# 44.-STATISTICS OF THE FISHERIES OF THE UNITED STATES. 

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PREFATORY REMARKS.

- The first satisfactory and reliable census of the fisheries of the United States was taken by the U. S. Fish Commission in 1879-80, under the direction of Dr. George Brown Goode, in the capacity of special agent of the Tenth Census. While in 1870 an effort was made to exhibit the extent of the fishing industry of the country, the attempt was acknowledged to be a failure aud the published figures are concededly incomplete. The practical absence of statistical data for an earlier year than 1879 or 1880 is unfortunate, in that no basis for comparison exists between the present condition of some of our most important fisheries and their extent even at a comparatively recent date. A knowledge of the early variations in abundance as judged by the quantity of the catch is especially desirable in view of the marked changes in methods of capture in late years and the agitation of the question of the threatened extermination of certain fishes and other water animals. It is true that in the case of a few important fisheries, as, for instance, the whale and mackerel, certain valuable statistical data for long continuous periods have been furnished by customs-house, State, and private records, but for the great majority of our prominent fisheries and dependent industries and for all our minor branches no statistical information whatever exists showing their extent and importance prior to 1880.
'The comprehensive canvass of the fishing industries of the country in 1880, so intelligently planned and so efficiently executed by Dr. Goode and his associates, and the complete statistical information based thereon that was given to the public, constituted an eveut of extreme importance in the history of our fisheries, independently of the equally valuable and exhaustive descriptive reports based on the same inquiry. These statistics, for their scope and form, as well as for the actual information conveyed, must remain the basis for comparison and the guide for the collection and preparation of future statistical data in the United States.

The importance of statistics in general needs no demonstration, and the value of statistical information regarding the fishing industry is certainly as great as that of miy other branch of human enterprise. I may go even further and say that, on account of the uncertainties attending the prosecution of the fisheries and of the peculiar and unique conditions which prevail, there are few, if any, industries the exhibition of whose extent from time to time by accurate statistics is more desirable.

Fishery statistics seem to be particularly valuable and necessary in the United States, where the regulation of the fisheries is vested in so many legislative bodies; where the conditions vary so much in the different States, oceans, and lakes; where the variations in the abundance of certain products from time to time have been so noticeable; where the artificial culture of fish is so generally carried on and is conducted on such a large scale; where international complications over the fisheries have been so important and international relations are so intimate; and where the fisheries occupy such a prominent place among the national industries, on account of the large number of persons who find employment therein and the enormous additions to our food supply resulting therefrom.

The dependence placed upon fishery statistics by those who are connected directly or indirectly with the industry is attested by the avidity with which statistical reports are received and by the frequent demands for such data made.on the Fish Commission by the general fishing public, State officers, economists, and national legislators. In the consideration of all important international fishery questions in recent years, in the enactment of State and federal laws affecting the fisheries, in gauging the effects of artificial propagation and the necessity for resorting thereto, statistics have played a very important part.

Mention should be made of the very creditable statistical work being done by several of the States through fish commission boards and industrial and statistical bureaus. Massachusetts, Connecticut, Maryland, and doubtless other States have made valuable contributions to the literature of fishery statistics, and many of the fish commissions have from time to time presented original statistical information of importance in their amnual reports.

The figures presented in this paper have been obtained by the U.S. Commission of Fish and Fisheries, and represent the personal inquiries of its statistical field agents. That office has a permanent force trained for the collection and compilation of the statistics of the ocean, shore, river, and lake fisheries of the country, and is better prepared for this work than is the Census Bureau, which takes up the subject only at intervals, of ten years and with the services of persons who, as a rule, have had no previous experience in the work and whose interest therein ceases with the disbandment of the bureau.

At an early period in the history of the U. S. Fish Commission the desirability of having full and accurate statistical information concerning our fisheries was realized and in one noteworthy instance, at least, was forcibly exemplified: The absence of reliable figures by which to substantiate the American claims in the Halifax Commission has been generally regarded as one of the prime reasons for the adverse decision of that tribunal and the award of $\$ 5,500,000$ to Great Britain.

The necessity for having statistical data was fully appreciated by Prof. Baird, the founder of the Fish Commission and its honored head for seventeen years, and various minor inquiries, such as the means at his disposal would permit, were undertaken by him in the years preceding the Tenth Census investigations. From 1880 to 1885 a small sum was annually appropriated by Congress for carrying on statistical work. For the fiscal years 1886, 1887, and 1888, no special allotment was made by Congress, the general appropriation for the Fish Commission being apportioned among the various branches of the work, at the discretion of the Commissioner. Under this
arrangement, the statistical work received more substantial recognition than had been previously accorded, and in the last year named extended inquiries were made relating to the statistics, methods, and relations of the fisheries. The organization of a separate force for the collection and compilation of statistics may be said to date from 1886, although it was not until the following year that a special division for this work was established. After the death of Prof. Baird, in 1887, ample oncouragement was accorded the statistical service by his successors, Messrs. Goode and McDonald, and in 1888 this work was specially noticed and appropriated for by Oongress; since that year a specific sum has been annually allotted.

While Congress has thus evinced an appreciation of this work and exhibited a desire to deal liberally therewith, it requires but slight consideration to show that the means and force available for the service are entirely inadequate to properly conduct the investigations and to secure the publication of their results with satisfactory promptness. To place the fisheries statistical service on an ideal basis, which would permit an annual or biennial study of the entire fishing interests of the country, would require a field force nearly five times as large as the present one and an appropriation twice as great as that for 1893. The shore line of the States bordering on the coasts, coast rivers, and Great Lakes is not less than 30,000 miles in length; and there are few long, continuous stretches of beach or shore that do not support fisheries of greater or less importance, the investigation of which requires the personal presence of the field agents. The canvass of the extensive territory in which commercial fishing is carried on can not be accomplished in less than three or four years. This accounts for the fact that the statistics available do not strictly relate to a single year, but apply to the years 1890 or 1892 , although, for all practical purposes, the figures may be regarded as representing the present condition of the fishing industry.

The fisheries of the interior rivers and small inland lakes of the United States have never been thoroughly investigated. Even in the exhaustive canvass under the direction of Dr. Goode in 1879-80, no satisfactory account of these fisheries was obtained, owing to lack of time and means, and our entire statistical knowledge of their extent is given in an estimate by Dr. Goode that they are worth about $\$ 1,500,000$ annually. This is believed to be much less than the actual figure at the present time, and it would not be especially surprising if inquiries would show that the products resulting from professional and desultory fishing in the minor fresh waters would have an annual value of nearly $\$ 5,000,000$. The importance of these inland waters as sources of food supply is great and increasing, and the Commissioner of Fish and Fisheries proposes to begin an investigation of their extent, methods, and needs at an early date.

With these prefatory remarks we will proceed to a consideration of the condition and extent of the fisheries of the United States as shown by the figures presented, and will endeavor to interpret, so far as may be necessary, some of the facts brought out in the tables.

## GENERAL IMPORTANCE OF THE FISHING INDUS'TRY.

The full extent of the fisheries of the United States has not been exhibited by detailed figures since the results of the census of 1880 were publishel. In the year named the number of persons directly connected with the industry was ascertained to be 131,426 ; the amount of capital invested in the business was $\$ 37,955,349$; and the value of the catch was $\$ 38,683,348$. While the increase in the population of the country since that time has naturally led to an advance in the fishing industry entirely independent of the fluctuations in the abundance of economic water animals, few persons are aware of the great importance of the fisheries at present, and still fewer are informed regarding the changes in the development of our fishery resources since 1880.

Compared with many other great national industries, fishing may justly be considered of minor importance. In a number of the coast States, however, this industry ranks among the foremost enterprises. In view of the international questions affecting the entire country which have arisen and are likely to arise in connection therewith, and because of the great amount of attention which the fisheries have received and are știll destined to receive from State and national legislatures, fish commissions, and other organizations, fishing deserves to be regarded as one of the leading industries of the nation, and, as such, entitled to the most careful consideration and study.

At the present time, the general extent of the fisheries of the United States, as determined by the investigations carried on by the U.S. Commission of Fish and Fisheries, is as follows:


THE FISHING POPULATION.
While the statistics show that the number of persons in the United States directly connected with the fisheries is under 200,000 , when cognizance is taken of the large number of people engaged in various other occupations directly or indirectly dependent upon the fisheries and of the fishermen's families who are immediately supported by their labors, it is safe to assume that the fishing industries of the United States give support to over $1,000,000$ men, women, and children, or about 1 person in every 65 of our population.

Of the persons connected with the fishing industry, 37,800 are vessel fishermen, 105,000 are shore and boat fishermen, and 39,200 are shoresmen and factory hands.

The State having the largest number of persons employed in the fisheries is Maryland, where 39,900 people are directly associated with the fishing iudustry, chiefly in the oyster-packing business. The State with the next largest fishing' population is Virginia, which is credited with 23,595 persons, a majority of whom are connected in some way with the oyster industry. Massachusetts follows Virginia with 17,025 persons, more than half of whom are vessel fishermen, a class more numerous here than in any other State. Maine ranks next to Massachusetts; its fishing population numbers about $\mathbf{1 5 , 1 0 0}$. Other States having more than $\mathbf{1 0 , 0 0 0}$ fishery employés are New York, with 13,750 ; New Jersey, with 10,435; and North Carolina, with 10,275 .

Of the geographical regions, the most important as regards the number of fishery employés is the Middle Atlantic, where about 90,700 persons are engaged, of whom 17,750 are vessel fishermen, 54,600 are shore and boat fishermen, and 18,350 are shoresmen. The next important region is New England, which has 37,000 fishing population, consisting of 14,300 vessel fishermen, 13,400 shore and boat fishermen, and 9,300 shore hands. The other sections, in the order of their rank, are the Pacitic States, including Alaska, with 16,800 persons; the South Atlantic States with 16,000 ; the Gulf States with 12,000 , and the Great Lakes States with 9,750.

The following table shows, by States and geographical sections, the number of persons employed in the different branches of the fishing industry:

Persons employed in the coast and Great Lakes fisheries of the United States.


One of the most interesting questions connected with the consideration of the fishing population is the extent to which persons of foreign citizenship engage in our fisheries. Especially important is a knowledge of the foreign element in the fishery marine. The inquiries on which the present paper is based have been addressed to this subject in every region. It appears that the largest proportion of foreigners is found in the vessel fisheries of the Pacific States. The vessels sailing from South Atlantic ports are manned wholly by citizens. The percentage of foreigners in the vessel fisheries of the entire country is 21. In the New England States the vessel fishermen consist of 71 per cent United States citizens, 15 per cent British provincials, and 14 per cent other foreigners, chiefly Portuguese. Ninety-two per cent of the vessel fishermen of the Middle Atlantic States are native-born or naturalized citizens, the 8 per cent of foreigners being made up largely of Germans, Swedes, and Norwegians. Natives of the Bahamas and other British possessions constitute 34 per cent of the vessel-fishing population in the States bordering on the Gulf of Mexico; 13 per cant of
other foreigners in the same region are chiefly Spaniards. On the Pacific coast, only 44 per cent of the vessel fishermen are United States citizens; 15 per cent owe allegiance to the British flag, and 41 per cent are of other nationalities, Austrians, Norwegians, Swedes, and Italians predominating. In the vessel fisheries of the Great Lakes, 86 per cent of the fishermen are citizens, 5 per cent are British provincials, and 9 per cent are of other nationalities, chiefly Norwegians and Swedes.

The following is a tabular statement of the foregoing facts:
Percentage of citizens and foreigners on fishing vessels of the United States.

| Sections. | United States. | British Provinces. | All other countries. |
| :---: | :---: | :---: | :---: |
| New England. | 71 | 15 | 14 |
| Middle Atlantic. | 92 | 1 | 7 |
| South Atlantic. . | 100 |  |  |
| Gulf............ | 53 | 34 | 13 |
| Pacific...... | 44 | 15 | 41 |
| Great Lakes. | 86 | 5 | 9 |
| Total | 79 | 8 | 13 |

THE VESSELS, BOATS, APPARATUS, AND CAPITAL.
From the appended table ( $p$ p. 397, 398) it appears that the amount of money invested in vessels, boats, apparatus, buildings, wharves, and other property connected with the commercial fisheries is about $\$ 58,245,000$. Of this sum, $\$ 19,860,000$ belongs to the New England States, $\$ 19,405,000$ to the Middle Atlantic States, $\$ 8,873,000$ to the Pacific States, $\$ 5,421,000$ to the Great Lakes, $\$ 2,993,000$ to the Gulf States, and $\$ 1,693,000$ to the South Atlantic States. The States having the largest investments devoted to the fisheries are Massachusetts, with $\$ 12,980,000$; Maryland, with $\$ 7,465,000$; New York, with $\$ 5,981,000$; Virginia, with $\$ 2,944,000$; Maine, with $\$ 2,882,000$; Connecticut, with $\$ 2,869,000$; Alaska, with $\$ 2,536,000$; California, with $\$ 2,526,000$; New Jersey, with $\$ 2,518,000$, and Oregon, with $\$ 2,220,000$. Other States having over $\$ 1,000,000$ invested are Rhode Island, North Carolina, Florida, Washington, Ohio, Michigan, and Pennsylvania.

The aggregate number of vessels employed in the fisheries is 6,334; these, with their outfits, have a value of $\$ 14,300,547$, and represent a combined tonnage of 176,783 . About three-fifths of the vessels, or 3,931 , belong in the Middle Atlantic States and about one-fourth, or 1,500, in the New England States. The Gulf States have 404, the Pacific States 202, the South Atlantic States 169, and the Great Lakes States 128. The largest tonnage and greatest value are found in the New England. States, where the average size of the vessels is much larger than in the Middle Atlantic region. Every State bordering on the coast waters or Great Lakes has a vessel fishery of more or less importance. The least extensive fishery of this class, as judged by the number of vessels, is in Indiana, where only one vessel was employed. The State having the largest fishing fleet is Maryland, with over 1,600 vessels; the State occupying the second rank is Virginia, with 944 vessels, followed by Massachusetts with 809, New York with 666, New Jersey with 618, and Maine 397. The tonnage and value of the vessels of Massachusetts are greater than in any other State, after which come Maryland, Virginia, California, Maine, Alaska, New Jersey, New York, and Connecticut in the item of tonnage, while in point of value the order is Maryland, California, New York, Virginia, New Jersey, Connecticut, and Maine.

The number of boats used in the fishing industry, exclusive of those which form a part of the outfit of the vessels, is 66,464 , valued at $\$ 4,382,520$. More than half the boats are employed in the Middle Atlantic States. The boat fisheries are especially extensive in Maryland, where there are 9,800 boats. Other important States in this respect are Virginia with 9,250 boats, New York with 7,515 , Maine with 6,015 , and New Jersey with 5,590 .

