151,247	1,057,07

YIELD OF SHORE FISHERIES OF LAKE ERIE IN 1917, BY STATES, COUNTIES, APPARATUS, AND SPECIES.

Apparatus and species.	New York.						Pennsylvania.	
	Chatauqua.		Erie.		Total.		Erie.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
and nets and trap nets:								
Burbot.....							7,496	\$106
Carp, Asiatic.....			1,140	\$58	1,140	\$58	2,300	107
Catfish and bullheads.....							990	61
Ciscoes.....			50	3	50	3	301,874	15,722
Pike.....							1,178	141
Pike perch—								
Blue pike.....			2,060	173	2,060	173	23,594	1,886
Wall-eyed or yellow pike.....			5,679	706	5,679	706	2,833	367
Rock bass.....			100	5	100	5		
Sauger.....							6,000	300
Sheepshead or drum.....							10,775	307
Sturgeon.....			1,876	513	1,876	513	2,175	298
Suckers.....			13,784	502	13,784	502	21,385	695
Trout, lake.....							18	2
White bass.....							1,323	118
Whitefish, common.....							79,350	10,396
Yellow perch.....			1,865	147	1,865	147	16,799	1,327
Total.....			26,554	2,107	26,554	2,107	478,090	31,833
Ill nets:								
Burbot.....	2,648	\$117			2,648	117	5,061	51
Carp, Asiatic.....			400	20	400	20		
Ciscoes.....	402,398	24,920	116,780	6,476	519,178	31,396	114,033	6,466
Pike perch—Blue pike.....	8,337	720	3,150	282	11,487	1,002	4,508	386
Sturgeon.....			12,700	2,914	12,700	2,914		
Sturgeon caviar.....			1,000	2,000	1,000	2,000		
Suckers.....	3,853	208	4,600	219	8,453	427	200	2
Trout, lake.....	283	53			283	53		
Whitefish, common.....	36,947	3,977	210	22	37,157	3,999	3,897	641
Yellow perch.....	8,295	689	2,000	200	10,295	889	270	22
Total.....	462,761	30,684	140,840	12,133	603,601	42,817	127,969	7,568
Lines:								
Carp, Asiatic.....	27,620	1,478			27,620	1,478		
Catfish and bullheads.....	695	81			695	81		
Suckers.....	21,400	1,516			21,400	1,516		
Total.....	49,715	3,075			49,715	3,075		
Net lines:								
Sturgeon.....	7,563	1,720			7,563	1,720	555	50
Sturgeon caviar.....	18	45			18	45		
Total.....	7,581	1,765			7,581	1,765	555	50
Grand total.....	520,057	35,524	167,394	14,240	687,451	49,764	606,614	39,451

YIELD OF SHORE FISHERIES OF LAKE ERIE IN 1917, BY STATES, COUNTIES, APPARATUS, AND SPECIES—Continued.

Apparatus and species.	Ohio.									
	Ashtabula.		Cuyahoga.		Erie.		Lake.		Lorain.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Pound nets and trap nets:										
Bowfin.....					3,375	\$50				
Burbot.....	68,777	\$702	77,800	\$780	83,564	1,225	96,832	\$1,993	8,535	\$
Carp, Asiatic.....	2,329	94	16,841	811	143,971	6,315	7,893	315	8,092	3
Catfish and bullheads.....	1,377	129	5,370	287	175,744	9,252	11,637	609	825	2
Ciscoes.....	91,130	4,705	47,397	3,042	105,786	6,187	62,193	4,048	37,600	2,2
Pike perch—										
Blue pike.....	371,002	29,679	71,128	4,090	564,723	28,256	186,705	14,880	41,818	1,8
Wall-eyed or yellow pike.....	12,868	1,287	11,773	1,387	310,654	37,820	17,932	1,970	14,032	1,4
Sauger.....	33,133	1,947	102,410	4,162	2,017,175	132,465	116,415	7,431		
Sheepshead or drum.....	17,315	751	84,954	1,720	1,313,371	35,443	65,851	1,734	32,901	6
Sturgeon.....	34	6	128	13	1,623	196	33	8	500	1
Suckers.....	22,190	666	7,928	289	313,521	10,808	30,110	962	5,215	1
White bass.....	7,204	574	13,307	577	81,739	5,438	1,857	129	5,425	3
Whitefish, common.....	36,243	5,270	84,420	12,016	223,470	28,785	60,195	9,017	38,211	4,3
Yellow perch.....	40,978	3,163	19,651	1,229	236,980	15,660	27,981	2,238	3,587	2
Total.....	704,580	48,973	543,107	30,403	5,575,696	317,900	688,604	45,334	196,741	11,6
Fyke nets:										
Carp, Asiatic.....					85,955	6,017				
Catfish and bullheads.....					34,387	1,585				
Pike perch—Wall-eyed or yellow pike.....					9,368	1,070				
Sauger.....					68,772	4,350				
Sheepshead or drum.....					42,914	1,066				
Suckers.....					22,435	695				
White bass.....					5,958	468				
Yellow perch.....					4,090	260				
Total.....					273,879	15,510				
Gillnets:										
Burbot.....	580	10			105	2				
Carp, Asiatic.....	855	34			255,863	10,885			97	
Catfish and bullheads.....	1,025	102			3,375	162				
Ciscoes.....	20,510	1,333	40,200	2,412	308,113	18,377			653	5
Pike perch—										
Blue pike.....	600	48	1,365	110	1,563	85	200	16		
Wall-eyed or yellow pike.....					2,459	287				
Sauger.....	115	7			116,223	8,027			4,182	26
Sheepshead or drum.....	360	18			46,248	1,040			232	
Suckers.....	275	8	300	9	14,973	473				
White bass.....					45	3				
Whitefish, common.....	6,660	999	175	25	16,558	2,065	1,600	240		
Yellow perch.....	50	4	50	3	35,548	2,347			653	5
Total.....	31,030	2,563	42,090	2,559	801,073	43,753	1,800	256	5,817	37
Seines:										
Carp, Asiatic.....	4,710	185	2,600	150	479,240	20,598	37,988	1,645	500	2
Catfish and bullheads.....	96	10			55,055	2,640	354	28		
Ciscoes.....	145	10								
Pike perch—										
Blue pike.....	100	8			157	9	233	19		
Wall-eyed or yellow pike.....	69	7			312	32				
Sauger.....	25	1			1,375	86				
Sheepshead or drum.....	330	18			115,429	2,932	3,000	65		
Suckers.....	135	7			344	11	2,428	76		
White bass.....	150	12			1,440	95	183	15		
White fish, common.....	1,680	252								
Yellow perch.....					135	8				
Total.....	7,460	510	2,600	150	653,487	26,411	44,186	1,848	500	2
Set lines:										
Burbot.....					500	6				
Carp.....					100	5				
Catfish and bullheads.....					9,525	768			200	1
Pike perch—										
Blue pike.....					100	8			100	
Wall-eyed or yellow pike.....					800	85				
Sauger.....					200	15			150	1
Sheepshead or drum.....					60	2			150	
Suckers.....									150	
White bass.....					80	5			100	1
Yellow perch.....					600	45			25	
Total.....					11,965	939			875	5
Minor apparatus: Carp, Asiatic.....									2,000	10
Grand total.....	743,070	52,046	587,797	33,112	7,316,100	404,513	734,590	47,438	205,933	12,21

YIELD OF SHORE FISHERIES OF LAKE ERIE IN 1917, BY STATES, COUNTIES, APPARATUS, AND SPECIES—Continued.

Apparatus and species.	Ohio—Continued.							
	Lucas.		Ottawa.		Sandusky.		Total.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
gill nets and trap nets:								
Bowfin.....			410	\$5			3,785	\$55
Burbot.....			9,645	64			348,153	4,850
Carp, Asiatic.....	142,856	\$5,715	114,693	5,370			436,645	18,945
Catfish and bullheads.....	41,111	2,272	123,268	9,332			359,332	21,930
Ciscoes.....	945	56	10,164	782			355,215	21,031
Gold-eye or moon-eye.....	875	9					875	9
Pike.....	4,052	364					4,052	364
Pike perch—								
Blue pike.....			335,689	26,627			1,571,065	105,372
Wall-eyed or yellow pike.....	311,345	40,538	438,557	44,068			1,117,161	128,472
Sauger.....	191,111	11,466	924,319	47,714			3,384,563	205,185
Sheepshead or drum.....	280,196	5,603	689,501	14,999			2,484,089	60,912
Turgeon.....	330	69	427	105			3,075	482
Suckers.....	146,631	4,400	206,805	8,016			732,400	25,248
White bass.....	63,935	3,836	46,657	2,392			220,124	13,271
Whitefish, common.....	314,921	44,088	311,968	44,196			1,069,428	147,675
Yellow perch.....	118,493	9,479	173,776	12,030			621,446	44,065
Total.....	1,616,801	127,895	3,385,879	215,700			12,711,408	797,866
gill nets:								
Bowfin.....			1,380	14			1,380	14
Burbot.....			40	1			40	1
Carp, Asiatic.....	35,245	1,409	64,598	2,583			185,798	10,009
Catfish and bullheads.....	11,983	670	14,124	1,052			60,494	3,307
Gold-eye or moon-eye.....	9,460	95					9,460	95
Pike perch—								
Blue pike.....			3,693	295			3,693	295
Wall-eyed or yellow pike.....	59,085	7,681	1,094	110			69,547	8,861
Sauger.....	4,316	258	3,635	182			76,723	4,790
Sheepshead or drum.....	24,175	483	32,305	646			99,394	2,194
Suckers.....	10,405	312	4,755	190			37,595	1,197
White bass.....	37,500	2,250	14,985	750			58,443	3,468
Whitefish, common.....	12	4					12	4
Yellow perch.....	1,459	117	720	55			6,269	432
Total.....	193,640	13,279	141,329	5,878			608,848	34,667
gill nets:								
Burbot.....			25	1			710	13
Carp, Asiatic.....			18,405	910	4,600	\$200	279,820	12,034
Catfish and bullheads.....			400	34			4,800	298
Ciscoes.....			1,902	118			371,378	22,290
Pike perch—								
Blue pike.....			1,645	164			5,373	423
Wall-eyed or yellow pike.....			12,971	1,305			15,430	1,592
Sauger.....			65,243	3,738			185,763	12,040
Sheepshead or drum.....			2,445	62			49,285	1,125
Suckers.....			3,281	113			18,829	603
White bass.....			244	13			289	16
Whitefish, common.....			118,652	16,117			143,645	19,446
Yellow perch.....			5,958	383			42,259	2,787
Total.....			231,171	22,958	4,600	200	1,117,581	72,667
gill nets:								
Burbot.....			120	2			120	2
Carp, Asiatic.....	729,537	29,221	2,374,078	118,681	55,430	2,500	3,684,083	173,000
Catfish and bullheads.....	3,435	175	132,956	9,873	325	25	192,221	12,751
Ciscoes.....							145	10
Pike perch—								
Blue pike.....							490	36
Wall-eyed or yellow pike.....	75	10	6,258	625	50	5	6,764	679
Sauger.....	47	3	850	43			2,297	133
Sheepshead or drum.....	3,770	75	79,865	1,607	4,000	120	206,414	4,817
Suckers.....	9,247	277	4,761	191			16,915	562
White bass.....	35	2	3,705	185	100	7	5,613	316
Whitefish, common.....			4,889	733			6,569	985
Yellow perch.....	52	4	2,275	171			2,462	183
Total.....	746,198	29,767	2,609,757	132,111	59,905	2,657	4,124,093	193,474

YIELD OF SHORE FISHERIES OF LAKE ERIE IN 1917, BY STATES, COUNTIES, APPARATUS, AND SPECIES—Continued.

Apparatus and species.	Ohio—Continued.							
	Lucas.		Ottawa.		Sandusky.		Total.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Set lines:								
Burbot.....							500	
Carp.....							100	
Catfish and bullheads.....							9,725	
Pike perch—								
Blue pike.....							200	
Wall-eyed or yellow pike.....							800	
Sauger.....							350	
Sheepshead or drum.....							210	
Suckers.....							150	
White bass.....							180	
Yellow perch.....							625	
Total.....							12,840	
Minor apparatus:								
Carp, Asiatic.....							2,000	
Grand total.....	2,556,639	\$170,941	6,358,136	\$376,647	64,505	\$2,857	18,576,770	1,099,

Apparatus and species.	Michigan.						Grand total.	
	Monroe.		Wayne.		Total.		Pounds.	Value.
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.		
Pound nets and trap nets:								
Bowfin.....							3,785	
Burbot.....							355,649	4,
Carp, Asiatic.....	10,000	\$300			10,000	\$300	450,085	19,
Catfish and bullheads.....							360,322	21,
Ciscoes.....	1,100	50			1,100	50	658,239	36,
Gold-eye or moon-eye.....							875	
Pike.....							5,230	
Pike perch—								
Blue pike.....							1,596,719	107,
Wall-eyed or yellow pike.....	27,432	3,226			27,432	3,226	1,153,105	132,
Rock bass.....							100	
Sauger.....							3,390,563	205,
Sheepshead or drum.....							2,494,864	61,
Sturgeon.....	400	80			400	80	7,526	1,
Suckers.....	25,143	545			25,143	545	792,712	26,
Trout, lake.....							18	
White bass.....							221,447	13,
Whitefish, common.....	27,275	3,701			27,275	3,701	1,176,053	161,
Yellow perch.....	12,146	932			12,146	932	652,256	46,
Total.....	103,496	8,834			103,496	8,834	13,319,548	840,
Fyke nets:								
Bowfin.....							1,380	
Burbot.....							40	
Carp, Asiatic.....	46,815	1,821	39,500	\$1,533	86,315	3,354	272,113	\$13,
Catfish and bullheads.....							60,494	3,
Gold-eye or moon-eye.....							9,460	
Pike perch—								
Blue pike.....							3,693	
Wall-eyed or yellow pike.....	36,558	4,241	2,800	280	39,358	4,521	108,905	13,
Sauger.....							76,723	4,
Sheepshead or drum.....							99,394	2,
Sturgeon.....	15	2			15	2	15	
Suckers.....	45,569	2,434	10,000	245	55,569	2,679	93,164	3,
White bass.....							58,443	3,
Whitefish, common.....							12	
Yellow perch.....	65,147	6,602	1,924	146	67,071	6,748	73,340	7,
Total.....	194,104	15,100	54,224	2,204	248,328	17,304	857,176	51,

YIELD OF SHORE FISHERIES OF LAKE ERIE IN 1917, BY STATES, COUNTIES, APPARATUS, AND SPECIES—Continued.

Apparatus and species.	Michigan.						Grand total.	
	Monroe.		Wayne.		Total.		Pounds.	Value.
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.		
1 nets:								
Burbot.....							8,419	\$181
Carp, Asiatic.....	850	\$38			850	\$38	281,070	12,092
Catfish and bullheads.....							4,800	298
Ciscoes.....							1,004,589	60,152
Pike perch—								
Blue pike.....							21,368	1,811
Wall-eyed or yellow pike.....	150	15	700	\$70	850	85	16,280	1,677
Sauger.....							185,763	12,040
Sheepshead or drum.....							49,285	1,125
Sturgeon.....							12,700	2,914
Sturgeon caviar.....							1,000	2,000
Suckers.....	800	16	500	10	1,300	26	28,782	1,058
Trout, lake.....							283	53
White bass.....							289	16
Whitefish, common.....							184,699	24,086
Yellow perch.....	200	16	943	76	1,143	92	53,967	3,790
Total.....	2,000	85	2,143	156	4,143	241	1,853,294	123,293
2 lines:								
Burbot.....							120	2
Carp, Asiatic.....	757,001	26,386	549,573	27,653	1,306,574	54,039	5,018,277	228,517
Catfish and bullheads.....							192,916	12,832
Ciscoes.....							145	10
Pike perch—								
Blue pike.....							490	36
Wall-eyed or yellow pike.....	2,730	273			2,730	273	9,494	952
Sauger.....							2,297	133
Sheepshead or drum.....							206,414	4,817
Sturgeon.....	25	5			25	5	25	5
Suckers.....	15,990	303	5,000	110	20,990	413	59,305	2,491
White bass.....							5,613	316
White fish, common.....							6,569	985
Yellow perch.....	1,870	130			1,870	130	4,332	313
Total.....	777,616	27,097	554,573	27,763	1,332,189	54,860	5,505,997	251,409
3 lines:								
Burbot.....							500	6
Carp.....							100	5
Catfish and bullheads.....							9,725	780
Pike perch—								
Blue pike.....							200	16
Wall-eyed or yellow pike.....							800	85
Sauger.....							350	27
Sheepshead or drum.....							210	6
Sturgeon.....							8,118	1,770
Sturgeon caviar.....							18	45
Suckers.....							150	5
White bass.....							180	15
Yellow perch.....							625	47
Total.....							20,976	2,807
Minor apparatus:								
Carp, Asiatic.....							2,000	100
Grand total.....	1,077,216	51,116	610,940	30,123	1,688,156	83,239	21,558,991	1,270,220

WHOLESALE FISHERY TRADE.

There were 70 establishments engaged in the wholesale fish trade of Lake Erie in 1917, employing 728 persons, to whom \$565, were paid in wages, representing a total investment of \$1,559,788; utilizing cash capital to the amount of \$456,886. Compared with 1903, there was an increase of 38 in the number of establishments, 230 in the number of persons employed, \$296,515 in wages paid, and \$746,804 in the investment, including cash or working capital.

The following table shows the extent of the wholesale fishery trade of Lake Erie in 1917:

WHOLESALE FISHERY TRADE OF LAKE ERIE IN 1917.

Cities.	State.	Number of firms.	Persons engaged.	Wages paid.	Shore and accessory property.	Cash capital.
Buffalo.....	New York.....	9	109	\$78,913	\$308,724	\$92,231
Dunkirk and Westfield.....	do.....	3	28	16,472	24,641	23,741
Erie.....	Pennsylvania.....	7	145	90,086	324,529	74,311
Cleveland.....	Ohio.....	7	80	69,839	151,610	22,311
Toledo.....	do.....	4	39	31,842	126,970	22,311
Port Clinton.....	do.....	5	42	29,719	84,138	53,741
Sandusky.....	do.....	5	82	104,151	156,500	23,741
Grand River.....	do.....	4	33	19,251	12,019	23,741
Huron, Vermilion, and Lorain.....	do.....	7	55	32,360	108,200	20,000
Ashtabula.....	do.....	3	30	35,798	94,357	30,000
Detroit and Monroe.....	Michigan.....	16	85	56,622	168,100	67,000
Total.....		70	728	565,053	1,559,788	456,886

FISHERIES OF LAKE ONTARIO AND CERTAIN TRIBUTARIES.

FISHERIES OF LAKE ONTARIO.

In 1917 the fishing industry of Lake Ontario gave employment to 289 persons, 4 of whom were on fishing and transporting vessels, 285 in the shore or boat fisheries, and the remainder employed as shoresmen.

The investment amounted to \$132,653, which included 2 vessels of 18 net tons, valued at \$2,585, including outfits; 196 boats, valued at \$18,900; fishery apparatus used on vessels and boats, valued at \$41,243; shore and accessory property to the value of \$49,925; and cash capital amounting to \$20,000. The apparatus included 165 fyke nets, valued at \$15,175; 353 trap nets, valued at \$21,460; 334 fyke nets, valued at \$4,374; and seines, set lines, etc., to the value of \$234.

The products of the fisheries amounted to 915,616 pounds, valued at \$84,113. The catch of the more important species was made up of 424,744 pounds of ciscoes, value \$38,115; common whitefish, 88,347 pounds, value \$11,720; suckers, 71,826 pounds, value \$5,311; burbot, 61,760 pounds, value \$2,388; catfish and bullheads, 45,111 pounds, value \$5,719; eels, 41,424 pounds, value \$3,249; and perch, 35,688 pounds, value \$4,083.

Compared with 1903 there was a decrease of 16, or 5.25 per cent, in the number of persons employed and of 159,832 pounds, or 14 per cent, in the quantity of the products, and an increase of \$36,311, or 76.19 per cent, in the value of the products and of \$38,274, or 40.55 per cent, in the investment.

FISHERIES, BY COUNTIES.—The following table shows, by counties, the extent of the fisheries of Lake Ontario in 1917:

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS, BY SPECIES, IN THE FISHERIES OF LAKE ONTARIO IN 1917, BY COUNTIES.

Items.	Cayuga.		Jefferson.		Monroe.		Niagara.	
	Number	Value.	Number	Value.	Number	Value.	Number	Value.
PERSONS ENGAGED.								
shore or boat fisheries.....	29		89		23		31	
fishermen.....			11					
Total.....	29		100		23		31	
INVESTMENT.								
motor boats.....	24	\$480	30	\$660	7	\$195	7	\$170
rower boats.....	1	1,500	27	5,890	5	625	13	2,175
apparatus, shore fisheries:								
Trap nets.....	46	3,800	244	15,390				
Gill nets.....	4	270	40	5,645	16	915	30	1,680
Fyke nets.....			240	3,459				
Seines.....							1	50
Set lines.....				18		9		44
Scap nets.....			2	6				
Dredge and accessory property.....		650		41,215		425		2,000
Boat capital.....				20,000				
Total.....		6,700		92,283		2,169		6,119
PRODUCTS.								
	<i>Pounds.</i>	<i>Value.</i>	<i>Pounds.</i>	<i>Value.</i>	<i>Pounds.</i>	<i>Value.</i>	<i>Pounds.</i>	<i>Value.</i>
carp.....			2,163	44	6,185	421		
European, Asiatic.....	244	19	9,043	483			6,120	325
Whitefish and bullheads.....	1,300	224	32,514	4,135	377	34	153	19
Trout.....								
Perch.....	96,680	7,321	59,271	4,066	5,622	477	30,222	1,755
Fresh.....			6,909	801				
Salted.....			40,393	3,153				
Pickled.....	134	9	15,330	2,029	93	12	20	3
Lake perch.....			12,798	1,650	2,254	207	14,177	1,293
Blue pike.....			1,674	322	546	66	60	12
Wall-eyed or yellow perch.....			7,291	443	162	13		
Rock bass.....			300	23				
Deephead or drum.....			59,261	4,516	2,985	161	381	11
Cuckers.....			12,972	713				
Sunfish.....	2,701	123	3,872	888	370	60	2,906	669
Turgeon.....							6	18
Turgeon caviar.....			10,600	1,287	366	65	222	34
Brook trout, lake.....			17,117	2,011	7,522	1,082	31,733	3,771
Whitefish, common.....			27,037	1,434	615	68	160	14
Yellow perch.....	500	50						
Total.....	101,559	7,746	318,545	27,998	27,097	2,666	86,160	7,924

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS, BY SPECIES, IN THE FISHERIES
OF LAKE ONTARIO IN 1917, BY COUNTIES—Continued.

Items.	Orleans.		Oswego.		Wayne.		Total.	
	Number	Value.	Number	Value.	Number	Value.	Number	Value.
PERSONS ENGAGED.								
On vessels, fishing.....					2		2	
On vessels, transporting.....					2		2	
In shore or boat fisheries.....	8		46		48		274	
Shoresmen.....							11	
Total.....	8		46		52		289	
INVESTMENT.								
Vessels fishing, gasoline.....					1	\$1,200	1	\$1,200
Tonnage.....					8		8	
Outfit.....						20		20
Vessels transporting, gasoline.....					1	1,300	1	1,300
Tonnage.....					10		10	
Outfit.....						65		65
Rowboats.....	3	\$150	24	\$900	30	465	125	3,020
Power boats.....	1	300	13	2,390	11	3,000	71	15,880
Apparatus, vessel fisheries: Gill nets.....					3	40	3	40
Apparatus, shore fisheries:								
Trap nets.....					63	2,270	353	21,460
Gill nets.....	7	450	37	3,045	28	3,130	162	15,130
Fyke nets.....			70	675	24	240	334	4,370
Seines.....					2	65	3	115
Set lines.....		22		10		10		115
Scap nets.....							2	6
Shore and accessory property.....		300		3,635		1,700		49,920
Cash capital.....								20,000
Total.....		1,222		10,655		13,505		132,650
PRODUCTS.								
	<i>Pounds.</i>	<i>Value.</i>	<i>Pounds.</i>	<i>Value.</i>	<i>Pounds.</i>	<i>Value.</i>	<i>Pounds.</i>	<i>Value.</i>
Bowfin.....			2,341	\$105	4,705	\$245	7,046	\$356
Burbot.....			4,247	297	49,165	1,626	61,760	2,388
Carp, Asiatic.....			87	5	10,088	519	25,582	1,351
Catfish and bullheads.....			2,131	320	8,649	987	45,124	5,719
Ciscoes:								
Fresh.....	2,390	\$490	70,229	10,269	151,421	12,686	415,835	37,064
Salted.....			2,000	250			8,909	1,051
Eels.....	227	25	527	47	143	15	41,424	3,245
Pike.....	50	8	257	40	71	1	15,821	2,093
Pike perch:								
Blue pike.....	425	78	1,551	203	1,933	202	33,138	3,633
Wall-eyed or yellow perch.....	100	20	100	16	70	14	2,550	450
Rock bass.....						22	7,475	458
Sheepshead or drum.....							300	23
Suckers.....	1,350	150	5,921	367	1,928	145	71,826	5,350
Sunfish.....			2,690	181	5,522	310	23,885	1,327
Sturgeon.....	140	43	2,540	670	1,020	375	10,848	2,705
Sturgeon caviar.....			125	400			131	418
Trout, lake.....	300	42	12,146	1,388	60	2	23,694	2,815
Whitefish, common.....	3,500	700	20,154	2,885	8,321	1,271	88,347	11,720
Yellow perch.....	48	8	246	36	3,315	336	31,921	1,946
Total.....	8,530	1,564	127,292	17,479	246,433	18,736	915,616	84,113

FISHERIES, BY APPARATUS.—The catch of the vessel fisheries amounted to 4,930 pounds, valued at \$413, consisting of 4,500 pounds of ciscoes, value \$360; 200 pounds of whitefish, value \$30; and 230 pounds of yellow perch, value \$23, all of which was taken with gill nets by a vessel in Wayne County.

The catch taken by boats amounted to 910,686 pounds, valued at \$83,700, of which gill nets took 402,170 pounds, value \$43,112; trap nets, 359,298 pounds, value \$28,826; fyke nets, 89,312 pounds, value \$8,823; seines, 54,386 pounds, value \$1,704; lines, 4,688 pounds, value \$1,159; and scap or dip nets, 832 pounds, value \$76. The principal species taken with trap nets were catfish and bullheads, ciscoes, eels, suckers, sunfish, and yellow perch; with gill nets, burbot, ciscoes, pike perch, suckers, lake trout, and whitefish; with fyke nets, catfish and bullheads, eels, pike, suckers, sunfish, and yellow perch; and with

s, sturgeon and eels. The catch of the seines consisted of burbot, carp, catfish, and bullheads; and of scap or dip nets, suckers. The following table gives the products of the shore fisheries, by counties, in 1917:

TABLE OF SHORE FISHERIES OF LAKE ONTARIO IN 1917, BY COUNTIES, APPARATUS, AND SPECIES.

Apparatus and species.	Cayuga.		Jefferson.		Monroe.		Niagara.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
nets:								
Burbot			1,663	\$34				
Carp, Asiatic	244	\$19	8,167	423				
Catfish and bullheads	1,300	224	19,252	2,274				
Ciscoes—								
Fresh	94,360	7,189	15,858	1,133				
Salted			150	18				
Eels	134	9	29,823	2,165				
Pike			9,929	1,289				
Pike perch—								
Blue pike			10,585	1,463				
Wall-eyed or yellow pike			1,611	313				
Rock bass			7,031	384				
Sheepshead or drum			300	23				
Suckers			26,633	1,757				
Sunfish	2,701	123	9,741	467				
Sturgeon			177	31				
Trout, lake			1,006	129				
Whitefish, common			2,757	287				
Yellow perch			16,760	913				
Total	98,739	7,564	161,443	13,103				
nets:								
Burbot			500	10	6,185	\$421		
Carp, Asiatic							100	\$8
Catfish and bullheads					377	34		
Ciscoes—								
Fresh	2,320	132	43,413	2,933	5,622	477	30,217	1,754
Salted			6,759	783				
Pike			37	7	93	12	20	3
Pike perch—								
Blue pike			2,213	187	2,254	207	14,177	1,293
Wall-eyed or yellow pike			63	9	546	66	60	12
Rock bass					162	13		
Sturgeon			3,377	758	145	20	315	60
Suckers			379	22	2,985	161	381	11
Trout, lake			9,694	1,158	366	65	222	34
Whitefish, common			14,360	1,724	7,522	1,082	31,733	3,771
Yellow perch	500	50	1,476	74	615	68	160	14
Total	2,820	182	82,171	7,665	26,872	2,626	77,385	6,960
nets:								
Carp, Asiatic			876	60				
Catfish and bullheads			13,262	1,861				
Eels			10,337	972				
Pike			5,364	733				
Rock bass			260	59				
Suckers			31,417	2,661				
Sunfish			3,231	246				
Yellow perch			8,801	447				
Total			73,548	7,039				
nets:								
Carp, Asiatic							6,020	317
Catfish and bullheads							130	16
Total							6,150	333
nets:								
Catfish and bullheads							23	3
Ciscoes							5	1
Eels			233	16				
Sturgeon			318	99	225	40	2,591	609
Sturgeon caviar							6	18
Total			551	115	225	40	2,625	631
nets: Suckers			832	76				
Grand total	101,559	7,746	318,545	27,998	27,097	2,666	86,160	7,924

YIELD OF SHORE FISHERIES OF LAKE ONTARIO IN 1917, BY COUNTIES, APPARATUS AND SPECIES—Continued.