Foremost in point of value among the forms of apparatus used in the capture of fish and other products stands the class of appliances of which the pound net is the type, and which includes the pound net, the trap net, and the weir. The number of these employed in the United States is 8,726 , with a value of $\$ 2,189,526$. This kind of apparatus is most numerous in the Great Lakes, where 3,750 nets, mostly the typical pounds, were set in the year covered by the figures, 1890 . The next important region is the Middle Atlantic, to which 2,445 such nets are credited. New Eugland has over 1,100 such traps, the South Atlantic section 960 , the Pacific Coast 432, while in the Gulf States this form of net is not used. The individual States in which the fishery with pounds, traps, and weirs is especially extensive are Michigan, Ohio, Maryland, North Carolina, Virginia, Maine, New York, Wisconsin, Massachusetts, Oregon, and Washington.

The most extensively used apparatus is the gill net, which in value closely approximates to the pound net. The number shown in the tables is 244,942 , with a value of $\$ 1,728,266$. As the nets of this class are of such a varying length, even in the same fisheries and the same localities, a statement of the length of gill-netting employed will convey a better idea of the enormous extent of this fishery than a mere enumeration of the number of separate pieces. A close approximation, based on actual figures in the great majority of cases, gives the aggregate length of the gill nets as $51,446,000$ feet, or 9,743 miles. Gill nets are used in greater or less numbers in every geographical section, but are most numerous and represent the largest investment in the Great Lakes, where over 100,000 nets, worth $\$ 498,096$, are reported. Next in rank in the number of gill nets is the South Atlantic region, which is credited with over 93,000 nets, although their value, only $\$ 204,227$, indicates their relatively small sizeThe Middle Atlantic States have about 32,000 nets, valued at $\$ 419,858$. In the. New England fisheries 12,000 such nets, worth $\$ 112,201$, are employed. The number of these nets on the Pacific coast, 5,023 , is relatively small, but their value, $\$ 467,021$, shows them to be of larger average size than in any other region. The gill net is rare in the Gulf region, less than 900 being there operated. The States in which the gill net is especially conspicuous are North Oarolina, Michigan, Pennsylvania, Ohio, Wisconsin, New York, and Maryland, each of which has over 10,000 ; while, on account of the value of the catch, this form of apparatus is also important in Maine; Massachusetts, New Jersey, Virginia, Florida, California, Oregon, Washington, and Alaska.

Seines rank next to gill nets in value. The 5,165 such appliances shown in the table had a value of $\$ 761,286$. The seines are most numerous and important in the Middle Atlantic States; 1,789 are there employed, having a value of $\$ 276,691$. In the South Atlantic States this apparatus is nearly as numerous as in the region first named, but the average value of the nets is less; 1,503 seines credited to that section were worth 8111,819 . The New England States are credited with 640 seines, valued at $\$ 190,405$. On the west coast 461 seines, having a value of $\$ 108,885$, are in use. The seines in the Gulf region are nearly as numerous as in New England, but the
average value is only one-fourth that of the other section. Seines are not prominent in the Great Lakes; only lŏ 4 are there owned, and the investment in that form of ${ }^{-}$ apparatus is only $\$ 17,236$. The most important seine fisheries, as determined primarily by the number of seines operated, are in North Carolina, Maryland, New Jersey, New York, Florida, Massachusetts, Maine, Virginia, Delaware, and California, the firstnamed State having nearly one-fourth of all the seines used in the United States.

Nearly equal to seines in point of value are the hand lines, trawl lines, and other lines employed in fisheries of all sections. The New England States, with their enormons ocean fisheries carried on chiefly with lines, would naturally be expected to lead in this item, and it appears that of the $\$ 708,000$ invested in this class of apparatus the region in question has $\$ 620,000$. The other sectious in their order of importance are the Pacific, Middle Atlantic, Gulf, Great Lakes, and South Atlantic.

The dredges, tongs, and rakes employed in the molluscan fisheries represent an outlay of $\$ 561,000$, of which $\$ 477,000$ is to be credited to the Middle Atlantic States, the section having the most extensive oyster fishery.

Rauking fourth in importance among the various classes of nets used in the fisheries of the country are the fykes, although their aggregate value is much less than that of any of the forms of apparatus thus far specified. Over 24,000 fyke nets, whose value is $\$ 222,000$, are set in the coast and lake regions. The fykes are relatively important only in the Middle Atlantic States, although in the Great Lakes and in New England rather extensive fisheries are in places thus carried on. In the region first named over 20,000 fykes are used, having a value of $\$ 119,000$. This appliance is abseut from the Guilf States, and is of little consequence in the South Atlantic and Pacific States.

The numerous other kinds of fishing apparatus not separately designated in the accompanying table, and not so generally used as those specified, have a value of about $\$ 565,000$. Among these are pots, wheels, cast nets, spears, harpoons, and many other minor appliances. The Pacific and New England States contain the great bulk of this miscellaneous apparatus.

The shore and accessory property connected with the fisheries and the related shore industries represents a very large investment in every region, amounting in the aggregate to over $\$ 16,000,000$. This sum includes the value of fish houses, wharves, fishing camps, and other buildings and structures necessary for the prosecution of the business: fish cars, reels, live boxes, floats, etc. In the New England States the investments in such property are larger than in any other section, amounting to $\$ 5,887,000$. Closely following New England is the Middle Atlantic section, where the shore and accessory property has a value of $\$ 5,816,000$. On the Pacific coast $\$ 2,400,000$ is thus invested, and in the Great Lakes region $\$ 1,635,000$. The South Atlantic States have $\$ 436,000$ and the Gulf States $\$ 677,000$ thus devoted to the fishing industry. Four States have over $\$ 1,000,000$ shore property directly connected with the fisheries; these are Massachusetts with $\$ 3,098,000$, Maryland with $\$ 2,446,000$, New York with $\$ 1,724,000$, and Connecticut with $\$ 1,605,000$.

Properly included in the fishery investment is the cash capital, or working capital, required to properly conduct the industry. This amounts in the aggregate to nearly $\$ 16,000,000$, corresponding closely with the capital represented by the shore property, being greatest in the New England States and least in the South Atlantic States.

In this item Massachusetts leads all other States with $\$ 4,175,000$, followed by Maryland with $\$ 2,107,000$, New York with $\$ 2,093,000$, and Alaska with $\$ 1,139,000$.

Tableshowing the apparatus, vessels, boats, and capital employed in the fisheries of the United States.

| States. | Apparatus of capture. |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Pound nets, trap nets, and weirs. |  | Gill nets. |  | Fyke nets. |  | Seines. |  | $\begin{aligned} & \text { Value } \\ & \text { of } \\ & \text { lines. } \end{aligned}$ | $\begin{array}{\|c\|} \text { Valne } \\ \text { of } \\ \text { dredges, } \\ \text { tongs, } \\ \text { and } \\ \text { rakes. } \end{array}$ | Value of other ирраratins. |
|  | No. | Value. | No. | Value. | No. | Value. | No. | Value. |  |  |  |
| New England: |  |  |  |  |  |  |  |  |  |  |  |
| Maine.... | 700 | \$137, 331 | 7,565 | \$55,070 | 136 | \$550 | 232 | \$35, 305 | \$89, 690 | \$3, 140 | \$141, 279 |
| New Hampshir | 0 | 300 | 84 | 1,197 |  |  | 6. | 1,750 | 1,200 | 11 | 2, 988 |
| Massachnsetts | 179 | 207, 583 | 4, 240 | 44,772 | 15 | 100 | 306 | 129, 050 | 525, 860 | 10,240 | 35,406 |
| Rhode Island | 174 | 83, 145 | 115 | 7,500 | 4 | 320 | 50 | 17, 205 | 2,639 | 8,372 | 10,930 |
| Connecticut. | 90 | 28, 620 | 79 | 3, 662 | 450 | 2,380 | 45 | 6,915 | 1,080 | 32, 275 | 25,542 |
| Total | 1,149 | 456, 979 | 12,083 | 112,201 | 605 | 3,359 | 639 | 190, 405 | 620,469 | 54, 038 | 216,143 |
| Middle Atlantic: |  |  |  |  |  |  |  |  |  |  |  |
| New Jersey | 234 | 83, 913 | 3,941 | 120,791 | 1,488 | 13.706 | 366 | 37, 118 | 4,808 | 71,917 | 10,362 |
| Pennsylvania |  |  | 205 | 21, 200 | 2,532 | 5,219 | 141 | 18,750 | 534 | 4,025 | 488 |
| Delaware | 27 | 455 | 1,003 | 34,373 | 540 | -1,220 | 199 | 10, 083 | 20 | 2,787 | 1,097 |
| Maryland | 1,005 | 71,778 | 11, 899 | 100, 014 | 9,366 | 37, 924 | 536 | 76, 780 | 2, 272 | 198,920 | 6,511 |
| Virginia | 916 | 162,690 | 6,979 | 46, 030 | 339 | 5, 770 | 220 | 58, 320 | 3,462 | 70,525 | 547 |
| Total. | 2,445 | 300, 176 | 32, 234 | 419,858 | 20,511 | 119,304 | 1,789 | 276,691 | 22, 011 | 477, 086 | 40,374 |
| South Atlantic: $\quad 1050$ |  |  |  |  |  |  |  |  |  |  |  |
| South Carolina. |  |  | 1,380 | 13, 058 |  |  | 74 | 4,008 | - 562 | 1,116 | 2,464 |
| Georgia | 5 | 1,250 | 308 | 7,957 | 11 | 285 | 51 | 2, 052 | 306 | 898 | 1,757 |
| Florida. | 5 | 570 | 488 | 27,730 |  |  | 105 | 6,110 | 630 | 280 | 6,508 |
| Tota | 960 | 82, 214 | 93, 226 | 204, 227 | 47 | 669 | 1,503 | 111,819 | 1,555 | 6,751 | 15,484 |
|  |  |  |  |  |  |  |  |  |  |  |  |
| Alabama |  |  | 66 | 6,620 |  |  | 30 | 2,730 | 102 | 1,803 | 295 |
| Mississipp |  |  | 15 | 555 |  |  | 80 | 6,680 | 3 | 3,199 | - 48 |
| Louisiana |  |  |  |  |  |  | 168 | 14,600 | 9,170 | 8,915 | 13,472 |
| Texas |  |  |  |  |  |  | 136 | 16,850 | 540 | 2, 006 | 3.055 |
| Total. |  |  | 821 | 26, 86:3 |  |  | 019 | 56, 250 | 13,473 | 19,542 | 29, 906 |
|  |  |  |  |  |  |  |  |  |  |  |  |
| Oregon.. | 249 | 175,000 | 1,379 | 211, 660 |  |  | H2 | 12,600 | 10,670 | 145 | 135,327 |
| Washington | 157 | 124, 700 | 845 | 110, 300 |  |  | 103 | 46, 725 | 5,855 | 3,492 | 60, 279 |
| Alaska..... | 16 | 10,500 | 323 | 32, 750 |  |  | 76 | 26,025 | 6,150 |  | 500 |
| Total | 422 | 310, 200 | 5, 023 | 467, 022 | 49 | 980 | 461 | 108,885 | 38,629 | 4,212 | 262, 488 |
|  |  |  |  |  |  |  |  |  |  |  |  |
| Pennsylvania | 200 | 29, 270 | 22, 370 | 72, 568 |  |  |  |  | 160 |  |  |
| Ohio ......... | 1,423 | 464, 180 | 22, 368 | 62, 123 | 1,110 | 63, 650 | 33 | 4,630 | 3,630 |  | 82 |
| Michigan | 1, 460 | 383,950 | 20,343 | 197, 672 | 446 | 12, 030 | 58 | 9,010 | 4, 125 |  | 867 |
| Indinna. | 32 | 11.800 | 753 | 3,805 |  |  |  |  | 279 |  | 30 |
| Illinois. | 10 | 3,750 | 645 | 3,125 |  |  | 3 | 380 | 225 |  | 90 |
| Wisconsin | 290 | 77, 380 | 18,726 | 101, 641 | 728 | 11,366 | 28 | 2,435 | 957 |  | 250 |
| Minnesota | I | 200 | 423 | 4,230 |  |  |  |  | 249 |  |  |
| Tota | 3,750 | 949, 057 | 101, 555 | 498, 096 | 2,968 | 96, 868 | 154 | 17,236 | 11,614 |  | 1,438 |
| Grand total | 8,726 | , 189,526 | 244, 042 | 1, 728, 266 | 24,180 | 221, 180 | 5,165 | 761,286 | 708, 351 | 561, 629 | 565, 833 |

Table showing apparatus, vessels, boats, and capital employed in United States fisheries-Continued.

| States. | Vessels. |  |  | 13oats. |  | Shore and accessory property. | $\begin{aligned} & \text { Cash } \\ & \text { capital. } \end{aligned}$ | Total capital invested. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | No. | Tonnage. | Value, including outfit. | No. | Value. |  |  |  |
|  |  |  |  |  |  |  |  |  |
| Maine .... | 397 | 12, $032 \cdot 27$ | \$675, 530 | 6, 015 | \$238, 719 | \$815, 400 | \$690, 000 | \$2,882, 113 |
| New Hampsbi | 14 | - 498.42 | 36,799 | 102 | 4,930 | -34,155 | 10,000 | 983, 328 |
| Massachusetts | 809 | 55, $653 \cdot 20$ | 4,499, 168 | 3, 560 | 255,110 | 3,098, 130 | 4, 175,260 | 12,980,679 |
| Rhode Island | 72 | 1,595*44 | 280, 199 | 794 | 81,750 | 334, 111 | 208, 200 | 1, 034, 467 |
| Connecticut | 208 | 5, 107 40 | 721, 767 | 1, 290 | 96, 380 | 1,605, 300 | 345, 000 | 2, 868, 921 |
| Tot | 1,500 | 74, $886 \cdot 73$ | 6, 213,463 | 11, 761 | 676,895 | 5,887, 096 | 5, 428,460 | 19, 859, 508 |
| Middle Atlantic: |  |  |  |  |  |  |  |  |
| New Jersey | 618 | 9,548 00 | 825, 585 | 5,591 | 414, 321 | 412,743 | 513, 500 | 2, 517, 764 |
| Penneylvan | 40 | -990.44 | 8K, 440 | 817 | 29, 535 | 495, 420 | 312, 400 | 976, 011 |
| Delaware | 43 | $568 \cdot 44$ | 42,540 | 968 | 29, 754 | 48,300 | 47, 500 | 218, 129 |
| Maryland | 1,627 | 34, $182 \cdot 62$ | 1,838, 249 | 9,825 | 579,488 | 2, 446, 327 | 2,107, 455 | 7, 465, 718 |
| Virginia. | 944 | 14, 171 11 | 939, 136 | 9,247 | 463, 722 | 717, 857 | 467, 500 | 2, 944,559 |
| Tota | 3,981 | 68, $751 \cdot 96$ | 4,795,590 | 33,427 | 1,989, 804 | 5,816, 302 | 5, 127, 355 | 19, 405, 151 |
| South Athantic:         <br> North Caroliua $\ldots .$. 128 $1,615 \cdot 50$ 101,029 3,862 188,375 306,508 303,800 $1,243,988$ |  |  |  |  |  |  |  |  |
| South Sarolin | 15 | 1, 240.04 | 29,325 | 1,227 | 31, 804 | 27, 525 | 17,000 | 127, 762 |
| Georgia | 23 | $267 \cdot 74$ | 26, 800 | 788 | 9,766 | 51, 560 | 71, 800 | 174, 431 |
| Florida | 3 | $39 \cdot 25$ | 2,010 | 784 | 30,538 | 49,919 | 22, 600 | 140, 895 |
| Total | 169 | 2, $162 \cdot 62$ | 159, 104 | 6,661 | 260, 483 | 435, 510 | 415, 200 | 1,693,076 |
| Gulf: |  |  |  |  |  |  |  |  |
| Florida | 166 | 2, 638888 | 386,318 | 2,151 | 267, 047 | 183, 207 | 486, 600 | 1,377,057 |
| Alabama | 38 | $387 \cdot 87$ | 31, 810 | 212 | 17, 230 | 29, 100 | 45,600 | 135, 290 |
| Mississippi | 62 | $570 \cdot 02$ | 48,759 | 257 | 13, 395 | 110, 771 | 251, 300 | 434, 710 |
| Louisiana | 119 | $896 \cdot 84$ | 93, 527 | 2,578 | 161, 533 | 243, 178 | 182,500 | 719, 876 |
| Texas | 19 | $240 \cdot 70$ | 29,710 | 814 | 101, 570 | 110,301 | 53,500 | 319, 122 |
| Total | 404 | 4, 732 37 | 590, 124 | 6, 012 | 560,775 | 676, 647 | 1,019, 500 | 2,093,080 |
| Pacific: |  |  |  |  |  |  |  |  |
| Oregon | 19 | $444 \cdot 14$ | 57,535 | 1, 294 | 154,425 | 659,305 | 804,000 | 2, 220, 667 |
| Washington | 57 | 1, 188.79 | 147, 295 | 1,481 | 126, 845 | 418, 800 | 546, 000 | 1,590, 481 |
| Alaska | 42 | 9,574-43 | 505, 500 | 455 | 66,475 | 748, 403 | 1, 138,500 | 2, 535, 703 |
| Total | 202 | 23, $650 \cdot 62$ | 2,005, 380 | 4,897 | 532,915 | 2, 408, 603 | 2,734,500 | 8,873. 813 |
| Great Lakes: |  |  |  |  |  |  |  |  |
| Pennsylvani | 15 | 118.86 | 51, 620 | 94 | 32,920 | 46,700 | 60,000 | 283,238 |
| Ohio... | 35 | L, $177 \cdot 70$ | 226, 775 | 1,016 | 159, 980 | 587, 850 | 302,000 | 1.874, 900 |
| Michigar | 46 | $720 \cdot 28$ | 181,998 | 1, 481 | 96,076 | 455,591 | 169, 600 | 1,460, 909 |
| Indiana. | 1 | $5 \cdot 51$ | 1,020 | 52 | 3,370 | 645 |  | 21, 549 |
| Minois | 2 | $40 \cdot 11$ | 7,485 | 33 | 1,280 | 248. 210 | 165, 000 | 429,545 |
| Wisconsin |  | 261.29 | 78,355 | 478 | 30,510 | 115,080 | 63, 400 | 481, 374 |
| Minnesota | 2 | $176 \cdot 85$ | 34,900 | 16 | 835 | 52, 668 | 78, 334 | 171, 416 |
| Total | 128 | 2,590 47 | 606, 826 | 3,706 | 361, 648 | 1, 634, 871 | 1,242, 224 | 5, 420,778 |
| Grand tot | 6,334 | 76,783.77 | 14,300, 347 | 66,464 | 4,382,520 | 16,859, 029 | 15,967, 239 | 58, 245, 406 |

## THE PRODUOXS.

General statement.-The annual value of products of the United States fisheries, excluding those of the minor inland waters, for which no data are available, is about $\$ 45,223,000$, a sum representing the first value of the catch, or the amount received by the fishermen. By the processes of canuing, salting, smoking, and otherwise preserving the products, their value, as they are ready for the consumer, is probably not less than $\$ 150,000,000$. The weight of the products as they leave the hands of the fishermen is about $1,500,000,000$ pounds; in the case of such products as oysters, clams, and scallops the weight assigned is that of the edible part.

The Middle Atlantic States, owing to the large production of oysters, easily take the lead in the value of the products, followed by the New England, Pacific, Great Lakes, Gulf, and South Atlantic regions, in the order named. The value of the Middle

Atlantic tisheries is about $\$ 19,048,000$, that of New England is $\$ 12,446,000$, that of the west coast is $\$ 7,259,000$, that of the Gulf States $\$ 2,499,000$, that of the Great Lakes $\$ 2,471,000$, and that of the South Atlantic States $\$ 1,590,000$.

Massachusetts, owing to its extensive food-fish and bait fisheries, still maintains the lead which it has so long held in the matter of products; $\$ 7,031,000$ represents the value of its fisheries. . Maryland, owing to its enormous yield of oysters, ranks as the second fishing State as regards its products, which are worth $\$ 6,461,000$. New York holds the third position in respect to the value of the catch, the receipts of the fishermen of that State in 1892 being $\$ 5,041,000$. The other States, the extent of whose fisheries entitles them to separate mention, are Virginia, whose fishing industry is worth $\$ 3,641,000$; New Jersey, $\$ 3,626,000$; California, $\$ 3,045,000$; Alaska, $\$ 2,411,000$; Maine, $\$ 2,226,000$; Connecticut, $\$ 1,871,000$; Florida, $\$ 1,340,000$; and North Carolina, $\$ 1,028,000$. No other State has fisheries yielding over $\$ 1,000,000$, but Washington, Michigan, Oregon, Rhode Island, Louisiana, and Ohio have an annual production worth between $\$ 500,000$ and $\$ 1,000,000$.

Statistics by geographical divisions.-In order to present more detailed figures for the products than would be possible in a single table of size convenient for consultation, a series of tables has been prepared showing by geographical. sections the quantity and value of each principal object of fisheries in each State.

Products of the fisheries of the New Lingland States.

\begin{tabular}{|c|c|c|c|c|c|c|}
\hline \multirow{2}{*}{Species.} \& \multicolumn{2}{|l|}{Muine.} \& \multicolumn{2}{|l|}{New Hampshire.} \& \multicolumn{2}{|l|}{Massachusetts.} <br>
\hline \& Pounds. \& Value. \& Pounds. \& Value. \& Pounds. \& Value. <br>
\hline Alowives \& 2,113,950 \& \$19, 104 \& 41,500 \& \$770 \& 3,320, 445 \& \$60, 056 <br>
\hline Bluetish \& \& \& \& \& 66, 415,560 \& $\begin{array}{r}31,167 \\ \hline 277,838\end{array}$ <br>
\hline Cod. \& 14, 700, 700 \& 382, 751 \& 1,393, 200 \& 28, 813 \& 66, 433, 170 \& 2, 277, 838 <br>
\hline Haddook \& 5,858, 000 \& 111, 160 \& 1, 557, 750 \& 26,356 \& 39,158,272 \& 897, 192 <br>
\hline Halibut \& 562,500 \& 45, 000 \& 72,540 \& 6, 166 \& 8,429, 016 \& 750, 357 <br>
\hline Herring \& 40, 426, 980 \& 218, 223 \& 140, 000 \& 1,500 \& 11, 622, 660 \& 109, 545 <br>
\hline Mackerel \& 4,276, 422 \& 253, 267 \& 46, 000 \& 3, 945 \& 12, 422,462 \& 820,927 <br>
\hline Menhaden \& 600 \& \& 4,000 \& 40 \& 1, 427, 150 \& 12, 369 <br>
\hline Salmon \& 138, 322 \& 20,032 \& \& \& \& <br>
\hline Scup.... \& \& \& \& \& $2,750,320$
$3,177,295$ \& 90,761

205,638 <br>
\hline Lobsters \& 17, 108, u02 \& 649, 891 \& 220, 024 \& 13,142 \& $3,177,295$
$\mathbf{3 6 8}, 256$ \& 305,638
70,240 <br>
\hline Clams \& 4,545,010 \& 156, 033 \& 10, 500 \& 975 \& 2,349, 514 \& 192, 724 <br>
\hline All other products \& 31, 879, 714 \& 370, 330 \& 471, 310 \& 9,774 \& 149,469, 211 \& 2, 000, 380 <br>
\hline Total \& 121, 700, 200 \& 2, 225, 800 \& 3, 056, 824 \& 91, 481 \& 301, 349, 331 \& 7, 531, 194 <br>
\hline \multirow{2}{*}{Species.} \& \multicolumn{2}{|l|}{Rhode Island.} \& \multicolumn{2}{|l|}{Connectiout.} \& \multicolumn{2}{|c|}{Total.} <br>
\hline \& Tounds. \& Value. \& Pounds. \& Value. \& Pounds: \& Value. <br>
\hline Alewives \& 967, 030 \& \$:2, 261 \& \& \& \& <br>

\hline Bluefish \& 247, 100 \& $$
14,356
$$ \& \[

$$
\begin{array}{r}
640,450 \\
100
\end{array}
$$
\] \& 32,022

42,551 \& 1,303,110 \& $$
\begin{array}{r}
77,545 \\
9745,613
\end{array}
$$ <br>

\hline Cod Hadiock \& 417,500 \& 13, 660 \& 1,390, 420 \& 42,551 \& 84, 334, 990 \& 2, 745, 613 <br>
\hline Hadiock \& 121,200 \& 2,824 \& 217,460
223,740 \& 5,437
19,018 \& $\begin{array}{r}46,912,682 \\ 0,287 \\ \hline\end{array}$ \& 1,042,909 <br>
\hline Halibut \& 700 \& 30 \& 223, 740 \& 19,018 \& $\begin{array}{r}0,287,796 \\ 52,190,340 \\ \hline 10\end{array}$ \& 820,541
329,208 <br>
\hline Mackerel \& 206,975 \& 10,960 \& 66,970 \& 4,805 \& 17, 018, 829 \& 1,099, 904 <br>
\hline Monhadou \& 5, 340, 700 \& 28,771 \& 12,680, 300 \& 31,889 \& 19,462, 750 \& 73, 078 <br>
\hline Salmon. \& \& \& 135 \& 64 \& 138,457 \& 20, 096 <br>
\hline Scup. \& 5, 546, 600 \& 105, 868 \& 18, 200 \& 197 \& - 8,310,120 \& 196, 826 <br>
\hline Lobsters \& 774, 100 \& 53,762 \& 1,614,530 \& 101,318 \& 22, 983, 951 \& 1,023, 751 <br>
\hline Oysters. \& 1, 106, 507 \& 255, 492 \& 13, 651, 218 \& 1, 426, 249 \& 15, 126, 041 \& 1,751,981 <br>
\hline Clams \& 498,300 \& 65,372 \& $\begin{array}{r}373,760 \\ \hline 896\end{array}$ \& 43,056

160,399 \& $$
7.777,084
$$ \& $\begin{array}{r}458,760 \\ 2 \\ \hline 697,178\end{array}$ <br>

\hline All other products. \& 6, 206, 903 \& 150, 289 \& 29, 896, 918 \& 160, 399 \& 217, 924, 146 \& 2, 697, 178 <br>
\hline 'Total \& 21, 434,665 \& 725, 675 \& 61, 458, 221 \& 1,871,413 \& 509, 899, 241 \& 12,445,589 <br>
\hline
\end{tabular}

Nowe.-The weights of the oysters and clams ropresent only the edible purt or meat. The number of bushels of oysters shown for this section is 2,100,863, apportioned as follows: Massachusetts, 52,008 bushels; Rhodo Island, 158,081 bushels; Conneoticut, $1,950,174$ bushels. The quantity of clans given is equivalent to 795,442 bushels, of which 454,501 bushels are to be credited to Maine, 1,050 to New Hampshire, 245,291 to Massachusetts, 53,800 to Rlode Island, and 40,800 to Conneoticut.

Iroducts of the fisheries of the Middle Atlantic States.


* Includes District of Columbia.

Note.-The numbers of bushels of oysters and clams represented by the weights of the edible parts shown in the table are as follows: Oysters, 2,611,062 bushels in Now York, 2,010,463 in New Jersey, 132,380 bushels in Peunsylvania, 175,332 bushels in Delaware, $0,945,058$ bushels in Maryland, and $6,151,636$ bushels in Virginia. Clams, 716,115 bushels in New York, 443,869 bushels in New Jersey, 2,670 bushels in Delaware, 18,470 bushels in Maryland, and 69,910 bushels in Virginia.

Products of the fisheries of the South Atlantic States.

| Species. | North Carolina. |  | South Carolina. |  | Georgia. |  | Florida. |  | Total. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | I'ounds. | Value. | Pounds. | Value. | Pounds. | Value. | Pounds. | Value. | Pounds. | Value. |
| Alewives | 16, 481, 063 | \$164, 636 | 28. 600 | \$740 | 24,000 | \$580 | 10,120 | \$150 | 16, 543,783 | \$166, 106 |
| Black bas | 1, 407,530 | 20, 492 | 2,100 | 107 |  |  | 181, 646 | 9, 832 | 591, 276 | 30, 431 |
| Bluefish | 1,345, 194 | 33, 603 | 100,480 | 3, 060 |  |  | 7,310 | 255 | 1, 452, 984 | 36, 918 |
| Menhade | 12, 410,400 | 16, 171 |  |  |  |  |  |  | 12, 410,400 | 16,171 |
| Mullet | 3, 585, 981 | 97,408 | 387, 875 | 9,405 | 52, 740 | 2,381 | 1, 547, 027 | 24,441 | $5,573,623$ | 133, 635 |
| Sea bas | 33, 075 | 1,158 | 826, 164 | 26, 283 | 10, 000 | 600 | 10,445 | 355 | 879,684 | 28, 396 |
| Shad. | 5.768, 413 | 306, 015 | 563, 259 | 41, 187 | 399, 660 | 30, 918 | 2,654,022 | 104, 283 | 9, 385, 354 | 482, 403 |
| Squeteag | 1,885, 677 | 18,856 | 103, 100 | 3, 604 | 144, 000 | 7, 911 | 235, 284 | 7,895 | 2,368,067 | 68, 206 |
| Striped bas | 568, 341 | 32, 138 | 11,560 | 1,084 | 9, 000 | 720 |  |  | 588, 901 | 38, 842 |
| Whitiog | 35, 300 | 1,231 | 523, 520 | 20,930 | 18, 374 | 1,060 | 14, 020 | 545 | 591, 214 | 23,766 |
| Oysters. | 5, 650, 820 | 175,567 | 442, 050 | 23, 204 | 1, 570,485 | 40,520 | 681, 450 | 14, 850 | 8, 344, 805 | 254, 141 |
| Shrimps | 144, 200 | 5, 435 | 371, 840 | 18,592 | 162, 160 | 6, 081 | 65,825 | 2,557 | 744, 025 | 32, 665 |
| Terrapina | 26,552 | 4,690 | 74, 048 | 8,376 | 43, 050 | 9, 107 | 10,350 | 1,425 69,472 | $\begin{array}{r}\text { 7154, } \\ \mathbf{7} 5200 \\ \hline\end{array}$ | 23,598 259,456 |
| Other produ | 3, 456, 596 | 120, 269 | 1,509,338 | 46.030 | 560, 648 | 23, 085 | 2. 646, 032 | 69,472 | 7,572, 614 | 259,456 |
| Total | 51. 799, 142 | 1,027, 669 | 4, 944, 840 | 202, 602 | 2,994, 117 | 123, 563 | 7, 403, 531 | 236, 060 | 67, 201, 630 | 1, 589, 894 |

NOTE.-The quantity of oysters shown is the weight of the edible part. The total mumber of bushels represented is 1,192,115, of which North Carolina has 807,260, South Carolina 63,150, Georgia 224,355, and Florida 97,350.