Apparatus and species.	Orleans.		Oswego.		Wayne.		Total.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Trap nets:								
Bowfin.....					3,705	\$197	3,705	\$1
Burbot.....							1,993	
Carp, Asiatic.....					2,039	159	10,450	
Catfish and bullheads.....					5,513	707	27,065	3.
Ciscoes.....								
Fresh.....					74,944	5,858	185,162	14.1
Salted.....							150	
Eels.....					143	15	30,100	2.1
Pike.....							9,929	1.2
Pike perch.....								
Blue pike.....							10,585	1.4
Wall-eyed or yellow pike.....							1,611	3
Rock bass.....					22	2	7,053	3
Sheepshead or drum.....							300	
Suckers.....					540	39	27,173	1.7
Sunfish.....					4,749	265	17,191	8
Sturgeon.....					600	120	577	1
Trout, lake.....					90	2	1,096	1
Whitefish, common.....					3,926	589	5,083	8
Yellow perch.....					2,075	206	18,835	1.1
Total.....					90,116	8,159	330,298	28.8
Gill nets:								
Burbot.....			4,247	\$297	9,165	626	20,097	1.3
Carp, Asiatic.....							100	
Catfish and bullheads.....							377	
Ciscoes.....								
Fresh.....	2,390	\$490	65,796	9,486	71,977	5,466	221,735	21.7
Salted.....			2,000	250			8,739	1.0
Eels.....			137	15			137	
Pike.....	50	8	257	40	71	1	528	
Pike perch.....								
Blue pike.....	425	78	1,551	203	1,933	302	22,553	2.1
Wall-eyed or yellow pike.....	100	20	100	16	70	14	939	
Rock bass.....							162	
Sturgeon.....			2,240	620			5,077	
Sturgeon caviar.....			125	600			125	
Suckers.....	1,350	150	5,721	356	1,358	102	12,174	8
Sunfish.....			260	19			260	
Trout, lake.....	300	42	12,146	1,388			22,628	2.9
Whitefish, common.....	3,500	700	20,154	2,285	4,195	652	81,464	10.8
Yellow perch.....	48	8	246	36	1,010	107	4,055	3
Total.....	8,163	1,696	114,980	16,011	89,779	8,172	602,170	43.1
Fyke nets:								
Bowfin.....			2,341	105	1,000	48	3,341	15
Carp, Asiatic.....			87	5	363	33	1,326	
Catfish and bullheads.....			2,131	320	1,586	236	15,979	2.4
Ciscoes.....			4,433	783			4,433	7
Eels.....			390	32			10,727	1.0
Pike.....							5,364	7
Rock bass.....							260	
Suckers.....			200	11	30	4	31,647	2.6
Sunfish.....			2,430	162	773	45	5,434	4
Yellow perch.....							8,801	4
Total.....			12,012	1,418	3,752	366	89,312	8.8
Selnes:								
Burbot.....					40,000	1,000	40,000	1.0
Carp, Asiatic.....					7,686	327	13,706	6
Catfish and bullheads.....					350	44	680	
Total.....					48,036	1,371	54,386	1.7
Lines:								
Catfish and bullheads.....							23	
Ciscoes.....							5	
Eels.....	227	25					460	
Sturgeon.....	140	43	300	50	620	255	4,194	1.0
Sturgeon caviar.....							6	
Total.....	367	68	300	50	620	255	4,688	1.1
Scap nets: Suckers.....							832	
Grand total.....	8,530	1,564	127,292	17,479	241,503	18,323	910,686	83.7

FISHERIES OF ST. LAWRENCE RIVER.

The fisheries of the St. Lawrence River gave employment to 29 persons. The number of power and rowboats used was 26, valued at \$1,180; the apparatus of capture used was set lines, valued at \$620; and the investment amounted to \$1,810. The products of the fisheries amounted to 22,169 pounds, valued at \$5,324, of which 21,959 pounds were sturgeon, valued at \$5,091, and 78 pounds sturgeon caviar, valued at \$214.

FISHERIES, BY COUNTIES.—The following table shows, by counties, the persons, investment, and quantity and value of the products of the fisheries of the St. Lawrence in 1917:

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS, BY SET LINES, IN THE FISHERIES OF THE ST. LAWRENCE RIVER IN 1917, BY COUNTIES.

Items.	Jefferson.		St. Lawrence.		Total.	
	Number.	Value.	Number.	Value.	Number.	Value.
PERSONS ENGAGED.						
Fishermen.....	9		20		29	
INVESTMENT.						
Rowboats.....			20	\$480	20	\$480
Power boats.....	6	\$700			6	700
Set lines.....		50		570		620
Shore and accessory property.....		10				10
Total.....	6	760	20	1,050	26	1,810
PRODUCTS BY SET LINES.						
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Eels.....			12	\$3	12	\$3
Pike.....			30	5	30	5
Pike perch (wall-eyed or yellow pike).....			40	8	40	8
Sturgeon.....	3,867	\$888	18,092	4,203	21,959	5,091
Sturgeon caviar.....	40	100	38	114	78	214
Yellow perch.....			50	3	50	3
Total.....	3,907	988	18,262	4,336	22,169	5,324

FISHERIES OF NIAGARA RIVER.

The fisheries of Niagara River are conducted in Erie and Niagara Counties, N. Y., and in 1917 gave employment to 60 persons. The number of power and rowboats used was 46, valued at \$1,815; the apparatus of capture included 9 seines, valued at \$495; 7 fishing machines, valued at \$795; and set lines to the value of \$441; and the value of the shore and accessory property was \$300. The total investment amounted to \$3,846. The yield of the fisheries of Niagara River was 116,603 pounds, valued at \$11,420, of which 81,819 pounds, valued at \$7,559, were taken with seines; 29,982 pounds, valued at \$2,806, with fishing machines; and 4,802 pounds, valued at \$1,055, with set lines. The principal species taken were: Ciscoes, 44,528 pounds, valued at \$2,927; sturgeon, including caviar, 18,669 pounds, valued at \$4,861; suckers, 17,285 pounds, valued at \$967; carp, 15,890 pounds, valued at \$822; and pike perch, 12,592 pounds, valued at \$1,151.

FISHERIES, BY COUNTIES.—The table following shows, by counties, the number of persons employed, investment, and quantity and value of the products of the fisheries of the Niagara River in 1917.

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS, BY APPARATUS, IN THE FISHERY
OF THE NIAGARA RIVER IN 1917, BY COUNTIES.

Items.	Erie.		Niagara.		Total
	Number.	Value.	Number.	Value.	Number.
PERSONS ENGAGED.					
Fishermen.....	11		49		60
INVESTMENT.					
Rowboats.....	11	\$530	33	\$735	44
Power boats.....			2	550	2
Seines.....			9	495	9
Fishing machines.....			7	795	7
Set lines.....		234		207	
Shore and accessory property.....				300	
Total.....	11	764	51	3,082	62
PRODUCTS, BY APPARATUS.					
Seines:					
Carp, Asiatic.....			14,521	\$744	14,521
Catfish and bullheads.....			2,139	164	2,139
Ciscoes.....			32,860	2,059	32,860
Eels.....			436	64	436
Pike perch (blue pike).....			7,980	742	7,980
Sturgeon.....	11,092	\$2,755			11,092
Sturgeon caviar.....	160	320			160
Suckers.....			12,631	711	12,631
Total.....	11,252	3,075	70,567	4,484	81,819
Fishing machines:					
Carp, Asiatic.....			1,369	78	1,369
Catfish and bullheads.....			655	51	655
Ciscoes.....			11,668	868	11,668
Eels.....			1,109	83	1,109
Pike.....			340	51	340
Pike perch (blue pike).....			4,603	408	4,603
Rock bass.....			50	5	50
Sturgeon.....			2,585	461	2,585
Sturgeon caviar.....			175	280	175
Suckers.....			4,560	251	4,560
Yellow perch.....			2,868	270	2,868
Total.....			29,982	2,806	29,982
Set lines:					
Catfish and bullheads.....			16	1	16
Eels.....			26	3	26
Pike perch (blue pike).....			9	1	9
Sturgeon.....			4,657	1,045	4,657
Suckers.....			94	5	94
Total.....			4,802	1,055	4,802
Grand total.....	11,252	3,075	105,351	8,345	116,603

FISHERIES CONSIDERED BY STATES.

The States bordering on the Great Lakes and interested in fisheries are: Minnesota, Wisconsin, Illinois, Indiana, Michigan, Ohio, Pennsylvania, and New York. Of these, Michigan borders Lakes Superior, Michigan, Huron, St. Clair, and Erie; Wisconsin Lakes Superior and Michigan; and New York on Lakes Erie and Ontario. It is therefore of importance to consider these statistics by States, as well as by lakes.

In 1917 there were 9,221 persons engaged in the fisheries of the Great Lakes, of whom 3,183 are credited to Michigan, 1,909 to Wisconsin, 1,761 to Ohio, 683 to New York, 608 to Minnesota, 567 to Illinois, 446 to Pennsylvania, and 67 to Indiana. In Michigan investment amounted to \$2,937,086; Ohio, \$2,462,832; Wisconsin, \$1,668,529; Illinois, \$1,265,664; Pennsylvania, \$919,919; New York, \$793,371; Minnesota, \$428,443; and Indiana, \$79,825. On the basis of the value of the products the States ranked as follows: Michigan, 29,737,355 pounds, valued at \$2,035,889; Ohio, 26,442,993 pounds,

valued at \$1,570,230; Wisconsin, 24,042,103 pounds, valued at \$1,320,162; Pennsylvania, 8,151,241 pounds, valued at \$508,382; Minnesota, 10,041,846 pounds, valued at \$429,667; New York, 3,481,236 pounds, valued at \$268,215; Illinois, 1,356,294 pounds, valued at \$87,375; and Indiana, 1,016,155 pounds, valued at \$75,099.

Separate statistics, by lakes, are given for States whose fisheries are conducted in more than one lake.

The following table shows, by States, the number of persons engaged, apparatus and capital employed, and products of the fisheries of the Great Lakes in 1917:

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS IN THE FISHERIES OF THE GREAT LAKES IN 1917, BY STATES.

Items.	New York.		Pennsylvania.		Ohio.	
	Number.	Value.	Number.	Value.	Number.	Value.
PERSONS ENGAGED.						
On fishing vessels.....	82		247		188	
On vessels transporting.....	2		7		41	
In shore fisheries.....	451		47		1,171	
Shoresmen.....	148		145		361	
Total.....	683		446		1,761	
INVESTMENT.						
Vessels fishing:						
Steam.....	11	\$79,000	36	\$238,440	26	\$151,958
Tonnage.....	236		812		652	
Outfit.....		10,230		43,684		39,765
Gasoline.....	5	8,700	9	18,200	6	12,000
Tonnage.....	38		93		55	
Outfit.....		1,180		3,276		3,540
Vessels transporting:						
Steam.....			1	3,000	4	21,500
Tonnage.....			23		88	
Outfit.....				250		4,950
Gasoline.....	1	1,300			19	41,600
Tonnage.....	10				193	
Outfit.....		65				9,455
Sail and row boats.....	202	5,125	17	765	516	24,810
Power boats.....	110	35,805	14	7,200	341	145,500
Apparatus, vessel fisheries: Gill nets.....	7,473	53,817	20,154	141,273	10,379	77,476
Apparatus, shore fisheries:						
Pound nets and trap nets.....	383	24,280	69	16,930	4,826	653,135
Gill nets.....	3,484	41,586	362	2,214	5,881	28,325
Fyke nets.....	334	4,374			523	27,160
Seines.....	20	850			219	33,097
Lines.....		1,872		8		45
Fishing machines.....	7	795				
Other apparatus.....		6				10
Shore and accessory property.....		387,500		366,679		993,506
Cash capital.....		136,886		78,000		195,000
Total.....		793,371		919,919		2,462,832
PRODUCTS.						
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Bowfin.....	7,046	\$350			5,165	\$69
Burbot.....	77,025	2,633	148,719	\$1,541	488,886	6,241
Carp, Asiatic.....	70,980	3,743	22,427	718	4,589,118	214,120
Catfish and bullheads.....	48,629	6,016	990	61	626,847	39,090
Ciscoes:						
Fresh.....	2,503,723	173,076	7,381,256	447,744	7,735,136	465,983
Salted.....	8,909	1,051				
Eels.....	43,007	3,402				
Gold-eye, or moon-eye.....					10,335	104
Pike.....	16,191	2,149	1,238	148	4,428	402
Pike perch:						
Blue pike.....	65,374	6,453	162,878	13,049	1,874,551	120,523
Wall-eyed or yellow pike, fresh.....	8,388	1,177	3,214	412	1,211,574	139,877
Rock bass.....	7,625	468				
Sauger.....	77,598	3,879	33,993	2,245	3,817,581	233,911
Sheepshead or drum.....	355	26	10,863	309	2,844,633	69,190
Sturgeon.....	73,280	17,210	2,730	348	3,075	482
Sturgeon caviar.....	1,562	3,271				
Suckers, fresh.....	136,099	8,905	28,626	824	857,318	29,328
Sunfish.....	23,885	1,327				
Trout, lake, fresh.....	25,235	2,974	120	13	261	32
White bass.....	30	2	1,323	118	284,759	17,092
Whitefish, common, fresh.....	231,415	26,230	300,293	37,015	1,285,311	177,535
Yellow perch, fresh.....	54,880	3,873	52,571	3,837	804,015	56,251
Total.....	3,481,236	268,215	8,151,241	508,382	26,442,993	1,570,230

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS IN THE FISHERIES OF THE GREAT LAKES IN 1917, BY STATES—Continued.

Items.	Indiana.		Michigan.		Illinois.	
	Number.	Value.	Number.	Value.	Number.	Value.
PERSONS ENGAGED.						
On vessels fishing.....	21		629		55	
On vessels transporting.....			65			
In shore fisheries.....	43		2,117		27	
Shoresmen.....	3		372		482	
Total.....	67		3,183		564	
INVESTMENT.						
Vessels fishing:						
Steam.....	2	\$11,000	59	\$203,450		
Tonnage.....	51		1,150			
Outfit.....		3,610		80,690		
Gasoline.....	1	1,200	93	91,250	13	\$30,
Tonnage.....	8		800		128	
Outfit.....		850		33,905		7,
Vessels transporting:						
Steam.....			2	7,000		
Tonnage.....			24			
Outfit.....				500		
Gasoline.....			37	50,300		
Tonnage.....			365			
Outfit.....				7,215		
Sail and rowboats.....	23	610	741	17,153	9	
Power boats.....	14	3,050	569	201,390	4	2,
Apparatus vessel fisheries:						
Gill nets.....	1,695	35,940	37,584	356,624	2,355	20,
Lines.....		200		11,143		
Apparatus shore fisheries:						
Pound nets and trap nets.....	18	7,600	2,755	347,811	8	3,
Gill nets.....	369	7,130	13,849	115,010	190	1,
Fyke nets.....			795	35,773		
Seines.....			147	15,330		
Lines.....		60		4,829		
Other apparatus.....				1,520		
Shore and accessory property.....		7,575		1,001,093		1,087,
Cash capital.....		1,000		355,100		112,
Total.....		79,825		2,937,086		1,265,
PRODUCTS.						
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Bowfin.....			2,875	\$174		
Burbot.....	3,139	\$130	29,240	673	58	
Carp, Asiatic.....	1,150	46	2,636,159	105,929		
Catfish and bullheads.....	120	17	33,329	3,295		
Ciscoes:						
Fresh.....	813,830	52,713	7,361,794	333,736	1,015,818	54,
Salted.....			2,621,018	118,554		
Smoked.....			3,000	120		
Muskellunge.....			145	15		
Pike.....	225	30	21,174	2,031		
Pike perch:						
Walle-yed or yellow pike, fresh.....	1,400	240	1,207,407	147,254		
Walle-yed or yellow pike, salted.....			30	3		
Rock bass.....			4,283	208		
Sheepshead or drum.....	750	30	28,146	1,027		
Sturgeon.....	2,396	680	13,735	2,987		
Sturgeon caviar.....	65	115	508	1,284		
Suckres:						
Fresh.....	3,190	132	3,049,569	123,107	5,265	
Salted.....			3,815	144		
Sunfish.....			1,650	68		
Trout, lake:						
Fresh.....	123,410	13,226	7,188,617	647,208	168,640	18,
Salted.....			9,203	822		
Trout, steelhead.....	21,250	3,232	700	117		
White bass.....			600	50		
Whitefish:						
Common fresh.....	4,130	722	4,102,926	450,706	33,600	4,
Common, salted.....			5,295	531		
Common, caviar.....			1,375	257		
Menominee, fresh.....			124,374	6,177		
Menominee, salted.....			45,315	3,133		
Yellow perch:						
Fresh.....	41,100	3,786	1,239,348	86,198	132,913	10,
Salted.....			1,725	81		
Total.....	1,016,155	75,099	29,737,355	2,035,889	1,356,294	87,

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS IN THE FISHERIES OF THE GREAT LAKES IN 1917, BY STATES—Continued.

Items.	Wisconsin.		Minnesota.		Total.	
	Number.	Value.	Number.	Value.	Number.	Value.
PERSONS ENGAGED.						
On vessels fishing.....	658		50		1,930	
On vessels transporting.....	48		48		211	
On shore fisheries.....	781		429		5,066	
Boatmen.....	422		81		2,014	
Total.....	1,909		608		9,221	
INVESTMENT.						
Vessels fishing:						
Steam.....	51	\$282,000	5	\$11,500	190	\$977,348
Tonnage.....	1,082		80		4,063	
Outfit.....		69,755		1,760		249,494
Gasoline.....	149	143,460	2	8,500	278	314,010
Tonnage.....	1,373		26		2,521	
Outfit.....		23,661		2,725		76,332
Vessels transporting:						
Steam.....			4	56,000	11	87,500
Tonnage.....			194		329	
Outfit.....				17,880		23,580
Gasoline.....	43	23,425	6	17,500	106	134,125
Tonnage.....	309		58		935	
Outfit.....		2,550		3,415		22,700
Sail and row boats.....	228	5,530	270	7,770	2,006	61,958
Power boats.....	177	60,600	119	18,460	1,348	474,805
Apparatus, vessel fisheries:						
Gill nets.....	24,020	219,273	222	5,175	103,882	909,803
Lines.....		19,194				30,537
Apparatus, shore fisheries:						
Pound nets and trap nets.....	369	126,000	5	500	8,433	1,179,256
Gill nets.....	20,345	62,176	4,915	69,813	49,395	327,899
Fyke nets.....	3,286	33,400			4,938	100,707
Seines.....	60	17,970			446	67,247
Lines.....		2,834		1,325		11,008
Crawfish pots.....	6,400	1,600			6,400	1,600
Fishing machines.....						795
Other apparatus.....						1,536
Shore and accessory property.....		451,301		183,120		4,478,143
Cash capital.....		123,800		23,000		1,025,286
Total.....		1,668,529		428,443		10,555,669
PRODUCTS.						
	<i>Pounds.</i>	<i>Value.</i>	<i>Pounds.</i>	<i>Value.</i>	<i>Pounds.</i>	<i>Value.</i>
Bowfin.....					15,086	\$593
Burbot.....	136,522	\$683			883,589	11,902
Carp, Asiatic.....	243,513	7,382			7,563,347	331,938
Catfish and bullheads.....	164,346	6,610			874,261	55,089
Ciscoes:						
Fresh.....	12,087,210	459,463	3,034,107	\$96,389	41,932,874	2,083,244
Frozen.....			3,302,357	150,810	3,302,357	150,810
Salted.....	2,466,040	118,110	3,189,727	137,596	8,285,694	375,311
Smoked.....			5,400	432	8,400	552
Eels.....					43,007	3,402
Gold-eye, or moon-eye.....					10,335	104
Muskellunge.....					145	15
Pike.....	37,252	3,044			80,508	7,804
Pike perch:						
Blue pike.....					2,102,803	140,025
Wall-eyed or yellow pike, fresh.....	64,708	9,311			2,496,691	298,271
Wall-eyed or yellow pike, salted.....					30	3
Rock bass.....	1,714	137			13,622	813
Sauger.....					3,929,172	240,035
Sheepshead or drum.....	17,247	354			2,901,994	70,936
Sturgeon.....					95,216	21,707
Sturgeon caviar.....					2,135	4,670
Suckers:						
Fresh.....	1,224,346	40,072	27,055	1,078	5,331,468	203,646
Salted.....	27,145	1,091			30,960	1,235
Sunfish.....					25,535	1,395
Trout, lake:						
Fresh.....	5,369,971	563,641	405,135	34,079	13,281,389	1,279,285
Frozen.....			44,000	5,800	44,000	5,800
Salted.....	2,275	221	7,272	576	18,750	1,619
Trout, steelhead.....					21,950	3,349
White bass.....	675	27			287,387	17,289

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS IN THE FISHERIES OF THE
LAKES IN 1917, BY STATES—Continued.

Items.	Wisconsin.		Minnesota.		Total.
	Pounds.	Value.	Pounds.	Value.	Pounds.
PRODUCTS—continued.					
Whitefish:					
Common, fresh.....	210,685	\$23,393	17,093	\$2,285	6,185,453
Common, salted.....					5,295
Common, caviar.....					1,375
Menominee, fresh.....	27,695	1,131	6,800	394	158,869
Menominee, salted.....	805	40	2,900	228	49,020
Yellow perch:					
Fresh.....	1,879,459	81,025			4,204,286
Salted.....					1,725
Crawfish.....	80,495	4,427			80,495
Total.....	24,042,103	1,320,162	10,041,846	429,667	104,269,223

FISHERIES OF MICHIGAN.

The fisheries of Michigan which were prosecuted in Lakes St. Clair and tributaries, Huron, Michigan, and Superior, but were most extensive in Lake Huron and Lake Michigan, are shown in detail in the following table:

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF MICHIGAN
1917, BY LAKES.

Items.	Lake Erie.		Lake St. Clair. ¹		Lake Huron
	Number.	Value.	Number.	Value.	Number.
PERSONS ENGAGED.					
On vessels fishing.....	2				149
On vessels transporting.....					29
In shore fisheries.....	171		64		1,023
Shoresmen.....	10		75		147
Total.....	183		139		1,348
INVESTMENT.					
Vessels fishing:					
Steam.....					13
Tonnage.....					266
Outfit.....					
Gasoline.....	1	\$1,300			13
Tonnage.....	5				113
Outfit.....		10			
Vessels transporting:					
Steam.....					2
Tonnage.....					24
Outfit.....					
Gasoline.....					19
Tonnage.....					169
Outfit.....					
Sail and row boats.....	56	1,435	60	\$1,640	310
Power boats.....	28	7,440	4	900	260
Apparatus, vessel fisheries:					
Gill nets.....	4	51			6,613
Lines.....					
Apparatus, shore fisheries:					
Pound nets and trap nets.....	86	8,175			1,731
Gill nets.....	6	65			3,997
Fyke nets.....	278	17,243			460
Seines.....	58	5,530	6	1,365	77
Lines.....				50	
Other apparatus.....					
Shore and accessory property.....		27,365		171,350	
Cash capital.....		5,000		62,000	
Total.....		73,614		237,305	1,

¹ Includes St. Clair River and wholesale trade of Detroit.

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF MICHIGAN
IN 1917, BY LAKES—Continued.

Items.	Lake Erie.		Lake St. Clair.		Lake Huron.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
PRODUCTS.						
Bowfins.....					200	\$4
Burbot.....					2,174	51
Carp, Asiatic.....	1,403,739	\$57,731	85,330	\$4,652	1,145,250	43,474
Catfish and bullheads.....					33,329	3,295
Ciscoes:						
Fresh.....	1,100	50			3,277,573	120,705
Salted.....					2,100,792	94,957
Smoked.....					3,000	120
Muskellunge.....					145	15
Pike.....					12,354	1,175
Pike perch:						
Wall-eyed or yellow pike—						
Fresh.....	70,870	8,155	48,000	7,200	994,642	119,231
Salted.....					30	3
Rock bass.....					4,283	208
Sheepshead or drum.....					17,731	615
Sturgeon.....	440	87			4,886	1,063
Sturgeon caviar.....					227	495
Suckers:						
Fresh.....	103,002	3,663			1,775,767	72,875
Salted.....					1,000	50
Sunfish.....					1,650	68
Trout, lake:						
Fresh.....					2,070,797	213,790
Salted.....					8,658	784
Whitefish:						
Common, fresh.....	27,275	3,701			993,501	124,050
Common, salted.....					3,350	330
Common, caviar.....					1,375	257
Menominee, fresh.....					46,457	2,191
Menominee, salted.....					20,017	1,200
Yellow perch, fresh.....	82,730	7,942			844,019	56,464
Total.....	1,689,156	81,329	133,330	11,852	13,363,207	857,470

Items.	Lake Michigan.		Lake Superior.		Total.	
	Number.	Value.	Number.	Value.	Number.	Value.
PERSONS ENGAGED.						
On vessels fishing.....	436		42		629	
On vessels transporting.....	33		3		65	
In shore fisheries.....	568		291		2,117	
Shoresmen.....	108		32		372	
Total.....	1,145		368		3,183	
INVESTMENT.						
Vessels fishing:						
Steam.....	43	\$134,450	3	\$11,500	59	\$203,450
Tonnage.....	758		126		1,150	
Outfit.....		52,040		7,800		80,690
Gasoline.....	78	65,950	1	5,000	93	91,250
Tonnage.....	616		66		800	
Outfit.....		25,155		2,600		33,905
Vessels transporting:						
Steam.....					2	7,000
Tonnage.....					24	
Outfit.....						500
Gasoline.....	17	14,800	1	2,000	37	50,300
Tonnage.....	186		10		365	
Outfit.....		1,965		500		7,215
Sail and row boats.....	241	4,828	74	1,230	741	17,153
Power boats.....	168	48,295	109	40,795	569	201,390
Apparatus, vessel fisheries:						
Gill nets.....	29,833	267,728	1,134	19,270	37,584	356,624
Lines.....		6,739		560		11,143
Apparatus, shore fisheries:						
Pound nets and trap nets.....	787	114,420	151	17,312	2,755	347,811
Gill nets.....	6,416	51,367	3,430	30,318	13,849	115,010
Fyke nets.....	57	6,395			795	35,773
Seines.....	1	150	5	325	147	15,330
Lines.....		515		2,119		4,829
Other apparatus.....						1,520

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF MICHIGAN
1917, BY LAKES—Continued.

Items.	Lake Michigan.		Lake Superior.		Total.	
	Number.	Value.	Number.	Value.	Number.	Value.
INVESTMENT—continued.						
Shore and accessory property.....		\$258,236		\$112,050		\$1,033,333
Cash capital.....		127,000		5,000		
Total.....		1,178,883		258,379		2,937,000
PRODUCTS.						
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Bowfins.....			2,675	\$170	2,875	
Burbot.....	27,066	\$622			29,240	
Carp, Asiatic.....	1,840	72			2,636,159	102,000
Catfish and bullheads.....					33,329	3
Ciscoes:						
Fresh.....	3,159,135	173,810	923,986	39,171	7,361,794	333,000
Salted.....	519,726	23,574	500	23	2,621,018	118,000
Smoked.....					3,000	
Muskellunge.....					145	
Pike.....	8,020	776	800	80	21,174	2
Pike perch:						
Wall-eyed or yellow pike—						
Fresh.....	89,016	11,987	4,879	681	1,207,407	147,000
Salted.....					30	
Rock bass.....					4,283	
Sheepshead or drum.....	10,415	412			28,146	1
Sturgeon.....	8,409	1,837			13,735	2
Sturgeon caviar.....	281	789			508	1
Suckers:						
Fresh.....	995,552	39,453	175,248	7,116	3,049,569	123,000
Salted.....	2,815	94			3,815	
Sunfish.....					1,650	
Trout, lake:						
Fresh.....	3,580,969	306,044	1,536,851	127,374	7,188,617	647,000
Salted.....	545	38			9,203	
Trout, steelhead.....	700	117			700	
White bass.....	600	50			600	
Whitefish:						
Common, fresh.....	2,839,868	298,594	242,262	24,361	4,102,906	450,000
Common, salted.....	1,945	201			5,295	
Common, caviar.....					1,375	
Menominee, fresh.....	76,687	3,876	1,230	110	124,374	6,000
Menominee, salted.....	25,298	1,933			45,315	3,000
Yellow perch:						
Fresh.....	309,599	21,557	3,000	235	1,239,348	86,000
Salted.....	1,725	81			1,725	
Total.....	11,660,211	885,917	2,891,431	199,321	29,737,335	2,035,000

YIELD OF SHORE FISHERIES OF LAKE MICHIGAN IN 1917, BY STATES, COUNTIES, APPARATUS, AND SPECIES—Continued.

Apparatus and species.	Michigan—Continued.						Indiana.			
	Schoolcraft.		Van Buren.		Total.		Lake.		Laporte.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Seines:										
Suckers.....					70	\$4				
Yellow perch.....					300	24				
Total.....					370	28				
Lines:										
Sturgeon.....					1,800	500	600	\$150		
Sturgeon caviar.....							15	30		
Trout, lake.....					17,000	1,554				
Yellow perch.....					700	56				
Total.....					19,500	2,110	615	180		
Grand total.....	219,048	\$18,133	17,750	\$1,909	4,383,185	294,877	146,734	12,707	98,037	\$6,546

Apparatus and species.	Indiana—Continued.				Illinois.					
	Porter.		Total.		Cook.		Lake.		Total.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Pound nets and trap nets:										
Burbot.....	150	\$6	675	\$41						
Carp, Asiatic.....	100	4	1,150	46						
Catfish and bullheads.....			120	17						
Ciscoes, fresh.....	80,000	4,000	204,000	10,640			9,600	\$555	9,600	\$555
Pike.....	50	4	225	30						
Pike perch (wall-eyed or yellow pike).....			1,400	240						
Sheepshead or drum.....			750	30						
Sturgeon.....	400	112	1,796	530						
Sturgeon caviar.....			50	85						
Suckers, fresh.....	400	20	2,440	102			5,265	200	5,265	200
Trout, lake, fresh.....	1,300	130	2,000	224			16,250	1,750	16,250	1,750
Trout, steelhead.....	1,075	161	2,175	371						
Whitefish, common, fresh.....	250	36	3,850	673			33,600	4,750	33,600	4,750
Yellow perch, fresh.....	1,500	150	14,300	1,320			2,100	125	2,100	125
Total.....	85,225	4,623	234,931	14,349			66,815	7,380	66,815	7,380
Gill nets:										
Burbot.....	200	4	700	14						
Ciscoes, fresh.....	5,600	275	36,500	2,100	54,840	\$2,990	117,120	5,825	171,960	8,815
Suckers, fresh.....	50	2	750	30						
Trout, lake, fresh.....			19,100	2,351						
Trout, steelhead.....	75	11	19,075	2,861						
Whitefish, common, fresh.....	50	7	200	34			16,000	1,015	36,000	2,365
Yellow perch.....	2,700	210	26,800	2,466	20,000	1,350				
Total.....	8,675	509	103,125	9,856	74,840	4,340	133,120	6,840	207,960	11,180
Lines:										
Sturgeon.....			600	150						
Sturgeon caviar.....			15	30						
Yellow perch.....					16,000	2,000			16,000	2,000
Total.....			615	180	16,000	2,000			16,000	2,000
Grand total.....	93,900	5,132	338,671	24,385	90,840	6,340	199,935	14,220	290,775	20,560

FISHERIES OF NEW YORK.

The fisheries of New York in the Great Lakes are conducted in Lake Ontario and the St. Lawrence and Niagara Rivers, and also in two counties, Erie and Chautauqua, on Lake Erie. The number of persons engaged, investment, and products of these fisheries are given in detail in the following table:

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF NEW YORK IN 1917, BY LAKES.