Products of the fisheries of the Gulf States.

| Species. | Florida. |  | Alabana. |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Pounds. | Value. | Pounds. | Value. |
| Bream and sunfish | 38, 088 | \$966 | 19,200 | \$960 |
| Catfish.......... |  |  | 37, 600 | - 940 |
| Channel bass | 457, 737 | 7,236 | 54, 464 | 2,242 |
| Croaker ${ }^{\text {c..... }}$ | 42, 924 | 650 | 98, 075 | 3,231 |
| Grunts * | 680,725 | 22, 202 |  |  |
| Mullet. | 13,920,962 | 211, 161 | 587, 555 | 13, 097 |
| Pompano | 300, 356 | 26, 359 | 17, 178 | 2,577 |
| Sheepshead | 543,797 | 9,449 | 35, 114 | 1,314 |
| Snappers .. | 4,220, 245 | 124, 760 | 62, 375 | 2,495 |
| Spanish mackerel. | 440, 993 | 21, 100 | 43, 966 | 2,464 |
| Squeteague . . . . . | 602, 463 | 13,378 | 208, 750 | 10,706 |
| Sponges ... | -366, 772 | 438,682 |  |  |
| Oysterst. | 2,597, 567 | 93, 692 | 3, 367, 490 | 107, 812 |
| Turtles .......... | 474, 881 $2,731,053$ | $\begin{array}{r} 21, \mathbf{1 6 6} \\ 112,202 \end{array}$ | 245, 201 | 7,033 |
| Total | 27,418,562 | 1,103, 809 | 4,776,968 | 154, 871 |
| Species. | Mississippi. |  | Lonisiana. |  |
|  | Pounds. | Value. | Pounds. | Value. |
| Bream and sunfish. | 89,100 | \$3,609 | 270, 020 | \$15,682 |
| Butialu-fish . | 121,700 | 1,217 | 1,180, 250 | 22, 940 |
| Catflsh. | 93, 400 | 1, 794 | 2, 674, 007 | 54,726 |
| Channel bass | 201, 300 | 8,757 | 339, 316 | 11,270 |
| Croakers. | 57,325 | 1,465 | 158, 267 | 9, 479 |
| Mnller.. | 305, 400 | 3,479 | 287, 750 | 8,021 |
| Pompano | 14, 875 | 1,037 | 32,450 | 4,378 |
| Sheepshead | 173, 200 | 7,870 | 390,817 | 25,906 |
| Snappers.......... |  |  | 240, 500 | 7,215 |
| Spanish mackerel | 46, 600 | 3,150 | 144, 6000 | 14, 685 |
| Squeteague Oysters | 372,100 $5,645,346$ | 17,596 166,672 | 655, 5, 891,095 | 33,026 299,896 |
| Shrimps | 613,500 | 12, 622 | 0, 062, 050 | 90, 519 |
| Turtles. |  |  | 90,793 | 2, 335 |
| All other products. | 397, 655 | 15,831 | 1,772, 218 | 81, 226 |
| Total | 8, 131,401 | 245, 609 | 20, 789, 203 | 681, 284 |
| Species. | Texas. |  | Total. |  |
|  | Pounds. | Value. | Pounds. | Value. |
| Broam and sunfish. | 34,700 | \$1,526 | 451, 108 | \$22, 743 |
| Buffalo-tish | 13,800 | 690 | 1,315,750 | 24, 847 |
| Catfish. | 45,000 | $\stackrel{3}{3}, 090$ | 2, 850, 007 | 59,550 |
| Channel bass | 1, 107, 950 | 47, 905 | 2, 160, 767 | 77, 410 |
| Cronkers. | 175,950 | 6, 730 | 532,540 | 21,555 |
| Grunts. |  |  | 680, 725 | 22, 202 |
| Mullet. | 83, 450 | 2,770 | 15, 185, 117 | 238,528 |
| Pompavo | - 8, 000 | 600 | 368,859 | 35,551 |
| Shbepshead | 778, 800 | 30, 871 | 1, 921, 728 | 75,410 |
| Snappers .- | 4, 800 | 240 | 4, 527, 920 | 134, 716 |
| Spanish mackerel | 25,000 | 1,313 | 700, 459 | 42, 692 |
| Squeteague .. | 1,120,450 | 47,804 | 2,959,433 | 122, 570 |
| Sponges ... |  |  | 366,772 $20,587,098$ | 438,682 796,062 |
| Oysterst. | $3,085,600$ 175,800 | 127,990 5,670 | $20,587,098$ $7,451,350$ | 796,062 108,811 |
| Shrimps. | 172.800 583.000 | 5, $\mathbf{8 , 3 4 5}$ | 7, $\mathrm{I}, 148,674$ | 108,811 33,646 |
| All other products. | 723, 100 | 28, 228 | 5, 860, 227 | 244,520 |
| Total. | 7,950,400 | 313, 832 | 69, 075, 534 | 2,499,495 |

* In all the States except Florida the catch of grunts has been included with the miscellaneons fish.
$\dagger$ The weight of oysters given in the table represents only the edible part. The equivalent number of bushels in the entiro region is 2,941,014, divided as follows among the different States: Florida, 371,081; Alabama, 481,070; Mississippi, 806,478; Louisiana, 841,585; Texas, 440,800.

Products of the fisheries of the Pacific States.

| Species. | Alaska. |  | Washington. |  | Oregon. |  | California. |  | Total |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Pounds. | Value. | Pounds. | Value. | Pounds. | Value. | Pounds. | Value. | Pounds. | Value. |
| Barracuda |  |  |  |  |  |  | 654,227 | \$21,504 | 654,227 | \$21,504 |
| Cod..... | 2,259,685 | \$55,562 | 794,000 | \$26,725 | 26,304 | \$1,315 | 2,274,505 | 56,864 | 5,354,504 | 140,466 |
| Flounder |  |  | 184,560 | 3,191 | 10,000 | 400 | 4,040,557 | 85,482 | 4,235,117 | 89,073 |
| Halibut |  |  | 1,903,500 | 3e,560 | 18,870 | 1,787 | 180,030 | 8,532 | 2,103,300 | 46,879 |
| Herrin | 18,700,000 | 32,900 | 542,112 | 10,567 |  |  | 4,486,887 | 55,795 $\mathbf{1 4}$, 174 | 23,728,999 | 39,262 14,174 |
| Macker |  |  | 65,140 | 1,303 |  |  | 351,961 | 14,174 10,977 | $351 ; 961$ 400,257 | 14,174 12,280 |
| Rockfish (Sebastichthys) |  |  | 163,000 | 4,515 | 86,115 | 4,255 | 1,850,186 | 52,540 | 2,099,301 | 61,310 |
| Salmon | 43,199,600 | 2,212,503 | 21,684,411 | 541,546 | 24,044,151 | 779,922 | 4,759,816 | 176,189 | 93,687, 978 | 3, 710,250 |
| Sardine |  |  |  |  |  |  | 752,994 | 15,237 | 752,994 | 15,237 |
| Shad |  |  | 87.350 | 2,703 | 125,000 | 3,750 | 526,494 | 14,372 | 738,844 | 20,825 |
| Smelt. |  |  | 321,726 | 6,158 |  |  | 1,919,894 | 53,471 | 2,241,620 | 59,629 |
| Sturgeon |  |  | 547,623 | 5,584 | 2,513,490 | 26,399 | 718,017 | 21,854 | 3,779,130 | 53,887 |
| Yellow-tail |  |  |  |  |  |  | 358,954 | 13,865 | 358,954 | 13,865 |
| Oetopus and squid |  |  |  |  |  |  | 374,622 | 36,191 | 374,622 | 36,191 |
| Terrapins and frogs |  |  | 13,125 | 5,250 |  |  | 36,875 | 8,050 | 50,000 | 13,300 |
| Crabs. |  |  | 79,000 | 3,550 | 4,125 | 165 | $2,862,320$ | 102,900 | 2,945,445 | 106,615 |
| Shrimp and praw |  |  | 2,000 684,000 | 500 5,700 |  | 825 | 5,315,075 $2,969,150$ | 242,161 39,108 | $5,317,075$ $3,661,400$ | 242,661 45,633 |
| Clams and muss <br> Oysters. |  |  | 1,139,803 | 147,995 | 17,150 | 3,062 | 1,250,515 | 698,257 | 2,407,488 | 849,314 |
| Abalone meat and shells. |  |  |  |  |  |  | 404,637 | 9,071 | -404,687 | 9,071 |
| Fur seal and other pelts.. |  | 109,793 |  | 121,528 |  | 46,526 |  | 205,943 |  | 483,790 |
| Whale, fish, and seal oil.. |  |  | 37,500 | 1,750 |  |  | 1,578,758 | 62,295 | 1,616,258. | 64,045 |
| Whalebone All other pr |  |  | 284,000 | 9,815 |  |  | 198,865 $3,608,467$ | $\begin{gathered} 944,609 \\ 95,290 \end{gathered}$ | 19188,865 | 944,605 |
| To | 64,159,235 | 2,410,848 | 28,532,850 | 934,940 | 26,853,455 | 868,406 | 41,809,883 | 3,044,731 | 161,355,423 | 7,258,925 |

NOTE.-The numbers of bushels of oysters, clams, and mussels represented by the weights shown in the table are as follows: Oysters, 178,645 bushels in California, 2,450 bushels in Oregon, 162,829 bushels in Washington. Clams, 40,470 bushels in California, 825 bushels in Oregon, 11,400 bushels in Washington. Mussels, $\mathbf{1 0 , 0 0 0}$ bushels in California.

The number of skins of seals, sea otters, and other mammals, the value of which are given, are as follows: Fur seals, 14,710 in California, 2,945 in Oregon, 9,143 in Washington, 7,175 in Alaska. Sea otters, 225 in California, 20 in Oregon, 18 in Alaska. Hair seals and sea lions, 952 in California.

Products of the fisheries of the Great Lakes.


The products classified.-In the following table the value of the fishing industry ni each State is shown for eight main branches into which the products may be naturally divided. These are (1) the general fisheries for food and bait fishes; (2) the menhaden fishery for oil and guano factories; (3) the fisheries for oysters, clams, scallops, squid, octopus, and other mollusks; (4) the crab, lobster, shrimp, and other crustacean fisheries; (5) the alligator, terrapin, turtle, and other reptilian fisheries; (6) the fisheries for whales, porpoises, and other cetaceans; (7) the seal and sea-otter fisheries, and (8) the sponge fishery.

Fishes proper, excluding menhaden, have a value of $\$ 21,243,000$, or nearly as much as the combined value of all other classes of products. Mollusks are worth over $\$ 18,100,000$. The products of the whale and porpoise fisheries have a value of about $\$ 2,146,000$. Olosely following the cetaceans are the crustaceans, with a value of $\$ 2,028,000$. The menhaden fishery yields $\$ 638,668$, a sum representing the value of the fresh fish and not that of the manufactured products. The seal and the sea-otter fisheries, worth $\$ 502,180$, occupy the next position. The sponge fishery and the reptilian fisheries, which complete the list, have a valuation of $\$ 438,682$ and $\$ 215,000$, respectively.

The States which lead in the different branches are as follows: Massachusetts in the food and bait fisheries and in the whale fishery; Maryland in the molluscan fisheries; Maine in the crustacean fisheries; California in the seal and sea-otter fisheries; New York in the menhaden fisheries and Florida in the reptilian and sponge fisheries. The killing of an ordinary number of seals on the Pribilof Islands would place Alaska at the head of that group, but in the yearfcovered by the figures the seal catch was reduced by law to about 7,500 skins.