Items.	Lake Ontario. ¹		Lake Erie.		Total.	
	Number.	Value.	Number.	Value.	Number.	Value.
PERSONS ENGAGED.						
On vessels fishing.....	2		80		82	
On vessels transporting.....	2				2	
In shore fisheries.....	363		88		451	
Shoresmen.....	11		137		148	
Total.....	378		305		683	
INVESTMENT.						
Vessels fishing:						
Steam.....			11	\$79,000	11	\$79,000
Tonnage.....			236		236	
Outfit.....				10,230		10,230
Gasoline.....	1	\$1,200	4	7,500	5	8,700
Tonnage.....	8		30		38	
Outfit.....		20		1,160		1,180
Vessels transporting, gasoline.....	1	1,300			1	1,300
Tonnage.....	10				10	
Outfit.....		65				65
Sail and row boats.....	189	4,765	13	360	202	5,125
Power boats.....	79	17,130	31	18,675	110	35,805
Apparatus, vessel fisheries: Gillnets.....	3	40	7,470	53,777	7,473	53,817
Apparatus, shore fisheries:						
Pound nets, and trap nets.....	353	21,460	30	2,820	383	24,280
Gillnets.....	162	15,135	3,322	26,451	3,484	41,586
Fykenets.....	334	4,374			334	4,374
Seines.....	12	610	8	240	20	850
Lines.....		1,174		698		1,872
Fishing machines.....	7	795			7	795
Other apparatus.....		6				6
Shore and accessory property.....		50,235		337,265		387,500
Cash capital.....		20,000		116,886		136,886
Total.....		138,309		655,062		793,371
PRODUCTS.						
	<i>Pounds.</i>	<i>Value.</i>	<i>Pounds.</i>	<i>Value.</i>	<i>Pounds.</i>	<i>Value.</i>
Bowfin.....	7,046	\$350			7,046	\$350
Burbot.....	61,760	2,388	15,265	\$245	77,025	2,633
Carp, Asiatic.....	41,472	2,173	29,508	1,570	70,980	3,743
Catfish and bullheads.....	47,934	5,935	695	81	48,629	6,016
Ciscoes:						
Fresh.....	460,363	39,991	2,043,360	133,085	2,503,723	173,076
Salted.....	8,909	1,051			8,909	1,051
Eels.....	43,007	3,402			43,007	3,402
Pike.....	16,191	2,149			16,191	2,149
Pike perch:						
Blue pike.....	45,730	4,784	19,644	1,669	65,374	6,453
Wall-eyed or yellow pike.....	2,590	458	5,798	719	8,388	1,177
Rock bass.....	7,525	463	100	5	7,625	468
Sauger.....			77,598	3,879	77,598	3,879
Sheepshead or drum.....	300	23	55	3	355	26
Sturgeon.....	51,141	12,063	22,139	5,147	73,280	17,210
Sturgeon caviar.....	544	1,232	1,018	2,045	1,562	3,277
Suckers.....	89,111	6,317	46,988	2,588	136,099	8,905
Sunfish.....	23,885	1,327			23,885	1,327
Trout.....	23,694	2,818	1,541	156	25,235	2,974
White bass.....			30	2	30	3
Whitefish.....	88,347	11,120	143,068	14,510	231,415	25,633
Yellow perch.....	34,839	2,819	20,041	1,654	54,880	4,473
Total.....	1,054,388	100,863	2,426,848	167,358	3,481,236	268,221

¹Includes St. Lawrence and Niagara Rivers.

YIELD OF SHORE FISHERIES OF LAKE MICHIGAN IN 1917, BY STATES, COUNTIES, APPARATUS, AND SPECIES—Continued.

Apparatus and species.	Wisconsin—Continued.									
	Marinette.		Milwaukee.		Oconto.		Ozaukee.		Racine.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Pound nets and trap nets:										
Carp, Asiatic.....			200	\$12	100	\$3				
Catfish and bullheads.....	3,969	\$159			1,800	72				
Ciscoes—										
Fresh.....	305,732	7,643	4,800	235	428,342	13,921	30,000	\$1,200		
Salted.....	317,135	15,318			233,995	11,302				
Pike.....					4,000	320				
Pike perch (wall-eyed or yellow pike).....	276	41			4,441	666				
Suckers—										
Fresh.....	18,320	427	900	45	32,944	769	900	42		
Salted.....					805	38				
Trout, lake—										
Fresh.....	25,461	2,648	625	76	15,144	1,575	20,000	1,700		
Salted.....					230	18				
Whitefish, common, fresh.....	3,778	423	4,680	571	14,344	1,607	5,040	545		
Yellow perch, fresh.....	24,510	980	8,000	650	201,680	8,067	800	68		
Total.....	699,181	27,639	19,205	1,589	937,825	38,358	56,740	3,555		
Gill nets:										
Burbot.....					1,600	8				
Ciscoes, fresh.....	222,409	5,560	98,640	4,724	342,131	11,119	2,460	105	3,000	\$150
Suckers, fresh.....	19,716	460	1,205	43	4,992	116	1,900	89		
Trout, lake, fresh.....	9,701	1,009	41,250	5,000						
Whitefish, common, fresh.....	1,838	206								
Yellow perch.....	9,896	396	38,000	3,100	2,600	104	1,700	127	3,500	270
Total.....	263,560	7,631	179,095	12,867	351,323	11,347	8,060	321	6,500	420
Fyke nets:										
Carp, Asiatic.....					400	12				
Catfish and bullheads.....					10,000	400				
Pike.....	4,562	365			9,100	728				
Pike perch (wall-eyed or yellow pike).....	642	96			10,823	1,623				
Suckers, fresh.....	8,645	202			65,887	1,537				
Yellow perch.....	7,901	316			134,453	5,378				
Total.....	21,750	979			230,663	9,678				
Seines:										
Carp, Asiatic.....					26,000	780				
Pike perch (wall-eyed or yellow pike).....					5,575	866				
Suckers.....					100,000	2,333				
Total.....					131,575	3,979				
Lines:										
Trout, lake.....			4,375	550			50,000	4,400		
Yellow perch.....									2,450	175
Total.....			4,375	550			50,000	4,400	2,450	175
Grand total.....	984,491	36,249	202,675	15,006	1,651,586	63,362	112,800	8,276	8,950	595

FISHERIES OF LAKE OF THE WOODS, RAINY LAKE, AND LAKES KABOTOGAMA AND LA CROIX, MINN., 1917.

Items.	Lake of the Woods.		Rainy Lake and Lakes Kabotogama and La Croix.		Total.	
	Number.	Value.	Number.	Value.	Number.	Value.
PERSONS ENGAGED						
On vessels transporting	7		2		9	
In shore or boat fisheries	80		85		165	
Fishermen	13		8		21	
Total	100		95		195	
INVESTMENT						
Transporting vessels—steamers	1	\$8,300	1	\$1,500	2	\$9,800
Tonnage	20		9		29	
Value of outfit		3,700		600		4,300
Sail boats	3	600			3	600
Power boats	20	13,300	40	14,000	79	27,300
Ground nets	100	15,000	85	23,200	185	38,200
Gill nets	43	1,300	173	6,600	226	7,900
Fyke nets	20	600			20	600
Shore and accessory property		62,000		18,200		80,200
Cash capital		3,300		3,000		6,300
Total		112,100		62,000		174,100
PRODUCTS BY APPARATUS						
Ground nets	Pounds	Value	Pounds	Value	Pounds	Value
Bullheads	1,400	\$200			5,400	\$800
Barbel	30,300	300	16,000	\$250	47,300	\$550
Ciscoes—Tullibee	22,068	640	202,300	9,100	224,368	9,740
Goldfish	18,965	582			18,965	582
Pike	191,127	8,000	188,000	7,500	389,127	15,500
Pike perch—wall-eyed or yellow pike	333,279	30,475	200,000	20,000	533,279	50,475
Sturgeon	35,405	1,219	3,225	600	38,630	1,819
Suckers	100,180	2,119	30,000	275	130,180	2,394
Trout	130	9			130	9
Whitefish	45,135	3,000	15,000	1,200	60,135	4,200
Yellow perch	1,235	150			1,235	150
Total	600,604	60,607	716,025	38,625	1,316,629	99,232
Gill nets						
Barbel	640	11			640	11
Ciscoes—Tullibee	20,300	620	67,500	2,600	87,800	2,720
Goldfish	11,300	230			11,300	230
Pike	75,000	3,750	94,000	3,750	169,000	7,500
Pike perch—wall-eyed or yellow pike	70,000	7,000	100,000	10,000	170,000	17,000
Suckers	45,000	650	30,000	275	75,000	925
Trout			2,000	200	2,000	200
Whitefish	1,000	110	35,000	2,800	36,000	2,910
Yellow perch			3,000	210	3,000	210
Total	222,900	12,431	332,600	19,635	555,500	32,066
Fyke nets						
Bullheads	4,250	275			4,250	275
Cropps	100	10			100	10
Pike	3,000	120			3,000	120
Pike perch—wall-eyed or yellow pike	1,000	90			1,000	90
Suckers	5,000	65			5,000	65
Yellow perch	1,000	150			1,000	150
Total	14,950	710			14,950	710
Grand total	1,008,744	80,748	1,098,625	58,790	2,107,369	139,002

FIELD OF SHORE FISHERIES OF LAKE MICHIGAN IN 1917, BY STATES, COUNTIES, APPARATUS, AND SPECIES—Continued.

Apparatus and species.	Wisconsin—Continued.				Grand total.	
	Sheboygan.		Total.			
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
ines:						
Carp, Asiatic.....	600	\$30	213, 549	\$6, 440	213, 549	\$6, 440
Pike.....	200	18	200	18	200	18
Pike perch (wall-eyed or yellow pike).....			5, 775	866	5, 775	866
Suckers.....	1, 600	75	157, 323	3, 807	157, 393	3, 811
Whitefish.....			1, 200	130	1, 200	130
Yellow perch.....	200	25	5, 800	249	6, 100	273
Total.....	2, 600	148	383, 847	11, 510	384, 217	11, 538
ines:						
Sturgeon.....					2, 400	650
Sturgeon caviar.....					15	30
Trout, lake.....			86, 822	8, 065	103, 822	9, 619
Yellow perch.....			11, 865	552	28, 565	2, 608
Total.....			98, 687	8, 617	134, 802	12, 907
rawfish pots: Crawfish.....			80, 495	4, 427	80, 495	4, 427
Grand total.....	615, 459	42, 854	9, 661, 340	437, 123	14, 674, 241	776, 945

WHOLESALE FISHERY TRADE.

The wholesale fishery trade of Lake Michigan in 1917 was carried on by 75 establishments, of which 38 were in Chicago, 7 in Green Bay, and the same number in Milwaukee, the principal centers of the wholesale trade, and the remaining 22 distributed in Michigan and Wisconsin towns. The number of persons employed was 752, to whom \$792,927 were paid in wages; the value of the shore and accessory property utilized was \$1,444,826; and the cash capital amounted to \$349,800.

The following table shows the extent of the wholesale fishery trade of Lake Michigan in 1917:

WHOLESALE FISHERY TRADE OF LAKE MICHIGAN IN 1917.

Cities and towns.	State.	Number of firms.	Persons engaged.	Wages paid.	Shore and accessory property.	Cash capital.
Chicago ¹	Illinois.....	39	485	\$624, 821	\$1, 082, 919	\$113, 500
Grand Haven, Charlevoix, and St. Joseph.....	Michigan.....	5	24	27, 178	40, 105	41, 000
Scanaba, Fairport, Manistique, and Naubinway.....	.....do.....	4	10	3, 460	7, 300	6, 000
Benominee.....	.....do.....	3	36	18, 100	65, 961	80, 000
Green Bay.....	Wisconsin.....	7	107	82, 504	153, 694	79, 500
Sturgeon Bay, Detroit Harbor, and Two Rivers.....	.....do.....	4	18	6, 564	15, 710	8, 300
Marquette.....	.....do.....	3	32	14, 700	16, 687	9, 000
Milwaukee.....	.....do.....	7	26	10, 900	58, 000	10, 000
Port Washington and Sheboygan.....	.....do.....	3	14	4, 700	4, 450	2, 500
Total.....		75	752	792, 927	1, 444, 826	349, 800

¹ Includes one firm at Michigan City, Ind.

FISHERIES OF LAKE HURON.

The total number of persons employed in the fisheries of Lake Huron in 1917 was 1,348. Of this number, 149 were on fishing vessels, 29 on transporting vessels, 1,023 in the shore or boat fisheries, and 147 shoresmen in the wholesale establishments and other shore activities.

Cowfish and "shellfish".....	Ostraciidæ (species).
Crevallé.....	Caranx (species).
Croaker.....	<i>Micropogon undulatus</i> .
Elops or ten-pounder.....	<i>Elops saurus</i> .
Flounders.....	Pleuronectidæ (species).
Groupers.....	{ <i>Epinephelus</i> (species).
	{ <i>Mycteroperca</i> (species).
	{ <i>Garrupa nigrita</i> .
Grunts.....	Hæmulidæ (species).
Hogfish.....	<i>Lachnolaimus maximus</i> .
Jewfish.....	<i>Promicrops guttatus</i> .
King whiting.....	<i>Menticirrhus</i> (species).
Leather jacket or "turbot".....	<i>Balistes carolinensis</i> .
Menhaden.....	<i>Brevoortia tyrannus</i> .
Moonfish.....	<i>Vomer setipinnis</i> .
Mullet.....	{ <i>Mugil cephalus</i> .
	{ <i>Mugil curema</i> .
Permit.....	<i>Trachinotus goodei</i> .
Pigfish.....	<i>Orthopristis chrysopterus</i> .
Pompano.....	{ <i>Trachinotus carolinus</i> .
	{ <i>Trachinotus</i> (other speci
	{(See also permit.)
Porgies.....	{ <i>Calamus</i> (species).
	{ <i>Pagrus</i> (species).
Porkfish.....	<i>Anisotremus virginicus</i> .
Redfish or red drum.....	<i>Sciaenops ocellatus</i> .
Sailors choice.....	Applied indiscriminate several species.
Scamp.....	<i>Mycteroperca phenax</i> .
Sea bass.....	<i>Centropristes striatus</i> .
Sea gar.....	<i>Tylosurus</i> (species).
Sergeantfish or snook.....	<i>Centropomus undecimalis</i> .
Sharks.....	All Selachii except Bato
Sheepshead.....	<i>Archosargus probatocephala</i> .
Snapper, mangrove.....	<i>Lutianus griseus</i> .
Snapper, mutton.....	<i>Lutianus analis</i> .
Snapper, red.....	<i>Lutianus blackfordi</i> .
Spanish mackerel.....	<i>Scomberomorus maculatus</i> .
Spot.....	<i>Leiostomus xanthurus</i> .
Squeteagues or "sea trout".....	{ <i>Cynoscion regalis</i> .
	{ <i>Cynoscion nothus</i> .
	{ <i>Cynoscion nebulosus</i> .
Sturgeon.....	<i>Acipenser sturio</i> .
Tang.....	Teuthididæ (species).
Tarpon.....	<i>Tarpon atlanticus</i> .
Yellowtail.....	<i>Ocyurus chrysurus</i> .

GENERAL STATISTICS.

The fisheries of the Gulf States in 1918 gave employment to 14 persons, of whom 1,731 were on vessels fishing, 297 on vessels transporting fishery products, 7,801 in shore fisheries, and 5,059 men in wholesale fish establishments, shrimp and oyster canneries and other branches of the fishery industries. The west coast of Florida had 5,161 persons employed in its fisheries; Alabama, 2,867; Mississippi, 2,867; Louisiana, 4,191; and Texas, 1,886. Compared with the returns for 1902, the year for which the last canvass was made by the Bureau, there has been a decrease in the number of persons employed in all of the States except Texas, the total decrease being 3,141, or 17.42 per cent. The largest decrease was 1,477, or 34 per cent, in Mississippi. The increase in Texas was 742 persons, or 64.86 per cent. In this connection it will be recalled that du

STATISTICS OF THE FISHERIES OF LAKE HURON IN 1917, BY COUNTIES—Continued.

INVESTMENT.

Items.	Alcona.		Alpena.		Arenac.		Bay.		Cheboygan.	
	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.
Vessels, fishing:										
Steam.....			6	\$29,500					1	\$2,500
Tonnage.....			154						9	
Outfit.....				12,650						1,400
Gasoline.....			1	3,000					4	5,500
Tonnage.....			8						35	
Outfit.....				250						1,530
Vessels transporting:										
Steam.....									1	5,500
Tonnage.....									13	
Outfit.....										300
Gasoline.....			1	1,000			1	\$2,800	9	15,700
Tonnage.....			10				9		78	
Outfit.....				100				475		2,010
Sail and rowboats.....	8	\$240	32	695	13	\$345	51	1,465	29	840
Power boats.....	5	975	16	2,860	14	3,450	44	16,900	15	4,675
Apparatus, vessel fisheries:										
Gill nets.....			2,758	31,460					1,130	10,215
Lines.....				800						
Apparatus, shore fisheries:										
Pound nets and trap nets	39	2,750	108	8,385	81	19,856	240	33,330	276	12,825
Gill nets.....	70	600	223	1,542	6	60	19	700	455	4,490
Fyke nets.....					10	400	122	4,325		
Seines.....					11	1,470	27	3,125		
Lines.....		50								
Spears.....					25	200	90	720		
Shore and accessory property		4,000		37,825		17,250		115,672		16,125
Cash capital.....				37,000				41,500		20,000
Total.....		8,615		167,067		43,031		221,012		103,610

Items.	Chippewa.		Huron.		Iosco.		Mackinac.		Presque Isle.	
	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.
Vessels, fishing:										
Steam.....	1	\$2,000	4	\$22,500	1	\$1,000				
Tonnage.....	9		80		14					
Outfit.....		400		6,200		1,800				
Gasoline.....			2	3,600	1	700			5	\$6,200
Tonnage.....			22		8				40	
Outfit.....				700						3,060
Vessels transporting:										
Steam.....							1	\$1,500		
Tonnage.....							11			
Outfit.....								200		
Gasoline.....	3	6,700	1	1,500			3	3,300		
Tonnage.....	28		7				30			
Outfit.....		935		400				530		
Sail and rowboats.....	20	415	74	2,000	15	385	38	855	13	300
Power boats.....	16	7,700	68	31,625	23	12,900	28	11,925	4	900
Apparatus, vessel fisheries:										
Gill nets.....	100	1,000	1,330	12,800	300	2,600			995	11,500
Lines.....				2,344		300				400
Apparatus, shore fisheries:										
Pound nets and trap nets	184	9,150	397	65,383	75	18,850	223	15,395	22	1,480
Gill nets.....	743	5,522	588	4,384	819	7,956	579	4,064	74	702
Fyke nets.....			309	6,830	9	450				
Seines.....			30	2,915	4	180				
Lines.....				1,435		165		80		100
Spears.....			75	600						
Shore and accessory property		10,750		147,432		28,050		9,630		10,150
Cash capital.....		2,000		25,600		10,000		10,000		5,000
Total.....		42,572		338,248		85,336		57,479		39,792

redfish, or red drum, in 1902, 2,607,881 pounds, in 1918, 2,986 pounds; salt-water sheepshead, in 1902, 1,974,815 pounds, in 1918, 1,558,514 pounds; snappers, in 1902, 13,995,660 pounds, in 1918, 9,547,901 pounds; squeteagues, or "sea trout," in 1902, 4,789,047 pounds, in 1918, 4,960,738 pounds; and oysters, in 1902, 34,115,000 pounds, in 1918, 23,754,465 pounds. The total for these species in 1902 was 85,265,004 pounds, and for 1918, 71,720,817 pounds, a decrease of 13,544,187 pounds. It will be noted that the falling off was confined largely to the oyster industry, the catch of other products changing but little. The falling off in the oyster catch was probably due chiefly to loss of men to war activities and to transportation difficulties.

In connection with the above comparisons and with the efforts of the Bureau and other agencies to increase the use of fishery products, particularly the neglected forms, the following comparative figures for these years are of interest: Catch of black drum, in 1902, 418,875 pounds, in 1918, 2,011,288 pounds; crevalles, including blue runner, in 1902, 100,105 pounds, in 1918, 507,005 pounds; cero and king mackerel, in 1902, 152,700 pounds, in 1918, 465,860 pounds; groupers, in 1902, 1,112,258 pounds, in 1918, 5,935,825 pounds; menhaden, in 1902, 12,500 pounds, in 1918, 14,413,942 pounds; Spanish mackerel, in 1902, 1,583,891 pounds, in 1918, 3,494,845 pounds; and shrimp, in 1902, 12,366,915 pounds, in 1918, 27,142,999 pounds. The total for these species for 1902 was 15,747,244 pounds, and for 1918, 53,971,000 pounds, an increase of 38,224,513 pounds.

The following tables give the comparative statistics for various years from 1890 to 1918 for (1) five important fisheries which have been long established, and (2) five fisheries of less importance, showing their development and increase in recent years.

COMPARATIVE STATISTICS OF PRODUCTS OF CERTAIN FISHERIES OF THE GULF STATES IN VARIOUS YEARS, 1890 TO 1918.

Year.	Mullet.	Redfish.	Snappers.	Squeteagues.	Oysters.
	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>
1890.....	15,185,117	2,160,767	4,527,920	2,959,433	20,500,000
1897.....	15,351,886	2,257,944	6,224,909	3,094,103	16,600,000
1902.....	27,233,322	2,607,881	13,995,660	4,789,047	34,115,000
1908.....	18,853,000	1,302,000	12,819,000	4,000,000	44,400,000
1918.....	28,641,364	2,986,280	9,547,901	4,960,738	23,754,465

Year.	Black drum.	Crevalles. ²	Groupers.	Spanish mackerel.	Shrimp.
	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>
1890.....	136,053	430,499	427,781	700,459	7,400,000
1897.....	117,825	93,640	853,618	726,676	6,700,000
1902.....	418,875	100,105	1,112,258	1,583,891	12,366,915
1908.....	.....	276,000	1,625,000	1,486,000	12,500,000
1918.....	2,011,288	507,005	5,935,825	3,494,845	27,142,999

¹ Probably includes some black drum, for which no separate figures are given.

² Includes blue runner.

The following tables contain statistics of the number of persons employed, the amount of capital invested, the quantity and value of the products of the fisheries of the Gulf States in 1918, and comparative statistics of the products of the fisheries for various years.

STATISTICS OF THE FISHERIES OF LAKE HURON IN 1917, BY COUNTIES—Continued.

YIELD, BY SPECIES—Continued.

Species.	Chippewa.		Huron.		Iosco.		Mackinac.		Presque Isle.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
rainbow trout.....					824	\$24	800	\$16		
brook trout.....					200	8				
rock bass.....			861,976	\$32,574	200	8				
perch and bullheads.....	1,077	\$178	14,493	1,505	300	30				
perch:										
Fresh.....	101,300	5,065	747,798	26,180	492,389	12,857	10,200	414	275,481	\$15,173
Salted.....			1,243,019	53,355	125,700	7,542	61,000	2,495		
Skullunge.....	100	10								
Yellow perch (wall-eyed or yellow pike):										
Fresh.....	29,998	4,280	374,691	51,908	117,816	11,424	3,092	339	1,050	113
Salted.....									30	3
Rock bass.....	2,000	100								
Opshead or drum.....			5,850	176						
Green gill net.....			930	187	650	160	240	49		
Green caviar.....					20	40	20	50		
Carp:										
Fresh.....	241,712	13,609	130,096	3,953	46,322	1,870	291,896	13,782	28,777	1,161
Salted.....							1,000	50		
Whitefish.....	200	10								
Lake:										
Fresh.....	146,667	12,348	582,708	61,891	433,000	38,424	87,933	9,341	97,977	9,831
Salted.....	900	90	2,235	90			1,000	150	48	6
Whitefish:										
Common, fresh.....	17,113	1,883	184,784	21,624	159,011	17,558	141,371	19,030	30,922	3,816
Common, salted.....							2,500	200		
Common, caviar.....			1,075	197						
Menominee, fresh.....	650	52			136	6	9,475	513	3,700	275
Menominee, salted.....							3,800	323		
Yellow perch.....	24,371	2,225	178,184	13,226	8,695	617	55,183	4,348	200	19
Total.....	572,088	40,450	4,330,258	267,107	1,385,263	90,576	670,260	51,156	438,185	30,397

Species.	St. Clair.		Sanilac.		Tuscola.		Total.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
rainbow trout.....							200	\$4
brook trout.....							2,174	51
rock bass.....			1,800	\$72	46,311	\$1,853	1,145,250	43,474
perch and bullheads.....			200	16	2,400	236	33,329	3,295
perch:								
Fresh.....	45,914	\$1,289	443,257	13,298	24,963	795	3,277,573	120,705
Salted.....			286,053	12,873	100	4	2,100,792	94,957
Smoked.....							3,000	120
Skullunge.....							145	15
Yellow perch (wall-eyed or yellow pike):							12,354	1,175
Fresh.....	26,320	3,980	19,010	2,594	43,828	3,763	994,642	119,231
Salted.....							30	3
Rock bass.....			50	2	300	12	4,283	208
Opshead or drum.....	10,181	382	200	6	600	21	17,731	615
Green gill net.....	1,218	287	460	92			4,886	1,063
Green caviar.....	122	268	30	67			227	495
Carp:								
Fresh.....	6,481	426	4,404	168	19,467	502	1,775,767	72,883
Salted.....							1,000	50
Whitefish.....			50	2	300	12	1,650	68
Lake:								
Fresh.....	1,242	143	42,429	4,515			2,070,797	213,790
Salted.....							8,658	784
Whitefish:								
Common, fresh.....	2,107	296	37,014	5,556	273	38	993,501	124,050
Common, salted.....							3,350	330
Common, caviar.....							1,375	257
Menominee, fresh.....							46,457	2,191
Menominee, salted.....							20,017	1,200
Yellow perch.....	731	74	6,958	972	31,836	2,311	844,019	56,464
Total.....	94,316	7,145	841,915	40,233	170,378	9,547	13,363,207	857,478

FISHERIES OF THE GULF STATES, 1918—Continued.

Items.	Florida (west coast only).		Alabama.		Mississippi
	Pounds.	Value.	Pounds.	Value.	Pounds.
PRODUCTS—continued.					
Hogfish	7,344	\$336			
Jewfish	69,844	2,704	2,000	\$75	8,800
King whiting	35,188	2,126	9,600	312	18,517
Leather jacket, or "turbot"	7,756	357			
Menhaden:					
Fresh	263,530	6,779			11,050
Salted	21,022	669			
Moonfish	650	23			
Mullet:					
Fresh	22,569,736	973,129	1,693,520	67,540	1,229,948
Salted	2,453,930	177,974	6,000	275	209,498
Mullet roe:					
Fresh			10	3	
Salted	86,285	17,593			13,985
Permut	7,865	294			
Pigfish	6,596	250			
Pompano:					
Fresh	235,992	27,262	4,966	799	4,280
Salted	3,075	520			
Porgies	56,742	2,442			1,400
Porkfish	2,400	144			
Redfish or red drum:					
Fresh	937,490	38,068	23,250	1,127	115,685
Salted	7,321	366			
Sailors choice	21,132	809			
Scamp	300	10			
Sea bass	31,644	2,180	600	30	4,380
Sergeantfish or snook	73,745	2,568			
Sharks			600	17	400
Sheepshead	988,662	32,627	28,050	1,465	67,612
Snapper:					
Mangrove	103,999	4,359			
Mutton	14,100	564			
Red	7,230,168	455,640	798,400	49,075	98,232
Spanish mackerel:					
Fresh	3,408,701	244,026	4,284	277	11,531
Salted	27,200	1,505			
Spot	37,977	1,519	41,700	1,423	19,090
Squeteagues, or "sea trout":					
Fresh	1,630,686	145,534	138,630	6,611	356,070
Salted	31,625	3,772			
Sturgeon	4,915	620	2,938	125	
Sturgeon caviar and roe	12	12	60	45	
Tang	600	30			
Tarpon	1,800	180			
Yellowtail	31,735	1,537			
Shrimp: Green	3,250,468	81,408	1,265,612	38,828	9,147,445
Sea crawfish	322,015	16,064			
Crabs:					
Hard			95,850	3,292	216,025
Soft					9,000
Stone	24,500	2,600			
Terrapin	2,475	206	2,938	1,104	5,600
Turtles	65,370	4,429			337
Clams, hard	160,872	14,336			
Oysters:					
Market, public	2,602,446	121,049	651,126	22,690	7,503,209
Market, private	13,496	771	190,575	15,485	1,403,514
Seed, public			190,190	1,495	
Conch	2,000	100			
Sponges:					
Glove	2,022	245			
Grass	73,033	12,125			
Sheepswool	276,168	675,781			
Wire	9,324	2,817			
Yellow	91,641	34,187			
Total	54,753,639	3,420,363	5,609,219	230,567	20,592,089

YIELD OF VESSEL FISHERIES OF LAKE HURON IN 1917, BY COUNTIES AND APPARATUS—Continued.

Apparatus and species.	Iosco.		Presque Isle.		Total.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Nets:						
Burbot					300	\$6
Carp, Asiatic					75	3
Ciscoes			266,181	\$14,881	826,537	53,125
Pike perch (wall-eyed or yellow pike)	2,160	\$173			3,521	319
Sturgeon					60	15
Suckers	3,250	33			3,350	35
Trout, lake	236,450	18,916	76,328	7,820	1,094,301	116,925
Whitefish—						
Common	45,650	5,021	27,262	3,370	410,475	53,716
Menominee			1,100	55	10,310	428
Yellow perch					1,792	215
Total	287,510	24,143	370,871	26,126	2,350,721	224,787
Nets:						
Trout, lake—						
Fresh	10,000	1,000	16,134	1,452	322,827	33,420
Salted					2,235	90
Total	10,000	1,000	16,134	1,452	325,062	33,510
Grand total	297,510	25,143	387,005	27,578	2,675,783	258,297

YIELD OF THE SHORE FISHERIES OF LAKE HURON IN 1917, BY COUNTIES AND APPARATUS.

Apparatus and species.	Alcona.		Alpena.		Arenac.		Bay.		Cheboygan.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Traps and nets and trap nets:										
Burbot							200	\$4	50	\$1
Carp, Asiatic					2,927	\$138	19,871	720	850	34
Whitefish and bullheads			21	\$1			6,300	564	450	22
Ciscoes—										
Fresh	181,550	\$5,360	69,934	2,715	168,594	4,695	339,262	5,644	7,295	360
Salted			300	12	174,855	9,242	207,585	9,341		
Muskellunge			45	5						
Pike	300	32	510	47			450	37	825	66
Pike perch (wall-eyed or yellow pike)	7,100	855	11,510	2,136	19,444	2,036	172,850	17,699	24,702	2,478
Rock bass					300	12	200	8	833	34
Sheepshead or drum					300	12	600	18		
Sturgeon	193	25	665	133	70	21	200	50	200	44
Sturgeon caviar			23	46			12	24		
Suckers, fresh	37,825	1,497	115,558	6,115	15,130	469	292,716	9,165	369,588	15,317
Unfish					300	12	400	16		
Trout, lake	1,300	170	8,369	938	140	14	2,400	244	1,600	160
Whitefish—										
Common	1,200	169	23,049	2,858	21,255	2,691	45,165	4,541	36,545	4,367
Common caviar							300	60		
Menominee	11,100	269							529	25
Yellow perch	2,000	150	8,812	910	48,989	2,980	360,432	20,934	13,073	924
Total	242,568	8,527	238,796	15,916	452,304	22,322	1,448,943	69,069	456,540	23,832
Traps and nets:										
Cownfin					200	4				
Carp, Asiatic					400	16				
Whitefish and bullheads					150	6				
Ciscoes—										
Fresh	500	30	11,200	508					7,500	481
Salted			2,180	93						
Smoked			3,000	120					100	10
Pike										
Pike perch (wall-eyed or yellow pike, fresh)			112	11	400	40				
Suckers			2,900	87	1,000	20	2,000	40	8,163	369
Trout, lake—										
Fresh	15,200	1,525	8,085	784					62,728	6,264
Salted			4,475	448						
Whitefish—										
Common, fresh	1,400	180							36,772	4,546
Common, salted			850	130						
Menominee, fresh	100	10	7,231	356					4,326	312
Menominee, salted			1,800	90					14,417	787
Yellow perch			1,500	110	250	18	6,000	550	7,562	531
Total	17,200	1,745	43,333	2,737	2,400	104	8,000	590	141,568	13,300

FISHERIES OF THE GULF STATES, 1918—Continued.

Items.	Louisiana.		Texas.		Total.
	Pounds.	Value.	Pounds.	Value.	Pounds.
PRODUCTS—continued.					
Hogfish.....					7,344
Jewishfish.....			39,965	\$2,514	120,609
King whiting.....			35,974	3,328	99,279
Leather jacket or "turbot".....					7,756
Menhaden:					
Fresh.....			14,118,340	103,080	14,392,920
Salted.....					21,022
Moonfish.....					650
Mullet:					
Fresh.....	325,177	\$15,794	53,275	1,809	25,871,656
Salted.....					2,669,428
Mullet roe:					
Fresh.....					10
Salted.....					100,270
Permit.....					7,865
Pigfish.....					6,596
Pompano:					
Fresh.....	820	184	14,548	2,007	260,615
Salted.....					3,075
Porgies.....					58,142
Porkfish.....					2,400
Redfish or red drum:					
Fresh.....	565,899	46,945	1,336,535	80,468	2,978,859
Salted.....					7,321
Sailors choice.....					21,132
Scamp.....					300
Sea bass.....	15,100	1,216	6,625	350	58,349
Sea gar:					
Fresh.....			80,887	4,697	80,887
Dried.....	6,500	455			6,500
Sergeantfish or snook.....					73,745
Sharks.....	2,000	60			3,000
Sheepshead.....	276,528	22,044	197,662	12,642	1,558,514
Snapper:					
Mangrove.....					103,999
Mutton.....					14,100
Red.....	60,000	4,000	1,243,002	93,720	9,429,802
Spanish mackerel:					
Fresh.....	1,775	226	41,354	4,197	3,467,645
Salted.....					27,200
Spot.....	66,625	3,330			165,392
Squeteagues or "sea trout":					
Fresh.....	1,190,357	110,474	1,613,370	119,328	4,929,113
Salted.....					31,625
Sturgeon.....					7,853
Sturgeon caviar and roe.....					72
Tang.....					600
Tarpon.....					1,800
Yellowtail.....	2,200	110			33,935
Shrimp:					
Green.....	12,571,861	442,480	164,037	8,791	26,399,453
Dried.....	743,546	207,325			743,546
Sea crawfish.....					322,015
Squid.....	560	56			560
Crabs:					
Hard.....	281,925	9,908	193,244	10,672	1,787,044
Soft.....			700	175	2,970
Stone.....					24,500
Terrapin.....	23,406	7,578	2,850	990	37,269
Turtles.....	4,360	218	6,671	447	76,738
Clams, hard.....					3,160,872
Oysters:					
Market, public.....	919,254	33,903	3,292,457	140,046	4,14,968,492
Market, private.....	6,936,167	460,396	52,031	3,564	8,595,783
Seed, public.....					190,190
Conch.....					2,000
Sponges:					
Glove.....					2,022
Grass.....					73,033
Sheepswool.....					276,168
Wire.....					9,324
Yellow.....					91,641
Total.....	24,953,876	1,419,367	25,014,760	677,243	130,923,583

¹ 2,361,132 in number.² 29,100 in number.³ 20,109 bushels.⁴ 2,138,356 bushels.⁵ 1,227,969 bushels.⁶ 27,170 bushels.

YIELD OF THE SHORE FISHERIES OF LAKE HURON IN 1917, BY COUNTIES AND APPARATUS—Continued.

Apparatus and species.	Chippewa.		Huron.		Iosco.		Mackinac.		Presque Isle.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
gill nets:										
3urbot							800	\$16		
Ciscoes, fresh	47,300	\$2,365	27,850	\$1,311	4,000	\$80	700	34	9,300	\$292
Pike perch (wall-eyed or yellow pike)—										
Fresh	10,926	1,501	13,508	1,394	1,789	216	196	40	550	63
Salted									30	3
Suckers	13,300	439	24,900	933	700	14	11,500	545	2,900	100
Trout, lake—										
Fresh	122,480	9,929	33,790	3,379	159,221	15,868	60,604	6,219	3,850	393
Salted	900	90					1,000	150	48	6
Whitefish—										
Common, fresh	15,190	1,622	7,298	904	67,787	7,749	41,353	4,557	3,660	446
Common, salted							2,500	200		
Menominee, fresh	650	52					9,475	513	2,600	220
Menominee, salted							3,800	323		
Yellow perch	15,000	1,280	22,082	1,750			5,984	479	50	4
Total	225,746	17,278	129,428	9,671	233,497	23,927	137,912	13,076	22,988	1,527
gill nets:										
Carp, Asiatic			3,500	139						
Catfish and bullheads			1,220	108						
Ciscoes, fresh			500	25						
Pike			135	13						
Pike perch (wall-eyed or yellow pike)			1,584	171						
Sheepshead or drum			50	2						
Suckers			44,685	1,458	300	7				
Yellow perch			44,052	3,636	2,000	160				
Total			95,726	5,552	2,300	167				
trawls:										
Carp, Asiatic			817,701	30,604						
Catfish and bullheads			800	80						
Pike perch (wall-eyed or yellow pike)					1,625	187				
Sheepshead or drum			500	15						
Suckers					2,955	121				
Whitefish, common					3,195	413				
Yellow perch			2,500	250	900	90				
Total			821,501	30,949	8,675	811				
seines:										
Catfish			8,000	880						
Trout, lake			53,656	5,110	14,500	1,450	3,400	416	1,665	166
Whitefish, common							76	5		
Yellow perch			2,675	200						
Total			64,331	6,190	14,500	1,450	3,476	421	1,665	166
seines:										
Carp, Asiatic			20,000	1,000						
Pike			2,000	200						
Pike perch (wall-eyed or yellow pike)			21,560	3,375						
Trout, lake			1,250	200						
Yellow perch			7,950	929						
Total			52,760	5,704						
Grand total	503,088	36,250	3,596,349	193,773	1,087,753	65,433	670,260	51,156	51,180	2,819

COMPARATIVE STATISTICS OF THE OYSTER INDUSTRY OF THE GULF STATES, VA
YEARS, 1880 TO 1918.¹

Years.	Florida.		Alabama.		Mississippi	
	Bushels.	Value.	Bushels.	Value.	Bushels.	V
1880.....	58,600	\$10,950	104,500	\$44,950	25,000	
1887.....	(²)	(²)	(²)	(²)	581,100	
1888.....	181,445	44,448	76,125	32,174	767,205	
1889.....	294,871	75,189	438,425	96,758	845,503	
1890.....	371,081	93,692	481,070	107,812	806,478	
1895.....	170,518	46,308	(²)	(²)	(²)	
1897.....	179,715	50,258	255,053	60,207	629,713	
1902.....	579,587	124,108	347,460	119,773	2,405,132	
1908.....	538,000	187,000	590,400	172,940	1,067,600	
1911.....	187,462	109,472	441,917	72,742	657,670	
1918.....	373,706	121,820	147,413	39,670	³ 1,272,389	

Years.	Louisiana.		Texas.		Total.	
	Bushels.	Value.	Bushels.	Value.	Bushels.	Vc
1880.....	295,000	\$200,000	67,054	\$47,300	550,154	\$
1887.....	678,227	215,163	256,199	88,275	(²)	(²)
1888.....	719,992	230,820	341,275	109,633	2,086,042	(²)
1889.....	835,520	269,057	360,600	111,400	2,774,919	(²)
1890.....	841,585	299,896	440,800	127,990	2,941,014	(²)
1895.....	(²)	(²)	(²)	(²)	(²)	(²)
1897.....	959,190	432,668	355,940	94,663	2,379,581	(²)
1902.....	1,198,413	493,227	343,113	100,359	4,873,705	1,5
1908.....	3,623,800	762,800	497,200	167,880	6,317,000	1,5
1911.....	4,504,402	1,022,723	434,690	131,609	6,226,141	1,4
1918.....	1,122,203	494,299	⁴ 477,784	143,610	3,393,495	1,1

¹ The statistics for 1908 are from data published by the Bureau of the Census.

² Statistics not available.

³ Includes 506,639 bushels, valued at \$118,328, from private beds in Louisiana and 188,514 bushels, valued at \$44,166, from public beds in Louisiana, all taken by Mississippi men.

⁴ Includes 11,250 bushels, valued at \$3,000, taken from Louisiana public beds by Texas men.

FISHERIES OF FLORIDA.

The statistics of the fisheries of Florida here presented are for the west or Gulf coast only. The fisheries of this part of Florida were more extensive than those of Alabama, Mississippi, and Louisiana combined. The number of persons employed was 5,161, of whom 623 were on vessels fishing, 70 on vessels transporting fishery products, 3,600 in the shore or boat fisheries, and 868 on shore in the whole fish establishments, in canneries, and other fishery industries.

The investment amounted to \$2,404,245, which includes 95 fishing vessels, valued at \$402,430, with a net tonnage of 2,429 tons, and outfits valued at \$98,563; 84 transporting vessels, valued at \$186,600, with a net tonnage of 1,480 tons, and outfits valued at \$22,108; 1,018 power boats, valued at \$438,962; 2,019 sail and other boats valued at \$128,900; fishing apparatus employed on vessels to the value of \$8,151; fishing apparatus employed on boats to the value of \$279,008; shore and accessory property valued at \$619,987; and other capital amounting to \$219,350.

The products amounted to 54,753,639 pounds, valued at \$3,420,000. This represents 41.82 per cent of the total quantity and 52.53 per cent of the total value of the products of the fisheries of the Gulf Coast States in 1918. Compared with 1902, there was an increase of 13.78 per cent in quantity and 133.92 per cent in value to the fisherymen for the west coast of Florida. Among the products of spe

YIELD OF THE SHORE FISHERIES OF LAKE HURON IN 1917, BY COUNTIES AND APPARATUS—Continued..

Apparatus and species.	St. Clair.		Sanilac.		Tuscola.		Total.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
ines:								
Carp, Asiatic.....					32,878	\$1,357	1,052,695	\$39,667
Catfish and bullheads.....							6,938	669
Pike.....							800	70
Pike perch (wall-eyed or yellow pike).....							106,617	10,861
Rock bass.....							200	8
Sheepshead or drum.....							500	15
Suckers.....							109,720	2,927
Sunfish.....							200	8
Whitefish, common.....							3,407	441
Yellow perch.....							25,551	1,808
Total.....					32,878	1,357	1,306,502	56,474
ines:								
Catfish.....					2,000	200	10,000	1,080
Trout, lake.....	800	\$0.80	19,533	\$2,095			93,904	9,359
Whitefish, common.....							76	5
Yellow perch.....							2,675	200
Total.....	800	80	19,533	2,095	2,000	200	106,655	10,644
pears:								
Carp, Asiatic.....							20,000	1,000
Pike.....							2,000	200
Pike perch (wall-eyed or yellow pike).....							45,560	6,735
Trout, lake.....							1,250	200
Yellow perch.....							10,450	1,154
Total.....							79,260	9,289
Grand total.....	94,316	7,145	841,915	40,233	170,378	9,547	10,687,424	599,181

WHOLESALE FISHERY TRADE.

In 1917 there were 23 establishments engaged in the wholesale fishery trade of Lake Huron, employing 147 persons, to whom \$95,648 were paid in wages. The value of these establishments with their equipment, etc., was \$262,507; and the cash capital utilized amounted to \$156,100. Compared with 1903 there was an increase of 7 in the number of establishments, 13 in the number of persons engaged, \$57,228 in wages paid, \$166,007 in the value of the establishments and their equipment, and \$60,600 in cash capital.

The following table shows the extent of the wholesale fishery trade of Lake Huron in 1917:

WHOLESALE FISHERY TRADE OF LAKE HURON IN 1917.

Cities and towns.	State.	Number of firms.	Persons engaged.	Wages paid.	Shore and accessory property.	Cash capital.
Bay City and East Tawas.....	Michigan.....	6	57	\$44,450	\$78,197	\$51,500
Alpena.....	do.....	4	14	7,300	34,300	37,000
Cheboygan and Rogers.....	do.....	3	13	11,280	19,100	25,000
St. Ignace and Detour.....	do.....	3	8	4,100	8,800	12,000
Sebewaing, Bayport, Harbor Beach, and Port Huron.....	do.....	7	55	28,518	122,110	30,600
Total.....		23	147	95,648	262,507	156,100

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF FISHERIES OF WEST OF FLORIDA IN 1918, BY COUNTIES—Continued.

Items.	Bay County.		Calhoun County.		Citrus County.		De Soto
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.
PRODUCTS.							
Angelfish.....					310	\$14	5,256
Black drum.....	275	\$11			7,350	262	17,800
Bluefish:							
Fresh.....	72,243	4,305	23,468	\$1,367	490	40	37,908
Salted.....	12,240	915					
Blue runner or hardtail:							600
Fresh.....	165,315	2,482					
Salted.....	65,430	2,734					
Bonito.....	25,897	1,036					
Catfish.....							22,000
Cero and kingfish.....							3,011
Crevalle.....					590	25	41,287
Elops or ten-pounder:							4,280
Fresh.....	10,975	219					
Salted.....	3,810	152					
Flounders.....	2,504	126	1,150	56	200	8	3,112
Groupers.....	327,736	13,358					20,992
Grunts.....	870	35					2,373
Hogfish.....							2,286
Jewfish.....	10,100	504					5,332
King whiting.....							2,481
Leather jacket or "turbot".....	3,206	160					
Menhaden:							
Fresh.....	13,325	299					
Salted.....	4,360	174					
Moonfish.....	350	14					
Mullet:							
Fresh.....	302,999	13,627	133,575	5,281	1,120,219	50,372	5,629,366
Salted.....	896,626	68,213	77,840	4,800			
Mullet roe, salted.....	28,207	5,125	3,500	670			
Permit.....							3,773
Pigfish.....	650	26	100	4			2,000
Pompano:							
Fresh.....	10,678	1,654	3,030	456	250	50	121,893
Salted.....	3,075	520					
Porgies.....	33,957	1,358					
Redfish or red drum:							
Fresh.....	8,109	329	1,747	65	41,091	1,940	243,533
Salted.....	7,321	366					
Sailors choice.....					300	12	9,831
Scamp.....	300	10					
Sergeantfish or snook.....							27,840
Sheepshead.....	7,856	317	2,800	111	37,940	1,777	300,142
Snapper:							
Mangrove.....	970	38			7,930	317	34,249
Red.....	564,139	38,225					12,000
Spanish mackerel:							
Fresh.....	483,734	38,366	19,994	1,201			278,355
Salted.....	25,050	1,333					
Spot.....	1,570	63	550	16			6,420
Squeteagues or "sea trout":							
Fresh.....	110,157	11,103	19,237	1,493	101,083	9,216	483,167
Salted.....	1,125	112					
Yellowtail.....					1,500	60	1,527
Shrimp.....			15,741	354			
Oysters, market, public.....	11,760	630			35,000	2,000	7,560
Total.....	3,216,919	207,939	302,732	15,874	1,354,253	66,093	7,330,374

nets, valued at \$329,632; 5,011 pound nets and trap nets, valued at \$681,060; 801 fyke nets, valued at \$44,403; 285 seines valued at \$38,867; and lines to the value of \$751.

The products aggregated 38,710,238 pounds, for which the fishermen received \$2,327,299. Of this quantity, New York is credited with 2,426,848 pounds, valued at \$167,358; Pennsylvania, with 3,151,241 pounds, valued at \$508,382; Ohio, with 26,442,993 pounds, valued at \$1,570,230; and Michigan, with 1,689,156 pounds, valued at \$81,329. Ciscoes are the principal species represented in the fisheries of Lake Erie in both quantity and value, the catch being 17,160,852 pounds, or 44.33 per cent of the total quantity, valued at \$1,046,862, or 44.98 per cent of the total value of all products. The pike perch, including sauger, ranked second, the yield being 7,277,701 pounds, valued at \$524,439; and carp, third, with a yield of 6,044,792 pounds, valued at \$274,139. Other important species include the common whitefish, 1,755,947 pounds, valued at \$232,761; sheepshead, 2,855,551 pounds, valued at \$69,502; suckers, 1,035,934 pounds, valued at \$36,403; and yellow perch, 959,357 pounds, valued at \$69,864. The catch of burbot, the use of which for food the Bureau has been encouraging, amounted to 652,870 pounds, valued at \$8,027.

In comparison with 1903 there was an increase of 43, or 1.58 per cent, in the number of persons employed; \$2,136,370, or 97.27 per cent, in the capital invested in the fisheries; 15,521,682 pounds, or 66.93 per cent, in the quantity, and \$1,547,284, or 198.36 per cent, in the value of the products.

FISHERIES, BY STATES AND COUNTIES.

The following tables show, by States and counties, the extent of the fisheries of Lake Erie in 1917:

STATISTICS OF THE FISHERIES OF LAKE ERIE IN 1917, BY STATES AND COUNTIES.
PERSONS ENGAGED.

State and county.	On ves- sels fishing.	On ves- sels trans- porting.	In shore or boat fisheries.	Shores- men.	Total.
New York:					
Chautauqua.....	65		61	18	144
Erie.....	15		37	109	161
Total.....	80		98	127	305
Pennsylvania: Erie.....	247	7	47	145	446
Ohio:					
Ashtabula.....	22		75	30	127
Cuyahoga.....	63		63	80	206
Erie.....	77	14	308	133	532
Lake.....		3	103	33	139
Lorain.....	21		30	4	55
Lucas.....	5	13	232	39	289
Ottawa.....		11	348	42	401
Sandusky.....			12		12
Total.....	188	41	1,171	361	1,761
Michigan:					
Monroe.....			112	10	122
Wayne.....	2		59	75	136
Total.....	2		171	85	258
Grand total.....	517	48	1,487	718	2,770

¹ Includes persons engaged in the wholesale fish trade of Detroit.

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF FISHERIES OF WEST
OF FLORIDA IN 1918, BY COUNTIES—Continued.

Items.	Jefferson County.		Lafayette County.		Lee County.		Levy County.
	Number	Value.	Number.	Value.	Number.	Value.	Number.
PERSONS ENGAGED.							
On vessels transporting.....					19		
In shore fisheries.....	10		26		274		138
Shoresmen.....					53		15
Total.....	10		26		346		153
INVESTMENT.							
Vessels transporting:							
Gasoline.....					9	\$37,000	
Tonnage.....					126		
Outfit.....						2,974	
Boats, sail, row, etc.....	10	\$200	26	\$545	240	7,520	109
Boats, power.....	5	500	1	900	114	18,850	43
Apparatus, shore fisheries:							
Seines.....					14	5,600	
Gill nets.....	10	400	26	1,040	304	15,800	101
Trammel nets.....							45
Lines.....						42	
Tongs.....					3	12	10
Other apparatus.....							
Shore and accessory property.....		200		250		108,502	
Cash capital.....						12,000	
Total.....		1,300		2,735		208,300	
PRODUCTS.							
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.
Angelfish.....					5,909	\$202	1,800
Black drum.....					5,675	135	5,500
Bluefish, fresh.....					16,765	1,508	6,200
Blue runner or hardtail, fresh.....					300	12	57,530
Catfish.....					1,000	45	
Crevalle.....					27,849	906	3,200
Elops or ten pounder, fresh.....					1,000	30	
Flounders.....					1,258	39	2,150
Groupers.....					3,571	117	231,930
Grunts.....					798	27	17,250
Hogfish.....					833	27	
Jewfish.....					11,280	226	
King whiting.....					2,047	180	6,800
Menhaden, fresh.....							10,000
Mullet:							
Fresh.....	72,000	\$3,600	154,350	\$7,718	3,930,564	156,226	1,200,154
Salted.....	31,500	2,205	72,615	5,083			5,000
Mullet roe, salted.....	1,230	230	1,250	250			1,700
Permit.....					1,592	51	
Pigfish.....					311	10	
Pompano, fresh.....					32,557	3,689	2,365
Redfish or red drum, fresh.....	850	42	4,150	208	156,759	5,115	173,855
Sailors choice.....					2,273	73	500
Sea bass.....							29,924
Sergeantfish or snook.....					14,292	428	
Sheepshead.....	230	11	2,000	100	304,068	9,880	142,539
Snapper:							
Mangrove.....			900	45	7,879	258	1,600
Red.....							3,000
Spanish mackerel, fresh.....					57,971	4,056	23,950
Spot.....					7,667	250	5,000
Squeteagues or "sea trout," fresh.....	1,200	96	8,000	640	255,255	21,192	56,967
Sturgeon.....							1,450
Sturgeon caviar.....							12
Yellowtail.....					658	20	
Terrapin.....							2,475
Turtles.....							8,500
Clams, hard.....					159,272	13,936	
Oysters, market:							
Public.....					10,509	600	35,840
Private.....							13,496
Total.....	107,010	6,184	243,265	14,044	5,019,903	219,238	2,050,687

STATISTICS OF THE FISHERIES OF LAKE ERIE IN 1917, BY STATES AND COUNTIES—
Continued.

INVESTMENT—Continued..

State and county.	Apparatus of capture, shore fisheries.									Shore and accessory property.	Cash capital.	Total investment.
	Gill nets.		Pound nets and trap nets.		Fyke nets.		Seines.		Value of lines.			
	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.				
New York:												
Chautauqua.....	2,919	\$22,376	.....	.....	.....	.....	8	\$240	\$698	\$27,691	\$23,000	\$215,197
Erie.....	403	4,075	30	\$2,820	.....	.....	.....	.....	.....	309,574	93,886	439,865
Total.....	3,322	26,451	30	2,820	.....	.....	8	240	698	337,265	116,886	655,062
Pennsylvania:												
Erie.....	362	2,214	69	16,930	.....	.....	.....	.....	8	366,679	78,000	919,919
Ohio:												
Ashtabula.....	420	3,172	457	72,945	.....	.....	3	65	.....	103,022	30,000	262,424
Cuyahoga.....	300	2,000	256	32,625	.....	.....	2	60	.....	171,935	22,500	355,017
Erie.....	1,962	10,696	1,557	207,980	97	\$3,070	32	6,975	30	286,895	41,000	728,365
Lake.....	20	180	641	86,200	.....	.....	7	290	.....	73,419	25,000	214,089
Lorain.....	222	325	50	11,900	.....	.....	1	25	15	60,010	2,000	114,333
Lucas.....	.....	.....	863	127,685	234	20,000	50	3,547	.....	155,780	22,000	375,397
Ottawa.....	2,932	11,902	1,002	113,800	192	4,090	117	21,110	.....	136,910	52,500	406,497
Sandusky.....	25	50	.....	.....	.....	.....	7	1,025	.....	5,535	.....	6,700
Total.....	5,881	28,325	4,826	653,135	523	27,160	219	33,097	45	993,506	195,000	2,462,822
Michigan:												
Monroe.....	5	25	86	8,175	222	16,718	41	3,575	.....	23,740	5,000	63,443
Wayne.....	1	40	.....	.....	56	525	17	1,955	.....	162,975	62,000	231,521
Total.....	6	65	86	8,175	278	17,243	58	5,530	.....	186,715	67,000	294,964
Grand total	9,571	57,055	5,011	681,060	801	44,403	285	38,867	751	1,884,165	456,886	4,332,767

YIELD, BY SPECIES.

State and county.	Bowfin.		Burbot.		Carp, Asiatic.		Catfish and bullheads.		Ciscoes.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
New York:										
Chautauqua.....	.....	.....	15,190	\$243	27,968	\$1,492	695	\$81	1,744,054	\$115,563
Erie.....	.....	.....	75	2	1,540	78	.....	.....	299,306	17,522
Total.....	.....	.....	15,265	245	29,508	1,570	695	81	2,043,360	133,085
Pennsylvania: Erie ..	.....	.....	148,719	1,541	22,427	718	990	61	7,381,256	447,744
Ohio:										
Ashtabula.....	.....	.....	69,623	717	7,939	315	2,498	241	630,234	40,406
Cuyahoga.....	.....	.....	171,929	1,720	19,441	961	5,370	287	3,536,647	209,030
Erie.....	3,375	\$50	129,037	1,656	965,156	43,821	278,109	14,410	2,806,913	169,092
Lake.....	.....	.....	99,832	1,993	45,851	1,960	11,991	637	62,193	4,048
Lorain.....	.....	.....	8,635	87	11,289	474	1,025	61	677,616	41,936
Lucas.....	.....	.....	.....	.....	907,638	36,345	56,781	3,138	9,467	571
Ottawa.....	1,790	19	9,830	68	2,571,774	127,544	270,748	20,291	12,066	900
Sandusky.....	.....	.....	.....	.....	60,030	2,700	325	25	.....	.....
Total.....	5,165	69	488,886	6,241	4,589,118	214,120	626,847	39,090	7,735,136	465,983
Michigan:										
Monroe.....	.....	.....	.....	.....	814,666	28,545	.....	.....	1,100	50
Wayne.....	.....	.....	.....	.....	589,073	29,186	.....	.....	.....	.....
Total.....	.....	.....	.....	.....	1,403,739	57,731	.....	.....	1,100	50
Grand total.....	5,165	69	652,870	8,027	6,044,792	274,139	628,532	39,232	17,160,852	1,046,862

^a Includes investment in the wholesale fish trade of Detroit.

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF FISHERIES OF WEST C
OF FLORIDA IN 1918, BY COUNTIES—Continued.

Items.	Manatee County.		Monroe County.		Okaloosa County.		Pasc Count
	<i>Pounds.</i>	<i>Value.</i>	<i>Pounds.</i>	<i>Value.</i>	<i>Pounds.</i>	<i>Value.</i>	<i>Pounds.</i>
PRODUCTS continued.							
Permit.....	600	\$24	1,400	\$64			
Pigfish.....	1,400	59					
Pompano, fresh.....	28,343	3,665	545	101	8,909	\$1,336	
Porgies.....			9,700	582			
Porkfish.....			2,400	144			
Redfish or red drum, fresh.....	191,020	7,840	100	3	2,893	116	2,925
Sailors choice.....	1,028	41	2,200	110			
Sergeantfish or snook.....	15,913	578					
Sheepshead.....	133,850	5,566	300	12	3,701	148	875
Snapper:							
Mangrove.....	18,513	739	9,500	550			980
Mutton.....			14,100	564			
Red.....			9,000	630			
Spanish mackerel:							
Fresh.....	147,463	12,884	2,065,276	144,610	145,147	9,436	
Salted.....					2,150	172	
Spot.....	1,840	79			450	22	
Squeteagues or "sea trout":							
Fresh.....	182,338	17,686			51,450	5,163	8,635
Salted.....					30,500	3,660	
Tang.....			600	30			
Tarpon.....			1,800	180			
Yellowtail.....	5,350	226	12,500	750			
Sea crawfish.....			322,015	16,064			
Crabs, stone.....	2,000	100					
Turtles.....			49,250	3,398	1,920	96	
Clams, hard.....	1,600	400					
Oysters, market, public.....	875	75					
Conch.....			2,000	100			
Sponges:							
Glove.....			2,022	245			
Grass.....			28,963	3,311			
Sheepswool.....			55,281	73,012			
Yellow.....			21,477	5,809			
Total.....	4,100,724	199,366	3,752,355	290,170	1,092,514	73,840	877,240

STATISTICS OF THE FISHERIES OF LAKE ERIE IN 1917, BY STATES AND COUNTIES—
Continued.

YIELD, BY SPECIES—Continued.

State and county.	Trout, lake.		White bass.		Whitefish, common.		Yellow perch.		Total.	
	Lbs.	Value.	Pounds.	Value.	Pounds.	Value.	Lbs.	Value.	Pounds.	Value.
New York:										
Chautauqua.....	734	\$91	30	\$2	139,225	\$13,964	13,486	\$1,108	2,067,828	\$141,124
Erie.....	807	65	.....	.....	3,843	546	6,555	546	359,020	26,234
Total.....	1,541	156	30	2	143,068	14,510	20,041	1,654	2,426,848	167,358
Pennsylvania: Erie.....	120	13	1,323	118	300,293	37,015	52,571	3,837	8,151,241	508,382
Ohio:										
Ashtabula.....			7,354	586	95,295	14,128	46,903	3,610	1,348,455	96,554
Cuyahoga.....			13,307	577	98,046	13,655	33,701	2,072	4,421,962	251,057
Erie.....	261	32	89,272	6,010	240,253	30,876	349,911	23,002	10,019,010	566,867
Lake.....			2,040	144	61,795	9,257	27,981	2,238	734,590	47,438
Lorain.....			5,625	340	38,276	4,311	20,840	1,315	892,387	55,060
Lucas.....			101,470	6,088	316,137	44,262	141,950	11,375	2,593,948	173,750
Ottawa.....			65,591	3,340	435,509	61,046	182,729	12,639	6,368,136	376,647
Sandusky.....			100	7	.....	.....	.....	.....	64,505	2,857
Total.....	261	32	284,759	17,092	1,285,311	177,535	804,015	56,251	26,442,993	1,570,230
Michigan:										
Monroe.....					27,275	3,701	79,363	7,680	1,077,216	51,116
Wayne.....					.....	.....	3,367	262	611,940	30,213
Total.....					27,275	3,701	82,730	7,942	1,689,156	81,329
Grand total.....	1,922	201	286,112	17,212	1,755,947	232,761	959,357	69,684	38,710,238	2,327,299

FISHERIES, BY APPARATUS.

The catch of the vessel fisheries amounted to 17,151,247 pounds, valued at \$1,057,079, and of the shore or boat fisheries to 21,558,991 pounds, valued at \$1,270,220. The catch of the vessel fisheries was all taken with gill nets, the principal species being ciscoes to the amount of 15,497,879 pounds, valued at \$949,894; pike perch and sauger, 710,951 pounds, valued at \$43,508; common whitefish, 388,614 pounds, valued at \$45,914; burbot, 288,142 pounds, valued at \$2,881; and yellow perch, 174,837 pounds, valued at \$11,883.