Table showing by States and fisheries the value of the fisheries of the United States.

| States. | General food-fish and bait fisheries. | Menhadon fish. ery. | Molluscan fisheries. | Crustacean fisheries. | Reptilian fisheries. | Whale flsheries. | Seal and sea-otter fisherios. | Sponge fishery. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Alabama | \$46,119 |  | \$107, 812 |  | \$940 |  |  |  | \$154, 871 |
| Alaska. | 2,301,055 |  |  |  |  |  | \$169,783 |  | 2, 410, 848 |
| California | 687, 902 |  | 782, 627 | \$353, 547 | 8,050 | \$1, 006, 662 | 205, 943 |  | 3,044, 731 |
| Connection | 244, 925 | \$28, 622 | 1, 476, 435 | 101, 318 |  | 1,723 | 18,390 |  | 1, 871, 413 |
| Delaware | 163, 443 |  | 75, 010 | 8,081 | 3,431 |  |  |  | 250, 885 |
| Florida. | 702, 090 |  | 109, 649 | 2,742 | 86,706 |  |  | \$438, 682 | 1, 339,869 |
| Georgia | 66, 405 |  | 40,820 | 7,141 | 9, 107 |  |  |  | 123,563 23,836 |
| Indinois. | 23,888 21,693 |  |  |  |  |  |  |  | 23,836 21,693 |
| Louisiane | 239,449 |  | 299, 896 | 116,911 | 25, 028 |  |  |  | 681, 284 |
| Maine. | 1,410,428 |  | 165,487 | 649, 891 |  |  |  |  | 2, 225, 806 |
| Maryland*. | 765, 190 | 00,533 | 5,304, 092 | 308, 371 | 22,584 |  |  |  | 6,460, 759 |
| Massachusett | 5,848, 032 |  | 343, 171 | 206,338 |  | 1,132,753 |  |  | 7,531, 194 |
| Michigan | 933, 005 |  |  |  | 1,000 |  |  |  | 934, 005 |
| Minnesota | 6, 238 |  |  |  |  |  |  |  | 6, 238 |
| Mississippi. | 64, 368 |  | 166, 872 | $14,659$ |  |  |  |  | 245, 699 |
| New Hampsh New Jersey. | 77,364 $1,393,151$ | 27, 609 | 2, $\begin{array}{r}975 \\ \hline\end{array}$ | 13,142 61,639 | 1,047 |  |  |  | $\begin{array}{r}91,481 \\ \mathbf{3 , 6 2 5} \\ \hline 800\end{array}$ |
| New York. | 1,153, 189 | 291, 165 | 3,570, 211 | 26, 694 |  |  |  |  | 5,041, 259 |
| North Carolin | 806, 560 | 15,920 | 188, 457 | 6,620 | 5,714 | 4,398 |  |  | 1,027, 869 |
| Ohio ... | 615, 609 |  |  |  | 3,074 |  |  |  | 618, 683 |
| Oregon. | 817, 828 |  | 3,887 | 165 |  |  | 46,526 |  | 868, 406 |
| Pennaylvania | 393, 303 |  | 101,850 |  |  |  |  |  | 485,153 725,675 |
| Rhode Island... | 283,926 150,690 | 28,771 | 359,216 23,204 | 53,782 <br> 20,382 |  |  |  |  | 725,675 202,602 |
| South Carolina Texas ......... | 150,690 164,200 |  | 23,204 127,990 | 20,382 10,765 | 8,376 10,877 |  |  |  | 202, 602 313,832 |
| Virginia | 812, 870 | 186, 048 | 2,556, 098 | 62,114 | 24,152 |  |  |  | 3, 641, 282 |
| Washiugto Wisconsin | 649,817 399,272 |  | 153,695 | 4,056 | 5,250 | 600 | 121,528 |  | $\begin{aligned} & 934,946 \\ & 399,272 \end{aligned}$ |
| To | 21, 242, 956 | 638,668 | 18, 100,588 | 2,028, 282 | 215,316 | 2, 146, 136 | 502, 180 | 438,682 | 45,312, 818 |

[^0]Rank and value of principal fishery products.-The principal fisheries have in the following table been arranged in four groups based on the value of the catch. Sixty fisheries or special products have an annual valuation of over $\$ 35,000$. Nine of these are worth more than $\$ 1,000,000 ; 9$ between $\$ 500,000$ and $\$ 1,000,000 ; 25$ between $\$ 100,000$ and $\$ 500,000$, and 17 between $\$ 35,000$ and $\$ 100,000$.

The 9 fisheries which yield over $\$ 1,000,000$ represent nearly three-fourths of the total output of the United States fisheries. They include 4 fisheries prosecuted on both the Atlantic and Pacific coasts, 4 that are peculiar to the Atlantic seaboard, and 1 that is confined to the west coast. The chief among them, the oyster, is worth over $\$ 16,000,000$, or more than one-third the value of the entire industry. The Pacific saluon fishery ranks second; it is worth about $\$ 3,700,000$. The Atlantic cod fishery and the whale fishery have a valuation of over $\$ 2,000,000$. The other fisheries in this group are the shad, clam, mackerel, lobster, and haddock.

The leading product in the second class is the halibut, valued at about $\$ 874,000$. Five other products included in this group are marine or coast animals, viz, sque. teague, menhaden, bluefish, alewives, and crabs, and the remaining three belong in the Great Lakes, viz, the herring or cisco, the whitefish, and the lake trout.

Of the 25 products having a value between $\$ 100,000$ and $\$ 500,000$, the sponges head the list. In this division are found such well-known fisheries as the fur-seal, shrimp, mullet, hake, sea bass, herring, sturgeon, striped bass, eel, scup, snapper, Spanish mackerel, smelt, sheepshead, channel bass, pike perch, scallop, etc.

The fourth group embraces most of the remaining fisheries of general or local importance. Among the fisheries now having a valuation of less than $\$ 100,000$ and more thau $\$ 35,000$ are the herring, rockfish, smelt, and sea-otter fisheries of the Pacific coast; and the pollock, swordfish, tautog, pike, and black bass fisheries of the east coast.

Table showing rank and value of the 60 most important fisheries or special products of the United States.

| Rank. | Fisheries. | Value. | Rank. | Fisheries. | Value. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | I. Over $\$ 1,000,000$. | \$16, 152, 257 |  | III. From $\$ 100,000$ to $\$ 500,000-$ Con tinued. |  |
| 2 | Pacific salmon | -3,710, 250 | 30 | Flatfish. . . . . . . . . . . . . . . . . . . . . | \$249, 095 |
| 3 | A tlantic cod | 2, 856, 225 | 31 | Scup ....-.-...................... | 205,421 |
| 4 | Whale | 2, 141,738 | 32 | A tlantic yellow and white perch*.. | 197, 863 |
| 5 | Shad. | 1, 879, 688 | 33 | Catfish . . . . . . . . . . . . . . . . . . . . . . . | 178, 758 |
| 6 | Clam | 1,690, 536 | 34 | Scallop | 172, 983 |
| 7 | Mackerel | 1, 102, 651 | 35 | Red snapper. . . . . . . . . . . . . . . . . . . | 147, 744 |
| 8 | Lobster. | 1, 050, 677 | 36 | Pacific cod. . . . . . . . . . . . . . . . . | 140,466 136,215 |
| 9 | Haddock | 1, 045, 814 | 37 |  | 136,215 129,259 |
|  | II. From \$ $\$ 000,00010 \$ 1,000,000$. |  | 39 | Spotand croaker . . . . . . . . . . . . . . . | 128, 852 |
|  |  |  | 40 | Atlantio smelt....................... | 122, 115 |
| 10 | Halibut. | 873,910 | 41 | Yellow perch (Great Lakes) ........ | 113, 260 |
| 11 | Squeteagne | 708, 830 | 42 | Sheepshead... | 101, 825 |
| 12 | Menhaden | 698,808 | 43 | Channel bass or redish............. | 100, 386 |
| 13 | Blıefish | 637, 305 |  | IV. from \$8s,000 to \$100,000. |  |
| 15 | Lake herring | 561,703 |  |  |  |
| 16 | Alewife | 554, 740 | 44 | Pacife herriug | 99, 262 |
| 17 | Lake whitetish | 518, 801 | 45 | Pollock.. | 90, 109 |
| 18 | Lake trout | 207, 950 | 48 | Alligator | 77, 010 |
|  |  |  | 48 | Terrajin | 76,243 72,139 |
|  |  |  | 49 | Alga | 69, 231 |
| 19 | Sponge ............................. | 438,682 | 50 | Pacific rock fis | 61, 810 |
| 20. | Pike porch and pike (Great Lakes)* | 417, 038 | 51 | Pacific smelt | 59, 629 |
| 21 | Fur-seal .............................. | 396, 627 | 52 | Swordfish | 56, 525 |
| 22 | Shrimp and prawn | 389, 297 | 53 | Butterish | 50, 765 |
| 23 | Mullet................................ | 387, 916 | 54 | Tautog. | 47, 900 |
| 24 | Hake... | 367,636 356,803 | 55 | Poupano | 47,031 47,475 |
| $\cdot{ }_{26}^{25}$ | Sea bass ......... | 356,803 329,298 | 56 | Athantic pike | 47,485 48,328 |
| 27 | Sturgeon .............................. | 271, 328 | 58 | Octopus and squid. . . . . . . . . . . . . . | 40, 691 |
| 28 | Striped bass or rocktish. ............ | 259, 474 | 59 | Black bass. | 38, 949 |
| 20. | Eel .................................. | 255, 801 | 60 | Sen-otter. | 38,370 |

[^1]Statistics of special important products.-To facilitate the comprehension of the extent of some of the principal fisheries prosecuted in the coast States, the following tables, based on preceding ones, are presented. They relate to the catch of oysters, whales, lobsters, crabs, clams, shad, alewives, bluefish, and squeteague.

The oyster, the foremost water product in the United States, is the object of a commercial fishery in every coast State except Maine and New Hampshire. In 12 Statesviz, Alabama, Connecticut, Delaware, Georgia, Louisiana, Maryland, Mississippi, New Jersey, New York, Rhode Island, Texas, and Virginia-it is the most valuable fishery product taken. In each of 5 States-Counecticut, Maryland, New Jersey, New York, and Virginia-its annual value is over $\$ 1,000,000$. The output of the entire country is about $28,000,000$ bushels, whose value to the fishermen is $\$ 16,152,000$. No other object of our fisheries has received so much attention as the oyster and is so generally cultivated by private individuals. Statistics of the oyster catch in each State are shown in the following table:

The oyster output of the United States.

| States. | Bushels. | Value. |
| :---: | :---: | :---: |
| Alabama. | 481, 070 | \$107, 812 |
| Calitornia | 178, 645 | 698, 257 |
| Connecticut | 1,950, 174 | 1,426, 249 |
| Delaware | - 175,332 | 73,863 |
| Florida. | 468,431 | 108,542 |
| Georgia. | 224, 355 | 40,520 |
| Louisiana | 841, 585 | 299, 896 |
| Maryland | 9,945, 058 | $5,295,868$ |
| Massachuse | 52, 608 | 70,240 |
| Mississippi | 806,478 | 160; 072 |
| New Jersoy | 2, 610, 463 | 1,700,603 |
| New York. | 2,611, 062 | 2, 748, 509 |
| North Carolina | 307, 200 | 175, 567 |
| Oregon | 2, 450 | 3, 062 |
| Pennsylvania | 132, 380 | 101, 850 |
| Rhode Island | 158, 081 | 255, 492 |
| South Carolina | 63,150 | 23, 204 |
| Texas. | 440, 800 | 127, 990 |
| Virginia | 6, 151, 636 | 2, 520, 068 |
| Wrshingto | 162, 829 | 147, 095 |
| Total | 28, 263, 847 | 16, 152, 257 |

The pursuit of whales and porpoises is a commercial enterprise in 5 States, but is comparatively unimportant in 3 of them. It is only in Massachusetts and California that whaling is a conspicuous feature of the fisheries. The table shows that the Califoruia whale fishery yielded a return of $\$ 1,006,662$ and that of Massachusetts $\$ 1,132,753$. While a large part of the Massachusetts whaling fleet make their headquarters at San Francisco and cruise in the Pacitic Ocean, the catch of the vessels has been credited to Massachusetts, the California figures representing only the yield of the vessels owned in that State.

Statistics of the products of the whale fishery of the United States.


* Value of whales used by Indians for food.

In the 8 States of the Atlantic seaboard north of Maryland lobster fishing is carried on. The abundance of that crustacean increases from south to north, and the most southern and most northern States in which it is sought have, respectively, the minimum and maximum output. The catch in Maine, amounting to over 17,000,000 pounds, worth $\$ 650,000$, is more important than any other product of the fisheries, and in Connecticut, where the yield is $1,615,000$ pounds, valued at $\$ 101,000$, it is surpassed only by the oyster. The aggregate product is $23,301,149$ pounds, with a value of $\$ 1,041,677$, divided as follows among the different States:

Output of the lobster fishery of the United States.

| States. | Pounds. | Value. |
| :---: | :---: | :---: |
| Connecticut | 1,614,530 | \$101, 318 |
| Delaware | 8, 200 | 410 |
| Maine | 17, 198, 002 | 649,891 |
| Massachusetts | 3, 177, 295 | 205, 038 |
| New Hampshire | 220, 024 | 13, 142 |
| New Jersey | 143,905 | 10, 861 |
| New York. | 165, 093 | 15, 655 |
| Rhode Island | 774, 100 | 53,762 |
| Total | 23, 301, 149 | 1,050,677 |

Several species of crabs are of commercial value in 15 States of the Atlantic, Gulf, and Pacific regions. They are actually and relatively most important in Maryland, where the reported yield is over $7,600,000$ pounds, valued at $\$ 303,700$. Crabs there rank next to oysters in value. Other States having a crab fishery of considerable magnitude are California, Virginia, New Jersey, and Delaware, in which the yield is between $1,000,000$ and $3,000,000$ pounds, as the following table indicates:

The crab catch of the United States.

| States. | Pounds. | Value. |
| :---: | :---: | :---: |
| California | 2, 862, 320 | \$102,900 |
| Delaware | 1, 164, 675 | 7,796 |
| Florida | 4, 100 | 185 |
| Georgia. | 47, 866 | 1,060 |
| Louisiana | 980,700 | 18,362 |
| Maryland. | 7,605,770 | 303, 716 |
| Mississippi | 47, 160 | 2, 037 |
| New Jorsey | 2, 599, 413 | 50, 278 |
| New York | 520, 066 | 11, 039 |
| North Carolina | 47, 400 | 1, 185 |
| Oregon | 4,125 | 165 |
| South Carolina | 03, 260 | 1,740 |
| Texas | 190,800 | 5, 095 |
| Virginia | 2.890,427 | 62, 039 |
| Washington | 79,000 | 3,550 |
| Total | 19,146, 082 | 572, 147 |

Clams of several kinds exist as economic objects in 16 States. They are especially prominent in the fisheries of Maine, Massachusetts, New York, and New Jersey, in which the aggregate output is $1,860,000$ bushels, valued at $\$ 1,487,000$, the production in the entire country being $2,129,373$ bushels, worth $\$ 1,690,536$. The yield in each State is as follows:

Statistics of the products of the clam fishery of the United States.

| States. | Bushels. | Value. |
| :---: | :---: | :---: |
| California | 40,470 | \$27, 108 |
| Connecticut | 40,800 | 43, 056 |
| Delaware | 2,670 | 2,047 |
| Florida | 1,433 | 1,097 |
| Georgia | 500 | 300 |
| Maine. | 454, 501 | 156, 033 |
| Maryland | 18, 470 | 8, 226 |
| Massachusetts | 245,291 | 102, 724 |
| New Hampshire | 1,050 | 975 |
| New Jersey. | 443,869 | 381, 8411: |
| New York | 716, 115 | 756, 512 |
| North Carolina | 28, 269 | 12,090 |
| Oregon..... | 825 | 825 |
| Rhode Island | 53,800 | 65, 372 |
| Virginia | 69,910 | 36,030 |
| Washington | 11,400 | 5,700 |
| Total | 2, 120,373 | 1, 690, 536 |

The shad is the most valuable anadromous fish of the Atlantic coast and one of the most generally distributed food species. As shown by the following table, it is the object of commercial fishing in all coast States except New. Hampshire and those bordering on the Gulf of Mexico. Even in the gulf region it occurs sparingly in several States, where it has been artificially introduced, but it does not exist there in sufficient abundance to constitute an economic commodity. In Pennsylvania, North Oarolina, and South Carolina it is the principal product of the fisheries, and in New Jersey, Delaware, Virginia, and Georgia it is surpassed only by the oyster. The fishery is most extensive in New Jersey, where the accredited catch is about 8,747,000 pounds, valued at $\$ 582,000$. Two of the best sbad rivers in the country mark the boundaries of this State, and in them and their estuaries extensive fishing is carried on. Virginia, Maryland, North Carolina, New York, Florida, Pennsylvania, and Delaware follow New Jersey in the order named as regards the quantity of the catch, the output ranging from $1,110,000$ pounds in Delaware to $6,498,000$ pounds in Virginia. The value of the yield, however, is greater in North Carolina than in any other State save New Jersey, the rank of the other States in this respect being Maryland, Virginia, New York, Pennsylvania, Florida, and Delaware.