The catch with the principal forms of apparatus used in the shore or boat fisheries was as follows: Pound nets and trap nets, 13,319,548 pounds, consisting principally of sauger, pike perch, sheepshead or drum, whitefish, ciscoes, and yellow perch, valued at \$840,640; seines, 5,505,997 pounds, mainly carp, valued at \$251,409; gill nets, 1,853,294 pounds, mainly ciscoes, valued at \$123,293; fyke nets, 857,176 pounds, consisting principally of carp, pike perch, sheepshead, suckers, sauger, and yellow perch, valued at \$51,971; and set lines, 20,976 pounds, consisting principally of catfish, bullheads, and sturgeon, valued at \$2,807.

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF FISHERIES OF WEST
OF FLORIDA IN 1918, BY COUNTIES—Continued.

Items.	Wakulla County.		Walton County.		Total.	
	Number.	Value.	Number.	Value.	Number.	Value.
PERSONS ENGAGED.						
On vessels fishing.....					623	
On vessels transporting.....					70	
In shore fisheries.....	169		3		3,600	
Shoresmen.....					868	
Total.....	169		3		5,161	
INVESTMENT.						
Vessels fishing:						
Gasoline.....					33	
Tonnage.....					360	
Outfit.....						
Sail.....					62	
Tonnage.....					2,069	
Outfit.....						
Vessels transporting:						
Gasoline.....					34	
Tonnage.....					455	
Outfit.....						
Sail.....					50	
Tonnage.....					1,025	
Boats, sail, row, etc.....	96	\$1,980	1	\$25	2,019	
Boats, power.....	20	6,500	1	200	1,018	
Apparatus, vessel fisheries:						
Seines.....					1	
Gill nets.....					6	
Dip nets.....					2	
Lines.....						
Otter trawls.....					16	
Tongs.....					12	
Sponge apparatus.....						
Apparatus, shore fisheries:						
Seines.....	6	1,200	1	125	163	
Gill nets.....	92	3,650			1,795	
Trammel nets.....	22	1,540			146	
Stop nets.....					136	
Otter trawls.....					107	
Dip nets.....					20	
Lines.....						
Tongs.....					284	
Sponge apparatus.....						
Other apparatus.....						
Shore and accessory property.....		4,175				
Cash capital.....		2,500				
Total.....		21,545		350		2,4
PRODUCTS.						
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Amberfish.....					11,100	
Angelfish.....	150	\$7			20,825	
Barracuda.....					4,860	
Black drum.....	1,500	60			57,420	
Bluefish:						
Fresh.....	350	32			246,168	
Salted.....					12,240	
Blue runner or hardtail:						
Fresh.....	600	27			324,648	
Salted.....					65,430	
Bonito.....					50,955	
Catfish.....					51,427	
Cero and kingfish.....					465,860	
Cowfish and "shellfish".....					300	
Crevalle.....	1,050	48			105,927	
Elops or ten-pounder:						
Fresh.....					267,940	
Salted.....					9,883	
Flounders.....	3,600	324			37,381	
Groupers.....					5,626,329	
Grunts.....					87,349	
Hogfish.....					7,344	
Jewfish.....					69,844	
King whiting.....					35,188	
Leather jacket or "turbot".....					7,756	

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF FISHERIES OF WEST COAST OF FLORIDA IN 1918, BY COUNTIES—Continued.

Items.	Wakulla County.		Walton County.		Total.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
PRODUCTS—continued.						
menhaden:						
Fresh.....					263,530	\$6,779
Salted.....					21,022	669
conch.....					650	23
mullet:						
Fresh.....	321,598	\$15,597	9,000	\$540	22,569,736	973,129
Salted.....	658,750	41,519			2,453,930	177,974
mullet roe, salted.....	39,398	8,919			86,285	17,593
perch.....					7,865	294
pigfish.....					6,596	250
tompano:						
Fresh.....					235,992	27,262
Salted.....					3,075	520
trout.....					56,742	2,442
rockfish.....					2,400	144
redfish or red drum:						
Fresh.....	11,230	505			937,490	38,068
Salted.....					7,321	366
tailors choice.....	400	18			21,132	809
tramp.....					300	10
sea bass.....					31,644	2,180
large antfish or snook.....					73,745	2,568
sheepshead.....	5,650	255			988,662	32,627
snapper:						
Mangrove.....	900	41			103,999	4,359
Mutton.....					14,100	564
Red.....					7,230,168	455,640
spanish mackerel:						
Fresh.....	750	68			3,408,701	244,026
Salted.....					27,200	1,505
spot.....	500	23			37,977	1,519
quetegaues or "sea trout":						
Fresh.....	71,854	6,466	3,000	300	1,630,686	145,534
Salted.....					31,625	3,772
turgeon.....					4,915	620
turgeon caviar.....					12	12
lang.....					600	30
carpon.....					1,800	180
yellowtail.....					31,735	1,537
shrimp.....					3,250,468	81,408
sea crawfish.....					322,015	16,064
crabs, stone.....					124,500	2,600
terrapin.....					2,475	206
turtles.....	600	60	100	5	65,370	4,429
clams, hard.....					2160,872	14,336
oysters, market:						
Public.....					32,602,446	121,049
Private.....					413,496	771
conch.....					2,000	100
sponges:						
Glove.....					2,022	245
Grass.....					73,033	12,125
Sheepswool.....					276,168	675,781
Wire.....					9,324	2,817
Yellow.....					91,641	34,187
Total.....	1,118,880	73,969	12,100	845	54,753,639	3,420,363

¹ Represents 18,375 in number.
² Represents 20,109 bushels.

³ Represents 371,778 bushels.
⁴ Represents 1,928 bushels.

FISHERIES, BY APPARATUS.

In the vessel fisheries of western Florida, in which seven counties are represented, the forms of apparatus in use included haul seine, gill nets, otter trawls, lines, dip nets, sponge apparatus, and oyster tongs. The total yield from all forms of apparatus used on vessels was 10,941,646 pounds, valued at \$605,899. The catch with haul seines was 10,276,677 pounds, valued at \$546,040, of which 6,011,297 pounds, valued at \$373,124, were red snapper, and 4,162,160 pounds, valued at \$167,977, were groupers. The catch of shrimp with otter trawls, which are rapidly supplanting haul seines in this fishery, amounted to 343,219 pounds, with a value of \$8,701. Bluefish, mullet, pompano, and Spanish mackerel were taken with seines to the amount of 133,848 pounds, valued at \$9,374; oysters with tongs, 76 pounds, valued at \$4,822; sponges with sponge apparatus, 43 pounds, valued at \$32,952; turtles with gill nets, 40,250 pounds, valued at \$2,610, and sea crawfish with dip nets, 28,000 pounds, valued at \$1,400. Vessel operations with seines, gill nets, dip nets, and sponge apparatus were confined to Monroe County.

In the shore or boat fisheries, gill nets were the most productive form of apparatus, the catch amounting to 20,068,013 pounds, valued at \$1,009,315. Mullet was the principal species taken, amounting to 15,340,486 pounds, valued at \$674,949. The catch with seines was 8,535,648 pounds, valued at \$440,971. The mullet is again the principal species, other important species being Spanish mackerel, squeteagues, and sheepshead.

As in 1902, the stop-net fisheries ranked third in quantity of products, the catch amounting to 3,632,397 pounds, valued at \$151,077. The principal species taken in this fishery were mullet, redfish, and sheepshead. The catch with lines was 3,582,153 pounds, valued at \$195,560, the principal species taken by this apparatus being red snapper and groupers. The catch with otter trawls, confined to shrimp, was 2,907,249 pounds, valued at \$72,707; of oysters with tongs, 2,539,481 pounds, valued at \$116,998; with trammel nets made up of miscellaneous species, 1,499,550 pounds, valued at \$95,334; of sponges with sponge apparatus, 408,997 pounds, valued at \$692,203; of sea crawfish with dip nets, 283,915 pounds, valued at \$14,164; and with other minor apparatus, 354,590 pounds, valued at \$26,135. The total yield from all forms of apparatus used in shore or boat fisheries was 43,811,993 pounds, valued at \$2,814,400.

The products of the vessel and shore or boat fisheries are shown separately by counties in the following tables:

YIELD OF VESSEL FISHERIES OF WEST COAST OF FLORIDA IN 1918, BY COUNTIES, APPARATUS, AND SPECIES.

Apparatus and species.	Bay.		Calhoun.		Escambia.		Franklin.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Net trawls: Shrimp.....			15,741	\$354			327,478	\$8,347
Species:								
Amberfish.....					9,000	\$328	100	5
Groupers.....	189,091	\$7,466			3,081,257	122,070	621,075	27,851
Grunts.....	870	35					3,350	144
Jewish.....	10,100	504			32,000	1,189	1,000	45
King whiting.....							300	12
Leatherjacket or "turbot".....					2,000	80		
Porgies.....	1,050	42			9,200	340	2,650	116
Scamp.....	300	10						
Sea bass.....							450	29
Snapper: Red.....	216,461	15,626			4,580,077	281,732	563,326	36,966
Total.....	417,872	23,683			7,713,534	405,739	1,192,251	65,168
Tongs: Oysters, market, public.							76,461	4,822
Grand total.....	417,872	23,683	15,741	354	7,713,534	405,739	1,596,190	78,337

Apparatus and species.	Hillsboro.		Monroe.		Pinellas.		Total.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Species:								
Bluefish.....			4,014	\$280			4,014	\$280
Mullet.....			7,313	511			7,313	511
Pompano.....			35	7			35	7
Spanish mackerel.....			122,486	8,576			122,486	8,576
Total.....			133,848	9,374			133,848	9,374
Gill nets: Turtles.....			40,250	2,610			40,250	2,610
Net trawls: Shrimp.....							343,219	8,701
Species:								
Amberfish.....							9,100	333
Cero and kingfish.....			28,750	1,976			28,750	1,976
Groupers.....	183,792	\$7,447	4,000	240	82,945	\$2,903	4,162,160	167,977
Grunts.....							4,220	179
Jewish.....							43,100	1,738
King whiting.....							300	12
Leatherjacket or "turbot".....							2,000	80
Porgies.....							12,900	498
Scamp.....							300	10
Sea bass.....							450	29
Snapper—								
Mutton.....			2,100	84			2,100	84
Red.....	344,797	22,277			306,636	16,523	6,011,297	373,124
Total.....	528,589	29,724	34,850	2,300	389,581	19,426	10,276,677	546,040
Dip nets: Sea crawfish.....			28,000	1,400			28,000	1,400
Sponge apparatus:								
Sponge—								
Glove.....			801	98			801	98
Grass.....			11,585	1,325			11,585	1,325
Sheepswool.....			22,213	29,205			22,213	29,205
Yellow.....			8,592	2,324			8,592	2,324
Total.....			43,191	32,952			43,191	32,952
Tongs: Oysters, market, public.							76,461	4,822
Grand total.....	528,589	29,724	280,139	48,636	389,581	19,426	10,941,646	605,899

YIELD OF SHORE FISHERIES OF WEST COAST OF FLORIDA IN 1918, BY APPA
COUNTIES, AND SPECIES.

BY SEINES.

Species.	Bay.		Calhoun.		De Soto.		Escar.
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	
Angelfish.....							850
Black drum.....	275	\$11			5,200	\$156	1,000
Bluefish:							
Fresh.....	65,426	3,892	18,518	\$1,067			31,710
Salted.....	12,240	915					
Blue runner, or hardtail:							
Fresh.....	150,703	2,261					50,130
Salted.....	52,810	2,010					
Bonito.....	23,897	956					22,000
Catfish.....					17,600	792	
Crevalle.....					8,625	280	18,000
Elops, or ten-pounder:							
Fresh.....	10,225	204			1,000	33	138,000
Salted.....	3,810	152					
Flounders.....	679	34	1,000	50	3,112	95	4,000
Grunts.....					789	26	
Hogfish.....					1,250	40	
King whiting.....					612	54	12,000
Menhaden:							
Fresh.....	13,325	299					145,702
Salted.....	4,360	174					
Moonfish.....	350	14					
Mullet:							
Fresh.....	259,960	11,696	63,075	2,132	874,340	34,973	184,460
Salted.....	815,820	62,104	77,840	4,800			
Mullet roe, salted.....	25,468	4,642	3,500	670			
Permit.....					1,416	46	
Pigfish.....	650	26			1,250	40	1,000
Pompano:							
Fresh.....	10,628	1,645	2,080	313	20,466	2,255	5,000
Salted.....	3,075	520					
Redfish, or red drum:							
Fresh.....	7,439	301	1,747	65	21,551	700	8,000
Salted.....	7,321	366					
Sailors choice.....					6,000	180	
Sergeantfish, or snook.....					25,650	834	
Sheepshead.....	6,757	270	1,000	30	50,084	1,627	9,000
Snapper, mangrove.....	430	17			8,208	267	
Spanish mackerel:							
Fresh.....	392,718	31,136	8,494	511			36,798
Salted.....	23,650	1,263					
Spot.....	1,570	63	550	16	5,136	167	1,500
Squeteagues, or "sea trout".....	72,846	7,065	6,537	477	87,064	7,835	1,910
Yellowtail.....					1,125	33	8,000
Turtles.....							5,000
Total.....	1,966,432	132,036	184,341	10,131	1,140,478	50,433	684,060

FIELD OF SHORE FISHERIES OF WEST COAST OF FLORIDA IN 1918, BY APPARATUS, COUNTIES, AND SPECIES—Continued.

BY SEINES—Continued.

Species.	Franklin.		Hillsborough.		Lee.		Manatee.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Angelfish.....					4,003	\$139	850	\$34
Black drum.....	600	\$19			4,625	115	13,890	312
Bluefish, fresh.....	14,171	820			7,602	684		
Blue runner, or hardtail, fresh.....	7,500	200			300	12		
Catfish.....					1,000	45		
Crevalle.....			200	\$10	17,972	584	1,932	77
Elops, or ten-pounder, fresh.....	37,000	700			500	15	1,800	48
Flounders.....			250	13	1,258	39	2,930	118
Groupers.....					3,571	117		
Grunts.....					798	27	2,500	75
Hogfish.....					833	27	325	13
King whiting.....	2,100	116			818	72	1,370	80
Menhaden, fresh.....	5,000	100						
Mullet:								
Fresh.....	355,469	15,996	85,350	4,289	1,423,513	56,945	524,648	23,182
Salted.....	20,000	2,000						
Mullet roe, salted.....	2,500	625						
Permit.....					1,402	45	360	14
Pigfish.....					311	10	900	39
Pompano, fresh.....	760	96			11,657	1,317	1,800	270
Redfish, or red drum, fresh.....	12,414	558	600	28	120,267	3,909	33,245	1,409
Sailors choice.....					2,273	73	778	31
Sergeantfish, or snook.....			3,150	172	14,292	428	15,913	578
Sheepshead.....	1,200	54	100	7	146,606	4,764	45,985	1,941
Snapper, mangrove.....			50	2	5,525	181	10,836	433
Spanish mackerel, fresh.....	53,809	3,219			8,753	612		
Spot.....	1,250	29	425	21	5,470	177	1,642	71
Squeteagues, or "sea trout".....	27,603	2,208	300	24	44,012	2,713	24,590	2,254
Yellowtail.....			2,200	112	565	17	5,350	226
Total.....	541,376	26,740	92,625	4,678	1,827,926	74,067	691,644	31,205

Species.	Okaloosa.		Pinellas.		Wakulla.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Angelfish.....			400	\$12		
Black drum.....	280	\$11				
Bluefish, fresh.....	12,858	772				
Blue runner, or hardtail, fresh.....	29,673	742				
Bonito.....	2,708	108				
Catfish.....	1,271	51				
Crevalle.....	478	19	400	16		
Elops, or ten-pounder:						
Fresh.....	72,752	1,455	208	4		
Salted.....	6,073	182				
Flounders.....	600	30	2,500	117		
Hogfish.....			500	20		
King whiting.....	3,215	183				
Menhaden:						
Fresh.....	40,177	1,004				
Salted.....	16,662	495				
Mullet:						
Fresh.....	145,438	8,726	365,329	15,439	75,000	\$4,500
Salted.....	99,959	7,996			295,000	20,650
Mullet roe, salted.....					33,300	7,500
Permit.....			250	10		
Pompano, fresh.....	8,909	1,336				
Redfish, or red drum, fresh.....	893	36	2,413	114		
Sailors choice.....			3,300	159		
Sergeantfish, or snook.....			8,000	310		
Sheepshead.....	1,901	76	1,556	75		
Snapper, mangrove.....			500	25		
Spanish mackerel, fresh.....	143,747	9,343				
Spot.....	450	22	1,380	59		
Squeteagues, or "sea trout".....	1,450	163	13,216	1,108		
Turtles.....	1,920	96				
Total.....	591,414	32,846	399,952	17,468	403,300	32,650

YIELD OF SHORE FISHERIES OF WEST COAST OF FLORIDA IN 1918 BY APPA
COUNTIES, AND SPECIES—Continued.

BY SEINES—Continued.

Species.	Walton.		Total
	Pounds.	Value.	Pounds.
Angelfish.....			6,103
Black drum.....			25,870
Bluefish:			
Fresh.....			150,285
Salted.....			12,240
Blue runner, or hardtail:			
Fresh.....			238,306
Salted.....			52,810
Bonito.....			48,605
Catfish.....			19,871
Crevalle.....			47,607
Elops, or ten-pounder:			
Fresh.....			261,485
Salted.....			9,883
Flounders.....			16,329
Groupers.....			3,571
Grunts.....			4,087
Hogfish.....			2,908
King whiting.....			20,115
Menhaden:			
Fresh.....			204,204
Salted.....			21,022
Moonfish.....			350
Mullet:			
Fresh.....	9,000	\$540	4,365,582
Salted.....			1,308,619
Mullet roe, salted.....			64,768
Permit.....			3,428
Pigfish.....			4,111
Pompano:			
Fresh.....			61,300
Salted.....			3,075
Redfish, or red drum:			
Fresh.....			208,569
Salted.....			7,321
Sailors choice.....			12,351
Sergeantfish, or snook.....			67,005
Sheepshead.....			264,189
Snapper, mangrove.....			25,549
Spanish mackerel:			
Fresh.....			644,319
Salted.....			23,650
Spot.....			19,373
Squeteagues, or "sea trout".....	3,000	300	282,528
Yellowtail.....			17,240
Turtles.....	100	5	7,020
Total.....	12,100	845	8,535,648

BY TRAMMEL NETS.

Species.	Escambia County.		Levy County.		Okaloosa County.		Pine County.
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.
Angelfish.....	850	\$37	200	\$10			
Black drum.....	1,000	40	5,500	225			
Bluefish.....			300	24	100	\$6	
Blue runner or hardtail.....	2,000	50					
Crevalle.....			1,050	52	400	16	
Flounders.....	3,300	165	825	66			
King whiting.....	2,000	120					
Mullet:							
Fresh.....	430,635	25,838			56,250	3,375	
Salted.....					318,000	25,440	
Permit.....							250
Pigfish.....	1,000	40					
Pompano.....	3,703	555	1,950	293			8,794
Redfish or red drum.....	8,000	320	121,916	6,095	2,000	80	1,555
Sailors choice.....			300	15			
Sheepshead.....	8,000	320	126,274	1,314	1,800	72	4,115
Snapper, mangrove.....			1,400	70			
Spanish mackerel.....	1,650	107			500	35	
Spot.....	6,000	240					
Squeteagues or "sea trout":							
Fresh.....	13,642	1,500			50,000	5,000	18,437
Salted.....					30,000	3,600	
Total.....	481,780	29,332	259,715	8,164	459,050	37,624	33,151

YIELD OF SHORE FISHERIES OF WEST COAST OF FLORIDA IN 1918, BY APPARATUS,
COUNTIES, AND SPECIES—Continued.

BY TRAMMEL NETS—Continued.

Species.	Santa Rosa County.		Wakulla County.		Total.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Angelfish.....					1,050	\$47
Black drum.....			1,100	\$44	7,600	309
Bluefish.....					400	30
Blue runner or hardtail.....					2,000	50
Crevalle.....			250	12	1,700	80
Flounders.....	300	\$30	2,700	243	7,125	504
Hogfish.....	200	10			200	10
King whiting.....					2,000	120
Mullet:						
Fresh.....	120,000	6,000	33,800	1,521	640,685	36,734
Salted.....	9,000	720			327,000	26,160
Permit.....					250	10
Pigfish.....					1,000	40
Pompano.....					14,447	2,167
Redfish or red drum.....	1,000	50	7,120	320	141,591	6,935
Sailors choice.....			200	9	500	24
Sheepshead.....	1,800	90	2,725	123	144,714	2,124
Snapper, mangrove.....			500	23	1,900	93
Spanish mackerel.....			150	14	2,300	156
Spot.....	1,500	75			7,500	315
Squeteagues or "sea trout":						
Fresh.....	25,000	2,500	58,509	5,265	165,588	15,826
Salted.....					30,000	3,600
Total.....	158,800	9,475	107,054	7,574	1,499,550	95,334

BY GILL NETS.

Species.	Bay.		Calhoun.		Citrus.		De Soto.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Angelfish.....					310	\$14		
Black drum.....					7,350	262		
Bluefish.....	6,817	\$413	4,950	\$300	490	40	37,908	\$3,411
Blue runner or hardtail:							600	24
Fresh.....	14,612	221						
Salted.....	12,620	724						
Bonito.....	2,000	80						
Catfish.....							4,400	198
Crevalle.....					590	25	10,321	348
Elops or ten-pounder.....	750	15					3,280	101
Flounders.....			150	6	200	8		
King whiting.....							1,352	116
Mullet:								
Fresh.....	43,039	1,931	70,500	3,149	1,120,219	50,372	3,136,602	129,892
Salted.....	80,806	6,109						
Mullet roe, salted.....	2,739	483						
Permit.....							1,182	44
Pigfish.....			100	4				
Pompano.....	50	9	950	143	250	50	101,221	9,585
Redfish or red drum.....	670	28			41,091	1,940	81,161	3,187
Sailors choice.....					300	12		
Sheepshead.....	1,099	47	1,800	81	36,590	1,724	83,407	2,959
Snapper, mangrove.....					7,930	317	14,533	551
Spanish mackerel:								
Fresh.....	91,016	7,230	11,500	690			278,355	19,664
Salted.....	1,400	70						
Spot.....							1,284	43
Squeteagues or "sea trout":								
Fresh.....	37,311	4,038	12,700	1,016	92,440	8,421	328,842	29,595
Salted.....	1,125	112						
Yellowtail.....							182	7
Total.....	296,054	21,510	102,650	5,389	1,307,760	63,185	4,084,630	199,725

YIELD OF SHORE FISHERIES OF WEST COAST OF FLORIDA IN 1918, BY APPALACHIAN COUNTIES, AND SPECIES—Continued.

BY GILL NETS—continued.

Species.	Escambia.		Franklin.		Hernando.		Hillsbc
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	
Angelfish					50	\$2	250
Bluefish							50
Catfish			2,850	\$112			
Crevalle					290	12	300
Flounders			4,142	217			
King whiting							300
Menhaden	48,568	\$1,214	758	20			
Mullet:							
Fresh			265,244	13,582	198,000	7,920	592,493
Salted			93,029	7,251			
Mullet roe, salted			2,525	509			
Pompano	1,000	150	117	15			2,070
Redfish or red drum			635	26	4,570	182	12,900
Sheepshead			50	2	1,950	78	2,250
Snapper, mangrove					298	12	7,560
Spanish mackerel, fresh	85,628	5,566					
Spot							875
Squeteagues or "sea trout," fresh	2,250	247	13,115	944	4,980	398	35,000
Sturgeon	2,250	270	1,215	60			
Total	139,696	7,447	383,671	22,738	210,138	8,604	654,048

Species.	Jefferson.		Lafayette.		Lee.		Levy
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	
Angelfish					1,906	\$63	
Black drum					1,050	20	
Bluefish					9,163	824	400
Crevalle					9,877	322	
Elops or ten-pounder					500	15	
Flounders							1,325
King whiting					1,229	108	
Mullet:							
Fresh	72,000	\$3,600	154,350	\$7,718	2,507,051	99,281	1,200,154
Salted	31,500	2,295	72,615	5,083			5,000
Mullet roe, salted	1,230	230	1,250	250			1,700
Permit					190	6	
Pompano					20,900	2,372	
Redfish or red drum	850	42	4,150	208	36,492	1,206	42,389
Sailors choice							200
Sheepshead	230	11	2,000	100	157,462	5,116	14,265
Snapper, mangrove			900	45	2,354	77	200
Spanish mackerel, fresh					49,218	3,444	335
Spot					2,197	73	
Squeteagues or "sea trout," fresh	1,200	96	8,000	640	183,518	15,262	37,569
Sturgeon							1,450
Sturgeon, caviar							12
Yellowtail					93	3	
Turtles							8,500
Total	107,010	6,184	243,265	14,044	2,983,200	128,192	1,313,499

Species.	Manatee.		Monroe.		Okaloosa.		Pasco
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	
Angelfish	425	\$17					
Black drum			500	\$10			
Bluefish	10,184	951	12,000	1,200			550
Blue runner or hardtail, fresh			2,000	60			
Crevalle	1,200	48					275
Elops or ten-pounder	1,325	40					
King whiting	375	22					
Mullet:							
Fresh	1,810,423	79,811	105,000	4,020			863,000
Salted					38,500	\$3,080	
Permit	120	5					
Pompano	26,393	3,375	160	24			
Redfish or red drum	38,409	1,617	100	3			2,925
Sheepshead	28,813	1,252	300	12			875
Snapper, mangrove	6,147	245	1,000	40			980
Spanish mackerel:							
Fresh	147,463	12,884	1,938,890	135,722	900	58	
Salted					2,150	172	
Squeteagues or "sea trout":							
Fresh	135,068	13,270					8,635
Salted					500	60	
Turtles			9,000	788			
Total	2,206,345	113,537	2,068,950	141,879	42,050	3,370	877,240

FIELD OF SHORE FISHERIES OF WEST COAST OF FLORIDA IN 1918, BY APPARATUS,
COUNTIES, AND SPECIES—Continued.

BY GILL NETS—Continued.

Species.	Pinellas.		Taylor.		Wakulla.		Total.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Angelfish.....	365	\$15			150	\$7	3,456	\$128
Black drum.....					400	16	9,300	308
Bluefish.....	507	43			350	32	83,369	7,294
Blue runner or hardtail:								
Fresh.....					600	27	17,812	332
Salted.....							12,620	724
Bonito.....							2,000	80
Catfish.....							7,250	310
Crevaille.....	3,420	107			800	36	27,073	923
Elops or ten-pounder.....							5,855	171
Flounders.....	535	23			900	81	7,252	441
King whiting.....							3,256	264
Menhaden.....							49,326	1,234
Mullet:								
Fresh.....	1,863,935	71,511	285,850	\$13,227	212,798	9,576	14,500,658	616,529
Salted.....			133,120	9,317	363,750	20,869	818,311	54,264
Mullet roe, salted.....			5,975	925	6,098	1,419	21,517	4,156
Permit.....							1,492	55
Pigfish.....							100	4
Pompano.....	5,978	897					159,089	16,926
Redfish or red drum.....	13,000	614	8,150	410	4,110	185	291,602	12,433
Sailors choice.....					200	9	700	31
Sheepshead.....	3,447	160	1,955	98	2,925	132	339,418	12,613
Snapper, mangrove.....	5,400	205			400	18	47,702	1,964
Spanish mackerel:								
Fresh.....	8,176	538			600	54	2,612,081	185,880
Salted.....							3,550	242
Spot.....	200	10	350	17	500	23	5,406	209
Squeteagues or "sea trout":								
Fresh.....	88,698	7,476	10,220	818	13,345	1,201	1,012,891	89,518
Salted.....							1,625	172
Sturgeon.....							4,915	620
Sturgeon, caviar.....							12	12
Yellowtail.....							275	10
Turtles.....					600	60	18,100	1,468
Total.....	1,993,661	81,659	445,620	24,812	608,526	33,745	20,068,013	1,009,315

BY STOP NETS.

Species.	De Soto.		Hillsborough.		Manatee.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Angelfish.....	5,256	\$186	235	\$10	725	\$29
Black drum.....	12,600	378	1,050	31	1,000	45
Crevaille.....	22,341	763	1,956	93	2,600	104
Elops or ten-pounder.....					600	12
Flounders.....			350	18		
Groupers.....	8,992	292				
Grunts.....	789	26			2,500	75
Hogfish.....	1,036	44				
King whiting.....	517	45			2,200	132
Mullet.....	1,618,424	66,271	152,400	6,196	915,855	40,807
Permit.....	1,175	45			120	5
Pigfish.....	750	25	135	6	500	20
Pompano.....	206	27			150	20
Redfish or red drum.....	119,701	4,029	15,000	600	119,366	4,814
Sailors choice.....	3,831	133			250	10
Sergeantfish or snook.....			4,550	180		
Sheepshead.....	150,151	5,004	1,950	76	59,052	2,373
Snapper, mangrove.....	1,618	55	4,200	197	1,530	61
Spot.....			500	22	198	8
Yellowtail.....	220	9				
Total.....	1,947,607	77,332	182,326	7,429	1,106,646	48,515

YIELD OF SHORE FISHERIES OF WEST COAST OF FLORIDA IN 1918, BY APPROPRIATE COUNTIES, AND SPECIES—Continued.

BY STOP NETS—Continued.

Species.	Pinellas.		Tot
	Pounds.	Value.	
Angelfish.....	1,600	\$48	7,816
Black drum.....			14,650
Crevalle.....	200	8	27,097
Elops or ten-pounder.....			600
Flounders.....	500	18	850
Groupers.....			8,992
Grunts.....			3,289
Hogfish.....	500	20	1,536
King whiting.....			2,717
Mullet.....	368,819	16,596	3,055,498
Permit.....			1,295
Pigfish.....			1,385
Pompano.....			356
Redfish or red drum.....	10,991	495	265,058
Sailors choice.....	1,300	58	5,381
Sergeantfish or snook.....			4,550
Sheepshead.....	9,338	420	220,491
Snapper, mangrove.....	2,570	138	9,918
Spot.....			698
Yellowtail.....			220
Total.....	395,818	17,801	3,632,397

BY LINES.