The shad catch of the United Slates.

| States. | Pounds. | Value. |
| :---: | :---: | :---: |
| California | 528, 494 | \$14, 372 |
| Connecticut | 105, 109 | 8,988 |
| Delaware. | 1, 110, 369 | 60, 255 |
| Tlorida | 2, 554,022 | 104, 283 |
| Georgia. | - 399, 860 | 30,918 |
| Maine | 815, 620 | 28, 121 |
| Maryland. | 6, 224, 873 | 211, 575 |
| Massachnsetts. | 140, 260 | 5,721 |
| New Jorsey | 8,746, 518 | 582, 221 |
| New York | 3, 044, 956 | 161, 209 |
| North Carolina | 5, 768, 413 | 306, 015 |
| Oregon. | 125, 000 | 3,750 |
| Ponnsylvania. | 1,906, 482 | 110, 200 |
| Rhode Island.. | 24,350 | 1776 |
| South Carolina | 563,259 | 41, 187 |
| Virginia. | 6,498,242 | 207, 394 |
| Washingtou | 87, 350 | 2, 703 |
| Total | 38,830, 977 | 1, 879,688 |

Similar to the shad in ristribution are the alewives, or river herrings. They are taken in largest quantities in Maryland, Virginia, and North Carolina, in which States the catch is, respectively, about as follows: Maryland, 17,418,000; Virginia, 11,000,000, and North Carolina, $16,481,000$. They are also of considerable economic importance in Massachusetts, New York, New Jersey, and Pennsylvania, in each of which the output is about $2,000,000$ pounds or over. The quantity and value of the yield in each State is as follows :

The alewife catch of the United States.

| States. | Pounds. | Value. |
| :---: | :---: | :---: |
| Connecticut | 679, 120 | \$3, 808 |
| Delaware | 848, 890 | 11,585 |
| Florida . | 10, 120 | 150 |
| Georgia. | 24, 000 | 580 |
| Maine. | $2,113,950$ | 19,104 |
| Maryland | 17, 418,850 | 131, 245 |
| Massachusetts | 3, 326, 445 | 60, 056 |
| New Hampshire | 41,500 | 770 |
| New Jersey | 1,978, 055 | 14,288 |
| New York. | 2, 194,560 | 23,526 |
| North Carolina | 16, 481, 063 | 164, 636 |
| Pennsylvania | 2, 059, 015 | 12,144 |
| Rhode Islund | 967, 930 | 18,291 |
| Sonth Carolina | 28, 600 | 740 |
| Virginia | 11, 004, 085 | 93,819 |
| Total | 59, 176, 183 | 554, 740 |

The catch of weakfish and of spotted squeteague has, in the following table, been combined. The aggregate yield is $22,340,000$ pounds, having a first value of $\$ 708,830$. The tish are obtained in 16 States, and in some of them occupy a prominent position in the list of fishery products. More than one third the catch in the entire country is taken in New Jersey, where the weakfish ranks nest to the shad in importance. In Virginia, New York, North Carolina, and Texas the yield is very large.

The squeteague catch of the United States.

| States. | Pounds. | Value. |
| :---: | :---: | :---: |
| Alabama | 208,750 | \$10,700 |
| Connecticut | 285, 310 | 11,290 |
| Delaware | 837,510 | 16,364 |
| Florida | 837,747 | 21,273 |
| Georgia. | 144,000 | 7,911 |
| Louigiana. | 655. 670 | 33, 026 |
| Maryland. | 750,465 | 25, 902 |
| Massachusetts | 240, 000 | 7,200 |
| Mississippi.. | 372, 100 | 17,596 |
| Now Jersey | 7,540, 198 | 208, 051 |
| New York. | 2, 531, 523 | 94, 543 |
| North Carolina | 1, 885, 677 | 48,856 |
| Rhode Island.. | 889, 910 | 29,753 |
| South Carolina | 103, 106 | 3,604 |
| Texas | 1,120,450 | 47, 864 |
| Virginia | 3,988, 019 | 124,891 |
| Total | 22, 340, 433 | 708, 880 |

The bluefish is one of the most generally distributed, best known, and important fishes found on the east coast of the United States. The following table shows a catch of nearly $16,000,000$ pounds, with a value to the fishermen of $\$ 637,000$. About twothirds of the output is taken in New York and New Jersey; in the former State the bluefish is more important than any other fish, and is surpassed in value only by the
oyster and clam. Virginia and North Carolina have a relatively large catch of this fish, the quantity taken in each being between one and two million pounds.

The bluefish catch of the United States.

| States. | Pounds. | Value. |
| :---: | :---: | :---: |
| Alabama | 55,760 | \$1,213 |
| Connecticut | 640,450 | 32, 022 |
| Florida. | 7, 810 | 255 |
| Louisiana | 13, 050 | 843 |
| Maryland | 516,364 | 22,761 |
| Massachusetts | 415,560 | 31, 167 |
| Mississippi | 95,900 | 4,595 |
| New Jersey | 4, 765, 873 | 178, 691 |
| New Fork. | 5, 506,575 | 237; 010 |
| North Carolina | 1, 345, 194 | 33, 603 |
| Rhode Island. | 247, 100 | 14, 356 |
| South Carolina | 100, 480 | 3, 060 |
| Texas | 25, 500 | 1, 327 |
| Virginia. | 1,802, 674 | 60, 004 |
| Total | 15, 957, 836 | 637, 305 |

The catch by different forms of apparatus.-In the accompanying table the quantity and value of the products resulting from the use of the different kinds of apparatus are shown for each State, the catch with each of the following forms being separately given, viz, (1) purse seines; (2) haul and other seines; (3) gill nets and trammel nets; (4) pound nets, trap nets, and weirs; (5) fyke nets and pots; (6) lines; and (7) dredges, tongs, and rakes.

Excluding the oysters, clams, and other mollusks, taken with dredges, tongs, etc., the value of which, $\$ 18,269,465$, is much greater than the yield of any other class of appliances, it appears that lines are the most important form of apparatus employed in the capture of fish proper. While the quantity of fish thus obtained is less than with purse seines, the value of the catch is much greater, being about $\$ 7,220,000$. Gill nets and trammel nets rank second in value of yield, which is about $\$ 4,888,000$. Haul seines take products worth nearly as much as those obtained with gill nets, viz, $\$ 4,061,000$. Pound nets, trap nets, and weirs have an output valued at $\$ 3,412,000$. Fyke nets and the closely related pots rank next in the value of the catch, which is worth about $\$ 1,504,000$. Olosely following are purse seines, whose yield is valued at $\$ 1,409,000$.

The States in which the purse seine is most valuable as a productive agent are Massachusetts, where it is employed in the capture of mackerel, and New York, where the fishery is for menhaden. The haul seine is far more important in Alaska than elsewhere, salmon being the principal object of fishery. The State holding the next position as regards the extent of its haul-seine fishery is North Carolina, where large quantities of shad and alewives are thus taken. The gill net is also more productive in the salmon fishery of Alaska than elsewhere, and is next important in the shad fishery of New Jersey. The use of the pound-net type of apparatus is most important in Virginia and Michigan. Maine and Massachusetts lead in the value of their combined fyke and pot tisheries, the lobster constituting the principal object taken. The value of the fyke catch alone is greatest in New York. The results of line fishing are far greater in Massuchusetts than in all other States taken together; lines, in this State, are more prominent than any other form of apparatus in any other State except dredges and tongs in the oyster fishery of Maryland. Maine follows Massachusetts in the value of its line fishing.

Table showing by States the quantity and value of the products taken with each principal form of apparatuغ்.

| States. | Purse seines. |  | Haul and other seines. |  | Gill nets and trammel nets. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Pounds. | Value. | Pounds. | Valne. | Pounds. | Value. |
| Alabama |  |  | 770, 053 | \$24,190 | 510, 300 | \$18,762 |
| Alaska | 660,000 | \$34,650 | 42, 461, 000 | 1,301,010 | 16, 174, 320 | 772,921 |
| California | 357, 622 | 35, 762 | *16, 683, 006 | 476, 807 | 9, 220, 198 | 274,950 |
| Connecticut | 10, 222, 300 | 29,219 | 221, 051 | 8,004 | 727,496 | 11, 217 |
| Delaware |  |  | 1,671, 633 | 44,918 | 2, 697, 624 | 102,936 |
| Florida |  |  | 8,390, 444 | 204, 490 | 15, 197, 223 | 278, 185 |
| Georgia |  |  | 67, 230 | 10, 363 | 608, 662 | 37, 063 |
| Ilinois |  |  | 34, 365 | 856 | 220, 645 | 7, 268 |
| Indiana. |  |  |  |  | 314,447 | 10,421 |
| Louisia |  |  | 10, 200, 553 | 240, 663 |  |  |
| Maine | 1,630, 230 | 110, 661 | 4, 656,345 | 83,983 | 9,167,537 | 142,540 |
| Maryland.. | $28,816,000$ $9,012,280$ | 60,533 | 14, 320, 173 | 266, 609 | 8, 571, 287 | 217, 088 |
| Massachuse | 9,012, 280 | 559, 742 | $4,053,640$ 848,735 | 55, <br> 19, <br> 188 | 4, 542, 305 | 142, 605 |
| Minnesota |  |  | 848, 735 | 19,678 | $12,085,678$ 150,465 | 409,943 5,261 |
| Mississippi |  |  | 2, 231, 205 | 68,726 | 220, 750 | 0,185 |
| New Hampshi | 42, 000 | 3,705 | 16,000 | 430 | 146, 000 | 1,680 |
| New Jersey. | 8, 571, 960 | 27, 609 | 8, 266, 067 | 165,234 | 9, 083, 366 | 572, 060 |
| New York | 99, 057, 590 | 288, 123 | 4, 245, 731 | 161, 710 | $9,924,736$ | 370, 105 |
| North Carolina | 12, 209, 400 | 15, 920 | 18, 171, 082 | 411, 346 | 6, 354, 178 | 252, 249 |
| Ohio |  |  | 600, 700 | 15, 525 | 13,539, 618 | 193, 523 |
| Oregon |  |  | 1,558,362 | 46, 119 | 5, 004, 295 | 124, 956 |
| Pennsylvani |  |  | 3, 104, 386 | 82,913 | 12, 713, 135 | 226, 105 |
| Rhode Island | 5,342, 100 | 28,916 | 669,760 | 17,170 | - 233, 160 | 13,141 |
| South Carolina |  |  | 702, 853 | 29, 370 | 793, 730 | 42, 474 |
| Texas .- |  |  | 3, 784, 100 | 157,422 |  |  |
| Virginia | 100, 695, 700 | 136, 348 | 4, 159,252 | 97,493 | 4, 887, 014 | 124, 463 |
| Wisconsin |  |  | 3, 261,382 400,873 | 62,800 | 9, $7,513,323$ | -244, 185 |
| Tota | 279, 430, 473 | 1, 408, 791 | 155, 649,851 | 4, 061, 480 | 159, 744, 578 | 4,877, 824 |
| States. | Pound nets, trap nets, and weirs. |  | Fyke nets and pots. |  | Lines. |  |
|  | Pounds. | Value. | Pounds. | Value. | Pounds. | Value. |
| Alabama |  |  |  |  | 88,625 | \$3,095 |
| Alaska | 2, 604, 280 | \$136, 912 |  |  | 2, 259,635 | 55,562 |
| Califcrnia |  |  | 490, 721 | \$13, 658 | 5, 606, 402 | 167, 929 |
| Connectic | 3,200, 886 | 32, 249 | 2, 119, 390 | 124, 953 | 3, 630, 835 | 146, 315 |
| Delaware | 444, 919 | 1,129 | 153, 675 | 7,207 | 52,760 | 2, 625 |
| Florida | 86,715 | 1,365 |  |  | 6, 683,916 | 211, 793 |
| Georgia | 41, 695 | 1,285 | 20, 100 | 808 | 401,138 | 18,947 |
| Illinois | 41, 120 | 1,369 |  |  | 350, 843 | 10,582 |
| Indiana. | 250, 711 | 7,983 |  |  | 59, 469 | 2,608 |
| Louisia |  |  |  |  | 3,315, 176 | 81, 807 |
| Maine | 33, 788, 072 | 260, 371 | 17, 392, 502 | 658,209 | 33, 824, 339 | 712,980 |
| Maryland | 8, 877, 660 | 165, 559 | 1, 943, 659 | 77, 649 | 3,566, 034 | 70,303 |
| Massachuset | 15, 734, 800 | 409, 789 | 3,571, 400 | 226, 375 | 149, 352, 736 | 4,462, 998 |
| Michigan. | 17, 129,997 | 432, 802 | 1, 605, 474 | 31, 271 | 918, 305 | 29, 714 |
| Minnesota | 10,520 | 298 |  |  | 22, 437 | 679 |
| Mississippi |  |  |  |  | 19, 400 | 826 |
| New Hampshi | 40, 100 | 852 | 220,024 | 13, 142 | 3,444, 750 | 68, 160 |
| New Jersey | 10, 864, 669 | 195, 660 | 913,370 | 46, 893 | 10, 977, 643 | 419, 432 |
| New York | 11, 294, 204 | 181, 138 | 4, 412,219 | 146, 829 | 6, 896, 862 | 271, 694 |
| North Carolin | 8, 288, 562 | 123,966 | 178, 300 | -9,938 | 443, 775 | 14, 548 |
| Ohio... | 27, 582, 045 | 345, 142 | 2, 394, 945 | 40,373 | 814, 800 | 21, 620 |
| Oregon ...... | 4, 932, 895 | 152, 263 |  |  | 2,534,496 | 32, 869 |
| Pennsylvania | 11,214, 849 | 28, 008 | 158, 860 | 7,152 | 1,081, 883 | 46, 309 |
| Rhode Island | 11, 159, 010 | 199, 100 | 902, 015 | 59,887 | 980, 105 | 40,483 |
| South Carolina |  |  |  |  | 2,541, 303 | 81, 225 |
| Texas |  |  |  |  | 202, 400 | 8, 595 |
| Virginia | 24, 033, 367 | 476, 294 | 333, 661 | 13,408 | 5, 563, 129 | 136, 539 |
| Washingto | 6, 081, 967 | 164, 101 |  |  | 3,314, 500 | 81, 315 |
| Wisconsi | 3, 696, 098 | 101, 580 | 1,321, 245 | 26, 201 | 499, 296 | 19,319 |
| Total | 191, 459, 141 | 3,412,035 | 38, 181, 650 | 1, 504, 048 | 249, 390, 992 | 7, 220, 941 |