Species.	Bay County.		Citrus County.		De Soto County.		Escambia County.
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	
Cero and kingfish.....					3,011	\$240	
Groupers.....	138,645	\$5,892			12,000	420	39,037
Grunts.....					795	32	
Jewfish.....					5,332	160	850
Leather jacket or "turbot".....	3,206	160					600
Porgy.....	32,907	1,316					685
Redfish or red drum.....					21,120	844	
Sergeantfish or snook.....					2,190	66	
Sheepshead.....			1,350	\$53	16,500	660	
Snapper:							
Mangrove.....	540	21			9,890	395	
Red.....	347,678	22,599			12,000	840	81,907
Squeteagues or "sea trout".....			8,643	795	67,261	6,144	
Yellowtail.....			1,500	60			
Total.....	522,976	29,988	11,493	908	150,099	9,801	123,079

Species.	Franklin County.		Hillsborough County.		Lee County.		Levy County.
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	
Catfish.....	24,306	\$1,928					
Groupers.....	121,947	5,004	8,389	\$336			231,930
Grunts.....							17,250
Jewfish.....					11,280	\$226	
Porgy.....	550	22					
Sea bass.....	270	19					29,824
Snapper, red.....	92,390	6,443	8,450	591			3,000
Squeteagues or "sea trout".....					27,725	2,217	
Total.....	239,463	13,416	16,839	927	39,005	2,443	282,004

FIELD OF SHORE FISHERIES OF WEST COAST OF FLORIDA IN 1918, BY APPARATUS, COUNTIES, AND SPECIES—Continued.

BY LINES—Continued.

Species.	Manatee County.		Monroe County.		Pinellas County.		Total.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
amberfish			2,000	\$80			2,000	\$80
angel fish			800	48			800	48
arracuda			1,500	30			1,500	30
bluefish			600	60	2,000	\$170	2,600	230
blue runner or hardtail			9,000	360			9,000	360
bonito			350	21			350	21
botfish							24,306	1,928
brock and kingfish	42,367	\$2,542	366,195	25,643	25,537	1,502	437,110	29,927
brock or "shellfish"			300	12			300	12
calappa			300	15			300	15
carangids	24,280	961	50,144	2,649	825,234	29,146	1,451,606	53,829
carangids	2,287	69	20,300	1,698	25,121	894	75,753	3,200
carangids			2,700	162			2,700	162
carangids			9,000	540	282	6	26,744	966
carangids or "turbot"			1,500	75	450	18	5,756	277
carangids			300	9			300	9
carangids			1,400	64			1,400	64
carangids			350	70			350	70
carangids			9,700	582			43,842	1,944
carangids			2,400	144			2,400	144
carangids or red drum							21,120	844
carangids choice			2,200	110			2,200	110
carangids					1,000	40	31,094	2,146
carangids							2,190	66
carangids							17,850	713
carangids								
carangids			8,500	510			18,930	926
carangids			12,000	480			12,000	480
carangids			9,000	630	664,446	46,471	1,218,871	82,516
carangids			3,900	312			3,900	312
carangids or "sea trout"	22,680	2,162			23,972	1,963	150,281	13,281
carangids			600	30			600	30
carangids			12,500	750			14,000	810
Total	91,614	5,734	537,539	35,084	1,568,042	80,210	3,582,153	195,560

BY OTTER TRAWLS AND DIP NETS.

Apparatus and species.	Escambia.		Franklin.		Monroe.		Total.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
otter trawls: Shrimp	28,526	\$1,711	2,878,723	\$70,996			2,907,249	72,707
otter trawls: Sea crawfish					283,915	\$14,164	283,915	14,164
Total	28,526	1,711	2,878,723	70,996	283,915	14,164	3,191,164	86,871

BY TONGS.

Species.	Bay.		Citrus.		De Soto.		Escambia.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
ysters, market, public	11,760	\$630	35,000	\$2,000	7,560	\$450	53,536	\$3,824

Species.	Franklin.		Lee.		Levy.		Manatee.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
ysters, market:								
Public	2,310,560	\$102,290	10,500	\$600	35,840	\$2,048	875	\$75
Private					13,496	771		
Total	2,310,560	102,290	10,500	600	49,336	2,819	875	75

Species.	Pinellas.		Santa Rosa.		Total.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
ysters, market:						
Public	4,354	\$310	53,000	\$4,000	2,525,985	\$116,227
Private					13,496	771
Total	4,354	310	56,000	4,000	2,533,481	116,998

YIELD OF SHORE FISHERIES OF WEST COAST OF FLORIDA IN 1918, BY AP
COUNTIES, AND SPECIES—Continued.

BY SPONGE APPARATUS.

Species.	Monroe County.		Pinellas County.		T
	Pounds.	Value.	Pounds.	Value.	Pounds.
Sponges:					
Glove.....	1,221	\$147			1,221
Grass.....	17,378	1,986	44,070	\$8,814	61,448
Sheepswool.....	33,068	43,807	220,887	602,769	253,955
Wire.....			9,324	2,817	9,324
Yellow.....	12,885	3,485	70,164	28,378	83,049
Total.....	64,552	49,425	344,445	642,778	408,997

BY OTHER APPARATUS.

Species.	Bay County.		Franklin County.		Lee County.		Levy
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.
Angelfish.....							1,60
Bluefish.....							5,50
Blue runner or hardtail.....							57,53
Crevalle.....							2,15
Flounders.....	1,825	\$92	4,000	\$320			
King whiting.....							6,80
Menhaden.....							10,00
Pompano.....							41
Redfish or red drum.....							9,55
Sea bass.....							10
Sheepshead.....							2,00
Spanish mackerel.....							23,61
Spot.....							5,00
Squeteagues or "sea trout".....							19,39
Terrapin.....							2,47
Clams, hard.....					159,272	\$13,936	
Total.....	1,825	92	4,000	320	159,272	13,936	146,13

Species.	Manatee County.		Monroe County.		Pinellas County.		T
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.
Angelfish.....							1,60
Barracuda.....			3,360	\$202			3,36
Bluefish.....							5,50
Blue runner or hardtail.....							57,53
Crevalle.....							2,15
Flounders.....							5,82
King whiting.....							6,80
Menhaden.....							10,00
Pompano.....							41
Redfish or red drum.....							9,55
Sea bass.....							10
Sheepshead.....							2,00
Spanish mackerel.....							23,61
Spot.....							5,00
Squeteagues or "sea trout".....							19,39
Tarpon.....			1,800	180			1,80
Crabs, stone.....	2,000	\$100			22,500	\$2,500	24,500
Sea crawfish.....			10,100	500			10,100
Terrapin.....							2,47
Clams, hard.....	1,600	400					160,87
Conch.....			2,000	100			2,000
Total.....	3,600	500	17,260	982	22,500	2,500	354,59

NOTES ON CERTAIN FISHERIES.

THE MULLET FISHERY.—In 1918 the catch of mullet consisted of 45.85 per cent of the total quantity and 34.16 per cent of the value of the fishery products of the west coast of Florida. Although the most important fishery of the Gulf States, its production is confined largely to the west coast of Florida, 25,109,951 pounds, or 87.67 per cent of the total quantity, valued at \$1,168,696, or

per cent of the total value, being accredited to this State. Of the total catch on the west coast of Florida, 22,569,736 pounds, valued at \$973,129, was marketed fresh; 2,453,930 pounds, valued at \$177,974, salted; and 86,285 pounds, valued at \$17,593, represented salted roe. The apparatus of capture, arranged in the order of importance, as indicated by the catch taken, was as follows: Gill nets, 5,340,486 pounds; seines, 5,746,282 pounds; stop nets, 3,055,498 pounds; and trammel nets, 967,685 pounds.

The following table gives the yield of the mullet fishery of the west coast of Florida in various years from 1879 to 1918:

Items.	1879	1880	1889	1890	1895
Mullet:	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>
Fresh.....	1,058,083	.....	8,794,586	10,650,959	12,310,953
Salted.....	2,504,422	.....	2,728,785	2,968,254	5,714,134
Smoked.....	.....	.....	4,500	3,200	.....
Mullet roe:	.....	.....	.....	.....	.....
Fresh.....	.....	.....	.....	.....	2,150
Salted.....	6,662	.....	244,080	298,549	299,061
Total.....	3,569,167	2,028,250	11,771,951	13,920,962	18,326,298

Items.	1897	1902	^a 1908	1918
Mullet:	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>
Fresh.....	11,639,615	22,223,685 ^b	16,008,000	22,569,736
Salted.....	2,503,703	2,589,190	.....	2,453,930
Smoked.....	.....	.....	.....	.....
Mullet roe:	.....	.....	.....	.....
Fresh.....	.....	.....	² 135,000	.....
Salted.....	143,999	134,887	.....	86,285
Total.....	14,287,317	24,947,762	16,143,000	25,109,951

^a From data published by the Bureau of the Census.

^b Includes fresh and salted.

THE OYSTER FISHERY.—The catch of oysters in 1918 on public grounds was 2,602,446 pounds, or 371,778 bushels, valued at \$121,049, and on private beds, 13,496 pounds, or 1,928 bushels, valued at \$771. The greater part of the catch, or 341,003 bushels, is credited to Franklin County. Compared with 1911, there has been an increase in the catch of 186,244 bushels, and in the value of \$12,348.

A summary of the catch of oysters on the west coast of Florida for various years from 1880 to 1918 is given in the table of comparative statistics of the oyster industry of the Gulf States on page 138.

THE RED SNAPPER FISHERY.—This fishery centers largely at Pensacola, the catch credited to Escambia County being 4,661,984 pounds, or 64.49 per cent of the catch of the west coast of Florida and 49.43 per cent of the catch of the entire Gulf coast. Of the other counties in which this fishery is of importance, Franklin is credited with 655,716 pounds, Bay with 564,139 pounds, and Hillsborough with 353,247 pounds. Compared with 1908, there has been a decrease in the catch of 428,832 pounds and an increase in the value of \$23,640. Those engaged in the industry experience considerable difficulty in supplying the demand for this highly prized fish, while the catch of groupers taken with the red snapper exceeds the demand. Reference has been made elsewhere in this report to the Bureau's efforts to increase the demand for groupers to supply markets for all that may be caught, as the future of the red-snapper fishery is, in a measure, dependent upon the accomplishment of this end.

The following summary shows the quantity and value of red snappers caught on the west coast of Florida in certain years:

Year.	Pounds.	Value.	Year.	Pounds.	Value.
1889.....	3,469,370	\$105,557	1902.....	8,074,066	
1890.....	4,172,942	123,799	1908 ¹	7,659,000	
1895.....	4,886,396	154,536	1918.....	7,230,168	
1897.....	5,314,487	171,234			

¹ From data published by the Bureau of the Census.

THE SPONGE FISHERY.—The sponge fishery appears to be in a state of equilibrium between the natural supply and the catch if it can be so maintained no concern need be felt for the future. There is a superabundance of small sponges, attributed to the generally returning productiveness of the beds in comparatively shallow water which was depleted by the spongers a number of years ago. If these small sponges were permitted an additional year's growth these formerly exhausted beds would yield a larger quantity, owing to the higher value of the larger sizes, a much greater financial return to the spongers.

As landed, sponges are strung on wire or twine in bunches, 4 feet in length and of an average weight of 6 pounds to the bunch. The weights used in the statistical tables are those taken after the sponges have been beaten and dried before they are baled for shipment. The different grades these are as follows: Glove, wire, and yellow, each 1½ pounds per bunch; grass and large wool, 2½ pounds per bunch; and small wool, 1 pound per bunch.

The following tables show the extent of the sponge fishery on the Gulf coast of Florida for certain years from 1880 to 1918, and the price per pound for certain years from 1895 to 1918:

Kinds.	1880		1889		1890		1895
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.
Sheepswool.....							231,272
Yellow.....							29,509
Grass.....							21,387
Other.....							23,952
Total.....	207,000	\$200,750	316,559	\$381,087	366,772	\$438,682	306,120

Kinds.	1896		1897		1899		1900
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.
Sheepswool.....	149,724	\$248,196	157,476	\$240,599	153,700	\$332,390	181,311
Yellow.....	23,655	9,318	32,362	13,082	55,800	16,205	74,466
Grass.....	41,617	11,508	128,622	29,188	76,900	14,319	143,112
Other.....	18,315	3,990	13,086	3,171	18,000	5,000	19,236
Total.....	236,311	273,012	331,546	286,040	304,400	367,914	418,125

Kinds.	1901		1902		1908 ¹		1918
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.
Sheepswool.....	202,673	\$422,561	133,518	\$297,727			276,168
Yellow.....	62,512	39,290	56,787	31,113			91,641
Grass.....	108,748	24,210	140,682	29,765			73,033
Other.....	21,627	6,679	15,962	5,817			11,346
Total.....	395,560	492,740	346,889	364,422	622,000	\$545,000	452,188

¹ From data published by the Bureau of Census.

Kinds.	Average price per pound.								
	1895	1896	1897	1899	1900	1901	1902	1908 ¹	1918
Sheepswool.....	\$1.57	\$1.66	\$1.53	\$2.16	\$2.67	\$2.08	\$2.23		\$2.44
Yellow.....	.39	.40	.40	.29	.59	.63	.55		.37
Wool.....	.26	.26	.23	.19	.23	.22	.21		.16
Other.....	.27	.22	.24	.28	.37	.31	.37		.27
Average.....	1.26	1.16	.86	1.21	1.36	1.25	1.05	\$0.87	1.60

¹ From data published by the Bureau of the Census.

WHOLESALE FISHERY TRADE AND CANNING INDUSTRY.

In 1918 there were 77 wholesale fishery establishments on the west coast of Florida handling fresh and salt fish and oysters, valued at \$250,877, with a cash capital amounting to \$157,650, in which 555 persons were engaged and \$240,030 paid in wages. There were in addition 7 establishments, valued at \$300,510, engaged in canning shrimp, oysters, etc., and the preparation of by-products. The number of persons employed in these establishments was 451, and the wages paid amounted to \$123,803.

The following table shows the extent of the canning industry, including by-products, on the west coast of Florida in 1918:

SHRIMP AND OYSTER CANNING INDUSTRY, INCLUDING BY-PRODUCTS, ON THE WEST COAST OF FLORIDA IN 1918.

Items.	Number.	Value.	Items.	Number.	Value.
Establishments.....	7	\$300,510	PRODUCTS—continued.		
Cash capital.....		61,700	Oysters, canned:		
Persons engaged.....	451		No. 1—5 ounces.....cans..	391,056	\$40,972
Wages paid.....		123,803	Clams, fish, and turtles,		
PRODUCTS.			.....cans and bottles..	795,600	100,986
Shrimp, canned:			By-products.....pounds..	446,746	15,611
No. 1—4½ ounces.....cans..	1,922,912	208,423			
No. 1—5 ounces.....do....	973,008	101,355			
No. 1½—8½ ounces.....do....	83,280	15,420			
Total.....	2,979,200	325,198			

FISHERIES OF ALABAMA.

The coastal fisheries of Alabama are less extensive than those of the other Gulf States. In 1918 the number of persons employed in the fisheries of this State was 783, of whom 85 were on fishing vessels, 33 on vessels transporting fishery products, 365 in the shore and boat fisheries, and 300 shoresmen in the wholesale fish establishments and other fishery industries. Compared with 1902, there was a decrease of 315 men, or 28.68 per cent.

The total investment in the fisheries of the State amounted to \$334,741, as compared with \$328,285 in 1902, representing an increase of 1.96 per cent. The items making up this total included 15 fishing vessels, valued with their outfit at \$57,590; 16 transporting vessels, with a value, including outfit, of \$21,625; 290 power, sail, and row-boats, valued at \$38,190; fishing apparatus in the vessel and shore

fisheries valued at \$15,266; shore and accessory property with a value of \$178,170; and working cash capital amounting to \$23,900.

The products in 1918 amounted to 5,609,219 pounds, with a value of \$230,567. Compared with 1902 there was a decrease of 40 per cent in the quantity and 13.54 per cent in the value of the products. The species of chief importance were as follows: Mullet, 1,693,520 pounds, valued at \$67,818; shrimp, 1,265,612 pounds, valued at \$38,828; oysters, 1,031,891 pounds, or 147,413 bushels, valued at \$39,670; and red snapper, 798,400 pounds, valued at \$49,075.

FISHERIES, BY COUNTIES.

The following table gives, by counties, the number of persons employed, investment, and products of the fisheries of Alabama in 1918.

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF ALABAMA IN 1918, BY COUNTIES.

Items.	Baldwin.		Mobile.		Total.
	Number.	Value.	Number.	Value.	
PERSONS ENGAGED.					
On vessel fishing.....			85		85
On vessel transporting.....	15		18		33
Inshore fisheries.....	117		248		365
Shoresmen.....	12		288		300
Total.....	144		639		783
INVESTMENT.					
Vessels fishing:					
Gasoline.....			11	\$31,600	11
Tonnage.....			198		198
Outfit.....				9,490	
Sail.....			4	15,000	4
Tonnage.....			210		210
Outfit.....				1,500	
Vessels transporting:					
Gasoline.....	6	\$10,800	5	4,400	11
Tonnage.....	60		47		107
Outfit.....		1,375		1,175	
Sail.....	1	1,000	4	1,900	5
Tonnage.....	10		31		41
Outfit.....		225		750	
Sail and row boats.....	90	2,060	118	4,805	208
Power boats.....	8	2,475	74	28,850	82
Apparatus, vessel fisheries:					
Trammel nets.....			8	600	8
Lines.....				530	
Otter trawls.....			3	120	3
Tongs.....			3	22	3
Apparatus, shore fisheries:					
Seines.....	1	500	2	100	3
Trammel nets.....	91	6,700	47	3,010	138
Gill nets.....	6	50			6
Otter trawls.....			43	1,720	43
Lines.....		50		40	
Tongs.....	24	180	200	1,500	224
Minor apparatus.....		47		97	
Shore and accessory property.....		885		177,285	
Cash capital.....		800		23,100	
Total.....		27,147		307,594	
PRODUCTS.					
	<i>Pounds.</i>	<i>Value.</i>	<i>Pounds.</i>	<i>Value.</i>	<i>Pounds.</i>
Angelfish.....	3,450	\$103	3,450	\$175	6,900
Black drum.....	8,775	417	3,425	176	12,200
Bluefish.....	5,000	155	3,750	120	8,750
Blue runner or hardtail.....	1,000	30	10,000	300	11,000
Catfish.....	25,760	573	14,903	329	40,663
Croaker.....	55,800	2,036	37,700	1,216	93,500
Flounders.....	14,357	1,146	24,250	1,154	38,607
Groupers.....			244,000	10,485	244,000
Grunts.....	600	7	2,100	42	2,700
Jewfish.....			2,000	75	2,000
King whiting.....	5,000	144	4,600	168	9,600
Mullet:					
Fresh.....	859,500	33,390	834,020	34,150	1,693,520
Salted.....	5,000	225	1,000	50	6,000
Roe.....			10	3	10
Pompano.....	1,341	184	3,625	615	4,966

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF ALABAMA IN 1918, BY COUNTIES—Continued.

Items.	Baldwin.		Mobile.		Total.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
PRODUCTS—continued.						
ed fish or red drum	16,650	\$755	6,600	\$372	23,250	\$1,127
black bass			600	30	600	30
harks	400	12	200	5	600	17
heepshead	15,400	725	12,650	740	28,050	1,465
rapper, red			798,400	49,075	798,400	49,075
panish mackerel	1,934	112	2,350	165	4,284	277
pot	21,300	822	20,400	601	41,700	1,423
urgeon	2,938	125			2,938	125
urgeon roe	60	45			60	45
queteagues or "sea trout"	36,875	1,746	101,755	4,865	138,630	6,611
hrimp			1,265,612	38,828	1,265,612	38,828
abs, hard	25,800	965	70,050	2,327	1,95,850	3,292
errapin	763	224	2,175	880	2,938	1,104
ysters:						
Market, public	15,750	775	635,376	21,915	2,651,126	22,690
Market, private	27,300	1,900	163,275	13,585	3,190,575	15,485
Seed, public	180,600	1,290	9,590	205	4,190,190	1,495
Total	1,331,353	47,916	4,277,866	182,651	5,609,219	230,567

¹ Represents 287,550 in number.

² Represents 93,018 bushels.

³ Represents 27,225 bushels.

⁴ Represents 27,170 bushels.

FISHERIES, BY APPARATUS.

The total yield of all forms of apparatus employed in the vessel fisheries, which included lines, trammel nets, otter trawls, and tongs, amounted to 1,335,173 pounds, valued at \$75,963. The greater part of this total consisted of red snapper and groupers taken with lines.

In the shore or boat fisheries the catch amounted to 4,204,596 pounds, valued at \$152,300. The most productive form of apparatus was the trammel net, the catch consisting of various species, chiefly mullet, amounting to 1,704,540 pounds, valued at \$63,815. Otter trawls used in the capture of shrimp ranked second, with a catch of 1,224,574 pounds, valued at \$37,616, and tongs used for taking oysters third, with a catch of 1,000,391 pounds, or 142,913 bushels, valued at \$38,695.

The following tables give the products of the vessel and shore fisheries, by counties, in 1918:

YIELD OF VESSEL FISHERIES OF ALABAMA IN 1918, BY APPARATUS AND SPECIES.¹

Species.	Lines.		Trammel nets.		Other trawls.		Tongs.		Total.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
ngelfish			1,200	\$120					1,200	\$120
black drum			300	15					300	15
roaker			9,000	420					9,000	420
lounders			250	20					250	20
roupers	244,000	\$10,485							244,000	10,485
awfish	2,000	75							2,000	75
ing whiting			1,500	75					1,500	75
ullet:										
Fresh			180,020	10,800					180,020	10,800
Salted			1,000	50					1,000	50
Roe			10	3					10	3
ompano			1,800	450					1,800	450
ed fish or red drum			600	60					600	60
harks			300	15					300	15
heepshead			1,300	128					1,300	128
rapper, red	798,400	49,075							798,400	49,075
panish mackerel			600	65					600	65
pot			2,100	105					2,100	105
queteagues or "sea trout"			18,255	1,815					18,255	1,815
hrimp					41,038	\$1,212			41,038	1,212
ysters, market, public							31,500	\$975	31,500	975
Total	1,044,400	59,635	218,235	14,141	41,038	1,212	31,500	975	1,335,173	75,963

¹ Vessel fisheries were conducted only in Mobile County in 1918.

YIELD OF SHORE FISHERIES OF ALABAMA IN 1918, BY COUNTIES, APPARATUS SPECIES.

Apparatus and species.	Baldwin.		Mobile.		Total
	Pounds.	Value.	Pounds.	Value.	
Seines:					
Angelfish.....	1,000	\$30	900	\$18	1,900
Black drum.....	5,000	225	375	20	5,375
Bluefish.....	5,000	155	3,750	120	8,750
Blue runner or hardtail.....	1,000	80	10,000	300	11,000
Catfish.....	3,330	60	2,000	28	5,330
Croaker.....	10,000	350	600	12	10,600
Flounders.....	750	35	625	32	1,375
Grunts.....	100	3	100	2	200
King whiting.....	1,000	28	.....	.....	1,000
Mullet.....	.....	.....	12,000	360	12,000
Pompano.....	1,000	145	1,125	90	2,125
Redfish or red drum.....	3,750	170	3,750	210	7,500
Sharks.....	.....	.....	200	5	200
Sheepshead.....	2,500	115	625	35	3,125
Spanish mackerel.....	1,250	70	1,500	84	2,750
Spot.....	2,500	95	300	6	2,800
Squeteagues or "sea trout".....	6,900	225	6,250	350	13,150
Total.....	45,080	1,736	44,100	1,672	89,180
Trammel nets:					
Angelfish.....	2,450	73	1,350	37	3,800
Black drum.....	3,775	192	2,750	141	6,525
Catfish.....	21,930	504	12,503	287	34,433
Croaker.....	45,800	1,686	28,000	780	73,800
Flounders.....	1,807	91	2,125	97	3,932
Grunts.....	500	14	2,000	40	2,500
King whiting.....	2,000	56	600	18	2,600
Mullet—	.....	.....	.....	.....	.....
Fresh.....	858,000	32,940	617,000	22,190	1,475,000
Salted.....	5,000	225	.....	.....	5,000
Pompano.....	341	39	700	75	1,041
Redfish or red drum.....	5,400	245	2,250	102	7,650
Sharks.....	400	12	.....	.....	400
Sheepshead.....	12,900	610	10,625	571	23,525
Spanish mackerel.....	684	42	250	16	934
Spot.....	18,800	727	18,000	490	36,800
Squeteagues or "sea trout".....	15,725	1,021	10,875	494	26,600
Total.....	995,512	38,477	709,028	25,338	1,704,540
Gill nets:					
Sturgeon.....	2,938	125	.....	.....	2,938
Sturgeon roe.....	60	45	.....	.....	60
Total.....	2,998	170	.....	.....	2,998
Lines:					
Catfish.....	500	9	400	14	900
King whiting.....	2,000	60	2,500	75	4,500
Redfish or red drum.....	7,500	340	.....	.....	7,500
Sea bass.....	.....	.....	600	30	600
Squeteagues or "sea trout".....	14,250	500	66,250	2,200	80,500
Crabs, hard.....	25,800	965	300	8	26,100
Total.....	50,050	1,874	70,050	2,327	120,100
Otter trawls: Shrimp.....	.....	.....	1,224,574	37,616	1,224,574
Tongs:					
Oysters—	.....	.....	.....	.....	.....
Market, public.....	15,750	775	603,876	20,940	619,626
Market, private.....	27,300	1,900	163,275	13,585	190,575
Seed, public.....	180,600	1,290	9,590	205	190,190
Total.....	223,650	3,965	776,741	34,730	1,000,391
Minor apparatus:					
Croakers.....	.....	.....	100	4	100
Flounders.....	11,800	1,020	21,250	1,065	33,050
Mullet.....	1,500	450	25,000	800	26,500
Sheepshead.....	.....	.....	100	6	100
Squeteagues or "sea trout".....	.....	.....	125	6	125
Terrapin.....	763	224	2,175	880	2,938
Total.....	14,063	1,694	48,750	2,701	62,813
Grand total.....	1,331,353	47,916	2,873,243	104,384	4,204,596

WHOLESALE FISHERY TRADE.

In 1918 there were 16 wholesale fish establishments, including 2 engaged in the canning of shrimp and oysters and 1 in crushing oyster shells, valued at \$175,850, with a cash or working capital of \$23,900, employing 296 persons, to whom wages were paid amounting to \$69,676. The output of canned shrimp and oysters and crushed oyster shells is included in the wholesale table for Mississippi.

FISHERIES OF MISSISSIPPI.

In 1918 Mississippi ranked fourth in quantity of fishery products taken and third in the value of the products. The number of persons engaged on fishing and transporting vessels was 667; in the shore fisheries, 673; and in the wholesale establishments, canneries, and other industries, 1,527, representing a total of 2,867.

The investment amounted to \$1,433,585, which includes 160 fishing and transporting vessels, valued at \$255,875, with a net tonnage of 2,090 tons and outfits valued at \$41,065; 603 power and other boats, valued at \$99,505; fishing apparatus employed on vessels to the value of \$25,598; fishing apparatus employed on boats to the value of \$19,383; shore and accessory property valued at \$786,109; and cash capital amounting to \$206,050.

The products amounted to 20,592,089 pounds, valued at \$762,770, a decrease of 2,834,876 pounds, or 12.10 per cent, in quantity and an increase of 209,550, or 37.87 per cent, in value as compared with 1902. The catch of shrimp was 9,147,445 pounds, with a value of \$319,595; oysters, 8,906,723 pounds, or 1,272,389 bushels, valued at \$307,326; mullet, 1,453,431 pounds, valued at \$64,262; squeaguees or "sea trout," 356,070 pounds, valued at \$28,874; crabs, 225,025 pounds, valued at \$7,882; and redfish, 115,685 pounds, valued at \$8,135.

FISHERIES, BY COUNTIES.

The following table shows, by counties, the number of persons employed, the number and value of vessels, boats, and apparatus used, the amount of capital invested, and the quantity and value of the products of the fisheries in 1918:

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF MISSISSIPPI IN 1918, BY COUNTIES.

Items.	Hancock County.		Harrison County.		Jackson County.		Total.	
	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.
PERSONS ENGAGED.								
On vessels fishing.....	35	.....	549	.....	17	.....	601	.....
On vessels transporting.....	.....	.....	66	.....	.....	.....	66	.....
On shore fisheries.....	63	.....	444	.....	166	.....	673	.....
Shoresmen.....	154	.....	1,334	.....	39	.....	1,527	.....
Total.....	252	.....	2,393	.....	222	.....	2,867	.....
INVESTMENT.								
Vessels fishing:								
Gasoline.....	.....	.....	6	\$9,300	4	\$7,600	10	\$16,900
Tonnage.....	.....	.....	53	.....	34	.....	87	.....
Outfit.....	.....	.....	.....	1,565	.....	1,075	.....	2,640
Sail.....	7	\$11,400	108	173,450	.....	.....	115	184,850
Tonnage.....	113	.....	1,356	.....	.....	.....	1,469	.....
Outfit.....	.....	2,400	.....	30,775	.....	.....	.....	33,175

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF MISSISSIPPI
IN 1918, BY COUNTIES—Continued.

Items.	Hancock County.		Harrison County.		Jackson County.		Total.	
	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.
INVESTMENT—continued.								
Vessels transporting:								
Gasoline.....			10	\$18,500			10	\$18,500
Tonnage			124				124	
Outfit.....				2,195				2,195
Sail.....			25	35,625			25	35,625
Tonnage.....			410				410	
Outfit.....				3,055				3,055
Sail and row boats...	75	\$2,580	264	15,365	110	\$4,040	449	21,945
Power boats.....			115	58,870	39	18,650	154	77,520
Apparatus, vessel fisheries:								
Trammel nets.....			2	200	6	600	8	800
Seines.....	7	1,960	72	17,600			79	19,560
Otter trawls.....			2	50			2	50
Lines.....						40		40
Dredges.....	10	300	161	4,800			171	5,100
Tongs.....			8	48			8	48
Apparatus, shore fisheries:								
Trammel nets.....	12	1,200	43	4,300	34	3,400	89	8,900
Seines.....			15	3,560	4	1,150	19	4,710
Otter trawls.....			95	2,375	6	150	101	2,525
Lines.....				135		148		283
Tongs.....	45	225	231	1,155	89	445	365	1,825
Other apparatus.....				999		60		1,059
Shore and accessory property.....		118,168		642,911		25,030		786,109
Cash capital.....		23,100		166,150		16,800		206,050
Total.....		161,414		1,192,983		79,188		1,433,585
PRODUCTS.								
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Angelfish.....			600	\$30	300	\$15	900	\$45
Black drum.....	500	\$20	8,760	263	4,517	224	13,777	55
Bluefish.....			500	40	2,066	150	2,566	1,100
Catfish.....			2,200	337	6,888	345	16,108	6,000
Croaker.....	5,200	312	23,000	1,135	12,400	470	40,600	1,900
Flounders.....	2,790	279	19,780	1,581	15,295	1,170	37,865	3,000
Groupers.....					24,656	863	24,656	8,000
Jewfish.....					8,800	288	8,800	2,000
King whiting.....	4,000	240	9,100	455	5,417	271	18,517	9,000
Menhaden.....			11,050	80			11,050	9,000
Mullet:								
Fresh.....	140,000	8,400	199,835	6,596	890,113	31,805	1,229,948	46,800
Salted.....			112,649	7,885	96,849	7,747	209,498	15,600
Mullet roe, salted.....			9,430	964	4,555	865	13,985	1,800
Pompano.....			480	79	3,809	609	4,289	6,000
Porgies.....					1,400	49	1,400	6,000
Redfish or red drum.....	12,000	960	37,636	2,676	66,049	4,499	115,685	8,100
Sea bass.....	250	30	2,560	209	1,570	121	4,380	3,000
Sharks.....			400	12			400	6,000
Sheepshead.....	7,250	725	9,668	705	50,694	3,052	67,612	4,400
Snapper, red.....					98,232	6,877	98,232	6,800
Spanish mackerel.....	1,250	125	9,037	741	1,244	100	11,531	9,000
Spot.....	4,000	200	11,945	431	3,145	143	19,090	7,000
Squeteagues or "sea trout".....	132,000	13,240	104,748	7,405	119,322	8,229	356,070	28,800
Shrimp.....	644,800	22,568	8,404,000	293,295	98,645	3,732	9,147,445	319,500
Crabs:								
Hard.....	25,000	1,500	151,025	3,307	40,000	800	1,216,025	5,600
Soft.....			9,000	2,275			9,000	2,200
Terrapin.....	600	450	3,000	1,950	2,000	1,500	5,600	3,900
Turtles.....			337	20			337	6,000
Oysters, market:								
Public, from Mississippi beds.....	751,653	26,168	3,116,379	110,959	88,704	3,959	3,956,736	141,000
Public, from Louisiana beds.....			3,546,473	118,328			3,546,473	118,300
Private, from Mississippi beds.....			63,532	2,836	20,384	910	83,916	3,700
Private, from Louisiana beds.....	311,682	10,389	1,007,916	33,777			1,319,598	44,100
Total.....	2,042,975	85,606	16,882,060	598,371	1,667,054	78,793	20,592,089	762,700

¹ Represents 648,075 in number.² Represents 27,000 in number.³ Represents 565,248 bushels.⁴ Represents 506,639 bushels.⁵ Represents 11,988 bushels.⁶ Represents 188,514 bushels.

FISHERIES, BY APPARATUS.

The catch of all forms of apparatus employed in the vessel fisheries in 1918 amounted to 13,613,605 pounds, valued at \$464,404. The catch of oysters with dredges and tongs amounted to 7,633,983 pounds, or 1,090,569 bushels, valued at \$251,011; shrimp, with seines and otter trawls, 5,677,200 pounds, valued at \$198,402; various species with trammel nets, 184,407 pounds, with a value of \$79; and red snapper, groupers, jewfish, and porgies, with lines, 1,118,015 pounds, valued at \$7,112.

The products of the shore or boat fisheries amounted to 6,978,484 pounds, valued at \$298,366. The largest quantity was taken with otter trawls, recently introduced in the fishery for shrimp, amounting to 3,248,070 pounds, valued at \$113,309. The catch of oysters with dredges and tongs, which ranked second, was 1,272,740 pounds, or 181,820 bushels, valued at \$56,315. Various species were taken with trammel nets, amounting to 1,108,094 pounds, valued at \$60,876; with seines, amounting to 921,199 pounds, valued at \$44,000; with lines, 82,438 pounds, valued at \$15,353; and with minor appliances, amounting to 82,438 pounds, valued at \$8,513.

The following tables give the products of the vessel and shore fisheries in 1918, by counties, apparatus, and species:

PRODUCTS OF VESSEL FISHERIES OF MISSISSIPPI IN 1918, BY COUNTIES, APPARATUS, AND SPECIES.

Apparatus and species.	Hancock County.		Harrison County.		Jackson County.		Total.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Trammel nets:								
Angelfish.....					100	\$5	100	\$5
Black drum.....			560	\$17	571	27	1,131	44
Bluefish.....					200	14	200	14
Brooker.....			500	25	1,950	67	2,450	92
Flounders.....			150	12	2,500	175	2,650	187
King whiting.....					976	49	976	49
Mullet.....			14,500	450	125,552	4,294	140,052	4,744
Redfish or red drum.....			8,000	560	8,318	582	16,318	1,142
Sea bass.....					200	16	200	16
Sheepshead.....					5,277	370	5,277	370
Spot.....					1,000	36	1,000	36
"Petateagues" or "sea trout".....			3,500	350	10,553	830	14,053	1,180
Total.....			27,210	1,414	157,197	6,465	184,407	7,879
Shrimp.....	644,800	\$22,568	4,982,400	174,084			5,627,200	196,652
Species:								
Groupers.....					23,063	807	23,063	807
Jewfish.....					8,000	260	8,000	260
Porgies.....					1,200	42	1,200	42
Snapper, red.....					85,752	6,003	85,752	6,003
Total.....					118,015	7,112	118,015	7,112
Trawls: Shrimp.....			50,000	1,750			50,000	1,750
Oysters, market—								
Public, from Mississippi beds.....	653,121	21,770	2,339,841	76,744			2,992,962	98,514
Public, from Louisiana beds.....			3,261,573	105,891			3,261,573	105,891
Private, from Louisiana beds.....	311,682	10,389	1,001,616	33,402			1,313,298	43,791
Total.....	964,803	32,159	6,603,030	216,037			7,567,833	248,196
Oysters, market—								
Public, from Mississippi beds.....			3,150	190			3,150	190
Public, from Louisiana beds.....			56,700	2,250			56,700	2,250
Private, from Louisiana beds.....			6,300	375			6,300	375
Total.....			66,150	2,815			66,150	2,815
Grand total.....	1,609,603	54,727	11,728,790	396,100	275,212	13,577	13,613,605	464,404

YIELD OF SHORE FISHERIES OF MISSISSIPPI IN 1918, BY COUNTIES, APPARATUS, AND SPECIES.

Apparatus and species.	Hancock County.		Harrison County.		Jackson County.		Total.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Trammel nets:								
Angelfish.....			300	\$15	100	\$5	400	
Black drum.....	500	\$20	8,000	240	2,798	140	11,298	
Bluefish.....			500	40	300	24	800	
Catfish.....			5,220	182	200	10	5,420	
Croaker.....	4,000	240	5,700	285	8,350	298	18,050	
Flounders.....	540	54	1,700	136	1,795	131	4,035	
King whiting.....			3,300	165	2,815	142	6,115	
Mullet—								
Fresh.....	140,000	8,400	125,060	4,007	411,674	15,135	676,734	27,
Salted.....			10,000	700			10,000	
Pompano.....			350	58	90	14	440	
Redfish or red drum.....	12,000	960	24,350	1,704	45,182	3,156	81,532	5,
Sea bass.....			1,010	75	380	26	1,390	
Sheepshead.....	6,000	600	6,300	441	41,790	2,459	54,090	3,
Spanish mackerel.....			2,990	299	100	8	3,090	
Spot.....	4,000	200	5,700	303	2,145	107	11,845	
Squeteagues or "sea trout".....	88,000	8,800	59,616	4,328	72,639	5,119	220,255	18,
Terrapin.....	600	450			2,000	1,500	2,600	1,
Total.....	255,640	19,724	290,096	12,878	592,358	28,274	1,108,094	60,
Seines:								
Angelfish.....			200	10	100	5	300	
Black drum.....			100	3	1,148	57	1,248	
Bluefish.....					1,566	112	1,566	
Catfish.....			3,000	105	810	41	3,810	
Croaker.....			8,500	425	300	15	8,800	
Flounders.....			1,350	108	1,400	102	2,750	
King whiting.....			1,400	70	1,626	80	3,026	
Menhaden.....			10,000	60			10,000	
Mullet—								
Fresh.....			42,275	1,419	348,887	12,216	391,162	13,
Salted.....			102,649	7,185	96,849	7,747	199,498	14,
Mullet roe, salted.....			9,430	964	4,555	865	13,985	1,
Pompano.....			50	8	3,699	587	3,749	
Redfish or red drum.....			2,486	188	11,749	713	14,235	
Sea bass.....			150	10	90	7	240	
Sheepshead.....			1,568	120	3,427	207	4,995	
Spanish mackerel.....			5,430	395	1,044	84	6,474	
Spot.....			5,145	173			5,145	
Squeteagues or "sea trout".....			11,043	765	19,203	1,379	30,246	
Shrimp.....			220,000	7,775			220,000	2,
Total.....			424,776	19,783	496,423	24,217	921,199	44,
Lines:								
Catfish.....			800	40	5,878	294	6,678	
Croaker.....	1,200	72	6,800	335	1,800	90	9,800	
Flounders.....			1,260	116	600	42	1,860	
Groupers.....					1,593	56	1,593	
Jewfish.....					800	28	800	
King whiting.....	4,000	240	3,800	190			7,800	
Pompano.....					50	8	50	
Porgy.....					200	7	200	
Redfish or red drum.....			300	24	800	48	1,100	
Sea bass.....	250	30	900	84	900	72	2,050	
Sheepshead.....	1,250	125	850	68	200	16	2,300	
Snapper, red.....					12,480	874	12,480	
Spanish mackerel.....	1,250	125	130	13	100	8	1,480	
Spot.....			600	30			600	
Squeteagues or "sea trout".....	44,000	4,440	20,200	1,370	16,927	901	81,127	6,
Crabs, hard.....	25,000	1,500	151,025	3,307	40,000	800	216,025	5,
Total.....	76,950	6,532	186,665	5,577	82,328	3,244	345,943	15,
Otter trawls: Shrimp.....			3,151,600	109,685	96,470	3,623	3,248,070	113,
Other apparatus:								
Angelfish.....			100	5			100	
Black drum.....			100	3			100	
Catfish.....			200	10			200	
Croaker.....			1,500	65			1,500	
Flounders.....	2,250	225	15,320	1,209	9,000	720	26,570	2,
King whiting.....			600	30			600	
Menhaden.....			1,050	20			1,050	
Mullet.....			18,000	720	4,000	160	22,000	
Pompano.....			80	13			80	
Redfish or red drum.....			2,500	200			2,500	
Sea bass.....			500	40			500	
Sharks.....			400	12			400	

D OF SHORE FISHERIES OF MISSISSIPPI IN 1918, BY COUNTIES, APPARATUS, AND SPECIES—Continued.

Apparatus and species.	Hancock County.		Harrison County.		Jackson County.		Total.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Apparatus—Continued.								
Deephead			950	\$76			950	\$76
Spanish mackerel			487	34			487	34
Pot			500	25			500	25
Queteagues or "sea trout"			10,389	592			10,389	592
Trump					2,175	\$109	2,175	109
Clabs, soft			9,000	2,275			9,000	2,275
Errapin			3,000	1,950			3,000	1,950
Turtles			337	20			337	20
Total	2,250	\$225	65,013	7,299	15,175	989	82,438	8,513
Oysters, market—								
Public, from Mississippi beds	98,532	4,398	773,388	34,025	88,704	3,959	960,624	42,382
Public, from Louisiana beds			228,200	10,187			228,200	10,187
Private, from Mississippi beds			63,532	2,836	20,384	910	83,916	3,746
Total	98,532	4,398	1,065,120	47,048	109,088	4,869	1,272,740	56,315
Grand total	433,372	30,879	5,153,270	202,271	1,391,842	65,216	6,978,484	298,366

WHOLESALE FISHERY TRADE.

There were 29 wholesale fresh-fish establishments in the State in 1918, valued at \$59,065, with a cash capital amounting to \$31,250, which 455 persons were engaged and \$47,290 paid in wages. In addition to these, there were 21 establishments engaged in canning shrimp and oysters, valued at \$723,094, with a cash capital amounting to \$174,800. The number of persons engaged in the canning industry was 1,382 and the wages paid amounted to \$307,560.

To avoid the disclosure of individual enterprise, the output of canned shrimp and oysters and crushed oyster shells in Alabama has been included in the following table, containing statistics of the canning industry and preparation of by-products for Mississippi:

SHRIMP AND SHRIMP CANNING INDUSTRY, INCLUDING BY-PRODUCTS, IN MISSISSIPPI IN 1918.

Items.	Number.	Value.	Items.	Number.	Value.	
Establishments	21	\$723,094	Shrimp canned:			
Cash capital		174,800		No. 1	2,650,344	\$521,484
Persons engaged	1,382			No. 1½	2,449,568	99,872
Wages paid		307,560	Total	6,999,912	621,356	
PRODUCTS.			Miscellaneous products	40,800	14,800	
Oysters canned:			Crushed oyster shells (poultry food)	3,320,000	22,080	
16 ounces	34,632	3,207	Other products	311,000	8,580	
12 ounces	946,896	95,678				
8 ounces	4,004,664	437,628				
6 ounces	29,880	4,188				
4 ounces	1,917,448	174,391				
20 ounces	401,472	84,379				
12 ounces	3,840	960				
Total	6,338,832	800,431				

¹ Includes pack of one firm in Alabama.

² Includes pack of two firms in Alabama.

³ Includes output of one firm in Alabama.

FISHERIES OF LOUISIANA.

Louisiana ranked second among the Gulf States in 1918 in the number of persons engaged, in the investment, and in the value of fishery products. There were 65 persons employed on fishing vessels, 128 on vessels transporting fishery products, 2,093 in the shore boat fisheries, and 1,905 on shore in fresh-fish establishments, canneries, etc., totaling 4,191 persons engaged in the fisheries, compared with 5,027 persons in 1902. The decrease was largely in the shore fisheries.

There were 88 fishing and transporting vessels, representing a net tonnage of 765 tons, with a value, including their outfit, of \$187,611 and 1,762 power, sail, and row boats, valued at \$350,140. The value of the fishing apparatus used in the vessel and shore fisheries amounted to \$95,317; the value of the shore and accessory property to \$671,621 and the cash capital to \$170,500, representing a total investment in the fisheries of the State of \$1,475,188, an increase of \$685,465, 86.79 per cent, as compared with 1902.

The products of the fisheries in 1918 aggregated 24,953,876 pounds, valued at \$1,419,367. Compared with 1902, there was an increase in the quantity of 199,741 pounds, or 0.80 per cent, and \$561,053, 65.36 per cent, in the value of the products. Among the species of importance mention may be made of the following: Shrimp, 13,313,407 pounds, valued at \$649,805; oysters, 7,855,421 pounds, valued at \$1,122,203; squeteagues or "sea trout," 1,190,357 pounds, valued at \$110,474; redfish or red drum, 565,800 pounds, valued at \$46,945; catfish, 480,420 pounds, valued at \$18,955; and croaker, 383,035 pounds, valued at \$28,862.

FISHERIES, BY PARISHES OR COUNTIES.

The number of persons employed, the number and value of vessels, boats, and fishing apparatus used, the amount of capital invested, and the quantity and value of the products of the fisheries of Louisiana in 1918 are shown, by counties, in the following table:

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF LOUISIANA
IN 1918, BY COUNTIES.

Items.	Calcasieu.		Cameron.		Jefferson.		Jefferson Davis.	
	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.
PERSONS ENGAGED.								
Vessels transporting	2		2		4			
Shore fisheries	3		15		488		4	
Fishermen					318			
Total	5		17		810		4	
INVESTMENT.								
Vessels transporting:								
Gasoline					2	\$5,000		
Tonnage					12			
Outfit						500		
Sail	1	\$500	1	\$600				
Tonnage	6		8					
Outfit		50		70				
Land row boats	1	30	9	250	97	2,680	1	\$30
Other boats	1	500	2	400	137	86,600	1	500
Apparatus, shore fisheries:								
Seines	1	200	1	125	49	17,040	1	590
Trammel nets					6	450		
Lines				20		72		
Otter trawls					69	1,725		
Tongs			7	35	60	270		
Minor apparatus						4		
Tools and accessory property				100		122,615		
Investment in capital						40,300		
Total		1,280		1,600		277,256		1,030
PRODUCTS.								
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Black drum	500	\$25	1,000	\$49	14,300	\$429	400	\$20
Shrimp	1,800	90	21,400	1,070	43,263	1,408	1,200	60
Other					45,690	3,446		
Shiners					9,800	786		
Yellow perch					74,411	3,725		
Crabs					610	147		
Striped bass	3,200	156	4,400	352	54,778	4,382	3,200	256
Blue crabs					6,600	528		
Shrimp					2,000	60		
Shrimphead	2,600	208	2,600	208	20,443	1,685	2,200	176
Shrimp mackerel					860	129		
Shrimp					18,590	929		
Shrimp, or "sea trout"	4,600	460	5,600	560	198,529	17,152	4,100	410
Shrimp					2,000	100		
Shrimp, green					6,724,614	236,881		
Shrimp					560	56		
Shrimp, hard					52,350	2,617		
Shrimp					18,000	6,000		
Shrimp					4,360	218		
Shrimp, market:								
Public			98,406	7,029				
Private					677,124	40,305		
Total	12,700	939	133,406	9,268	7,968,882	320,983	11,100	922

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF LOUISIANA
IN 1918, BY COUNTIES—Continued.

Items.	Lafourche.		Orleans.		Plaquemines.	
	Number.	Value.	Number.	Value.	Number.	Value.
PERSONS ENGAGED.						
On vessels fishing.....	5		24		3	
On vessels transporting.....	14		52		4	
In shore fisheries.....	284		177		296	
Shoresmen.....	166		522		194	
Total.....	469		775		497	
INVESTMENT.						
Vessels fishing:						
Gasoline.....	1	\$2,000	5	\$10,300	1	\$4,000
Tonnage.....	8		28		5	
Outfit.....		475		2,000		1,100
Sail.....			14	16,570		
Tonnage.....			154			
Outfit.....				1,200		
Vessels transporting:						
Gasoline.....	7	9,250	17	42,190	1	4,000
Tonnage.....	43		144		9	
Outfit.....		1,405		6,750		3,000
Sail.....			3	11,700	1	6,000
Tonnage.....			70		9	
Outfit.....				600		1,000
Sail and row boats.....	160	5,500	138	3,960	290	15,200
Power boats.....	98	27,400	38	13,850	124	57,000
Apparatus, vessel fisheries:						
Seines.....			12	3,360		
Otter trawls.....	1	25				
Dredges.....			15	450		
Tongs.....	5	35	19	148	3	
Apparatus, shore fisheries:						
Seines.....	33	9,740	30	3,100	16	5,200
Trammel nets.....					16	1,400
Cast nets.....			115	1,150		
Lines.....				490		1,000
Otter trawls.....	48	1,300			12	3,000
Tongs.....	150	750			230	1,300
Minor apparatus.....				425		
Shore and accessory property.....		27,507		229,370		67,000
Cash capital.....		8,500		55,500		20,700
Total.....		93,887		403,113		179,700
PRODUCTS.						
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Angel fish.....			360	\$18		
Black drum.....	5,300	\$159	2,800	83	4,600	\$139
Catfish.....	39,243	1,177	9,200	370	20,050	770
Croaker.....	71,085	4,975	147,700	11,536	42,850	2,700
Flounders.....	1,200	108	2,500	245	1,250	100
Groupers.....			20,000	1,000		
Mullet.....	70,716	3,535	39,600	1,880		
Redfish or red drum.....	74,066	5,925	50,750	4,052	74,270	5,900
Sea bass.....	8,100	648	400	40		
Sheepshead.....	36,868	2,947	34,260	2,663	44,540	3,400
Snapper, red.....			60,000	4,000		
Spanish mackerel.....					625	
Spot.....	26,985	1,349	2,750	137		
Squeteagues or "sea trout".....	100,443	8,038	188,970	18,258	162,450	13,100
Yellowtail.....	200	10				
Shrimp:						
Green.....	2,526,907	82,057	947,340	36,282	1,301,000	45,300
Dried.....					18,375	5,100
Crabs, hard.....			111,875	3,256	56,000	1,400
Oysters, market:						
Public.....			88,200	3,930	42,000	2,500
Private.....	998,340	59,425	577,500	20,900	2,819,852	166,100
Total.....	3,959,453	170,353	2,284,205	108,650	4,587,862	246,900

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF LOUISIANA
IN 1918, BY COUNTIES—Continued.

Items.	St. Bernard.		St. Mary.		St. Tammany.	
	<i>Number.</i>	<i>Value.</i>	<i>Number.</i>	<i>Value.</i>	<i>Number.</i>	<i>Value.</i>
PERSONS ENGAGED.						
Boats fishing.....			29			
Boats transporting.....			28			
Boat fisheries.....	177		165		4	
Crewmen.....			122			
Total.....	177		344		4	
INVESTMENT.						
Boats fishing:						
Gasoline.....			8	\$15,400		
Tonnage.....			86			
Outfit.....				2,800		
Boats transporting:						
Gasoline.....			14	20,500		
Tonnage.....			101			
Outfit.....				2,490		
Hand row boats.....	81	\$2,330	45	1,125	1	\$30
Motor boats.....	65	24,600	54	25,850	1	500
Boats, vessel fisheries:						
Boats.....			2	560		
Crewmen.....				20		
Outfit.....			8	240		
Boats, shore fisheries:						
Boats.....	13	5,500	5	500	1	200
Drum nets.....	26	2,500				
Boats.....		70		220		
Bottom trawls.....	12	300				
Boats.....	40	200	150	1,200		
Equipment and accessory property.....		1,400		31,874		
Capital.....				8,000		
Total.....		36,900		110,779		730
PRODUCTS.						
Box drum.....	13,450	\$403	600	\$30		
Box.....	23,960	1,088	203,468	8,163		
Box.....	42,440	3,446	2,400	216	9,000	\$720
Box.....	2,596	245				
Box.....	97,800	4,890	1,500	75	3,200	160
Box.....	100	20				
Box or red drum.....	109,220	8,737	3,600	324	3,800	304
Boxhead.....	29,610	2,392	3,000	270	3,500	280
Box mackerel.....	290	35				
Box.....	18,300	915				
Box, or "sea trout".....	173,000	18,011	17,900	1,973	12,000	1,200
Box:						
Green.....	500,000	19,610			6,000	300
Dried.....			50,000	12,500		
Box, hard.....	46,700	2,335	15,000	300		
Box, market:						
Public.....	690,648	20,444				
Private.....	249,879	7,431	307,545	17,988		
Total.....	1,997,993	90,002	605,013	41,839	37,500	2,964

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF LOUISIANA
IN 1918, BY COUNTIES—Continued.

Items.	Terrebonne.		Vermilion. ¹		Total.	
	Number.	Value.	Number.	Value.	Number.	Value.
PERSONS ENGAGED.						
On vessels fishing.....	4				65	
On vessels transporting.....	16		6		128	
In shore fisheries.....	396		84		2,093	
Shoresmen.....	583				1,905	
Total.....	999		90		4,191	
INVESTMENT.						
Vessels fishing:						
Gasoline.....	1	\$5,000			16	\$36,
Tonnage.....	10				137	
Outfit.....		500				6,
Sail.....					14	16,
Tonnage.....					154	
Outfit.....						1,
Vessels transporting:						
Gasoline.....	8	14,000	3	\$3,500	52	98,
Tonnage.....	46		26		381	
Outfit.....		1,735		425		13,
Sail.....					6	13,
Tonnage.....					93	
Outfit.....						
Sail and row boats.....	225	6,750	24	650	1,072	39,
Power boats.....	142	67,500	27	5,700	690	311,
Apparatus, vessel fisheries:						
Seines.....					14	3,
Lines.....						
Otter trawls.....					1	
Dredges.....	2	60			25	
Tongs.....					27	
Apparatus, shore fisheries:						
Seines.....	151	28,050	15	1,800	316	71,
Trammel nets.....	14	1,050			62	5,
Cast nets.....					115	1,
Lines.....		50				1,
Otter trawls.....	8	200			149	3,
Tongs.....	355	2,485	39	196	1,031	6,
Minor apparatus.....						
Shore and accessory property.....		191,397		300		671,
Cash capital.....		37,500				170,
Total.....		356,277		12,571		1,475,
PRODUCTS.						
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Angel fish.....					360	
Black drum.....	9,505	\$475	2,000	\$100	54,455	1,9
Catfish.....	110,786	4,431	6,050	302	480,420	18,9
Croaker.....	16,370	1,309	5,500	440	383,035	28,8
Flounders.....	3,950	395	250	25	21,546	1,9
Garfish, dried.....	6,500	455			6,500	4
Groupers.....					20,000	1,0
Mullet.....	36,925	1,477	1,025	52	325,177	15,7
Pompano.....	110	17			820	
Redfish or red drum.....	175,315	15,778	9,300	744	565,899	46,9
Sea bass.....					15,100	1,2
Sharks.....					2,000	
Sheepshead.....	90,157	7,212	6,750	540	276,528	22,0
Snapper, red.....					60,000	4,0
Spanish mackerel.....					1,775	2
Spot.....					66,625	3,2
Squeteagues, or "sea trout".....	285,515	27,768	37,250	3,455	1,190,357	110,4
Yellow-tail.....					2,200	1
Shrimp:						
Green.....	566,000	22,024			12,571,861	442,4
Dried.....	665,171	312,180	10,000	3,500	743,546	207,3
Squid.....					560	
Crabs, hard.....					281,925	9,9
Terrapin.....	5,406	1,578			23,406	7,5
Turtles.....					4,360	2
Oysters, market:						
Public.....					3,919,254	33,9
Private.....	1,207,122	141,203	98,805	6,993	4,936,167	460,3
Total.....	3,178,832	410,302	176,930	16,151	24,953,876	1,419,3

¹ Includes Iberia Parish.

² 93,975 in number.

³ 131,322 bushels.

⁴ 990,881 bushels. In addition to the oysters shown above, 695,153 bushels, valued at \$162,494, were taken by Mississippi men from Louisiana beds, and 11,250 bushels, valued at \$3,000, were taken by Tex men from Louisiana beds.

FISHERIES, BY APPARATUS.

the different forms of apparatus used in the vessel fisheries of Louisiana, in the order of their importance, based on the value of the catch, were: Seines, with 783,740 pounds of shrimp, valued at \$39,702; trawls, with 888,594 pounds of oysters, valued at \$35,605; tongs, with 372,750 pounds of oysters, valued at \$19,712; lines, with 42,000 pounds of catfish, valued at \$1,680; and otter trawls, with 18,500 pounds of shrimp, valued at \$740. The total catch of the vessel fisheries amounted to 2,105,584 pounds, valued at \$97,439.

The total yield of the shore or boat fisheries amounted to 22,848,292 pounds, valued at \$1,321,928. Seines were the most productive form of apparatus used, the catch amounting to 9,600,274 pounds, valued at \$601,843. The catch with tongs amounted to 6,594,077 pounds, valued at \$438,982; with otter trawls, 5,381,428 pounds, valued at \$3,653; with lines, 699,128 pounds, valued at \$43,140; with trawls, 293,050 pounds, valued at \$23,473; with cast nets, 125,500 pounds, valued at \$5,075; and with minor apparatus, 154,835 pounds, valued at \$10,762.

The products of the vessel and shore fisheries of Louisiana in 1918 are shown in the following tables, by counties, apparatus, and species:

PRODUCTS OF VESSEL FISHERIES OF LOUISIANA IN 1918, BY COUNTIES, APPARATUS, AND SPECIES.

Apparatus and species.	Lafourche.		Orleans.		Plaquemines.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Shrimp, green.....			733,740	\$27,202		
Trawls: Shrimp, green.....	18,500	\$740				
Oysters, market—						
Public.....			46,200	1,430		
Private.....			420,000	14,000		
Total.....			466,200	15,430		
Oysters, market—						
Public.....			42,000	2,500	42,000	\$2,500
Private.....	68,250	4,062	157,500	6,900	63,000	3,750
Total.....	68,250	4,062	199,500	9,400	105,000	6,250
Grand total.....	86,750	4,802	1,399,440	52,032	105,000	6,250

Apparatus and species.	St. Mary.		Terrebonne.		Total.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Shrimp—						
Green.....					733,740	\$27,202
Dried.....	50,000	\$12,500			50,000	12,500
Total.....	50,000	12,500			783,740	39,702
Trawls: Shrimp, green.....					18,500	740
Catfish.....	42,000	1,680			42,000	1,680
Oysters, market—						
Public.....					46,200	1,430
Private.....	307,545	17,988	114,849	\$2,187	842,394	34,175
Total.....	307,545	17,988	114,849	2,187	888,594	35,605
Oysters, market—						
Public.....					84,000	5,000
Private.....					288,750	14,712
Total.....					372,750	19,712
Grand total.....	399,545	32,168	114,849	2,187	2,105,584	97,439

YIELD OF SHORE FISHERIES OF LOUISIANA IN 1918, BY COUNTIES, APPARATUS, AND SPECIES.

Apparatus and species.	Calcasieu.		Cameron.		Jefferson.		Jefferson Da
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds. Val
Seines:							
Black drum.....	500	\$25	750	\$37	14,300	\$429	400
Catfish.....	1,800	90	1,400	70	40,763	1,308	1,200
Croaker.....					39,490	3,024	
Flounders.....					1,100	88	
Mullet.....					70,311	3,520	
Pompano.....					560	137	
Redfish or red drum.....	3,200	156	3,400	272	48,778	3,902	3,200
Sea bass.....					6,600	528	
Sharks.....					2,000	60	
Sheepshead.....	2,600	208	2,100	168	18,643	1,541	2,200
Spanish mackerel.....					800	120	
Spot.....					18,390	919	
Squeteagues or "sea trout".....	4,600	460	4,100	410	177,529	15,052	4,100
Yellowtail.....					2,000	100	
Shrimp, green.....					2,928,452	103,169	
Squid.....					560	56	
Total.....	12,700	939	11,750	957	3,370,276	133,953	11,100
Trammel nets:							
Catfish.....					1,500	60	
Croaker.....					5,000	350	
Mullet.....					4,100	205	
Redfish or red drum.....					4,500	360	
Sheepshead.....					900	72	
Spanish mackerel.....					60	9	
Spot.....					200	10	
Squeteagues or "sea trout".....					12,000	1,200	
Total.....					28,260	2,266	
Otter trawls: Shrimp, green.....					3,796,162	133,712	
Lines:							
Black drum.....			250	12			
Catfish.....			20,000	1,000	1,000	40	
Croaker.....					1,200	72	
Flounders.....					100	10	
Pompano.....					50	10	
Redfish or red drum.....			1,000	80	1,500	120	
Sheepshead.....			500	40	900	72	
Squeteagues or "sea trout".....			1,500	150	9,000	900	
Crabs, hard.....					52,350	2,617	
Total.....			23,250	1,282	66,100	3,841	
Minor apparatus:							
Flounders.....					8,600	688	
Turtles.....					4,360	218	
Terrapin.....					18,000	6,000	
Total.....					30,960	6,906	
Tongs:							
Oysters, market—							
Public.....			98,406	7,029			
Private.....					677,124	40,305	
Total.....			98,406	7,029	677,124	40,305	
Grand total.....	12,700	939	133,406	9,268	7,968,882	320,983	11,100

OF SHORE FISHERIES OF LOUISIANA IN 1918, BY COUNTIES, APPARATUS, AND SPECIES—Continued.