[^2]Table showing the quantity and value of products taken with each principal form of apparatus-Continued.

| Stater. | Dredges, tonge, rakes, ete. |  | All other apparatus. |  | Total. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Pounds. | Value. | Pounds. | Value. | Pounds. | Value'. |
| Alabama | 3, 367, 490 | \$107, 812 | 40,500 | \$1,012 | 4, 776,968 | \$154, 871 |
| Alaska |  |  |  | 109, 783 | 64, 159,285 | 2,410, 848 |
| Californi | 4,219, 665 | 737, 365 | 5, 232,269 | 1,338, 260 | 41, 809, 833 | 3, 044, 731 |
| Connectic | 25,426, 518 | 1,476, 485 | 15,849, 745 | 43, 021 | 61, 458, 221 | 1, 871, 413 |
| Delawar | 1,248, 684 | 75, 910 | 925,513 | 16, 140 | 7, 194, 808 | 250,865 |
| Florida | 3,291, 947 | 109, 639 | 1,231, 848 | 534, 397 | 34, 882, 093 | 1, 339, 869 |
| Goorgia | 1,574,485 | 40, 820 | 280,717 | 14, 187 | 2,994, 117 | - 123,563 |
| Ilinois |  |  | - 175,421 | 3,781 | 822, 394 | 23, 836 |
| Indiana. |  |  | 14, 866 | 681 5818 | $\begin{array}{r}639,493 \\ 20,789 \\ \hline\end{array}$ | 21,693 |
| Louisian | $\begin{array}{r} 5,891,095 \\ 4,661,135 \end{array}$ | 299,896 165,487 | $1,382,379$ $16,580,040$ | 58, 918 91,575 | $20,789,203$ $121,700,200$ | 681,284 2,225806 |
| Maryland | 72, 869, 251 | 5,498, 770 | 2, 213, 763 | 104, 248 | 141, 177, 827 | 6, 460, 759 |
| Massachu | 3,379,315 | 388, 671 | 111, 702,855 | 1,335,994 | 301, 349, 331 | 7, 531,194 |
| Michigan |  |  | 283, 800 | 10,697 | 32, 871, 989 | 034, 005 |
| Minnesota |  |  |  |  | 183, 422 | 6,238 |
| Mississippi | $5,645,346$ 10,500 | 166,672 | 14,500 37,450 | 290 2,537 | $8,131,201$ $3,956,824$ | 245,699 91,481 |
| New Hamps | 10,500 $21,961,496$ | 2, 146, 975 | 37,450 608,020 | 2,537 51,283 | 3, 71, $956,86,591$ 78 | 81,481 $3,625,890$ |
| New Jersey | $21,961,496$ $41,407,596$ | $\mathbf{2 , 1 4 6 , 8 1 9}$ $\mathbf{3 , 5 7 0 , 2 1 1}$ | 608,020 $1,018,841$ | 51,283 51,449 | $71,246,591$ $178,257,879$ | $3,925,890$ $5,041,259$ |
| North Carolina | 5,894,972 | 188, 457 | 258, 873. | 11, 245 | 51, 790, 142 | 1, 027,669 |
| Ohio |  |  |  | 2,500 | 44, 932, 108 | 618, 683 |
| Oregon | 25, 400 | 3,887 | 12, 798, 007 | 505,492 | 26, 853,455 | 808, 406 |
| Pennsylvania | 926, 680 | 101, 850 , | 39,579 | 2,726 | 19, 189, 352 | 495, 153 |
| Rhode Island | 1,976, 035 | 359, 216 | 172, 480 | 7,762 | 21, 434, 665 | 725, 675 |
| South Carolina | 442, 050 | 23, 204 | 464,904 | 26,329 | 4,944, 840 | 202, 602 |
| Texas | 3, 085, 600 | 127, 990 | 887, 300 | 19,825 | 7, 959, 400 | 313,832 |
| Virginia | 44, 011, 368 | 2, 575,684 | 209, 066 | 31, 053 | 183, 952,557 | 3, 641, 282 |
| Washington | 1,823, 803 | 153, 685 | 2, 085, 951 | 180, 957 | 28, 532, 850 | 934, 940 |
| Wisconsi |  |  | 43,748 | 2,187 | 13, 474, 583 | 399, 272 |
| Total | 253, 140, 411 | 18, 269, 465 | 174, 612,495 | 4,558,239 | 1, 501, 474, 631 | 45, 312, 818 |

Shore fishery industries.-Among the most important industries directly connected with the fisheries are sardine canning, the manufacture of menhaden oil and guano, salmon canning, oyster packing and canning, and the canning of various other fishery products, as mackerel, clams, turtles, and shrimp. These give employment to over 30,000 people; represent an investment of over $\$ 14,000,000$; utilize $530,000,000$ pounds of raw materials, for which $\$ 10,458,000$ is paid; and produce manufactured articles having a value of $\$ 20,548,000$. The canning of sardines and the canning of mackerel and clams are usually done by the same firms, so that it is not feasible to present separate figures for each of these branches. Lobsters are also canned principally at sardine factories, but owing to the importance of this industry, an effort has been made to represent it separately as regards the employes and investment. The packing and canning of oysters constitute the most important of the industries exhibited in the table, after which come salmon canning, sardine canning, and the manufacture of oil and fertilizer from menhaden.

Table showing the extent of some of the principal shore fishery-industries of the United States.


## UNITED STATES FISHERIES COMPARED WITH THOSE OF OTHER COUNTRIES.

As a matter of general interest, the following comparison between the fisheries of the United States and those of other countries is presented. The figures for the foreign countries are the most authentic and recent ones available, have been obtained largely from the latest official records, and represent the value of the products taken. Unfortunately, it is not possible to exhibit figures for a number of countries having commercial fisheries, owing to the fact that there are no published reports available relating to the subject; among these are Ohina, India, Germany, Austria, Denmark, Belgium, Turkey, Greece, Mexico, and Australia.

The prominent position occupied by the United States in the matter of fisheries will doubtless occasion some surprise. It is far in advance of any other country, surpassing Great Britain, the next important country, by over $\$ 10,000,000$.

The table shows the value of the fisheries of most of the principal countries of the world. As a matter of additional interest, columns are inserted showing the population of each and the average amount of money resulting from the fisheries for each inhabitant. A comparison of this kind would be much more valuable if it could include other items besides the value of the catch, as, for example, the number of persons employed, the number of vessels and boats engaged, the quantity of apparatus used, and the amount of capital invested; but such information is at hand for only a few countries. It appears that in proportion to the population Newfoundland has more important fisheries than any other country; the average value of the catch per inhabitant is $\$ 33.82$, while in the United States it is only 70 cents. Other countries having a greater relative catch than the United States in proportion to population are Great Britain, Norway, and Portugal.

| Countries. | Approximate population. | Approximate value of fisheries. | Average value of catch per inhabitant. |
| :---: | :---: | :---: | :---: |
| United States. | 65, 000,000 | \$45, 223, 000 | \$0.70 |
| Great Britain. | 35, 300, 000 | 32,000, 000 | . 91 |
| Japan | 40, 072, 000 | 26,000,000 | . 65 |
| Russia. | 87, 850, 490 | 22,000,000 | . 25 |
| France. | 38, 343, 200 | 21, 256, 300 | . 55 |
| Canada. | 4, 833, 500 | 18, 977, 900 | 3.93 |
| Norway | 1,999, 200 | 8,000, 000 | 4.00 |
| Newfoundland | 197, 500 | 6, 670, 600 | 33.82 |
| Portugal. | 4,306, 550 | 3,400, 000 | . 79 |
| Spain. | 17,266, 100 | 2,500, 000 | . 14 |
| Holland | 4, 564, 600 | 2, 225,000 | . 49 |
| Swedan | 4,579, 100 | 2,300, 000 | . 50 |
| Italy.. | 28,459, 600 | 1,216, 000 | . 04 |

COMPARISONS WITH 1880.
Perhaps the most valuable purpose which statistics subserve is the opportunity they afford for making comparisons from time to time between the present and past condition of an industry. In the case of the fisheries this comparison must determine the necessity for legal restriction of certain fisheries, the desirability of undertaking artificial propagation, and the results of restriction and cultivation, besides indicating the actual and relative extent of the industry.

It is not the purpose to discuss all the details of comparison between the present status of the fishing industry and its condition in 1880, but simply to direct attention to the general features of the variations that have occurred and to notice certain specially striking changes in the condition of our fisheries.

Considering the persons employed in various capacities in the fishing industry, the statistics show an increase over 1880 amounting to about 51,000 persons. The principal increase, aggregating 30,832 persons, occurred in the Middle Atlantic States, although all the other geographical sections, except New England and the Pacific coast, show a substantial gain. The decrease in New England is only 18 persons, and that in the Pacific States is also insiguificant, being only 32 .

The amount of capital invested in the fishing industry is at present much larger than in 1880 , the increase amounting to about $\$ 20,285,000$. This is due largely to the employment of improved types of vessels, the use of greater quantities of the most modern and expensive forms of apparatus, and the building of new factories, canneries, and other shore establishments directly connected with the tisheries. A larger investment is to be observed in every region, except the New England States, where there has been a diminution amounting to about $\$ 78,000$. In the Middle Atlantic region the increased investment is $\$ 6,720,000$, while in the Pacific States, with a relatively small investment, the augmentation in the capital devoted to the industry is $\$ 6,125,000$.

Comparing the present value of the products of the United States fisheries with their value in 1880, an advance is to be noted, which, while not relatively so large as the increase in the fishing population and the invested capital, is, perhaps, not discouraging, in view of the recent scarcity of three of the most important objects of fishery in 1880, viz, mackerel, fur seals, and whales. The increased value of the yield amounts to about $\$ 6,630,000$. The fisheries of New England have decreased in value to the extent of $\$ 64,000$, while every other region presents an increase, varying from $\$ 333,000$ in the South Atlantic States to $\$ 2,687,000$ in the Middle Atlantic States.

The following table shows the extent of the fisheries of the United States in 1880 and at the present time, together with the number of persons employed, the amount of capital invested, and the value of the catch in each State and each geographical region:

Comparative summary of the fisheries of the United States in 1880 and 1892.

| States. | Persons employed. |  | Capital investod. |  | Value of products. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1880. | 1892.* | 1880. | 1892. | 1880. | 1892. |
| New England: | 11,071 | 15,128 | \$3, 375, 004 | \$2, 882, 113 | \$2, 742,571 | 2,225,806 |
| New Hampshir | 11,414 | 15, 373 | 1209, 465 | - 83,328 | -176, 684 | - 91, 481 |
| Massachusetts. | 20, 117 | 17,025 | 14, 334, 450 | 12,980, 679 | 7, 959,760 | 7, 531, 194 |
| Rhode Island | 2,310 | 1,584 | -590,678 | 1, 034, 467 | 696, 814 | 725, 675 |
| Connecticut . | 3,131 | 2,915 | 1, 421, 020 | 2, 868,921 | 933,242 | 1,871, 413 |
| Total | 37,043 | 37,025 | 19, 837, 607 | 19,859,508 | 12, 509, 071 | 12,445, 569 |
| Middle Atlantic : |  |  |  | 5, 282,970 | 3, 763, 587 |  |
| New Jorsey. | 6, 620 | 10, 433 | 1, 492, 202 | 2, 517, 764 | 3, 103, 927 | 3, 625,800 |
| Pennsylvani | 438 | 2,220 | 94, 801 | 976, 011 | 276, 600 | 284, 031 |
| Delaware. | 1,979 | 2,247 | 268, 231 | 218, 129 | 997, 695 | 250, 865 |
| Maryland | 26, 008 | 39, 044 | 6, 342,443 | 7, 465, 718 | 5, 221, 715 | 6,460, 759 |
| Virginia. | 18,864 | 23,595 | 1,014, 110 | 2, 944, 559 | 2, 007, 043 | 3, 641, 282 |
| Total | 50,853 | 90,685 | 12, 685, 331 | 19, 405, 151 | 16,360,517 | 19, 047, 580 |
| South A tlantic: |  |  |  |  |  |  |
| North Carolina | 5, 2,005 | 10,274 2,701 | 506,561 | $\begin{array}{r} 1,243,988 \\ 127,762 \end{array}$ | $\begin{aligned} & 845,605 \\ & 212,482 \end{aligned}$ | 1, 204,602 |
| South Carolina | 1,005 899 | 2, 1,022 | 66, 78,770 | 174, 431 | 119, 993 | 123, 563 |
| Florida | 368 | 1,541 | 43, $554{ }^{\circ}$ | 146, 895 | 78,408 | 236,060 |
| Total | 7,546 | 16, 138 | 695, 160 | 1,693,076 | 1,256,578 | 1,589,894 |

* This year is placed at the head of the columns because it is the most recent one to which tho statistios relate and the one to which most of the figures apply. The data for the New England, Middle Atlantic, and Paoific States are for that year; thosefor the South Atlantic Statos are for 1891, and those for the Gulf region and Great Lakes are for 1890.