Apparatus and species.	Lafourche.		Orleans.		Plaquemines.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
el fish.....			360	\$18		
ck drum.....	5,300	\$159	2,200	65	4,500	\$135
ish.....	39,243	1,177	8,100	325	13,500	540
ker.....	71,085	4,975	58,100	4,448	34,820	2,248
nders.....	1,200	108	950	95	1,250	115
let.....	70,716	3,535	39,600	1,880		
fish or red drum.....	74,066	5,925	33,300	2,664	65,525	5,236
bass.....	8,100	648	400	40		
epshead.....	36,868	2,947	28,070	2,235	39,520	3,062
nish mackerel.....					350	35
t.....	26,985	1,349	2,750	137		
eteagues or "sea trout".....	100,443	8,038	92,170	8,482	121,350	10,645
lowtail.....	200	10				
imp—						
Green.....	1,437,391	47,264	76,100	3,405	1,274,750	44,278
Dried.....					18,375	5,145
Total.....	1,871,597	76,135	342,100	23,794	1,573,940	71,439
el nets:						
ck drum.....					100	3
fish.....					6,550	256
aker.....					8,030	526
l fish or red drum.....					8,745	699
epshead.....					5,020	401
nish mackerel.....					275	27
eteagues or "sea trout".....					41,100	2,544
Total.....					69,820	4,456
rawls: Shrimp, green.....	1,071,016	34,053			26,250	1,048
ts: Shrimp.....			125,500	5,075		
ck drum.....			600	18		
fish.....			1,100	45		
aker.....			89,600	7,088		
unders.....			4,550	150		
upers.....			20,000	1,000		
d fish or red drum.....			17,450	1,388		
epshead.....			6,190	428		
apper, red.....			60,000	4,000		
eteagues or "sea trout".....			96,800	9,776		
bs, hard.....					56,000	1,400
Total.....			293,290	23,893	56,000	1,400
apparatus:						
bs, hard.....			111,875	3,256		
imp.....			12,000	600		
Total.....			123,875	3,856		
Oysters, market, private.....	930,090	55,363			2,756,852	162,401
Grand total.....	3,872,703	165,551	884,765	56,618	4,482,862	240,744

YIELD OF SHORE FISHERIES OF LOUISIANA IN 1918, BY COUNTIES, APPARATUS, SPECIES—Continued.

Apparatus and species.	St. Bernard.		St. Mary.		St. Tamman	
	<i>Pounds.</i>	<i>Value.</i>	<i>Pounds.</i>	<i>Value.</i>	<i>Pounds.</i>	<i>Value.</i>
Seines:						
Black drum.....	13,152	\$394	600	\$30		
Catfish.....	21,960	1,008	2,400	120		
Croaker.....	33,845	2,707	2,400	216	9,000	
Flounders.....	2,096	197				
Mullet.....	74,700	3,735	1,500	75	3,200	
Pompano.....	100	20				
Red fish or red drum.....	74,743	5,979	3,600	324	3,800	
Sheepshead.....	26,600	2,128	3,000	270	3,500	
Spanish mackerel.....	150	18				
Spot.....	16,300	815				
Squeteagues or "sea trout".....	110,400	11,665	17,900	1,973	12,000	
Shrimp, green.....	122,000	6,110			6,000	
Total.....	496,046	34,776	31,400	3,008	37,500	
Trammel nets:						
Black drum.....	298	9				
Catfish.....	2,000	80				
Croaker.....	6,095	489				
Flounders.....	500	48				
Mullet.....	23,100	1,155				
Red fish or red drum.....	33,877	2,710				
Sheepshead.....	2,110	174				
Spanish mackerel.....	90	10				
Spot.....	2,000	100				
Squeteagues or "sea trout".....	57,000	5,730				
Total.....	127,070	10,505				
Otter trawls: Shrimp, green.....	378,000	13,500				
Lines:						
Catfish.....			159,068	6,363		
Croaker.....	2,500	250				
Red fish or red drum.....	600	48				
Sheepshead.....	900	90				
Spanish mackerel.....	50	7				
Squeteagues or "sea trout".....	5,600	616				
Crabs, hard.....	46,700	2,335	15,000	300		
Total.....	56,350	3,346	174,068	6,663		
Tongs:						
Oysters, market—						
Public.....	690,648	20,444				
Private.....	249,879	7,431				
Total.....	940,527	27,875				
Grand total.....	1,997,993	90,002	205,468	9,671	37,500	

WHOLESALE FISHERY TRADE.

There were 35 wholesale establishments in the State of Louisiana in 1918 engaged in handling fresh fish or oysters. The total number of persons employed in these establishments was 622; the amount wages paid during the year was \$224,552; the investment, \$168,100, and the cash capital utilized \$52,500. Besides these, there were 12 establishments engaged in the canning of shrimp and oysters and the preparation of by-products, valued at \$486,838, using cash capital amounting to \$118,000; and employing 1,193 persons, to whom \$145,687 were paid in wages during the year. These establishments were distributed as follows: In Jefferson Parish, 9; in Lafourche Parish, 3; in Orleans Parish, 4; in Plaquemines Parish, 3; and Terrebonne Parish, 4.

The following table contains the statistics of the canning industry and preparation of by-products for Louisiana in 1918:

OYSTER AND SHRIMP CANNING INDUSTRY, INCLUDING BY-PRODUCTS, IN LOUISIANA IN 1918.

Items.	Number.	Value.	Items.	Number.	Value.
Establishments.....	23	\$486,838	PRODUCTS—continued.		
Cash capital.....		118,000	Shrimp, canned:		
Persons engaged.....	1,193		No. 1.....cans..	4,686,000	\$50,000
Wages paid.....		145,687	No. 1½.....do....	399,744	8,000
PRODUCTS.			Total.....	5,085,744	58,000
Oysters, canned:			Shrimp:		
3 ounces.....cans..	24,048	2,505	Dried.....pounds..	603,259	19,000
4 ounces.....do....	157,152	16,719	Bran.....do....	460,000	1,000
5 ounces.....do....	1,754,408	81,936	Crushed oyster shells (poultry food).....pounds..		
6 ounces.....do....	172,704	24,705		2,698,000	3,000
8 ounces.....do....	33,336	7,081			
10 ounces.....do....	51,696	11,615			
12 ounces.....do....	33,168	9,360			
Total.....	1,226,512	153,921			

¹ Includes a small quantity of 5½-ounce cans put up by a Texas firm.

² Includes output of two firms in Texas.

FISHERIES OF TEXAS.

In 1918 Texas ranked second among the Gulf States in the quantity of fishery products and fourth in the number of persons engaged in the industry, investment, and value of the products. Compared with 1902, there has been an increase in the number of persons engaged of 742, or 64.86 per cent; in the investment an increase of \$516,376, or 138 per cent; in the quantity of products an increase of 16,970,500 pounds, or 210.95 per cent; and in their value an increase of \$323,400, or 91.41 per cent. The number of persons employed in 1918 on fishing vessels was 357, in the shore and boat fisheries 1,070, and on shore and in wholesale establishments 459, totaling 1,886.

The number of fishing vessels was 75, with a total net tonnage of 1,335 tons, valued, with their outfit, at \$259,870; the number of boats was 950, valued at \$119,320. The value of the fishing apparatus used in the vessel and shore fisheries amounted to \$61,262, the value of the shore and accessory property amounted to \$413,248, and the working cash capital to \$36,400, representing a total investment of \$890,100.

The total yield of the fisheries of Texas was 25,014,760 pounds, valued at \$677,243. The quantities and values of the principal species were: Black drum, 1,873,436 pounds, valued at \$44,300; menhaden, 14,118,340 pounds, valued at \$103,080; redfish or

1, 1,336,535 pounds, valued at \$80,468; red snapper, 1,243,002 pounds, valued at \$93,720; squeteagues or "sea trout," 1,613,370 pounds, valued at \$119,328; and oysters, 3,344,488 pounds, or 84 bushels, valued at \$143,610.

FISHERIES, BY COUNTIES.

The following table gives, by counties, the number of persons engaged, the investment, and the products of the fisheries of Texas in 1918:

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF TEXAS IN 1918, BY COUNTIES.

Items.	Aransas County.		Brazoria County.		Calhoun County.		Cameron County.	
	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.
PERSONS ENGAGED.								
Males fishing	6				63			
Female fisheries	150		8		72		112	
Men	13				128		21	
Total	169		8		263		133	
INVESTMENT.								
Fishing:								
Soline					11	\$9,800		
Tonnage					86			
Outfit						4,350		
Boats	1	\$3,100			16	10,320		
Tonnage	21				116			
Outfit		2,000				3,835		
Sail, row, etc	160	14,380	4	\$50	103	9,395	32	\$8,730
Power	7	3,200	4	800	8	3,200		
Vessels, vessel fisheries:								
Boats					12	2,100		
Gammel nets					1	100		
Gill nets					6	90		
Lines		100						
Gedges					2	100		
Gings					48	182		
Vessels, shore fisheries:								
Boats	32	3,500			17	1,900	28	5,600
Gammel nets	20		4	300	20	2,150		
Gill nets	180	5,175			70	750		
Gill nets					11	40	5	17
Gill nets			4	300				
Lines		25				245		
Boats	27	20			20	14		
Gings	80	400			56	385		
Motor apparatus		30						
Boats and accessory property		25,025		100		44,275		14,450
Capital		3,200				5,000		3,100
Total		62,730		1,550		98,231		31,897
PRODUCTS.								
Drum	119,000	\$4,608			60,589	\$2,915	1,083,486	\$10,835
Shrimp	1,000	150			538	63		
Crabs	31,800	1,118			58,766	3,397	10,000	300
Shrimp	30,375	1,155			15,818	734	15,000	525
Shrimp	18,775	1,300			6,873	609	4,500	180
Whiting	565	38			3,496	331	3,000	120
Shrimp	11,625	448			9,000	418	10,000	100
Shrimp	4,375	525			3,467	443	300	18
Shrimp or red drum	119,250	8,415	11,875	\$950	150,959	13,207	722,324	28,892
Shrimp							5,000	200
Shrimp	12,500	875			4,124	402	40,000	1,600
Shrimp	18,750	873			20,938	1,718	20,000	800
Shrimp, red	85,000	8,500						
Shrimp mackerel	5,000	415			650	85		
Shrimp squeteagues or "sea trout"	228,369	22,895	13,750	1,100	186,366	19,120	722,324	28,892
Shrimp					3,500	260	1,500	50
Shrimp	384	11			360	11		
Shrimp	431	13						
Shrimp, market:								
Public	334,243	15,280			1,207,612	50,860	105	27
Private	10,500	480			10,500	525		
Total	1,031,942	67,099	25,625	2,050	1,743,556	95,098	2,637,539	72,539

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF TEXAS
1918 BY COUNTIES—Continued.

Items.	Chambers County.		Galveston County.		Harris County.	
	Number.	Value.	Number.	Value.	Number.	Value.
PERSONS ENGAGED.						
On vessels fishing.....			177		4	
In shore fisheries.....	45		202		100	
Shoresmen.....	4		60		15	
Total.....	49		439		119	
INVESTMENT.						
Vessels, fishing:						
Gasoline.....			9	\$32,050	2	\$1,000
Tonnage.....			188		13	
Outfit.....				9,000		
Sail.....			11	61,600		
Tonnage.....			528			
Outfit.....				32,225		
Boats, sail, row, etc.....	30	\$450	91	1,670	91	2,000
Boats, power.....	15	3,000	66	20,100	17	5,000
Apparatus, vessel fisheries:						
Seines.....			5	2,300	1	
Lines.....				940		
Tongs.....			8	52		
Minor apparatus.....				1		
Apparatus, shore fisheries:						
Seines.....	9	900	8	1,835	15	1,000
Trammel nets.....			11	1,350		
Cast nets.....			10	35		
Lines.....		800		555		
Spears.....			25	20		
Tongs.....			70	455	12	
Minor apparatus.....		670		4		
Shore and accessory property.....		500		148,905		8,000
Cash capital.....		500		9,000		1,000
Total.....		6,820		322,097		20,000
PRODUCTS.						
	<i>Pounds.</i>	<i>Value.</i>	<i>Pounds.</i>	<i>Value.</i>	<i>Pounds.</i>	<i>Value.</i>
Angelfish.....					124	
Black drum.....	400	\$20	7,750	\$507	8,875	1,000
Catfish.....	68,100	5,448	16,080	1,011	25,370	1,000
Croaker.....	300	18	18,750	1,203	5,837	
Flounders.....	500	43	7,425	990	1,535	
Groupers.....			20,840	843		
Grunts.....			1,000	100		
Jewfish.....			27,340	1,534		
King whiting.....			21,000	2,138	2,950	
Menhaden.....			4,574,340	31,500		
Mullet.....	600	12	2,500	92	11,300	
Pompano.....			1,780	398	364	
Redfish or red drum.....	1,000	60	26,625	3,265	28,725	3,000
Sheepshead.....	200	14	12,625	1,273	11,850	1,000
Snapper, red.....			1,146,002	83,720		
Spanish mackerel.....			3,750	710	244	
Squeteagues or "sea trout".....	1,500	125	32,125	4,245	41,175	6,000
Shrimp.....			9,000	719	2,000	
Crabs:						
Hard.....			35,000	2,650	157,500	8,000
Soft.....					700	
Terrapin.....					1,350	
Oysters, market:						
Public.....			454,230	18,520	118,811	5,000
Private.....			26,250	2,350		
Total.....	72,600	5,740	6,444,412	157,049	418,710	29,000

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF TEXAS IN 1918, BY COUNTIES—Continued.

Items.	Jefferson County.		Matagorda County.		Nueces County.	
	Number.	Value.	Number.	Value.	Number.	Value.
PERSONS ENGAGED.						
Persons fishing	54		31		22	
Persons in fisheries	45		122		167	
Personnel	42		128		41	
Total	141		281		230	
INVESTMENT.						
Investment in fishing:						
Investment in equipment	2	\$50,000				
Investment in tonnage	217					
Investment in outfit		14,800				
Investment in line	1	2,000	7	\$5,235		
Investment in tonnage	12		58			
Investment in outfit		800		2,450		
Investment in tonnage			10	6,000	5	\$4,170
Investment in outfit			60		36	
Investment in sail, row, etc.	28	705	105	3,075		1,610
Investment in power	10	3,900	19	8,700	116	18,300
Investment in boats, vessel fisheries:						
Investment in boats	2	2,400	5	1,250	8	1,620
Investment inammel nets			2	160		
Investment in gill nets		25		10		
Investment in gill nets, shore fisheries:			31	203	6	39
Investment inammel nets	7	750	14	2,900	60	8,140
Investment inammel nets			6	675		
Investment inammel nets			10	100	13	1,100
Investment inammel nets	2	7			100	300
Investment inammel nets		50		155		500
Investment in gears			25	15	25	25
Investment in gears	4	25	104	685		
Investment in hoisting apparatus						6
Investment in land and accessory property		74,893		36,550		58,775
Investment in capital		3,000		4,400		5,900
Total		153,330		83,968		101,485
PRODUCTS.						
Product in drum	2,200	\$193	68,614	\$3,230	514,972	\$20,473
Product in h			500	55		
Product in r	9,470	682	35,001	2,556	3,760	150
Product in r	3,125	290	81,052	3,796	25,000	1,000
Product in r	1,102	136	27,251	2,266	81,000	6,000
Product in l	4,000	360	625	50	5,000	450
Product in whitening	600	60	5,813	275	1,000	40
Product in den	9,544,000	71,580				
Product in no	1,000	60	4,375	135	1,875	45
Product in n or red drum	11,800	1,590	812	100	3,250	430
Product in ss	1,625	150	71,500	5,990	170,477	12,110
Product in r			4,063	327	19,500	1,430
Product in head	7,375	749	24,124	1,975	70,500	3,450
Product in r, red	12,000	1,500				
Product in h mackerel			1,250	150	25,360	2,545
Product in agues or "sea trout"	8,250	1,150	101,461	10,895	235,650	19,961
Product in o	2,500	265	567	72	145,000	7,250
Product in in	1,000	350	500	100		
Product in s	2,000	120	240	14	4,000	300
Product in s, market:						
Product in blic	39,375	1,500	1,058,120	44,383	40,586	2,319
Product in ivate			4,781	209		
Total	9,651,422	80,735	1,490,649	76,578	1,346,930	77,953

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF THE FISHERIES OF TEXAS
1918, BY COUNTIES—Continued.

Items.	Orange County.		San Patricio County.		Total.	
	Number.	Value.	Number.	Value.	Number.	Value.
PERSONS ENGAGED.						
On vessels fishing.....					357	
In shore fisheries.....	12		35		1,070	
Shoresmen.....			7		459	
Total.....	12		42		1,886	
INVESTMENT.						
Vessels fishing:						
Steam.....					2	\$
Tonnage.....					217	
Outfit.....						
Gasoline.....					30	
Tonnage.....					357	
Outfit.....						
Sail.....					43	
Tonnage.....					761	
Outfit.....						
Boats, sail, row, etc.....	9	\$690	21	\$210	790	
Boats, power.....	5	1,250	8	1,050	160	
Apparatus, vessel fisheries:						
Seines.....					33	
Trammel nets.....					3	
Gill nets.....					6	
Lines.....						
Dredges.....					2	
Tongs.....					93	
Minor apparatus.....						
Apparatus, shore fisheries:						
Seines.....	4	500	3	300	197	
Trammel nets.....	1	125			62	
Gill nets.....			6	600	279	
Cast nets.....			10	35	138	
Fyke nets.....					4	
Lines.....		10		30		
Spears.....			14	10	136	
Tongs.....	4	25			330	
Minor apparatus.....						
Shore and accessory property.....		100		1,150		4
Cash capital.....				900		3
Total.....		2,700		4,285		8
PRODUCTS.						
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Angelfish.....					124	
Black drum.....					1,873,436	
Bluefish.....	1,250	\$110	6,300	\$252	3,238	
Catfish.....			1,200	150	262,647	
Croaker.....	2,800	305	1,500	75	197,557	
Flounders.....	2,300	230			162,361	
Groupers.....	400	47	13,000	1,085	20,840	
Grunts.....					1,000	
Jewfish.....					39,965	
King whiting.....	550	55			35,974	
Menhaden.....					14,118,340	16
Mullet.....	1,000	70			53,275	
Pompano.....			200	25	14,548	
Redfish or red drum.....	3,800	560	18,200	1,638	1,336,535	8
Sea:						
Bass.....					6,625	
Gar.....			700	63	80,887	
Sheepshead.....	4,500	450	6,800	340	197,662	
Snapper, red.....					1,243,002	9
Spanish mackerel.....			5,100	255	41,354	
Squeteagues or "sea trout".....	3,400	500	39,000	4,275	1,613,370	11
Shrimp.....					164,067	
Crabs:						
Hard.....					193,244	1
Soft.....					2,700	
Terrapin.....					2,850	
Turtles.....					6,671	
Oysters, market:						
Public.....	39,375	1,500			3,292,457	14
Private.....					452,031	
Total.....	59,375	3,827	92,000	8,158	25,014,760	67

¹ Represents 579,732 in number.

² Represents 2,100 in number.

³ Represents 470,351 bushels and includes 11,250 bushels, valued at \$3,000, taken from Louisiana bays.

⁴ Represents 7,433 bushels.

PERSONS ENGAGED, INVESTMENT, AND PRODUCTS OF FISHERIES OF WEST COAST OF FLORIDA IN 1918, BY COUNTIES—Continued.

Items.	Pinellas County.		Santa Rosa County.		Taylor County.	
	Number.	Value.	Number.	Value.	Number.	Value.
PERSONS ENGAGED.						
1 vessels fishing.....	35					
1 vessels transporting.....	16					
shore fisheries.....	942		32		45	
Total.....	993		32		45	
INVESTMENT.						
vessels fishing:						
Gasoline.....	2	\$15,000				
Tonnage.....	24					
Outfit.....		5,067				
Sail.....	3	8,600				
Tonnage.....	62					
Outfit.....		2,728				
vessels transporting:						
Gasoline.....	8	14,100				
Tonnage.....	73					
Outfit.....		2,025				
Sail.....	50	80,650				
Tonnage.....	1,025					
Boats, sail, row, etc.....	330	51,675	9	\$225	45	\$900
Boats, power.....	152	114,100	16	2,850	10	1,400
Apparatus, vessel fisheries, lines.....		350				
Apparatus, shore fisheries:						
Seines.....	12	3,400				
Gill nets.....	191	10,150			45	1,800
Trammel nets.....	16	1,600	9	1,000		
Stop nets.....	10	500				
Lines.....		590				
Tongs.....	1	5	20	155		
Sponge apparatus.....		70,935				
Other apparatus.....		8				
Tools and accessory property.....		46,128		150		1,150
Cash capital.....		16,500				300
Total.....		444,111		4,380		5,550
PRODUCTS.						
	<i>Pounds.</i>	<i>Value.</i>	<i>Pounds.</i>	<i>Value.</i>	<i>Pounds.</i>	<i>Value.</i>
Angelfish.....	2,365	\$75				
Bluefish, fresh.....	2,507	213				
Brook and kingfish.....	25,537	1,502				
Crab, blue.....	4,020	131				
Crab, white or ten-pounder, fresh.....	208	4				
Crabs, other.....	3,535	158	300	\$30		
Crabs, other.....	908,179	32,049				
Crabs, other.....	25,121	894				
Crabs, other.....	1,000	40	200	10		
Crabs, other.....	282	6				
Crabs, other.....	450	18				
Crabs, other.....						
Crabs, other.....	2,598,083	103,546	120,000	6,000	285,850	\$13,227
Crabs, other.....			9,000	720	133,120	9,317
Crabs, other.....					5,975	925
Crabs, other.....	500	20				
Crabs, other.....	14,772	2,216				
Crabs, other.....	27,959	1,293	1,000	50	8,150	410
Crabs, other.....	4,600	217				
Crabs, other.....	1,000	40				
Crabs, other.....	8,000	310				
Crabs, other.....	18,456	860	1,800	90	1,955	98
Crabs, other.....						
Crabs, other.....	8,470	428				
Crabs, other.....	971,082	62,994				
Crabs, other.....	8,176	538				
Crabs, other.....	1,580	69	1,500	75	350	17
Crabs, other.....	144,323	12,108	25,000	2,500	10,220	818
Crabs, other.....	22,500	2,500				
Crabs, other.....	4,354	310	56,000	4,000		
Crabs, other.....						
Crabs, other.....	44,070	8,814				
Crabs, other.....	220,887	602,769				
Crabs, other.....	9,324	2,817				
Crabs, other.....	70,164	28,378				
Total.....	5,151,504	865,317	214,800	13,475	445,620	24,812

YIELD OF VESSEL FISHERIES OF TEXAS IN 1918, BY COUNTIES, APPARATUS, AND SPECIES—Continued.

Apparatus and species.	Jefferson.		Matagorda.		Nueces.		Total.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Seines:								
Bluefish.....			250	\$27			313	
Black drum.....			18,035	850	50,000	\$1,875	79,343	3,112
Catfish.....			7,633	525	675	25	15,898	4,113
Croaker.....			17,761	832	2,750	110	28,370	1,142
Flourders.....			1,738	148	3,364	215	6,286	4,113
King whiting.....			1,600	76			4,175	1,142
Menhaden.....	9,544,000	\$71,580					14,118,340	103,000
Mullet.....			562	27	370	10	2,649	1,142
Pompano.....			406	50	114	13	1,700	1,142
Redfish or red drum.....			20,875	1,717	9,167	550	58,688	4,113
Sea gar.....			1,938	155	1,435	90	4,832	1,142
Sheepshead.....			7,937	642	2,750	130	20,371	1,142
Spanish mackerel.....			625	75	88	10	1,733	1,142
Squeteagues or "sea trout".....			27,543	2,932	14,665	1,100	69,858	7,000
Shrimp.....			293	36			1,283	1,142
Terrapin.....			250	50			250	1,142
Turtles.....			120	7			120	1,142
Total.....	9,544,000	71,580	107,556	8,149	85,378	4,128	14,414,209	124,000
Trammel nets:								
Black drum.....			625	30			2,125	1,142
Catfish.....			1,920	130			1,936	1,142
Croaker.....			406	19			443	1,142
King whiting.....			375	18			375	1,142
Mullet.....							313	1,142
Redfish or red drum.....			1,125	98			3,831	3,112
Sheepshead.....							162	1,142
Squeteagues or "sea trout".....			1,750	195			7,045	7,000
Total.....			6,201	490			16,230	1,142
Gill nets:								
Black drum.....							750	1,142
Redfish or red drum.....							1,750	1,142
Squeteagues or "sea trout".....							3,750	3,112
Total.....							6,250	5,366
Lines:								
Catfish.....			1,670	110			1,670	1,142
Groupers.....							20,840	8,224
Jewfish.....	4,000	360					25,340	1,200
Snapper, red.....	12,000	1,500					1,243,002	93,700
Total.....	16,000	1,860	1,670	110			1,290,832	95,900
Dredges: Oysters, market, public.....								
							315,000	12,000
Tongs: Oysters, market, public.....								
			302,869	12,700	10,500	600	1,040,900	44,300
Minor apparatus: Flourders.....								
							800	1,142
Grand total.....	9,560,000	73,440	418,296	21,449	95,878	4,728	17,084,241	278,400

YIELD OF SHORE FISHERIES OF TEXAS IN 1918, BY COUNTIES, APPARATUS, AND SPECIES—Continued.

Apparatus and species.	Chambers.		Galveston.		Harris.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Seines:						
Angel fish.....					124	
Black drum.....	400	\$20	3,125	\$200	8,250	
Catfish.....	100	8	1,670	80	5,000	
Croaker.....	300	18	7,500	480	5,125	
Flounders.....	500	43	500	64	1,125	
King whiting.....			6,000	500	2,750	
Mullet.....	600	12	1,000	45	10,500	
Pompano.....			100	19	339	
Redfish or red drum.....	1,000	60	8,750	1,050	19,525	2
Sheepshead.....	200	14	2,500	250	9,375	
Spanish mackerel.....			125	19	224	
Squeteagues or "sea trout".....	1,500	125	10,000	1,280	20,625	3
Shrimp.....					2,000	
Terrapin.....					1,350	
Total.....	4,600	300	41,270	3,987	86,312	10
Trammel nets:						
Black drum.....			1,875	130		
Catfish.....			335	16		
Croaker.....			8,750	560		
Flounders.....			250	32		
King whiting.....			6,250	625		
Mullet.....			1,500	47		
Pompano.....			200	38		
Redfish or red drum.....			10,625	1,275		
Sheepshead.....			3,125	315		
Spanish mackerel.....			125	19		
Squeteagues or "sea trout".....			11,250	1,440		
Total.....			44,285	4,487		
Cast nets—Shrimp.....						
			8,000	640		
Lines:						
Black drum.....			1,000	80	625	
Catfish.....	68,000	5,440	13,330	880	19,970	1
Croaker.....			375	33	312	
Flounders.....			750	114	310	
Grunts.....			1,000	100		
Jewfish.....			6,000	660		
King whiting.....			7,250	875		
Pompano.....			1,300	300		
Redfish or red drum.....			3,875	560	7,500	1
Sheepshead.....			1,250	150	1,875	
Spanish mackerel.....			5,000	600		
Squeteagues or "sea trout".....			7,250	1,100	18,750	2
Crabs, hard.....			32,000	2,400	157,500	8
Total.....	68,000	5,440	78,280	7,832	206,842	13
Spears:						
Flounders.....			5,000	640		
Sheepshead.....			3,750	375		
Total.....			8,750	1,015		
Minor apparatus:						
Crabs—						
Hard.....			3,000	250		
Soft.....					700	
Oysters, market, private.....			18,375	1,650		
Total.....			21,375	1,900	700	
Tongs:						
Oysters, market—						
Public.....			380,730	15,300	118,811	5
Private.....			7,875	700		
Total.....			388,605	16,000	118,811	5
Grand total.....	72,600	5,740	590,565	35,881	412,665	29

YIELD OF SHORE FISHERIES OF TEXAS IN 1918 BY COUNTIES, APPARATUS, SPECIES—Continued.

Apparatus and species.	Orange.		San Patricio.		Total.
	Pounds.	Value.	Pounds.	Value.	Pounds.
Seines:					
Angel fish.....					124
Black drum.....	1,000	\$88	5,300	\$212	1,720,649
Bluefish.....			200	30	1,575
Catfish.....	1,000	110	500	25	61,855
Croaker.....	1,500	150			149,008
Flounders.....	250	30	1,000	85	47,440
Jewish fish.....					3,000
King whiting.....	400	40			15,871
Mullet.....	1,000	70			37,564
Pompano.....			200	25	10,481
Redfish or red drum.....	2,400	350	7,200	648	1,082,398
Sea—					
Bass.....					6,625
Gar.....			700	63	73,493
Sheepshead.....	3,000	300	800	40	102,791
Spanish mackerel.....			100	5	3,965
Squeteagues or "sea trout".....	2,400	350	4,000	440	1,184,698
Shrimp.....					8,784
Terrapin.....					2,600
Turtles.....					3,120
Total.....	12,950	1,488	20,000	1,573	4,516,041
Trammel nets:					
Bluefish.....					350
Black drum.....	250	22			61,369
Catfish.....	300	30			9,360
Croaker.....	800	80			17,234
Flounders.....	150	17			1,710
King whiting.....	150	15			7,962
Mullet.....					12,749
Pompano.....					888
Redfish or red drum.....	800	120			113,118
Sea gar.....					2,562
Sheepshead.....	1,500	150			15,338
Spanish mackerel.....					156
Squeteagues or "sea trout".....	1,000	150			165,894
Total.....	4,950	584			408,690
Gill nets:					
Black drum.....			1,000	40	6,125
Bluefish.....			1,000	120	1,000
Catfish.....					8,920
Croaker.....					1,690
King whiting.....					341
Pompano.....					279
Redfish or red drum.....			8,000	720	34,350
Sheepshead.....			1,000	50	1,000
Squeteagues or "sea trout".....			19,000	2,075	105,875
Total.....			30,000	3,005	159,580
Cast nets:					
Spanish mackerel.....			5,000	250	5,000
Shrimp.....					154,000
Total.....			5,000	250	159,000
Fyke nets:					
Redfish or red drum.....					1,875
Squeteagues or "sea trout".....					2,500
Total.....					4,375
Lines:					
Black drum.....					3,075
Catfish.....	1,500	165	1,000	50	163,008
Croaker.....					812
Flounders.....					1,625
Grunts.....					1,000
Jewish fish.....					11,625
King whiting.....					7,250
Pompano.....					1,200
Redfish or red drum.....	600	90	3,000	270	40,525
Sheepshead.....			5,000	250	54,250
Spanish mackerel.....					30,500
Squeteagues or "sea trout".....			16,000	1,760	73,750
Crabs, hard.....					190,244
Total.....	2,100	255	25,000	2,330	578,864