Comparative summary of the fisheries of the United States in 1880 and 1892-Continued.

| States. | Persons employed. |  | Capital invested. |  | Value of products. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1880. | 1892. | 1880. | 1892. | 1880. | 1892. |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Total | 5,131 | 12, 019 | 545, 584 | 2, 993, 080 | 1,227,544 | 2, 490, 495 |
| Pacific: |  |  |  |  |  |  |
| California | 3, 094 | 5,426 | 1,139,675 | 2, 526, 962 | 1,860,714 | 3, 044, 731 |
| Oregon -... | 4,483 | 4, 200 | 687, 000 | 2, 220,667 | 605, 302 | 868, 406 |
| Washington Alaska... | 3,096 $\mathbf{6 , 1 3 0}$ | 4,296 2,849 | 474,708 447,000 | $1,590,481$ $2,535,703$ | 417, 982 $2,661,640$ | 934,940 $2,410,848$ |
| Total | 16,803 | 16,771 | 2, 748, 383 | 8,873,813 | 5, 545,588 | 7, 258, 925 |
| Great Lakes: |  |  |  |  |  |  |
| New York | 922 | 1,498 | 59, 050 | 697, 817 | 154, 870 | 256, 506 |
| Pennsylvania | 114 1,046 | + 408 | 24,700 | 283, 238 | 43,450 | 211, 122 |
| Michigan | 1,781 | 2,738 | 473,800 | 1,874, 800 | 518, 420 | 618, 683 |
| Indiana. | 52 | -94 | 442,665 29,360 | $1,458,884$ $\mathbf{2 1 , 5 4 9}$ | 716, 170 | 934, 005 |
| Illinois | 300 | 386 | 83,400 | 429,545 | 60, 100 | 23,836 |
| Wisconsin | 800 | 1,225 | 222, 840 | 481, 374 | 253, 100 | 399, 272 |
| Minnesota | 35 | 51 | 10,160 | 170, 743 | 5,200 | 6,238 |
| Total........ | 5, 050 | 9,738 | 1,345, 975 | 5, 478, 080 | 1,784, 050 | 2, 471,355 |
| Grand total | 131, 426 | 182, 376 | 37, 958,040 | 58,242,708 | 38, 683, 348 | 45,312, 318 |

One of the most instructive and important comparisons which may be made is that which exhibits the present and past condition of the shad fishery. The shad is the most important river fish of the Atlantic seaboard, and has been the subject of more extensive fish-cultural operations than have been undertaken in the interest of the preservation and increase of any other fish. The maintenance and increase of the supply of shad in recent years, in the face of an enormous annual catch, are, without question, attributable to artificial propagation carried on by the National and State fish commissions. The results achieved are among the most noticeable in the annals of fish-culture. From the following table it will be seen that the aggregate yield of shad in 1880 was $18,074,534$ pounds, valued at $\$ 995,790$. At that time the fishery in some of the principal rivers and coast waters was in an unsatisfactory condition and had been showing positive symptoms of a decline for a number of years. It was predicted in some regions that, under the conditions and methods then prevailing, the practical suspension of the fishery was imminent. It was about that time that the results of extensive fish-cultural operations were manifested. The supply of shad became greater and the abundance has steadily continued to increase, until in 1892 the yield amounted to $38,830,977$ pounds, for which the fishermen received $\$ 1,879,688$. While it is impossible, on the Atlantic coast, accurately to gauge the effects of propagation methods and to distinguish between the results of natural and artificial increase, the establishment of a shad fishery along the Pacific coast as the immediate sequence of relatively insiguificant plants of fry in two or three rivers affords a reasonable basis for claiming the dependence on fish-culture of the Atlantic shad fishery.

The table shows the quantity and value of shad taken in each of the coast sections in 1880 and 1892:

Comparative table showing the results of the shad fishery of 1880 and 1892.

| Sections. | 1880. |  | 1892. |  | Increase or decrease. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Pounds. | Value. | Pounds. | Value. | Pounds. | Value. |
| Now England. | 2, 117, 392 | \$88, 730 | 1, 085,339 | \$43, 606 | - 1, 032, 053 | - \$15, 124 |
| Middle Atlantic | 12, 024, 579 | 526, 982 | 27, 621, 440 | 1,332, 854 | +15, 698, 881 | + 805, 872 |
| South Atlantic | 3, 332,563 | 380, 078 | 9, 385, 354 | 482, 403 | +5,452,791 | + 102,325 |
| Pacific.... |  |  | 738, 844 | 20,825 | + 738,844 | $+20,825$ |
| Total | 18, 074, 534 | 995, 790 | 38,830, 977 | 1,870, 688 | $+20,756,443$ | $+888,898$ |

The changes that have taken place in the oyster production since 1880 have been among the most noticeable features of the fisheries during that period. The question of the preservation and increase of the supply has been widely discussed. The threatened exhaustion of the natural beds in the most prolific sections has drawn special attention to the value of and necessity for artificial methods in maintaining the crop. The increased output shown by the table, while in some States due to a development of the natural resources, has in others been mainly attributable to the application of planting methods made possible by the enactment of protective and stimulative laws.

In the New England States the increased yield has been over 300 per cent, with a reduction in the average price to the consumer. In the principal oyster-producing region, the Middle Atlantic States, the increase is less than 5 per cent, with an advance in the average price per bushel. The South Atlantic section presents an augmentation in the yield of about 350 per cent, with a large diminution in the average price, as is also the case in the Gulf States, where the catch has increased over 500 per cent. The most remarkable change has occurred in the Pacific States, where in 1880 only 15,000 bushels of oysters, mostly native, were taken, while the annual output at the present time is between 300,000 and 400,000 bushels, in large part eastern oysters introduced as seed; the average price per bushel in 1880 was 66 cents, while now it is over $\$ 2.50$, the demand for the more desirable oysters brought from the Atlantic coast being very great.

Considering the entire country, an increase has occurred since 1880 amounting to $6,067,000$ bushels, having a value of $\$ 4,122,755$, the average price increasing from 55 cents to 57 cents a bushel.

Comparison of the output of the oyster fishery in 1880 and 1892.

| Sections. | 1880. |  | 1892. |  | Increase. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Bushels. | Value. | Bushels. | Value. | Bushols. | Value. |
| New England States. | 536, 850 | \$654, 775 | 2,100, 863 | \$1, 751, 981 | +1,624, 213 | +\$1,097, 206 |
| Middle A Ilantic States | 20,755, 540 | 10,931, 527 | 21, 625, 831 | 12,500, 759 | + 870,391 | $+1,560,232$ |
| South A tlantio Statos. | 310, 000 | 120, 000 | 1,192, 115 | 254, 141 | + 882,115 | + 134,141 |
| Gulf States | 578, 725 | 313, 200 | 2,941, 014 | 796, 062 | +2,362, 289 | + 482,862 |
| Pacific States. | 15,000 | 10,000 | 843, 924 | 849, 314 | + 328, 924 | + 839,314 |
| Total | 22,105, 915 | 12,029, 502 | 28, 263, 847 | 16, 152, 257 | +6,067, 932 | + 4,122,755 |

Among other important products the comparison of whose past aud present abundance, as shown by the catch, may be of general interest, are bluefish, alewives, sea bass, squeteague, Spanish mackerel, salmon, cod, mackerel, and Iobsters. Comparative figures for each of these are given by geographical sections in the following table:

## Comparative statistics of the catoh of certain products in 1880 and 1892.

| Sections. | 1880. |  | 1892. |  | Increase or decrease. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Pounds. | Value. | Pounds. | Value. | Pounds. | Value. |
| Alewives: |  |  |  |  |  |  |
| New England States... Middle Atlantic States South Atlantic States | 9, 728, 261 | \$103, 285 | 7, 128, 945 | \$102, 029 | - 2, 599, 316 | - \$1,256 |
|  | 19, 901, 072 | 267, 527 | 35, 503, 455 | 286, 605 | +15,602, 383 | + 19,078 |
|  | 16, 055, 000 | 155, 734 | 16, 543, 783 | 166, 106 | + 488,783 | $+10,372$ |
|  | 45, 684, 333 | 526, 546 | 59, 176, 183 | 554, 740 | $+13,491,850$ | + 28,194 |
| Bluefish: |  |  |  |  |  |  |
| Middle Atlantic States | 8, 267, 217 | 187, 653 | 12,591, 486 | 504, 466 | - 4, 324,269 | + 316,813 |
| South Atlantic States | 850, 000 | 16,600 | 1, 452,984 | 36, 918 | + 602,884 | $+\quad 20,318$ |
| Gnlf States. | * 64, 250 | 1, 085 | 610, 256 | 18,376 | + 546,006 | + 17,291 |
| 'Total | 14, 707, 708 | 306, 756 | 15, 957, 836 | 637,305 | + 1,250,128 | $+270,549$ |
| Cod: |  |  |  |  |  |  |
| New England States.. Middle A thatic States | 110, 282, 350 | 3, 286,525 | 84, 334, 990 | 2, 745, 613 | -25, 947,300 | - 540,912 |
| Middle Atlantic States | 5,247,000 | 88, 381 | 2, 954, 317 | 110,612 | - 2, 202, 683 | $\begin{array}{r}\text { a } \\ +\quad 12,231 \\ \hline\end{array}$ |
| Pacific States | 3, 608, 000 | 90, 200, | 5, 354, 504 | 140, 466 | + 1,746,504 | + 50,206 |
| 'Total | 119, 137, 350 | 3,475, 106 | 92, 643, 811 | 2,996, 691 | -20, 493, 530 | - 478,415 |
| Lolsters: |  |  |  |  |  |  |
| Middle Atantic States | 291, 950 | 10,948 | 317, 198 | 26, 926 | + 25,248 | $+15,978$ |
| Total | 20, 238, 683 | 681,769 | 23, 301, 149 | 1,050,677 | + 3,062,466 | + 418,908 |
| Mackerel: |  |  |  |  |  |  |
| New England States | $72,567,563$ | 1,833,910 | $17,018,829$ | $1,099,004$ | --55, 548, 734 | - 734,006 |
| Middle Athantic States | $750,000$ | $\dagger 30,000$ | $22,907$ | $2,747$ | - 727,093 | - 27,253 |
| 'Total | 73, 317,563 | J., 863, 910 | 17, 041, 736 | 1, 102, 651 | -56, 275, 827 | - 761, 259 |
| Mullet: |  |  |  |  |  |  |
| South A tlantic States | 4,360,000 | 112,597 | 5,573, 623 | 133, 635 | $+1320,400$ $+1,204,623$ | $+\quad 11,762$ $+\quad 21,038$ |
| Gulf States. | 2, 217, 250 | 108, 421 | 15, 185, 117 | 238, 528 | +12,967, 867 | + 130,107 |
| Tota | 6, 701, 950 | 225, 009 | 21, 214, 840 | 387, 916 | +14,512,890 | + 162,007 |
| Salnon: |  |  |  |  |  |  |
| Atlantic State | 111,324 | 21,952 | 138,549 | 20,166 | + 27, 225 | - 1,786 |
| Pacific States | 51, 522, 500 | 1, 004, 387 | 03, 687, 978 | 3,710, 250 | +42, 165, 478 | +2,645,863 |
| 'Tot | 51, 633, 824 | 1,086, 339 | 93, 826, 527 | 3,730,416 | +42, 192, 703 | +2,644,077 |
| Sea bass: |  |  |  |  |  |  |
| New England States. | 629,450 | 21,511 | 1,928, 440 | 95,386 | + 1, 298,090 | + 73,875 |
| Middle Atlantic States | 1, 486, 200 | 76, 485 | 5, 593, 429 | 231, 820 | + 4,107,229 | + 155,335 |
| South Atlantic States | 527, 000 | 15,180 | 879,684 | 28,396 | + 352,684 | + 13,216 |
| 'To | 2, 642, 650 | 113, 176 | 8,401, 553 | 355, 002 | + 5,758, 803 | + 242,426 |
| Spanish mackerel: |  |  |  |  |  |  |
| Middle Atlantic States | 1,852,663 | 129,709 | 976, 837 | 79,287 | - 875,826 | - 50,422 |
| South Atlantic States | 11,500 | 635 | 91,500 | 6,254 | + 80,000 | 5,619 $+\quad 1508$ |
| Gulf States | 2C, 000 | 1,000 | 700, 459 | 42,682 | + 680,459 | + 41,682 |
| Total | 1,887, 423 | 131,039 | 1,773, 081 | 129, 259 | - 114,342 | - 2,380 |
| Squeteagne: |  |  |  |  |  |  |
| Middle A tlantic States | 12,604,500 | 363, 045 | 15,507,713 | 469,751 | -1. $2,898,213$ | + 108700 |
| South Atlantic States | 1. 827,000 | 40. 355 | 2. 368,007 | 68,260 | + $2,541,067$ | $+\quad 27,911$ $+\quad 107,570$ |
| Gulf States...... | +500, 000 | 15,000 | 2, 959, 433 | 122,570 | + 2,459,433 | $+\quad 107,570$ |
| Total | 15, 463, 560 | 437, 022 | 22,340, 433 | 708. 830 | + 6,876,873 | 广. 271,808 |

The change in the relative positions of the different States, as determined by the value of the catch in 1880 and at this time, is a matter having considerable general interest. Massachusetts heads the list, followed, as in 1880, by Maryland and New York. Maine, which ranked fourth, gives place to Virginia, which formerly ranked sixth. New Jersey has the same position, viz, fifth. Alaska, which held the seventh place, is supplanted by California, and takes the rank California formerly occupied, viz, eighth. Delaware has dropped from the ninth to the twenty-first place. Connecticut advances one point, from 10 to 9 . North Carolina remains in eleventh place. Michigan drops from the rank of 12 to that of 13 , its place being taken by Washington, which moves upward four places. The remaining States which have increased their rank are Florida, from 14 to 10; Oregon, from 15 to 14; Washington, from 17 to 12; Louisiana, from 18 to 16 ; Pennsylvania, from 19 to 18 ; Wisconsin, from 20 to 19 ; Texas, from 23 to 20 ; Alabama, from 25 to 24 ; and Mississippi, from 28 to 22. The other States which have lost prestige are Ohio, which drops from 16 to 17 ; South Carolina, from 21 to 23; New Hampshire, from 22 to 26; Georgia, from 24 to 25; Illinois, from 26 to 27 ; and Indiana, from 27 to 28 . Minnesota remains at the end of the list.

Talle showing the relative rank, hased on value of the products, of the coast and Great Lakes States in 1880 and 1892.

| Rank. | 1880. | 1892. |
| :---: | :---: | :---: |
| 1 | Massnohusette. | Massachusetts. |
| 2 | Maryland...... | Maryland. |
| 3 | New York | New York. |
| 4 | Maine ..... | Virginia. |
| 5 | New Jersoy | Now Jersey. |
| 7 | Alaska. | Alaska. |
| 8 | California | Maine. |
| 9 | Delaware | Commeeticut. |
| 10 | Connoctiont | Florida. |
| 11 | North Carolina | North Carolina. |
| 12 | Michigan | Washington. |
| 13 | Rhode Island | Miehigan. |
| 14 | Fiorida | Oregon. |
| 15 | Oregon. | Rhode Island. |
| 10 | Ohio..... | Louisiana. |
| 17 | Washington | Ohio. |
| 18 | Louisiana. | Pennsylvania. |
| 19 | Pennsylvania | Wisconsin. |
| 20 | Wisconsin ${ }_{\text {South }}$ | Texas. <br> Delaware. |
| 22 | Now Hampshire | Mississippi. |
| 23 | Texas .......... | South Carolina. |
| 24 | Goorgia.. | Alabama. |
| 25 | Alabama. | Georgia. |
| 26 | Illinois | New Hampshire. |
| ${ }_{28}^{27}$ | Tndiana...- | Illinois. |
| 28 29 | Mississippi Minnosota | Tndiana. Minnesota. |

F. C. 13. 1893-27


[^0]:    *Includes District of Columbla,

[^1]:    * Species can wot be satisfactorily separated.

[^2]:    * Includes the catch with bag nets.

